

Morningstar® Markets Observer

Q3 2018 Data as of June 30, 2018

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Market Overview



Market Dashboard

In the first quarter, U.S. and international-developed equities suffered, while emerging-markets equities posted a small but positive return. The tables were turned in the second quarter, with both large- and small-cap U.S. equities posting healthy returns and international stocks (both developed and emerging) sustaining losses. The Federal Reserve raised rates for the second time this year, negatively affecting bond returns. Only high-yield bonds 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	2.6	3.4	14.4	11.9	13.4	10.2	20.6	3.2	2.2	13.7
Russell 2000	1.2	7.7	7.8	17.6	11.0	12.5	10.6	18.0	2.2	1.2	10.7
MSCI EAFE	3.1	-2.7	-1.2	6.8	4.9	6.4	2.8	14.9	1.6	1.2	10.0
MSCI Emerging Markets	2.6	-6.7	-8.0	8.2	5.6	5.0	2.3	13.4	1.7	1.4	8.8

Fixed Income	Current Yield	Return (%)						Interest Rates		Current	1 Yr Ago						
		YTD	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2 Yr Treasury	5 Yr Treasury			10 Yr Treasury	20 Yr Treasury	Prime Rate			
U.S. Aggregate	3.3	-1.6	-0.2	-0.4	1.7	2.3	3.7	2.5	2.7	2.9	3.0	5.0	1.4	1.9	2.3	2.8	4.3
U.S. Corporates	4.1	-3.0	-0.6	-1.1	2.8	3.6	5.8										
High Yield	6.7	0.1	1.0	2.5	5.5	5.5	8.0										
Municipals	2.7	-0.2	0.9	1.6	2.9	3.5	4.4										
Emerging Markets (US\$)	6.5	-5.2	-3.5	-1.6	4.6	5.1	6.8										

Broad Commodities	Return (%)						Commodities	
	YTD	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	Brent Crude Oil	Gold
Bloomberg Commodity	0.0	0.4	7.3	-4.5	-6.4	-9.0	79	48
Morningstar Commodity	4.4	2.9	17.6	-4.1	-7.0	-7.2	1,250	1,242

3-Month Return (%)

	Value	Blend	Growth	
Large	0.5	1.1	7.0	>8
Mid	2.6	1.6	5.0	4 to 8
Small	6.9	6.3	7.9	0 to 4

■ >8
■ 4 to 8
■ 0 to 4
■ -4 to 0
■ -8 to -4
■ <-8

1-Year Return (%)

	Value	Blend	Growth	
Large	8.8	7.6	27.2	>20
Mid	10.2	10.5	20.5	10 to 20
Small	10.4	12.6	23.7	0 to 10

■ >20
■ 10 to 20
■ 0 to 10
■ -10 to 0
■ -20 to -10
■ <-20

5-Year Return (%)

	Value	Blend	Growth	
Large	10.0	12.5	17.7	>20
Mid	12.9	12.4	13.4	10 to 20
Small	10.8	11.8	13.7	0 to 10

■ >20
■ 10 to 20
■ 0 to 10
■ -10 to 0
■ -20 to -10
■ <-20

QM05

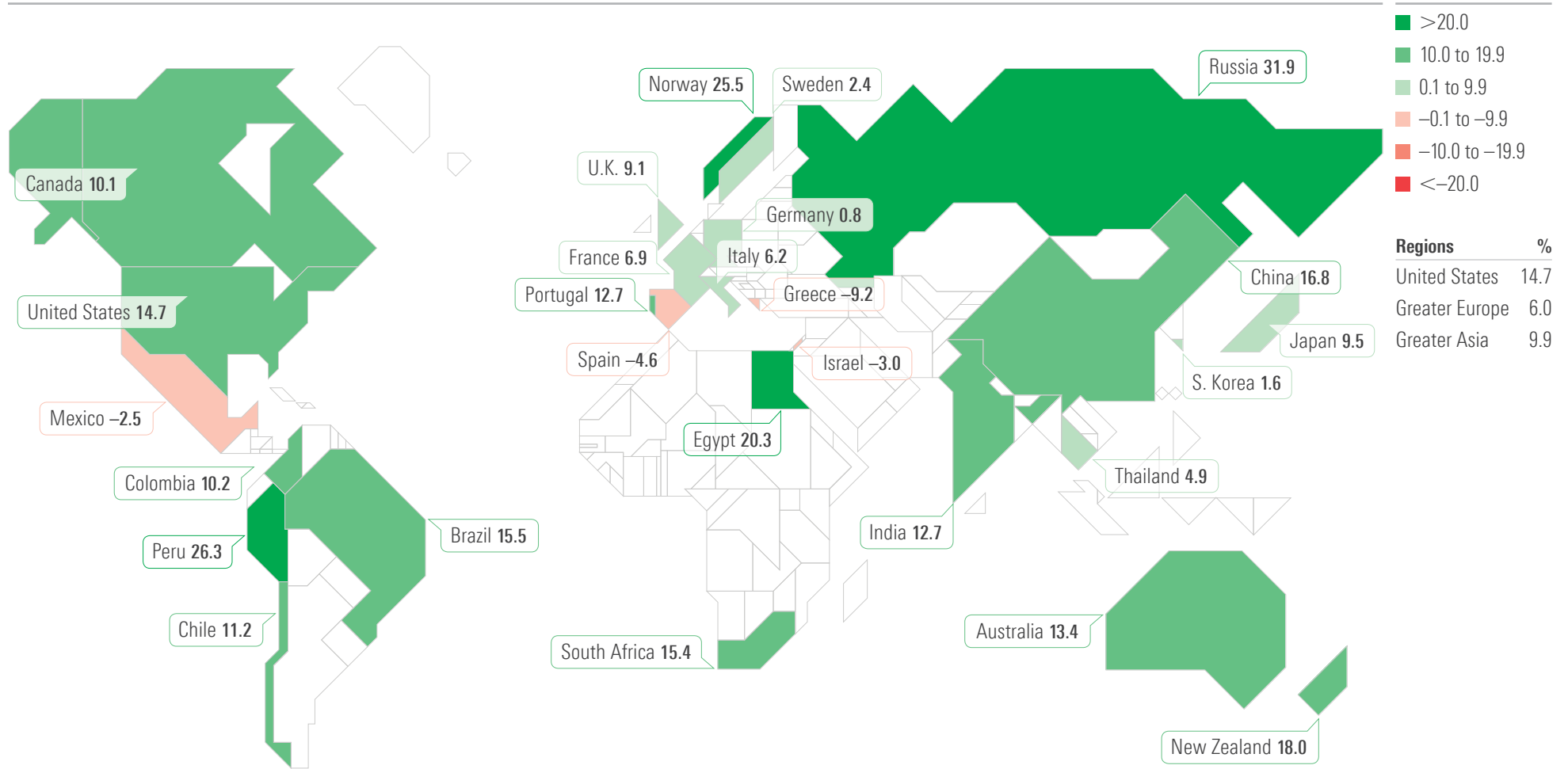
Source: Morningstar Direct. U.S. Aggregate—Barclays U.S. Aggregate Bond Total Return, U.S. Corporates—Barclays U.S. Corporate 5-10 Year Total Return, High Yield—Bank of America Merrill Lynch U.S. High Yield Master II Total Return, Municipals—Barclays Municipal Total Return, Fixed-Income Emerging Markets—J.P. 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

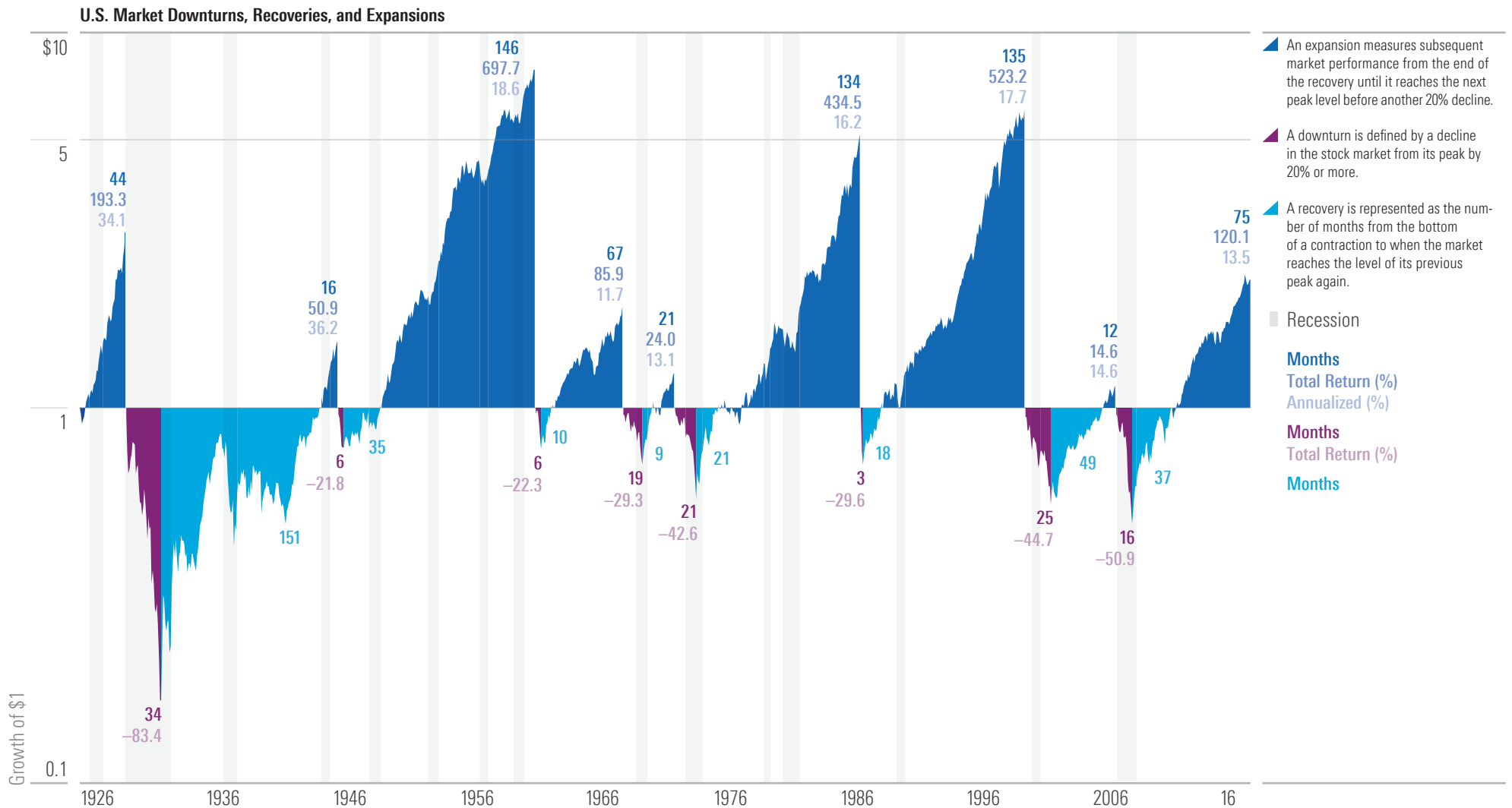
Most countries in the Morningstar coverage universe enjoyed positive (some even double-digit) trailing one-year returns. Robust economic reports propelled U.S. and major European markets. Others, like Greece and Spain, continued to battle debt issues and political instability. Trade tensions between the U.S. and China could adversely affect both economies and their other trading partners going forward.

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



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

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 120.1% since the current expansion started in March 2012, and, based on previous expansionary episodes, there is ample potential for future growth.

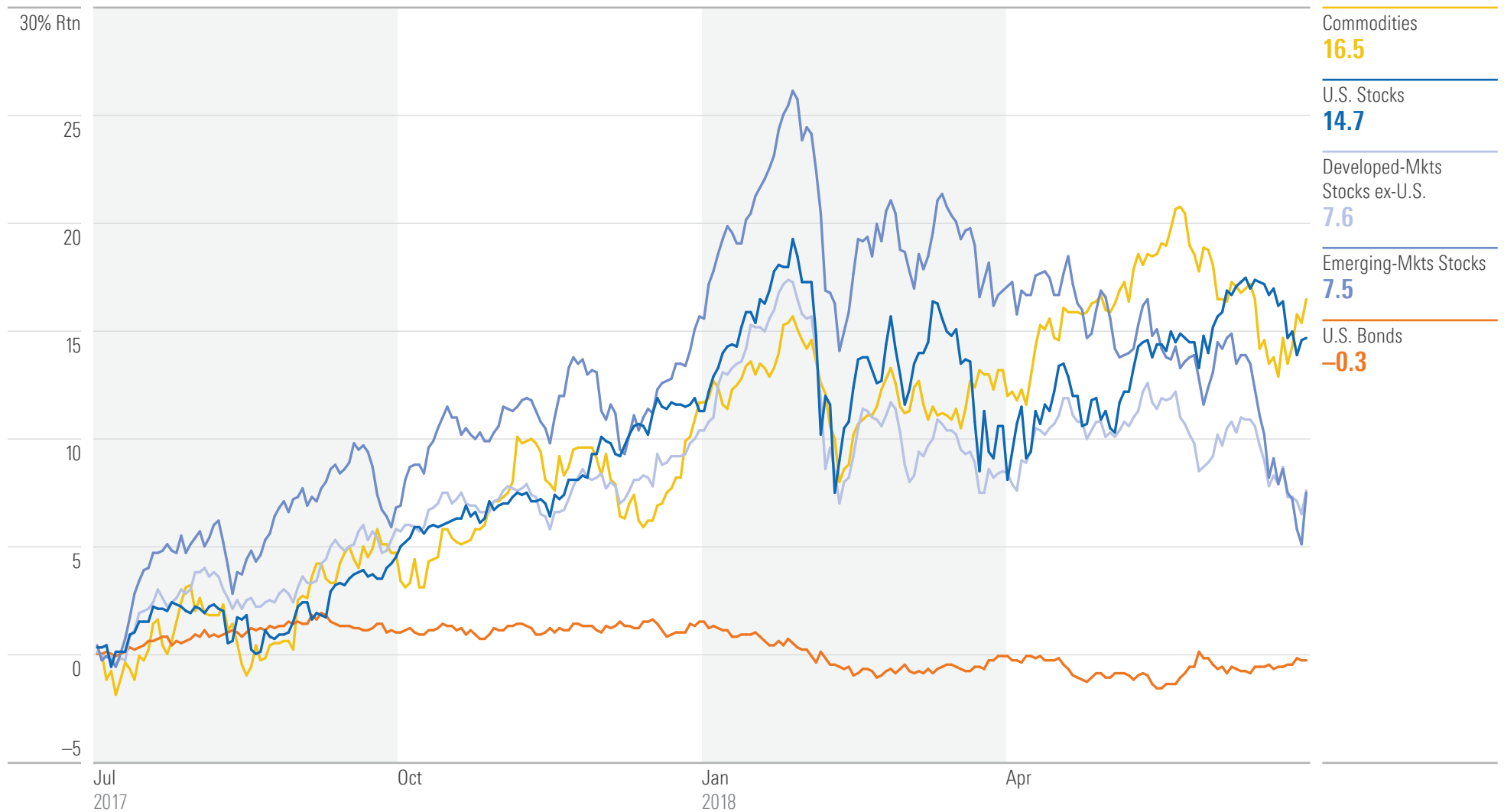


QM06

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, both U.S. and international stocks experienced a sharp drop in February that they haven't yet recovered from. The U.S. imposed tariffs on imported steel and aluminum, effective June 1, igniting concerns of a global trade war and increasing market volatility. Bonds have remained practically flat for the past 12 months. Commodities, in contrast, managed to deliver a 16.5% return despite the bumpy ride.

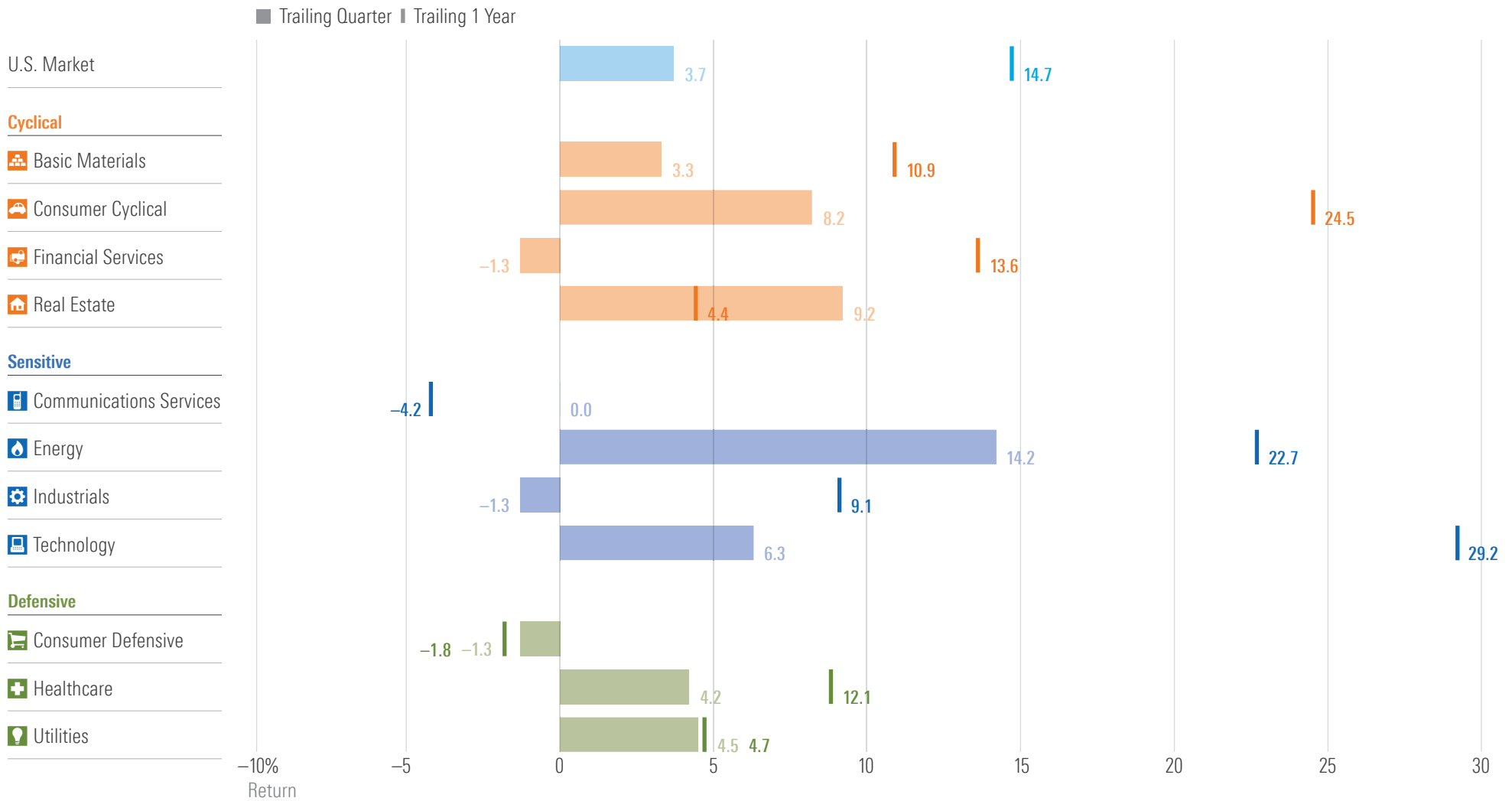


QM01

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 return. The consumer cyclical sector, to which Amazon belongs, also fared well, as tax cuts have given consumers more money to spend and corporates more aftertax income. Energy rebounded after a lackluster first quarter, driven by rising oil prices. A combination of lagging fundamentals and rising interest rates (and subsequently slightly less attractive dividend yields) have been weighing on the consumer defensive sector.

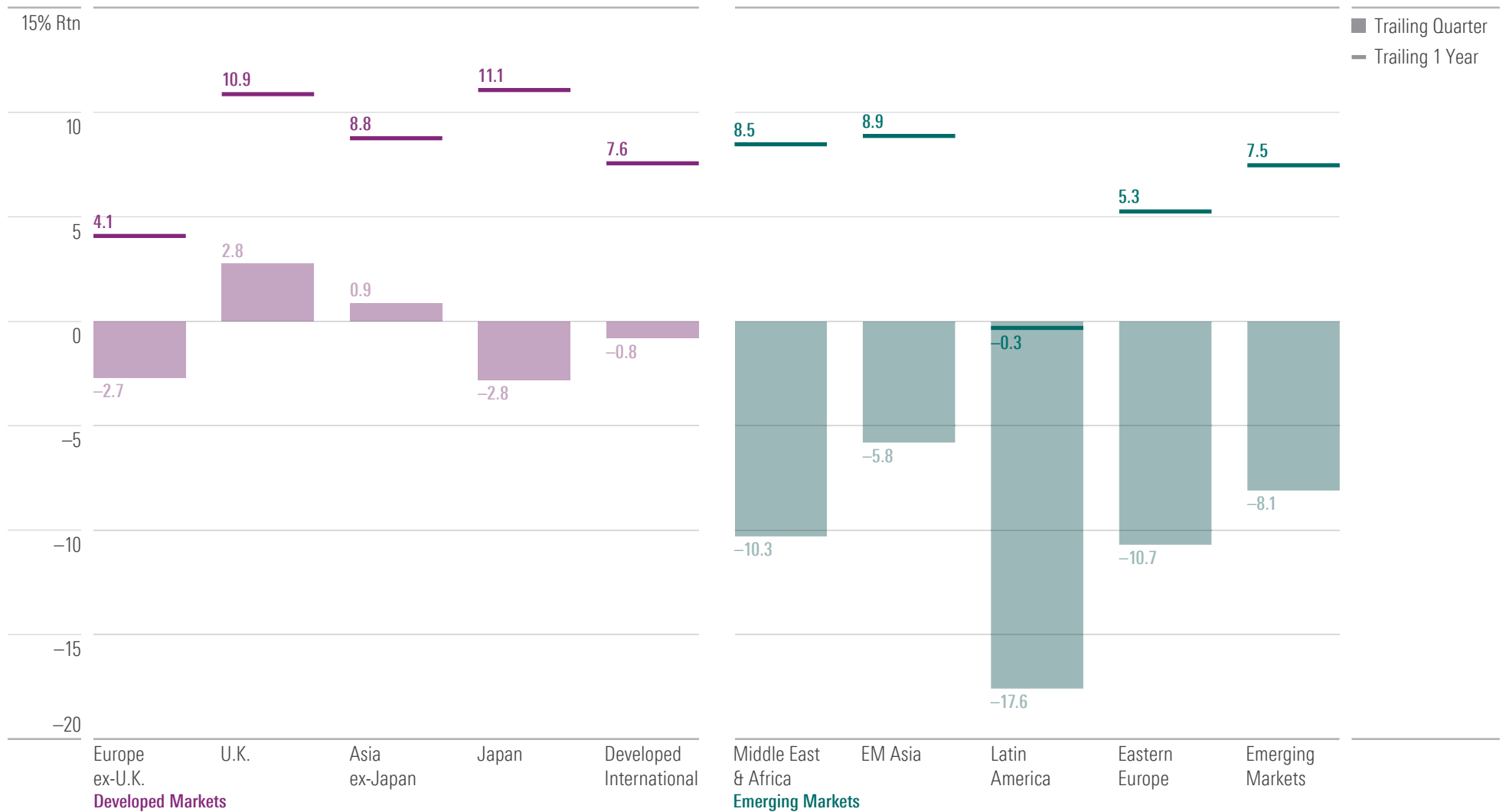


QM04

Source: Morningstar Sector Indexes, Morningstar Market Outlook 3Q 2018. ©2018 Morningstar. All Rights Reserved.

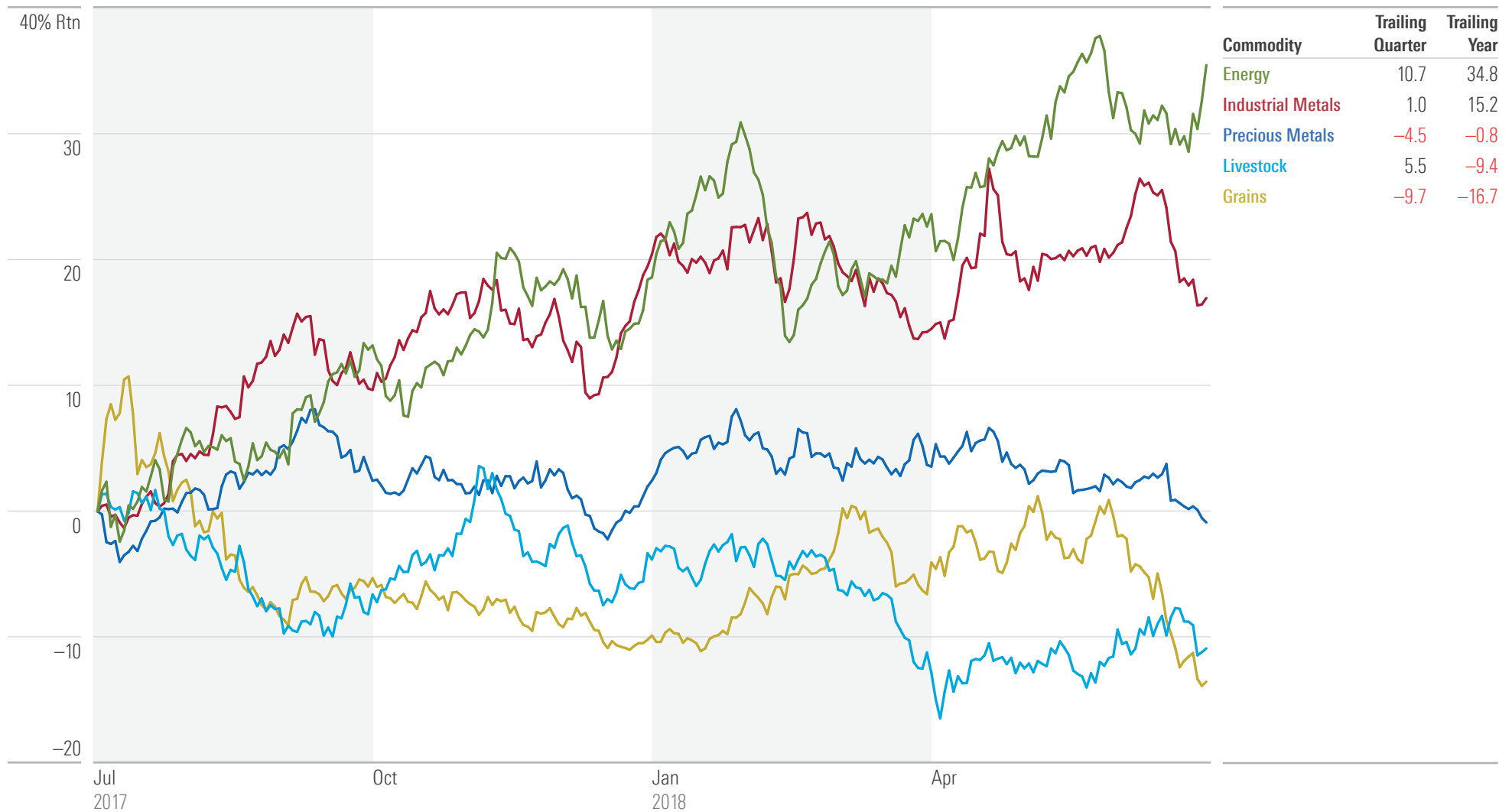
International Stock Market Performance

The threat of an international trade war and geopolitical tensions dragged returns for most regions into negative territory in the second quarter of 2018. Emerging markets were especially hard hit as ongoing Fed tightening and dollar appreciation against EM currencies weighed on sentiment. Political instability in Italy and Spain took a toll on European stocks, and Japanese stocks dropped on trade worries and heightened anticipation for monetary policy tightening by the Bank of Japan.



Commodity Performance by Category

The energy sector's stellar performance during the past year has been driven by rising oil prices. Voluntary curtailments from OPEC and its partners and other geopolitical supply disruptions caused a temporary shortage that drove prices up. Unfavorable weather conditions and a delayed start to the U.S. planting season reduced sales across every crop input category, thereby causing grains to be the worst-performing commodity for both time periods analyzed.



Asset-Class Winners and Losers

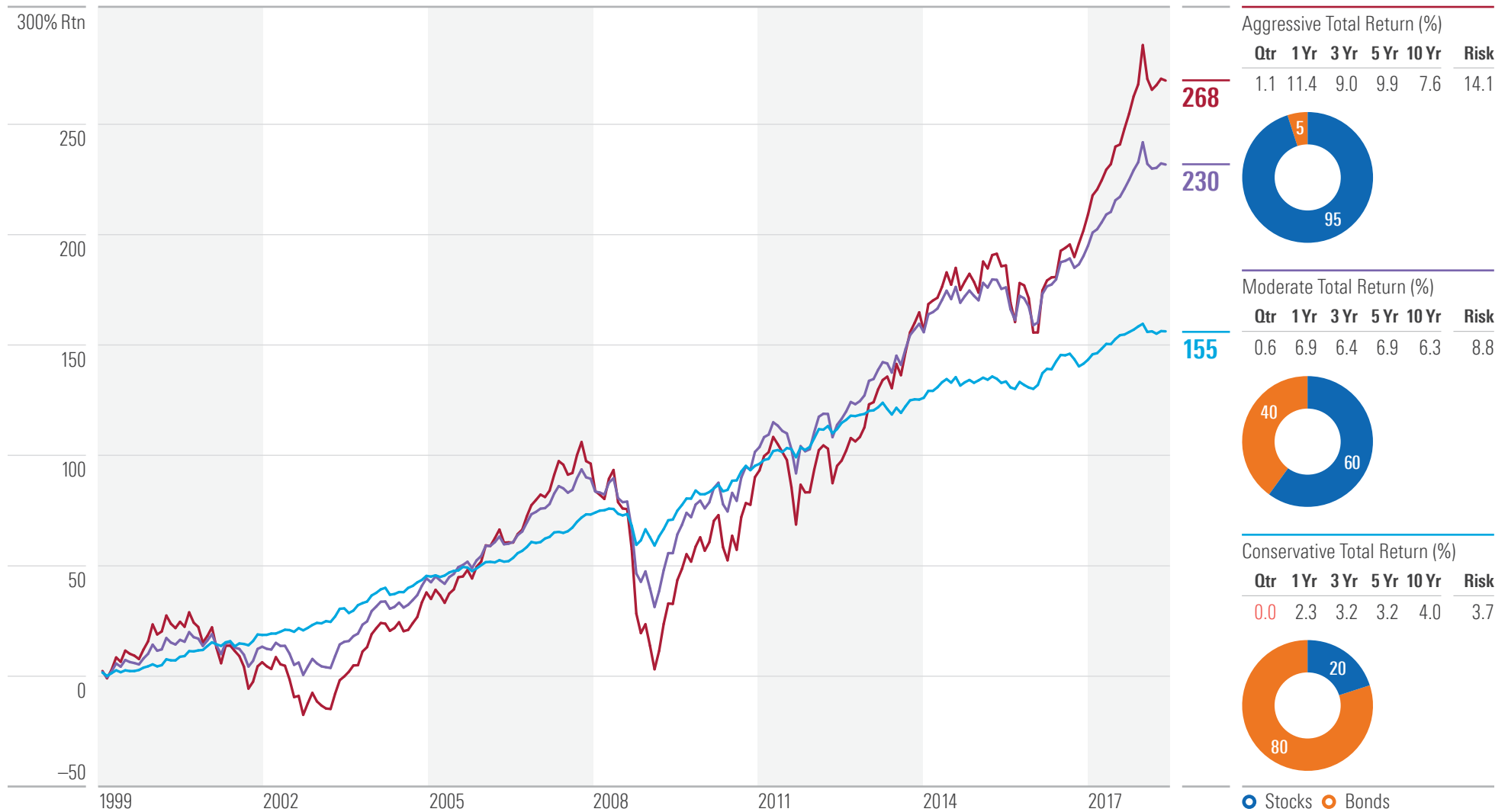
U.S. stocks, both large and small, were among the few asset classes that remained in positive-return territory for the first half of the year. Commodities stayed above water because of the energy sector. Most fixed-income categories suffered as interest rates rose. High-yield bonds, however, managed to post a slight gain because they are less sensitive to changes in interest rates than investment-grade bonds.

	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	5.3	12.2
	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	4.4	11.9
	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	2.9	9.6
	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	0.2	8.9
	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	-0.3	8.7
	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	7.7
	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	-2.0	5.0
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	-2.2	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	-6.9	2.7

- 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 losses in down markets. The conservative portfolio has been suffering over the past two years, missing out on the long-term equity bull market.



QAA2

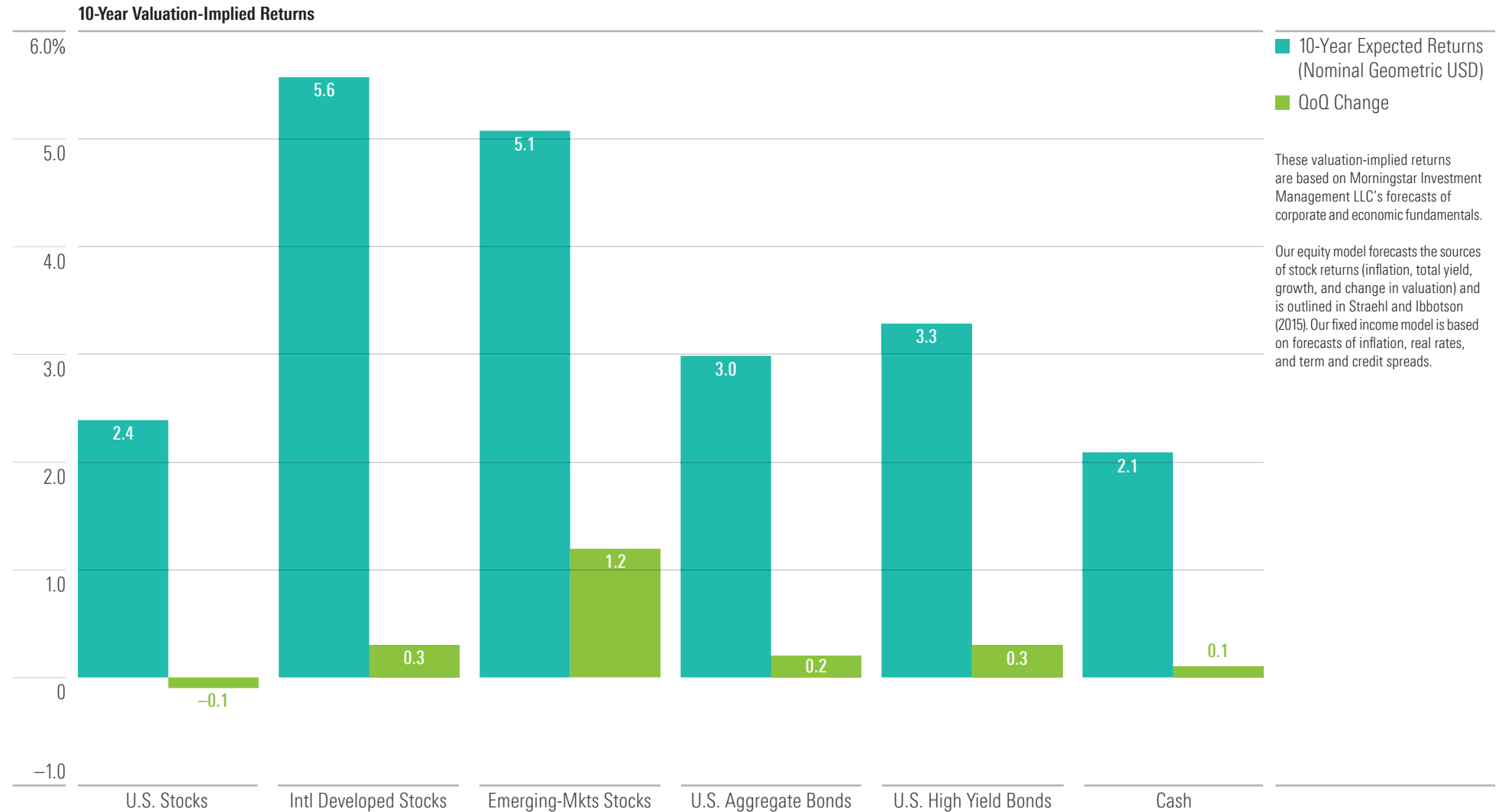
12

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 because of their more-attractive relative valuation. Low starting yields and tight credit spreads depress prospective returns of fixed-income asset classes.



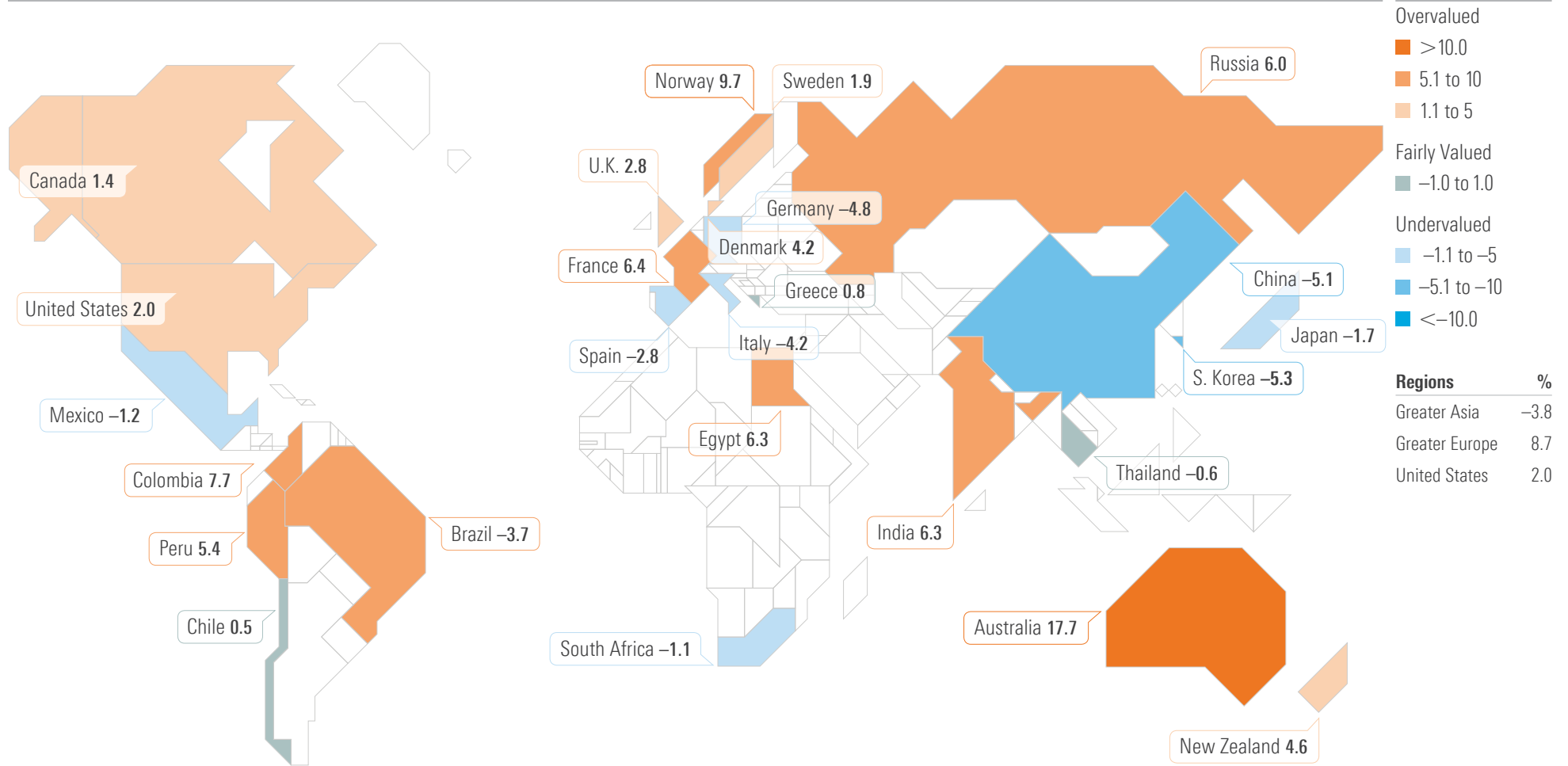
Equities



Morningstar Price to Fair Value by Country

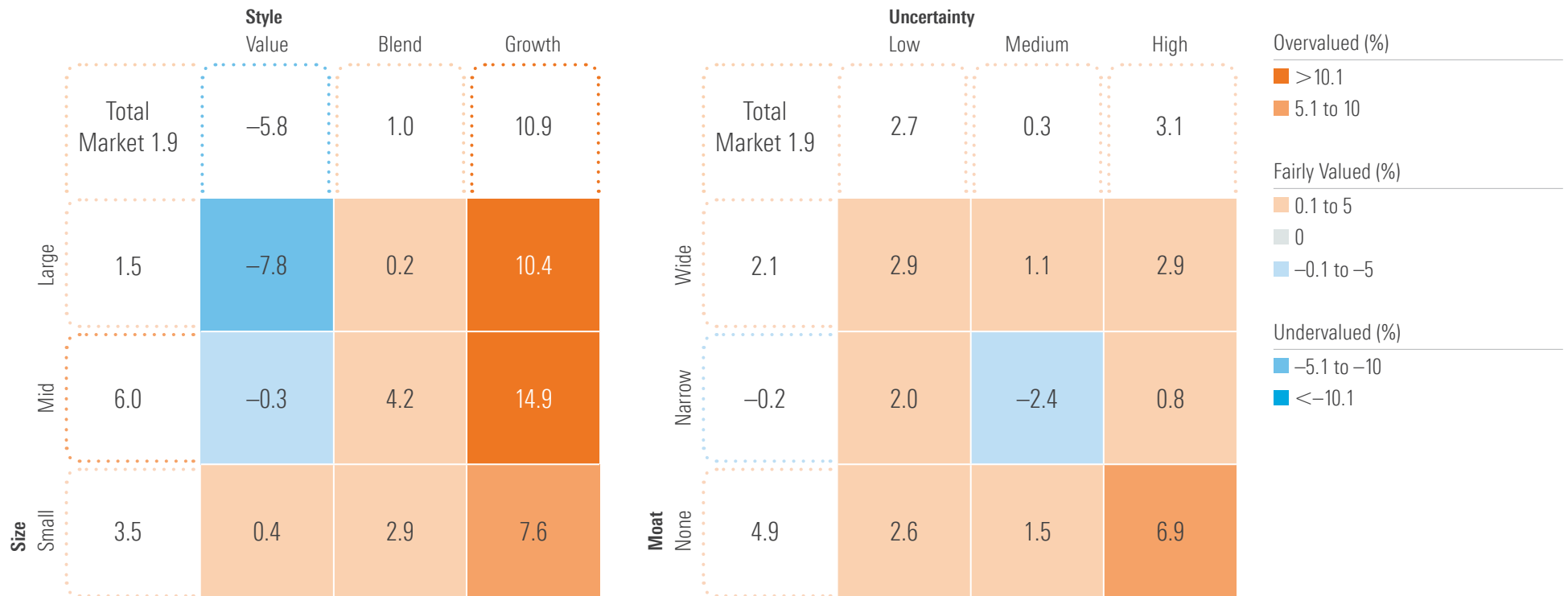
This quarter saw similar country valuations when compared with last quarter, with slight exaggerations in valuation tilts. This is especially true for China, which became more undervalued, and Australia, which became more overvalued. The U.S. remains slightly overvalued but similarly so to last quarter (1.2%).

Market-Cap-Weighted Valuation



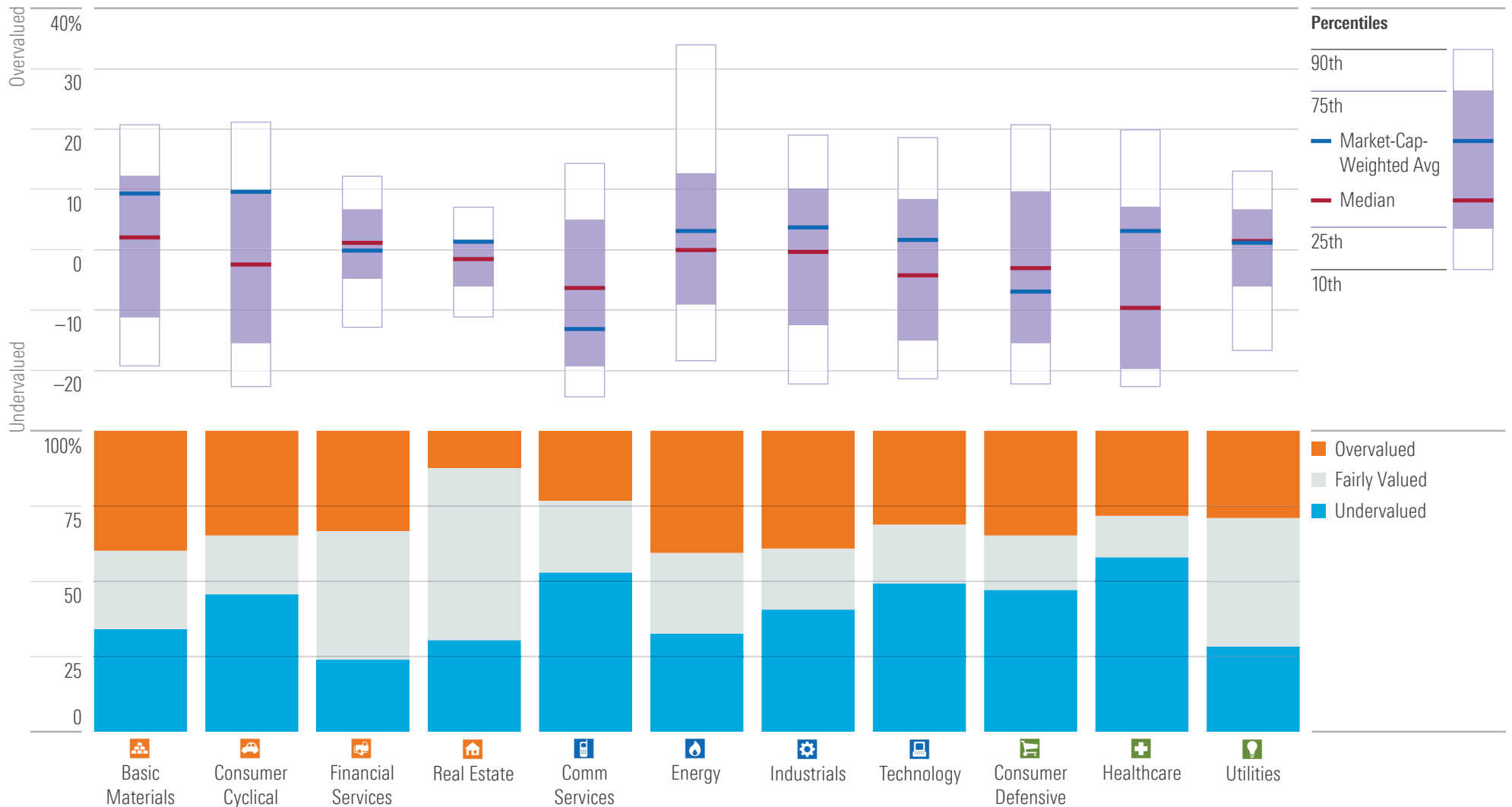
Morningstar Price to Fair Value, U.S. Equity Style Boxes

On a market-cap-weighted basis, the total market remains close to fairly valued. Compared with last quarter, small-cap equities became more overvalued. On a relative basis, large-cap value became the cheapest option. Growth stocks are still overvalued (10.9%), even more so compared with last quarter (5.9%).



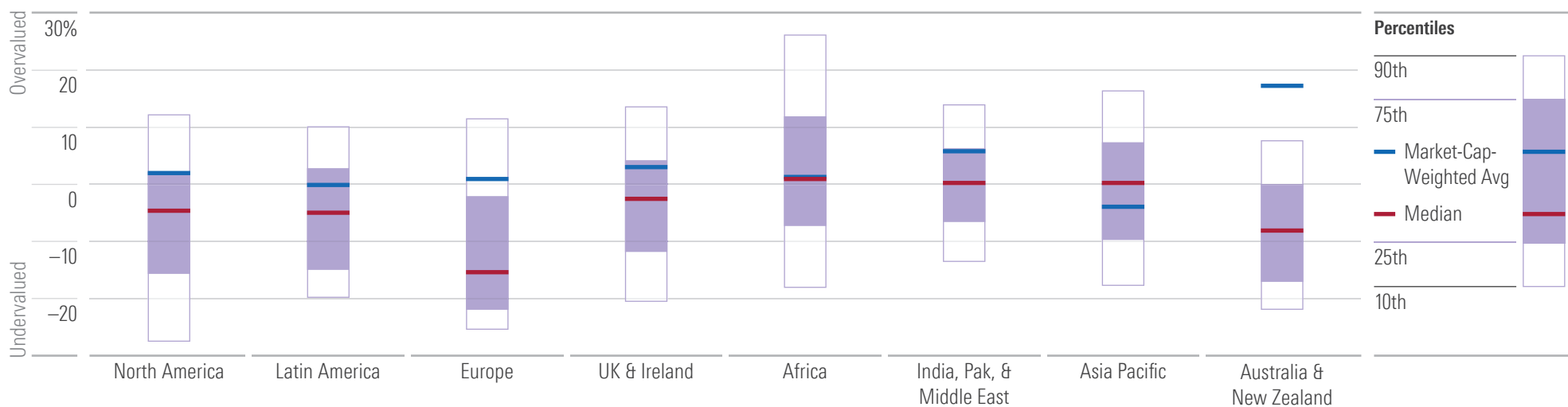
Morningstar Price to Fair Value Distribution by U.S. Sector

This quarter saw a number of fairly valued companies become overvalued. Healthcare continues to have the largest percentage of undervalued stocks (58%), with a more pronounced dispersion between larger, overvalued firms and smaller, undervalued firms. Energy and financial services became more expensive (up from 16% and 12%, respectively), while real estate became less expensive (down from 51%).



Morningstar Price to Fair Value Distribution by Region

Morningstar calculates fair values for 53 countries. Most major regions remain overvalued (on a market-cap-weighted basis), with valuations still tending towards the 0 to 10% range. Australia's largest firms are greatly overvalued and outliers to the comparably undervalued majority of its companies.



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

Country	Over/Undervalued by %	Uncertainty Rating	Number of Companies
Poland	-9.5	High	297
Turkey	-9.0	High	342
Hong Kong	-8.6	High	918
Bangladesh	-6.7	Very High	263
South Korea	-5.3	High	1,459
China	-5.1	High	1,505
Germany	-4.8	High	382
Philippines	-4.8	High	152
Italy	-4.2	High	191
Singapore	-4.0	High	170

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

Country	Over/Undervalued by %	Uncertainty Rating	Number of Companies
Australia	17.7	High	430
Finland	14.9	High	98
Switzerland	10.2	High	153
Norway	9.7	High	149
Colombia	7.7	High	26
France	6.4	High	424
Egypt	6.3	High	148
India	6.3	High	1,279
Russia	6.0	High	76
Qatar	5.6	High	39

QQE3

18

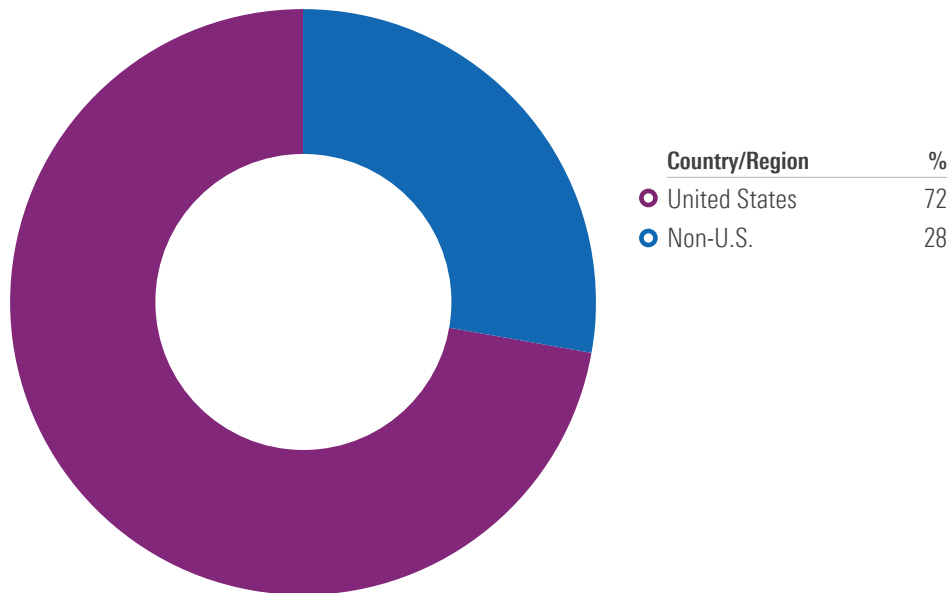
Source: Morningstar quantitative and analyst fair value data. ©2018 Morningstar. All Rights Reserved.

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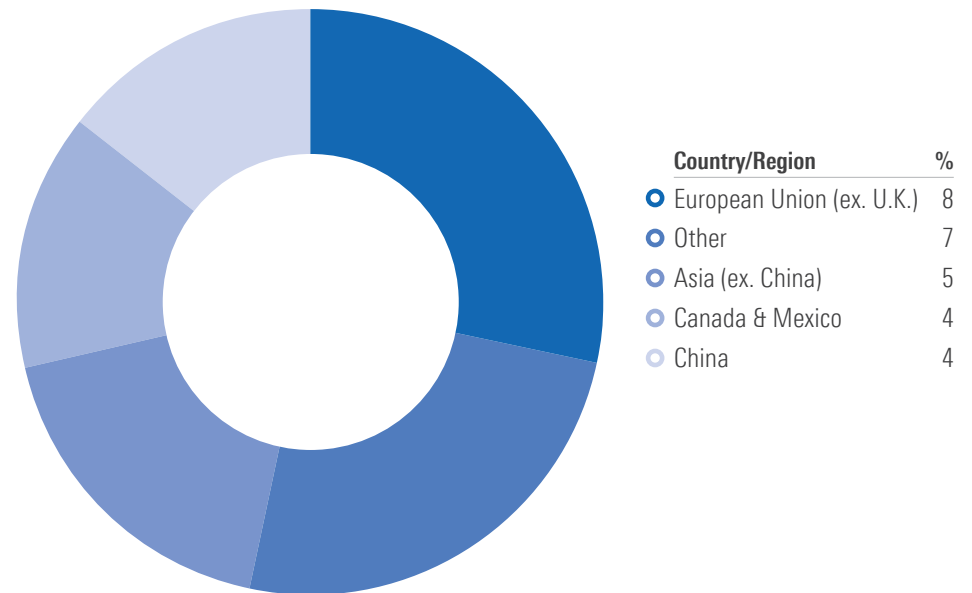
U.S. Corporate Revenue by Country

In terms of final sales, corporate America remains somewhat insulated from weaker foreign demand. Domestic sales account for more than 70% of total revenue for the nearly 5,100 U.S.-domiciled corporates sampled by Morningstar. The European Union, Canada, and Mexico account for another 12% of revenue, while sales in China make up only about 4%. That said, some 600 firms get more than half of their revenue from outside the U.S.

Revenue by Country for U.S. Domiciled Corporations Share of Total Revenue (Q2 2017–Q1 2018)

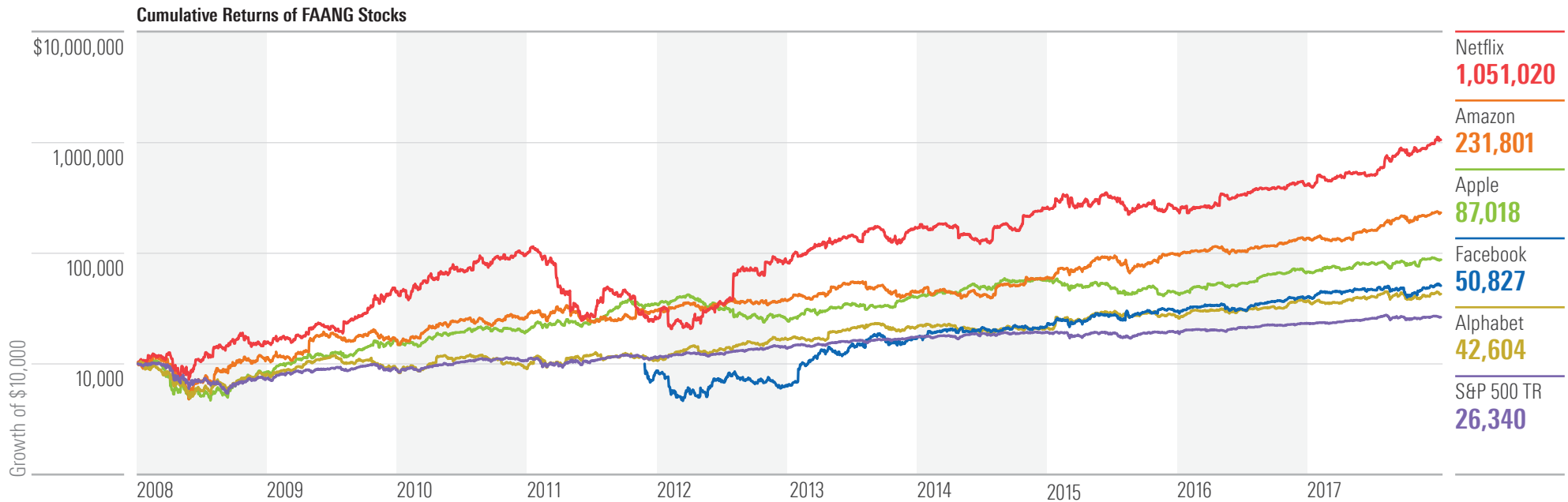


Non-U.S. Breakdown



Leading The Way

The FAANG group of stocks (Facebook, Amazon.com, Apple, Netflix, and Alphabet/Google) has generated tremendous wealth for investors since their initial public offerings (not to mention incredible utility to consumers). These five firms comprised 10% of the S&P 500's total return over the past decade, and over a fourth of its total return in the past year. As of quarter-end, they compose just above 15% of the index.



Contribution to S&P 500 Cumulative Return Over Trailing Periods

Firm	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)
Facebook	3	3	2	1
Amazon	9	6	3	2
Apple	7	4	5	4
Netflix	3	1	1	0
Alphabet*	4	5	3	2
FAANG Total	27	19	14	10

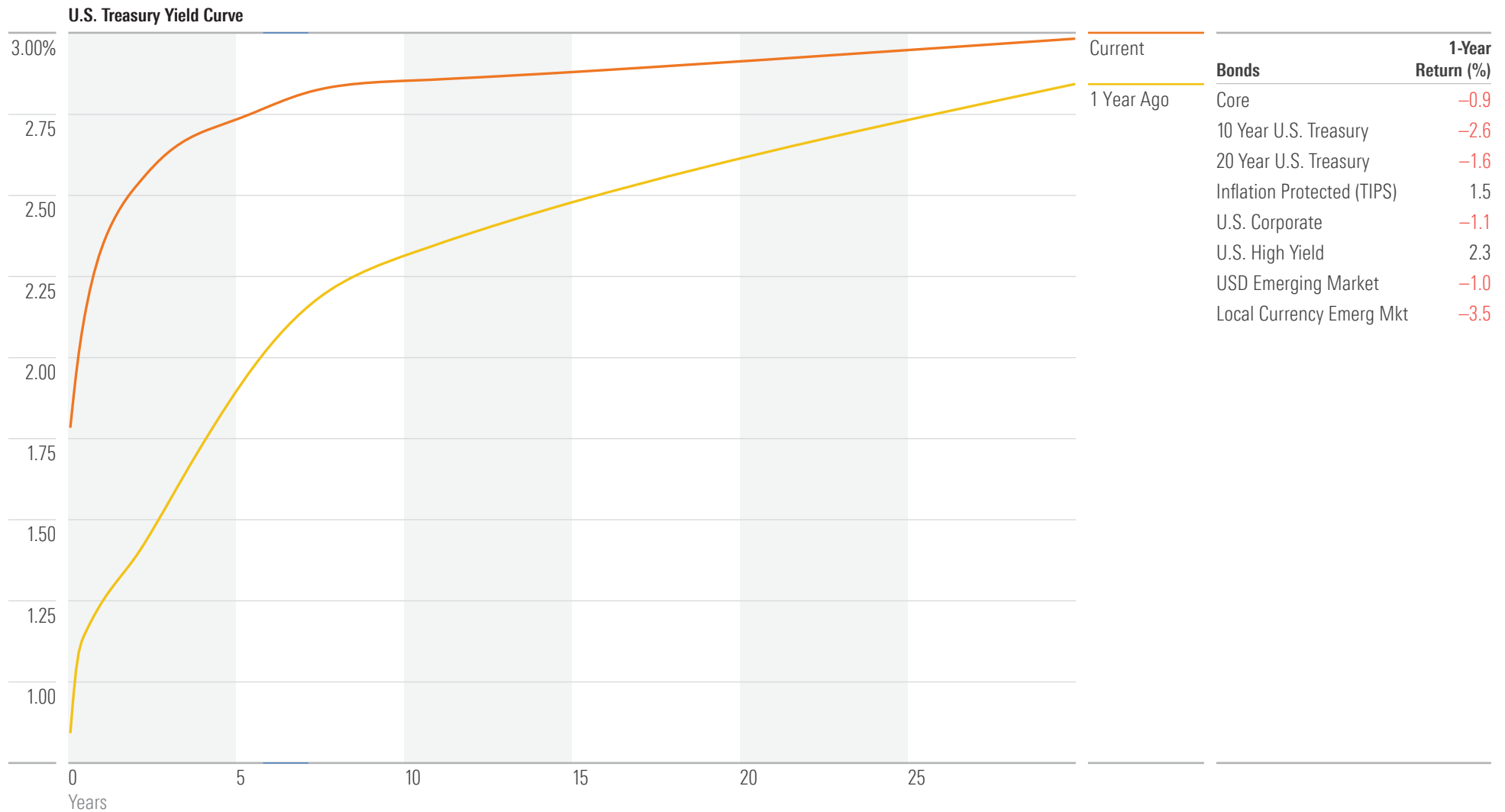
*Alphabet includes the combined contribution of Alphabet Class A and Class C shares.

Fixed Income



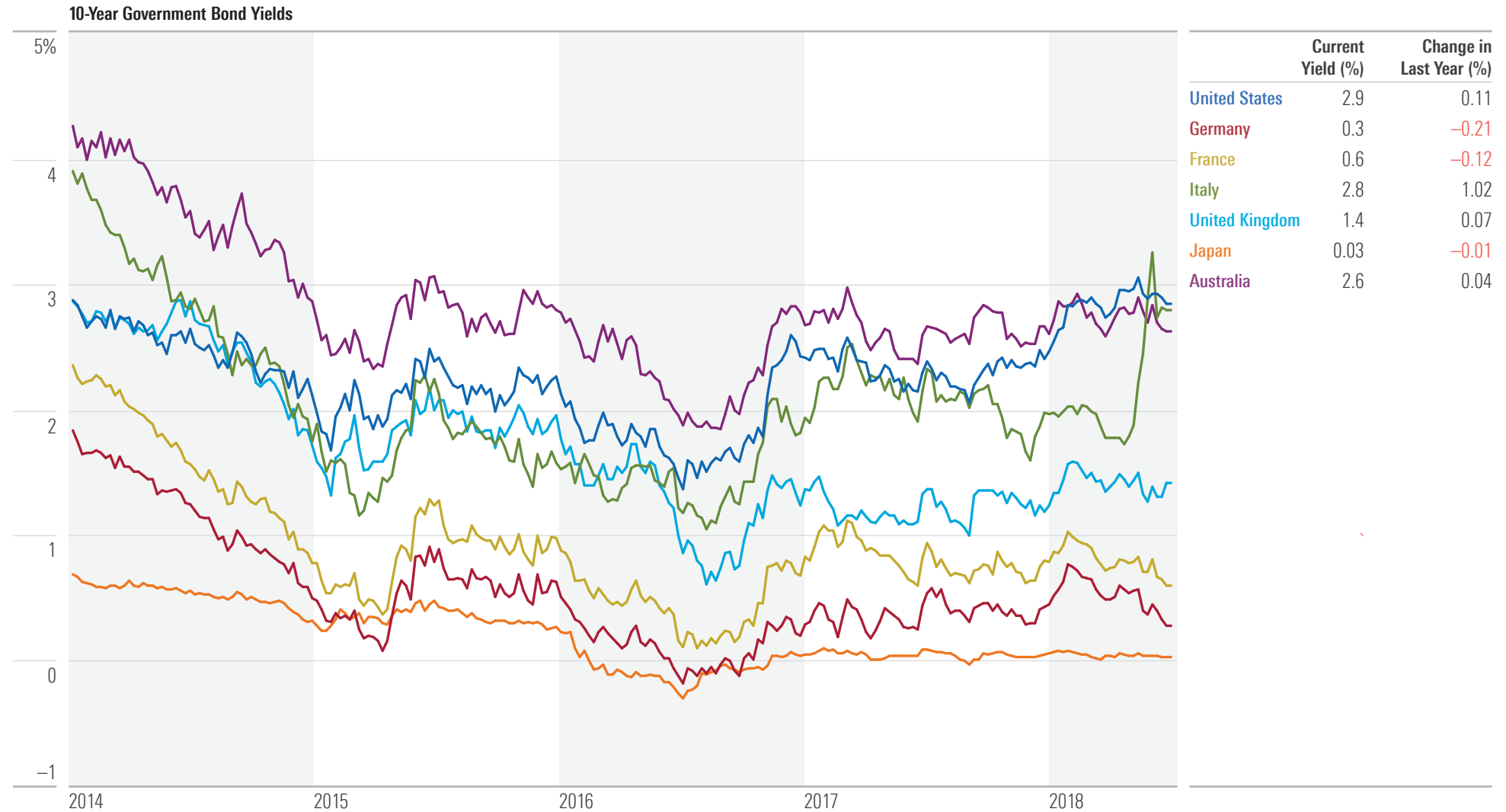
The Short End of The U.S. Treasury Yield Curve Widened Significantly Last Year

The Federal Reserve raised the benchmark fed funds rate by another quarter basis point to 2% in June 2018, which was the second rate hike this year and the seventh since December 2015. The yield curve has responded by flattening significantly, with the short end of the curve rising by 0.93% and the long end of the curve rising by 0.18%. In terms of 1-year return, U.S. high-yield bonds had the best return and local currency emerging market bonds had the worst return.



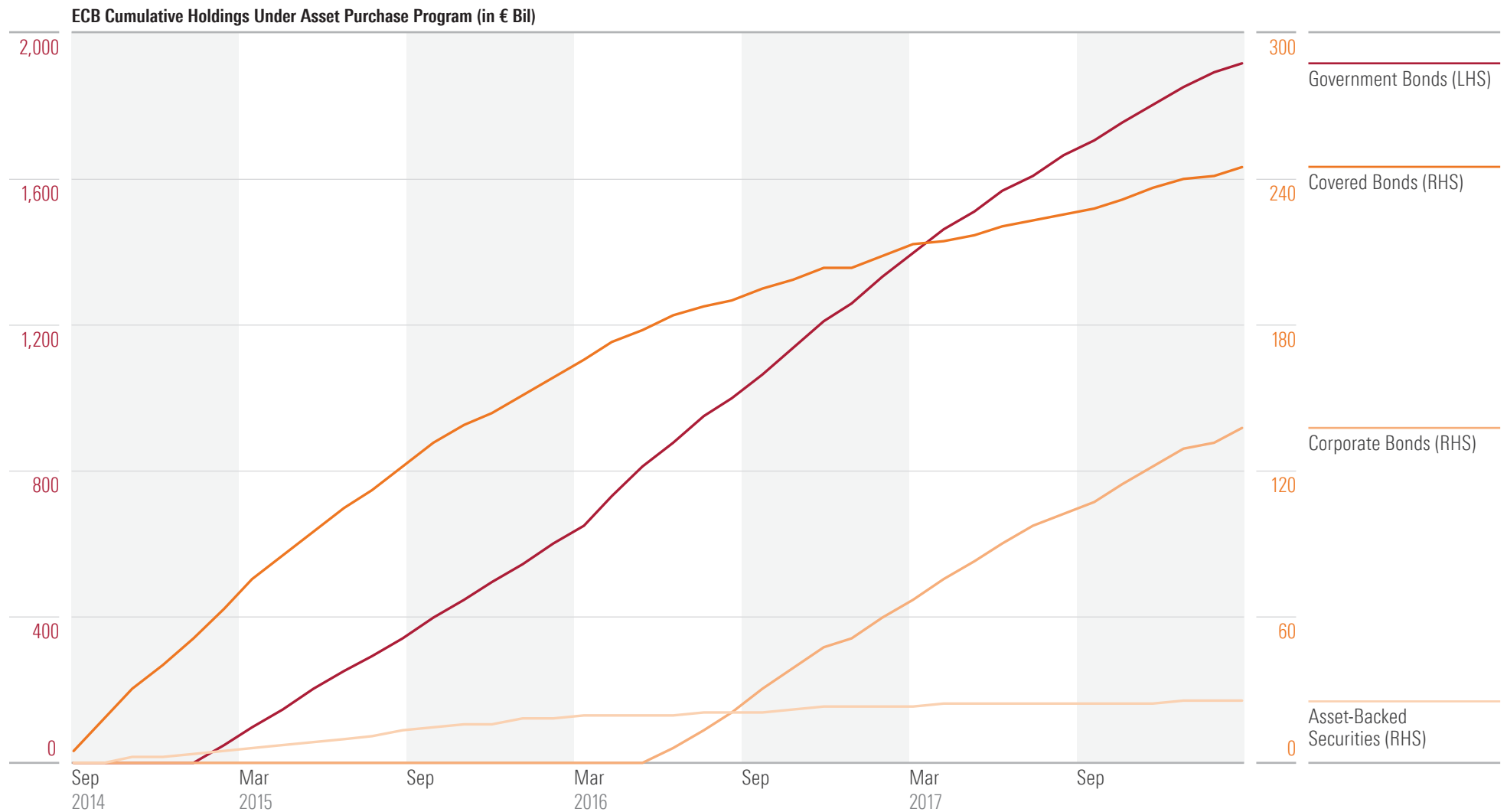
The United States Has One of the Highest Yields in the Developed World

The 10-year U.S. Treasury yield has risen to 2.9%, 2.6 percentage points above the German yield. Italian and U.K. rates have also risen in the last year while German and French rates have declined. The U.S. rate is relatively higher than European rates in large part 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.



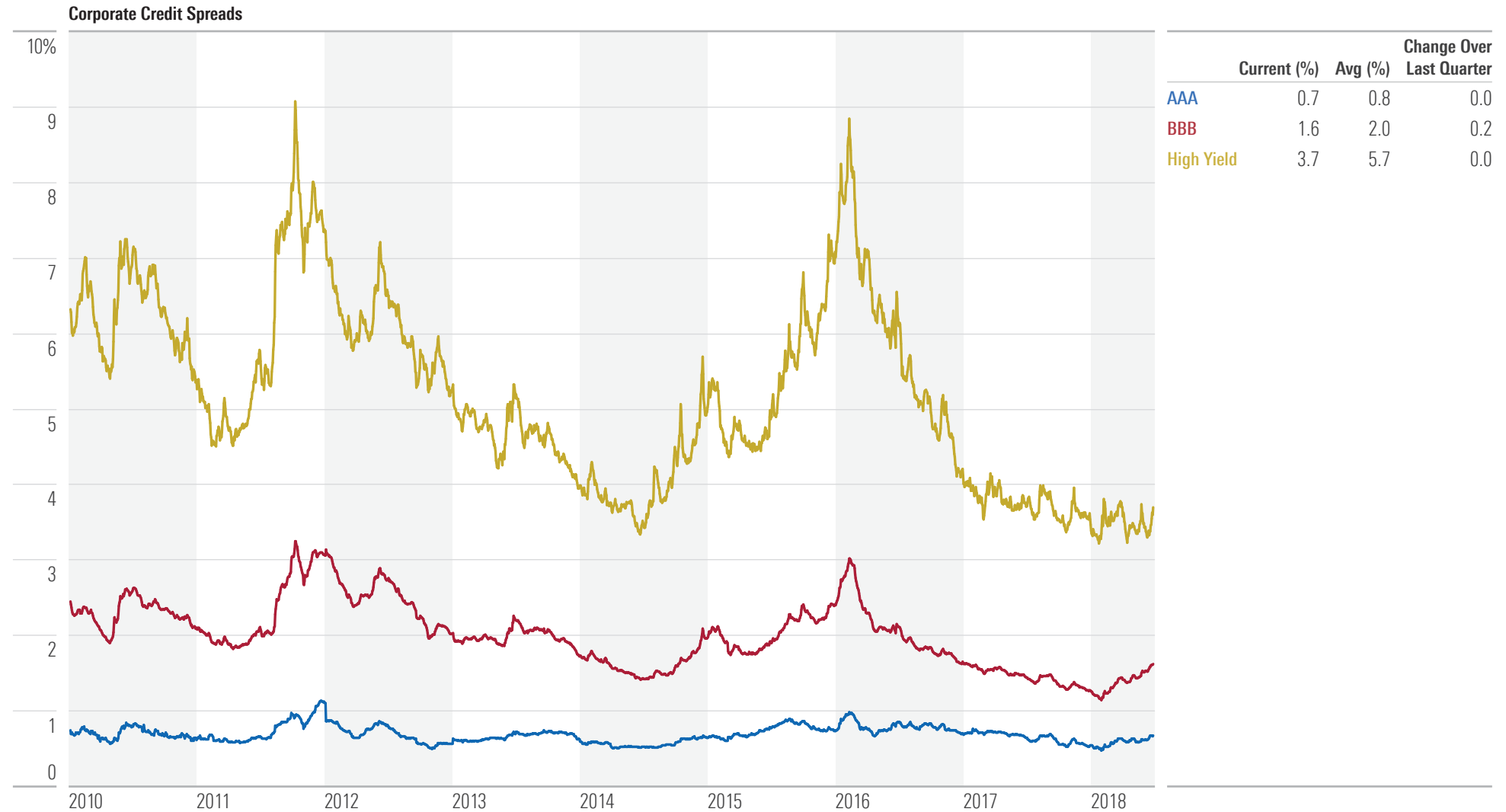
The ECB Maintained Its Asset Purchase Program

The very low yields of European country bonds have been driven by the European Central Bank's quantitative easing program. The ECB continued its buying of public and private sector bonds under the Asset Purchase Program at a rate of EUR 30 billion per month in 2018, down from 2017's rate of EUR 60 billion bonds per month. As a result of these sustained purchases, the ECB currently owns about 25% outstanding German government bonds.



High-Yield Spreads Remain Tight After Steep Decline in 2016

Across the credit spectrum, corporate spreads have widened since the beginning of 2018 but are still tighter than historical averages. In 2016, high-yield credit spreads narrowed from almost 9% to just under 4% as many energy bonds rebounded after a bankruptcy scare. Given still-tight spreads, excess return potential is limited. High-yield bond funds saw \$23 billion in outflows in the first half of 2018, despite consistent positive returns.



QF19

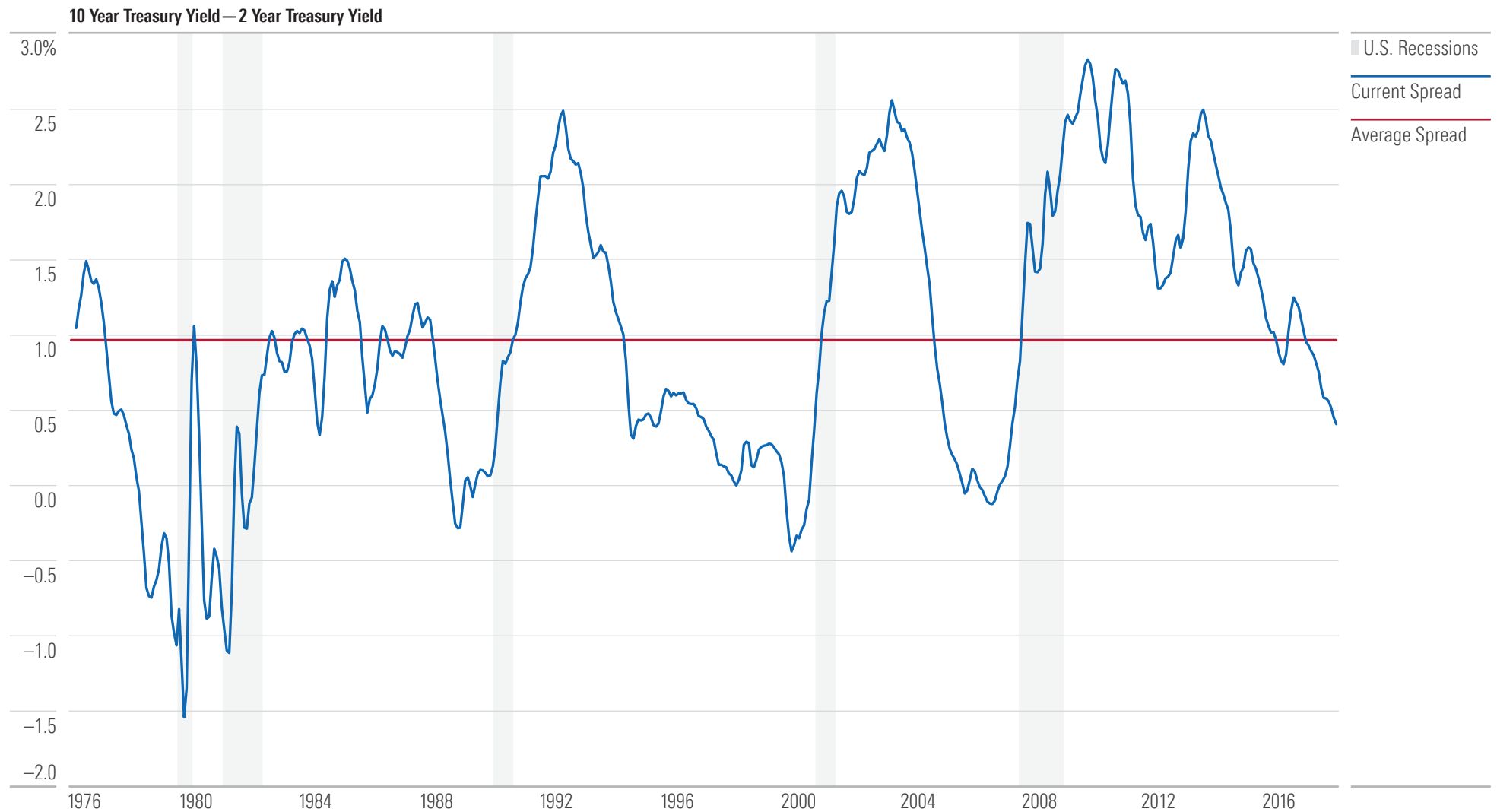
25

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

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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, the 10-year/2-year spread has fallen below the long-term average, but remains above zero.



QF120

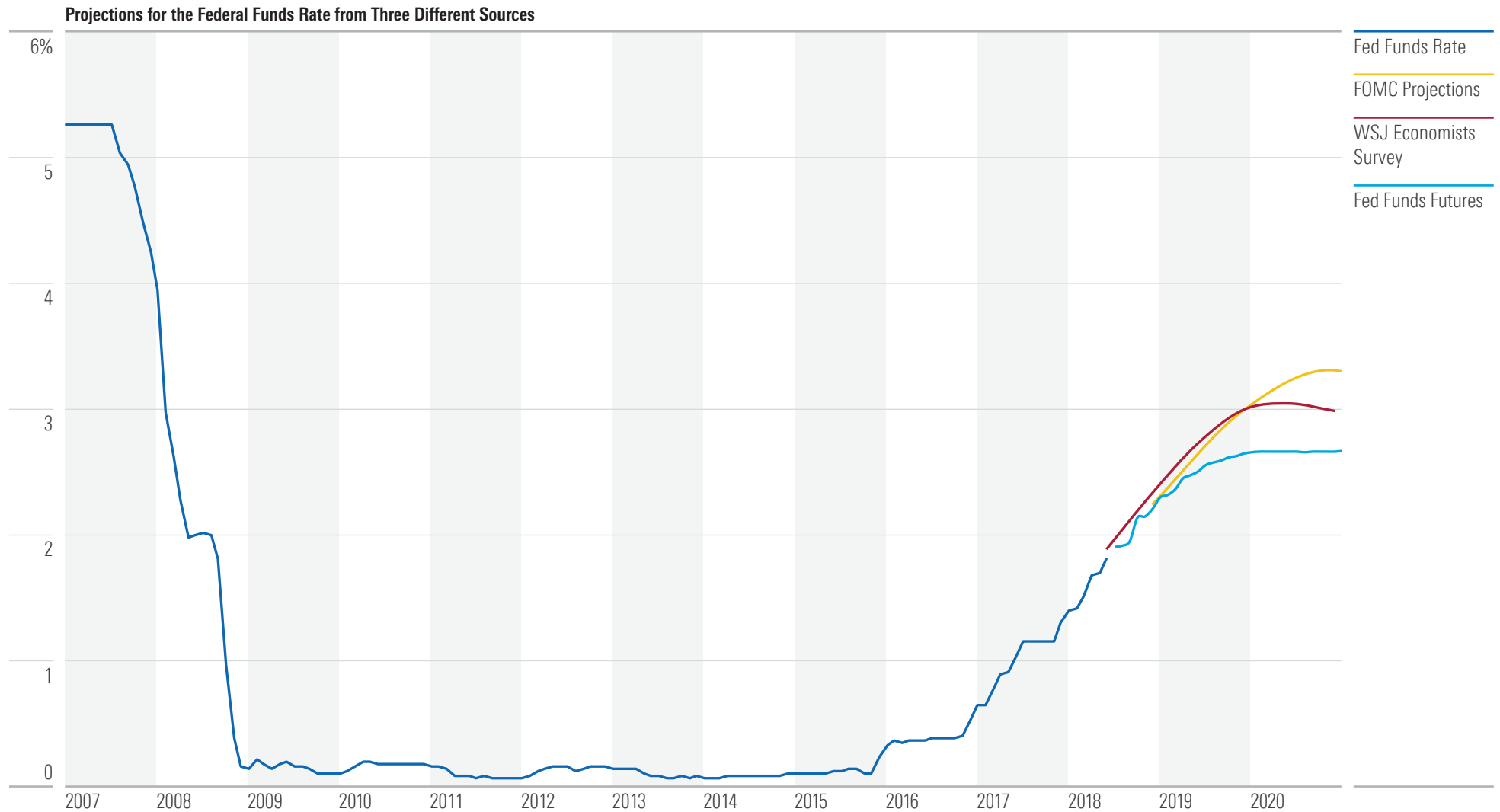
26

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

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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

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

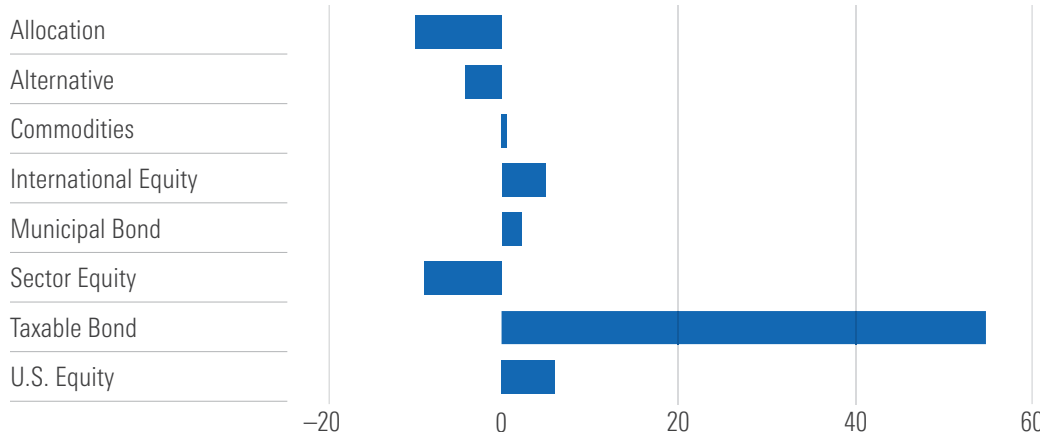
Funds



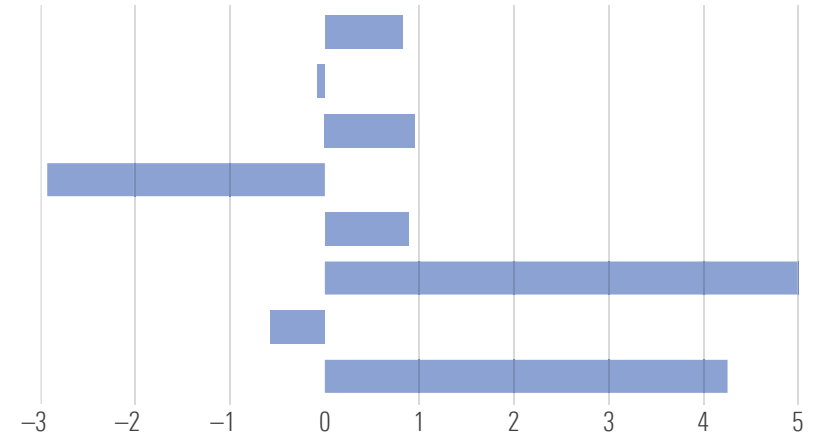
Top- and Bottom-Performing Morningstar Categories

Taxable bond added \$55 billion of inflows in the second quarter, contributing to a total of \$120 billion for the year to date (the largest of any category group). This contrasts with the allocation category group, which had two consecutive quarters of outflows, totaling \$18 billion for the year to date. U.S. and sector equity groups achieved the best performance this quarter, led by the recovery of the energy sectors. Meanwhile, international equities suffered, particularly the emerging-markets categories.

Trailing Quarter Flows (\$ Bil)



Trailing Quarter Returns (%)



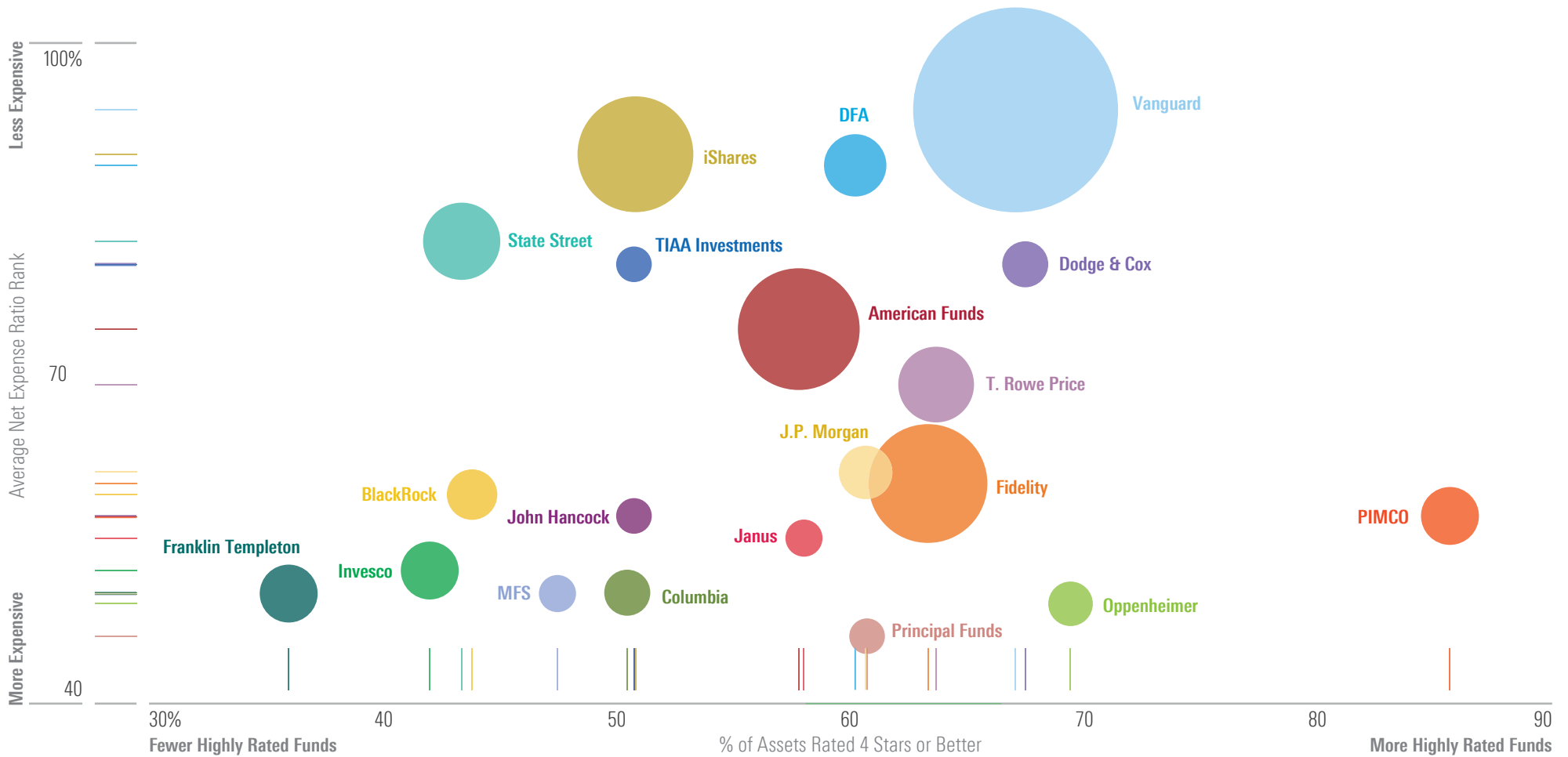
Top-Performing Morningstar Categories	U.S. Category Group	Return (%)			Bottom-Performing Morningstar Categories	U.S. Category Group	Return (%)			
		Trailing Quarter	Trailing 1 Year	Quarterly Flow (\$ Mil)			Trailing Quarter	Trailing 1 Year	Quarterly Flow (\$ Mil)	
Equity Energy	Sector Equity	13.1	20.8	428	Latin America Stock	International Equity	-22.4	-0.2	-210	>20
Energy Limited Partnership	Sector Equity	11.8	-2.5	269	Emrg-Mkts Local-Currency Bond	Taxable Bond	-10.0	-2.1	-837	10 to 20
Commodities Energy	Commodities	10.6	41.4	-526	Diversified Emerging Markets	International Equity	-8.9	6.1	-6,066	0 to 10
Small Growth	U.S. Equity	8.5	22.7	7,401	Commodities Agriculture	Commodities	-5.6	-11.8	-48	-10 to 0
Real Estate	Sector Equity	8.0	3.4	-2,625	China Region	International Equity	-5.5	13.4	714	-20 to -10
Small Value	U.S. Equity	6.6	12.4	951	Emerging Markets Bond	Taxable Bond	-4.9	-1.8	-803	<-20
Small Blend	U.S. Equity	6.3	14.7	7,594	Pacific/Asia ex-Japan Stock	International Equity	-4.8	9.0	-664	
Health	Sector Equity	5.8	12.4	-1,610	India Equity	International Equity	-4.5	1.3	-1,130	
Consumer Cyclical	Sector Equity	5.6	17.3	-405	Commodities Precious Metals	Commodities	-4.4	-0.1	-1,886	
Large Growth	U.S. Equity	5.1	20.6	654	Bear Market	Alternative	-3.9	-20.2	-110	

QMF10

Source: Morningstar Direct. ©2018 Morningstar. All Rights Reserved.

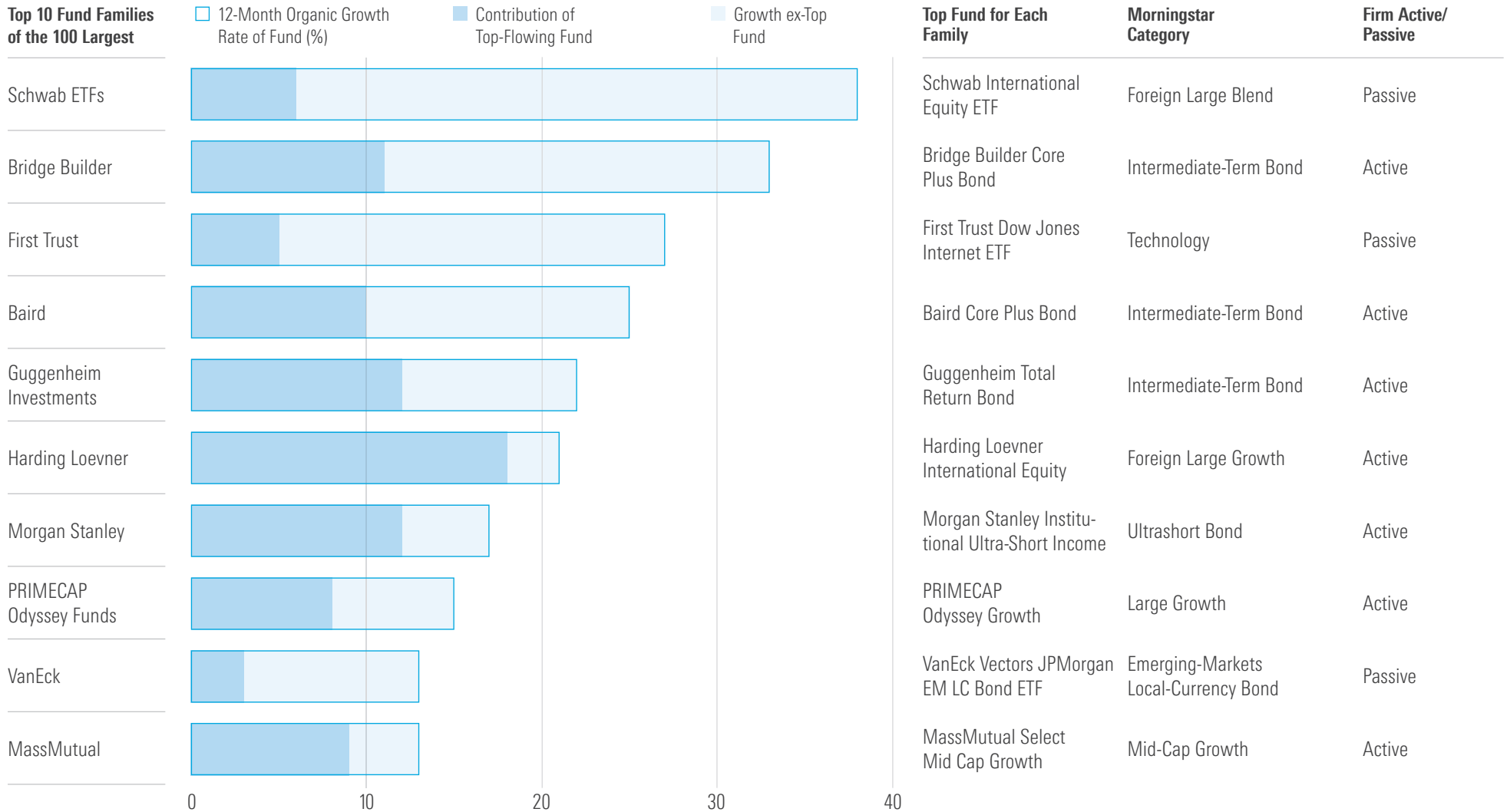
Top 20 Fund Companies: Relationship Between Ratings, Expenses, and Assets

Morningstar 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. In the last quarter, Franklin Templeton's performance rebounded, with five of its largest 25 share classes improving their star ratings.



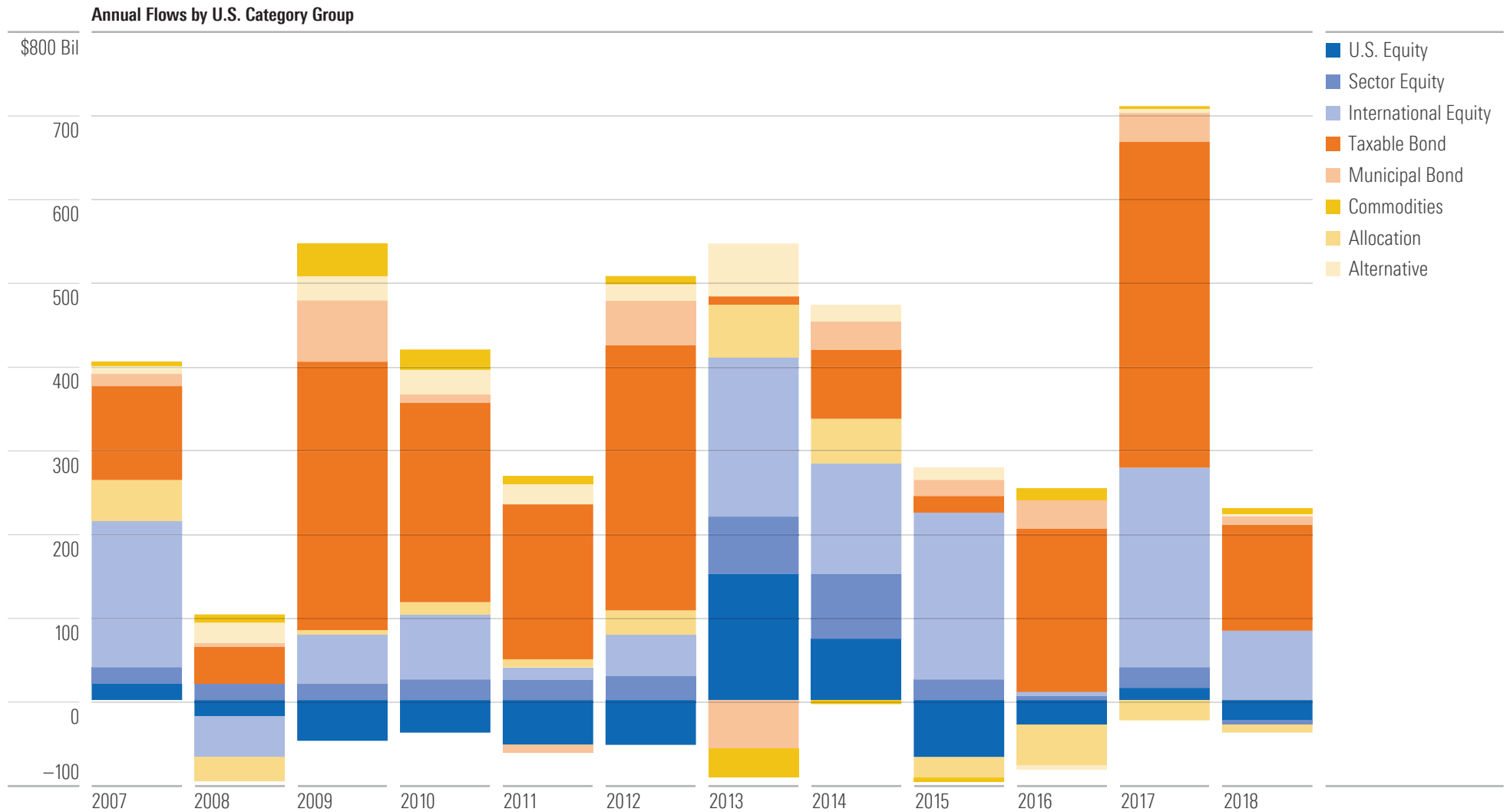
Fastest-Growing Fund Families

Schwab achieved the highest trailing-12-month organic growth rate for the fifth consecutive quarter. Edward Jones' Bridge Builder funds maintained the second-highest growth rate for five consecutive quarters as well. These results underscored the trend to low-fee funds and fee-based accounts. New to last quarter's rankings were VanEck and MassMutual with their emerging-markets-bond fund and mid-cap-growth equity fund, respectively.



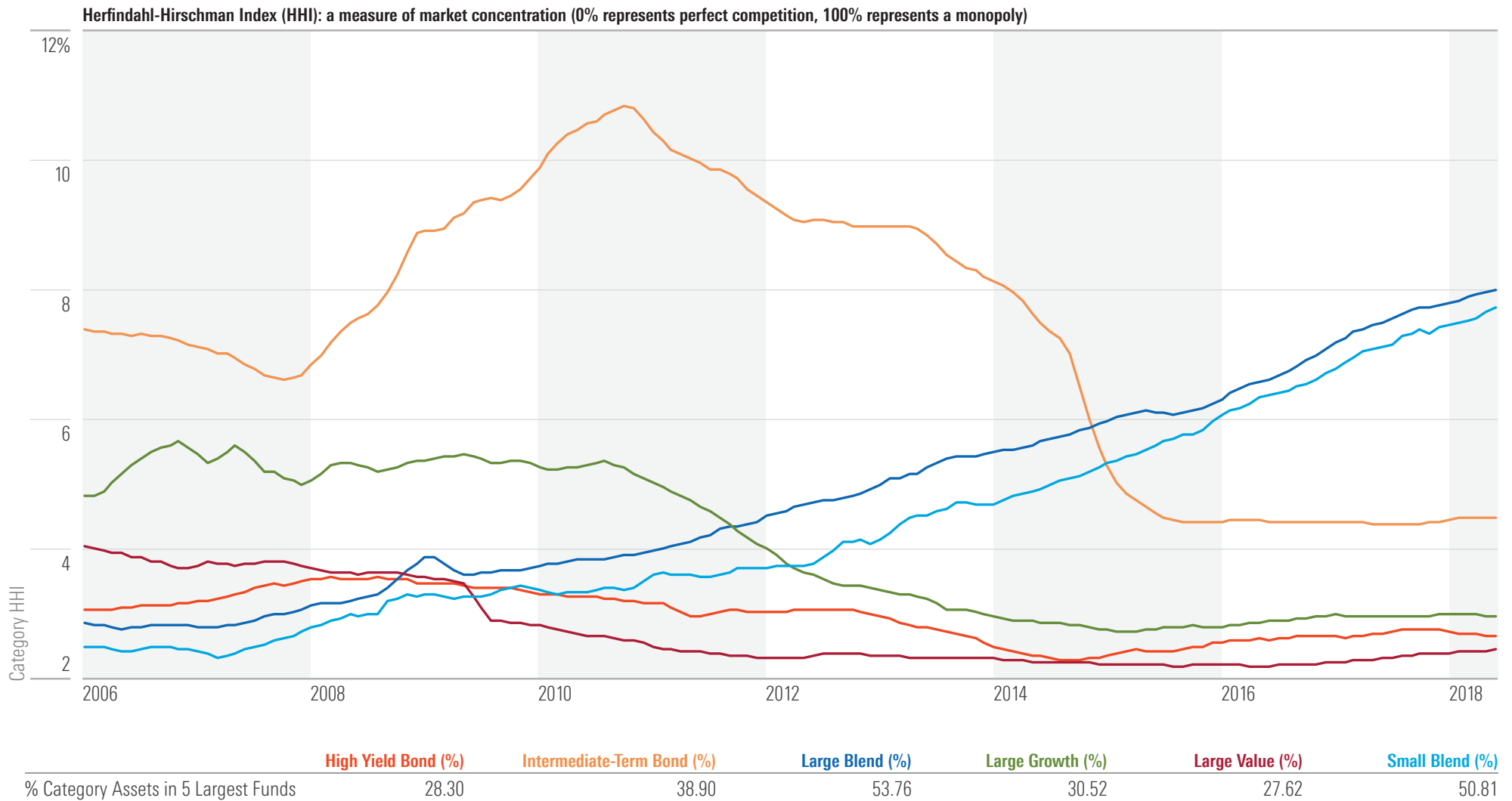
Taxable-Bond Funds Still in the Lead for the First Half of 2018, With \$123 Billion in Flows

Total flows into the U.S. fund market for 2017 dwarfed all previous years. That enthusiasm seems to have tempered in the first half of 2018, with flows following the same pattern but far less substantial. Taxable bond and international equity received the largest flows, while U.S. equity, allocation, and sector equity suffered redemptions. Immune to the interest-rate-hike fear, the Baby Boomer generation is looking for income as they retire, resulting in the sustained taxable-bond flows.



Category Competition Varying Through Time

The ability of funds to compete for assets has varied through time and across categories. With the rise of passive investing, large blend and small blend have turned into monopolistic categories, with a few funds controlling a majority of the assets. During that same time, high yield bond, large value, and large growth have maintained their competitiveness.



QMF21

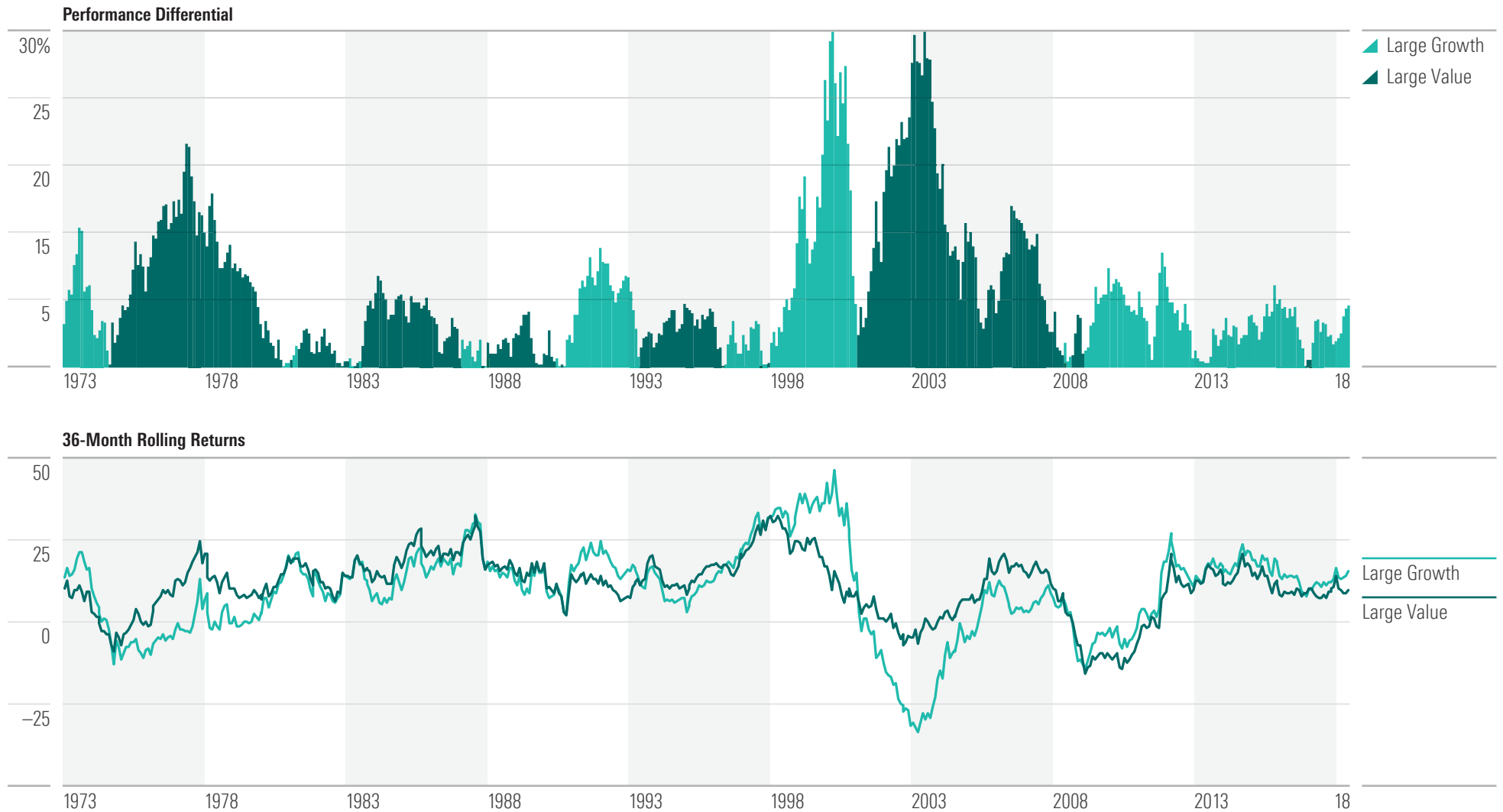
33

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Cycles Between Growth and Value

The performance of growth and value stocks can be highly variable, as shown here over rolling three-year periods. The outperformance of large-cap-value stocks throughout most of the first decade of the 2000s has been replaced by the outperformance of large-cap-growth stocks this decade. While investors will notice the repeatedly alternating performance between the styles, the irregularity of the cycles makes it challenging to predict which style will be in favor next.



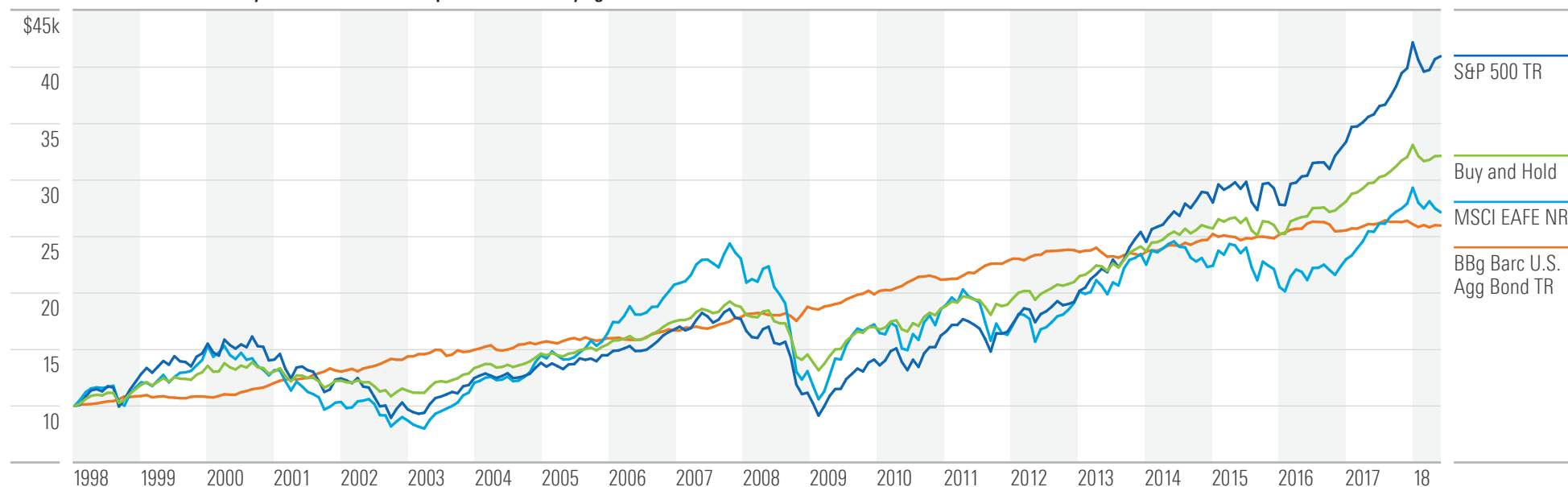
QMF19

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The Benefits of Diversification and Rebalancing

We observe the historical benefits of diversification and rebalancing on a simulated portfolio comprising 40% S&P 500, 20% MSCI EAFE, and 40% Bloomberg Barclays U.S. Aggregate indexes (total 60-40 equity-fixed income) and incepted Jan. 1, 1998 (for 20 years of performance history). This Buy and Hold portfolio outperforms its equity constituents on a risk-adjusted basis, and regularly rebalancing the portfolio further improves its risk-adjusted performance.

Cumulative Return of Buy and Hold Portfolio Compared to its Underlying Constituents



Name	Return	Standard Deviation	Sharpe	Alpha	Max Drawdown
Rebalance—Annually	6.33	8.68	0.52	0.36	-32.1
Rebalance—Quarterly	6.24	8.87	0.50	0.20	-33.6
Rebalance—Monthly	6.12	8.92	0.49	0.07	-34.1
Buy and Hold	5.89	8.46	0.48	0.00	-31.7
S&P 500 TR	7.15	14.79	0.41	-0.84	-50.9
MSCI EAFE NR	4.97	16.51	0.26	-3.11	-56.7
BBgBarc U.S. Agg Bond TR	4.78	3.36	0.82	2.57	-3.8

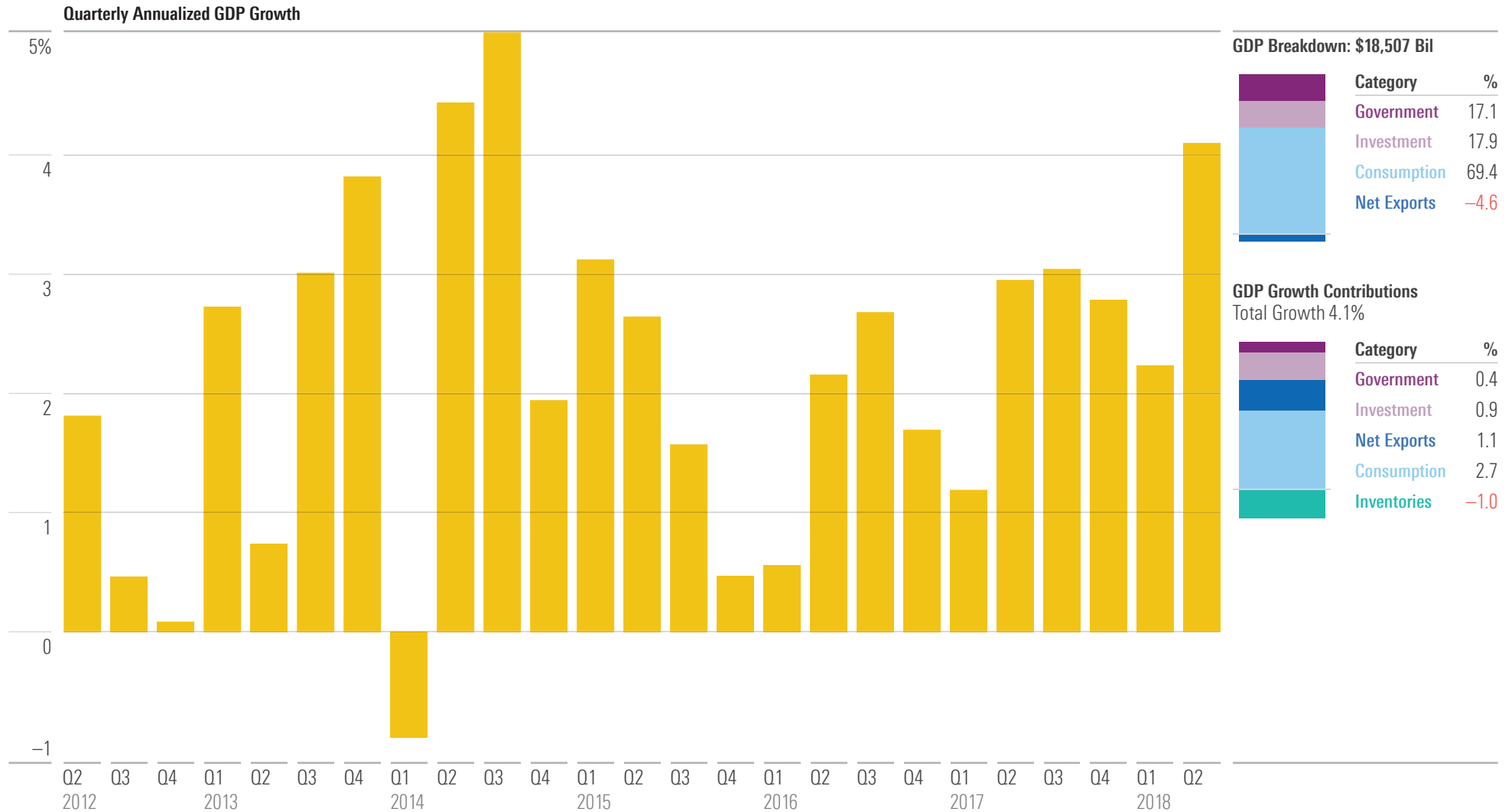
*All figures are annualized, excluding max drawdown. Alpha is calculated against the Buy and Hold portfolio.

Economic Indicators



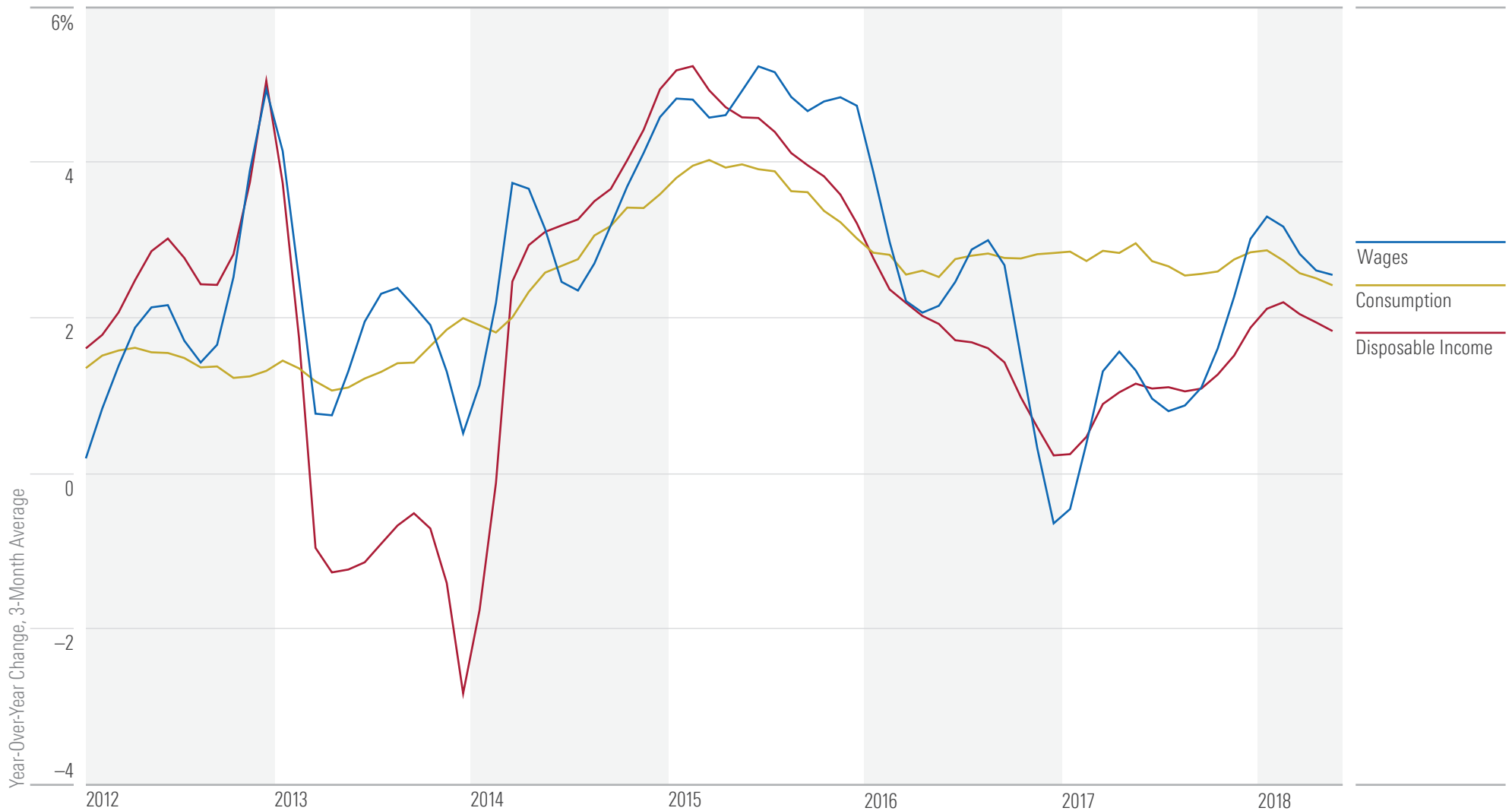
U.S. GDP Growth Accelerates

The first estimate of second-quarter GDP showed the U.S. economy growing 4.1%, the best second-quarter growth in four years. Private consumption and investment remained robust. Export growth accelerated in the second quarter as well, while import growth slowed significantly, further boosting the headline growth number. Some economists believe the strong export number in particular was driven by, in part, some orders being pulled forward ahead of the imposition of higher tariffs abroad.



Consumption Growth Slows as Inflation Eats Into Real Income

Relatively strong nominal income and consumer demand growth have been offset by accelerating price inflation in recent months, leading to the slowest pace of real (inflation-adjusted) consumption growth since early 2014 (on a three-month moving-average basis). A tight labor market should continue to support nominal income growth but may also contribute to cost-push inflation in consumer prices. The imposition of tariffs will also likely have an ongoing impact on consumer price inflation.

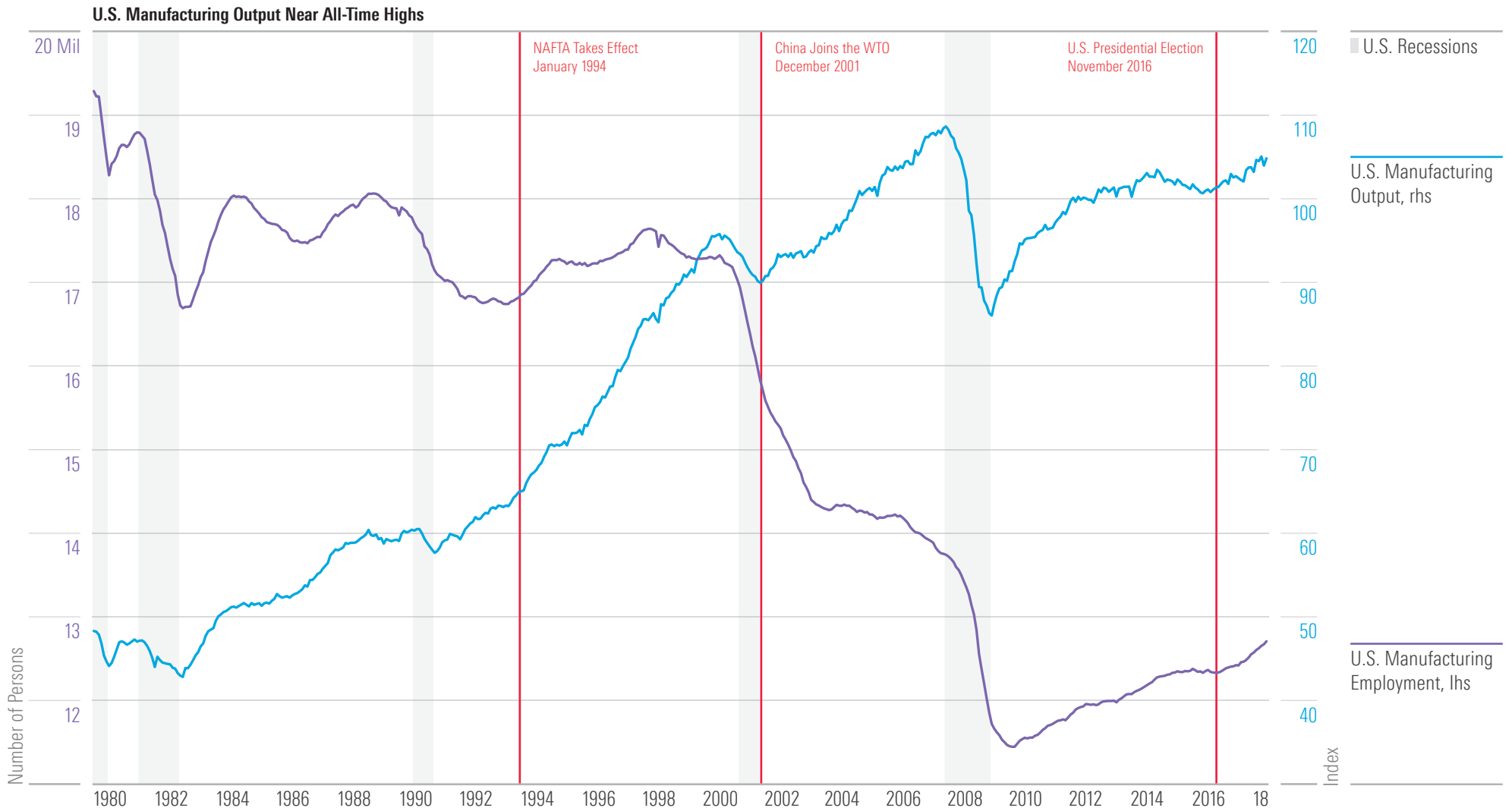


OEI3

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Manufacturing Output Near Precrisis Highs Despite 1 Million Fewer Workers Employed

Despite lower levels of employment in manufacturing compared with previous decades, the sector's output (in real terms) is close to its all-time high. Likewise, exports of goods (also in real terms) recorded a new first-quarter high of \$1.56 trillion in 2009 dollars. While the pace of both real manufacturing production and export growth both slowed modestly in the first quarter, both continue to grow in line with long-term averages.



QEI100

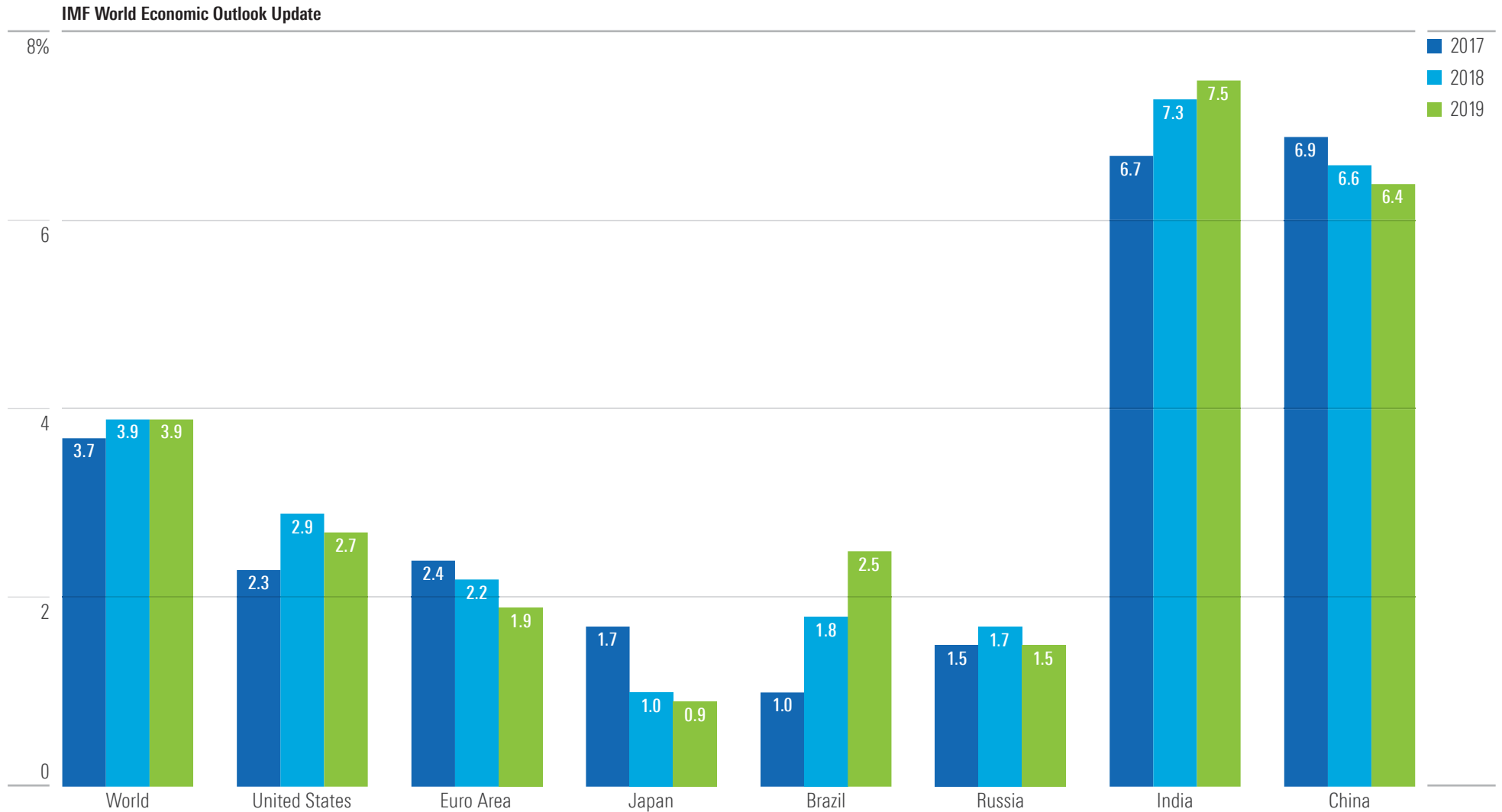
40

Source: Federal Reserve, Bureau of Labor Statistics. ©2018 Morningstar. All Rights Reserved.



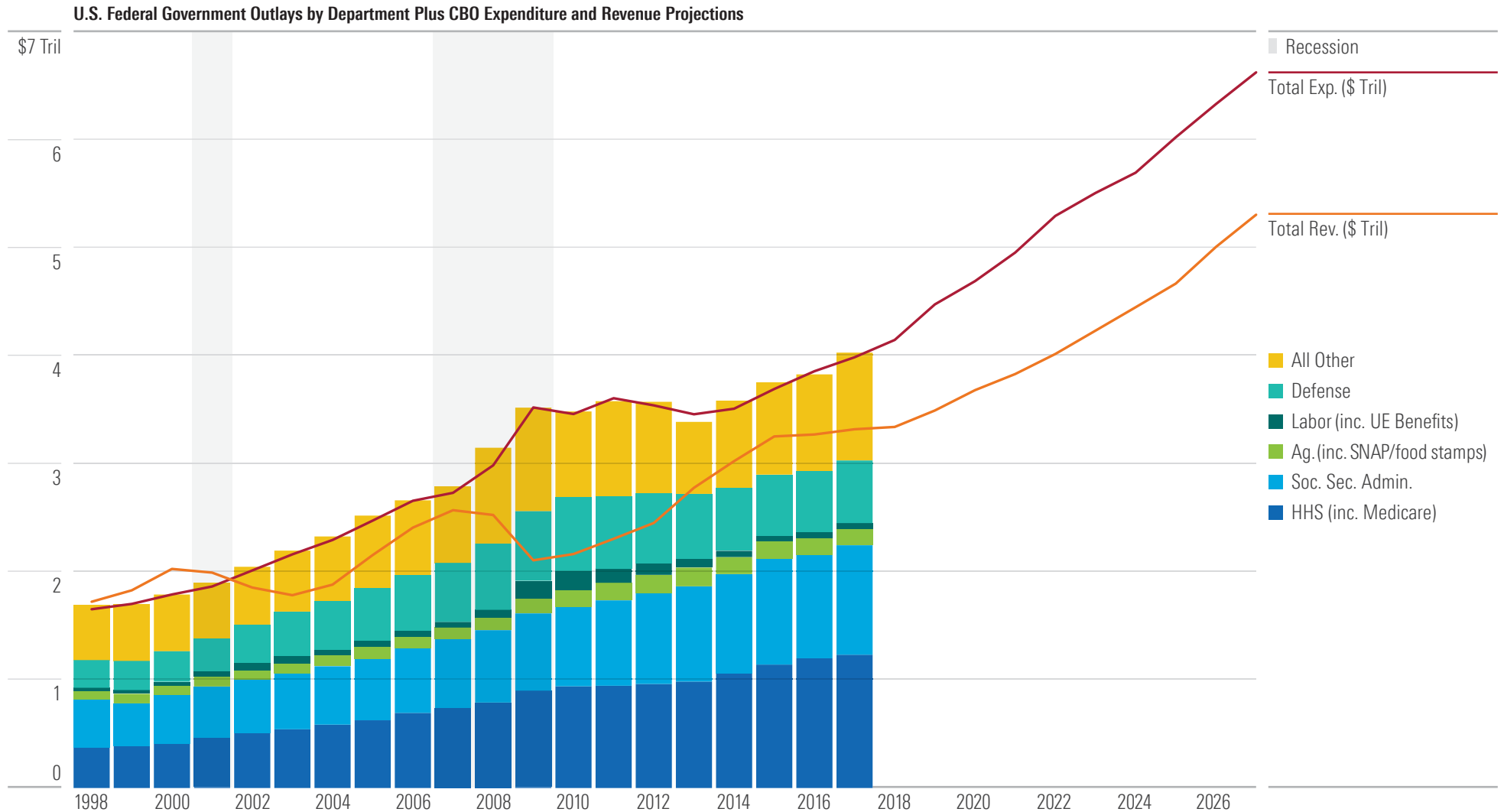
IMF World Growth Rate Remains Strong Despite First Shots of Trade War

The IMF world growth rate of 3.7% decreased by 0.1% from the previous forecast because of the unevenness of the expansion. Global growth for 2018 and 2019 remains strong, but rising oil prices and the escalating trade-war risk are clouding the sunny outlook. The proliferation of retaliatory measures against the tariffs imposed by the U.S. could undermine confidence among businesses and financial markets and disrupt the global supply chain, thereby hindering investment and productivity.



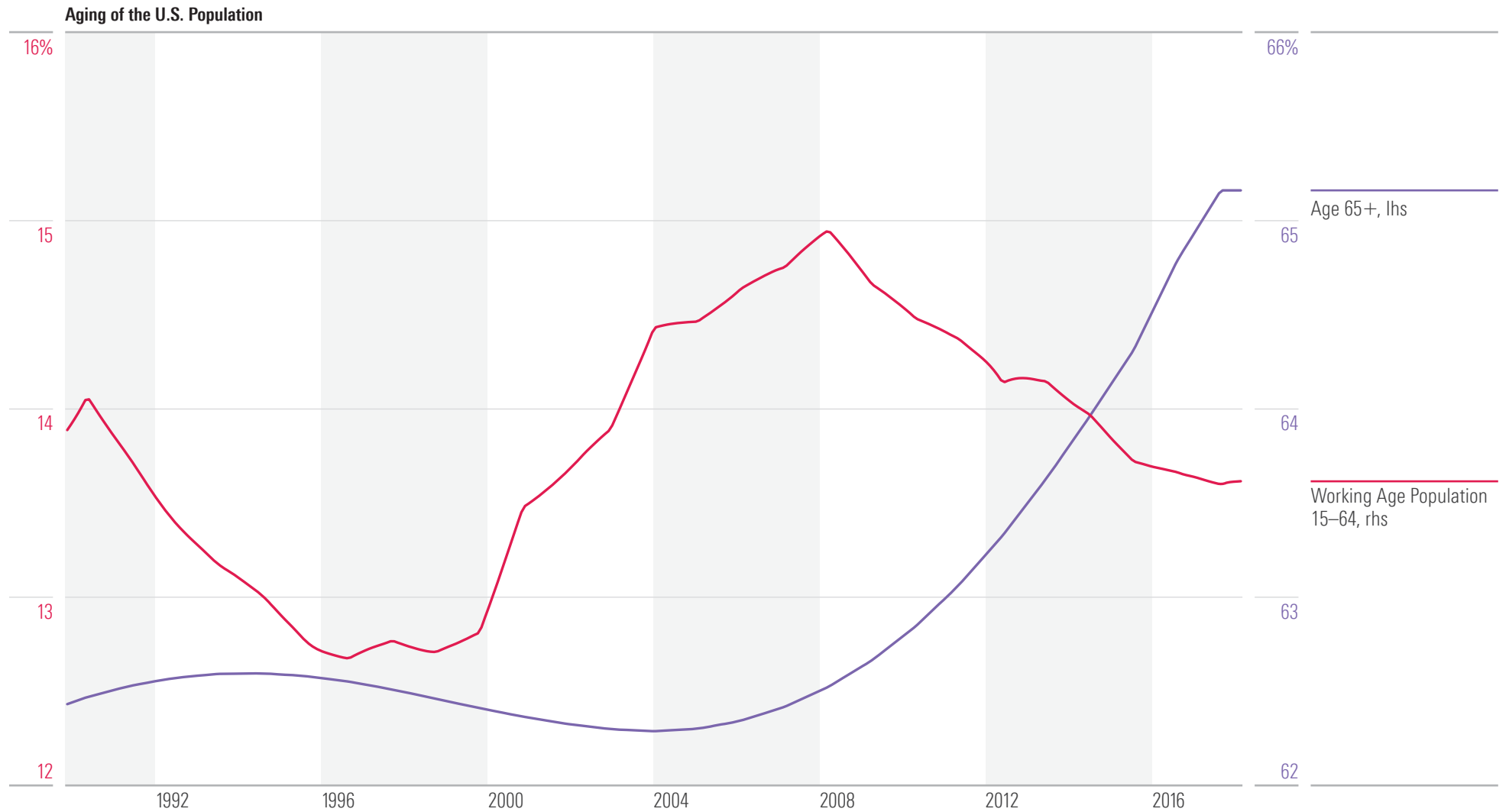
Federal Budget Deficit Projected to Widen, Driven by Growing Entitlement Spending and Lower Tax Revenues

The share of federal spending going to the Departments of Agriculture and Labor—which are responsible for food stamps and unemployment benefits, respectively—have returned to pre-crisis levels. However, healthcare and social security was 56% of expenditures in 2017, up from 49% ten years ago. With the ongoing retirement of the baby boomers, and less revenue due to the recent tax cut, the CBO projects the deficit to eclipse \$1 trillion by 2020 and gradually widen over the next decade.



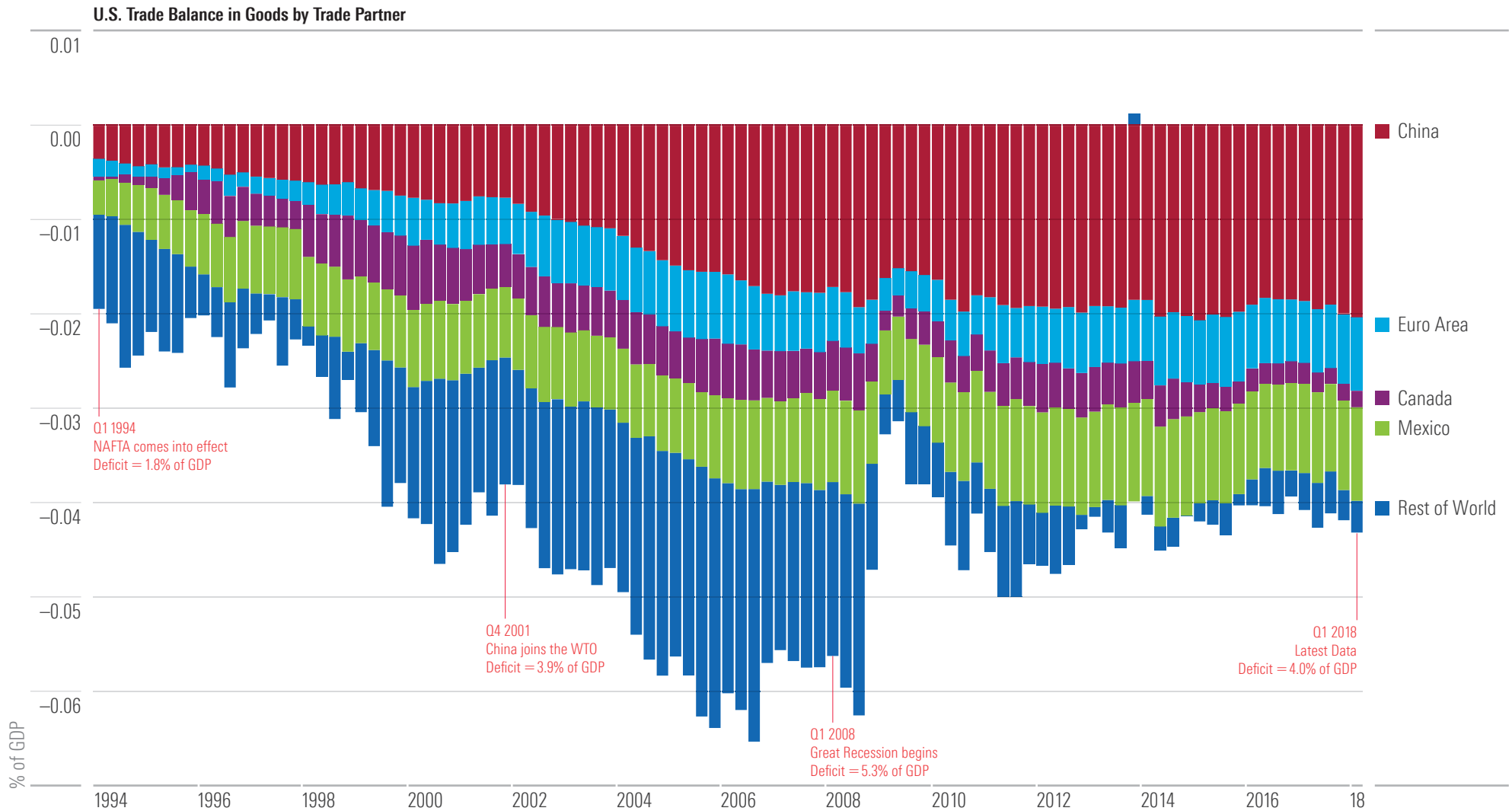
Aging of the Baby Boomers

The number of Americans ages 65 and older has risen dramatically in the past 10 years as the baby-boom generation moves into retirement age. This number is expected to double by 2060, and the group's share of the population is expected to rise to over 23%. The aging of the U.S. population will necessarily increase requirements for nursing-home care and expenditures for Social Security and Medicare.



U.S. Energy Exports Help Offset Growing Trade Deficits With China

The U.S. trade deficit in goods reached \$216 billion in the first quarter on a seasonally adjusted basis, just shy of mid-2008 levels. However, as a share of GDP, the deficit remains more than a percentage point narrower compared with 10 years ago and close to the magnitude seen at the end of 2001, when China joined the World Trade Organization. The significant decline in the trade deficit with the “Rest of World” category reflects the sharp rebalancing in U.S. energy trade due to the shale revolution.



QEI101

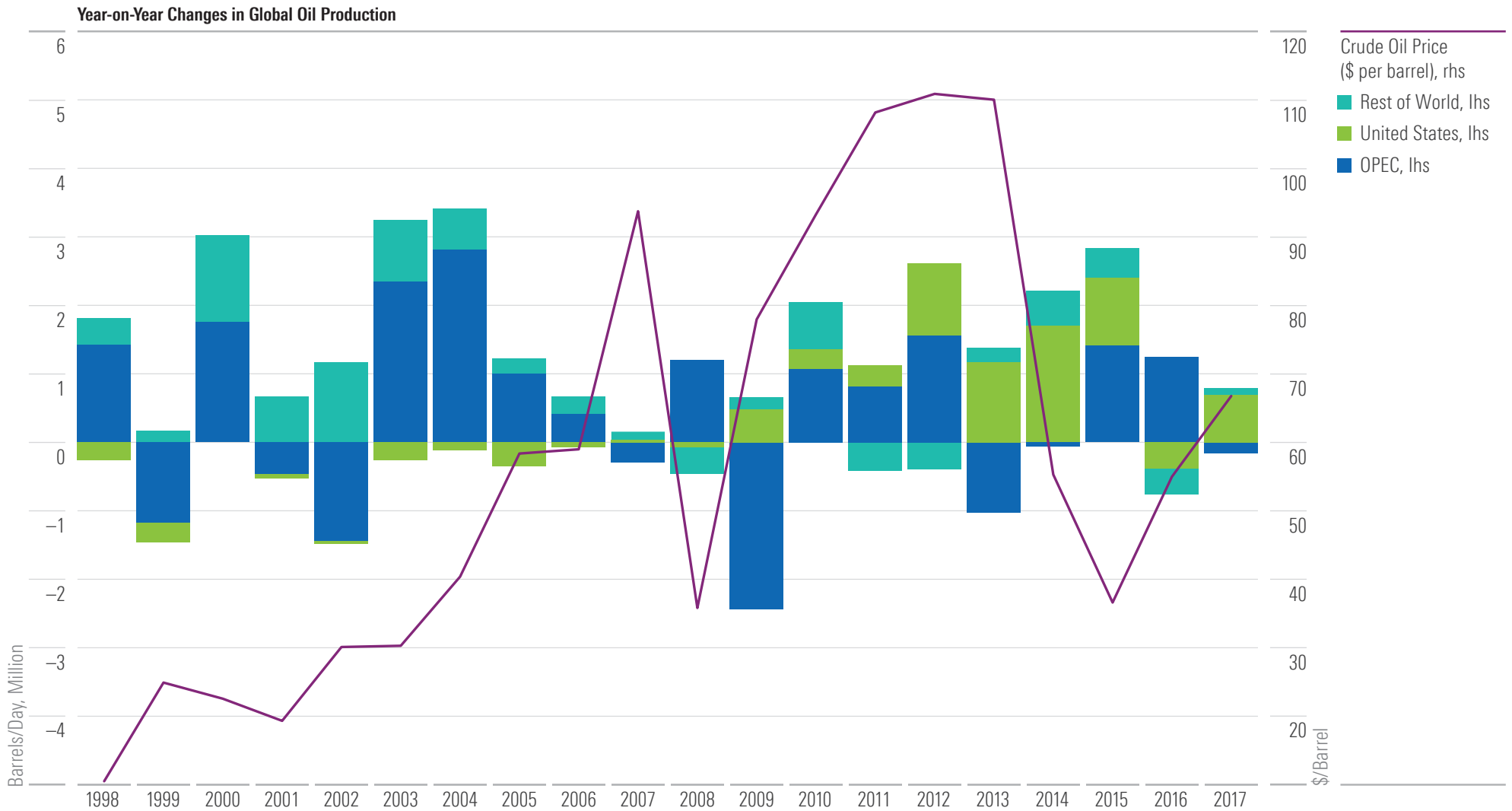
45

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U.S. Production Continues to Influence the Global Oil Market

Crude oil prices rose modestly in the second quarter. U.S. inventories continued to decline, while U.S. production climbed to a new all-time high of 10.5 million barrels per day (as of April). Higher crude oil prices have passed through to consumer gasoline prices: The U.S. national average price for a gallon of regular-grade gasoline nearly touched \$3.00 in late May and remains near its highest levels since oil prices collapsed in 2014.



OEI99

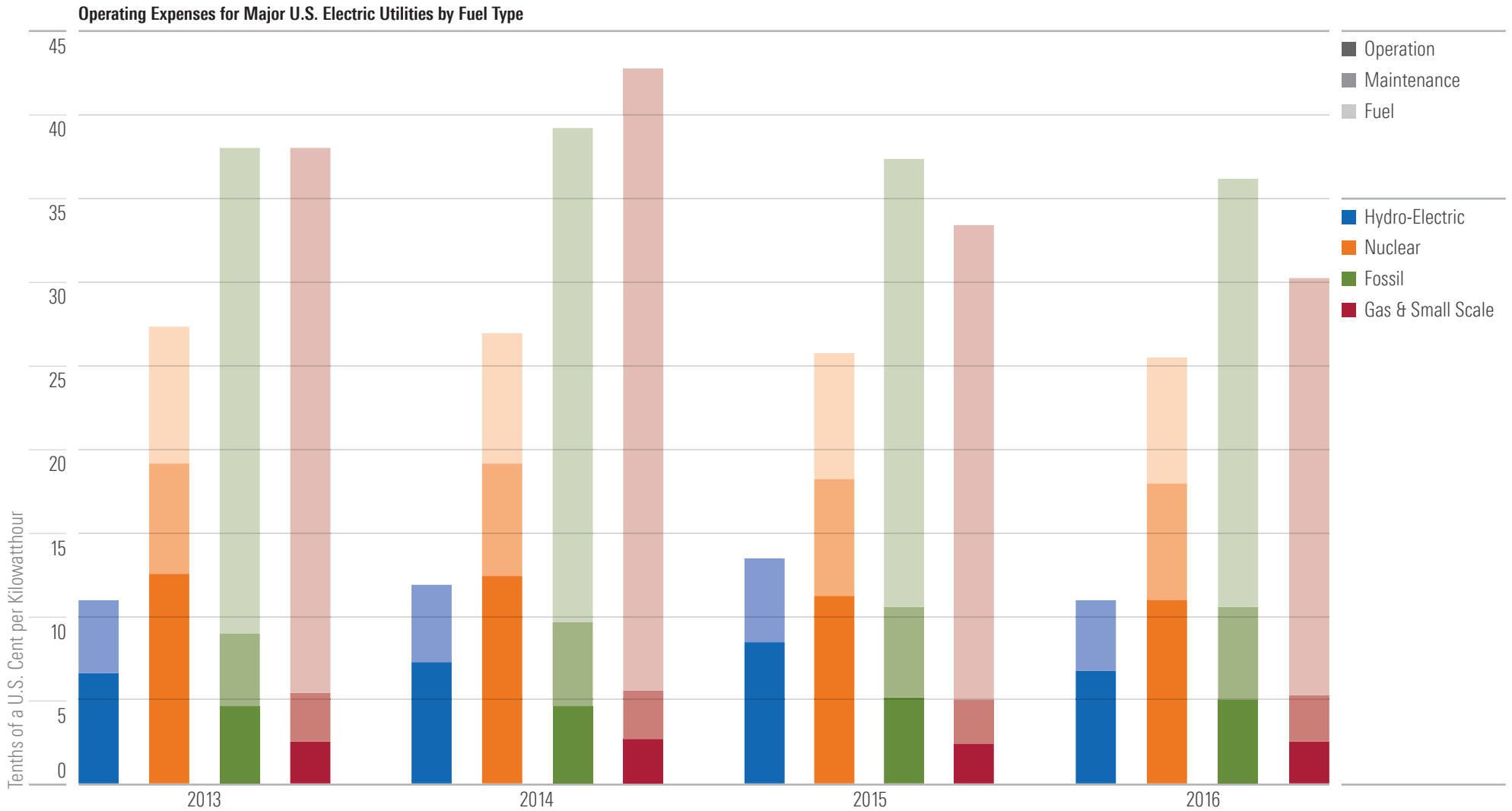
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Source: Energy Information Administration, BP, Morningstar calculations. © 2018 Morningstar. All Rights Reserved.



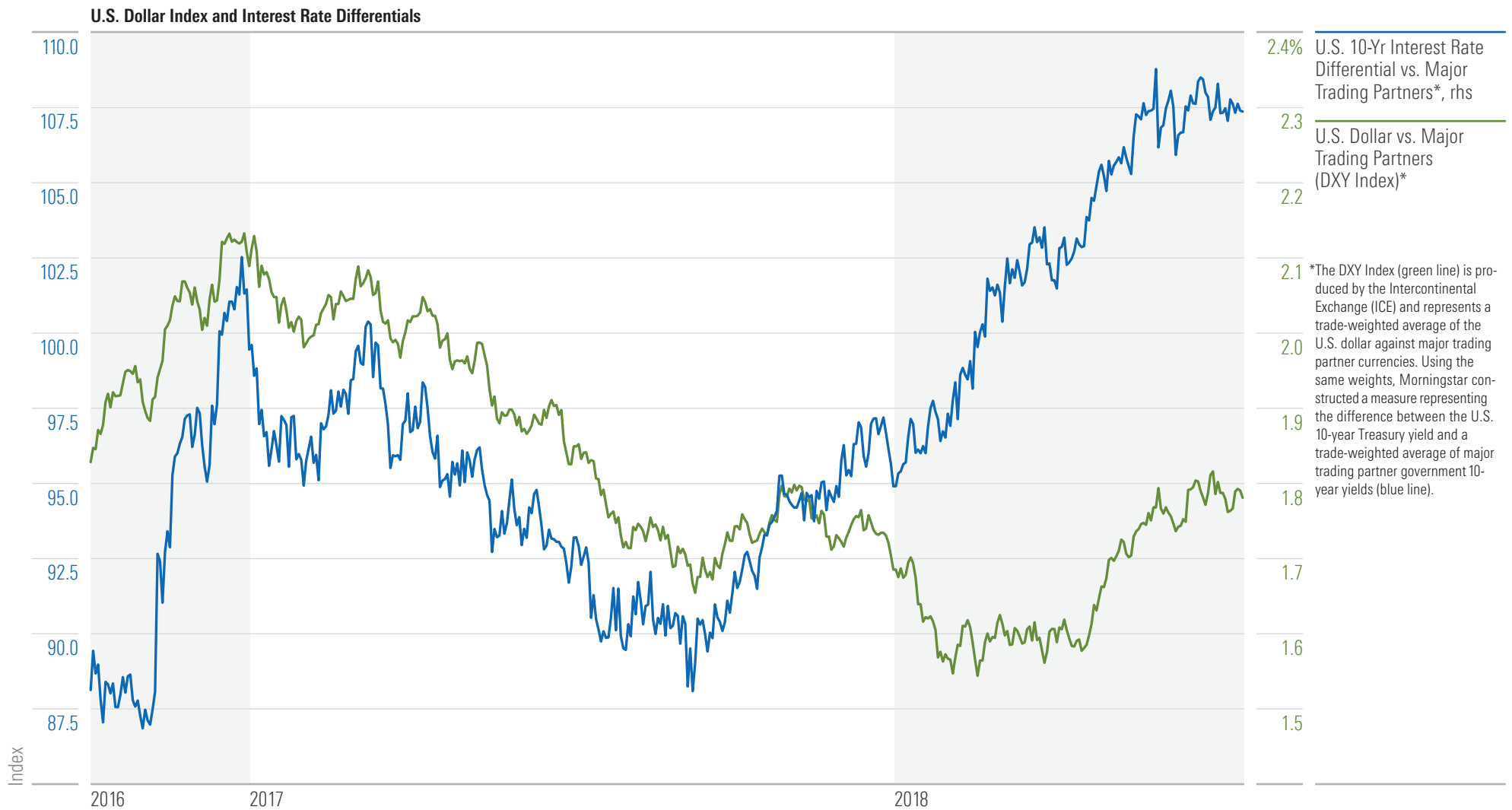
Gas and Renewable Costs Trending Down While Hydro and Nuclear Remain the Cheapest

As wind and solar energy are now some of the cheapest options for new electricity generation, it is important to remember renewables require gas plants to pick up the slack when the wind isn't blowing and the sun isn't shining. Subsequently, the Federal Energy Regulatory Commission bundles the operating costs of wind and solar with gas to reflect the true overall cost for the whole category. Viewed from that perspective, hydro and nuclear look pretty good, while fossil may go the way of the dinosaurs.



Widening Interest-Rate Differentials Not Having a Significant Impact on the Dollar

After moving closely together following the U.S. presidential election in November 2016, the U.S. dollar and U.S. interest rates have diverged somewhat, suggesting that different factors may be driving each. The rise in U.S. interest rates for the year to date, particularly compared with those of major trading partners, may be a function of higher inflation expectations, wider budget deficits, and an improving economic outlook. The dollar appears to be more sensitive to trade policy developments.



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.