### Q2 2018 Global Environment

As of June 30, 2018

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<td>Trade Wars / Rising Geopolitical Tensions</td>
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<td>Global Earnings Strong But Expected to Fade</td>
<td>Monetary Policy Missteps / Fed Overshoot</td>
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<td>Tightening of Financial Conditions / Dollar Funding Stress</td>
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<td>Impacts of U.S. Tax Reform / Fiscal Spending</td>
<td>Earnings Disappointment</td>
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We increased our underweight to equities as valuations remain elevated against a backdrop of receding global liquidity, higher rates, an aging U.S. economic cycle and rising trade tensions. While equity valuations have become less challenging recently, key factors supporting earnings, including tax reform, a weaker U.S. dollar and higher energy prices will likely be less of a tailwind going forward.

**EQUITY RISK PREMIA**
January 1, 2013 to May 31, 2018

- Broad global growth improvement is likely near the cyclical peak as key developed markets are expanding above potential. While macro fundamentals remain broadly supportive, tightening financial conditions, higher interest rates, and the escalation of trade tensions could be headwinds.
- We continue to expect only modest returns from bonds, however valuations have become modestly more attractive after rate rises and spread widening this year.
- Equity valuations are elevated, leaving risk skewed to the downside. Fixed income can potentially offer downside protection in periods of market stress.

**PERFORMANCE DISPERSION, STOCKS VS. BONDS**

- MSCI ACWI (Stocks)
- Bloomberg Barclays Global Aggregate (Bonds)

Equity risk premium is a comparison of equity yields to fixed income yields. Equity typically receives higher yield due to higher volatility of returns, this chart shows how much of a premium it is currently receiving based on earnings yield vs. 10 government bond yield.

Source: T. Rowe Price analysis using data from FactSet Research Systems Inc. All rights reserved.

US is represented by S&P 500, Europe is represented by MSCI Europe, and Japan is represented by MSCI Japan.
Regional Equity Positioning

As of June 30, 2018

We trimmed our overweight to developed markets outside the U.S. amidst signs of moderating growth. Other concerns include rising trade tensions and resurgence in political risk. However, valuations remain attractive relative to the U.S. and monetary policy remains supportive.

**PRICE-TO-EARNINGS**
Next 12-Months, June 30, 2008 – June 30, 2018

**TRAILING EARNINGS PER SHARE GROWTH BY REGION**
June 30, 2010 – June 30, 2018

- European markets offer relatively more attractive valuations, with operating leverage offering higher potential earnings upside.
- However, valuations are less compelling on a sector-neutral basis, European banks are showing signs of significant weakness, and rising trade protectionism is a significant risk, most notably for Germany given its export focus.
- Japanese equities remain supported by better relative valuations, strong earnings growth, gradually improving corporate governance and economic growth is showing signs of stabilization, albeit at low levels and with still modest improvement in inflation.
- Emerging markets growth is slowing but not collapsing. Idiosyncratic and political risks remain elevated in several key countries and trade protectionism a growing risk.

Sources: Haver Analytics [IMF, Markit], FactSet Research Systems Inc. All rights reserved. United States is represented by the S&P 500 Index. Other countries/regions represented by their corresponding MSCI Index.

*Past Performance is not indicative of future results.*
We remain neutral to growth stocks relative to value stocks. While we expect secular growth companies to continue to benefit in a low growth environment, valuations are less compelling as growth stocks have significantly outperformed value, led by a narrow group of tech-related companies.

- Growth stocks have significantly outperformed value for an extended period, led by a narrow group of tech-related companies, resulting in less compelling valuations and a concentrated risk profile.
- Tax reform could be more supportive for value stocks given their higher exposure to cyclical sectors, if tax changes translate to a durable expansion in economic growth and/or higher interest rates.
We reduced our overweight to value stocks outside the U.S. as catalysts for cyclical sectors to outperform have moderated along with growth expectations. Escalating trade wars, a resurgence in political uncertainty and weakness amongst European financials all pose headwinds.

Valuation currently favors value over growth.
- Value stocks tend to outperform earlier in the business cycle.
- Economic growth in both Europe and Japan has softened but remains relatively strong and monetary policy is supportive.
- Signs of weakness in European banks has moderated our favorable view on value stocks, as bank credit is a key support for regional growth and financials are also a large part of the value opportunity set.

MSCI index returns shown with gross dividends reinvested.
Source: T. Rowe Price analysis using data from FactSet Research Systems Inc. All rights reserved.
U.S. Large-Cap vs. Small-Cap

As of June 30, 2018

We are overweight to U.S. small-cap stocks based on reasonable valuations versus large cap, potential benefits from lower corporate tax rates, a pickup in M&A (mergers and acquisitions) activity and growth in capital spending. Small caps are also less likely to be exposed to trade policy risks.

### U.S. SMALL-CAP STOCKS VS U.S. LARGE-CAP STOCKS

**Ratio of 12-Month Forward P/E (Price to Earnings) Ratio**

<table>
<thead>
<tr>
<th>Year</th>
<th>Large-Cap Undervalued</th>
<th>Small-Cap Undervalued</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978</td>
<td>1.3X</td>
<td></td>
</tr>
<tr>
<td>1983</td>
<td>1.1X</td>
<td></td>
</tr>
<tr>
<td>1988</td>
<td>0.9X</td>
<td></td>
</tr>
<tr>
<td>1993</td>
<td>0.7X</td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td>0.5X</td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>0.7X</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>0.9X</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>1.1X</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>1.3X</td>
<td></td>
</tr>
</tbody>
</table>

### U.S. SMALL VS. LARGE ABSOLUTE VALUATIONS

**12-Month Forward P/E Ratio**

<table>
<thead>
<tr>
<th>Year</th>
<th>Russell 2000 Median (Since 2008)</th>
<th>Russell 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>18x</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>14x</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>14x</td>
<td></td>
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<tr>
<td>2011</td>
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<td>2015</td>
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</tr>
<tr>
<td>2016</td>
<td>14x</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>14x</td>
<td></td>
</tr>
</tbody>
</table>

### TAX RATE COMPARISONS

<table>
<thead>
<tr>
<th>Region</th>
<th>Russell 1000 Value**</th>
<th>Russell 1000 Growth**</th>
<th>Russell 2000**</th>
<th>Tax Rate as of 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>21.0%</td>
<td>28.5%</td>
<td>31.7%</td>
<td>35.0%</td>
</tr>
<tr>
<td>Africa/Middle East</td>
<td>27.6%</td>
<td>31.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Americas</td>
<td>27.9%</td>
<td>28.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asia/Pacific</td>
<td>14.4%</td>
<td>13.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td>6.4%</td>
<td>7.1%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Notes

- Companies with negative earnings are excluded from the calculation.
- **Based on the average tax paid over the fiscal years 2014-2016, excludes any company paying more than 100% or less than 0%**
- Source: T. Rowe Price analysis using data from FactSet Research Systems Inc. All rights reserved.

**Past Performance is not indicative of future results.**
We are underweight Global ex-U.S. small-caps stocks, as relative valuations are less compelling. Global ex-U.S. small-caps may also be vulnerable to slower growth trends.

- Relative valuations are more challenging for small-caps after a sharp rally in 2017.
- Economic growth in Europe and Japan appears to have peaked, but is expected to stabilize rather than collapse.

Sources: Haver Analytics [Markit].
Source: T. Rowe Price analysis using data from FactSet Research Systems Inc. All rights reserved.
Emerging (EM) vs. Developed Markets Equity

As of June 30, 2018

We are neutral emerging markets stocks relative to developed market stocks. Emerging markets have recently come under pressure from trade war concerns, the strengthening U.S. dollar, and higher interest rates—resulting in more attractive valuations but higher risks.

EM EQUITIES VS. ENERGY PRICES
Cumulative Performance in USD, January 31, 2005 to June 30, 2018

- While emerging markets absolute valuations are lower than developed markets, they are expensive versus their historical averages and remain vulnerable to protectionist trade policies, rising interest rates, a stronger U.S. dollar, slowing Chinese growth, and increased political uncertainty.
- Emerging market economies have become considerably less vulnerable to rising rates and a rising U.S. dollar over the past decade due to lower commodity exposure and less USD denominated debt, but these remain important factors to consider and vary on a country by country basis.
- We expect Chinese growth to trend modestly lower, as President Xi Jinping’s government emphasizes quality over quantity as they work to contain financial leverage and property speculation.
- While a pull-back in commodity prices could also be a headwind, the composition of emerging markets has evolved with the development of an indigenous technology sector, lessening the sensitivity to energy and commodity prices.

MSCI EM SECTOR WEIGHTS
December 31, 2010 to June 30, 2018

- Energy and Materials
- Technology

Source: T. Rowe Price analysis using data from FactSet Research Systems Inc. All rights reserved.
Global Equities vs. Real Assets Equities

As of June 30, 2018

We are underweight to real assets equities as we remain cautious on the prospects for energy and commodity prices, given continued concerns over supply and demand imbalances.

**TIPS BREAKEVEN SPREADS* AND INFLATION**
January 1, 2011– May 31, 2018

- 10-Year Breakeven Spread* (Inflation Expectations)
- 1-Year Core CPI (Consumer Price Index)

**GLOBAL OIL DYNAMICS**
Production vs. Consumption
March 1, 2011 – March 31, 2018

- Excess Capacity (R)
- World Production (L)
- World Consumption (L)

- Oil prices have shown strength over the past year, but over the medium term we expect prices to be challenged by additional supply as U.S. producers continue to rapidly increase production. U.S. shale producers have become a larger contributor to global oil supply and with their increased efficiency can now operate profitably at lower price levels.
- Industrial-related commodity prices are likely to remain under pressure from fading Chinese demand.
- Fundamentals for developed market REITs (Real Estate Investment Trusts) remain positive and the economic environment remains supportive. While REITs remain sensitive to rising interest rates, they should be supported near-term if U.S. rate increases proceed at a modest pace.

*Difference between 10-year nominal Treasury yield and 10-year Treasury inflation protected securities (TIPS) yield.
Sources: Haver Analytics [Bureau of Labor Statistics].
Source: T. Rowe Price analysis using data from FactSet Research Systems Inc. All rights reserved.
Global Fixed Income

As of June 30, 2018

Developed market sovereign yields remain at low levels, due to support from central bank quantitative easing. EM (Emerging Markets) and high yield credit sectors offer more attractive yield and lower duration. However, high yield credit spreads are tight relative to history and emerging markets face challenging fundamentals.

**YIELD VS. INTEREST RATE RISK**
For Fixed Income Sectors

- Global High Yield
- EM Local EM Dollar
- EM Corporate
- U.S. Aggregate
- U.S. IG (Investment Grade) Corporate
- Global Aggregate
- Germany 10 Year
- Japan 10 Year
- Positive Correlation to S&P 500
- Negative Correlation to S&P 500

**GLOBAL HIGH YIELD AND EM SPREADS**
Last 10 Years as of June 30, 2018

EM US$-Sovereign Spread
Global High Yield Spread

**EM LOCAL YIELDS**
Last 10 years as of June 30, 2018

Sources: JP Morgan, S&P/LSTA, and FactSet Research Systems Inc. All rights reserved. Correlation is based on the past 10 years of monthly returns.

Past Performance is not indicative of future results.
We increased our underweight to high yield bonds relative to U.S. investment grade bonds as valuations are trending well above historical averages. At the current prices, high yield offers limited opportunity for price appreciation and may be vulnerable to rising market volatility.

While high yield bonds continue to have a yield advantage over investment grade bonds, current valuations provide less downside risk protection against a potential rise in market-event risk or a deterioration of credit fundamentals.

Although the credit cycle is likely in its later stages, high yield corporate fundamentals remain broadly positive with low default expectations.
Emerging Markets (EM) Debt vs. U.S. Investment Grade

As of June 30, 2018

We remain underweight emerging market-dollar bonds due to risks from rising developed market rates, escalating trade tensions, and idiosyncratic and political risks remain elevated in several key countries, including Mexico, Brazil, Argentina, Venezuela, Malaysia and Turkey.

EM YIELDS & SPREADS
January 1, 2010 to June 30, 2018

- While emerging market economies benefitted from the stabilization of commodity prices, concerns remain about the potential impacts of protectionist trade policies, higher developed market interest rates and a stronger U.S. dollar.
- Considerable disparity still exists amongst emerging markets countries in their fiscal positions, exposure to commodity prices, political stability and progress toward reforms. There are varying degrees of flexibility for emerging markets countries to use fiscal and monetary policy to offset weak growth or defend their currencies.
- Political uncertainty in emerging markets is elevated, with less fiscally responsible regimes gaining popularity in several nations.

Sources: JP Morgan Chase & Co., Haver Analytics [IMF and Bank for International Settlements]

Past Performance is not indicative of future results.
Non-Dollar Bonds vs. U.S. Investment Grade

As of June 30, 2018

We moderated our underweight to currency-hedged developed market bonds outside the U.S. as increasing short-term rate differential between U.S. and non-U.S. markets has led to more competitive hedged yields on bonds in Europe and Japan for U.S. dollar-based investors.

- Developed ex-U.S. investment grade bonds hedged yield differential is more compelling than unhedged for US investors; however, long duration and prospects for higher rates from low levels are risks.
- However, despite signs that economic growth may be softening in Europe, the recent euro weakness, further evidence of rising inflation and the ECB (European Central Bank) tapering its asset purchases could put upward pressure on European yields.
- Inflation is expected to increase globally throughout 2018, which could put upward pressure on yields and accelerate central bank tightening.

Sources: Haver Analytics [IMF] and Bloomberg Barclays.
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There are inherent risks associated with investing in the stock market, including possible loss of principal, and investors must be willing to accept them. The stocks of larger companies generally have lower risk and potential return than the stocks of smaller companies. Since small companies often have limited product lines, markets, or financial resources, investing in them involves more risk than investments primarily in large, established companies. The value approach carries the risk that a stock judged to be undervalued is actually appropriately priced. International investing involves unique risks, including currency fluctuation. Bond yields and prices will vary with interest rate changes. Investors should note that if interest rates rise significantly from current levels, bond fund total returns will decline and may even turn negative in the short term. High yield, lower-rated bonds generally involve greater risk to principal than investments in higher-rated securities.

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Glossary

**Core Consumer Pricing Index (CPI):** A method for measuring core inflation. It is the consumer price index (CPI) excluding energy and food prices. There are many other methods for calculating core inflation, but this is the most popular measurement. This method has become the most widely used because food and energy prices can be very volatile, and this wide amount of movement would unfairly bias the measure of inflation.

**Credit Spread:** The difference in yield between two bonds of similar maturity but different credit quality.

**Duration:** Duration is a measure of the sensitivity of the price - the value of principal - of a fixed-income investment to a change in interest rates. Duration is expressed as a number of years.

**Equity Risk Premium:** the additional return that investing in the stock market provides over a risk-free rate, such as the return from government treasury bonds.

**Earnings Per Share (EPS):** Earnings per share is the portion of a company's profit allocated to each outstanding share of common stock. Earnings per share serves as an indicator of a company's profitability.

**Gross domestic product (GDP):** Gross domestic product is the monetary value of all the finished goods and services produced within a country's borders in a specific time period.

**Yield To Maturity (YTM):** Yield to maturity is the total return anticipated on a bond if the bond is held until the end of its lifetime. Yield to maturity is considered a long-term bond yield, but is expressed as an annual rate.

**Yield to Worst (YTW):** the minimum potential yield that can be received on a bond without the issuer actually defaulting

**Yield:** The yield is the income return on an investment, such as the interest or dividends received from holding a particular security. The yield is usually expressed as an annual percentage rate based on the investment's cost, current market value or face value.

**MSCI ACWI (All Country World Index):** Represents the Modern Index Strategy and captures all sources of equity returns for 23 developed and 24 emerging markets.

**MSCI EAFE Index:** is designed to represent the performance of large and mid-cap securities across 21 developed markets, including countries in Europe, Australasia and the Far East, excluding the U.S. and Canada.

**MSCI EAFE Growth:** Captures large and mid-cap securities exhibiting overall growth style characteristics across developed markets countries around the world, excluding the US and Canada.

**MSCI EAFE Value:** Captures large and mid-cap securities exhibiting overall value style characteristics across developed markets countries around the world, excluding the US and Canada.
MSCI Emerging Markets: Represents the performance of large- and mid-cap securities in 24 Emerging Markets

Option-Adjusted Spread: Measurement of the spread of a fixed-income security rate and the risk-free rate of return, which is adjusted to take into account an embedded option.

Purchasing Managers’ Index: is an indicator of the economic health of the manufacturing sector based on five major indicators: new orders, inventory levels, production, supplier deliveries and the employment environment.

Price/Earnings (P/E) Ratio: The price-to-earnings ratio shows the “multiple” of earnings at which a stock is selling. The P/E ratio is calculated by dividing a stock’s current price by its current earnings per share. A high multiple means that investors are optimistic about future growth and have bid up the stock’s price.

Price/Earnings (P/E) Ratio (12 Months Forward): P/E is a valuation measure calculated by dividing the price of a stock by the analysts’ forecast of the next 12 months expected earnings. The ratio is a measure of how much investors are willing to pay for the company’s future earnings. The higher the P/E, the more investors are paying for a company’s earnings growth in the next 12 months.

Real Earnings Yield: The gap between forward earnings yield and forward total inflation rate is the S&P 500 forward real earnings yield.

Russell 1000 Value Index: measure the performance of those Russell 1000 companies with lower price/book ratios and lower forecasted growth values. You cannot invest directly in an index.

Russell 1000 Growth Index: measures the performance of those Russell 1000 companies with higher price/book ratios and higher forecasted growth values. You cannot invest directly in an index.

Russell 3000 Value Index: measures the performance of those Russell 3000® Index companies with lower price/book ratios and lower forecasted growth values. You cannot invest directly in an index.

Russell 3000 Growth Index: measures the performance of those Russell 3000® Index companies with higher price/book ratios and higher forecasted growth values. You cannot invest directly in an index.
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