Commentary | Second Quarter 2020

Quarterly Market Update

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Market Summary

Virus Pushed Economy into Recession, Stocks into Bear

In March, the clampdown response to COVID-19 plunged the world into recession and financial markets into a broad-based drawdown. A historically rapid and expansive U.S. monetary and fiscal policy response helped mitigate the most acute near-term liquidity issues and should provide a partial offset to the economic damage. Uncertainty and volatility are likely to remain high—a more cautious near-term portfolio tilt may be warranted.

	MACRO	ASSET MARKETS
Q1 2020	• Coronavirus shock precipitated a sudden-stop global recession.	• Riskier assets declined sharply, and a March liquidity crunch caused a spike in volatility and correlations.
OUTLOOK	• The U.S. is firmly in the recession phase. • China activity still extremely weak but no longer deteriorating. • Historic monetary and fiscal response provides an important offset to acute disruptions in market liquidity and economic activity. • Pre-existing vulnerabilities, including high levels of debt, imply a slow path back. • Policy actions address the near-term deflationary shock, but they might presage a long-term regime shift.	• The recession phase implies a more cautious near-term asset allocation tilt is warranted. • More defensive assets such as high-quality bonds and non-cyclical equity sectors tend to do better during economic contractions. • Elevated market volatility is expected to continue due to uncertainty about the virus and economic outlook. • The end of the business cycle often provides more attractive long-term entry points.

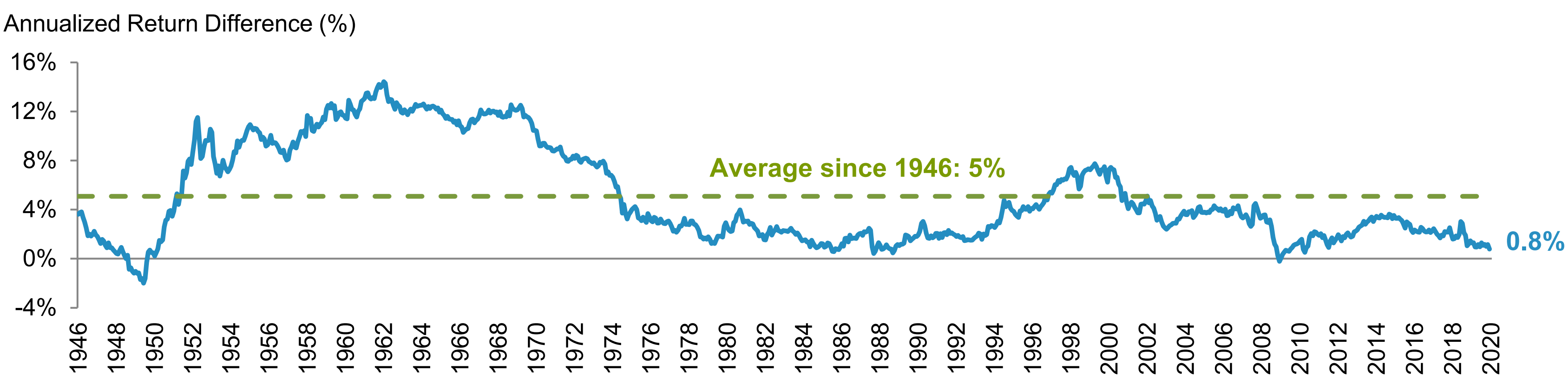
Diversification does not ensure a profit or guarantee against a loss.

Riskier Assets Plunged During Rapid Sell-Off

The U.S. stock market entered bear-market territory less than a month after hitting an all-time high, and equity markets around the world sold off aggressively. Government bonds benefited as safe-haven assets, but almost all asset categories suffered amid an acute liquidity crunch in March. Riskier credit bonds experienced a dramatic reversal from previously tight spreads, and commodity prices declined sharply alongside global demand.

	Q1 2020 (%)	1 Year (%)		Q1 2020 (%)	1 Year (%)
Long Government & Credit Bonds	6.2	19.3	Non-U.S. Developed-Country Stocks	-22.8	-14.4
Gold	3.9	22.0	Commodities	-23.3	-22.3
Investment-Grade Bonds	3.1	8.9	Emerging-Market Stocks	-23.6	-17.7
U.S. Corporate Bonds	-3.1	5.1	U.S. Mid Cap Stocks	-27.1	-18.3
Emerging-Market Bonds	-11.8	-5.3	Real Estate Stocks	-27.3	-21.3
High Yield Bonds	-13.1	-7.5	Non-U.S. Small Cap Stocks	-27.5	-18.1
U.S. Large Cap Stocks	-19.6	-7.0	U.S. Small Cap Stocks	-30.6	-24.0

20-Year U.S. Stock Returns Minus IG Bond Returns since 1946

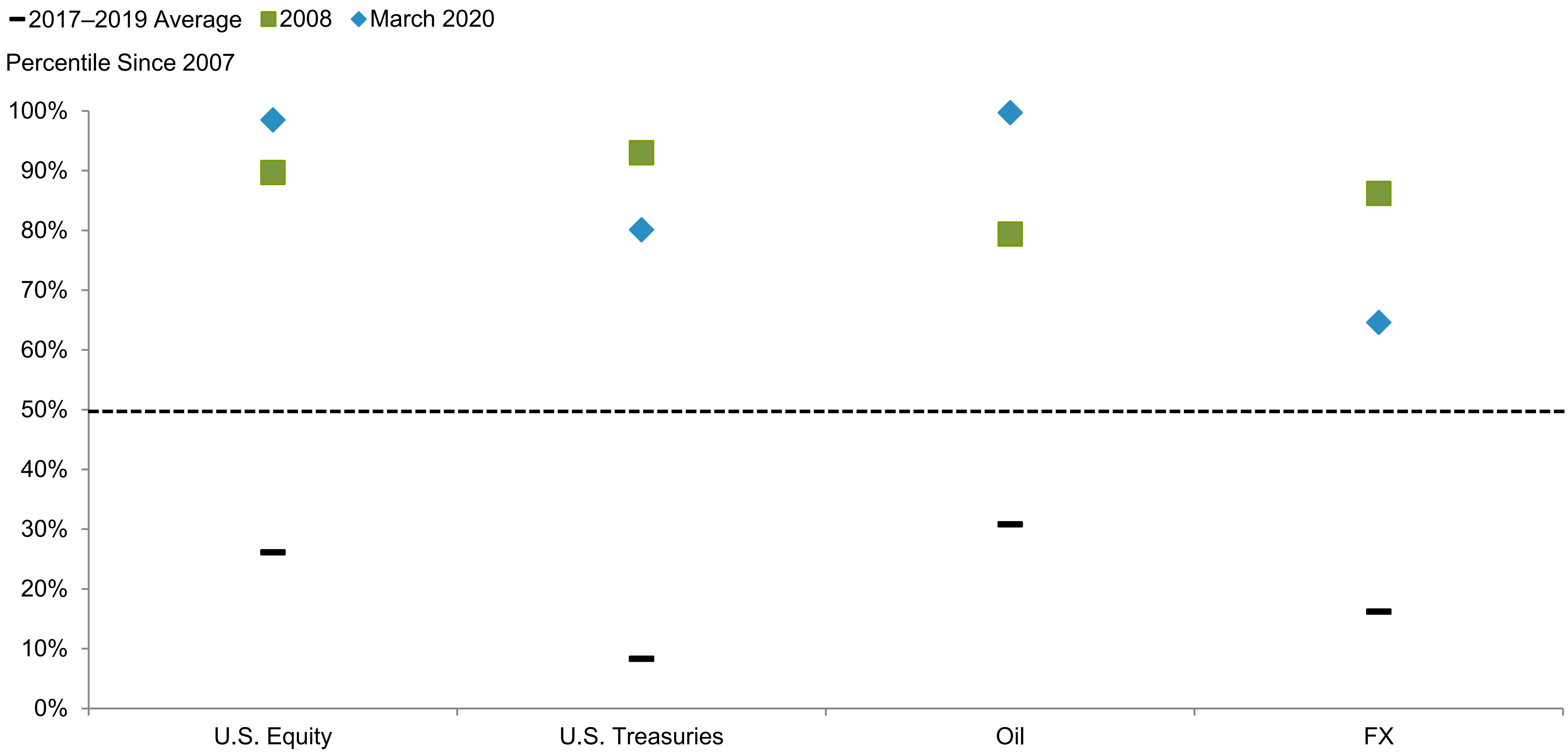


Past performance is no guarantee of future results. It is not possible to invest directly in an index. All indexes are unmanaged. See Appendix for important index information. Assets represented by: Commodities—Bloomberg Commodity Index; Emerging-Market Bonds—JP Morgan EMBI Global Index; Emerging-Market Stocks—MSCI EM Index; Gold—Gold Bullion, LBMA PM Fix; High-Yield Bonds—ICE BofA High Yield Bond Index; Investment-Grade Bonds—Bloomberg Barclays U.S. Aggregate Bond Index; Non-U.S. Developed-Country Stocks—MSCI EAFE Index; Non-U.S. Small Cap Stocks—MSCI EAFE Small Cap Index; Real Estate Stocks—FTSE NAREIT Equity Index; U.S. Corporate Bonds—Bloomberg Barclays U.S. Credit Index; U.S. Large Cap Stocks—S&P 500® index; U.S. Mid Cap Stocks—Russell Midcap® Index; U.S. Small Cap Stocks—Russell 2000® Index; Long Government & Credit Bonds—Bloomberg Barclays Long Government & Credit Index.
Source: Bloomberg Finance L.P., Haver Analytics, Fidelity Investments Asset Allocation Research Team (AART), as of 3/31/20.

Historic and Widespread Financial Market Volatility

After a multiyear period of well below-average market volatility, asset prices experienced dramatic fluctuations during March. The abrupt nature of the economic shock, combined with pre-existing vulnerabilities that tightened liquidity conditions, were the main drivers. Volatility was widespread across markets, with some areas such as equities and oil levels higher than those experienced during the 2008 Global Financial Crisis.

Volatility Percentiles



Volatility measures: U.S. Equity—Chicago Board Options Exchange (CBOE) Volatility Index (VIX); U.S. Treasuries—ICE BofA MOVE Index; Oil—Three-month implied volatility, Brent crude oil; FX (foreign exchange)—JP Morgan Global Volatility Index. Source: Bloomberg Finance L.P., CBOE, ICE BofA, JP Morgan, Fidelity Investments (AART), as of 3/31/2020.

Spike in Asset-Price Correlations Left Few Places to Hide

Over long periods of time, asset classes that have lower correlations with movements in U.S. equity prices tend to diversify a portfolio, particularly high-quality bonds that posted negative correlations in recent years. During March's tumult, an acute liquidity crunch along with forced selling led to a phase where nearly all asset prices fell at the same time—and correlations spiked toward one. Government bonds were the only exception.

Asset Class Correlations to U.S. Equities

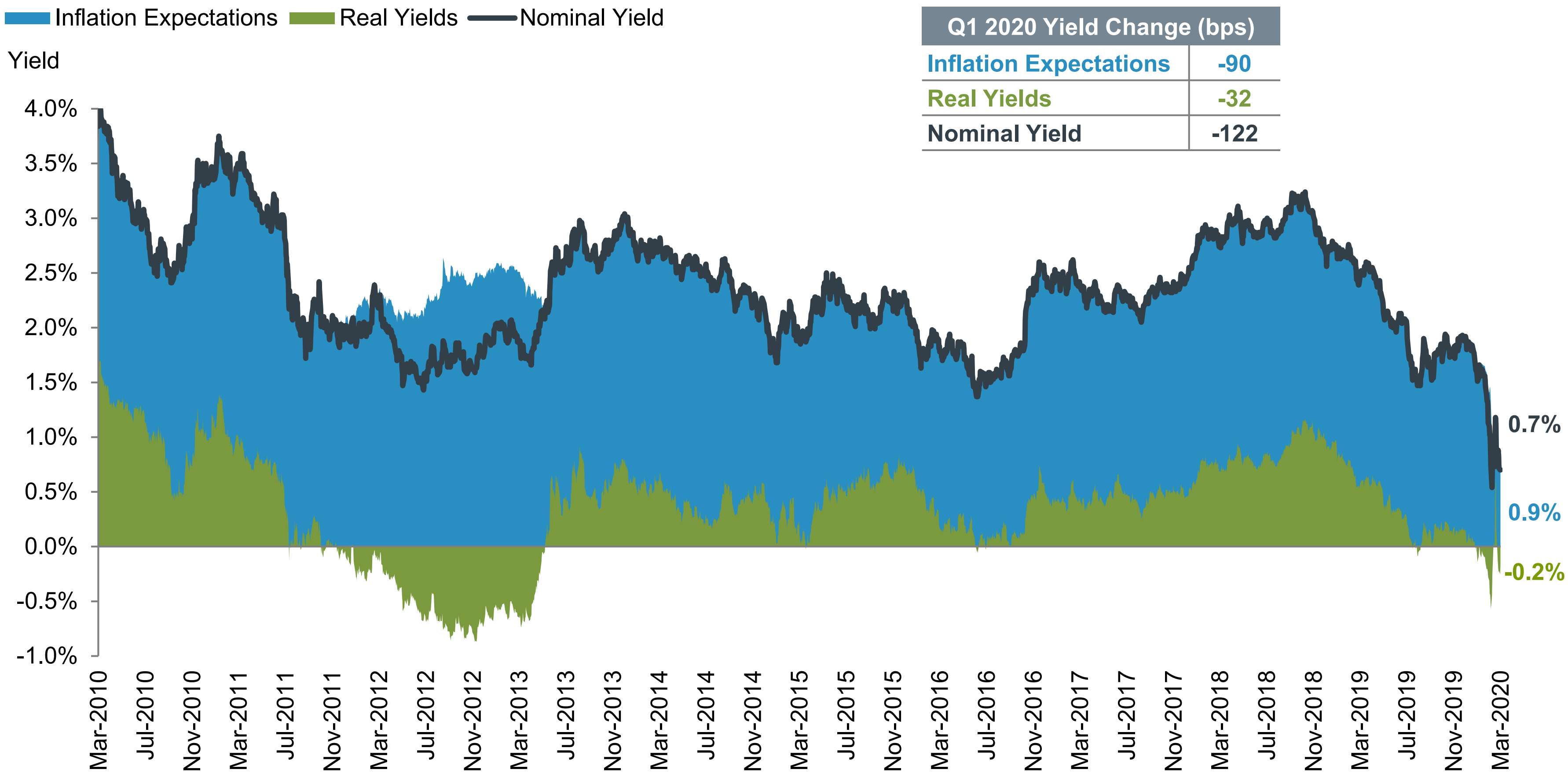
Diversification does not ensure a profit or guarantee against a loss. U.S. Treasuries: Bloomberg Barclays U.S. Treasury Bond Index. IG Credit: Bloomberg Barclays U.S. Credit Bond Index. HY Bonds: Bloomberg Barclays U.S. Corporate High Yield Bond Index. DM (non-U.S. developed-market) equities: MSCI World ex USA Index. EM (emerging-market) equities: MSCI Emerging Markets Index. Commodities: Bloomberg Commodity Index. Source: Bloomberg Finance L.P., Fidelity Investments; data as of 3/31/20.

U.S. Bond Yields Plummeted to Historic Lows

Global government bond yields dropped during Q1, with U.S. 10-year Treasury yields falling 122 basis points—ending below 1% for the first time in their more than 150-year history. The real cost of borrowing declined as the Federal Reserve chopped its policy rate to zero. However, a steep drop in inflation expectations accounted for the bulk of the decline in nominal yield, reflecting a deflationary shock from the global recession.

SUMMARY

10-Year U.S. Government Bond Yields



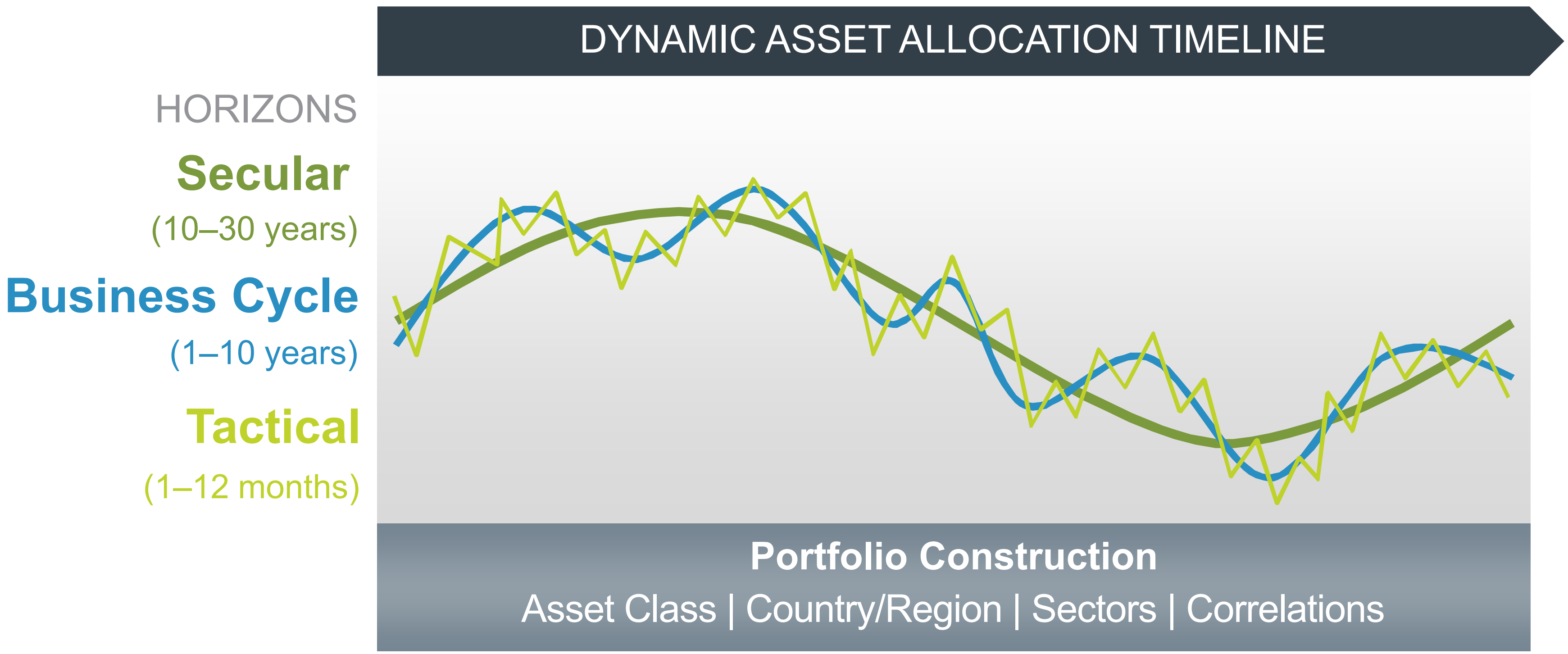
Q1 2020 Yield Change (bps)	
Inflation Expectations	-90
Real Yields	-32
Nominal Yield	-122

 Source: Bloomberg Finance L.P., Fidelity Investments (AART), as of 3/31/20.

Economy/Macro Backdrop

Multi-Time-Horizon Asset Allocation Framework

Fidelity's Asset Allocation Research Team (AART) believes that asset-price fluctuations are driven by a confluence of various factors that evolve over different time horizons. As a result, we employ a framework that analyzes trends among three temporal segments: tactical (short term), business cycle (medium term), and secular (long term).

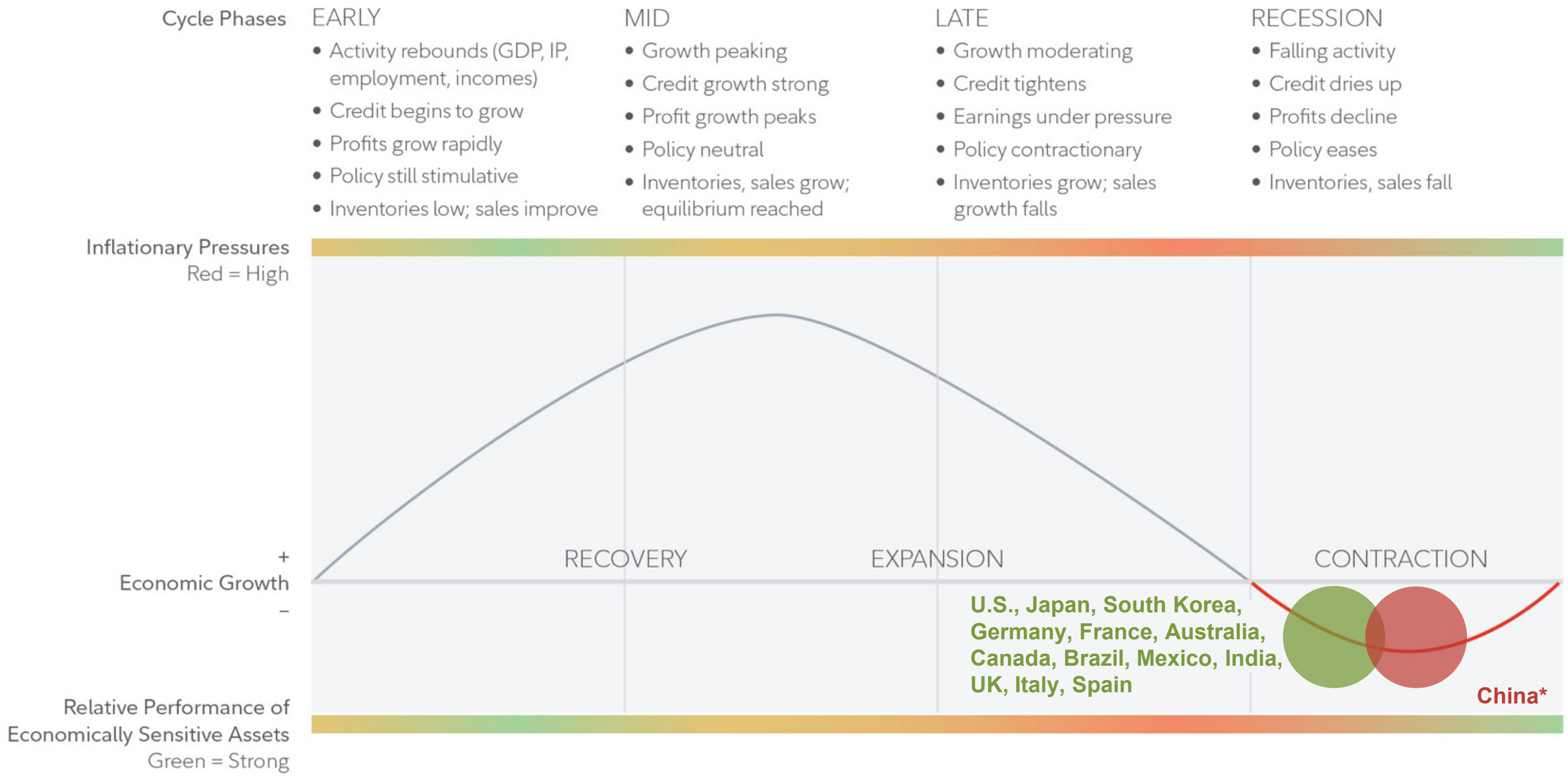


For illustrative purposes only. Source: Fidelity Investments (AART), as of 3/31/20.

From Mature Business Cycle to Global Recession

As COVID-19 and government-ordered shutdowns proliferated throughout the world, a mostly late-cycle global economy descended swiftly into recession. While the spread's progression was not uniform, clampdowns on travel and other activities reinforced the global nature of the downturn. The onset of U.S. recession began in March; meanwhile, China's economy showed some signs of bottoming, albeit at still contractionary levels.

Business Cycle Framework

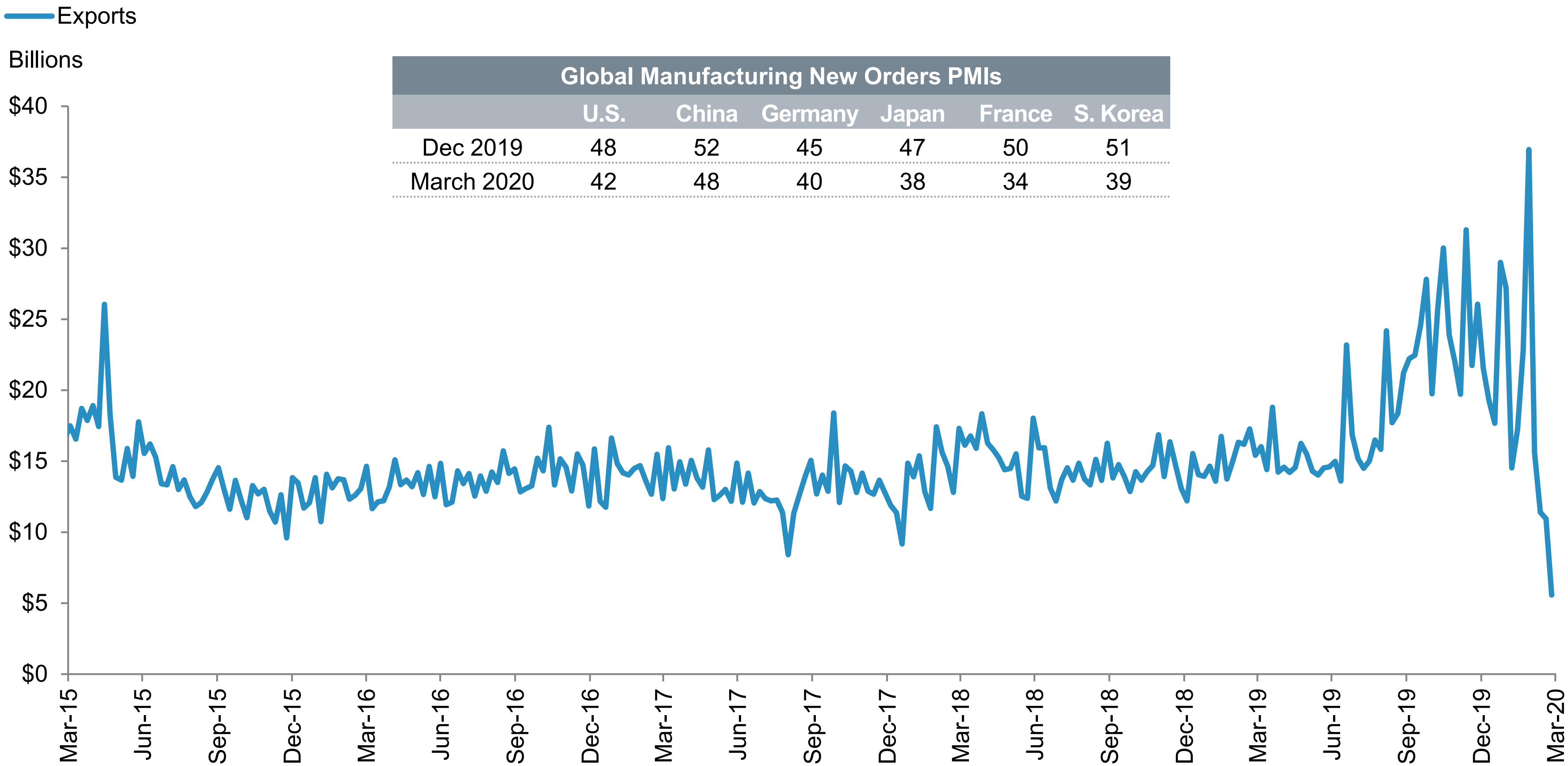


Note: The diagram above is a hypothetical illustration of the business cycle. There is not always a chronological, linear progression among the phases of the business cycle, and there have been cycles when the economy has skipped a phase or retraced an earlier one. * A growth recession is a significant decline in activity relative to a country's long-term economic potential. We use the "growth cycle" definition for most developing economies, such as China, because they tend to exhibit strong trend performance driven by rapid factor accumulation and increases in productivity, and the deviation from the trend tends to matter most for asset returns. We use the classic definition of recession, involving an outright contraction in economic activity, for developed economies. Source: Fidelity Investments (AART), as of 3/31/20.

Global Manufacturing and Trade Activity Dropped Off a Cliff

The spreading effects of COVID-19 are delivering both a supply and a demand shock to the global economy. Disruptions in global supply chains have created bottlenecks and extended delivery times. Worldwide demand has been plummeting: In the U.S., the precipitous drop in port activity underscores how exports are suffering, and new orders for industrial goods plunged during March in many large economies.

Weekly U.S. Port Activity and Manufacturing PMIs



Global Manufacturing New Orders PMIs

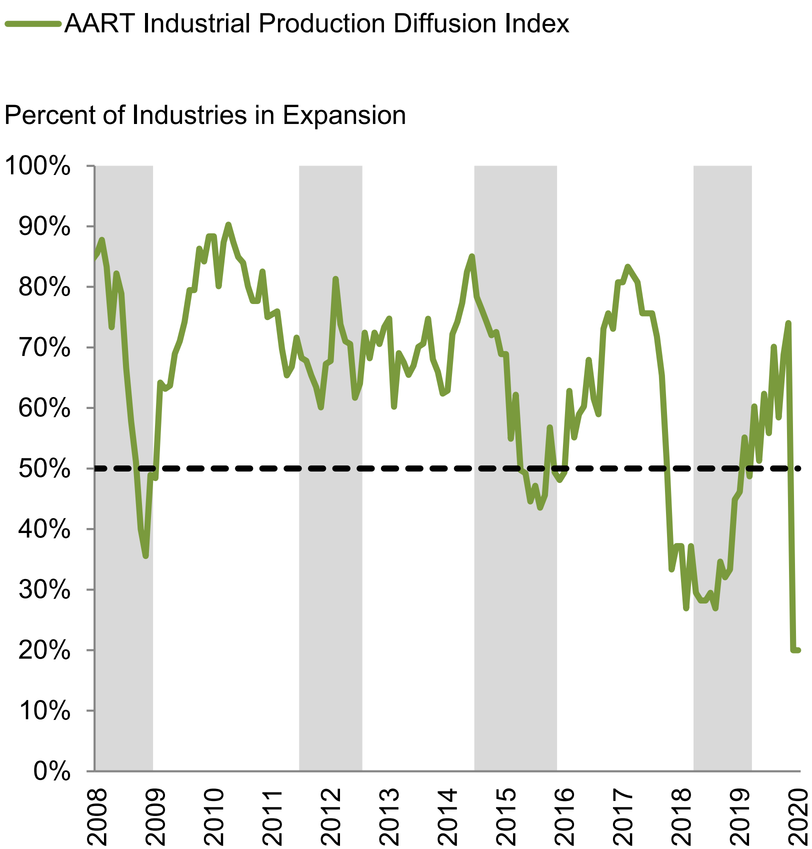
	U.S.	China	Germany	Japan	France	S. Korea
Dec 2019	48	52	45	47	50	51
March 2020	42	48	40	38	34	39

PMI: Purchasing Managers Index. PMI survey responses reflect month on month changes for each of the indicators measured. A PMI reading above 50 indicates an expansion of indicators while a reading below 50 indicates a contraction. Source: U.S. Customs and Border Protection, IHS Market, Institute for Supply Management, Haver Analytics, Bloomberg Finance L.P., Fidelity Investments (AART), as of 3/26/20.

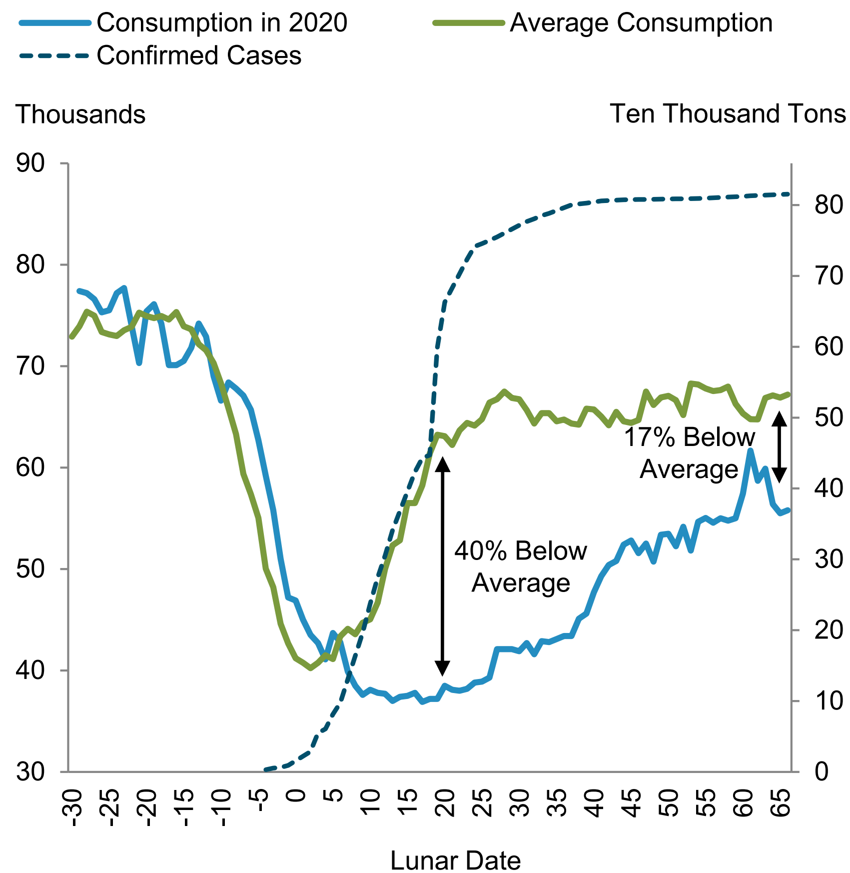
China Hit Hard by Coronavirus, Slowly Getting Off the Mat

Strict virus-containment measures weighed heavily on China's economy and pushed industrial activity to historic lows. The growth in confirmed virus cases peaked in March, and restrictions were eased somewhat. According to high-frequency data such as daily coal consumption, peak cases coincided with a bottoming in the rate of deterioration. However, activity remains far below average and a V-shaped recovery seems unlikely.

China Industrial Activity



China Coal Consumption and COVID-19 Cases

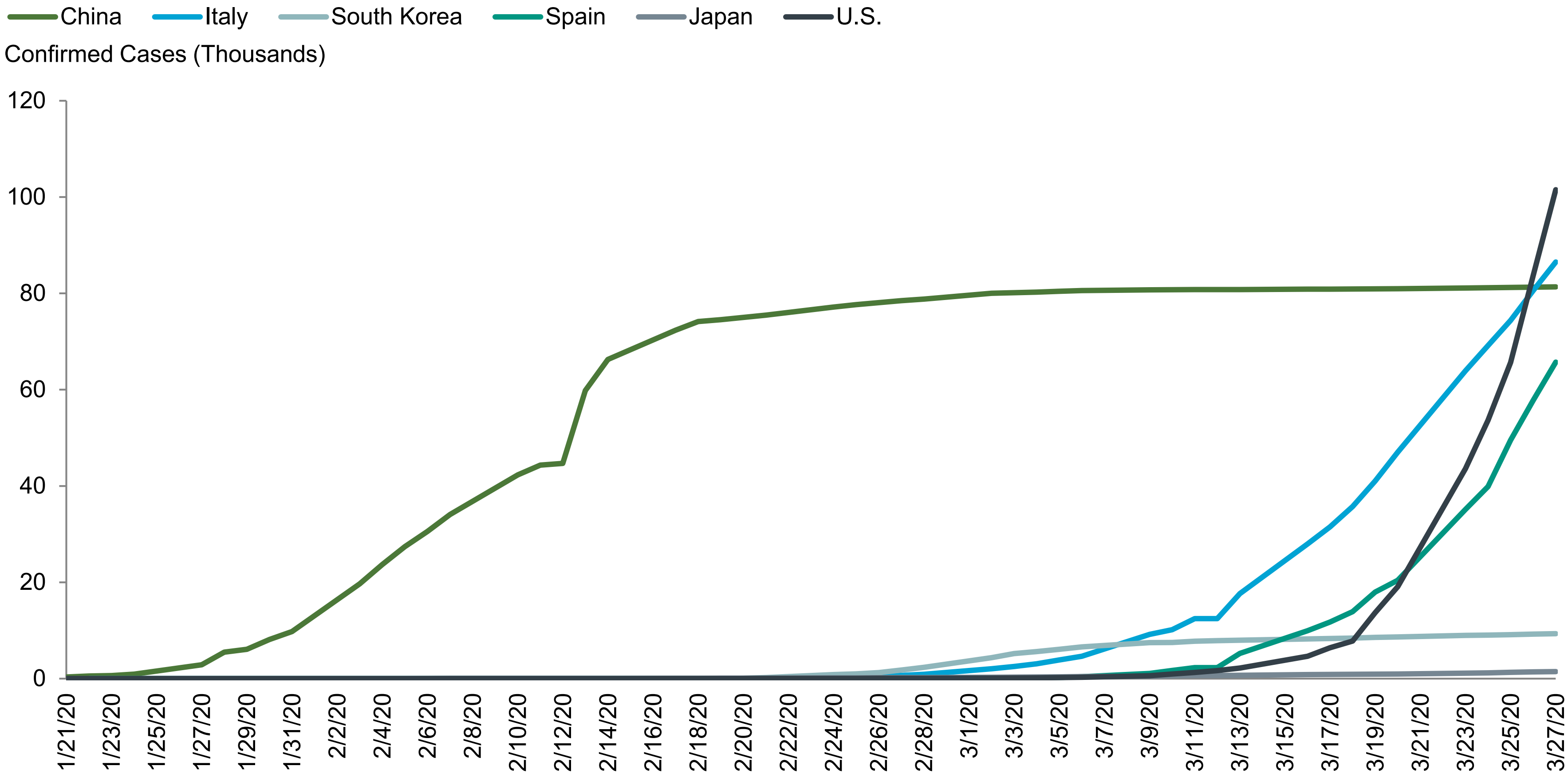


LEFT: Gray bars represent China growth recessions as defined by AART. Source: China National Bureau of Statistics, Haver Analytics, Fidelity Investments (AART), as of 3/31/20. **RIGHT:** The Lunar Date on the x-axis is indexed to days surrounding the Chinese New Year Holiday each year. Day "T=0" corresponds to the day of the holiday. Source: Wind, UBS Securities, Haver Analytics, Johns Hopkins University, Fidelity Investments (AART), as of 3/31/20.

Path of New COVID-19 Cases Key to Economic Outlook

With the coronavirus outbreak beginning in China and spreading throughout the world, the new-case curve may be an important indicator in determining when the most damaging economic measures could be coming to an end. The lack of virus testing and sporadic data reporting across countries makes analysis difficult, but it appeared the U.S. remained on an exponential upward path as of the end of Q1.

Confirmed COVID-19 Cases by Country

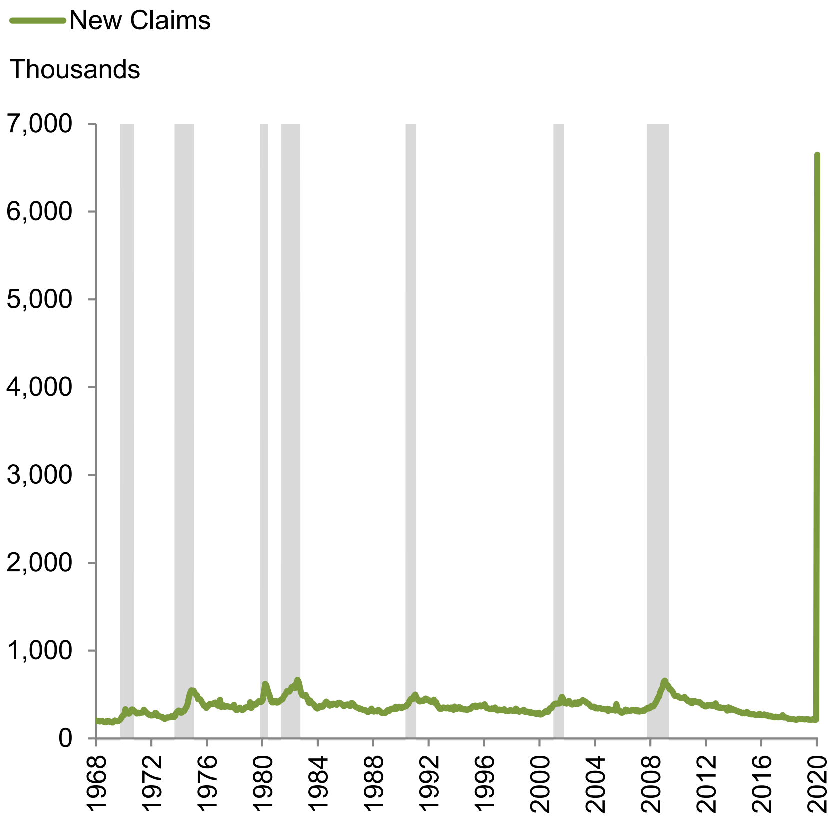


 Source: Johns Hopkins University, Haver Analytics, Fidelity Investments (AART), as of 3/27/20.

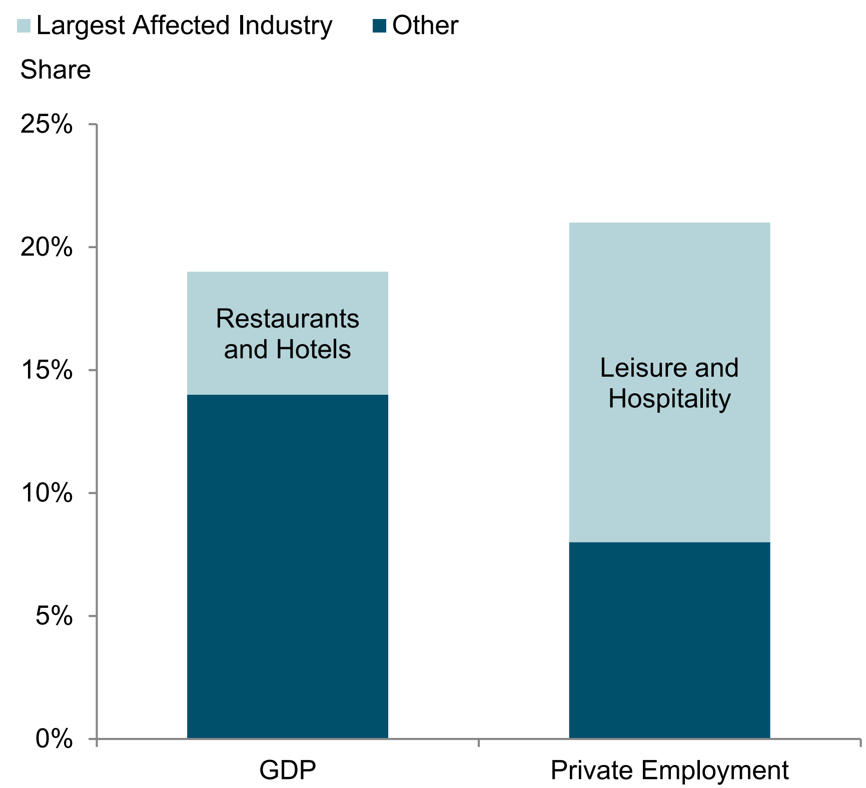
Sudden Stop Strikes Hard at U.S. Workers and Consumers

Record-low unemployment reversed abruptly, as new unemployment claims surged to historic highs. Industries most directly and immediately impacted—such as travel, leisure, restaurants, and hotels—account for a significant portion of U.S. output and employment. The growing scope of the clampdown on normal activity suggests it's too soon to forecast the slowdown's length, but we expect the eventual recovery to be gradual.

U.S. Unemployment Claims



Sectors Most Impacted by COVID-19

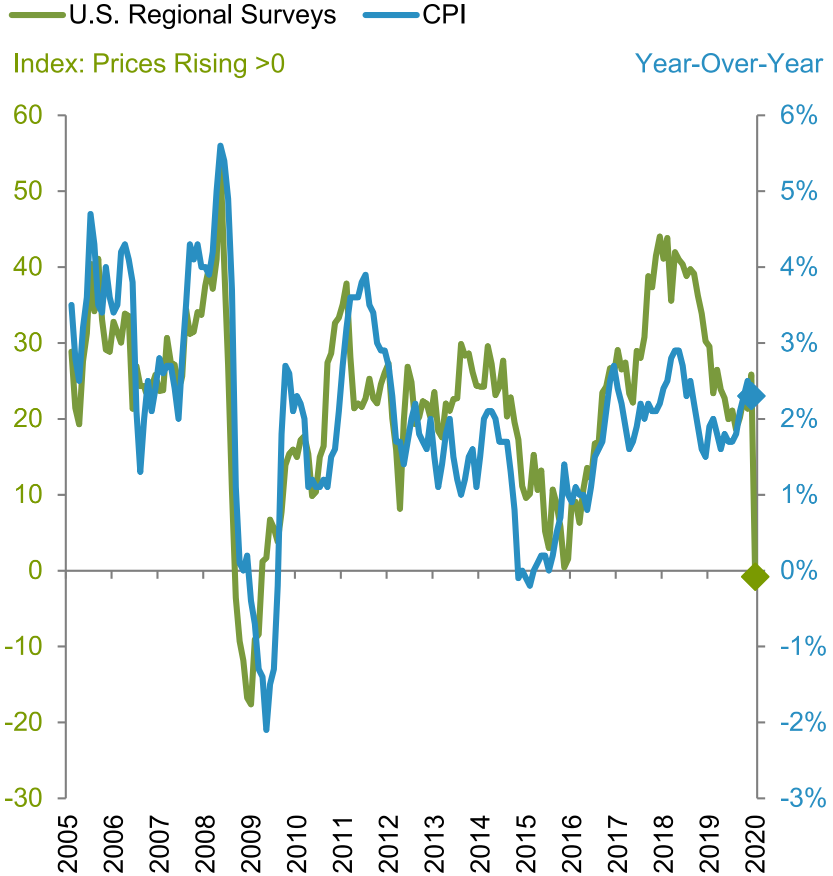


LEFT: Source: Census, Haver Analytics, Fidelity Investments (AART), as of 4/2/20. **RIGHT:** Other industries most impacted shaded in blue include: For GDP: Recreation Services, Autos, Transportation Services, Recreation Goods, Clothing, Gasoline, Furnishings. For Employment: Retail, Transportation Source: Conference Board, NBER, Haver Analytics, Fidelity Investments (AART), as of 2/29/20.

Disinflationary Near-Term Outlook, Oil Near All-Time Lows

We expect the shock from COVID-19 to place significant downward pressure on near-term inflation trends. A majority of purchasing managers across several regional surveys reported receiving weaker prices in March. Amid the global demand shock and increased supply from Saudi Arabia, oil prices posted their steepest quarterly price declines on record. At the end of Q1, inflation-adjusted oil prices stood near their all-time low.

U.S. Inflation and Prices Received



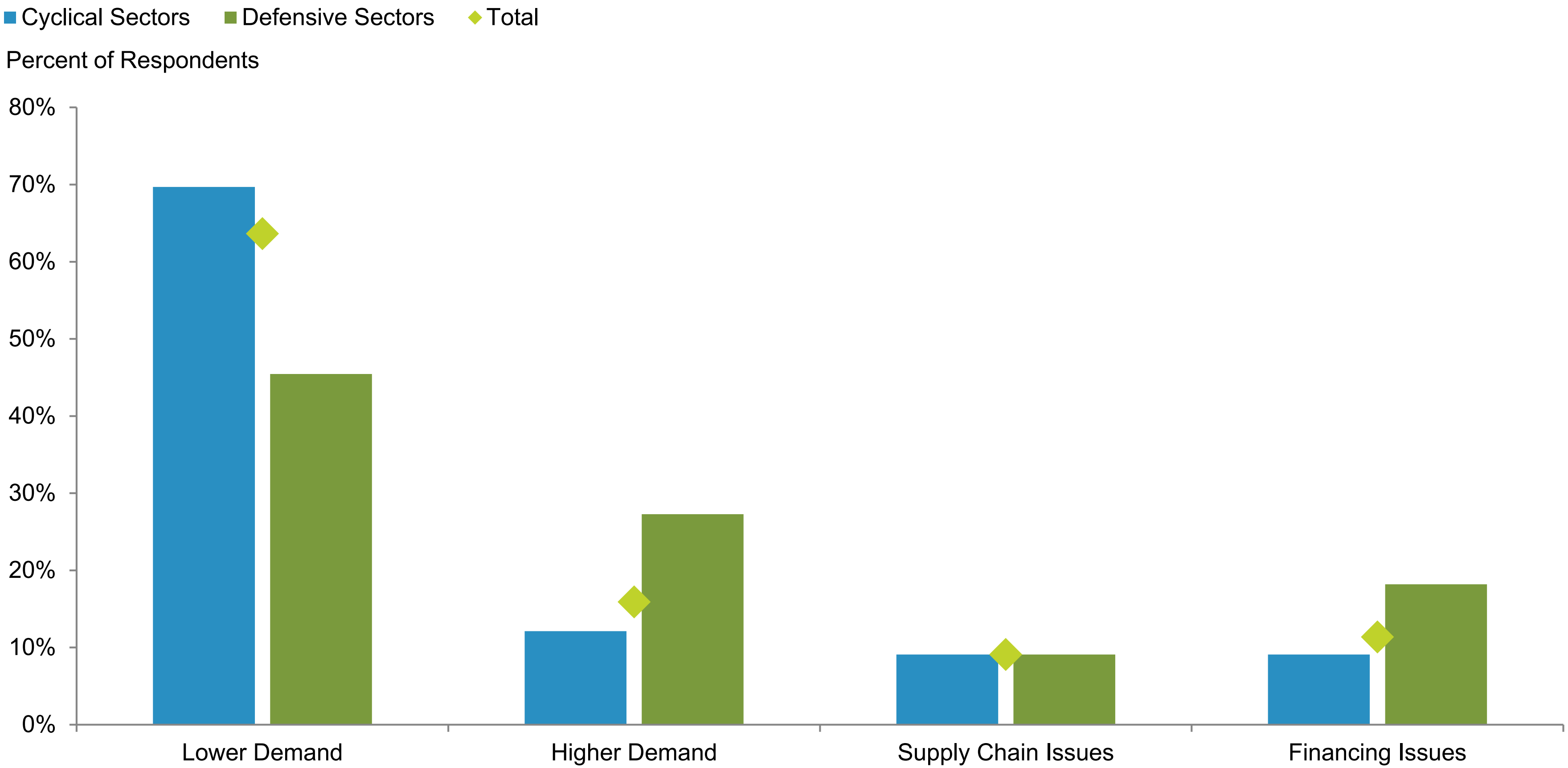
Real Oil Price

LEFT: CPI: Consumer Price Index. Regional Surveys are the average of the Dallas, Kansas City and Philadelphia Regional Surveys for Prices Received. Source: Federal Reserve Board, Bureau of Labor Statistics, Haver Analytics, Fidelity Investments (AART), as of 3/31/20. **RIGHT:** Source: CME, Bureau of Labor Statistics, Haver Analytics, Fidelity Investments (AART), as of 3/31/20.

Companies to Suffer a Demand Shock

The consensus expectation among Fidelity equity and fixed-income analysts is that the biggest impact on corporations from COVID-19 will be a negative demand shock. While some companies in non-cyclical sectors such as health care and consumer staples may see higher demand due to the anti-virus response, overall the combination of supply-chain issues and lower demand is likely to weigh heavily on profits.

Fidelity Analyst Survey: What is the largest impact on companies from COVID-19?

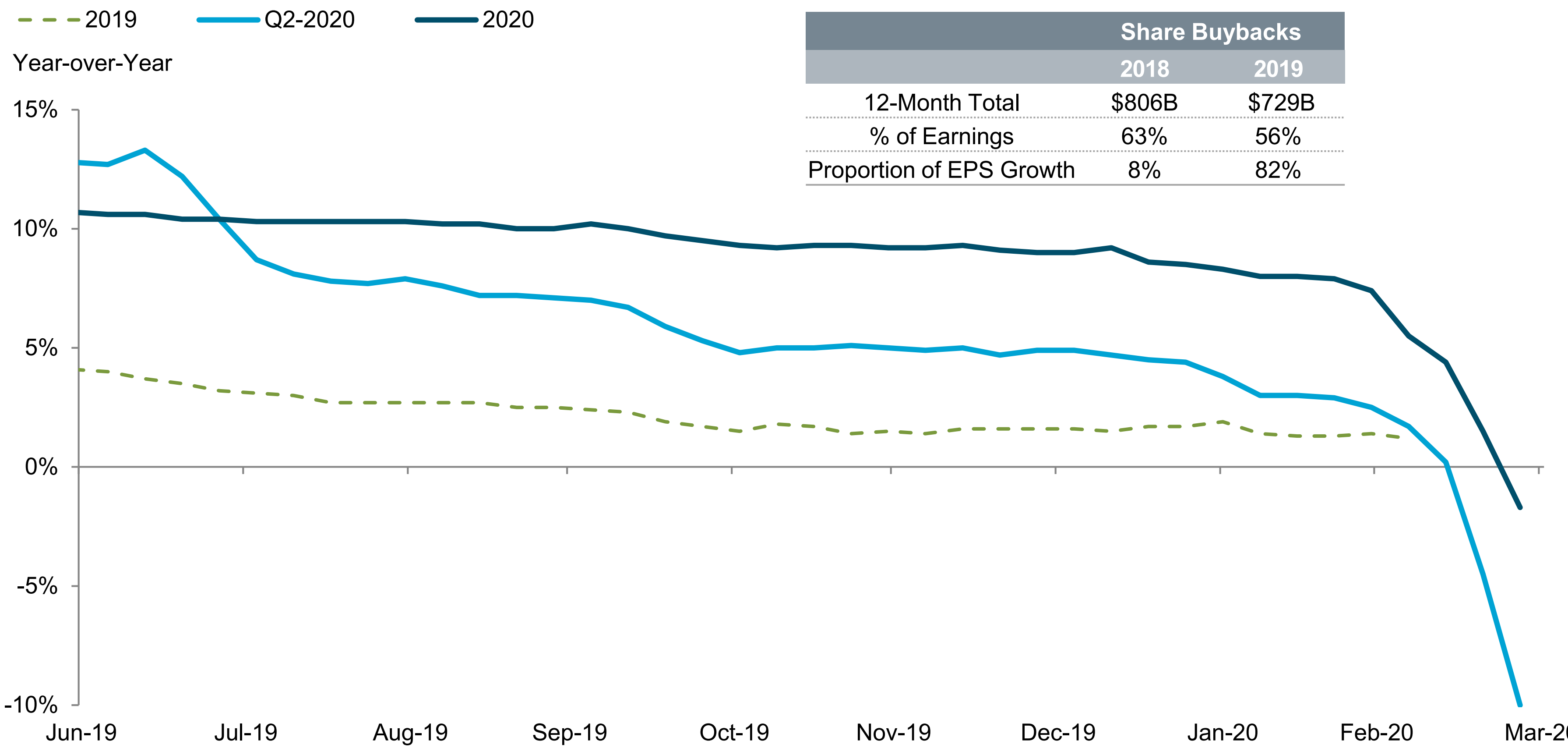


Cyclical sectors include the following sectors: communication services, consumer discretionary, energy, financials, information technology, and materials. Defensive sectors include: the following sectors: healthcare and consumer staples. Source: Fidelity Investments (AART), as of 3/31/20.

Earnings Expectations for 2020 Likely to Be Revised Lower

Entering March, corporate profit growth already was in a downward, late-cycle trend due to rising margin pressure. The virus-related impact began showing up in downgrades to Q2 earnings expectations, but we believe the shock to profit growth is likely to be deeper than anticipated for 2020 overall. Lower revenues will limit share buybacks, which in recent years have provided a healthy boost to EPS growth.

S&P 500 Earnings Growth Estimates



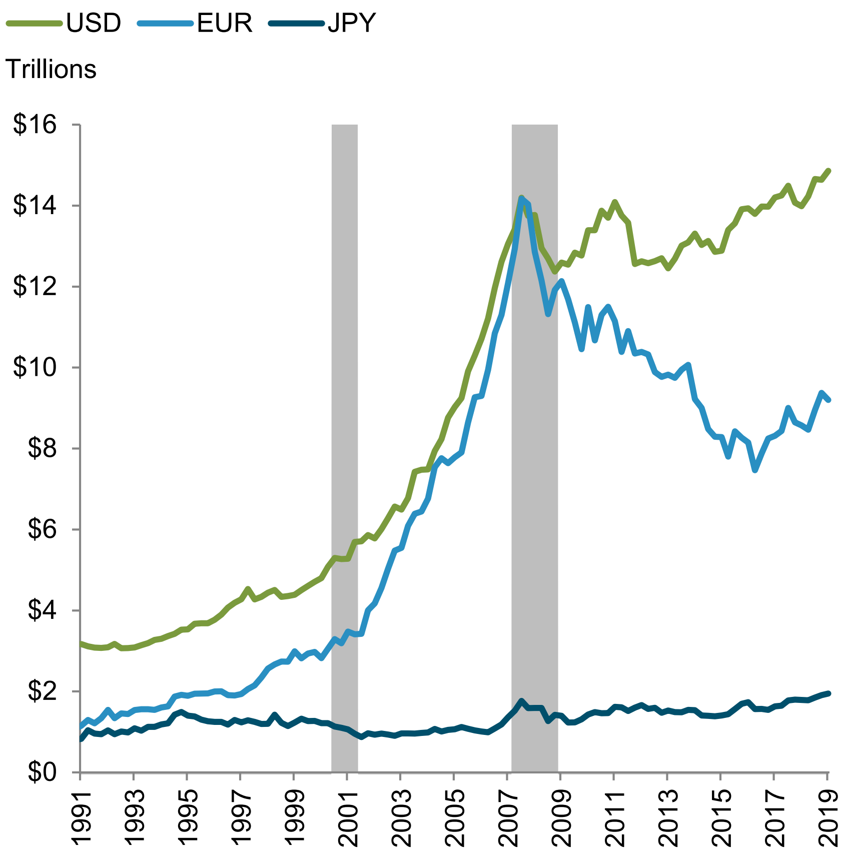
	Share Buybacks	
	2018	2019
12-Month Total	$806B	$729B
% of Earnings	63%	56%
Proportion of EPS Growth	8%	82%

 Past performance is no guarantee of future results. Source: Bloomberg Finance L.P., Fidelity Investments (AART), as of 3/27/20.

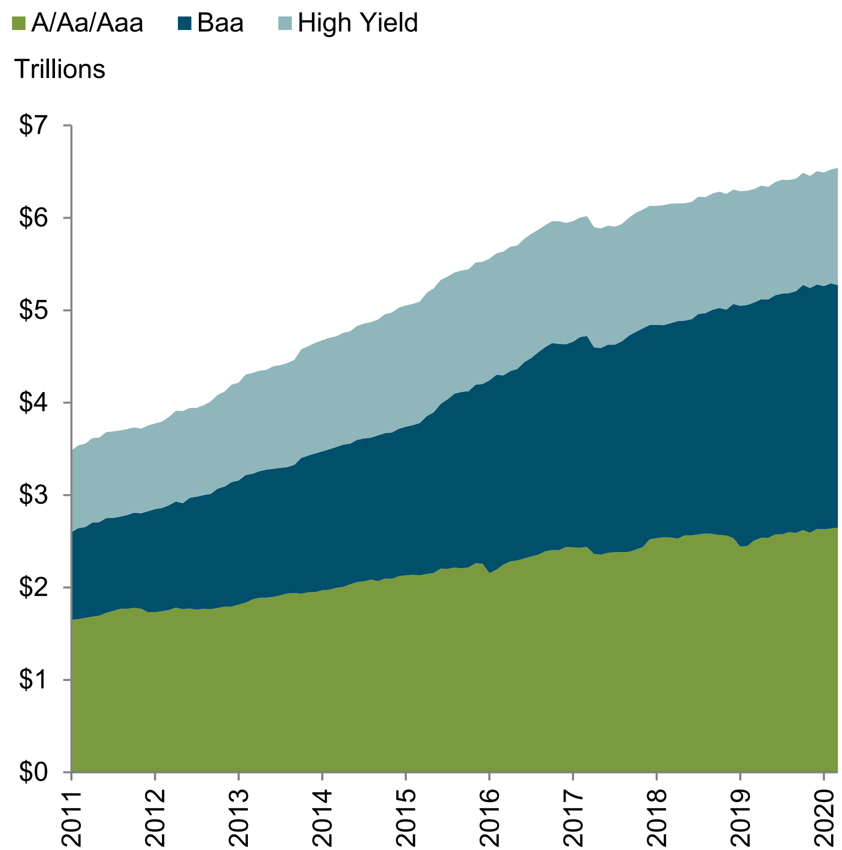
Pre-Existing Vulnerabilities: High Corporate and Dollar Debt

Low interest rates encouraged a substantial increase in the issuance of global corporate debt over the past two decades, with lower-quality credit tiers accounting for much of the U.S. corporate-debt growth. Foreign borrowers, including many EM countries, took advantage of low-rate U.S. dollar financing, exposing themselves to currency fluctuations, changes in Fed policy, and the dollar liquidity shortage that became acute during Q1.

Bank Foreign Loans by Currency



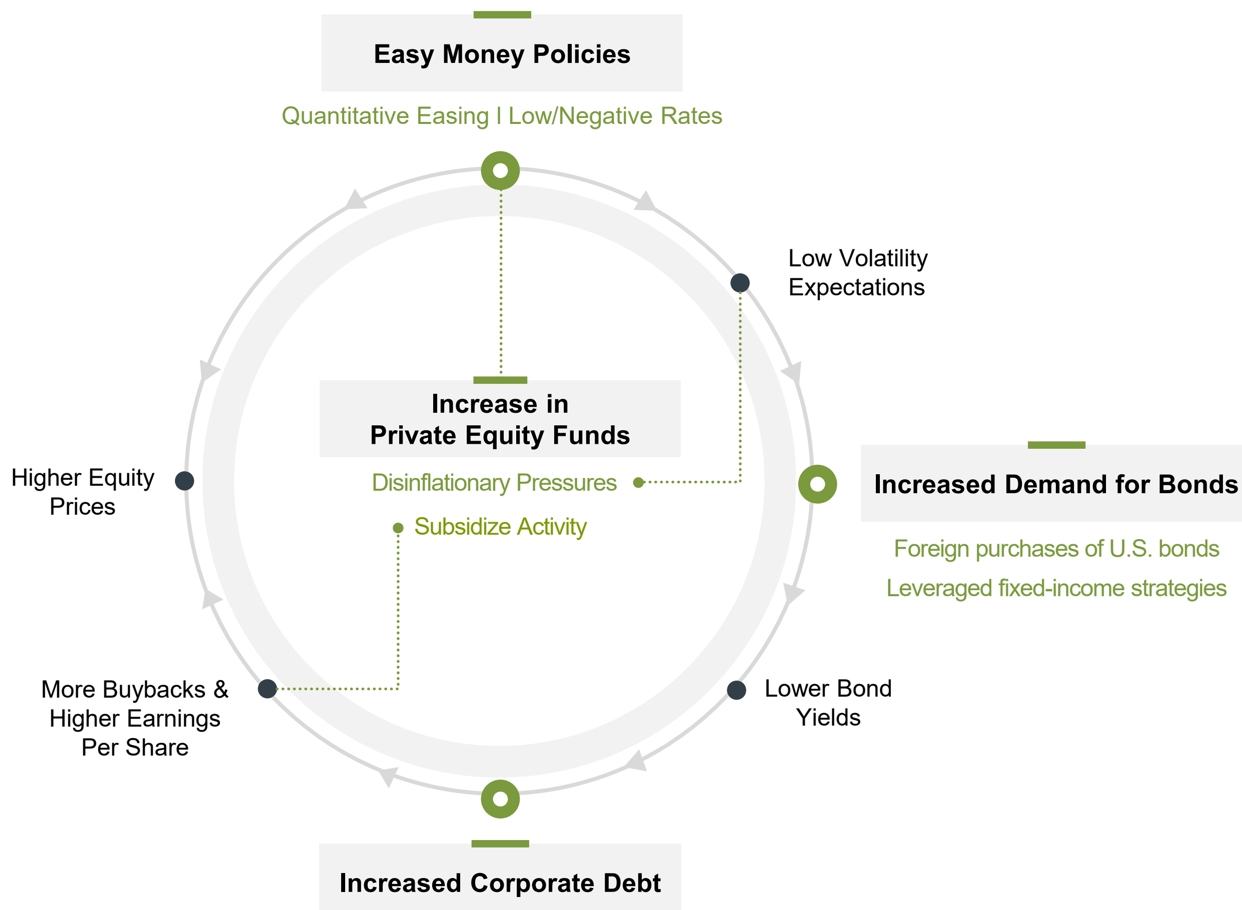
U.S. Corporate Bonds Outstanding



LEFT: Source: Bank for International Settlements, Fidelity Investments (AART) as of 9/30/19. **RIGHT:** Total amount of bonds in the Bloomberg Barclays U.S. Corporate IG and HY Bond Indices. High yield bonds have ratings of BB or lower as determined by Bloomberg Barclays with S&P/Moody's and Fitch credit ratings. Interest expense for all non-financial U.S. firms as defined by Bureau of Economic Analysis. Sources: Barclays, Bureau of Economic Analysis, Haver Analytics, Bloomberg Finance L.P., Fidelity Investments (AART), as of 2/29/20.

Pre-Existing Vulnerabilities: Virtuous Cycle Upended

Prior to recession, easy global monetary policies helped generate lower volatility, higher demand for bonds, and lower bond yields. This in turn drove corporations to issue more debt, which boosted their earnings and made their equities more attractive. During Q1, aggressive Fed actions addressed severe liquidity problems, but Fed lending is unlikely to re-establish the virtuous cycle amid higher corporate borrowing costs, volatility, and a diminished profitability outlook.

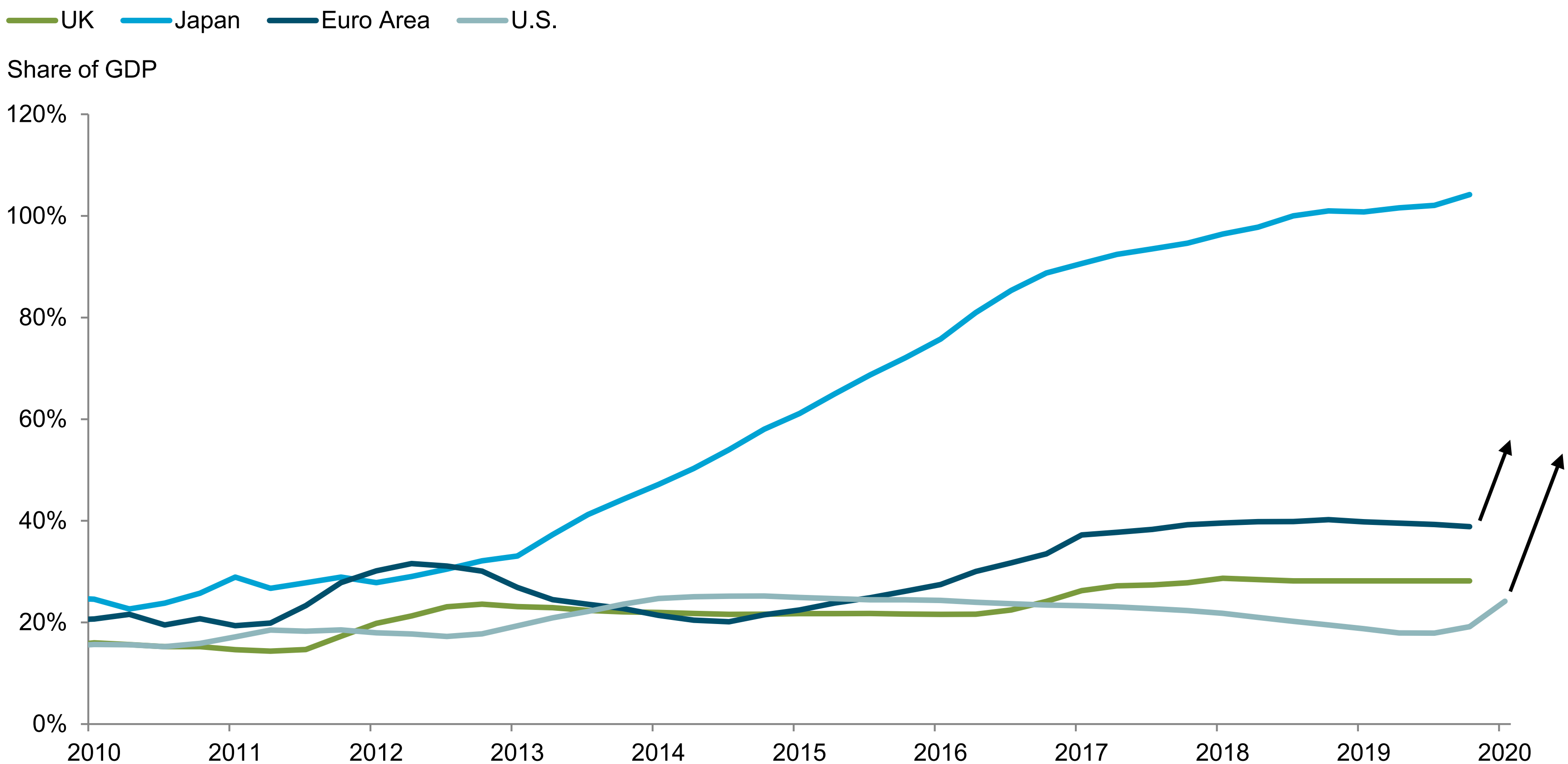


 For illustrative purposes only.

Central Banks' Easing Boosts Global Liquidity Growth

Global central banks engaged in significant monetary accommodation in Q1, implementing policy rate cuts, forward guidance, and large expansions of quantitative easing. The Fed's balance sheet increased by more than than $1 trillion in March, fueled by purchases of Treasuries and repo, plus a commitment to support mortgage and credit markets. Central banks likely will remain a major force in capital markets for the foreseeable future.

Central Bank Balance Sheets

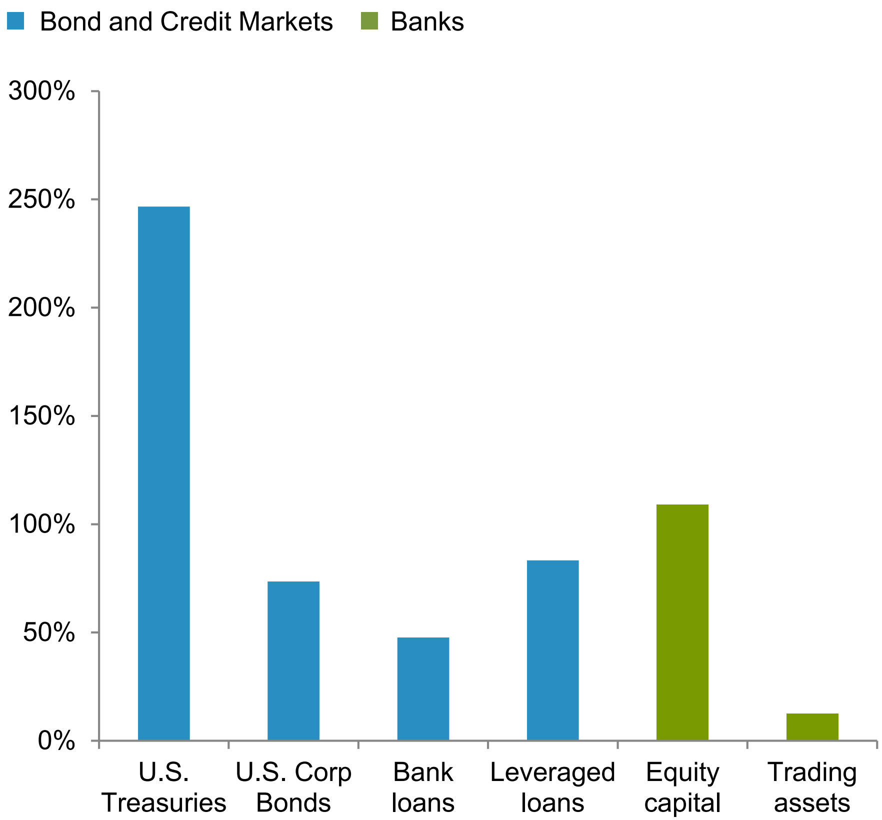


Source: Federal Reserve, European Central Bank, Bank of Japan, Bank of England, Haver Analytics, Fidelity Investments (AART), as of 3/31/20.

Fed Actions Needed to Address Liquidity Crunch

The Fed initiated or relaunched several special lending facilities, with many of the programs aimed at easing acute liquidity shortages laid bare during Q1. Compared with the pre-crisis situation in 2007, banks are better-capitalized but less willing or able to provide liquidity, as their trading books grew by only $200 billion while fixed-income markets rose by over $18 trillion. Other new Fed lending programs seek to support businesses.

Growth in Credit Markets and Dealer Capacity (2007–2018)



Federal Reserve Actions in Q1 2020

Liquidity Injections/Bank Support
- Unlimited QE
  - Treasuries, agencies, mortgages, CMBS
- Repo with U.S. and global banks
- Swap lines and repo with global central banks
- No required bank reserves

Expanded/Re-Launched Programs
- Term Asset Backed Securities Loan Facility
- Primary Dealer Credit Facility
- Money Market Mutual Fund Liquidity Facility
- Commercial Paper Funding Facility
  - Expanded to include short-term muni bonds

New Programs
- Primary Market Corporate Credit Facility
- Secondary Market Corporate Credit Facility
  - Fed can purchase corporate bond ETFs
- Main Street Business Lending facility
- ESF backstop increased to $475B

LEFT: Source: Bloomberg Finance L.P., SIFMA, Haver Analytics, Fidelity Investments (AART), as of 3/31/20. **RIGHT:** QE: Quantitative Easing. CMBS: Commercial Mortgage-Backed Securities. ESF: Exchange Stabilization Fund. Source: Fidelity Investments (AART) as of 3/31/20.

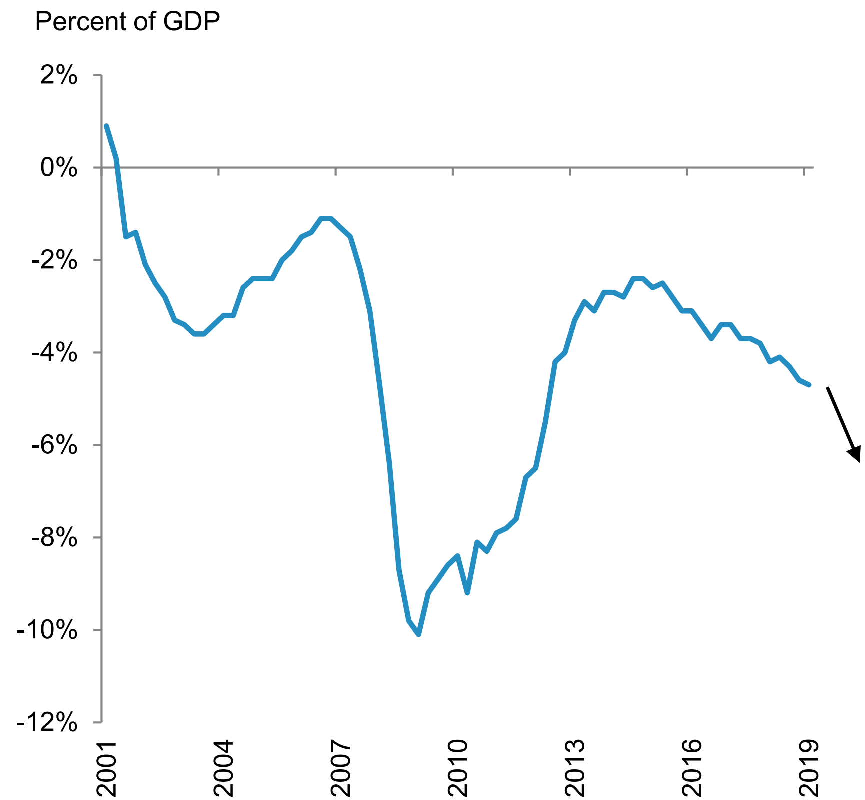
Fiscal “Bazooka” to Mitigate Downdraft—but Not End It

Federal virus-relief legislation enacted during Q1 provided unprecedented support of more than $2 trillion. About half the package consists of spending with a high “fiscal multiplier,” or economic bang for the buck, and the other half supports businesses. Overall, the fiscal response should help mitigate the devastating loss of economic output, but it won’t offset it completely and likely will lead to a record peacetime budget deficit.

CARES Act: Categories and Fiscal Multipliers

Category	USD (Billions)	Multiplier	GDP Impact
Cash to Individuals	290	1.9	3%
Unemployment Insurance	250	1.9	2%
Aid to State and Local Governments	150	1.8	1%
Public Health Spending	340	2.3	4%
Loans to Small Businesses	376	1.9	3%
Tax Relief for Businesses	232	0.3	0%
Targeted Industry Support	78	1.1	0%
Risk Capital for Fed Facilities	454	N/A	N/A
Total*	2,170	1.7	14%

U.S. Federal Budget Surplus/Deficit



*Total multiplier and GDP impact columns exclude $454 appropriated to provide risk capital to support the Fed’s lending facilities listed in the previous slide. While these facilities are helpful for financial conditions, their impact on GDP remains unclear. **LEFT:** CARES is defined as “Coronavirus Aid, Relief, and Economic Security.” Targeted industry support assumes the average multiplier for cash transfers and tax relief. The multiplier is defined as the ratio of a change in GDP over a change in fiscal deficit. Source: Congressional Budget Office, Brookings Institution, Fidelity Investments (AART), as of 3/31/20. **RIGHT:** Source: Bloomberg Finance L.P., U.S. Treasury, Fidelity Investments (AART), as of 1/31/20.

Outlook: Market Assessment

Fidelity's Business Cycle Board, composed of portfolio managers responsible for a variety of global asset allocation strategies, believes that the U.S. and most other major economies are in recession. Policymakers are committed to providing support, but corporate profitability is declining. The Board emphasizes the need for a disciplined investment strategy in this environment, and it sees greater security selection opportunities.

Business Cycle

U.S. and major global economies in recession phase

Policymakers providing abundant support to markets and economy

Risks

Limited visibility into the progression and economic costs of the virus

Effectiveness of policy response is uncertain

Asset Allocation Implications

Emphasize focus on diversified, disciplined—not tactical—investment strategies

Greater security selection opportunities emerged after broad-based sell-off

Range of views on whether greater risk exposure is warranted in the near-term

For illustrative purposes only. Diversification does not ensure a profit or guarantee against a loss. Source: Fidelity Investments (AART), as of 3/31/20.

Asset Markets

Significant and Widespread Declines Across Categories

Almost all asset categories logged sizable losses during Q1, with equities suffering significant drawdowns across styles, sectors, regions, and factors. Treasuries and other high-quality bond categories, in addition to gold, were among the few to post a positive result. On a relative basis, small-cap, value, and energy stocks suffered the worst losses among equity segments, and riskier credit categories were the fixed-income laggards.

U.S. Equity Styles Total Return

	Q1	1 Year
Growth	-14.9%	-0.4%
Large Caps	-19.6%	-7.0%
Mid Caps	-27.1%	-18.3%
Value	-27.3%	-18.0%
Small Caps	-30.6%	-24.0%

U.S. Equity Sectors Total Return

	Q1	1 Year
Info Tech	-11.9%	10.4%
Health Care	-12.7%	-1.0%
Consumer Staples	-12.7%	-0.6%
Utilities	-13.5%	-1.4%
Communication Services	-17.0%	-3.3%
Real Estate	-19.2%	-11.3%
Consumer Discretionary	-19.3%	-10.8%
Materials	-26.1%	-16.6%
Industrials	-27.0%	-19.5%
Financials	-31.9%	-17.2%
Energy	-50.5%	-52.4%

International Equities and Global Assets Total Return

	Q1	1 Year
ACWI ex USA	-23.4%	-15.6%
Japan	-16.8%	-6.7%
EAFE	-22.8%	-14.4%
Europe	-24.3%	-15.5%
EAFE Small Cap	-27.5%	-18.1%
Canada	-27.5%	-19.9%
EM Asia	-18.1%	-12.1%
Emerging Markets	-23.6%	-17.7%
EMEA	-33.9%	-27.7%
Latin America	-45.6%	-40.8%
Gold	3.9%	22.0%
Commodities	-23.3%	-22.3%

U.S. Equity Factors Total Return

	Q1	1 Year
Momentum	-16.9%	-8.8%
Quality	-18.5%	-7.8%
Low Volatility	-18.8%	-6.5%
Value	-25.2%	-13.1%
Yield	-28.0%	-19.5%
Size	-29.4%	-21.9%

Fixed Income Total Return

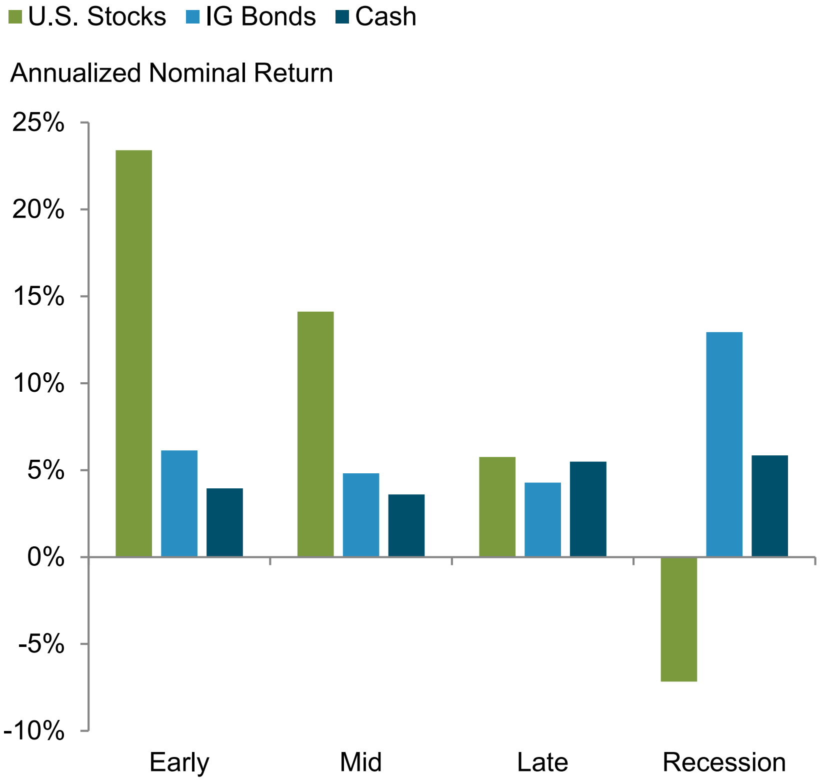
	Q1	1 Year
Treasuries	8.2%	13.2%
Long Govt & Credit	6.2%	19.3%
Agency	4.1%	8.3%
Aggregate	3.1%	8.9%
MBS	2.8%	7.0%
TIPS	1.7%	6.8%
CMBS	1.2%	6.1%
ABS	-0.2%	2.8%
Municipal	-0.6%	3.8%
Credit	-3.1%	5.1%
EM Debt	-11.8%	-5.3%
Leveraged Loan	-13.0%	-9.2%
High Yield	-13.1%	-7.5%

EM: Emerging Markets. EMEA: Europe, the Middle East, and Africa. For indexes and other important information used to represent above asset categories, see Appendix. Past performance is no guarantee of future results. It is not possible to invest directly in an index. All indexes are unmanaged. Sector returns represented by S&P 500 sectors. Sector investing involves risk. Because of its narrow focus, sector investing may be more volatile than investing in more diversified baskets of securities. Source: Bloomberg Finance L.P., Fidelity Investments (AART), as of 3/31/20.

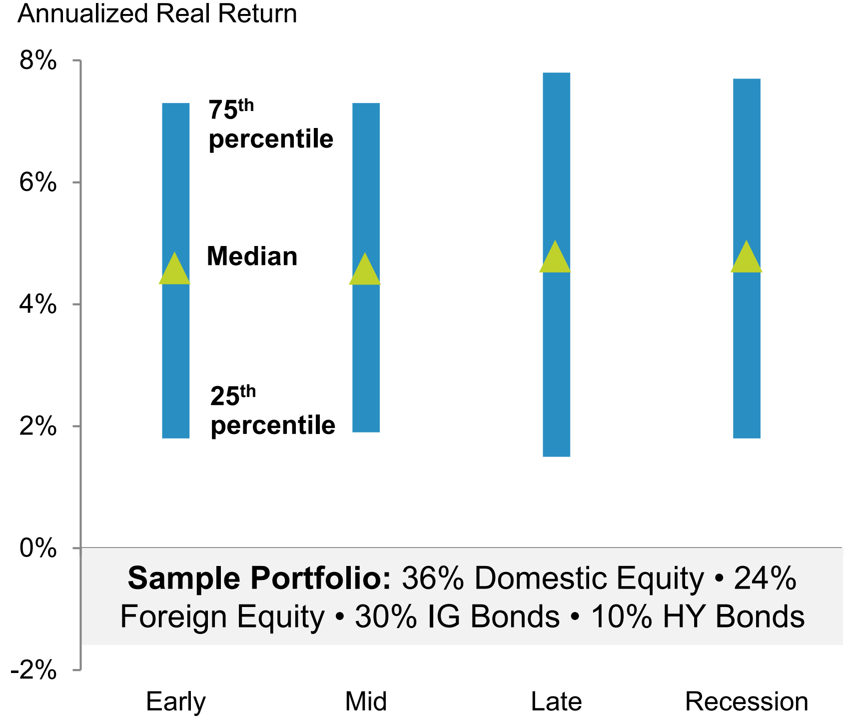
Business Cycle Important, but Dissipates in the Long Run

The business cycle can be a critical determinant of asset performance over the intermediate term. Stocks have consistently performed better earlier in the cycle, whereas bonds tend to outperform during recession. While we believe a business cycle approach to actively managed asset allocation can add value, portfolio returns are expected to even out over the long term (>10 years), regardless of the starting point of the cycle phase.

Asset Class Performance by Cycle Phase (1950–2018)



10-Year Portfolio Return Distribution by Cycle Phase Starting Point



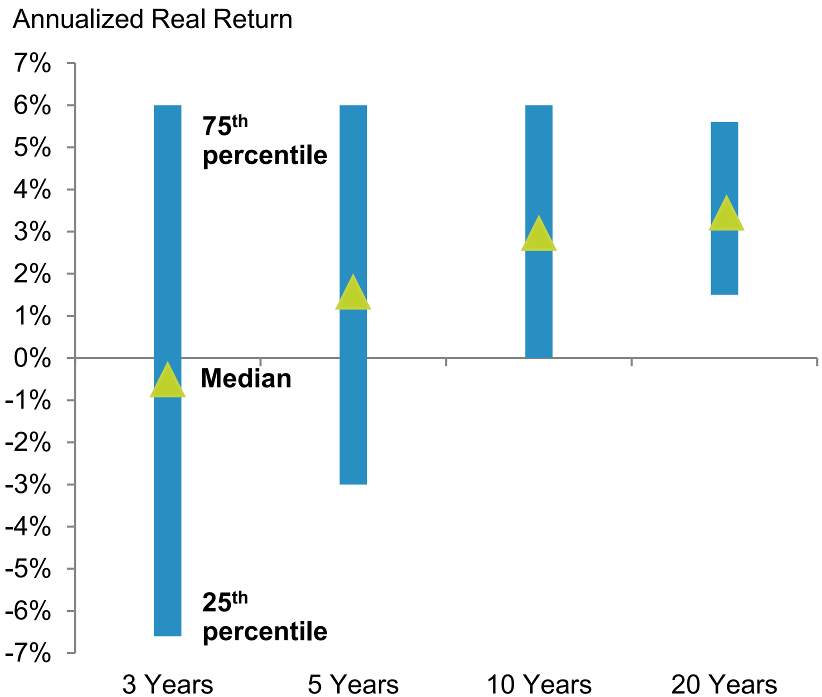
For illustrative purposes only. Past performance is no guarantee of future results. Diversification does not ensure a profit or guarantee against a loss. It is not possible to invest directly in an index. All indexes are unmanaged. See Appendix for important index information. Fidelity proprietary analysis based on Monte Carlo simulations using historical index returns. Domestic Equity: Dow Jones U.S. Total Stock Market Index; Foreign Equity: MSCI ACWI ex USA Index: Investment Grade (IG) Bonds: Bloomberg Barclays U.S. Aggregate Bond Index; High Yield (HY) Bonds: ICE BofA U.S. High Yield Index. Source: Fidelity Investments, Morningstar, Bloomberg Barclays; data as of 3/31/20.

Fidelity INVESTMENTS

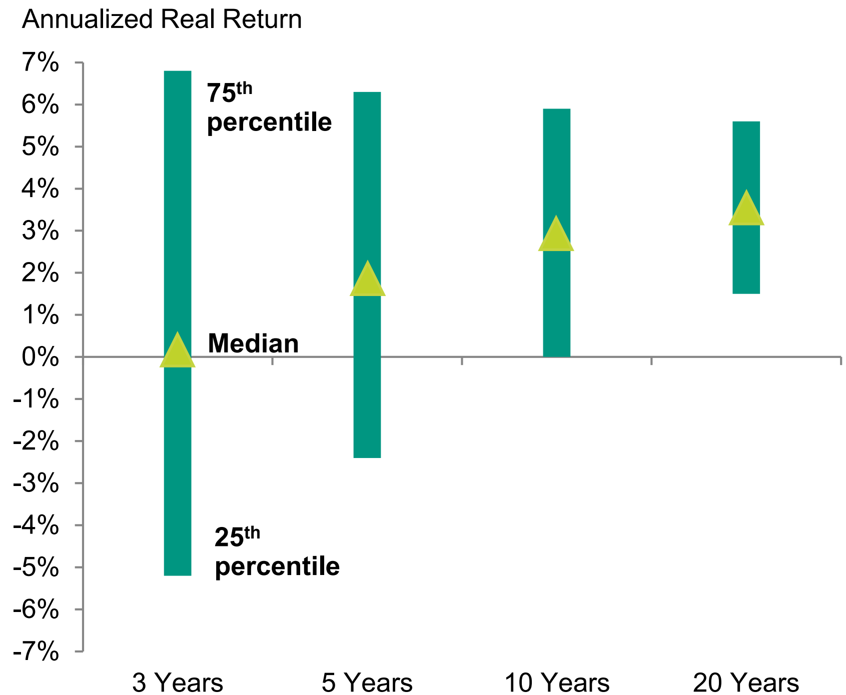
Medium-Term Outlook Has Improved During Recessions

Over the intermediate term (3 to 5 years), the business-cycle starting point for performance measurement has had a significant effect on the distribution of asset returns. Late-cycle starts tend to exhibit greater volatility, which widens the range of expected returns. Because equities tend to peak in late cycle, the outlook for risk assets improves incrementally when starting in recession, with higher expected intermediate-term results.

Portfolio Return Distribution Starting in Late Cycle



Portfolio Return Distribution Starting in Recession



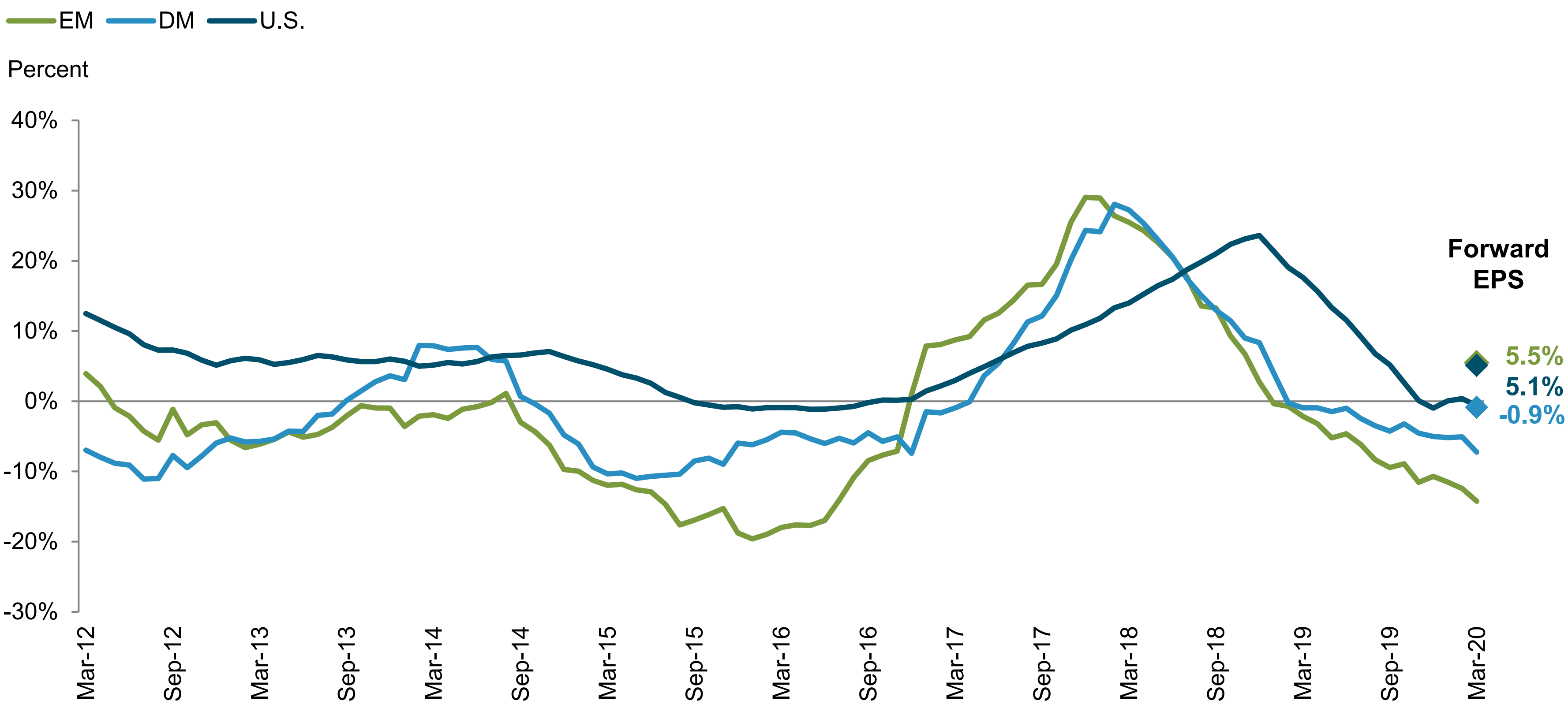
Sample Portfolio: 36% Domestic Equity • 24% Foreign Equity • 30% IG Bonds • 10% HY Bonds

For illustrative purposes only. Past performance is no guarantee of future results. Diversification does not ensure a profit or guarantee against a loss. It is not possible to invest directly in an index. All indexes are unmanaged. See Appendix for important index information. Fidelity proprietary analysis based on Monte Carlo simulations using historical index returns. Domestic Equity: Dow Jones U.S. Total Stock Market Index; Foreign Equity: MSCI ACWI ex USA Index: Investment Grade (IG) Bonds: Bloomberg Barclays U.S. Aggregate Bond Index; High Yield (HY) Bonds: ICE BofA U.S. High Yield Index. Source: Fidelity Investments, Morningstar, Bloomberg Barclays; data as of 3/31/20.

Earnings Growth in Weak Shape Even Before Virus Impact

Earnings growth across all regions continued to slide during Q1, with trailing profit growth in U.S., DM, and EM markets all in contractionary territory. Forward estimates pointed to market expectations of a rebound in earnings growth over the next 12 months, but those expectations may be difficult to achieve given the damage to the global economy still underway.

Global EPS Growth (Trailing 12 Months)

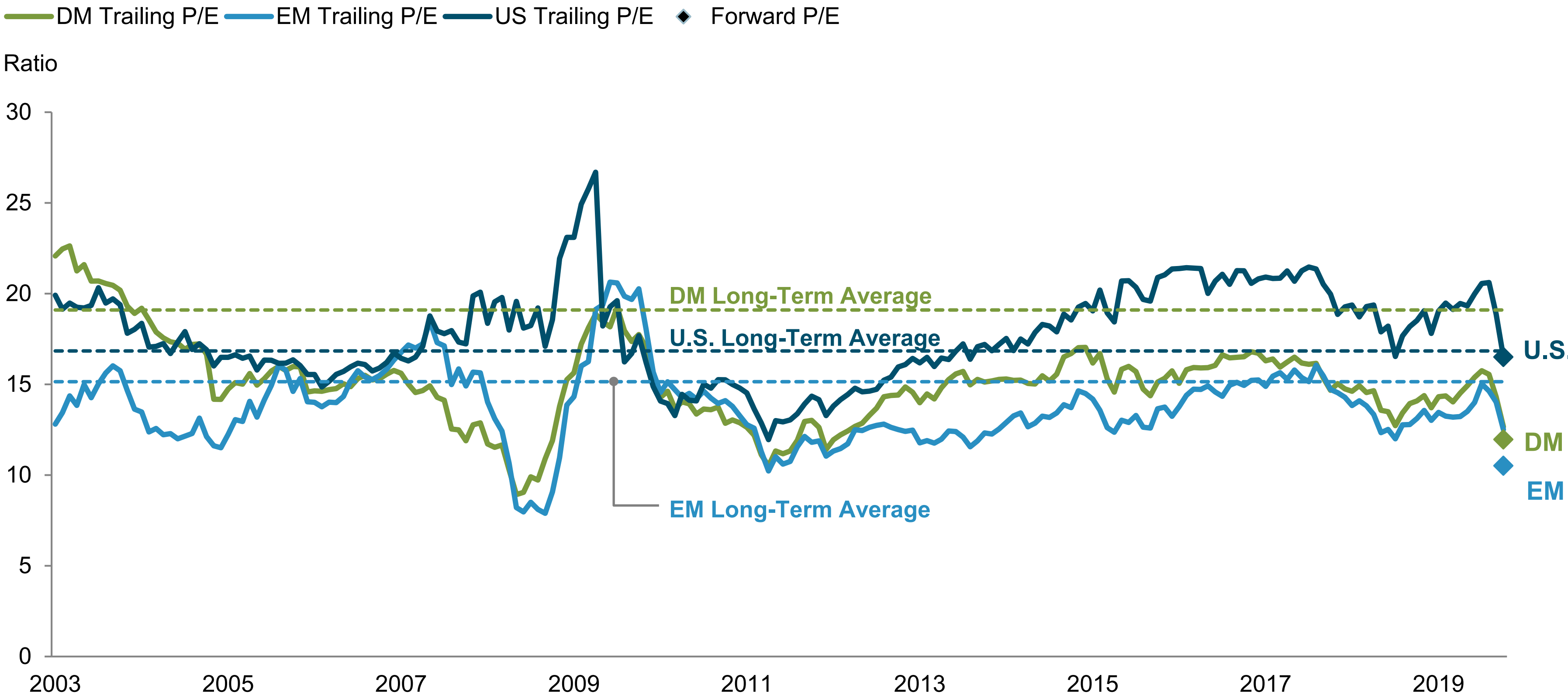


Past performance is no guarantee of future results. DM: Developed Markets. EM: Emerging Markets. EPS: Earnings per share. Forward EPS: Next 12 months expectations. Source: MSCI, Bloomberg Finance L.P., Fidelity Investments (AART), as of 3/31/20.

Equity Valuations Below Historical Averages After Sell-Off

After a steady rise in valuations over the past year, falling stock prices outpaced the downward trend in earnings and pushed equity valuations lower in Q1. The decline in P/E ratios was broad-based across regions, and P/Es in U.S., DM, and EM markets all finished the quarter below their long-term historical averages.

Global Market P/E Ratios



DM: Non-U.S. Developed Markets. EM: Emerging Markets. Past performance is no guarantee of future results. It is not possible to invest directly in an index. All indexes are unmanaged. See Appendix for important index information. Price-to-earnings ratio (P/E): stock price divided by earnings per share. Also known as the multiple, P/E gives investors an idea of how much they are paying for a company's earnings power. Long-term average P/E for Emerging Markets includes data for 1988–2017; for Non-U.S. Developed Markets, 1973–2016; for the United States, 1926–2017. Indexes: DM—MSCI EAFE Index; EM—MSCI EM Index; United States—S&P 500. Source: Bloomberg Finance L.P., Fidelity Investments (AART), as of 3/31/20.

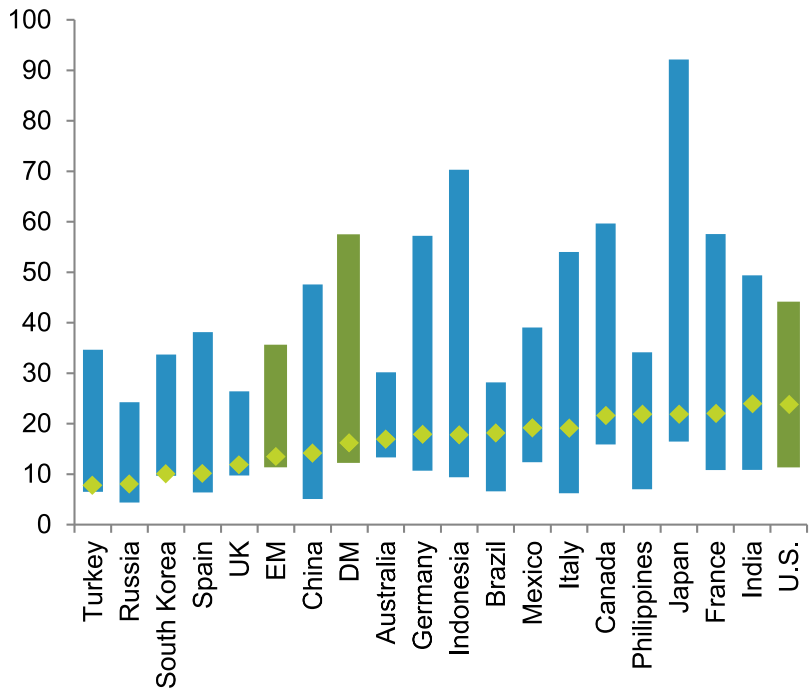
Non-U.S. Equity and Forex Valuations Even More Attractive

Cyclically adjusted P/E (CAPE) ratios for international developed- and emerging-market equities fell further below U.S. valuations, providing a relatively favorable long-term backdrop for non-U.S. stocks. In Q1, the U.S. dollar appreciated against many of the world's major currencies, causing U.S. dollar valuations to grow relatively more expensive, which also favors the valuation of non-U.S. financial assets.

Cyclically Adjusted P/Es

◆ 3/31/20 ■ 20-Year Range

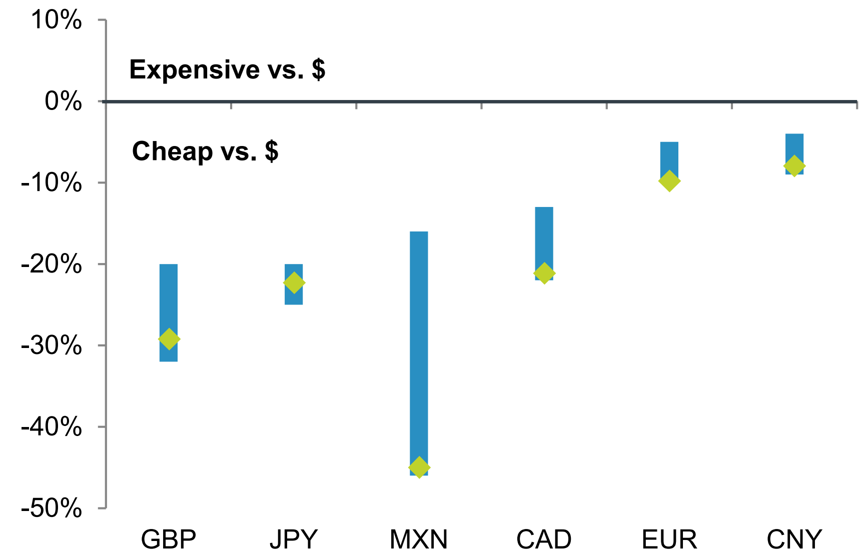
Shiller CAPE



Valuation of Major Currencies vs. USD

Last 12-Month Range ◆ 3/31/20

Valuation of Real Exchange Rates

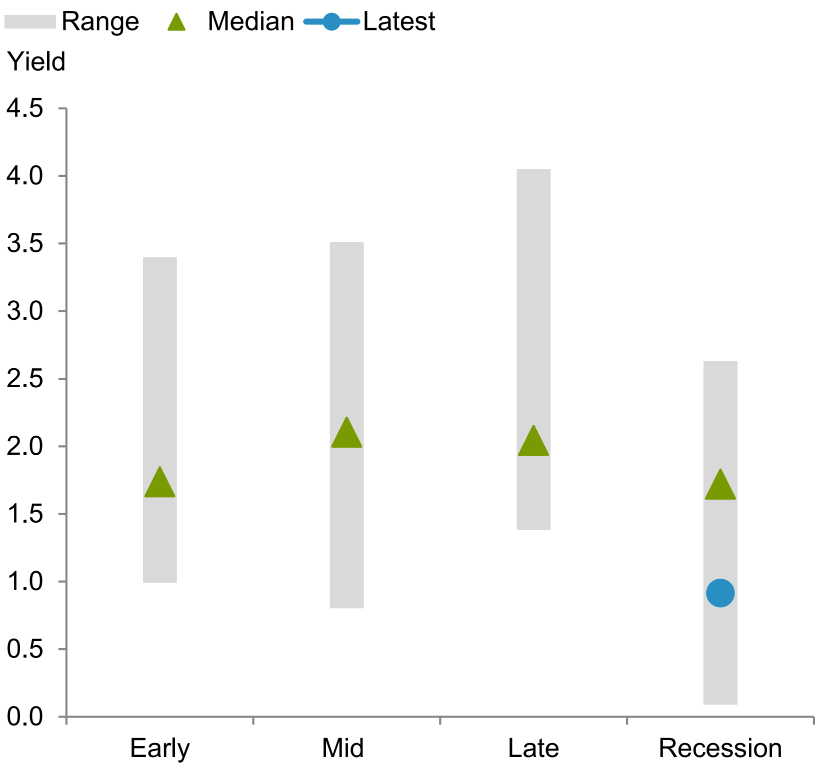


DM: Developed Markets. EM: Emerging Markets. Past performance is no guarantee of future results. It is not possible to invest directly in an index. All indexes are unmanaged. See Appendix for important index information. **LEFT:** Price-to-earnings (P/E) ratio (or multiple): stock price divided by earnings per share, which indicates how much investors are paying for a company's earnings power. Cyclically adjusted earnings are 10-year averages adjusted for inflation. Source: FactSet, countries' statistical organizations, Haver Analytics, Fidelity Investments (AART), as of 3/31/20. **RIGHT:** GBP—British pound; JPY—Japanese yen; MXN—Mexican peso; CAD—Canadian dollar; EUR—euro; CNY—Chinese yuan. Source: Federal Reserve Board, Haver Analytics, Fidelity Investments (AART), as of 3/31/20.

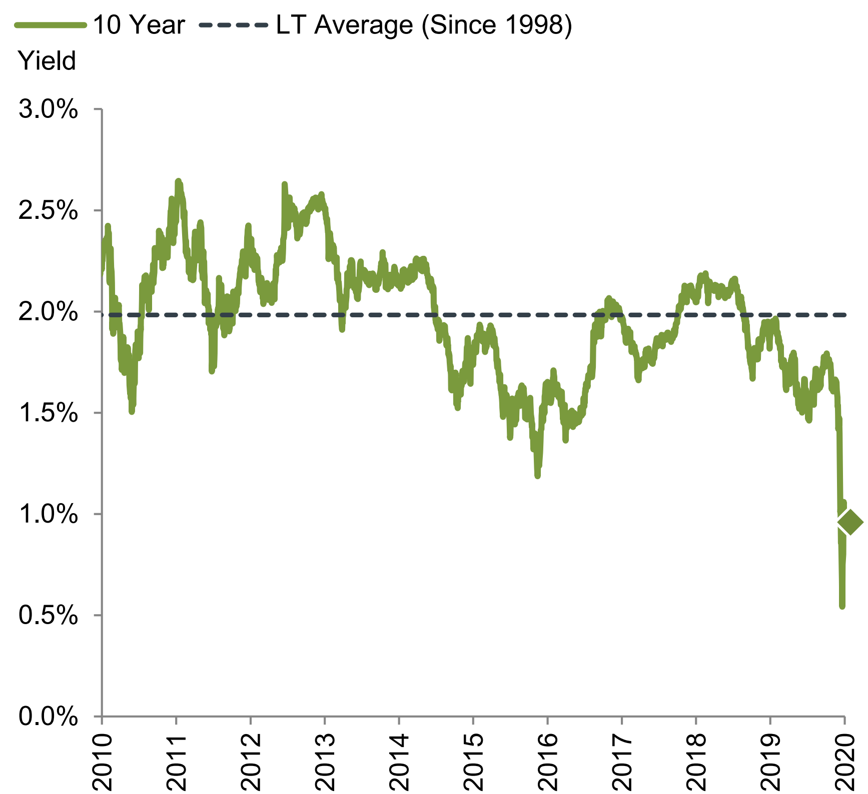
Inflation Protection Cheaper Amid Plunging Expectations

Historically, inflationary pressures often recede during recessions, and our near-term outlook is for inflation rates to drop. However, market expectations for inflation (represented by TIPS' breakeven rates) are lower than averages observed during past recessions and remain at the lower end of their decade-long range, suggesting inflation protection is relatively inexpensive.

U.S. Treasury Breakeven Inflation Rates by Cycle Phase (1950–2018)



U.S. Treasury Breakeven Inflation Rates



Past performance is no guarantee of future results. It is not possible to invest directly in an index. All indexes are unmanaged. TIPS: Treasury Inflation-Protected Securities. Results are the difference between total returns of the respective periods represented by indexes from the following sources: Fidelity Investments, Morningstar, and Bloomberg Barclays. Fidelity Investments source: proprietary analysis of historical asset class performance, which is not indicative of future performance, as of 3/31/20.

Business-Cycle Approach to Equity Sectors

A disciplined business-cycle approach to sector allocation seeks to generate active returns by favoring industries that may benefit from cyclical trends. Economically sensitive sectors historically have performed better in the early and mid-cycle phases of an economic expansion. Meanwhile, companies in defensive sectors with relatively more stable earnings growth have tended to outperform in recession.

Business-Cycle Approach to Sectors

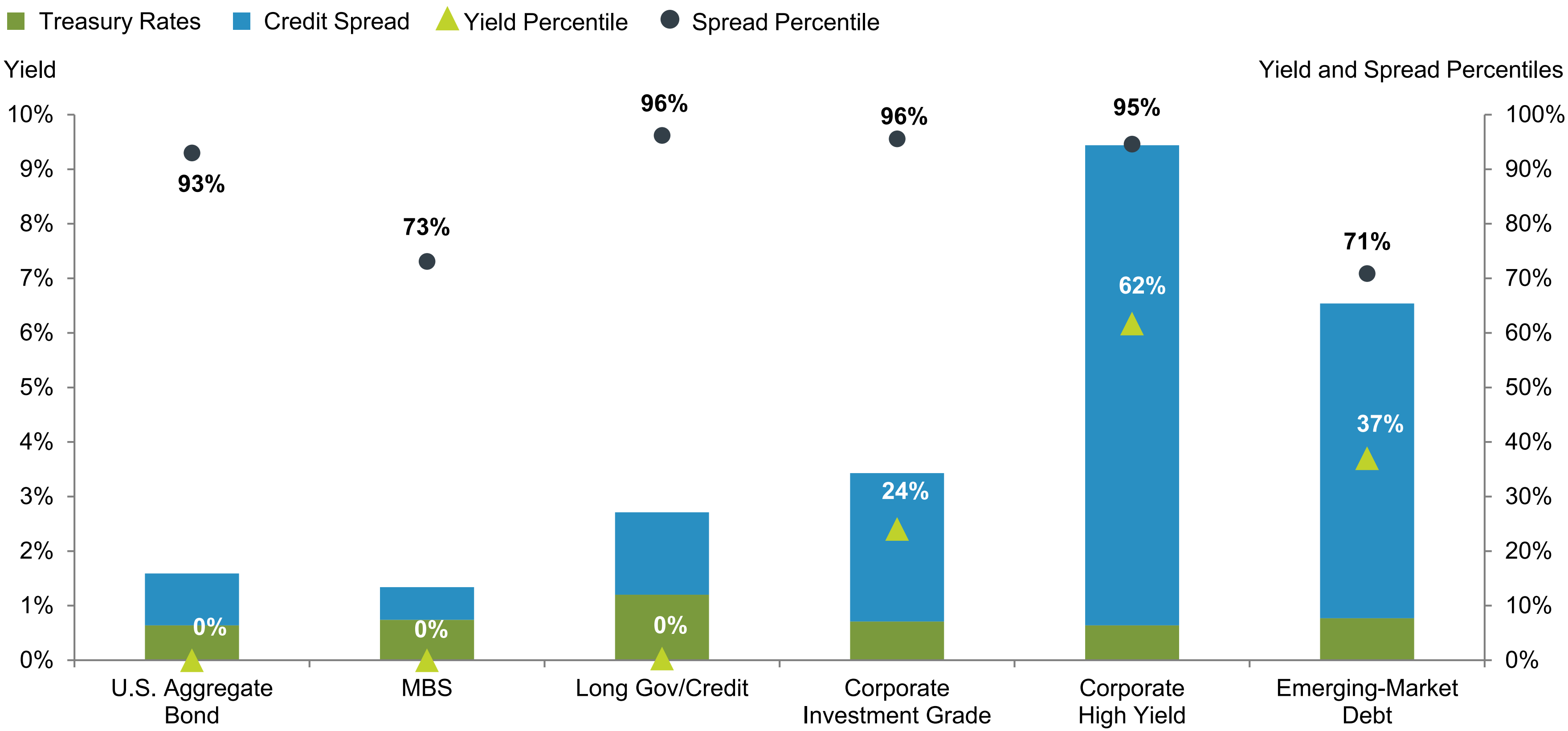
Sector	EARLY CYCLE Rebounds	MID CYCLE Peaks	LATE CYCLE Moderates	RECESSION Contracts
Financials	+			
Real Estate	++			--
Consumer Discretionary	++	-	--	
Information Technology	+	+	--	--
Industrials	++			--
Materials	+	--	++	
Consumer Staples			++	++
Health Care	--		++	++
Energy	--		++	
Communication Services		+		-
Utilities	--	-	+	++
	Economically sensitive sectors may tend to outperform, while more defensive sectors have tended to underperform.	Making marginal portfolio allocation changes to manage drawdown risk with sectors may enhance risk-adjusted returns during this cycle.	Defensive and inflation-resistant sectors tend to perform better, while more cyclical sectors underperform.	Since performance is generally negative in recessions, investors should focus on the most defensive, historically stable sectors.

Past performance is no guarantee of future results. Sectors as defined by GICS. White line is a theoretical representation of the business cycle as it moves through early, mid, late, and recession phases. Green and red shaded portions above respectively represent over- or underperformance relative to the broader market; unshaded (white) portions suggest no clear pattern of over- or underperformance. Double +/– signs indicate that the sector is showing a consistent signal across all three metrics: full-phase average performance, median monthly difference, and cycle hit rate. A single +/– indicates a mixed or less consistent signal. Return data from 1962 to 2016. Source: Fidelity Investments (AART), as of 3/31/20.

Rates Plummeted, Credit Spreads Widened Dramatically

During Q1, the steep decline in interest rates pushed bond yields in high-quality debt categories down to their lowest levels ever. Weakening credit fundamentals and poor liquidity conditions caused credit spreads for both U.S. investment-grade and high-yield corporate debt to widen to their highest decile, a dramatic reversal from the far below-average spreads seen at the start of 2020.

Fixed Income Yields and Spreads (1993–2020)



Past performance is no guarantee of future results. It is not possible to invest directly in an index. All indexes are unmanaged. See Appendix for important index information. Percentile ranks of yields and spreads based on historical period from 1993 to 2020. MBS: mortgage-backed securities. Source: Bloomberg Barclays, Bank of America Merrill Lynch, JP Morgan, Fidelity Investments (AART), as of 3/31/20.

Fidelity INVESTMENTS

Long-Term Themes

Performance Rotations Underscore Need for Diversification

The performance of different assets has fluctuated widely from year to year, and the magnitude of returns can vary significantly among asset classes in any given year—even among asset classes that are moving in the same direction. A portfolio allocation with a variety of global assets illustrates the potential benefits of diversification.

Periodic Table of Returns

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	YTD	Legend
32%	14%	26%	56%	32%	35%	35%	40%	5%	79%	28%	8%	20%	39%	28%	5%	21%	38%	0%	36%	3%	Investment-Grade Bonds
26%	8%	10%	47%	26%	21%	33%	16%	-20%	58%	27%	8%	19%	34%	14%	3%	18%	30%	-2%	31%	-10%	60% Large Cap 40% IG Bonds
12%	5%	4%	39%	21%	14%	27%	12%	-26%	37%	19%	4%	18%	33%	13%	1%	18%	26%	-2%	26%	-13%	High-Yield Bonds
8%	2%	-2%	37%	18%	12%	22%	11%	-34%	32%	18%	4%	18%	32%	12%	1%	12%	22%	-3%	26%	-15%	Growth Stocks
-1%	-2%	-6%	31%	17%	7%	18%	7%	-36%	28%	17%	2%	16%	23%	11%	1%	12%	15%	-4%	26%	-20%	Large Cap Stocks
-3%	-4%	-9%	31%	11%	5%	16%	6%	-36%	27%	16%	2%	16%	19%	6%	0%	11%	15%	-4%	22%	-23%	Foreign-Developed Country Stocks
-5%	-4%	-15%	29%	11%	5%	12%	5%	-37%	26%	15%	0%	16%	7%	5%	-4%	9%	13%	-9%	22%	-23%	Commodities
-9%	-12%	-16%	28%	9%	5%	11%	2%	-38%	20%	15%	-4%	15%	3%	3%	-4%	8%	9%	-11%	18%	-24%	Emerging-Market Stocks
-14%	-20%	-20%	24%	8%	4%	9%	-1%	-38%	19%	12%	-12%	11%	-2%	-2%	-5%	7%	8%	-11%	14%	-27%	REITs
-22%	-20%	-22%	19%	7%	3%	4%	-2%	-43%	18%	8%	-13%	4%	-2%	-4%	-15%	3%	4%	-11%	9%	-27%	Value Stocks
-31%	-21%	-28%	4%	4%	2%	2%	-16%	-53%	6%	7%	-18%	-1%	-10%	-17%	-25%	2%	1%	-14%	8%	-31%	Small Cap Stocks

Past performance is no guarantee of future results. Diversification/asset allocation does not ensure a profit or guarantee against loss. It is not possible to invest directly in an index. All indexes are unmanaged. See Appendix for important index information. Asset classes represented by: Commodities—Bloomberg Commodity Index; Emerging-Market Stocks—MSCI Emerging Markets Index; Non-U.S. Developed-Country Stocks—MSCI EAFE Index; Growth Stocks—Russell 3000 Growth Index; High-Yield Bonds—ICE BofA U.S. High Yield Index; Investment-Grade Bonds—Bloomberg Barclays U.S. Aggregate Bond Index; Large Cap Stocks—S&P 500 index; Real Estate/REITs—FTSE NAREIT All Equity Total Return Index; Small Cap Stocks—Russell 2000 Index; Value Stocks—Russell 3000 Value Index. Source: Morningstar, Standard & Poor's, Haver Analytics, Fidelity Investments (AART), as of 3/31/20.

Secular Forecast: Slower Global Growth, EM to Lead

Slowing labor force growth and aging demographics are expected to tamp down global growth over the next two decades. We expect GDP growth of emerging countries to outpace that of developed markets over the long term, providing a relatively favorable secular backdrop for emerging-market equity returns.

Real GDP 20-Year Growth Forecasts vs. History

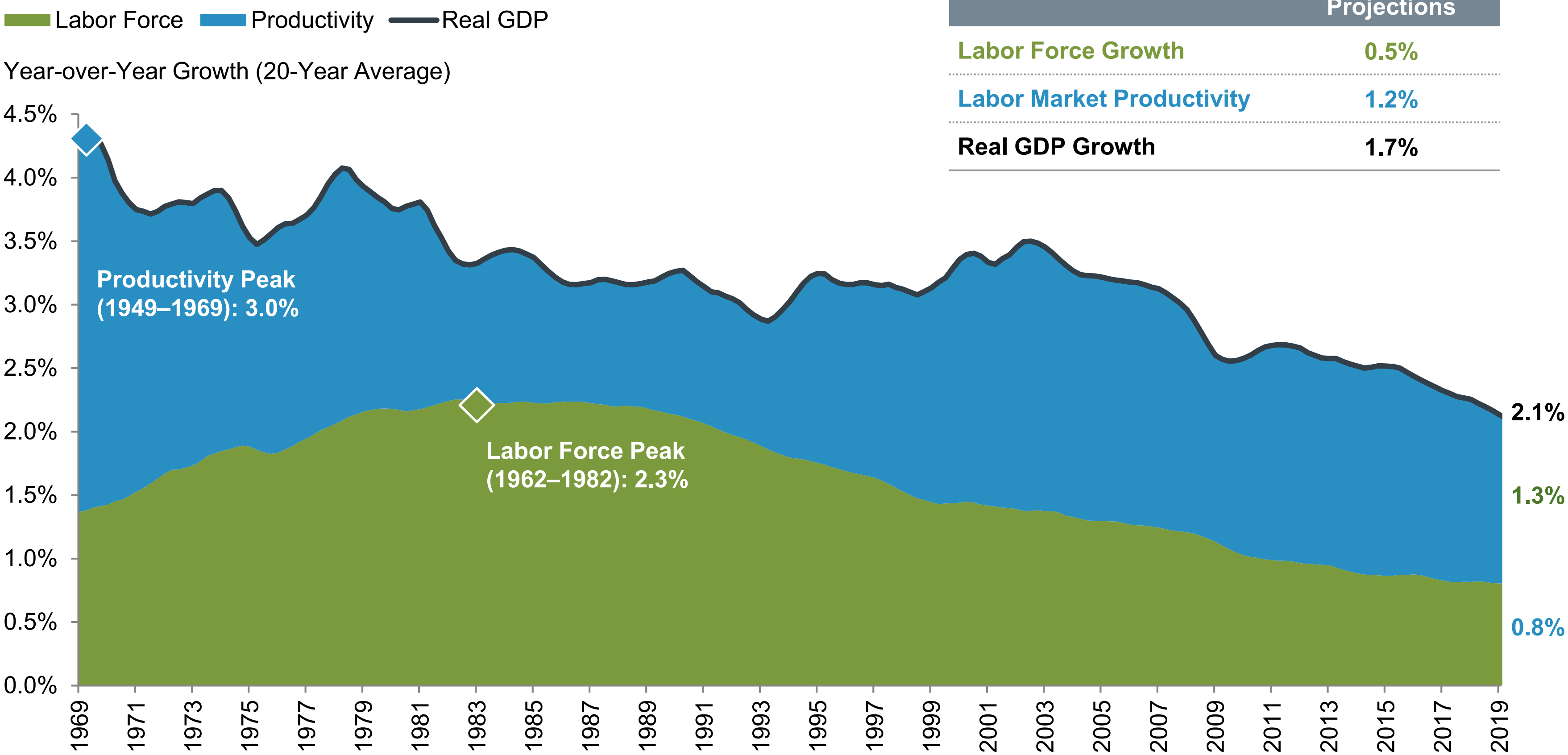
Global Real GDP Growth	
Last 20 years	20-year forecast
2.7%	2.1%

Past performance is no guarantee of future results. EM: Emerging Markets. GDP: Gross Domestic Product.
Source: OECD, Fidelity Investments (AART), as of 5/31/19.

Slower U.S. Economic Growth Likely over the Long Term

Slower population growth and aging demographics will provide a more challenging backdrop for U.S. growth over the next 20 years. Labor force growth has continued to decelerate from its peak in the 1960s and '70s, and since 2000 nearly half of this growth came from immigration. Even if productivity rates reaccelerate, it will be difficult for the U.S. to return to the roughly 3% real GDP growth average since World War II.

Real GDP Components



	20-Year AART Projections
Labor Force Growth	0.5%
Labor Market Productivity	1.2%
Real GDP Growth	1.7%

 Source: Bureau of Economic Analysis, Bureau of Labor Statistics, Haver Analytics, Fidelity Investments (AART), as of 12/31/19.

Secular: Rising Policy and Political Risk

We believe the longstanding global regime of relatively stable and investment-friendly policies, politics, and regulation is nearing an end. Rising populism, geopolitical destabilization, and de-globalization pressures are key drivers of this change. We expect greater government intervention may inhibit corporate profitability, distort market signals, and lead to higher political risk in investment decisions throughout the world.

LONG-TERM

Regime Shift Driven by Powerful Underlying Dynamics

- Rising Populist Demands
- Geopolitical Instability
- Anti-Globalization Pressure
- Widespread Aging Demographics
- Unprecedented Accumulation of Debt

Policy Dynamic	Expected Shift
Monetary	• Increased political influence on decisions • Sustained financial repression • More active role in financial markets • More permissive of inflation
Globalization	• Trade, capital, and labor flows more restricted • Weaponized economic measures for geopolitical ends
Fiscal	• More permissive of large deficits and rising debt levels
Regulatory	• Trend toward greater interventionism
Political risk	• More commonplace in economic and commercial affairs

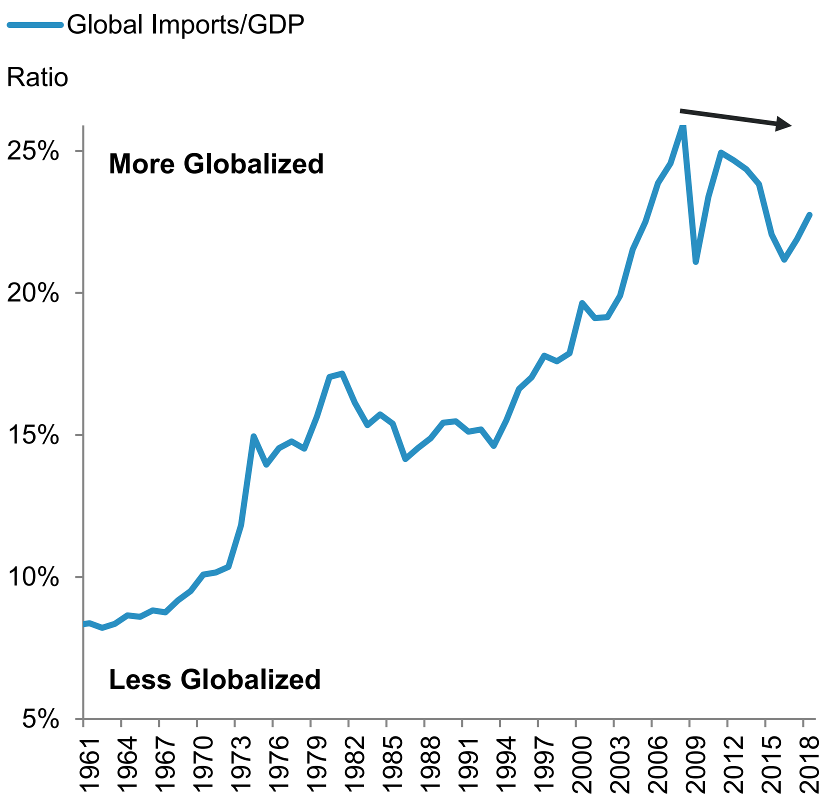
Source: Fidelity Investments (AART), as of 3/31/20.

Secular Trend: Peak Globalization

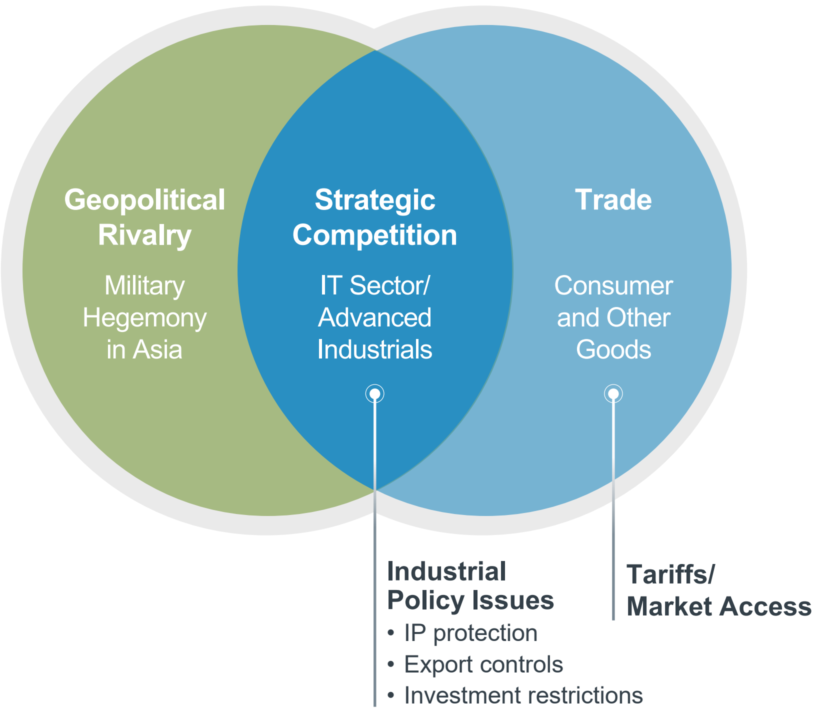
After decades of rapid global integration, economic openness stalled in recent years amid geopolitical shifts and domestic political pressures in many advanced economies. This poses risks for countries, industries, and companies that benefited the most from the rise of a rules-based global order. Near-term trade tensions may ebb and flow, but the growing U.S.-China rivalry is a durable rift at the epicenter of de-globalization pressures.

LONG-TERM

Trade Globalization



U.S.-China Relationship



 Source: International Monetary Fund (IMF), World Bank, Haver Analytics, Fidelity Investments (AART), as of 12/31/19.

Fidelity INVESTMENTS

Unintended Consequences of Extraordinary Monetary Policy

Over the past decade, global central banks have continued to use extraordinary monetary accommodation. These policies have had mixed and unintended effects on the global economy, including increased risk in financial systems, deflationary impulses, and a weak consumer response. With many investors having grown accustomed to routine intervention, central banks may find it increasingly difficult to normalize their policies.

Extraordinary Monetary Policy Goals vs. Consequences

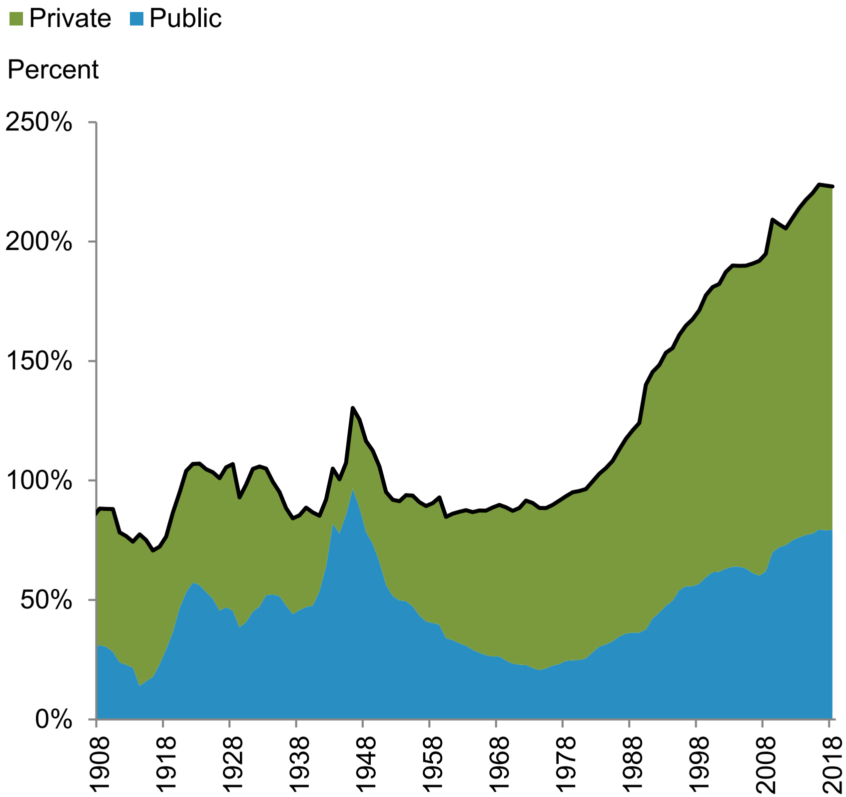
Intended Central Bank Goals	Unintended Consequences
Substitution effect	Income effect
Ease credit conditions	Price controls
Reduce debt-service burden	Weaker productivity
Improve export competitiveness	Currency wars
↓	↓
Consumption up	Savings up
Bank lending up	Bank lending down
Lower interest expense	Less-productive firms stay in business
Weaker currency	Limited impact on currency

Source: Fidelity Investments (AART), as of 3/31/20.

Rising Debt: Will Policy Response Be Inflationary?

The dramatic worldwide rise in public and private debt in recent decades is a reflection of monetary and fiscal policymakers' proclivity to use low interest rates and government support to attempt to boost growth rates. While technology and other factors have kept inflation in check, we believe greater policy experimentation and "peak globalization" trends will eventually cause long-term inflation to rise faster than expected.

Global Debt as a Share of GDP



Possible Secular Impacts to Inflation

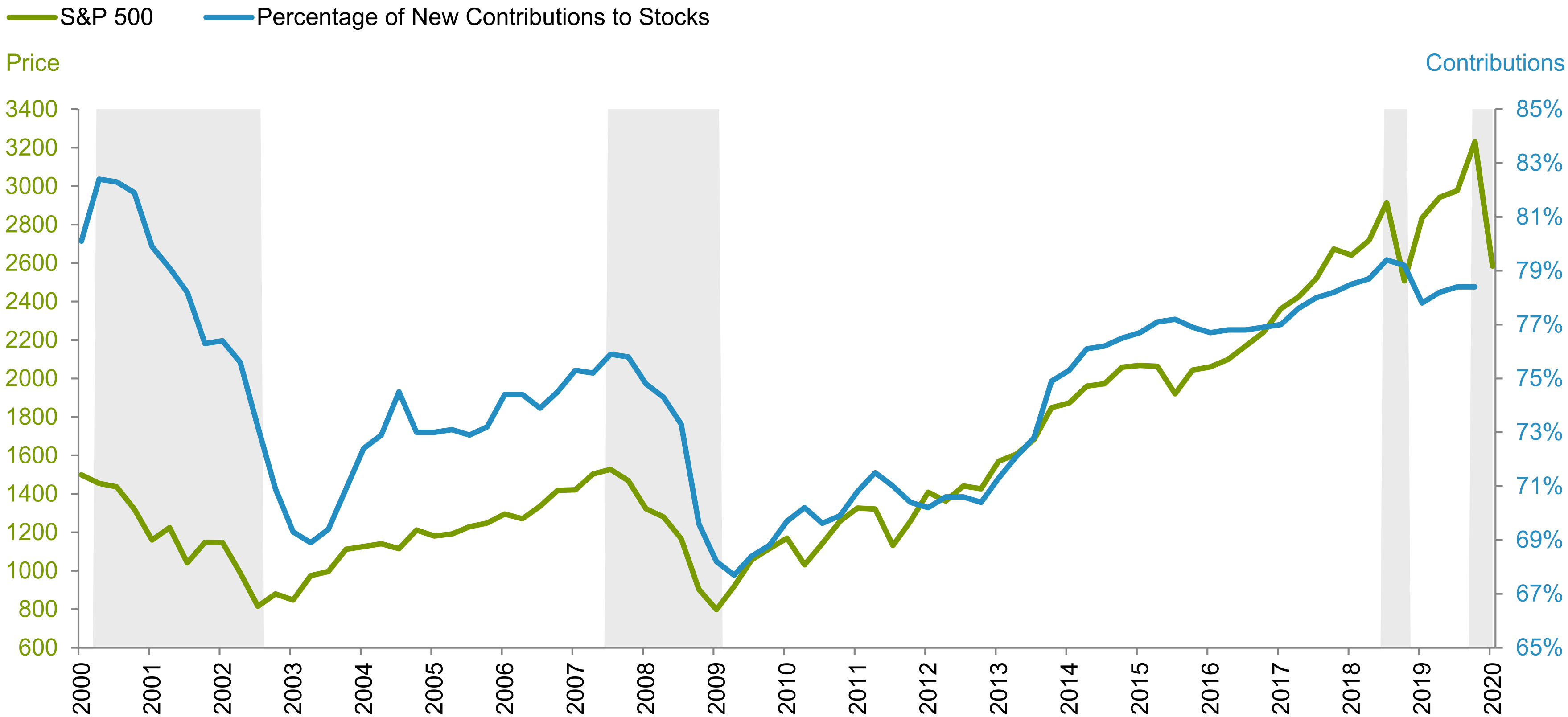
Secular Factors	Possible Developments	Risks to Inflation
Policy	Fed targets higher inflation	↑
	More stimulative fiscal policy	↑
Aging Demographics	Elderly people:	
	• Spend less (reducing demand)	↓
	• Work less (reducing supply)	↑
Peak Globalization	More expensive goods/labor	↑
Technological Progress	More robots, Amazon effect	↓

LEFT: Source: Bank of International Settlements, International Monetary Fund, Maddison Project, Fidelity Investments (AART), and the Jordà-Schularick-Taylor Macrohistory Database, compiled by Oscar Jordà, Moritz Schularick, and Alan M. Taylor. Accessed through www.macrohistory.net, as of 12/31/18. **RIGHT:** Source: Fidelity Investments (AART), as of 3/31/20.

Market Downturns Can Cause Investors to De-Risk

Data from millions of retirement-plan participants illustrates how investor behavior can change under varying market conditions. During past bear markets, many long-term investors reduced their equity allocation and then took years to ramp back up to their prior equity-contribution rates. Excessive focus on short-term market volatility may hamper the ability to achieve the objectives of a sound, diversified, long-term investment plan.

Fidelity Plan Participants' Contribution to Equities



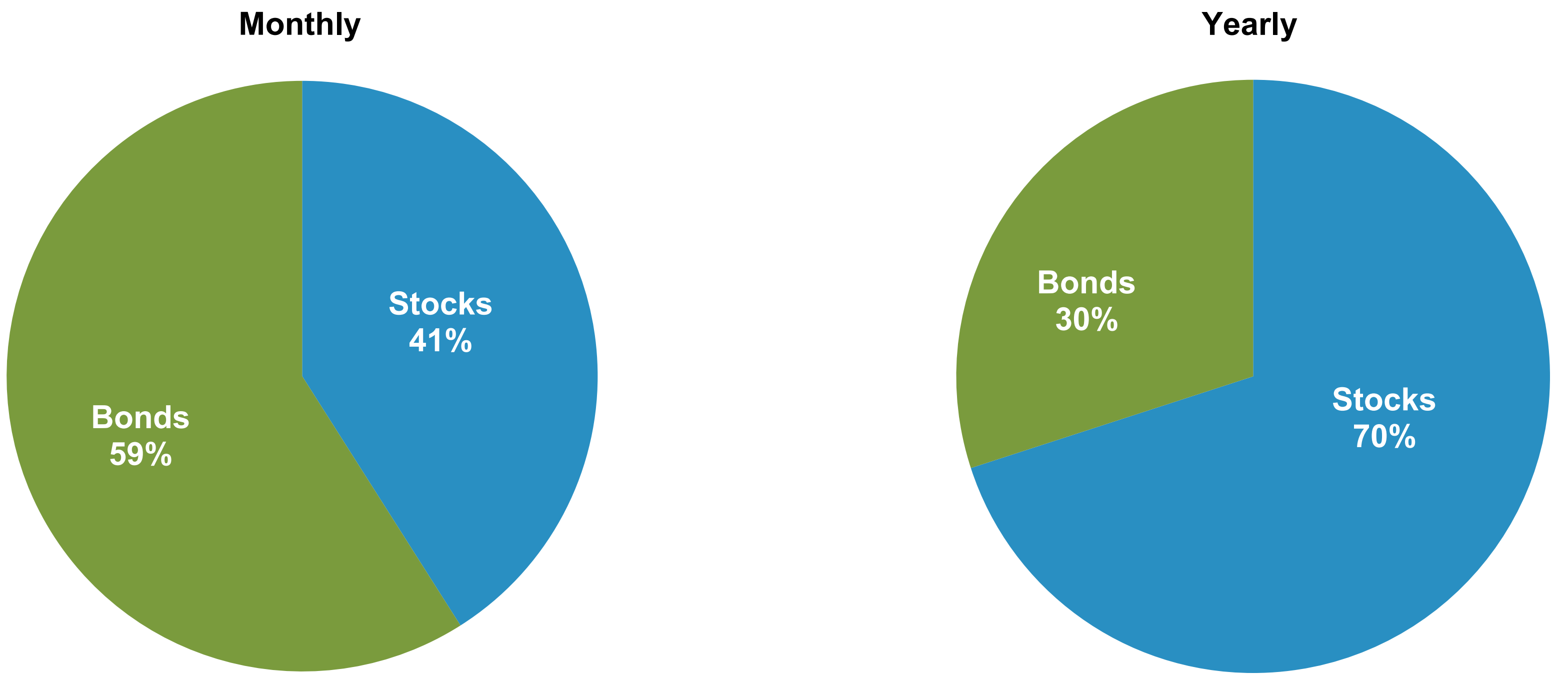
Data from Fidelity's recordkeeping platform, which services more than 16 million corporate defined contribution (DC) participants. Stock contributions: the percentage of all new directed deferrals (contributions) into stocks by participants via the available investment options in defined contribution plans administered by Fidelity Investments. Shaded areas represent periods when the stock market (S&P 500 index) fell by 20% or more peak to trough. Diversification does not ensure a profit or guarantee against loss. Standard & Poor's, Bloomberg Finance L.P., Fidelity Investments, as of 3/31/20.

Fidelity INVESTMENTS

Myopic Loss Aversion Prompts Risk-Averse Behavior

Myopic loss aversion **describes a common bias in which greater sensitivity to losses than to gains is compounded by the frequent evaluation of outcomes. Historically, investors who review their portfolios more frequently have tended to shift toward more conservative exposures, as increased monitoring raises the likelihood of seeing (and reacting to) a loss.**

Impact of Feedback Frequency on Investment Decisions



In a study, subjects were assigned simulated conditions that were similar to making portfolio decisions on a monthly or yearly basis. Source: Thaler, R.H., A. Tversky, D. Kahneman, and A. Schwartz. “The Effect of Myopia and Loss Aversion on Risk Taking: An Experimental Test.” *The Quarterly Journal of Economics* 112.2 (1997), used by permission of Oxford University Press; Fidelity Investments (AART), as of 12/31/19.

Appendix: Important Information

Information presented herein is for discussion and illustrative purposes only and is not a recommendation or an offer or solicitation to buy or sell any securities. Views expressed are as of the date indicated, based on the information available at that time, and may change based on market and other conditions. Unless otherwise noted, the opinions provided are those of the authors and not necessarily those of Fidelity Investments or its affiliates. Fidelity does not assume any duty to update any of the information.

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Fidelity does not provide legal or tax advice and the information provided herein is general in nature and should not be considered legal or tax advice. Consult with an attorney or a tax professional regarding your specific legal or tax situation.

Past performance and dividend rates are historical and do not guarantee future results.

Investing involves risk, including risk of loss.

Diversification does not ensure a profit or guarantee against loss.

Index or benchmark performance presented in this document does not reflect the deduction of advisory fees, transaction charges, and other expenses, which would reduce performance.

Indexes are unmanaged. It is not possible to invest directly in an index.

Although bonds generally present less short-term risk and volatility than stocks, bonds do contain interest rate risk (as interest rates rise, bond prices usually fall, and vice versa) and the risk of default, or the risk that an issuer will be unable to make income or principal payments.

Additionally, bonds and short-term investments entail greater inflation risk—or the risk that the return of an investment will not keep up with increases in the prices of goods and services—than stocks. Increases in real interest rates can cause the price of inflation-protected debt securities to decrease.

Stock markets, especially non-U.S. markets, are volatile and can decline significantly in response to adverse issuer, political, regulatory, market, or economic developments. Foreign securities are subject to interest rate, currency exchange rate, economic, and political risks, all of which are magnified in emerging markets.

The securities of smaller, less well-known companies can be more volatile than those of larger companies.

Growth stocks can perform differently from the market as a whole and from other types of stocks, and can be more volatile than other types of stocks. Value stocks can perform differently from other types of stocks and can continue to be undervalued by the market for long periods of time.

Lower-quality debt securities generally offer higher yields but also involve greater risk of default or price changes due to potential changes in the credit quality of the issuer. Any fixed income security sold or redeemed prior to maturity may be subject to loss.

Floating rate loans generally are subject to restrictions on resale, and sometimes trade infrequently in the secondary market; as a result, they may be more difficult to value, buy, or sell. A floating rate loan may not be fully collateralized and therefore may decline significantly in value.

The municipal market can be affected by adverse tax, legislative, or political changes, and by the financial condition of the issuers of municipal securities. Interest income generated by municipal bonds is generally expected to be exempt from federal income taxes and, if the bonds are held by an investor resident in the state of issuance, from state and local income taxes. Such interest income may be subject to federal and/or state alternative minimum taxes. Investing in municipal bonds for the purpose of generating tax-exempt income may not be appropriate for investors in all tax brackets. Generally, tax-exempt municipal securities are not appropriate holdings for tax-advantaged accounts such as IRAs and 401(k)s.

The commodities industry can be significantly affected by commodity prices, world events, import controls, worldwide competition, government regulations, and economic conditions.

The gold industry can be significantly affected by international monetary and political developments, such as currency devaluations or revaluations, central bank movements, economic and social conditions within a country, trade imbalances, or trade or currency restrictions between countries.

Changes in real estate values or economic downturns can have a significant negative effect on issuers in the real estate industry.

Leverage can magnify the impact that adverse issuer, political, regulatory, market, or economic developments have on a company. In the event of bankruptcy, a company's creditors take precedence over the company's stockholders.

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Appendix: Important Information

Market Indexes

Index returns on slide 26 represented by: Growth—Russell 3000® Growth Index; Large Caps—S&P 500® index; Mid Caps—Russell Midcap® Index; Small Caps—Russell 2000® Index; Value—Russell 3000® Value Index; ACWI ex USA—MSCI All Country World Index (ACWI); Canada—MSCI Canada Index; Commodities—Bloomberg Commodity Index; EAFE—MSCI EAFE (Europe, Australasia, Far East) Index; EAFE Small Cap—MSCI EAFE Small Cap Index; EM Asia—MSCI Emerging Markets Asia Index; EMEA (Europe, Middle East, and Africa)—MSCI EM EMEA Index; Emerging Markets (EM)—MSCI EM Index; Europe—MSCI Europe Index; Gold—Gold Bullion Price, LBMA PM Fix; Japan—MSCI Japan Index; Latin America—MSCI EM Latin America Index; ABS (Asset-Backed Securities)—Bloomberg Barclays ABS Index; Agency—Bloomberg Barclays U.S. Agency Index; Aggregate—Bloomberg Barclays U.S. Aggregate Bond Index; CMBS (Commercial Mortgage-Backed Securities)—Bloomberg Barclays Investment-Grade CMBS Index; Credit—Bloomberg Barclays U.S. Credit Bond Index; EM Debt (Emerging-Market Debt)—JP Morgan EMBI Global Index; High Yield—ICE BofA U.S. High Yield Index; Leveraged Loan—S&P/LSTA Leveraged Loan Index; Long Government & Credit (Investment-Grade)—Bloomberg Barclays Long Government & Credit Index; MBS (Mortgage-Backed Securities)—Bloomberg Barclays MBS Index; Municipal—Bloomberg Barclays Municipal Bond Index; TIPS (Treasury Inflation-Protected Securities)—Bloomberg Barclays U.S. TIPS Index; Treasuries—Bloomberg Barclays U.S. Treasury Index; Low Volatility—Fidelity U.S. Low Volatility Factor Index; Value—Fidelity U.S. Value Factor Index; Quality—Fidelity U.S. Quality Factor Index; Size—Fidelity Small-Mid Factor Index; Momentum—Fidelity U.S. Momentum Factor Index TR; Yield—Fidelity High Dividend Index.

Bloomberg Barclays ABS Index is a market value-weighted index that covers fixed-rate asset-backed securities with average lives greater than or equal to one year and that are part of a public deal; the index covers the following collateral types: credit cards, autos, home equity loans, stranded-cost utility (rate-reduction bonds), and manufactured housing.

Bloomberg Barclays CMBS Index is designed to mirror commercial mortgage-backed securities of investment-grade quality (Baa3/BBB-/BBB- or above) using Moody's, S&P, and Fitch, respectively, with maturities of at least one year. **Bloomberg Barclays Long U.S. Government Credit Index** includes all publicly issued U.S. government and corporate securities that have a remaining maturity of 10 or more years, are rated investment-grade, and have $250 million or more of outstanding face value.

Bloomberg Barclays Municipal Bond Index is a market value-weighted index of investment-grade municipal bonds with maturities of one year or more. **Bloomberg Barclays U.S. Agency Bond Index** is a market value-weighted index of U.S. Agency government and investment-grade corporate fixed-rate debt issues. **Bloomberg Barclays U.S. Aggregate Bond** is a broad-based, market value-weighted benchmark that measures the performance of the investment-grade, U.S. dollar-denominated, fixed-rate taxable bond market. **Bloomberg Barclays U.S. Credit Bond Index** is a market value-weighted index of investment-grade corporate fixed-rate debt issues with maturities of one year or more.

Bloomberg Barclays U.S. MBS Index is a market value-weighted index of fixed-rate securities that represent interests in pools of mortgage loans, including balloon mortgages, with original terms of 15 and 30 years that are issued by the Government National Mortgage Association (GNMA), the Federal National Mortgage Association (FNMA), and the Federal Home Loan Mortgage Corp. (FHLMC).

Bloomberg Barclays U.S. Treasury Inflation-Protected Securities (TIPS) Index (Series-L) is a market value-weighted index that measures the performance of inflation-protected securities issued by the U.S. Treasury. **Bloomberg Barclays U.S. Treasury Bond Index** is a market value-weighted index of public obligations of the U.S. Treasury with maturities of one year or more. **Bloomberg Commodity Index** measures the performance of the commodities market. It consists of exchange traded futures contracts on physical commodities that are weighted to account for the economic significance and market liquidity of each commodity.

Bloomberg Barclays U.S. Corporate High Yield Bond Index is a market value-weighted index covering the universe of dollar-denominated, fixed-rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets are excluded.

Dow Jones U.S. Total Stock Market Index℠ is a full market capitalization-weighted index of all equity securities of U.S.-headquartered companies with readily available price data.

Fidelity U.S. Low Volatility Factor Index is designed to reflect the performance of stocks of large and mid-capitalization U.S. companies with lower volatility than the broader market. **Fidelity U.S. Value Factor Index** is designed to reflect the performance of stocks of large and mid-capitalization U.S. companies that have attractive valuations. **Fidelity U.S. Quality Factor Index** is designed to reflect the performance of stocks of large and mid-capitalization U.S. companies with a higher quality profile than the broader market. **Fidelity Small-Mid Factor Index** is designed to reflect the performance of stocks of small and mid-capitalization U.S. companies with attractive valuations, high quality profiles, positive momentum signals, and lower volatility than the broader market. **Fidelity U.S. Momentum Factor Index** is designed to reflect the performance of stocks of large and mid-capitalization U.S. companies that exhibit positive momentum signals. **Fidelity High Dividend Index** is designed to reflect the performance of stocks of large and mid-capitalization dividend-paying companies that are expected to continue to pay and grow their dividends.

FTSE® National Association of Real Estate Investment Trusts (NAREIT®) All REITs Index is a market capitalization-weighted index that is designed to measure the performance of all tax-qualified REITs listed on the NYSE, the American Stock Exchange, or the NASDAQ National Market List. **FTSE® NAREIT® Equity REIT** Index is an unmanaged market value-weighted index based on the last closing price of the month for tax-qualified REITs listed on the New York Stock Exchange (NYSE).

ICE BofA U.S. High Yield Index is a market capitalization-weighted index of U.S. dollar-denominated, below-investment-grade corporate debt publicly issued in the U.S. market.

JPM® EMBI Global Index, and its country sub-indexes, tracks total returns for the U.S. dollar-denominated debt instruments issued by emerging-market sovereign and quasi-sovereign entities, such as Brady bonds, loans, and Eurobonds.

MSCI All Country World Index (ACWI) is a market capitalization-weighted index designed to measure the investable equity market performance for global investors of developed and emerging markets. **MSCI ACWI (All Country World Index) ex USA Index** is a market capitalization-weighted index designed to measure the investable equity market performance for global investors of large and mid cap stocks in developed and emerging markets, excluding the United States.

Appendix: Important Information

Market Indexes (continued)

MSCI Emerging Markets (EM) Index is a market capitalization-weighted index designed to measure the investable equity market performance for global investors in emerging markets. **MSCI EM Asia Index** is a market capitalization-weighted index designed to measure equity market performance of EM countries of Asia. **MSCI EM Europe, Middle East, and Africa Index** is a market capitalization-weighted index designed to measure the investable equity market performance for global investors in the EM countries of Europe, the Middle East, and Africa. **MSCI EM Latin America Index** is a market capitalization-weighted index designed to measure the investable equity market performance for global investors in Latin America.

MSCI World ex USA Index is a market capitalization weighted index that is designed to measure the investable equity market performance for global investors of developed markets outside the United States. **MSCI Europe, Australasia, Far East Index (EAFE)** is a market capitalization-weighted index designed to measure the investable equity market performance for global investors in developed markets, excluding the U.S. and Canada. **MSCI EAFE Small Cap Index** is a market capitalization-weighted index designed to measure the investable equity market performance of small cap stocks for global investors in developed markets, excluding the U.S. and Canada.

MSCI USA Index is a market capitalization-weighted index designed to measure the performance of the large- and mid-cap segments of the U.S. equity market. **MSCI USA Value Index** is a market capitalization-weighted index designed to measure the performance of the large- and mid-cap segments of the U.S. equity market exhibiting overall value style characteristics. **MSCI USA Growth Index** is a market capitalization-weighted index designed to measure the performance of the large- and mid-cap segments of the U.S. equity market exhibiting overall growth style characteristics.

MSCI Europe Index is a market capitalization-weighted index that is designed to measure the investable equity market performance for global investors of the developed markets in Europe. **MSCI Canada Index** is a market capitalization-weighted index designed to measure equity market performance in Canada. **MSCI Japan Index** is a market capitalization-weighted index designed to measure equity market performance in Japan.

Russell 2000® Index is a market capitalization-weighted index designed to measure the performance of the small cap segment of the U.S. equity market. It includes approximately 2,000 of the smallest securities in the Russell 3000 Index. **Russell 3000® Index** is a market capitalization-weighted index designed to measure the performance of the 3,000 largest companies in the U.S. equity market. **Russell 3000 Growth Index** is a market capitalization-weighted index designed to measure the performance of the broad growth segment of the U.S. equity market. It includes those Russell 3000 Index companies with higher price-to-book ratios and higher forecasted growth rates. **Russell 3000 Value Index** is a market capitalization-weighted index designed to measure the performance of the small to mid cap value segment of the U.S. equity market. It includes those Russell 3000 Index companies with lower price-to-book ratios and lower forecasted growth rates. **Russell Midcap® Index** is a market capitalization-weighted index designed to measure the performance of the mid cap segment of the U.S. equity market. It contains approximately 800 of the smallest securities in the Russell 1000 Index.

S&P 500® is a market capitalization-weighted index of 500 common stocks chosen for market size, liquidity, and industry group representation to represent U.S. equity performance. S&P 500 is a registered service mark of The McGraw-Hill Companies, Inc., and has been licensed for use by Fidelity Distributors Corporation and its affiliates.

Sectors and **Industries** are defined by Global Industry Classification Standards (GICS®), except where noted otherwise. **S&P 500 sectors** are defined as follows: Consumer Discretionary—companies that tend to be the most sensitive to economic cycles. Consumer Staples—companies whose businesses are less sensitive to economic cycles. Energy—companies whose businesses are dominated by either of the following activities: the construction or provision of oil rigs, drilling equipment, and other energy-related services and equipment, including seismic data collection; or the exploration, production, marketing, refining, and/or transportation of oil and gas products, coal, and consumable fuels. Financials—companies involved in activities such as banking, consumer finance, investment banking and brokerage, asset management, insurance and investments, and mortgage real estate investment trusts (REITs). Health Care—companies in two main industry groups: health care equipment suppliers, manufacturers, and providers of health care services; and companies involved in research, development, production, and marketing of pharmaceuticals and biotechnology products. Industrials—companies that manufacture and distribute capital goods, provide commercial services and supplies, or provide transportation services. Information Technology— companies in technology software and services and technology hardware and equipment. Materials—companies that engage in a wide range of commodity-related manufacturing. Real Estate—companies in real estate development, operations, and related services, as well as equity REITs. Communication Services—companies that facilitate communication and offer related content through various media; it includes media companies moved from Consumer Discretionary and internet services companies moved from Information Technology. Utilities—companies considered electric, gas, or water utilities, or that operate as independent producers and/or distributors of power.

Standard & Poor's/Loan Syndications and Trading Association (S&P/LSTA) Leveraged Performing Loan Index is a market value-weighted index designed to represent the performance of U.S. dollar-denominated institutional leveraged performing loan portfolios (excluding loans in payment default) using current market weightings, spreads, and interest payments.

Other Indexes

Commodity Research Bureau (CRB) Raw Industrials Index is a sub-index of 13 markets: burlap, copper scrap, cotton, hides, lead scrap, print cloth, rosin, rubber, steel scrap, tallow, tin, wool tops, and zinc.

Consumer Price Index (CPI) is a monthly inflation indicator that measures the change in the cost of a fixed basket of products and services, including housing, electricity, food, and transportation.

Appendix: Important Information

Other Indexes (continued)

London Bullion Market Association (LBMA) publishes the international benchmark price of gold in USD, twice daily. **LBMA Gold price** auction takes place by ICE Benchmark Administration (IBA) at 10:30 and 15:00 with the price set in USD per fine troy ounce.

VIX® is the Chicago Board Options Exchange Volatility Index®, a weighted average of prices on S&P 500 options with a constant maturity of 30 days to expiration. It is designed to measure the market's expectation of near-term stock market volatility.

ICE BofA MOVE (Merrill Option Volatility Estimate) Index is a measure of U.S. interest rate volatility that tracks the movement in U.S. Treasury yield volatility implied by current prices of one-month over-the-counter options on 2-year, 5-year, 10-year and 30-year Treasuries.

JP Morgan Global FX Volatility Index is a benchmark for implied volatility across the global foreign-exchange (FX) market; the index tracks options on currencies of major and developing nations by following aggregate volatility in currencies based on three-month at-the-money forward options of 23 USD-based currency pairs.

Definitions

Correlation coefficient measures the interdependencies of two random variables that range in value from −1 to +1, indicating perfect negative correlation at −1, absence of correlation at 0, and perfect positive correlation at +1.

Price-to-Earnings (P/E) ratio is the ratio of a company's current share price to its current earnings, typically trailing 12-months earnings per share. A Forward P/E calculation will typically use an average of analysts' published estimates of earnings for the next 12 months in the denominator.

Excess return is the amount by which a portfolio's performance exceeds its benchmark, net (in the case of the analysis in this article) or gross of operating expenses, in percentage points.

Option-Adjusted Spread (OAS) is the measurement of the spread between a fixed-income security's rate and the risk-free rate of return, which is adjusted to take into account any embedded options.

The Chartered Financial Analyst® (CFA®) designation is offered by CFA Institute. To obtain the CFA charter, candidates must pass three exams demonstrating their competence, integrity, and extensive knowledge in accounting, ethical and professional standards, economics, portfolio management, and security analysis, and must also have at least four years of qualifying work experience, among other requirements.

Fidelity Institutional Asset Management® (FIAM®) provides registered investment products via Fidelity Distributors Company LLC and institutional asset management services through FIAM LLC or Fidelity Institutional Asset Management Trust Company.

Personal and Workplace investment products are provided by Fidelity Brokerage Services LLC, Member NYSE, SIPC.

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