

Morningstar® Markets Observer

Q2 2018 Data as of March 29, 2018

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Market Overview



Market Dashboard

First-quarter returns for most asset classes were hurt by February's "polar plunge," when inflation fears sparked panic among investors and drove the S&P 500 down 5.1% in the second week of February. The Federal Reserve raised short-term interest rates once again in March and Treasury yields climbed higher, dragging down bond returns. Only emerging-markets stocks managed to post a positive return for the quarter.

Equities	12 Month Yield	Return (%)						Fundamental Measures			
		YTD	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	P/E	P/B	P/S	P/C
S&P 500	2.3	-0.8	-0.8	14.0	10.8	13.3	9.5	21.8	3.2	2.3	14.0
Russell 2000	1.2	-0.1	-0.1	11.8	8.4	11.5	9.8	20.6	2.2	1.3	11.0
MSCI EAFE	2.8	-1.5	-1.5	14.8	5.6	6.5	2.7	16.7	1.7	1.2	9.0
MSCI Emerging Markets	2.3	1.4	1.4	24.9	8.8	5.0	3.0	14.7	1.8	1.5	8.9

Fixed Income	Current Yield	Return (%)						Interest Rates		
		YTD	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	Current	1 Yr Ago	
U.S. Aggregate	3.1	-1.5	-1.5	1.2	1.2	1.8	3.6	2 Yr Treasury	2.3	1.3
U.S. Corporates	3.8	-2.4	-2.4	1.7	2.3	2.9	5.7	5 Yr Treasury	2.6	1.9
High Yield	6.6	-0.9	-0.9	3.7	5.2	5.0	8.1	10 Yr Treasury	2.7	2.4
Municipals	2.7	-1.1	-1.1	2.7	2.3	2.7	4.4	20 Yr Treasury	3.0	3.0
Emerging Markets (US\$)	5.8	-1.7	-1.7	4.3	5.8	4.7	7.0	Prime Rate	4.8	4.0

Broad Commodities	Return (%)						Commodities		
	YTD	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	Current	1 Yr Ago	
Bloomberg Commodity	-0.4	-0.4	3.7	-3.2	-8.3	-7.7	Brent Crude Oil	70	53
Morningstar Commodity	1.4	1.4	8.6	-2.8	-9.0	-5.7	Gold	1,324	1,245

3-Month Return (%)

	Value	Blend	Growth
Large	-3.1	-3.0	5.0
Mid	-1.6	-2.0	3.4
Small	-5.2	-2.8	3.4

1-Year Return (%)

	Value	Blend	Growth
Large	8.8	10.5	26.1
Mid	7.7	10.5	20.8
Small	1.3	7.5	21.0

5-Year Return (%)

	Value	Blend	Growth
Large	10.7	13.3	16.3
Mid	13.2	12.1	12.8
Small	9.3	10.8	12.8

QM05

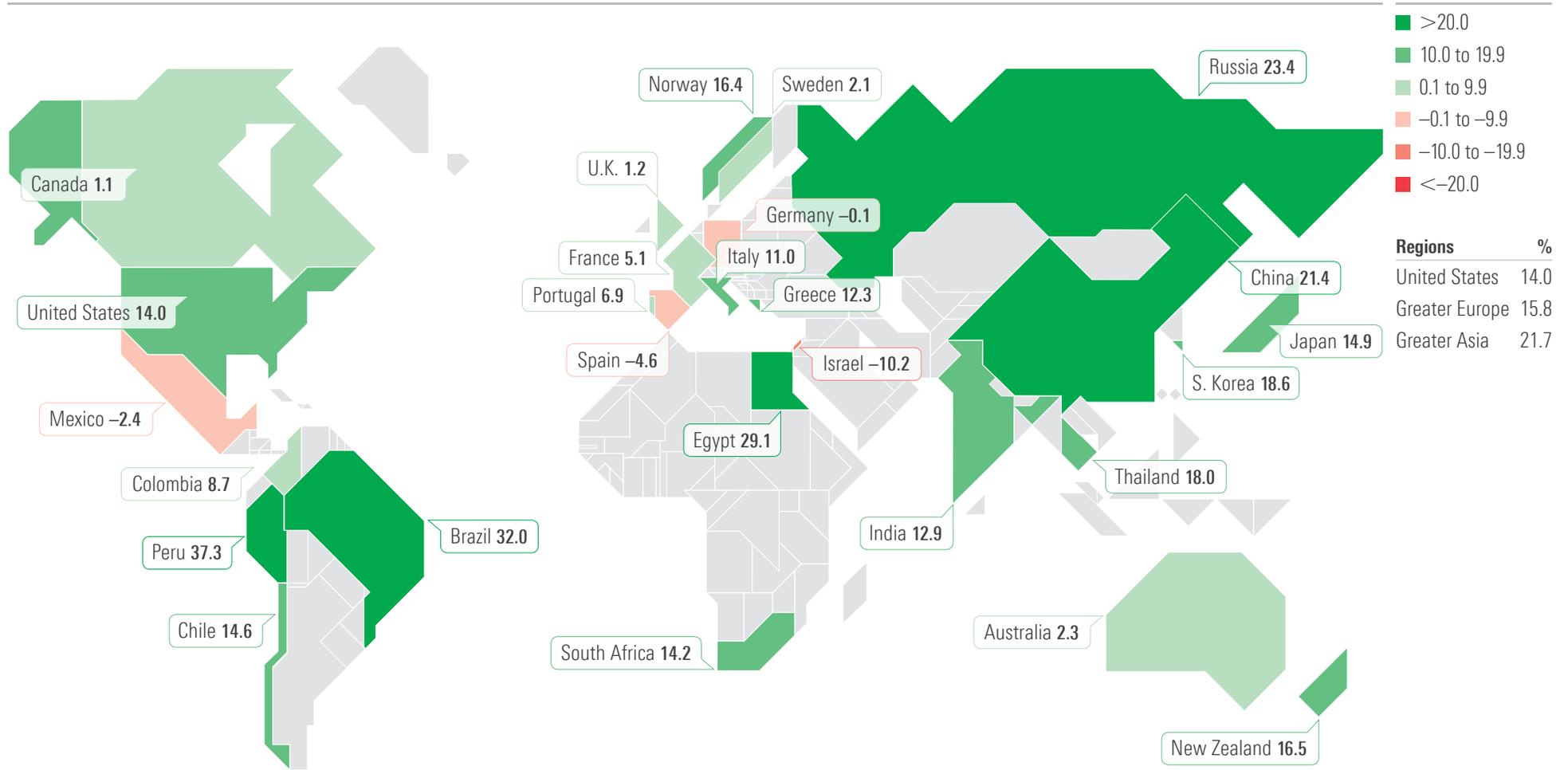
Source: Morningstar Direct. U.S. Aggregate—Barclays U.S. Aggregate Bond Total Return, U.S. Corporates—Barclays U.S. Corporate 5-10 Year Total Return, High Yield—Bank of America Merrill Lynch U.S. High Yield Master II Total Return, Municipals—Barclays Municipal Total Return, Fixed-Income Emerging Markets—J.P. Morgan EMBI Global Diversified Total Return, Gold—London Fix Gold PM Price Return. ©2018 Morningstar. All Rights Reserved.

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Global Market Barometer

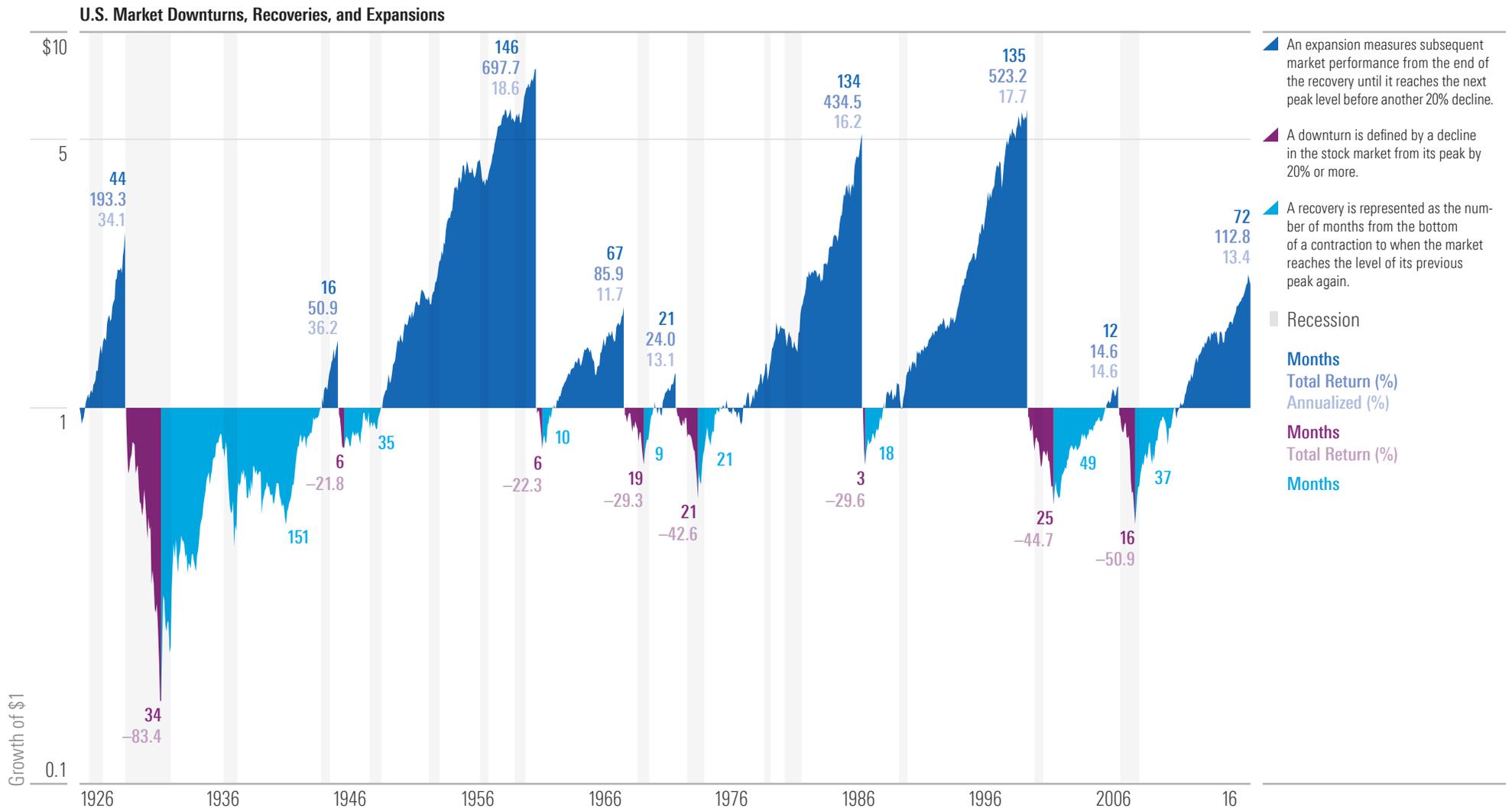
The picture was mixed in terms of global returns in the first quarter. The U.S. stayed in double-digit territory because of a strong January. Some European markets enjoyed positive returns following robust economic reports and still-low interest rates, while others suffered (most notably, Germany). Asian countries fared best, but may be threatened by the prospect of increased U.S. tariffs and a global trade war going forward.

1-Year Trailing Returns of Morningstar Country Indexes in Base Currency by Percentage



Bear Markets Are Painful, but Over the Long Term Markets Rise

There have been eight market downturns since 1926, the most severe one being the Great Depression. More recently, during the “lost decade,” two consecutive downturns with little to no expansion discouraged U.S. investors. However, the market has returned 112.8% since the expansion started in March 2012, and, as the chart illustrates, there is ample potential for future growth.

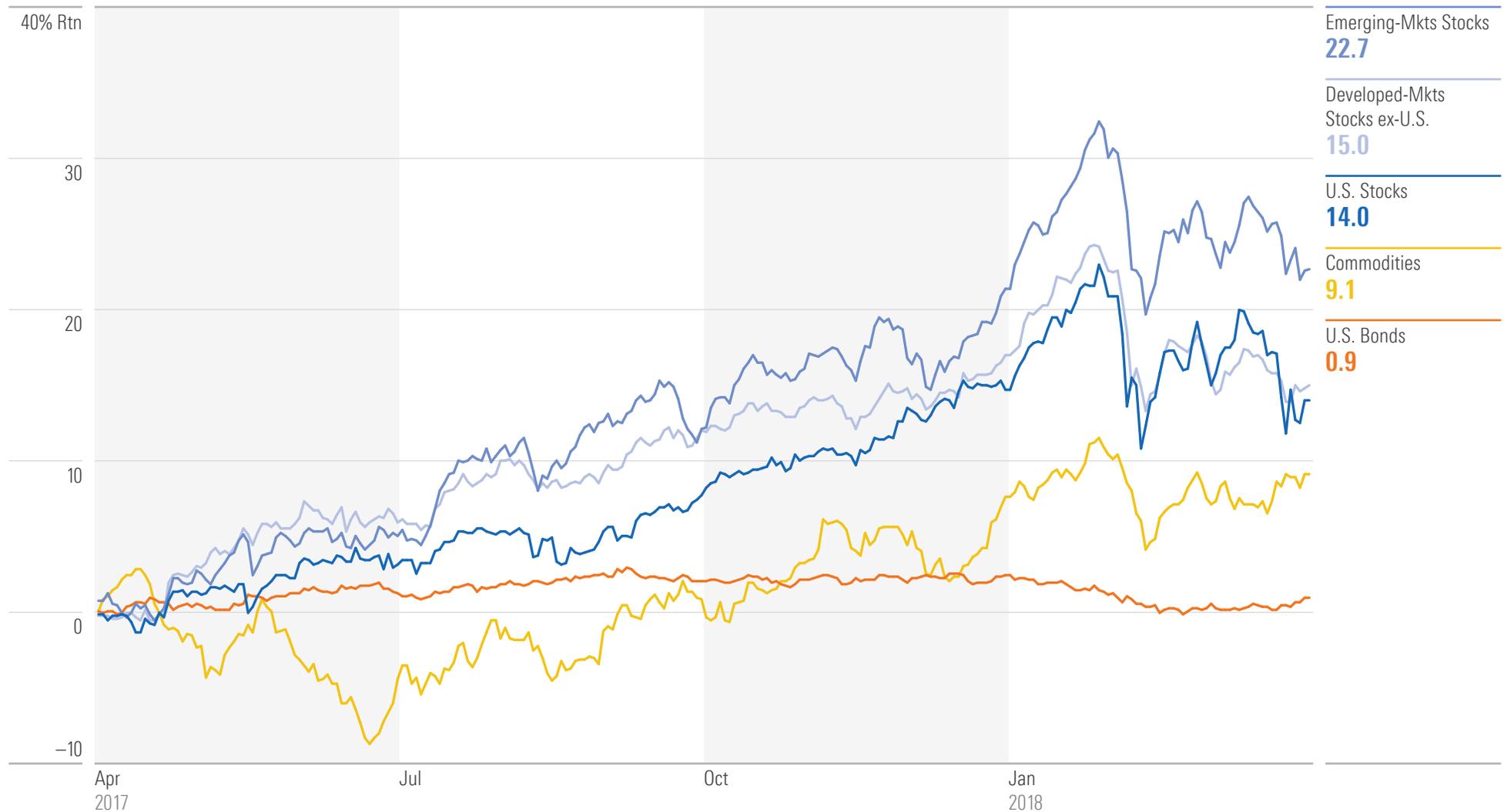


QM06

Source: Stocks—Ibbotson Associates SBBI U.S. Large Stock Index. ©2018 Morningstar. All Rights Reserved.

Trailing 12-Month Performance of Major Asset Classes

After rising for most of 2017 and soaring in January 2018, stocks and commodities experienced a sharp drop in February that they haven't recovered from. After the new U.S. tax law was signed in December, enacting lower corporate tax rates and therefore enhancing profitability, new tariffs on imported steel and aluminum ignited concerns of a global trade war, which increased market volatility in the first quarter.



QM01

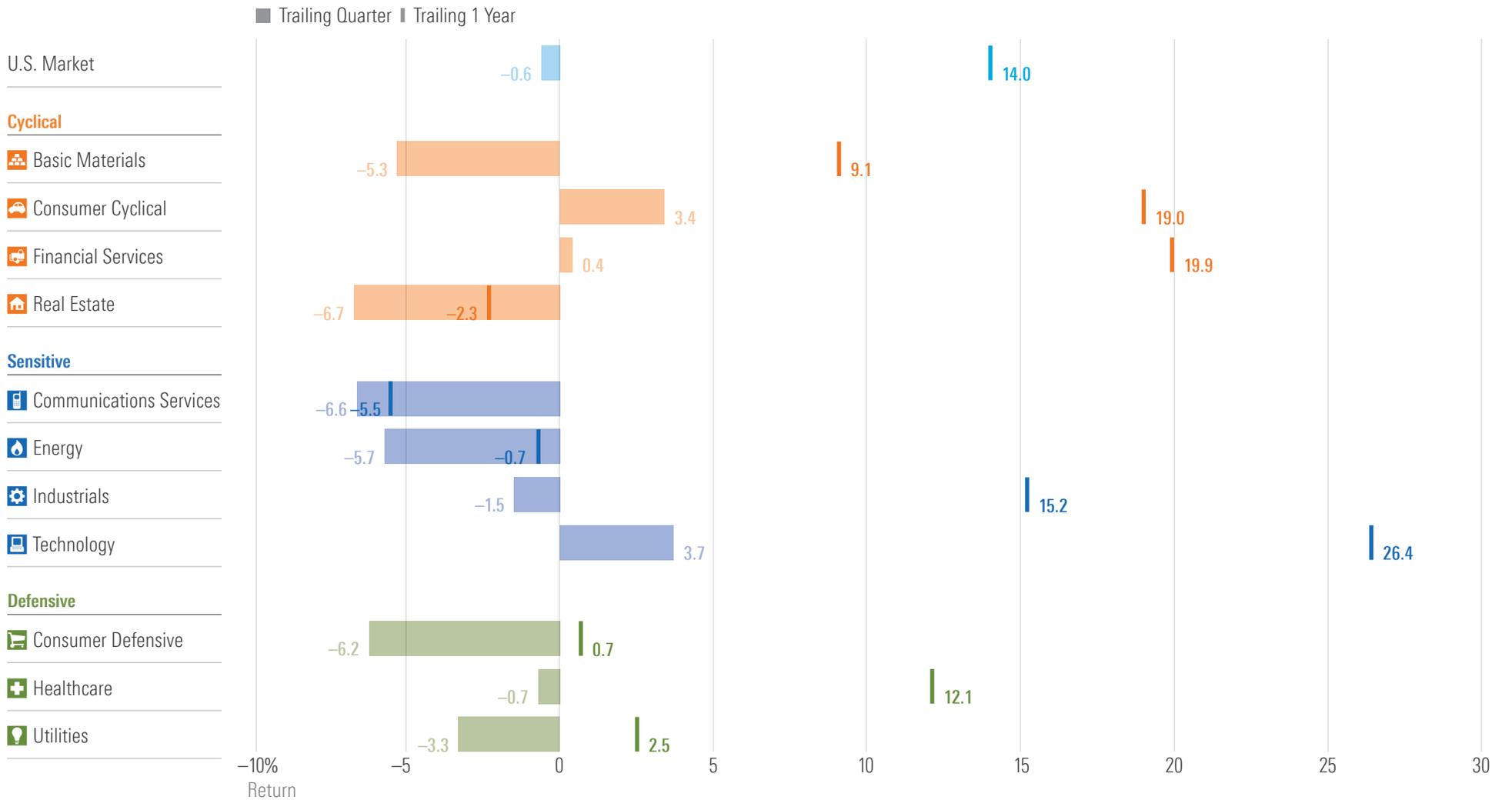
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Source: U.S. stocks—Morningstar U.S. Market Index. Developed-markets stocks ex-U.S.—Morningstar Developed Markets ex-U.S. Index. Emerging-markets stocks—Morningstar Emerging Markets Index. U.S. bonds—Morningstar Core Bond Index. Commodities—Morningstar Long-Only Commodity Index. ©2018 Morningstar. All Rights Reserved.



U.S. Sector Performance

Technology stocks posted the highest trailing-one-year and trailing-quarter returns. However, returns suffered recently following a scandal involving Facebook's misuse of private customer data. The consumer cyclical sector, which Amazon belongs to, and financial services fared well, as tax cuts have given consumers more money to spend and higher interest rates helped banks' profitability.

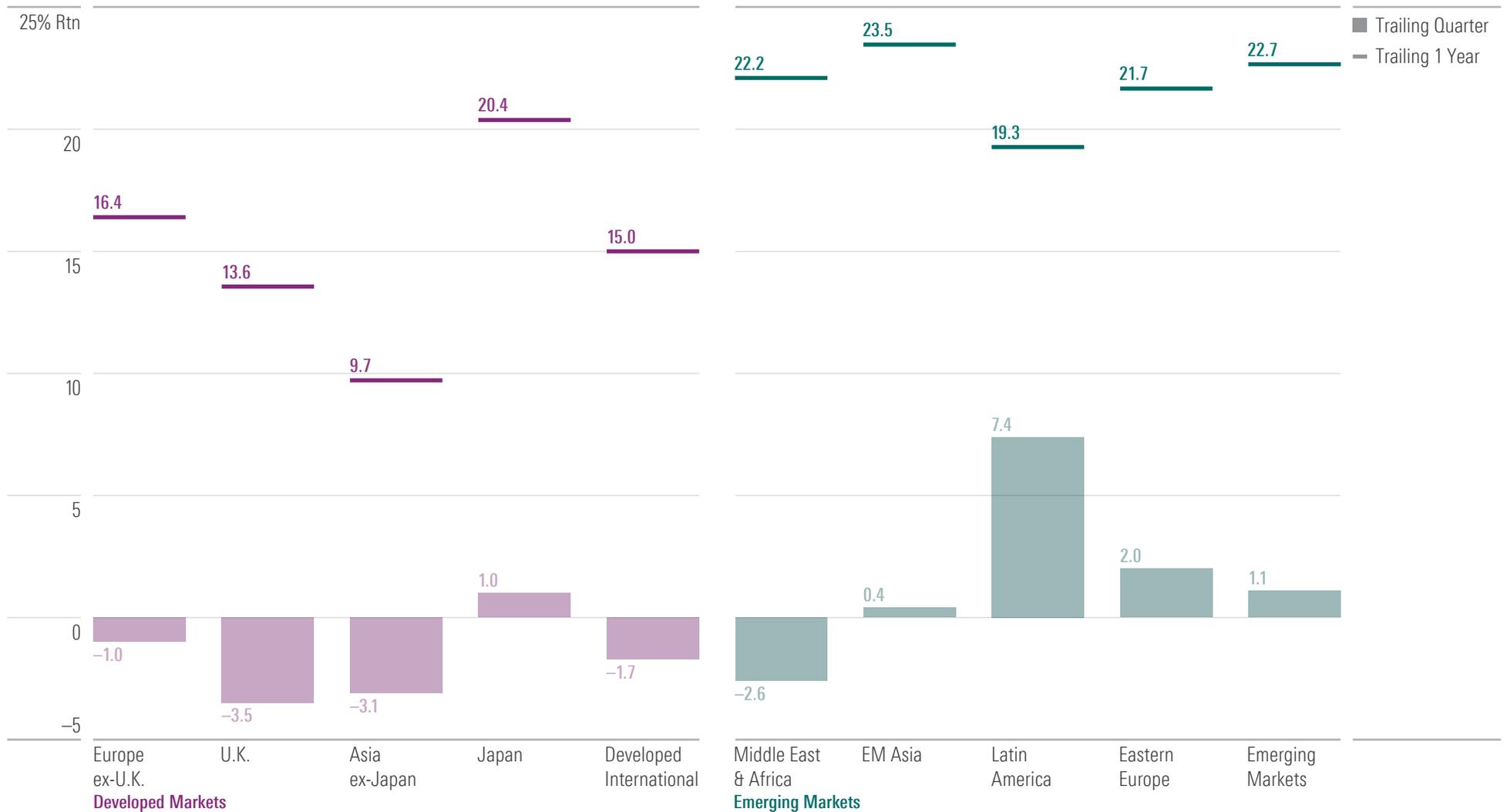


QM04

Source: Morningstar Sector Indexes. ©2018 Morningstar. All Rights Reserved.

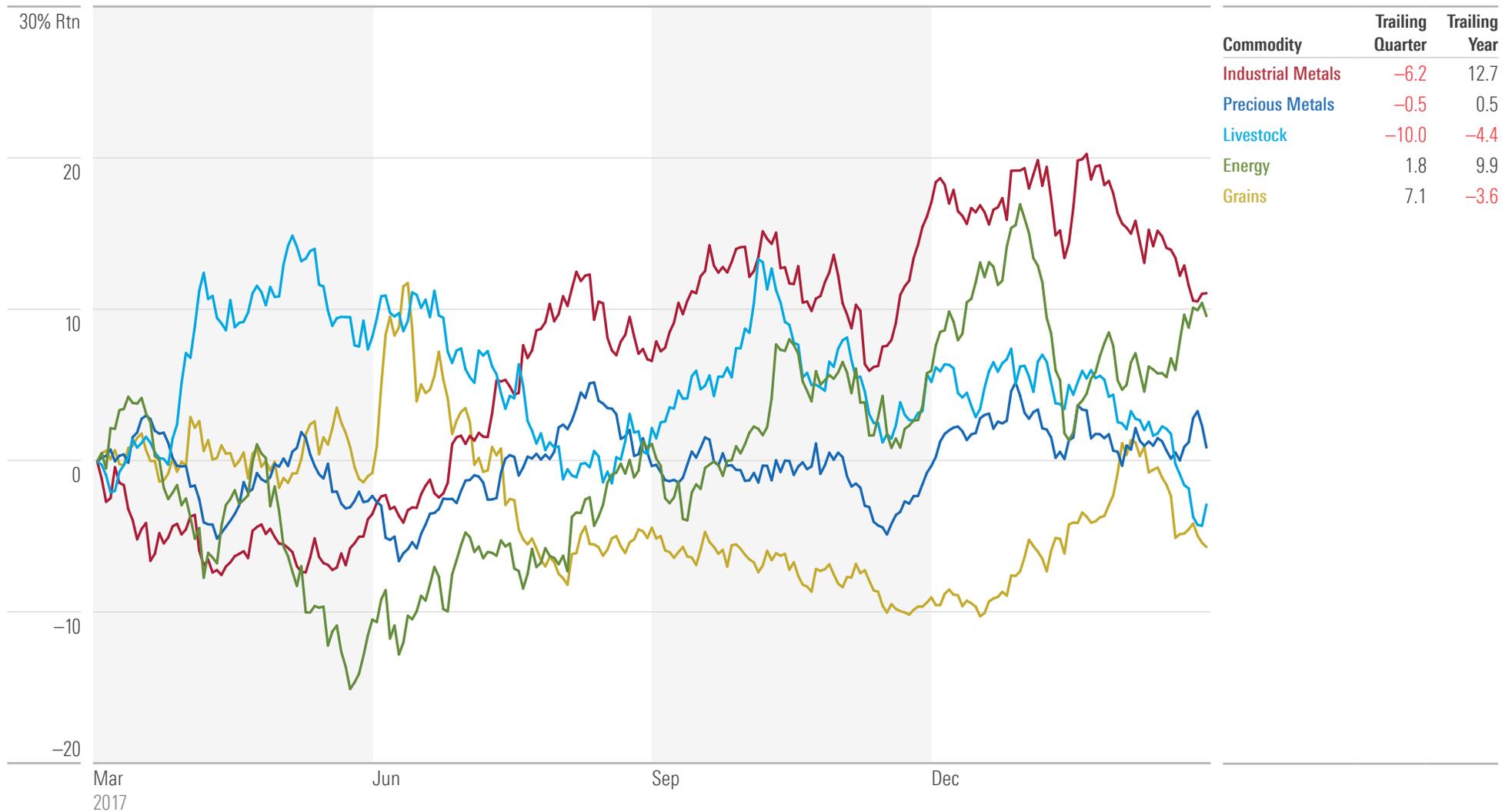
International Stock Market Performance

Most countries and regions performed well in terms of trailing-one-year returns, but the first quarter of 2018 became rough, especially for developed markets. Geopolitical tensions, fears of rising inflation and interest rates, and the threat of an international trade war all contributed to undermining last year's gains. However, emerging markets managed to maintain positive returns in the first quarter, especially in Latin America (Brazil and Peru).



Commodity Performance by Category

Grains were the best-performing commodity last quarter, but their returns were adversely affected in March by news of China potentially implementing tariffs on U.S. Livestock was the worst-performing commodity, continuing a severe decline that started in 2014. Rising oil prices drove the energy sector's gains.



Asset-Class Winners and Losers

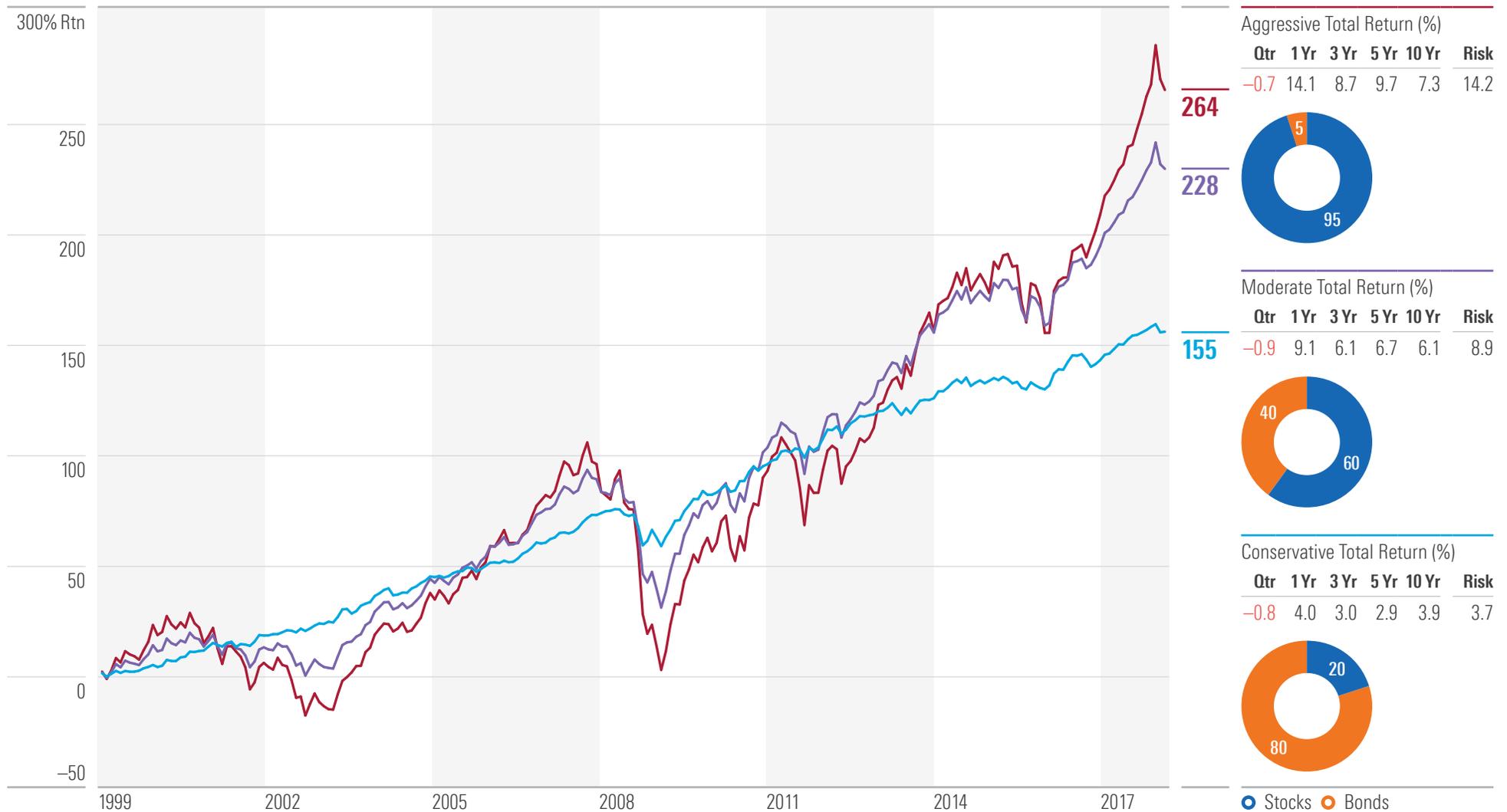
First-quarter returns took a brusque detour from the double-digit highs investors enjoyed in 2017. Commodities (thanks to rising oil prices) and emerging-markets stocks were the only two asset classes in positive-return territory; all others experienced losses. High-yield debt companies may have been negatively affected by the new Tax Cuts and Jobs Act, because it is limiting the tax-deductible amount of interest expenses.

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	YTD	2003–18
Highest Return (%)	53.3	25.9	35.0	36.1	39.4	14.1	83.8	28.4	9.4	19.7	37.9	13.6	1.8	20.3	36.0	1.4	13.0
	47.7	21.6	25.5	26.6	31.8	-3.2	58.2	23.6	5.2	17.5	31.8	6.9	1.7	17.1	25.5	1.1	11.6
	42.4	20.4	15.9	17.0	12.7	-22.2	37.7	21.8	5.0	16.5	22.0	4.9	1.3	12.9	22.7	-0.7	9.5
	29.0	17.6	7.0	15.9	10.3	-26.2	36.1	15.1	2.6	16.0	14.3	4.5	-1.4	11.3	15.0	-0.9	9.1
	27.0	11.5	5.8	13.0	8.6	-33.8	24.8	13.4	0.6	15.8	7.4	3.9	-1.8	11.2	14.7	-0.9	8.8
	24.7	11.1	4.9	11.8	6.7	-36.1	21.8	12.3	-2.6	12.0	0.6	2.5	-4.5	8.6	7.5	-1.1	7.8
	22.5	9.5	2.7	4.9	6.0	-36.2	20.9	11.4	-5.3	11.2	-1.8	-0.8	-4.9	4.6	4.5	-1.6	5.1
Lowest Return (%)	7.9	4.9	1.1	3.6	1.9	-43.0	19.5	8.5	-11.9	3.7	-2.7	-3.9	-13.3	3.4	2.3	-1.6	3.6
	2.7	3.0	0.7	-0.2	-0.7	-53.8	-1.4	7.1	-18.6	2.5	-3.7	-24.4	-26.3	1.2	1.5	-1.7	2.6

- Small stocks
- Large stocks
- International-developed stocks
- Emerging-markets stocks
- Inter-term government bonds
- Inter-term corporate bonds
- High-yield bonds
- Commodities
- Moderate portfolio

Performance of Risk-Based Portfolios

As expected, an aggressive portfolio with a larger allocation to stocks was able to deliver returns superior to its moderate and conservative counterparts over longer time periods. However, it also assumed a greater risk level and was therefore more likely to suffer more-severe losses in down markets. The conservative portfolio has been suffering over the last two years, missing out on the long-term equity bull market. All three portfolios sustained small losses in the first quarter.



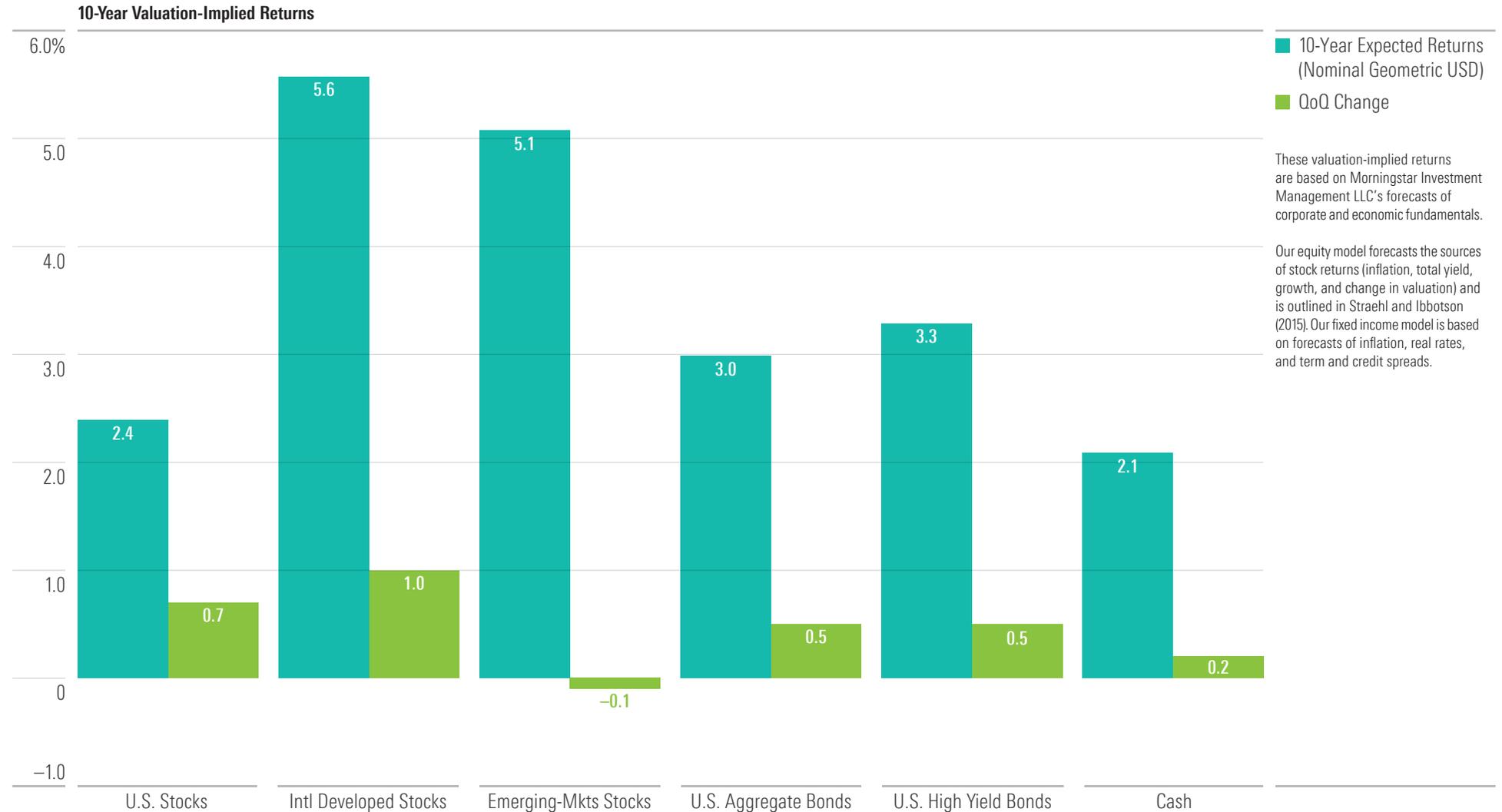
QAA2

Source: Conservative portfolio—Morningstar Conservative Target Risk Index. Moderate portfolio—Morningstar Moderate Target Risk Index. Aggressive portfolio—Morningstar Aggressive Target Risk Index. Returns for periods longer than one year are annualized. ©2018 Morningstar. All Rights Reserved.

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Valuations to Limit Asset-Class Return Potential

Our research indicates emerging-markets and international-developed equities will outperform U.S. equities over the next 10 years due to their more attractive relative valuation. Low starting yields and tight credit spreads depress prospective returns of fixed-income asset classes.



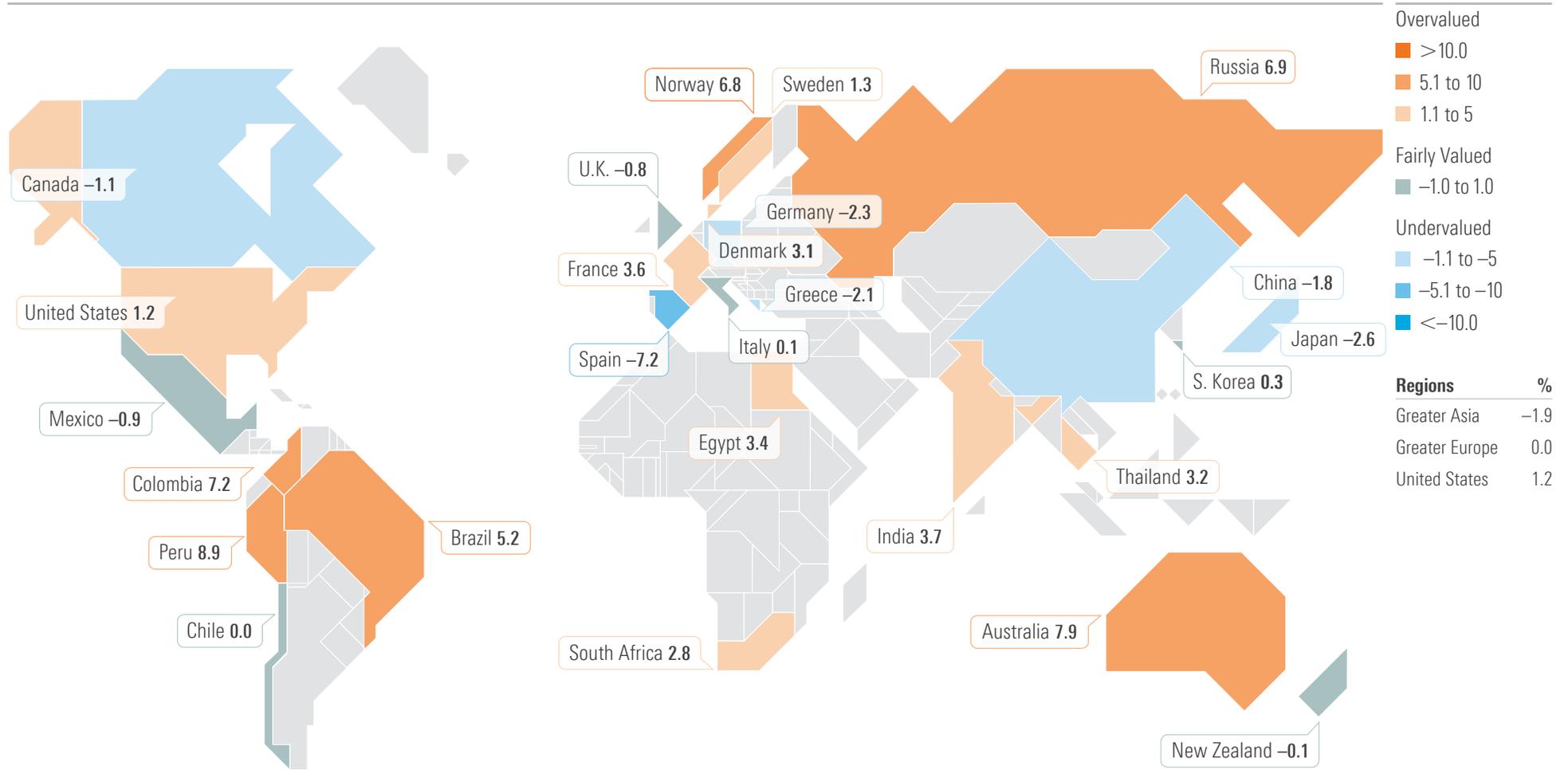
Equities



Morningstar Price to Fair Value by Country

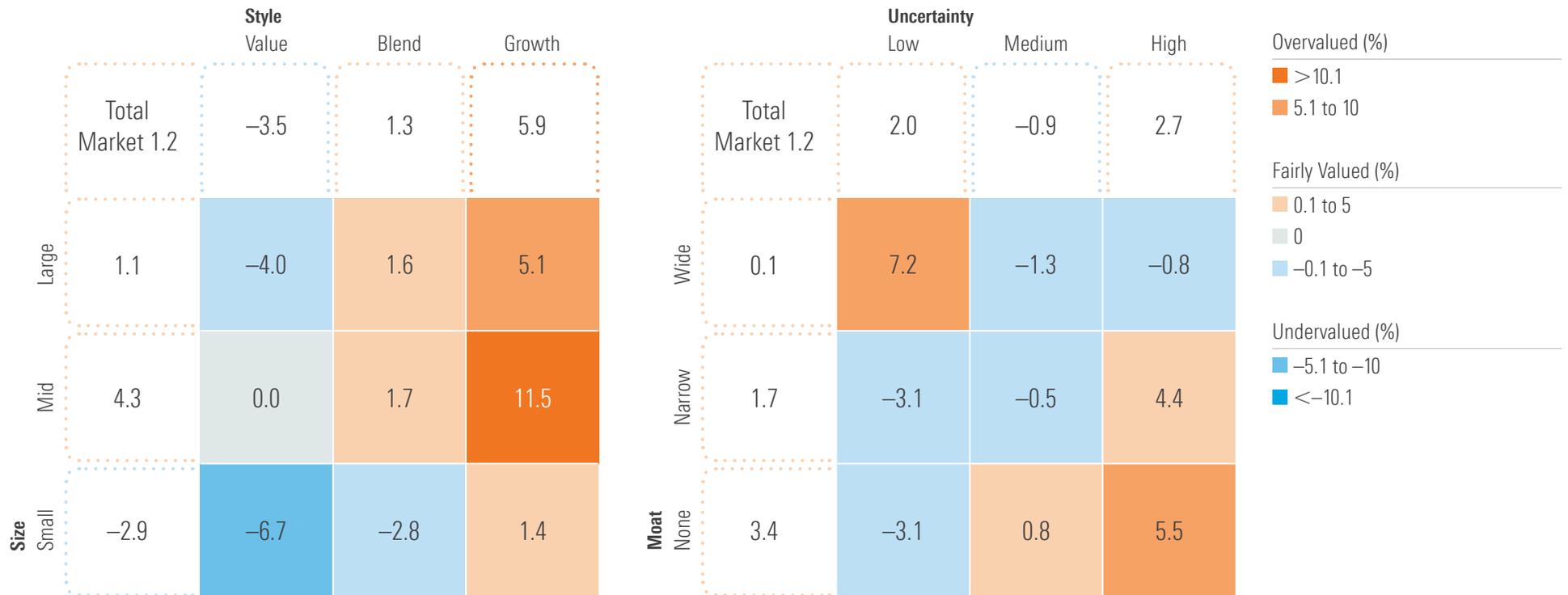
This quarter saw the return of investment opportunities as a number of countries became undervalued. Spain still stands out with the most attractive valuation, followed by Japan, Germany, and Greece. The U.S. remains slightly overvalued, yet much less so compared with last quarter-end (8.2%).

Market-Cap-Weighted Valuation



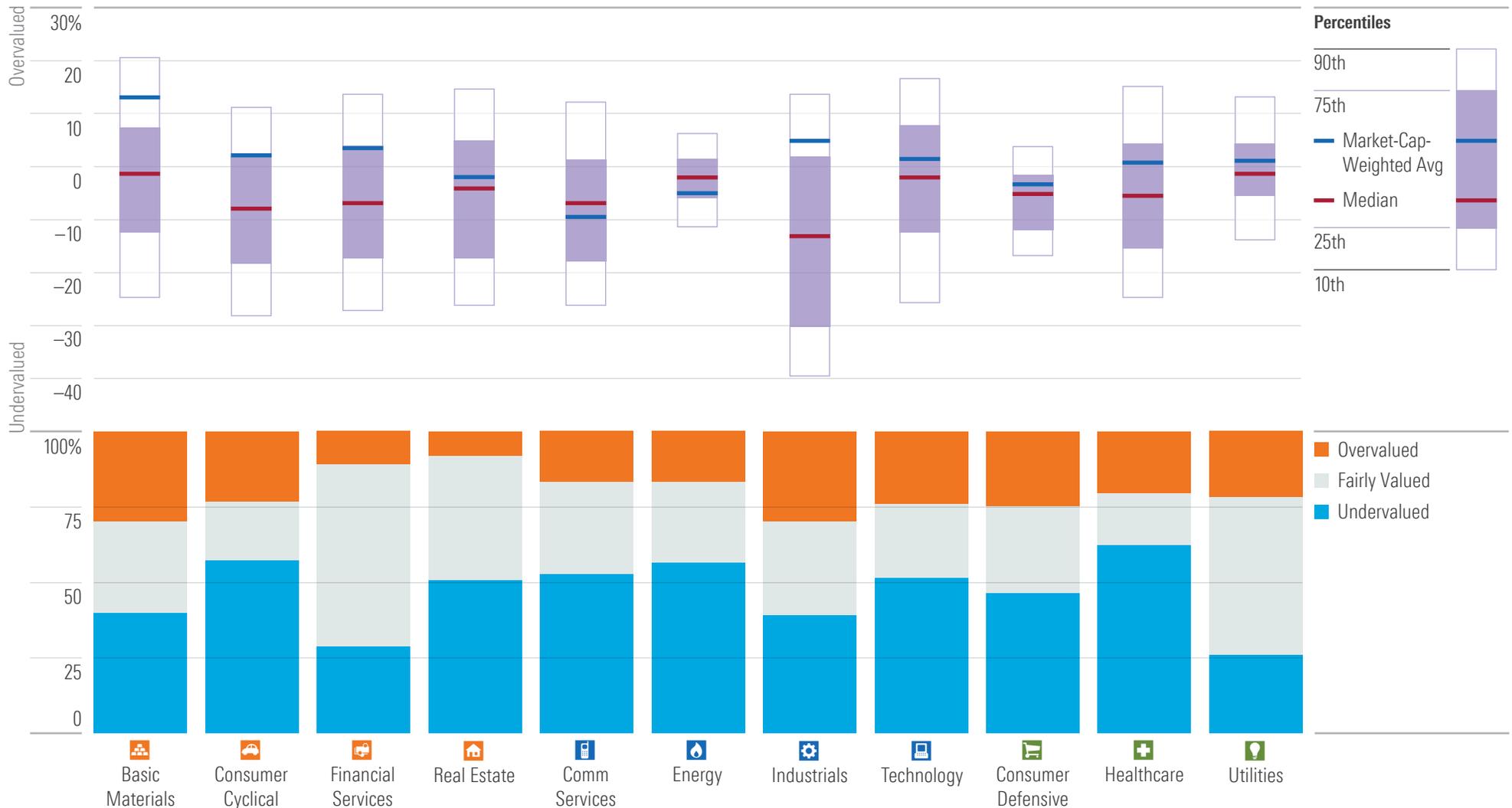
Morningstar Price to Fair Value, U.S. Equity Style Boxes

On a market-cap-weighted basis, the total market has reverted to fairly valued (compared with the previous quarter's 8.2%). Compared with last quarter, every style box category became cheaper. On a relative basis, small-cap value remains the cheapest option. Growth stocks are still overvalued (5.9%), yet less so compared with last quarter (11.3%).



Morningstar Price to Fair Value Distribution by U.S. Sector

The first quarter saw a sharp decrease in the number of overvalued companies across the board. Healthcare had the largest percentage of undervalued stocks (60%), even though on a market-cap-weighted basis it was slightly overvalued. This happens because the largest healthcare firms are overvalued, and there are many small biotech firms that are undervalued. Basic materials became cheaper (down from 26%), though it still remains in heavily overvalued territory.

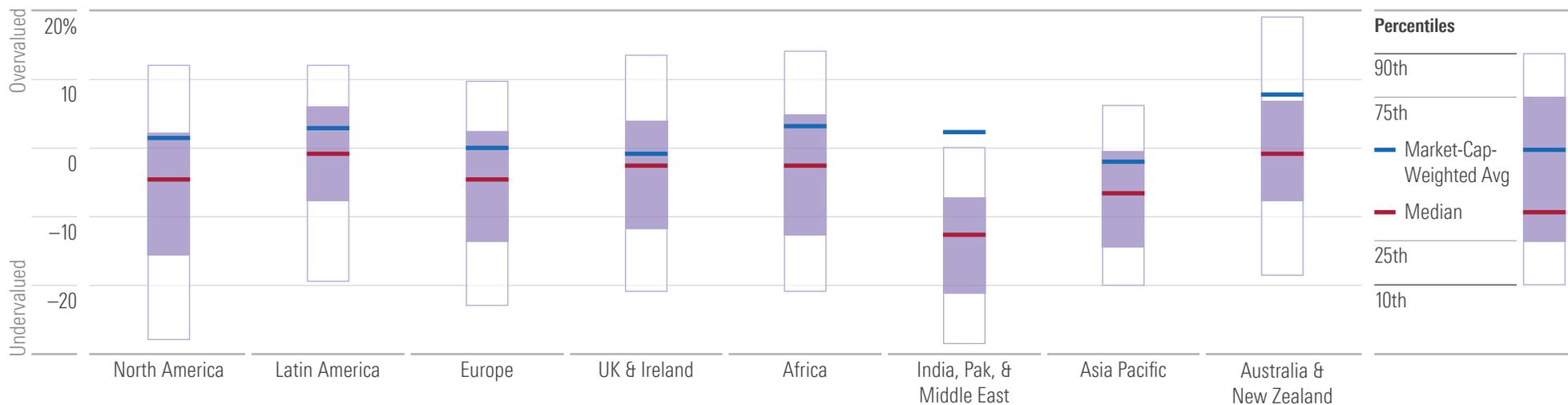


QQE2

Source: Morningstar quantitative and analyst fair value data. ©2018 Morningstar. All Rights Reserved.

Morningstar Price to Fair Value Distribution by Region

Morningstar calculates fair values for 53 countries. Most major regions remained overvalued, but all became cheaper compared with the previous quarter. Valuations have moved into the 0 to 10% range (on a market-cap-weighted basis), but the uncertainty ratings remain high, signaling potential for significant price movement.



Top 10 Lowest-Valued Companies (Market-Cap-Weighted)

Country	Over/Undervalued by %	Uncertainty Rating	Number of Companies
Spain	-7.2	High	124
Qatar	-6.9	High	28
Hong Kong	-5.3	High	1,095
Pakistan	-5.0	High	181
Switzerland	-3.8	High	197
Netherlands	-3.2	High	89
Japan	-2.6	High	2,901
Israel	-2.5	High	265
Germany	-2.3	High	662
Poland	-2.3	High	590

Top 10 Highest-Valued Companies (Market-Cap-Weighted)

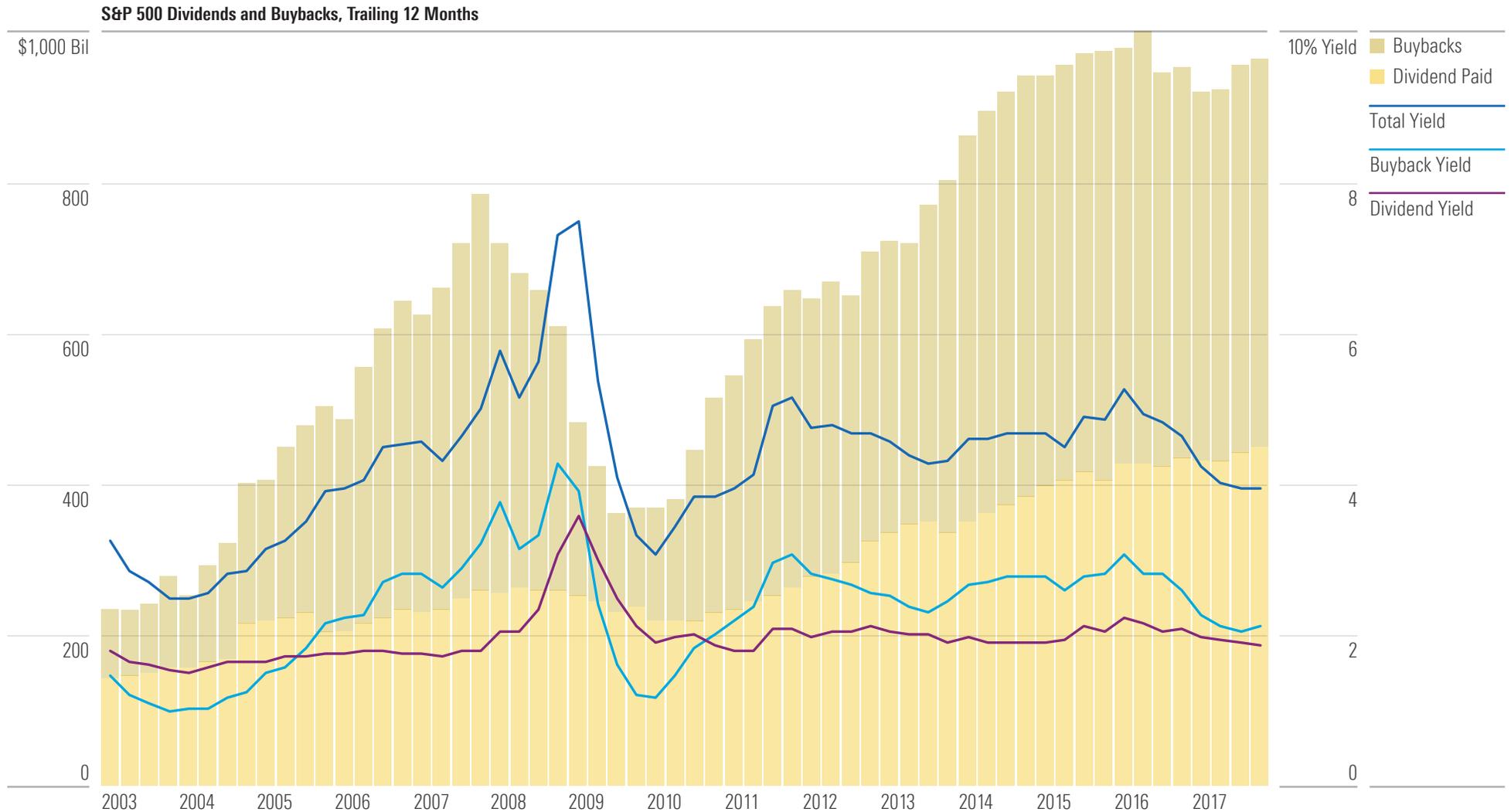
Country	Over/Undervalued by %	Uncertainty Rating	Number of Companies
Finland	14.7	High	104
Peru	8.9	Very High	94
Australia	7.9	High	476
Colombia	7.2	Very High	32
Taiwan	7.2	High	1,395
Russia	6.9	High	74
Norway	6.8	High	174
Vietnam	6.5	High	212
Romania	5.6	High	24
Nigeria	5.3	Very High	165

QQE3

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Total Yield of S&P 500 is 4.0%

Companies can reward investors by paying out dividends or — an option sometimes forgotten — buying back their own stock. Dividend yield has been fairly stable over time at about 2%. Buyback yield has fluctuated a lot more because companies are not compelled to maintain buybacks during tough economic times. The buyback yield has stabilized in the short term at around 2.1%.



Stocks: U.S. Versus Emerging Markets

Between 2000 and 2007, emerging-market stocks dramatically outperformed U.S. stocks. Since October 2010, emerging markets' economic growth has slowed, marking the start of a long period of outperformance by U.S. stocks. Since March 2016, however, emerging markets have started to outperform which could indicate the beginning of a longer term trend. Investors seemed to have noticed, with the fund flows into emerging markets reaching 10-year highs in 2017.

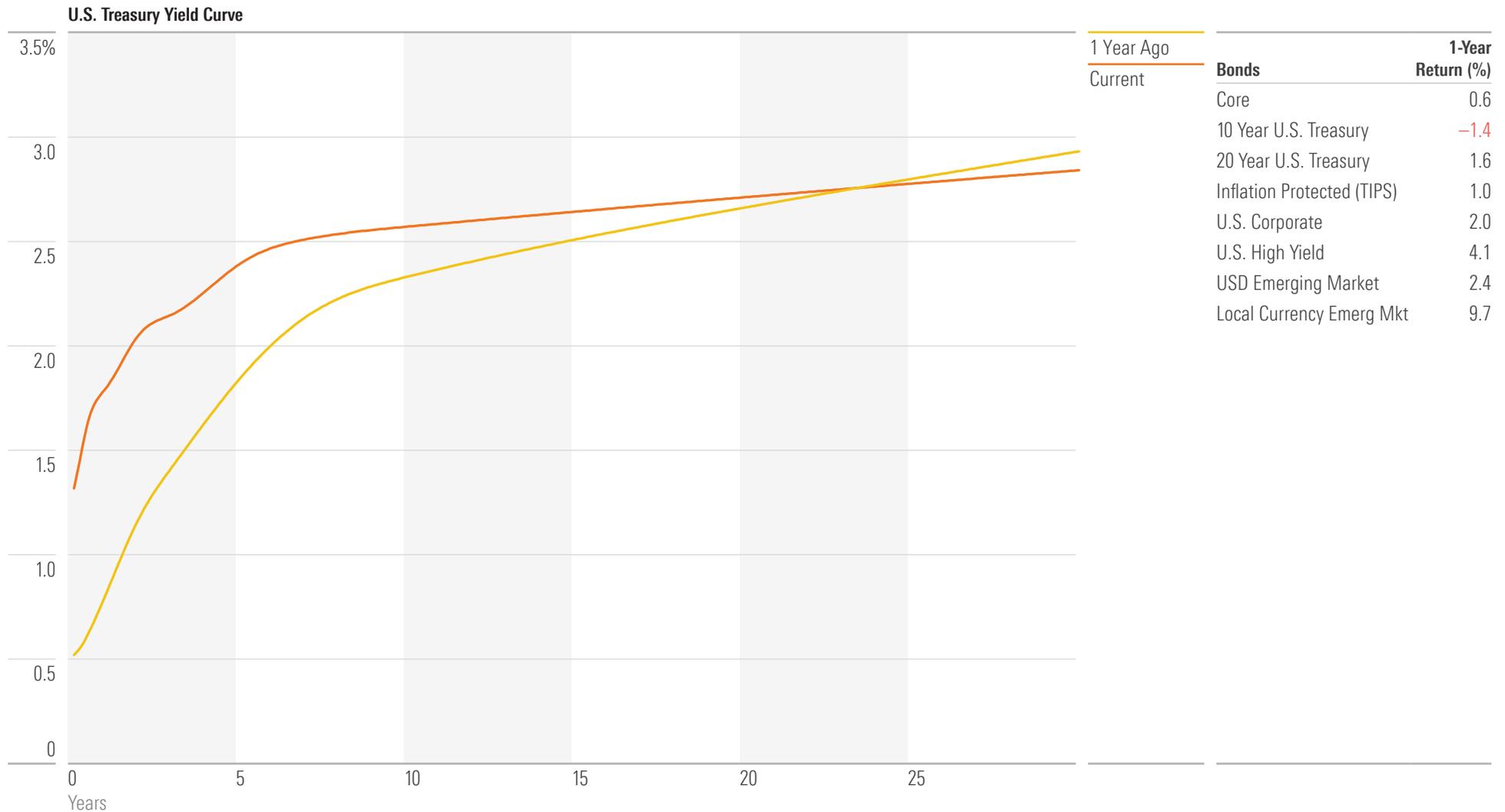


Fixed Income



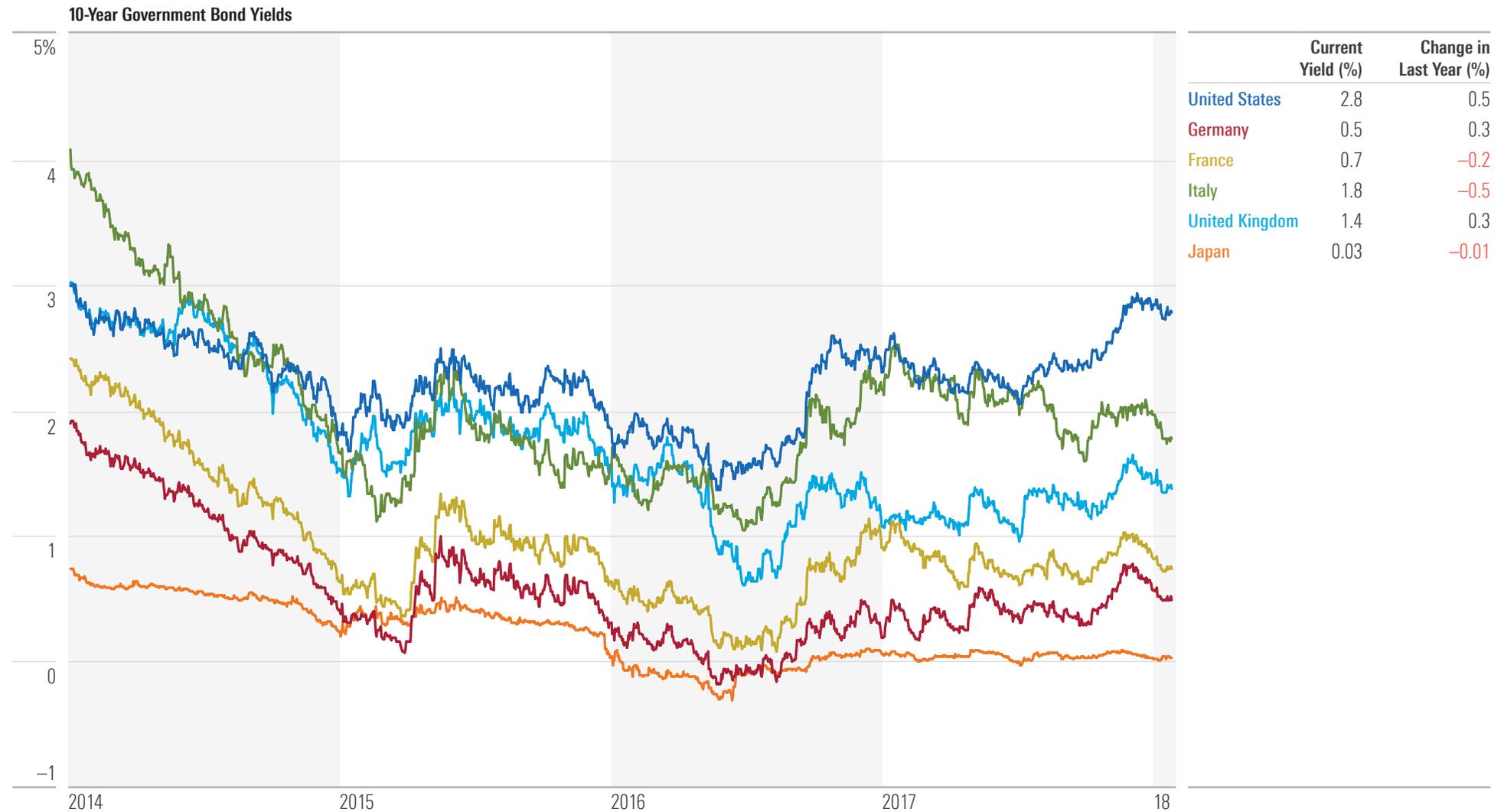
The U.S. Treasury Yield Curve Flattened In the Last Year

The Federal Reserve has raised the benchmark fed funds rate by another quarter basis point to 1.75% in March 2018, which was the sixth rate hike since December 2015. The yield curve has responded by significantly flattening in the last year, with the short end of the curve rising by 0.9% and the long end of the curve rising by only 0.1%. In terms of 1-year return, local-currency emerging-market bonds had the best return and 10-year U.S. Treasury bonds had the worst return.



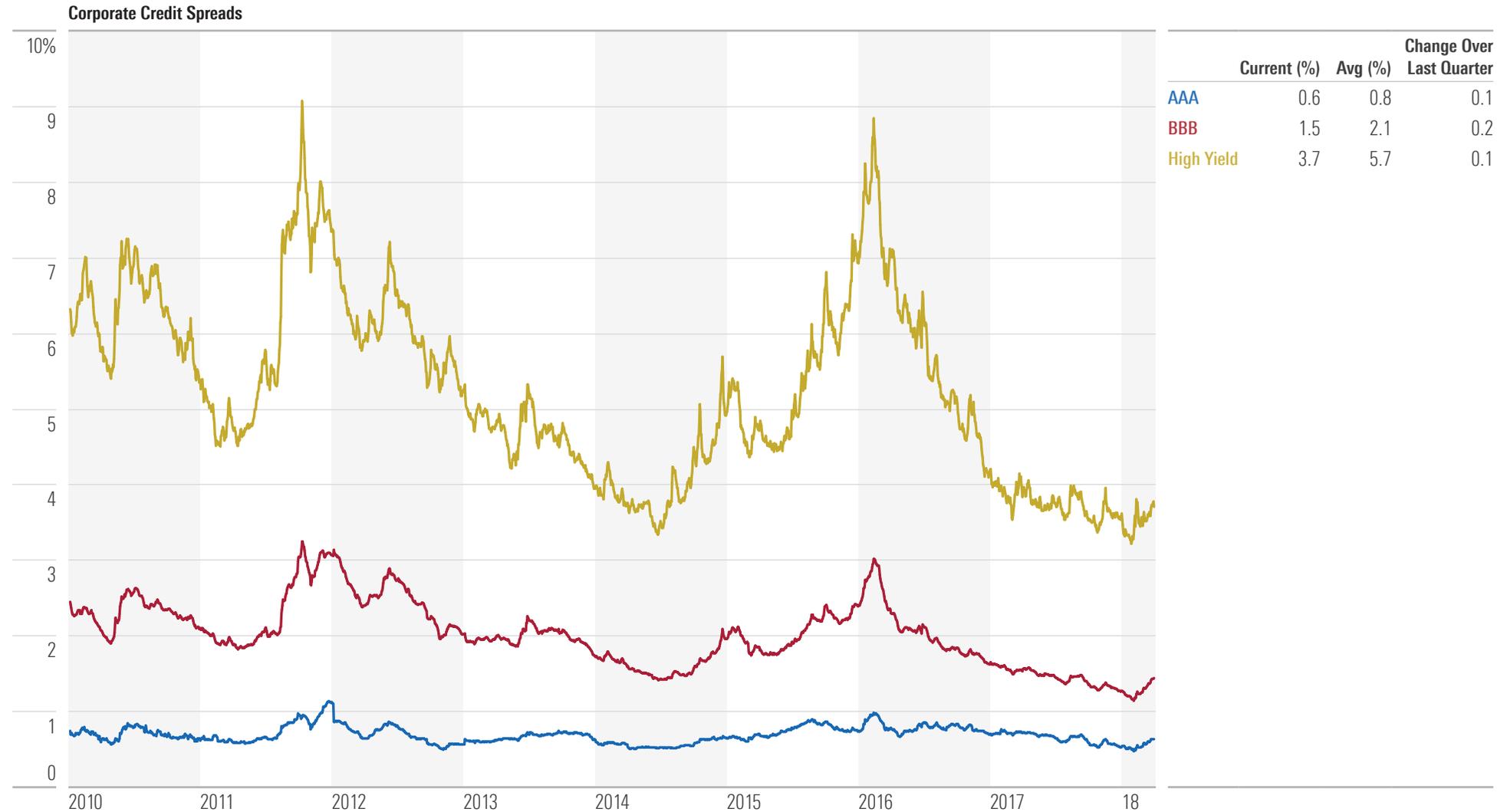
United States Has One of the Highest Yields in the Developed World

The 10-year U.S. yield has risen to 2.8%, 2.3% above the German yield, even though the U.S. and Germany are similar from an economic point of view. U.S., German and U.K. rates have also risen in the last year while Italian and French rates have declined. The U.S. rate is relatively higher than European rates because the European Central Bank is still implementing quantitative easing, whereas the Federal Reserve has ended its quantitative easing program and has hiked rates multiple times since.



High-Yield Spreads Remain Tight After Steep Decline in 2016

Across the credit spectrum, corporate spreads have continued to stay tight and experienced low volatility in the last quarter. In 2016, high-yield credit spreads narrowed from almost 9% to just under 4% as many energy bonds rebounded after a bankruptcy scare. With dramatic tightening of the high-yield spread came strong returns, but that also means less opportunity going forward. High-yield bond funds saw \$30 billion in outflows in the last 12 months, despite consistent positive returns.



QF19

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Source: Bank of America Merrill Lynch Corporate Spread Indexes from the Federal Reserve, Morningstar calculations. ©2018 Morningstar. All Rights Reserved.



An Inverted Yield Curve Has Been a Good Recession Indicator

The image illustrates the yield differential between 10-year and 2-year Treasuries. A normal yield curve occurs when long-term yields are higher than short-term ones, which would be a positive number on this chart. When the difference becomes negative, however, we have an inverted yield curve, and historically that has happened before every major recession in the last 40 years. Today, that difference has fallen below the long-term average, but is not yet approaching zero.

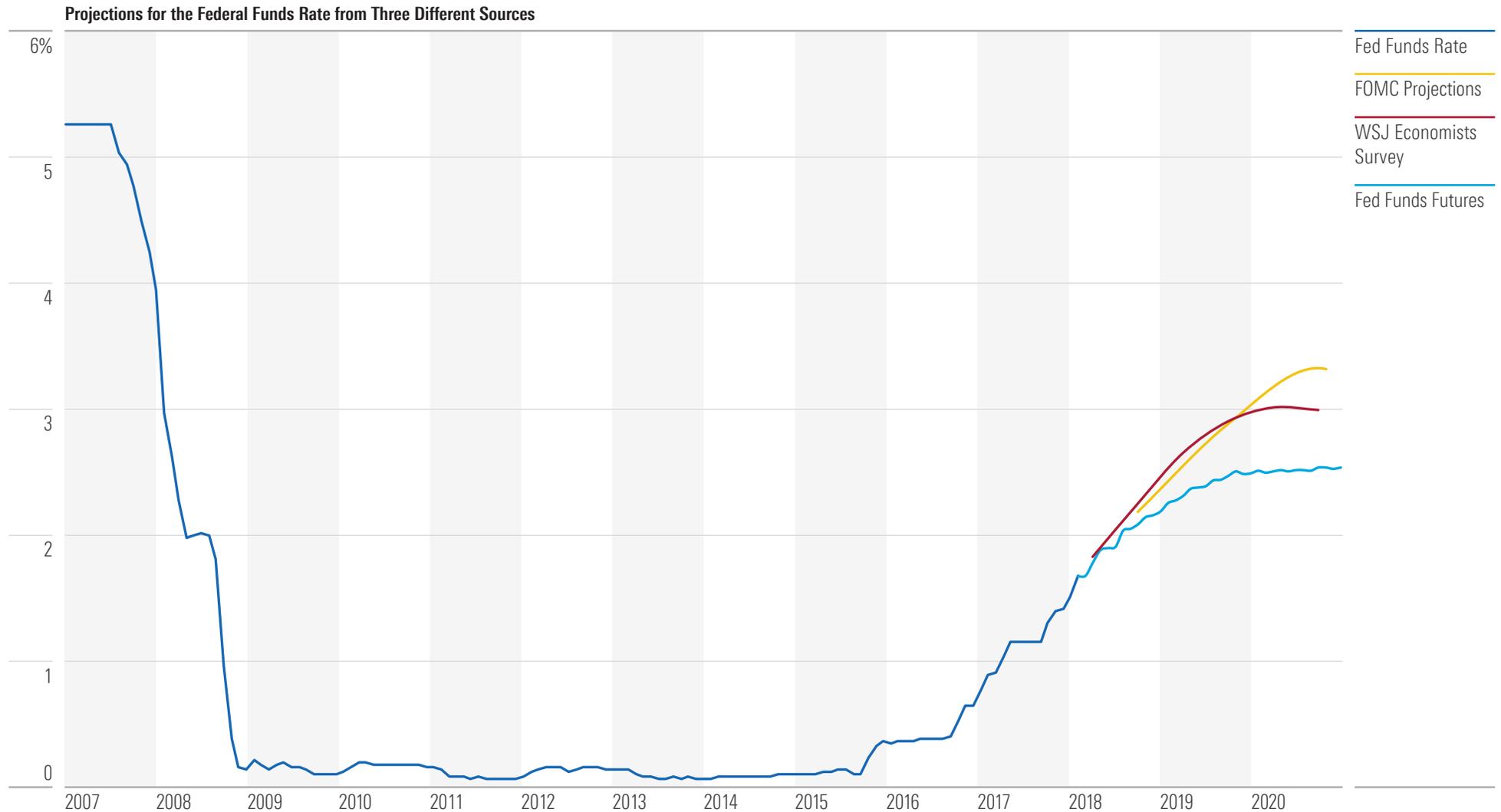


QF120

Source: Macrobond Financial. © 2018 Morningstar. All Rights Reserved.

Three Different Projections for the Fed Funds Rate

Projections from three different sources agree that U.S. interest rates will continue to rise this year. A rise in the fed funds rate may influence, but does not necessarily imply, an accompanying rise in long-term rates. Interestingly, the market has lower expectations than the economists at the Wall Street Journal and the Federal Reserve.



QF114

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Source: Federal Reserve, The Wall Street Journal, Chicago Mercantile Exchange, Morningstar calculations. © 2018 Morningstar. All Rights Reserved.

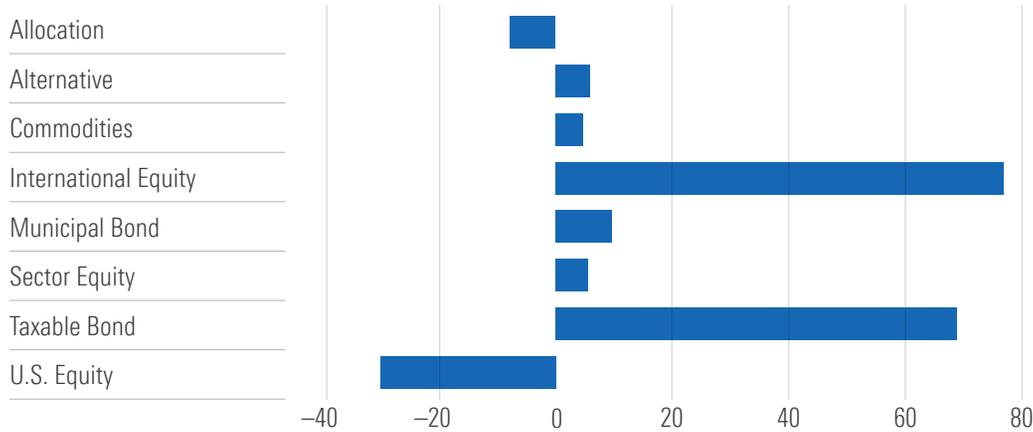
Funds



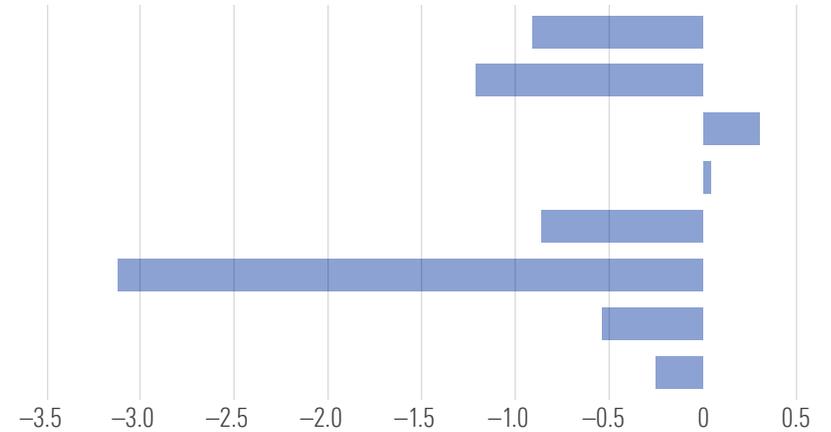
Top- and Bottom-Performing Morningstar Categories

Taxable bond followed up Q4 2017's \$80 billion of inflows with another \$65 billion in Q1 2018. This was only superseded by the substantial flows into international equity, which contrasts with the outflows from U.S. equity. Negative returns were sustained across most category groups; the slight outperformance of commodities funds could not offset the losses in natural resource, energy, and precious metals sector equity funds.

Trailing Quarter Flows (\$ Bil)



Trailing Quarter Returns (%)



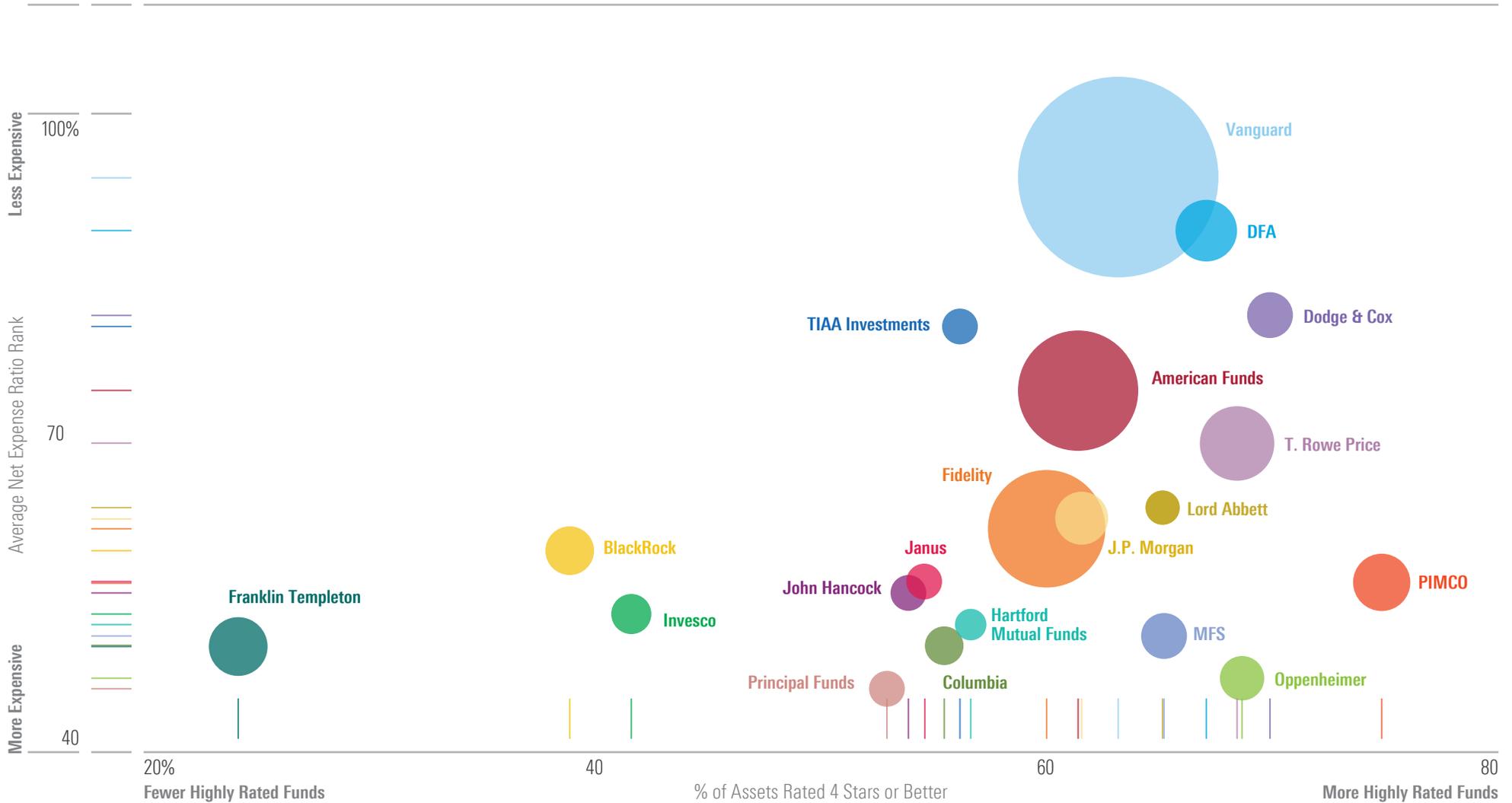
Top-Performing Morningstar Categories	U.S. Category Group	Return (%)			Bottom-Performing Morningstar Categories	U.S. Category Group	Return (%)			
		Trailing Quarter	Trailing 1 Year	Quarterly Flow (\$ Mil)			Trailing Quarter	Trailing 1 Year	Quarterly Flow (\$ Mil)	
Latin America Stock	International Equity	8.2	23.0	727	Energy Limited Partnership	Sector Equity	-11.6	-18.6	555	>20
Technology	Sector Equity	5.0	27.7	5,203	India Equity	International Equity	-8.4	11.1	144	10 to 20
Emrg-Mkts Local-Currency Bond	Taxable Bond	4.2	11.7	1,504	Equity Precious Metals	Sector Equity	-7.1	-5.3	1,365	0 to 10
Commodities Energy	Commodities	3.9	15.3	-1,068	Real Estate	Sector Equity	-6.9	-2.3	-4,080	-10 to 0
Foreign Small/Mid Growth	International Equity	2.4	28.3	751	Equity Energy	Sector Equity	-6.7	-5.6	109	-20 to -10
Large Growth	US Equity	2.3	20.4	-8,462	Consumer Defensive	Sector Equity	-4.8	4.3	-337	<-20
Small Growth	US Equity	2.3	18.1	-1,824	Infrastructure	Sector Equity	-4.4	3.8	118	
Mid-Cap Growth	US Equity	2.1	18.3	-2,900	Natural Resources	Sector Equity	-4.3	8.9	107	
Diversified Emerging Mkts	International Equity	2.0	22.9	20,366	Communications	Sector Equity	-3.5	1.0	-80	
Convertibles	Allocation	1.8	9.6	-448	Long Government	Taxable Bond	-3.4	3.2	3,131	

QMF10

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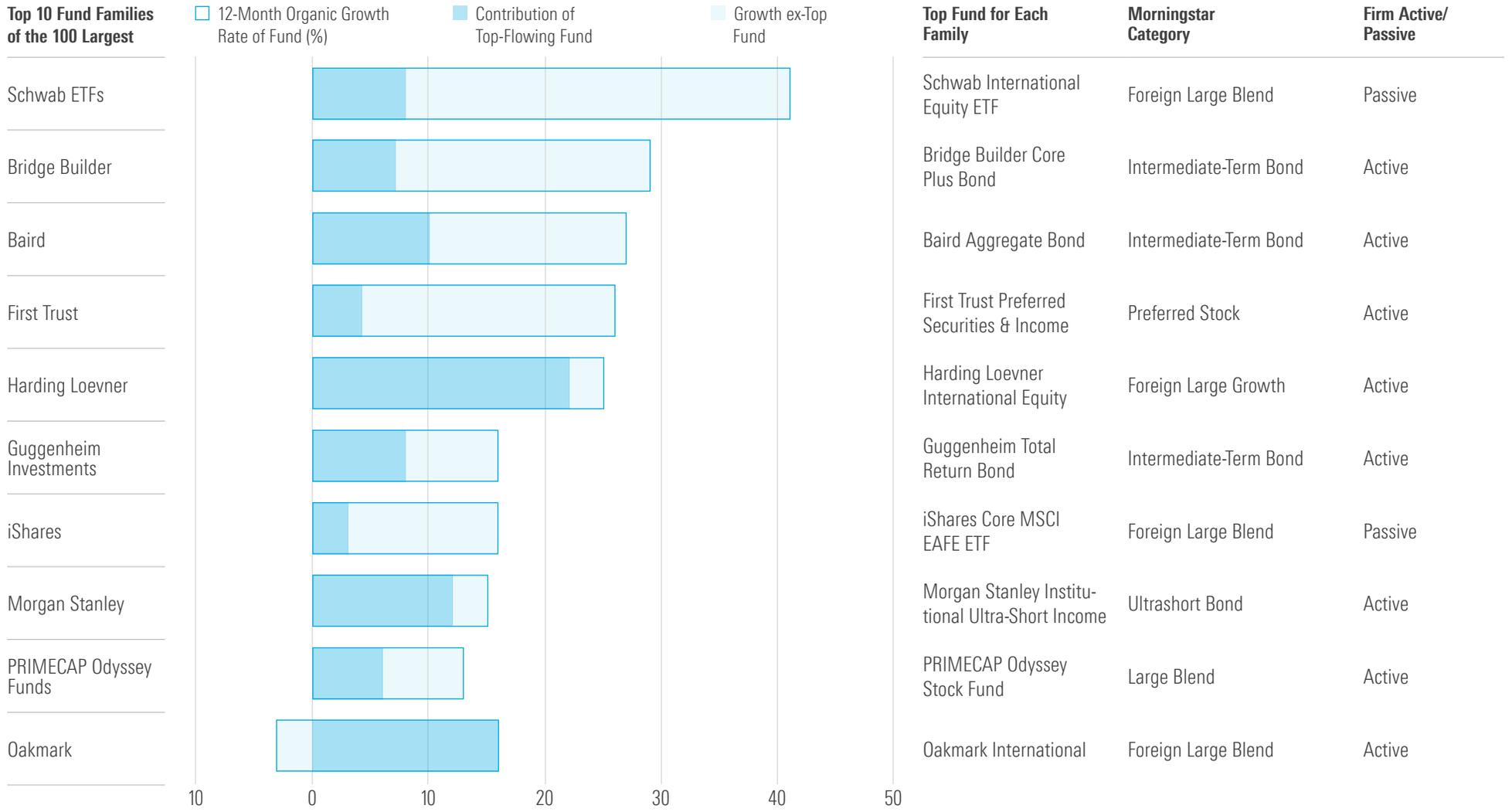
Top 20 Fund Companies: Relationship Between Ratings, Expenses and Assets

Morningstar Star Ratings are symmetrically distributed across funds but investors invest in funds with above average long-term results. Therefore, most fund companies on the graph have over 50% of their assets in higher-rated funds. PIMCO has been delivering superior performance despite their average fees. Conversely, over the past three years, Franklin Templeton has lost 105 billion dollars due to weak performance.



Fastest-Growing Fund Families

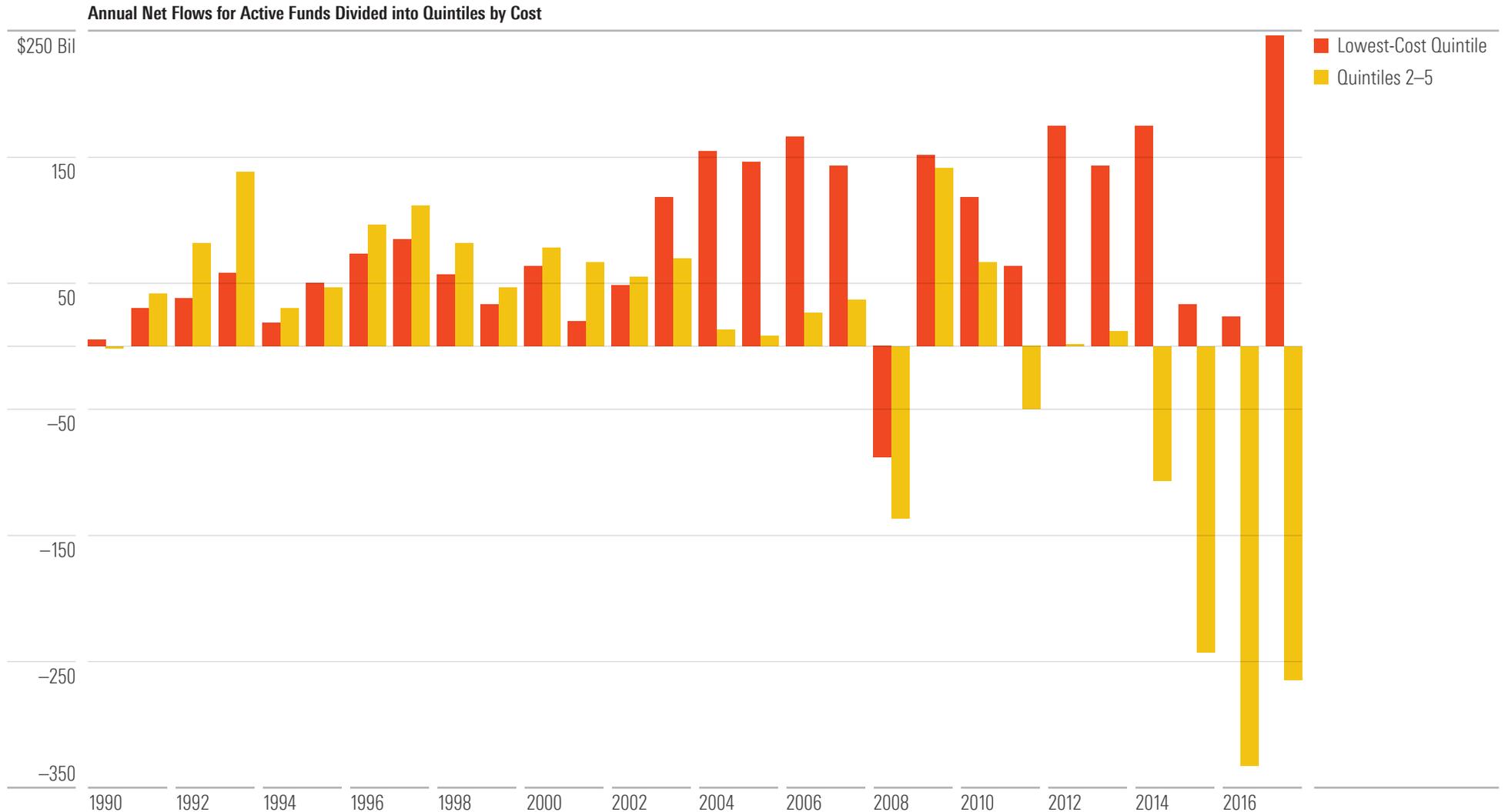
Schwab maintained the highest organic growth rate for another quarter of rankings, contributing to and aided by the flows into international equity. The trend of moving from commission- to fee-based accounts is driving the strong growth into Edward Jones' Bridge Builder funds. These funds are only available in Edward Jones fee-based accounts. New to this quarter's rankings is Oakmark with its successful Oakmark International fund.



Top Fund for Each Family	Morningstar Category	Firm Active/Passive
Schwab International Equity ETF	Foreign Large Blend	Passive
Bridge Builder Core Plus Bond	Intermediate-Term Bond	Active
Baird Aggregate Bond	Intermediate-Term Bond	Active
First Trust Preferred Securities & Income	Preferred Stock	Active
Harding Loevner International Equity	Foreign Large Growth	Active
Guggenheim Total Return Bond	Intermediate-Term Bond	Active
iShares Core MSCI EAFE ETF	Foreign Large Blend	Passive
Morgan Stanley Institutional Ultra-Short Income	Ultrashort Bond	Active
PRIMECAP Odyssey Stock Fund	Large Blend	Active
Oakmark International	Foreign Large Blend	Active

Since 2014, Fees Matter More Than Ever for Actively-Managed Funds

From 1990 to 2002, cost was not a primary driver when investors chose an actively-managed fund, and the least-expensive 20% of funds attracted only 40% of total flows. Over time, however, the situation began to change dramatically, so much so that in 2014, only the least-expensive 20% of funds enjoyed inflows, while all the other funds experienced outflows. This trend has been accelerating ever since, adding urgency to the need for asset managers to adapt to shifting investor preferences.

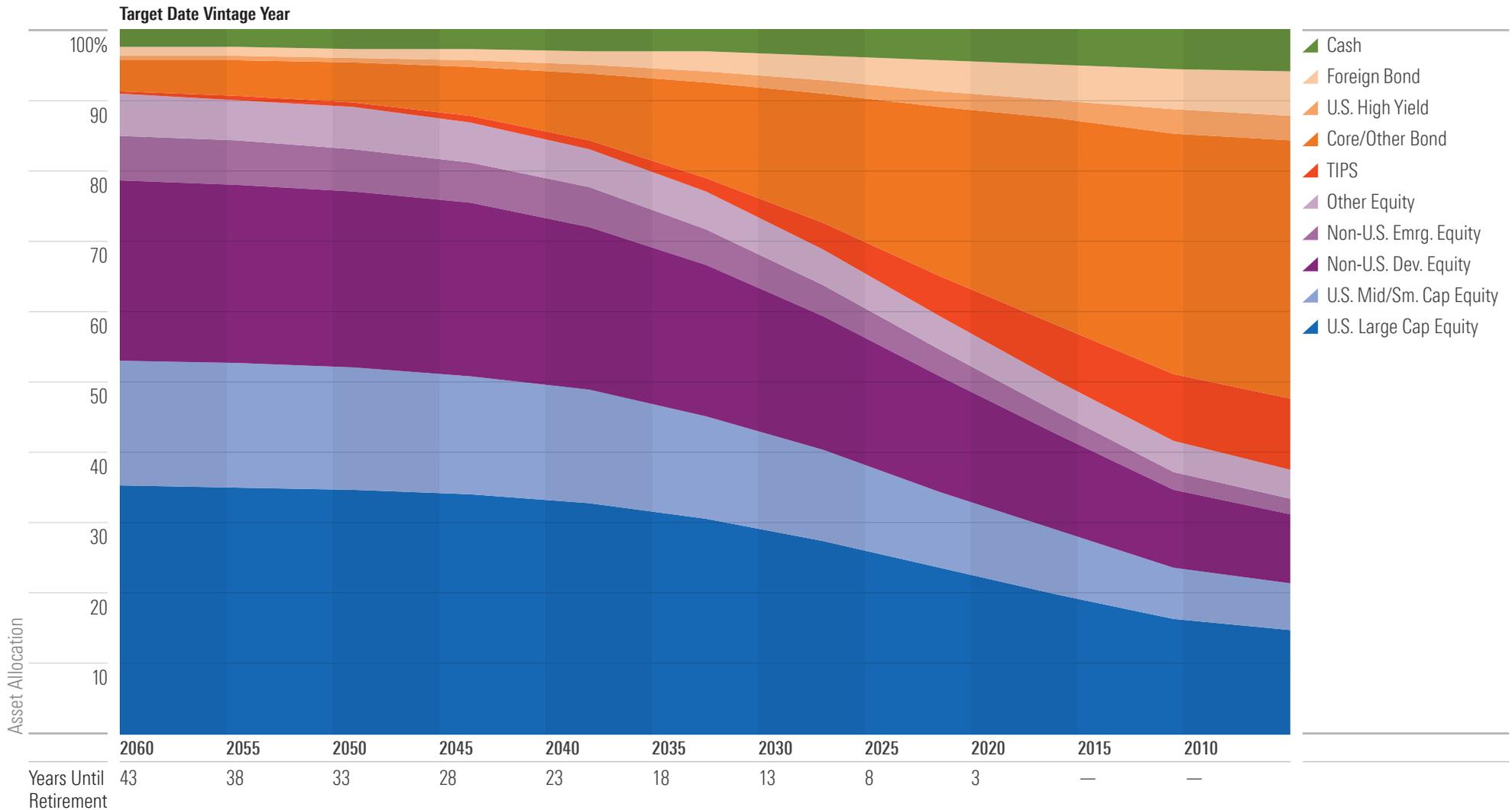


QMF9

Source: Morningstar Direct. Includes open-end funds and ETFs. © 2018 Morningstar. All Rights Reserved.

The Glide Path of the Target-Date Industry

The figure below charts the average asset allocation for target-date funds of each vintage year, showing in aggregate the target-date industry's average glide path. The allocation to equity is highest for the 2060 vintage year, at 91%, and glides down to 38% for vintage 2010 funds (7% and 56% for fixed income, respectively). The nearest to-retirement date (2020) still holds equal amounts of equity and fixed income.



QMF18

Source: Morningstar Direct. Data as of December 31, 2017. © 2018 Morningstar. All Rights Reserved.

The Long Tail of Short Volatility

The VelocityShares Daily Inverse VIX Short Term ETN (ticker XIV) provided -1x exposure to an index comprising first- and second-month VIX futures. This “short volatility” trade earned massive profits from inception to its peak on January 11th, 2018. However, the major volatility spike on February 2nd caused an acceleration event leading to the liquidation of the fund on February 15th. Despite the incredible returns, this is a cautionary tale of the risks inherent in volatility products.



QMF17

33

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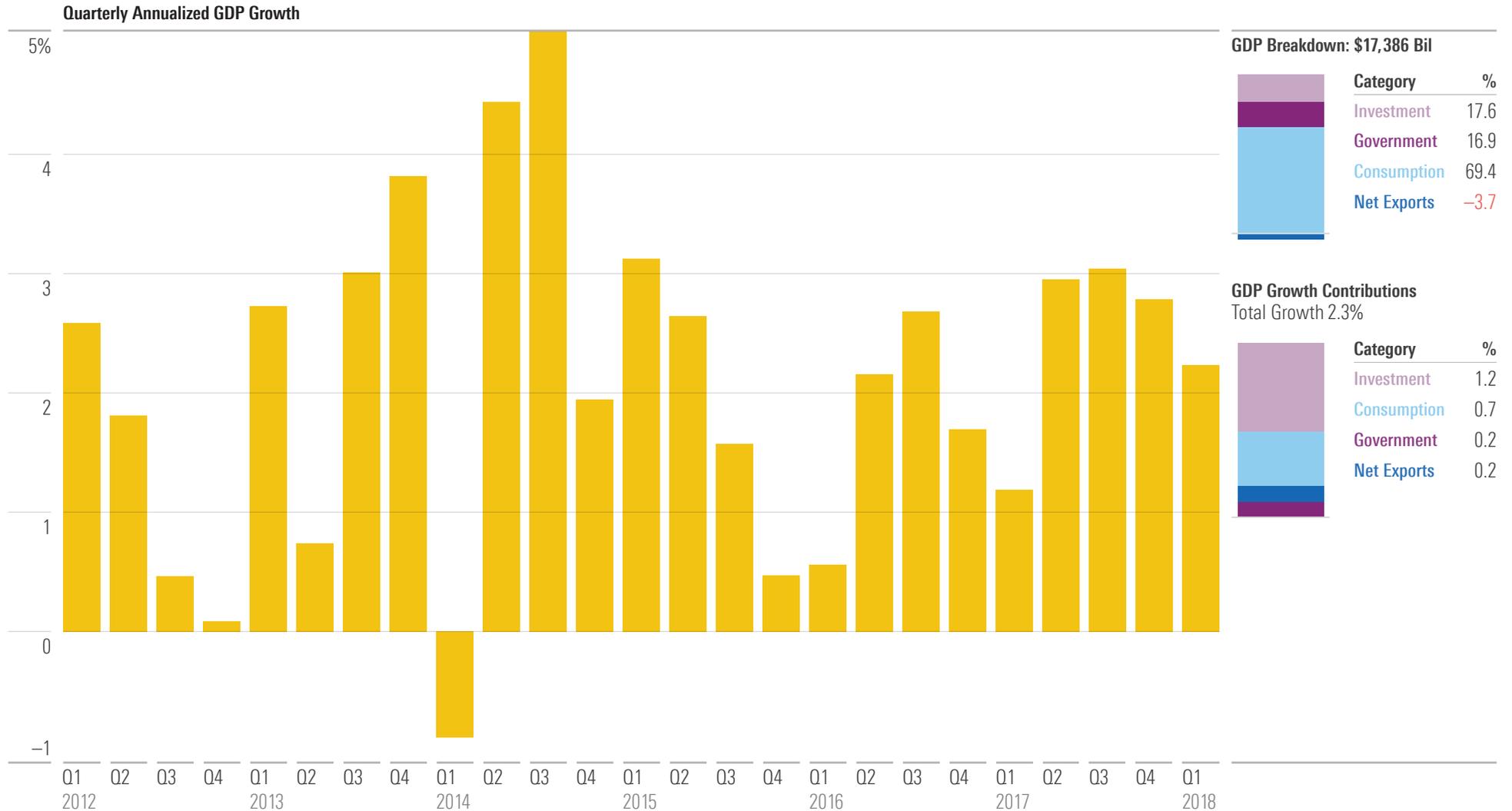
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Economic Indicators



U.S. GDP Growth Remains Steady

First-quarter GDP growth came in at 2.3%, slightly higher than the median forecast of economists surveyed by Bloomberg, 2.0%. This marks the fourth consecutive quarter of higher-than-2.0% growth, and the best first-quarter growth in three years. Seasonal factors likely weighed on consumption growth, but business investment remained relatively strong.



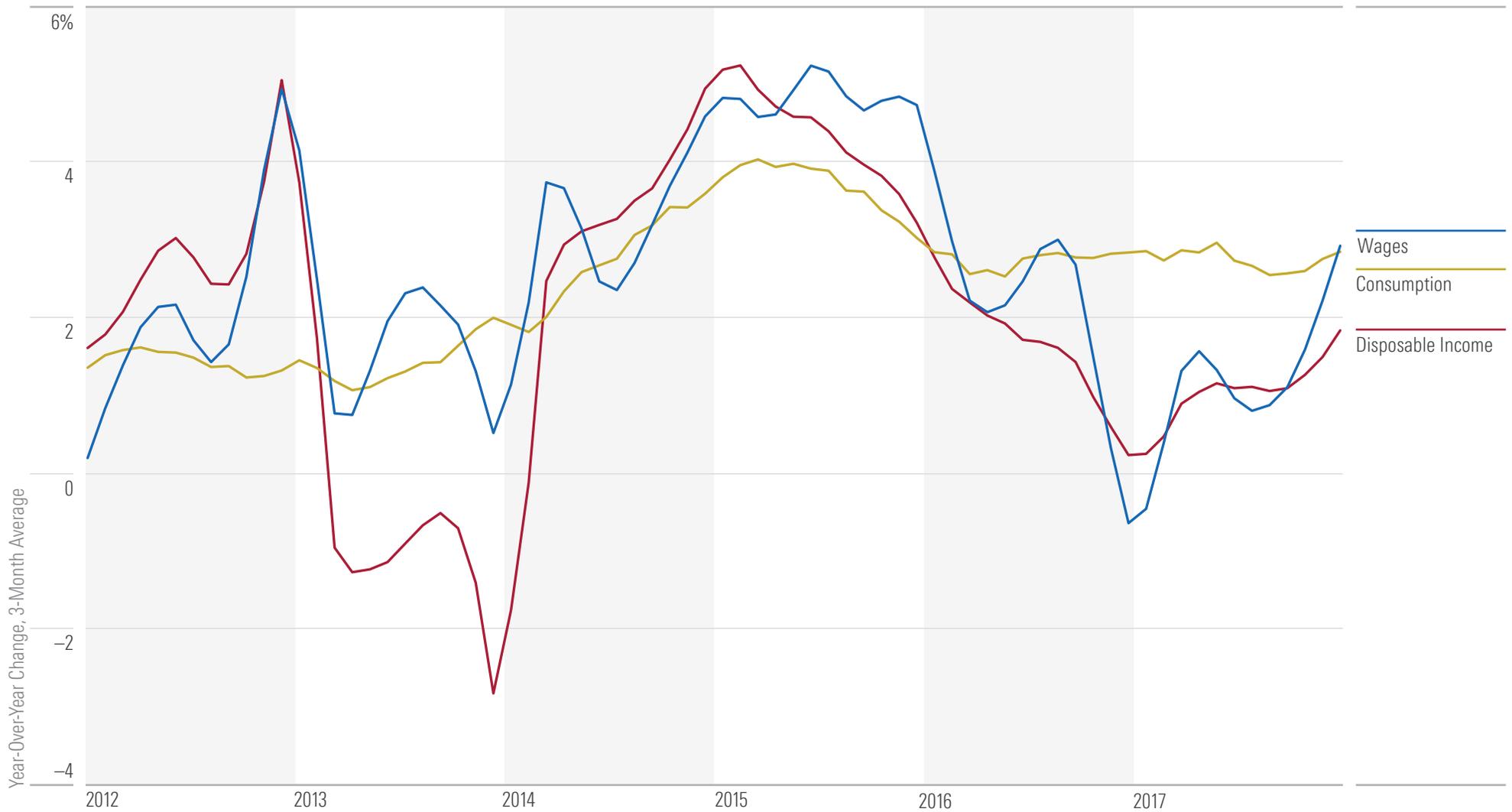
QEI7

35

Source: Bureau of Economic Analysis, Morningstar calculations. Percentage breakdowns might not add up to their totals because of rounding differences. ©2018 Morningstar. All Rights Reserved.

Consumption Growth Remains Steady Despite Increasing Wages

Consumption accounts for 70% of GDP and, until recently, provided almost 100% of GDP growth. Also, a tight labor market has filtered into faster wage growth in recent months. Increasing wages have yet to drive up consumption, but consumer confidence remains near a ten-year high and lower tax bills are expected to increase spending.



OEI3

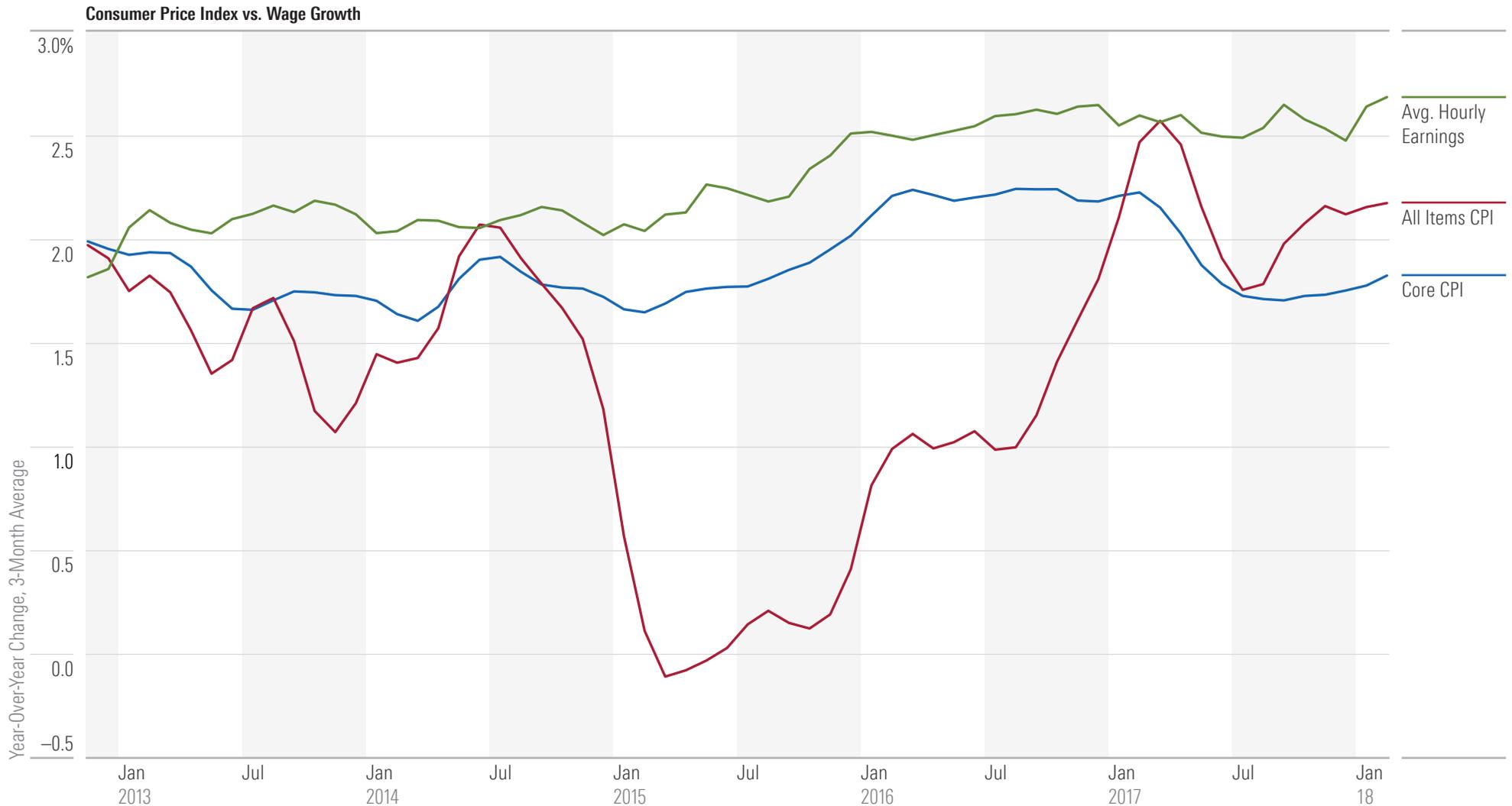
Source: Bureau of Economic Analysis. ©2018 Morningstar. All Rights Reserved.

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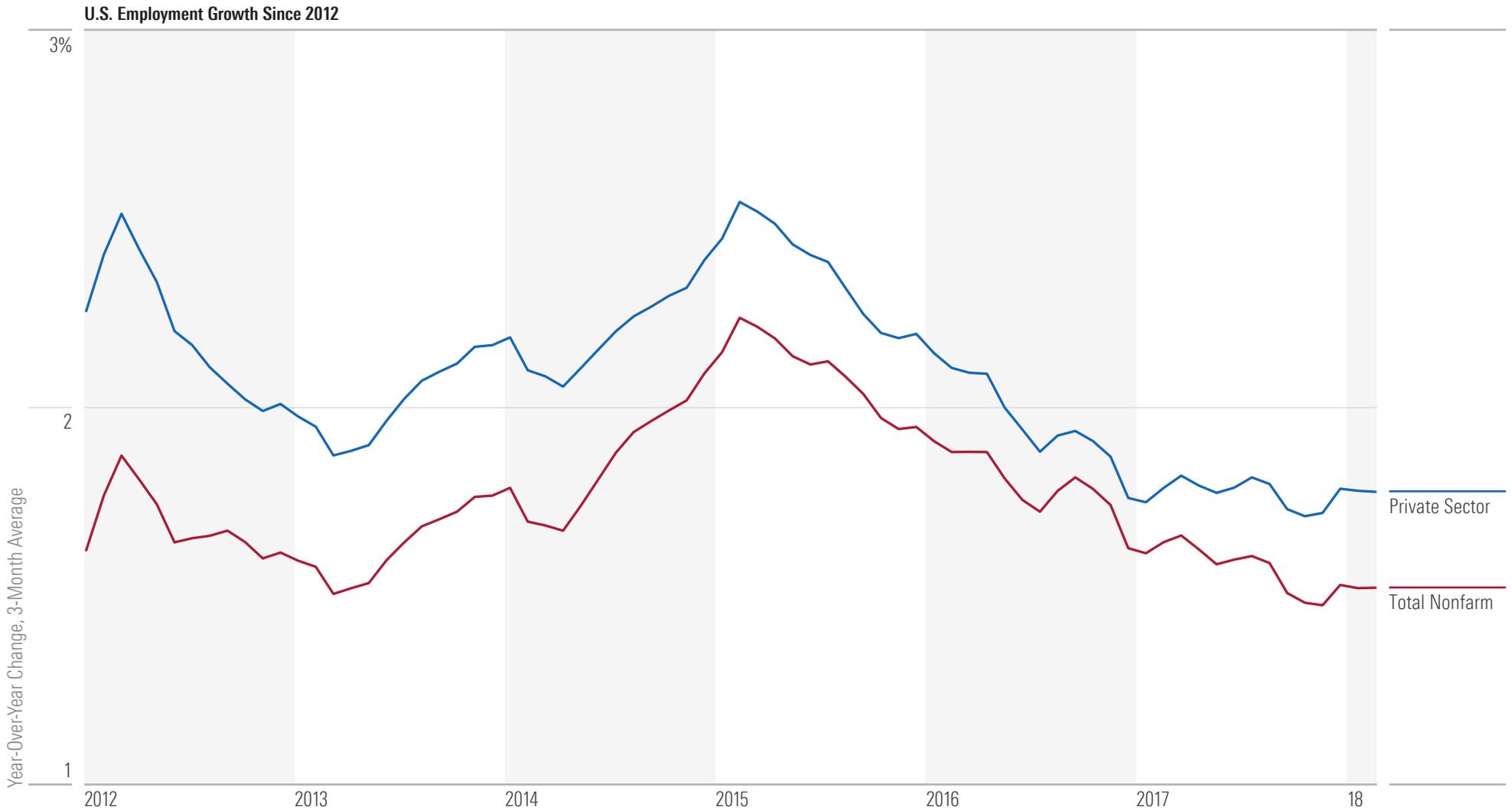
Rise in Consumer Prices Indicates Inflation Is Firming

The Federal Reserve has a core inflation target of 2.0%. As inflation continues to accelerate toward that target, the Fed is expected to continue tightening policy at a gradual pace. Rising wage growth continues to pose an upside risk to inflation, but has not had a material impact on consumer price inflation so far. As unemployment hovers at its lowest level since 2001, hourly wages grew at their strongest pace since the recession.



Slow Employment Growth Reflects Near-Full Employment Amid Strong Economic Fundamentals

After a decent run of 2%-plus growth between 2013 and 2015, employment growth has dropped back to the mid-1% range. For the sixth month in a row, the unemployment rate remained unchanged at 4.1%. Industry-specific issues have hit retailers hard. A lack of available workers in healthcare and construction are also keeping a lid on job growth.

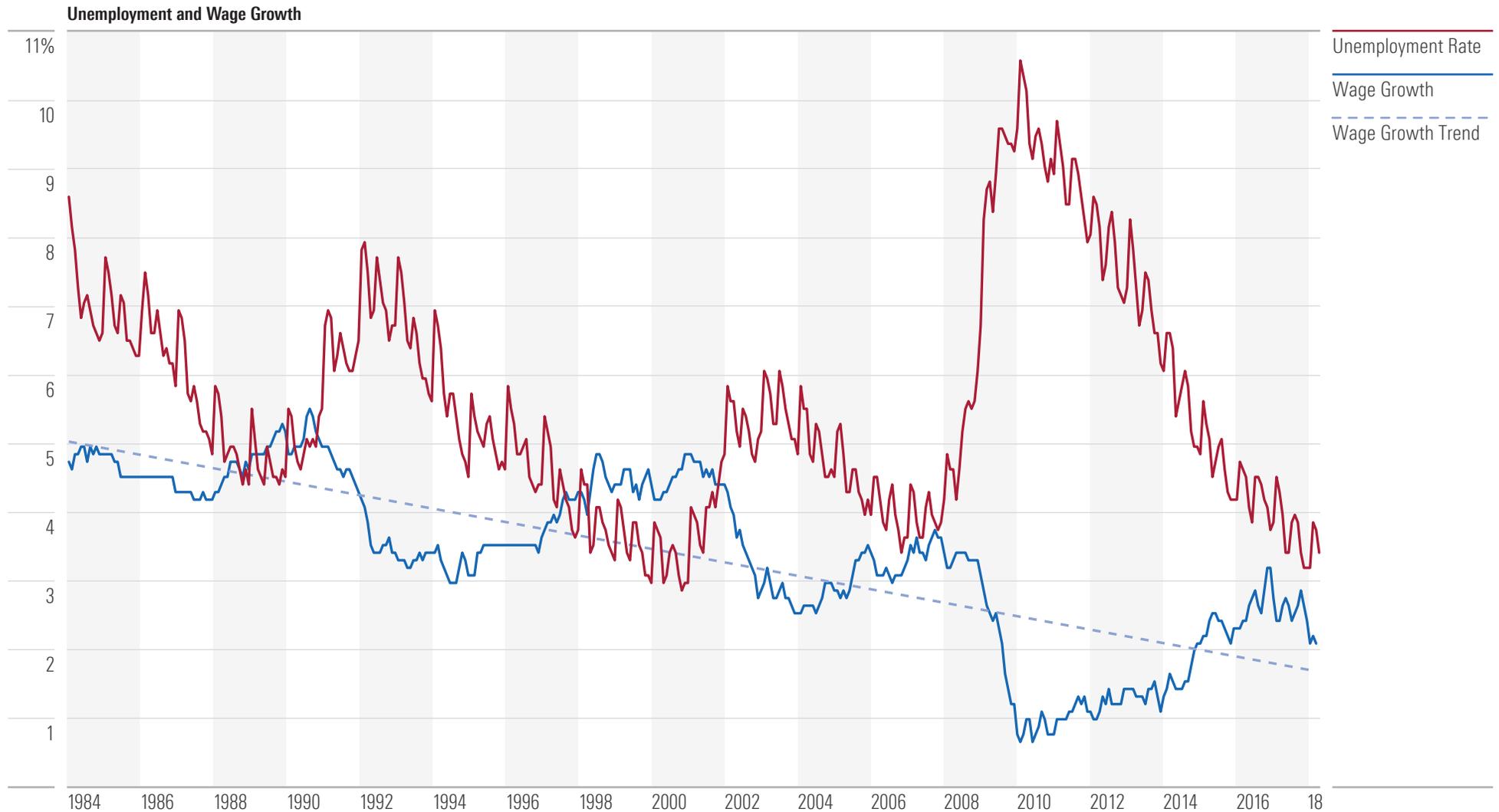


OEI13

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The Relationship Between Labor Market Tightness and Wage Growth Remains Relatively Weak

Nominal wage growth remains 2-3 percentage points below the pace seen during periods with similarly low unemployment rates, such as 1999-2000 and 2006-07. The long-term decline in wage growth since the 1980s has coincided with lower consumer price inflation and improving corporate profitability. Structural changes to the economy, such as globalization, increased automation, and declining union membership, may continue to cap wage pressure despite strong economic growth momentum.



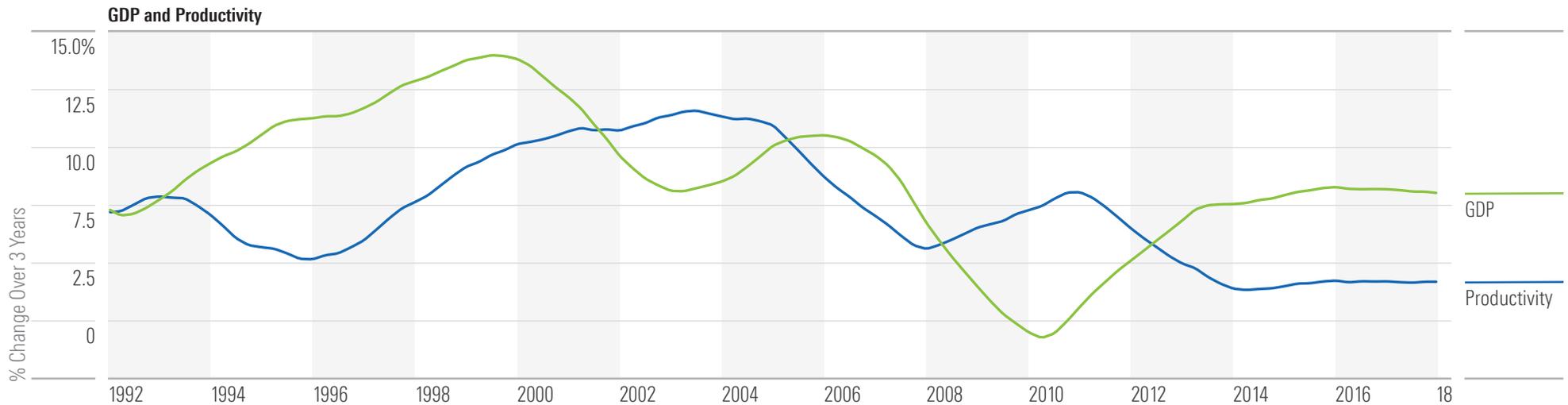
QEI93

Source: Federal Reserve Bank of Atlanta, U.S. Bureau of Labor Statistics, Morningstar calculations. © 2018 Morningstar. All Rights Reserved.

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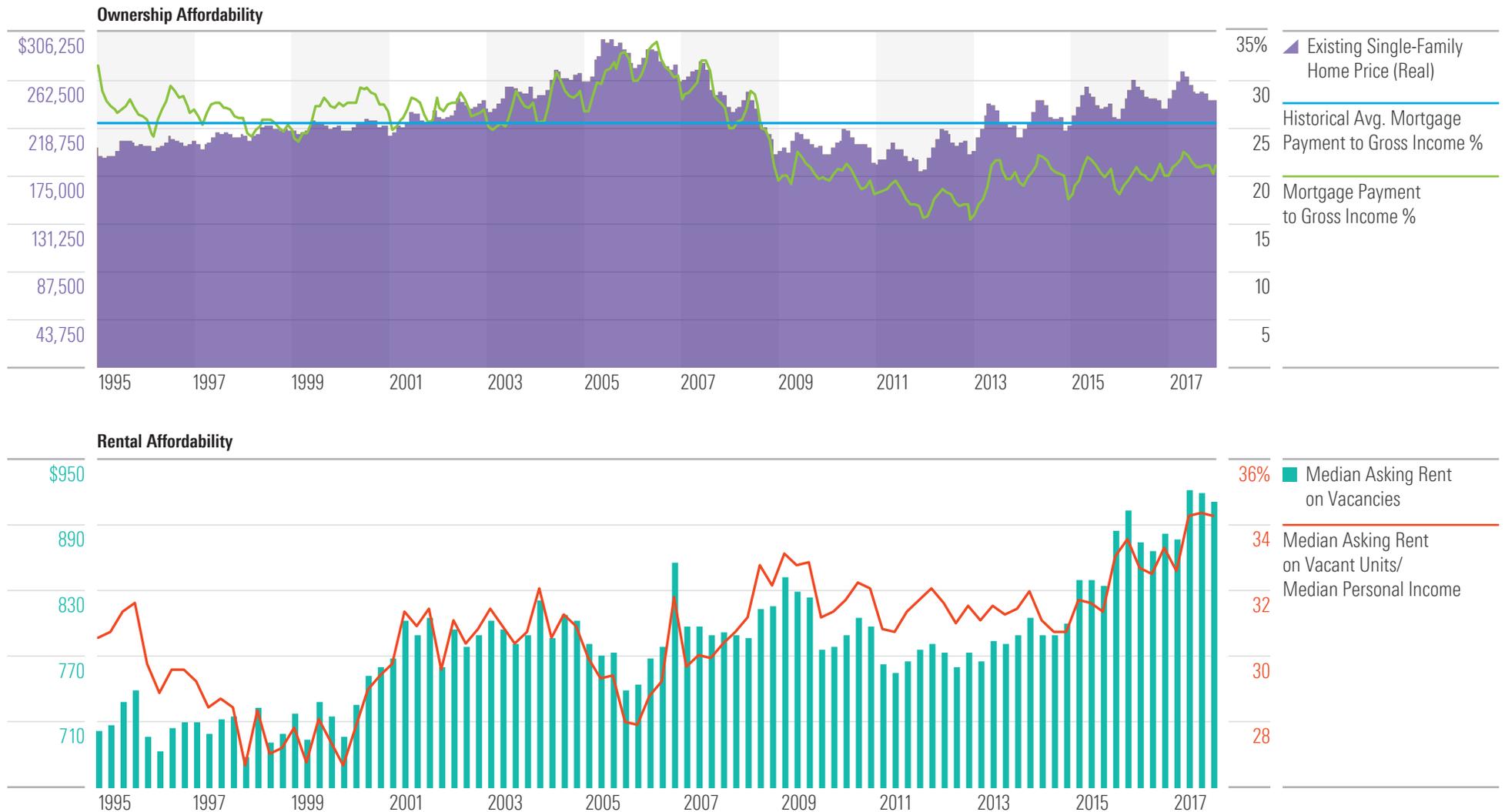
GDP and Productivity Growth Have Flattened in Recent Years

Broadly speaking, GDP growth is a function of growth in the labor force and changes in the productivity of that labor force. In the late 1990s and early 2000s, labor productivity improved markedly thanks to advancements in information technology, providing a boost to GDP growth. Since the Great Recession, productivity growth has been relatively flat (measured below on a rolling 36-month basis). As such, GDP growth has also remained modest despite a significant decline in unemployment.



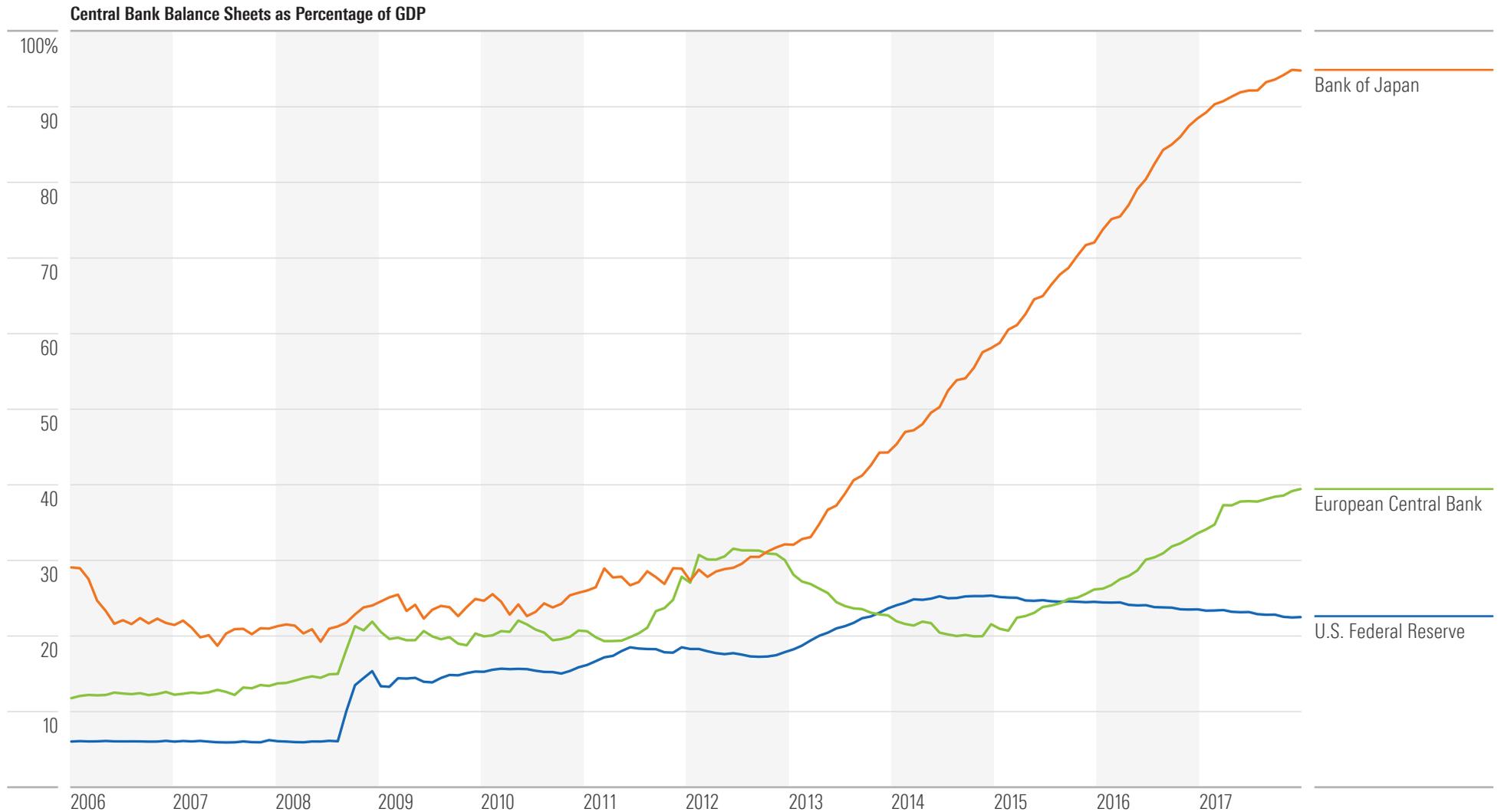
Rents Are High Despite Affordable Home Ownership

At current prices, the 30-year mortgage rate would have to climb over 6% to reach the historical mortgage payment to gross income ratio. At the same time, the median asking rent is at its highest level in over twenty years, which begs the question why do people continue to pay such high rents if mortgage rates are so low. The answer may lie in the fact that job growth has been concentrated in higher-priced housing markets.



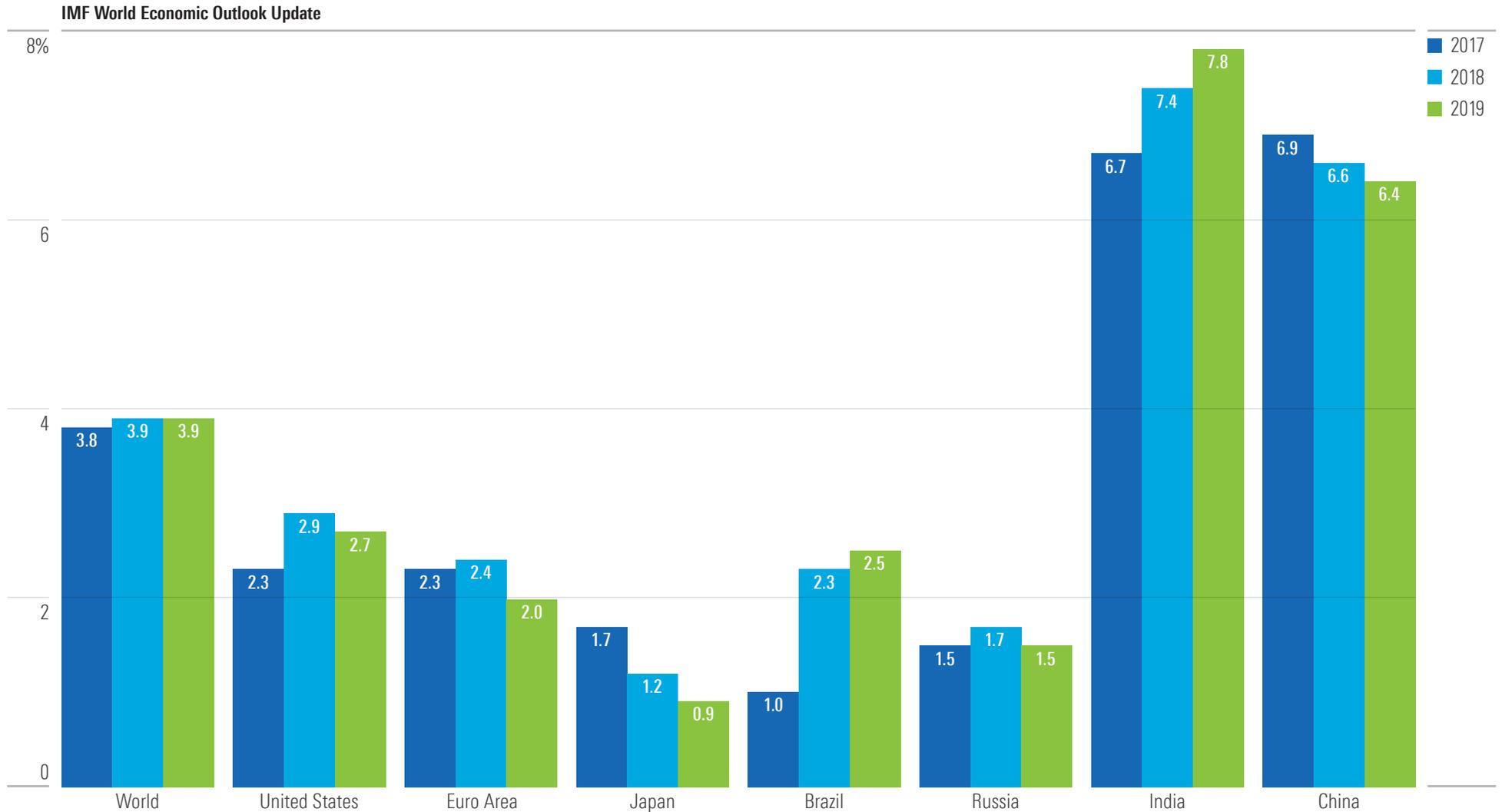
U.S. Fed Tightens While Other Central Banks Continue With Their Asset Purchases

The European and Japanese central banks have continued apace with their bond purchases. The U.S. remains the exception, as the Federal Reserve halted its large scale asset purchases in December 2014 and has since allowed some of those holdings to mature. This difference in policy trajectories is one reason behind the widening gap between U.S. (3% 10-year Treasury) and Japanese (0%) interest rates.



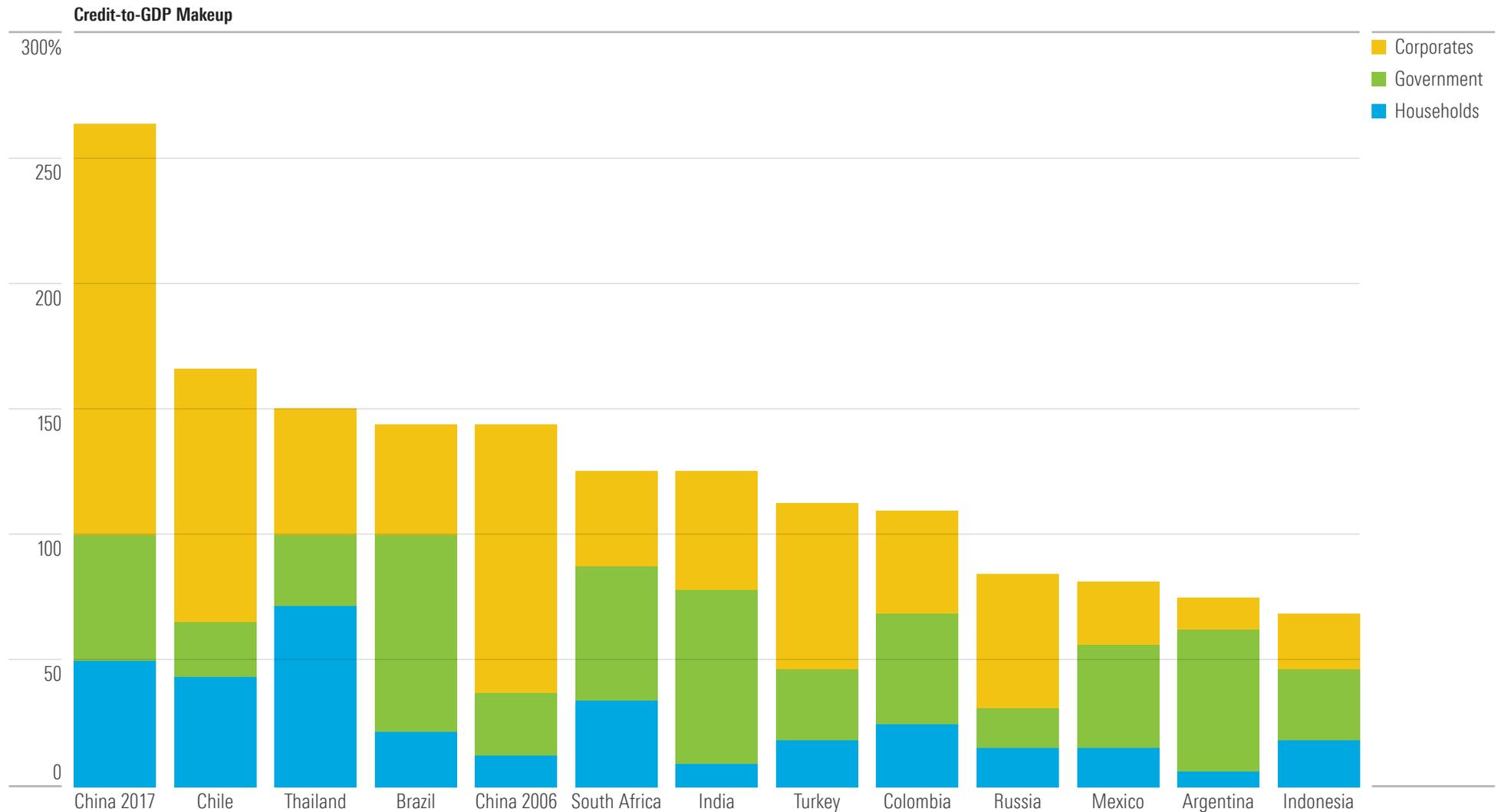
IMF World Growth Rate Remains Strong Despite Trade War Concerns

The IMF world growth rate of 3.8% was increased by 0.1% from its previous forecast due to a notable rebound in global trade. Global growth for 2018 and 2019 remains robust for most regions due in part to strong momentum and U.S. fiscal policy. The major uncertainty in the forecast is the risk of an escalating trade war between the U.S. and China.



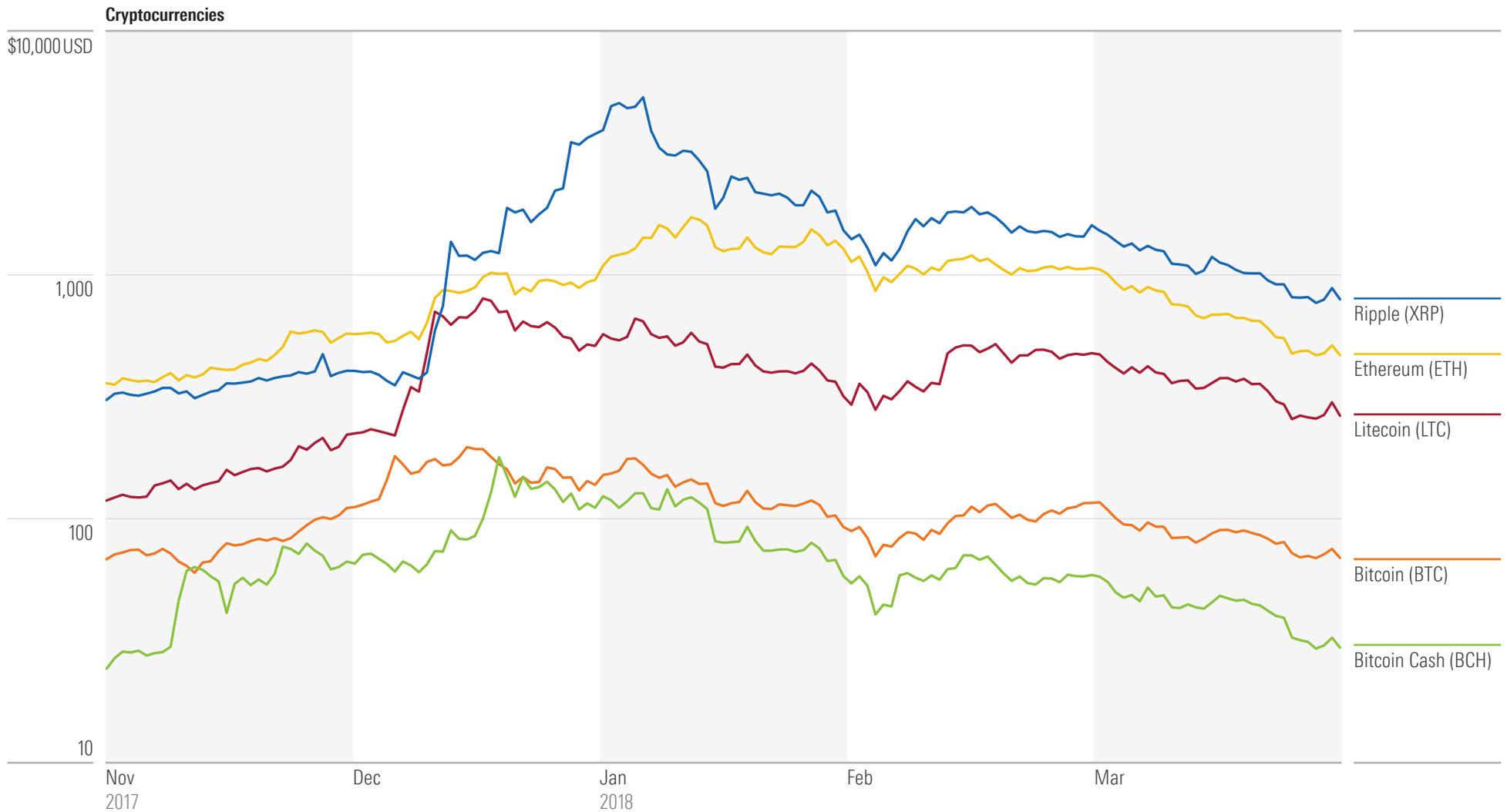
China's Unusually High Credit/GDP ratio

China's credit/GDP ratio is extremely high compared to other middle-income countries such as Brazil, Russia, and India. A country of China's level of development could be expected to have a total credit/GDP ratio of 75% as opposed to over 250%. China's high credit/GDP ratio is due to corporate borrowing at 161% of GDP versus a 40%-50% ratio typical among countries of similar income.



The Decline and Fall of the Crypto Empire?

Despite Bitcoin's nearly 2000% rise in 2017 and spectacular fall in first quarter of 2018, cryptocurrencies no longer dominate the financial news cycle as they did mere months ago. Regulators throughout the world continue to crack down on cryptocurrencies. Nevertheless, true believers insist Bitcoin prices have bottomed out and are looking for new highs within a year.



Index and Disclosure



Index Definitions

The **Morningstar Style index** family consists of 16 indexes that track the U.S. equity market by capitalization and investment style to create an integrated system. The indexes were built using a comprehensive and non-overlapping approach based on the methodology of Morningstar Style Box.

The **Morningstar Sector index** family consists of 14 indexes—three Super Sector and 11 Sector indexes that track the U.S. equity market using a consumption based analysis of economic sectors in a comprehensive, non-overlapping structure. The sector indexes are consumer defensive, healthcare, utilities, basic materials, consumer cyclical, financial services, real estate, communications services, energy, industrials, and technology.

The **Morningstar Global Equity indexes** offer a consistent view of global investment opportunities by applying the same rules for every market around the world. Covering 97% of stocks by market capitalization, the indexes encompass 45 countries in both developed and emerging markets. The index family is designed to work as an integrated system, allowing for meaningful global views across market capitalization and regions.

The **Morningstar Target Risk index** family is designed to meet the needs of investors who would like to maintain a target level of equity exposure. The index family provides global equity market risk levels that are scaled to fit five equity market risk profiles: aggressive, moderately aggressive, moderate, moderately conservative, and conservative.

The **S&P 500® index** includes 500 leading companies and captures approximately 80% coverage of available market capitalization.

The **Russell 2000 index** measures the performance of the 2,000 smallest companies in the Russell 3000 index.

The **MSCI EAFE index** captures the returns of large and mid-cap equities across developed markets in Europe, Australasia, and the Far East, excluding the U.S. and Canada.

The **MSCI Emerging Markets index** captures the returns of large and mid-cap equities across 23 emerging markets countries. The index covers approximately 85% of the free float-adjusted market capitalization in each country.

The **Barclays U.S. Aggregate Bond index** is a broad-based benchmark that measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities, MBS (agency fixed-rate and hybrid ARM pass-throughs), ABS and CMBS (agency and non-agency).

The **Barclays U.S. 5–10 Year Corporate Bond index** measures the investment return of U.S. dollar denominated, investment-grade, fixed rate, taxable securities issued by industrial, utility, and financial companies with maturities between 5 and 10 years.

The **BofA Merrill Lynch U.S. High Yield Master II Index** tracks the performance of U.S. dollar denominated below investment grade corporate debt publicly issued in the U.S. domestic market. Qualifying securities must have a below investment grade rating (based on an average of Moody's, S&P and Fitch).

The **Barclays Municipal Bond index** measures the broad market for investment grade, tax-exempt bonds with a maturity of at least one year.

The **JP Morgan EMBI Global Diversified index** tracks the performance of dollar-denominated sovereign bonds issued by a selection of emerging market countries. The index limits the weights of countries with larger debt stocks by only including a specified portion of these countries' eligible current face amounts of debt outstanding.

The **London Fix Gold PM index** is the price of gold per ounce at 15:00 GMT determined by the five members of the London Gold Pool.

The **Bloomberg Commodity index** represents 20 commodities, which are weighted for economic significance and market liquidity.

The **Bloomberg Livestock index** reflects the returns of an unlevered investment in futures contracts on livestock commodities. The index consists of two commodity futures (lean hogs and live cattle).

The **Bloomberg Grains index** reflects the returns of an unlevered investment in futures contracts on precious metals commodities. The index consists of three commodity futures (corn, soybeans, and wheat).

The **Bloomberg Precious Metals index** reflects the returns of an unlevered investment in futures contracts on livestock commodities. The index consists of two commodity futures (gold and silver).

The **Bloomberg Industrial Metals index** reflects the returns of an unlevered investment in futures contracts on industrial metals commodities. The index consists of four commodity futures (copper, aluminum, zinc, and nickel).

The **Bloomberg Energy index** reflects the returns of an unlevered investment in futures contracts on energy commodities. The index consists of five commodity futures (natural gas, WTI crude oil, Brent crude oil, unleaded gasoline, and heating oil).

The **Morningstar® Long-Only Commodity index** is a fully collateralized commodity futures index that is long all 20 eligible commodities and uses a dollar weighted open interest weighting scheme.

The **Brent Crude Oil index** tracks the spot price of Brent Crude oil.

The **Morningstar U.S. Market index** covers the top 97% market capitalization of the U.S. equity markets.

The **Morningstar Developed Ex U.S. index** captures the performance of the stocks located in the developed countries across the world. Stocks in the index are weighted by their float capital, which removes corporate cross ownership, government holdings and other locked-in shares.

The **Morningstar Emerging Markets index** captures the performance of the stocks located in the emerging countries across the world. Stocks in the index are weighted by their float capital, which removes corporate cross ownership, government holdings and other locked-in shares.

The **Morningstar Core Bond index** is a broad investment-grade index that includes the largest, most important sectors of the investment-grade U.S. bond market. The index is comprised of the Morningstar U.S. Government Bond, U.S. Corporate Bond and U.S. Mortgage Bond indexes.

The **Morningstar Intermediate U.S. Government Bond index** includes U.S. Treasury and U.S. government agency bonds with maturities between four and seven years. The Morningstar Intermediate Corporate Bond index includes U.S. corporate bonds with maturities of between four and seven years.

The **Morningstar U.S. Corporate Bond index** includes U.S. corporate bonds with maturities of more than one year and at least \$500 million outstanding.

The **Morningstar Short-Term Core Bond index** includes all bonds in the Morningstar Core Bond Index that have maturities between one and four years.

The **Morningstar Emerging Markets Composite Bond index** includes the most liquid sovereign and corporate bonds issued in U.S. Dollars (USD) by the governments and corporations of the most prominent emerging markets.

The **Morningstar U.S. Mortgage Bond index** tracks approximately 98% of the fixed-rate mortgages issued by Ginnie Mae, Fannie Mae and Freddie Mac.

The **Morningstar Long-Term U.S. Government Bond index** includes U.S. Treasury and U.S. Government Agency bonds with maturities of seven years or longer.

The **Morningstar Long-Term Corporate Bond index** includes U.S. corporate bonds with maturities of seven years or longer.

The **Barclays U.S. Corporate High Yield index** represents the universe of fixed rate, non-investment grade debt.

The **Barclays U.S. Corporate High Yield ex-Energy index** represents the universe of fixed rate, non-investment grade debt not in the energy sector.

The **Barclays U.S. Treasury 7-10 Year Bond index** measures the performance of U.S. Treasury securities that have a remaining maturity of at least seven years and less than ten years.

The **Barclays U.S. Treasury 20+ Year Bond index** represents the performance of U.S. Treasury securities that have a remaining maturity of greater than 20 years.

The **Barclays Emerging Markets Local Currency Broad Bond index** represents the performance of the sovereign, local currency bond markets of emerging market countries. The Barclays Municipal Bond index is representative of the broad market for investment grade, tax-exempt bonds with a maturity of at least one year.

The **Citigroup WGBI Non-USD 5+ Year Bond index** measures the performance of fixed-rate, local currency, investment grade sovereign bonds. It comprises debt from over 20 countries.

The **S&P/LSTA Leveraged Loan index** tracks the universe of syndicated leveraged loans.

The **MSCI China A Local Currency index** captures large and mid-cap equities listed on the Shanghai and Shenzhen exchanges.

Disclosures

Past performance is no guarantee of future results. This is for illustrative purposes only and not indicative of any investment. The information, data, analyses, and opinions presented herein do not constitute investment advice, are provided solely for informational purposes, and therefore are not an offer to buy or sell a security or invest in a specific asset class or strategy. An investment cannot be made directly in an index. The data assumes reinvestment of all income and does not account for taxes or transaction costs. Diversification does not eliminate the risk of experiencing investment losses. Holding a portfolio of securities for the long-term does not ensure a profitable outcome, and investing in securities always involves risk of loss.

Risk and return are measured by standard deviation and compound annual return, respectively. Standard deviation measures the fluctuation of returns around the arithmetic average return of the investment. The higher the standard deviation, the greater the variability (and thus risk) of the investment returns.

Stocks are not guaranteed and have been more volatile than the other asset classes.

Small company stocks are more volatile than large company stocks and are subject to significant price fluctuations, business risks, and are thinly traded.

Government bonds and Treasury bills are guaranteed by the full faith and credit of the United States government as to the timely payment of principal and interest. Bonds in a portfolio are typically intended to provide income and/or diversification. U.S. government bonds may be exempt from state taxes and income is taxed as ordinary income in the year received. With government bonds, the investor is a creditor of the government.

With **corporate bonds** an investor is a creditor of the corporation and the bond is subject to default risk. Corporate bonds are not guaranteed.

High-yield corporate bonds exhibit significantly more risk of default than investment grade corporate bonds.

Only insured **municipal bonds** are guaranteed as to the timely payment of principal and interest by issuer. However, insurance does not eliminate market risk. A municipal bond investor is a creditor of the issuing municipality and the bond is subject to default risk. Municipal bonds may be subject to the alternative minimum tax (AMT) and state and local taxes, and federal taxes would apply to any capital gains distributions.

International bonds are not guaranteed. With international bonds the investor is a creditor of a foreign government or corporation. International investments involve special risks such as fluctuations in currency, foreign taxation, economic and political risks, liquidity risks, and differences in accounting and financial standards.

International stocks involve special risks such as fluctuations in currency, foreign taxation, economic and political risks, liquidity risks, and differences in accounting and financial standards. Liquidity is typically lower in emerging markets than in developed markets. The risk of principal and return may be significantly greater than that of other developed international markets.

Sector investments are narrowly focused investments that typically exhibit higher volatility than the market in general. Sector investments will fluctuate with current market conditions and may be worth more or less than the original cost upon liquidation.

Growth and value stocks: Although value stocks have outperformed growth stocks, please keep in mind that each type of stock carries unique risks which include, but are not limited to, economic risk, market risk, company risk, and strategy risk.

Gold/commodity investments will be subject to the risks of investing in physical commodities, including regulatory, economic and political developments, weather events, natural disasters, and market disruptions. Exposure to the commodities markets may subject the investment to greater volatility than investments in more traditional securities, such as stocks and bonds.

Holders of **preferred stock** are usually guaranteed a dividend payment and their dividends are always paid out before dividends on common stock. In event that the company fails, there's a priority list for a company's obligations, and obligations to preferred stockholders must be met before those to common stockholders. On the other hand, preferred stockholders are lower on the list of investors to be reimbursed than bondholders are.

Mutual funds are sold by prospectus, which can be obtained from your financial professional or the company and which contains complete information, including investment objectives, risks, charges and expenses. Investors should read the prospectus and consider this information carefully before investing or sending money.

Holding an exchange-traded fund does not ensure a profitable outcome and all investing involves risk, including the loss of the entire principal. Since each ETF is different, investors should read the prospectus and consider this information carefully before investing. The prospectus can be obtained from your financial professional or the ETF provider and contains complete information, including investment objectives, risks, charges and expenses. ETF risks include, but are not limited to, market risk, market trading risk, liquidity risk, imperfect benchmark correlation, leverage, and any other risk associated with the underlying securities. There is no guarantee that any fund will achieve its investment objective. In addition to ETF expenses, brokerage costs apply. Fees are charged regardless of profitability and may result in depletion of assets.

Credit/default risk: Debt securities are subject to credit/default risk, which is the risk associated with the issuer failing to meet its contractual obligations either through a default or credit downgrade.

Interest-rate risk: Debt securities have varying levels of sensitivity to changes in interest rates. In general, the price of a debt security tends to fall when interest rates rise and rise when interest rates fall. Securities with longer maturities and mortgage securities can be more sensitive to interest rate changes.

This publication contains certain forward-looking statements which involve known and unknown risks, uncertainties, and other factors that may cause the actual results to differ materially from any future results expressed or implied by those projected statements. Past performance does not guarantee future results.