
Dr. David Kelly, Chief Global Strategist
J.P. Morgan Asset Management
June 2020
The spread of COVID-19 and its trajectory

Tracking the social distancing recession

Monetary and fiscal policy responses

Investment implications
Fatalities have fallen sharply but remain at a high level.

Confirmed cases and fatalities in the U.S.
As of June 15, 2020

**Confirmed cases:**
- **U.S. 2,114,026**

**Fatalities:**
- **U.S. 116,127**

Source: Johns Hopkins CSSE, J.P. Morgan Asset Management.

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Social distancing has led to a major slump in economic activity…

Source: BEA, FactSet, J.P. Morgan Asset Management.

Real GDP
Year-over-year % change

Components of GDP
1Q20 nominal GDP, USD trillions

Average: 2.7%
 Expansion average: 2.1%

4.0% Housing
12.9% Investment ex-housing
17.9% Gov’t spending

67.7% Consumption
-2.4% Net exports

Source: BEA, FactSet, J.P. Morgan Asset Management.
Values may not sum to 100% due to rounding. Quarter-over-quarter percent changes are at an annualized rate. Average represents the annualized growth rate for the full period. Expansion average refers to the period starting in the third quarter of 2009.

Civilian unemployment rate and year-over-year wage growth for private production and non-supervisory workers

Seasonally adjusted, percent

<table>
<thead>
<tr>
<th>50-year avg.</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Unemployment Rate</td>
<td>6.2%</td>
</tr>
<tr>
<td>Wage Growth</td>
<td>4.1%</td>
</tr>
</tbody>
</table>

May 1975: 9.0%
Nov. 1982: 10.8%
Jun. 1992: 7.8%
Jun. 2003: 6.3%
Oct. 2009: 10.0%
May 2020: 13.3%
May 2020: 6.7%

Source: BLS, FactSet, J.P. Morgan Asset Management.
…while hurting corporate profits.

Source: Compustat, FactSet, Standard & Poor’s, J.P. Morgan Asset Management.
Historical EPS levels are based on annual operating earnings per share. Earnings estimates are based on estimates from FactSet Market Aggregates. Past performance is not indicative of future returns.

Oil prices have collapsed due to lack of demand and oversupply...

**Change in production and consumption of liquid fuels**
Production, consumption and inventories, millions of barrels per day

<table>
<thead>
<tr>
<th>Production</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020*</th>
<th>2021*</th>
<th>Growth since '17</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>15.7</td>
<td>17.9</td>
<td>19.5</td>
<td>18.6</td>
<td>18.1</td>
<td>15.4%</td>
</tr>
<tr>
<td>OPEC</td>
<td>36.8</td>
<td>36.8</td>
<td>34.7</td>
<td>31.3</td>
<td>33.2</td>
<td>-10.0%</td>
</tr>
<tr>
<td>Russia</td>
<td>11.2</td>
<td>11.4</td>
<td>11.5</td>
<td>10.5</td>
<td>11.0</td>
<td>-2.0%</td>
</tr>
<tr>
<td>Global</td>
<td>98.1</td>
<td>100.8</td>
<td>100.7</td>
<td>94.8</td>
<td>97.4</td>
<td>-0.7%</td>
</tr>
</tbody>
</table>

**Consumption**

<table>
<thead>
<tr>
<th>Consumption</th>
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</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>20.0</td>
<td>20.5</td>
<td>20.5</td>
<td>18.1</td>
<td>19.5</td>
<td>-2.5%</td>
</tr>
<tr>
<td>China</td>
<td>13.6</td>
<td>14.0</td>
<td>14.5</td>
<td>13.6</td>
<td>15.3</td>
<td>12.9%</td>
</tr>
<tr>
<td>Global</td>
<td>98.8</td>
<td>100.0</td>
<td>100.9</td>
<td>92.5</td>
<td>99.7</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

**Inventory Change**

| Inventory Change | -0.6 | 0.8  | -0.2 | 2.2  | -2.3 |

**Price of oil**

WTI crude, nominal prices, USD/barrel

- Jul. 3, 2008: $145.29
- Jun. 13, 2014: $106.91
- Oct. 3, 2018: $76.41
- Feb. 12, 2009: $33.98
- Feb. 11, 2016: $26.21

Source: J.P. Morgan Asset Management; (Top and bottom left) EIA; (Right) FactSet; (Bottom left) Baker Hughes.
*Forecasts are from the June 2020 EIA Short-Term Energy Outlook and start in 2020. **U.S. crude oil inventories include the Strategic Petroleum Reserve (SPR). Active rig count includes both natural gas and oil rigs. WTI crude prices are continuous contract NYM prices in USD.

...which should push down inflation when combined with falling economic growth.

Source: BLS, FactSet, J.P. Morgan Asset Management.
CPI used is CPI-U and values shown are % change vs. one year ago. Core CPI is defined as CPI excluding food and energy prices. The Personal Consumption Expenditure (PCE) deflator employs an evolving chain-weighted basket of consumer expenditures instead of the fixed-weight basket used in CPI calculations.

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The Fed has responded by cutting rates to near zero…


Market expectations are the federal funds rates priced into the fed futures market as of the following date of the June 2020 FOMC meeting and are through December 2022. *Long-run projections are the rates of growth, unemployment and inflation to which a policymaker expects the economy to converge over the next five to six years in absence of further shocks and under appropriate monetary policy.

...and the U.S. government has delivered massive fiscal support.

Federal Acts to Offset Impact of Coronavirus Recession

<table>
<thead>
<tr>
<th>Amount ($ bn)</th>
<th>Measure</th>
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<tbody>
<tr>
<td>$293</td>
<td>One-time recovery rebates checks amounting to $1,200 per adult and $500 per child up to certain income limits</td>
</tr>
<tr>
<td>$268</td>
<td>Boost to unemployment benefits, adding $600 per week to every check until July 31st, expanding program to cover contractors and self-employed and extending program from 26 weeks to 39 weeks</td>
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<tr>
<td>$27</td>
<td>Grants to airlines and businesses deemed important for national security. Non-forgivable loans through Fed are excluded as they are assumed to be repaid</td>
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<tr>
<td>$760</td>
<td>Small business relief, mostly &quot;forgivable loans&quot; for spending on payroll, rent and utilities</td>
</tr>
<tr>
<td>$150</td>
<td>Direct aid to state and local governments</td>
</tr>
<tr>
<td>$425</td>
<td>Health-related spending</td>
</tr>
<tr>
<td>$517</td>
<td>Other spending and tax breaks</td>
</tr>
<tr>
<td>$2.441 trillion</td>
<td>~11.8% of GDP</td>
</tr>
</tbody>
</table>

Source: CBO, J.P. Morgan Asset Management. JPMAM estimates include costs of CPRSA, FFCR, CARES and PPPHCE Acts, signed into law on March 6, 18 and 27 and April 24 as estimated by CBO. Charts on right add impacts of these acts, interest cost of additional debt, an assumed extra $1 trillion in further acts in 2020 and 2021 and recession impacts on revenues, spending and GDP. Congressional Budget Office (CBO) March 2020 Baseline Budget Forecast. Note: Years shown are fiscal years (Oct. 1 through Sep. 30).

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2020 is the year of the virus, 2021 should be the first year of the rebound

Source: S&P Global, Compustat, FactSet, J.P. Morgan Asset Management. P/E ratios are based on last 12-months of operating earnings per share as they are reported until March 2020, from which point on full-year 2019 earnings are used in the denominator. Data are as of June 15, 2020.
With rates so low, equities may provide better income opportunities.

Some strategies for managing the virus have been more successful than others.

Relative value gaps that existed before this downturn persist.

**MSCI All Country World ex-U.S. and S&P 500 Indices**

Dec. 1996 = 100, U.S. dollar, price return

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<tbody>
<tr>
<td>S&amp;P 500</td>
<td>21.9x</td>
<td>18.8x</td>
<td>2.0%</td>
<td>2.1%</td>
</tr>
<tr>
<td>ACWI ex-U.S.</td>
<td>16.6x</td>
<td>17.2x</td>
<td>3.1%</td>
<td>3.1%</td>
</tr>
<tr>
<td><em>As % of U.S.</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>76%</td>
<td>91%</td>
<td>156%</td>
<td>152%</td>
</tr>
</tbody>
</table>

Source: FactSet, MSCI, Standard & Poor’s, J.P. Morgan Asset Management.

Trailing price to earnings ratio is a bottom-up calculation based on the most recent index price, divided by consensus estimates for earnings in the last 12 months (LTM), and is provided by FactSet Market Aggregates. Returns are cumulative and based on price movement only, and do not include the reinvestment of dividends. Dividend yield is calculated as consensus estimates of dividends for the next 12 months, divided by most recent price, as provided by FactSet Market Aggregates. Past performance is not a reliable indicator of current and future results.

All indexes are unmanaged and an individual cannot invest directly in an index. Index returns do not include fees or expenses.

**Equities:**

- **The Dow Jones Industrial Average** is a price-weighted average of 30 actively traded blue-chip U.S. stocks.
- **The MSCI ACWI (All Country World Index)** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets.
- **The MSCI EAFE Index (Europe, Australasia, Far East)** is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the US & Canada.
- **The MSCI Emerging Markets Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets.

- **The MSCI Europe Index** is a free float-adjusted market capitalization index that is designed to measure developed market equity performance in Europe.
- **The Russell 1000 Index** measures the performance of the 1,000 largest companies in the Russell 3000.
- **The Russell 1000 Growth Index®** measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.
- **The Russell 1000 Value Index®** measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values.
- **The Russell 2000 Index®** measures the performance of the 2,000 smallest companies in the Russell 3000 Index.
- **The Russell 2000 Growth Index®** measures the performance of those Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values.
- **The Russell 2000 Value Index®** measures the performance of those Russell 2000 companies with lower price-to-book ratios and lower forecasted growth values.
- **The Russell 3000 Index®** measures the performance of the 3,000 largest U.S. companies based on total market capitalization.
- **The Russell Midcap Index®** measures the performance of the 800 smallest companies in the Russell 1000 Index.
- **The Russell Midcap Growth Index®** measures the performance of those Russell Midcap companies with higher price-to-book ratios and higher forecasted growth values. The stocks are also members of the Russell 1000 Growth index.
- **The Russell Midcap Value Index®** measures the performance of those Russell Midcap companies with lower price-to-book ratios and lower forecasted growth values. The stocks are also members of the Russell 1000 Value index.

- **The S&P 500 Index** is widely regarded as the best single gauge of the U.S. equities market. The index includes a representative sample of 500 leading companies in leading industries of the U.S. economy. The S&P 500 Index focuses on the large-cap segment of the market; however, since it includes a significant portion of the total value of the market, it also represents the market.

**Fixed income:**

- **The Bloomberg Barclays 1-3 Month U.S. Treasury Bill Index** includes all publicly issued zero-coupon U.S. Treasury Bills that have a remaining maturity of less than 3 months and more than 1 month, are rated investment grade, and have $250 million or more of outstanding face value. In addition, the securities must be denominated in U.S. dollars and must be fixed rate and non convertible.
- **The Bloomberg Barclays Global High Yield Index** is a multi-currency flagship measure of the global high yield debt market. The index represents the union of the US High Yield, the Pan-European High Yield, and Emerging Markets (EM) Hard Currency High Yield Indices. The high yield and emerging markets sub-components are mutually exclusive. Until January 1, 2011, the index also included CMBS high yield securities.
- **The Bloomberg Barclays Municipal Index** consists of a broad selection of investment-grade general obligation and revenue bonds of maturities ranging from one year to 30 years. It is an unmanaged index representative of the tax-exempt bond market.
- **The Bloomberg Barclays US Dollar Floating Rate Note (FRN) Index** provides a measure of the U.S. dollar denominated floating rate note market.
- **The Bloomberg Barclays US Corporate Investment Grade Index** is an unmanaged index consisting of publicly issued US Corporate and specified foreign debentures and secured notes that are rated investment grade (Baa3/BBB or higher) by at least two ratings agencies, have at least one year to final maturity and have at least $250 million par amount outstanding. To qualify, bonds must be SEC-registered.
- **The Bloomberg Barclays US High Yield Index** covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.
- **The Bloomberg Barclays US Mortgage Backed Securities Index** is an unmanaged index that measures the performance of investment grade fixed-rate mortgage backed pass-through securities of GNMA, FNMA and FHLMC.
- **The Bloomberg Barclays US TIPS Index** consists of Inflation-Protection securities issued by the U.S. Treasury.
- **The J.P. Morgan Emerging Market Bond Global Index (EMBI)** includes U.S. dollar denominated Brady bonds, Eurobonds, traded loans and local market debt instruments issued by sovereign and quasi-sovereign entities.
- **The J.P. Morgan Domestic High Yield Index** is designed to mirror the investable universe of the U.S. dollar domestic high yield corporate debt market.
- **The J.P. Morgan Corporate Emerging Markets Bond Index Broad Diversified (CEMBI Broad Diversified)** is an expansion of the J.P. Morgan Corporate Emerging Markets Bond Index (CEMBI). The CEMBI is a market capitalization weighted index consisting of U.S. dollar denominated emerging market corporate bonds.
- **The J.P. Morgan Emerging Markets Bond Index Global Diversified (EMBI Global Diversified)** tracks total returns for U.S. dollar-denominated debt instruments issued by emerging market sovereign and quasi-sovereign entities: Brady bonds, loans, Eurobonds. The index limits the exposure of some of the larger countries.
- **The J.P. Morgan GBI EM Global Diversified** tracks the performance of local currency debt issued by emerging market governments, whose debt is accessible by most of the international investor base.
- **The U.S. Treasury Index** is a component of the U.S. Government index.
Investments in emerging markets can be more volatile. The normal risks of investing in foreign countries are heightened when investing in emerging markets. In addition, the small size of securities markets and the low trading volume may lead to a lack of liquidity, which leads to increased volatility. Also, emerging markets may not provide adequate legal protection for private or foreign investment or private property.

The price of equity securities may rise, or fall because of changes in the broad market or changes in a company’s financial condition, sometimes rapidly or unpredictably. These price movements may result from factors affecting individual companies, sectors or industries, or the securities market as a whole, such as changes in economic or political conditions. Equity securities are subject to “stock market risk” meaning that stock prices in general may decline over short or extended periods of time.

Equity market neutral strategies employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. Equity Market Neutral Strategies typically maintain characteristic net equity market exposure no greater than 10% long or short.

Global macro strategies trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets.

International investing involves a greater degree of risk and increased volatility. Changes in currency exchange rates and differences in accounting and taxation policies outside the U.S. can raise or lower returns. Some overseas markets may not be as politically and economically stable as the United States and other nations.

There is no guarantee that the use of long and short positions will succeed in limiting an investor’s exposure to domestic stock market movements, capitalization, sector swings or other risk factors. Using long and short selling strategies may have higher portfolio turnover rates. Short selling involves certain risks, including additional costs associated with covering short positions and a possibility of unlimited loss on certain short sale positions.

Merger arbitrage strategies which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are currently engaged in a corporate transaction.

Mid-capitalization investing typically carries more risk than investing in well-established “blue-chip” companies. Historically, mid-cap companies’ stock has experienced a greater degree of market volatility than the average stock.

Price to forward earnings is a measure of the price-to-earnings ratio (P/E) using forecasted earnings. Price to book value compares a stock’s market value to its book value. Price to cash flow is a measure of the market’s expectations of a firm’s future financial health. Price to dividends is the ratio of the price of a share on a stock exchange to the dividends per share paid in the previous year, used as a measure of a company’s potential as an investment.

Real estate investments may be subject to a higher degree of market risk because of concentration in a specific industry, sector or geographical sector. Real estate investments may be subject to risks including, but not limited to, declines in the value of real estate, risks related to general and economic conditions, changes in the value of the underlying property owned by the trust and defaults by borrowers.

Relative Value Strategies maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities.

Small-capitalization investing typically carries more risk than investing in well-established “blue-chip” companies since smaller companies generally have a higher risk of failure. Historically, smaller companies’ stock has experienced a greater degree of market volatility than the average stock.
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