4. Global growth
5. Global Purchasing Managers’ Index (PMI) for manufacturing
6. Global unemployment
7. Global inflation
8. Global core inflation and inflation expectations
9. Global central bank policy
10. Global currencies
11. Global trade
12. Productivity and population growth
13. US GDP
14. US Economic Monitor
15. US business surveys
16. US business investment
17. US consumer
18. US labour market
19. US non-farm payrolls and initial jobless claims
20. US Conference Board indicators
21. US household and corporate finances
22. US inflation
23. US Federal Reserve policy rate
24. US politics
25. US focus: Labour market and energy sector investment
26. Eurozone GDP
27. Eurozone business investment
28. Eurozone consumer
29. Eurozone labour market
30. Eurozone unemployment
31. Eurozone inflation
32. European Central Bank policy rate
33. Eurozone debt
34. Eurozone government debt and bond spreads
35. Eurozone focus: Sectors impacted by social distancing
36. UK GDP
37. UK consumer
38. UK inflation
39. UK focus: Business investment
40. Japan GDP
41. China GDP
42. China debt
43. China inflation and policy rates
44. Emerging market currencies and current account
45. Emerging market structural dynamics
46. Emerging market focus: Oil supply and net dependency

5. Global growth
6. Global Purchasing Managers’ Index (PMI) for manufacturing
7. Global unemployment
8. Global inflation
9. Global central bank policy
10. Global currencies
11. Global trade
12. Productivity and population growth
13. US GDP
14. US Economic Monitor
15. US business surveys
16. US business investment
17. US consumer
18. US labour market
19. US non-farm payrolls and initial jobless claims
20. US Conference Board indicators
21. US household and corporate finances
22. US inflation
23. US Federal Reserve policy rate
24. US politics
25. US focus: Labour market and energy sector investment
26. Eurozone GDP
27. Eurozone business investment
28. Eurozone consumer
29. Eurozone labour market
30. Eurozone unemployment
31. Eurozone inflation
32. European Central Bank policy rate
33. Eurozone debt
34. Eurozone government debt and bond spreads
35. Eurozone focus: Sectors impacted by social distancing
36. UK GDP
37. UK consumer
38. UK inflation
39. UK focus: Business investment
40. Japan GDP
41. China GDP
42. China debt
43. China inflation and policy rates
44. Emerging market currencies and current account
45. Emerging market structural dynamics
46. Emerging market focus: Oil supply and net dependency
Global growth

Real GDP growth
% change year on year

<table>
<thead>
<tr>
<th>Year</th>
<th>US</th>
<th>UK</th>
<th>Eurozone</th>
<th>Japan</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020 forecast</td>
<td>-5.3%</td>
<td>-3.7%</td>
<td>-3.4%</td>
<td>-3.1%</td>
</tr>
</tbody>
</table>

2020 forecast

Source: (Left) BEA, Eurostat, Japan Cabinet Office, ONS, Refinitiv Datastream, J.P. Morgan Asset Management. Forecasts are from J.P. Morgan Securities Research.
(Right) Refinitiv Datastream, World Bank, J.P. Morgan Asset Management. EM is emerging markets. DM is developed markets.
The Global Purchasing Managers’ Index (PMI) for manufacturing assesses the economic health of the sector by surveying manufacturing businesses regarding output, new orders, stocks of purchases, supplier delivery times, and employment. A score of 50 indicates that economic activity is neither expanding nor contracting, above 50 indicates expansion. The colours range from red to yellow to green, where red is below 50, yellow is at 50, and green is above 50. Quarterly averages are shown, except the two most recent monthly data points. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
Global unemployment

Unemployment rates

- Eurozone
- UK
- US
- Japan

Global inflation

<table>
<thead>
<tr>
<th>Country</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developed</td>
<td>2.2</td>
<td>1.9</td>
<td>2.0</td>
</tr>
<tr>
<td>Emerging</td>
<td>2.7</td>
<td>2.7</td>
<td>2.9</td>
</tr>
<tr>
<td>Eurozone</td>
<td>1.4</td>
<td>1.7</td>
<td>1.5</td>
</tr>
<tr>
<td>Germany</td>
<td>1.5</td>
<td>1.4</td>
<td>1.7</td>
</tr>
<tr>
<td>France</td>
<td>1.7</td>
<td>1.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Italy</td>
<td>0.9</td>
<td>0.9</td>
<td>1.0</td>
</tr>
<tr>
<td>Spain</td>
<td>1.3</td>
<td>1.2</td>
<td>1.2</td>
</tr>
<tr>
<td>Greece</td>
<td>0.2</td>
<td>0.6</td>
<td>0.3</td>
</tr>
<tr>
<td>Ireland</td>
<td>0.5</td>
<td>0.6</td>
<td>0.7</td>
</tr>
<tr>
<td>Sweden</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Switzerland</td>
<td>0.7</td>
<td>0.6</td>
<td>0.7</td>
</tr>
<tr>
<td>UK</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>US</td>
<td>2.4</td>
<td>2.4</td>
<td>2.4</td>
</tr>
<tr>
<td>Japan</td>
<td>1.1</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>China</td>
<td>2.1</td>
<td>1.8</td>
<td>1.8</td>
</tr>
<tr>
<td>Indonesia</td>
<td>3.4</td>
<td>3.3</td>
<td>3.3</td>
</tr>
<tr>
<td>Korea</td>
<td>1.2</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td>Taiwan</td>
<td>1.6</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>India</td>
<td>4.3</td>
<td>4.6</td>
<td>4.6</td>
</tr>
<tr>
<td>Brazil</td>
<td>2.7</td>
<td>2.8</td>
<td>2.8</td>
</tr>
<tr>
<td>Mexico</td>
<td>5.0</td>
<td>4.6</td>
<td>4.7</td>
</tr>
<tr>
<td>Russia</td>
<td>2.3</td>
<td>2.4</td>
<td>2.4</td>
</tr>
</tbody>
</table>

Global core inflation and inflation expectations

Core inflation

% change year on year

Market-based inflation expectations

% 5y5y inflation swap

Source: (Left) Bank of Japan, BLS, Eurostat, ONS, Refinitiv Datastream, J.P. Morgan Asset Management. CPI is the Consumer Price Index. Core inflation for the US is defined as CPI excluding food and energy. Core inflation for Japan is defined as CPI excluding fresh food and energy. Core inflation for the UK and the eurozone is defined as CPI less energy, food, alcohol and tobacco. Japan core CPI has been adjusted down by 2% from April 2014 to March 2015 to remove the estimated impact of the consumption tax hike over this period. (Right) Bloomberg, J.P. Morgan Asset Management. 5y5y inflation swap represents the market’s expectation of five-year average inflation, starting in five years’ time. Data for Japan starts in March 2007 due to data availability. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
Global central bank policy

Market expectations for policy rate

<table>
<thead>
<tr>
<th>%</th>
<th>Mar '20</th>
<th>Mar '21</th>
<th>Mar '22</th>
<th>Mar '23</th>
<th>Mar '24</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>0.25</td>
<td>0.30</td>
<td>0.35</td>
<td>0.40</td>
<td>0.45</td>
</tr>
<tr>
<td>UK</td>
<td>0.00</td>
<td>0.05</td>
<td>0.10</td>
<td>0.15</td>
<td>0.20</td>
</tr>
<tr>
<td>Japan</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>Eurozone</td>
<td>-0.50</td>
<td>-0.50</td>
<td>-0.50</td>
<td>-0.50</td>
<td>-0.50</td>
</tr>
<tr>
<td>Switzerland</td>
<td>-0.75</td>
<td>-0.75</td>
<td>-0.75</td>
<td>-0.75</td>
<td>-0.75</td>
</tr>
</tbody>
</table>

Central bank balance sheets

USD trillions

Source: (Left) Bloomberg, J.P. Morgan Asset Management. Expectations are calculated using OIS forwards. (Right) Bank of England (BoE), Bank of Japan (BoJ), European Central Bank (ECB), Refinitiv Datastream, Swiss National Bank (SNB), US Federal Reserve (Fed), J.P. Morgan Asset Management. Global central bank balance sheet is the sum of the balance sheets of the BoE, BoJ, ECB, Fed and SNB. *Balance sheet forecast assumptions: BoE to have net asset purchases totalling GBP 200 billion until August, after which net purchases continue at GBP 10 bn per month; BoJ to have an annualised net asset purchase pace of JPY 50 tn over the forecast period; ECB to have net asset purchases totalling EUR 1.1 tn; SNB balance sheet to increase by CHF 165 bn over the remainder of 2020, with the balance sheet increasing at a slowing pace over the course of the year; Fed has set no limit to its asset purchases but we have assumed net asset purchases of USD 3.0 tn over the remainder of 2020. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
Global economy

Real effective exchange rates
Index level rebased to 100 in 2010, broad real effective exchange rate (REER)

### Exports of goods

**% of nominal GDP, 2018**

<table>
<thead>
<tr>
<th>Country</th>
<th>US</th>
<th>China</th>
<th>EM ex-China</th>
<th>Eurozone</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eurozone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UK</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>India</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Russia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mexico</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Korea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Productivity and population growth

Drivers of US GDP growth
Annualised % change

Source: (Left) BEA, BLS, J.P. Morgan Asset Management. GDP drivers are calculated as the average annualised growth between 4Q from the preceding year in the period and 4Q of the last year of the period. (Right) United Nations (UN) Department of Economic and Social Affairs, J.P. Morgan Asset Management. Working-age population is defined as aged 15-69. Data from 2020 onwards are UN forecasts. Past performance is not a reliable indicator of current and future results.

The Institute for Supply Management (ISM) composite is an economy-weighted average of the manufacturing and non-manufacturing surveys. A score of 50 indicates that economic activity is neither expanding nor contracting, above 50 indicates expansion. ISM data is shown with quarterly frequency. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
US Economic Monitor

US economic indicators
Percentile rank relative to historic data since 1990

Source: BLS, Conference Board, ISM, Refinitiv Datastream, J.P. Morgan Asset Management. Elevated recession risk flags are shown when the underlying indicator is at a level consistent with the onset of any of the past three US recessions, as determined by NBER. Transformations used for each of the indicators are: % change year on year for the Leading Economic Index and consumer confidence present situation, index level for Leading Credit Index, ISM non-manufacturing and ISM manufacturing new orders and three-month moving average of monthly absolute change for non-farm payrolls. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
US business surveys

Global economy

Source: (All charts) ISM, Refinitiv Datastream, J.P. Morgan Asset Management. Periods of “recession” are defined using US National Bureau of Economic Research (NBER) business cycle dates. Elevated recession risk line is shown as the highest value of the underlying indicator observed at the start of the past three US recessions, as determined by NBER. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe.

Data as of 31 March 2020.
US future capex intentions and business investment

% change year on year (LHS); index level (RHS)

US consumer confidence: Present situation
% change year on year

Recession

US house prices relative to income
Index level

US unemployement rate and wage growth

% wage growth is year on year

US non-farm payrolls and initial jobless claims

**US non-farm payrolls**
Monthly change in thousands, three-month moving average

**US initial jobless claims**
Thousands, 12-week moving average

Source: (All charts) BLS, Refinitiv Datastream, J.P. Morgan Asset Management. Periods of “recession” are defined using US National Bureau of Economic Research (NBER) business cycle dates. Elevated recession risk line is shown as the highest value of the underlying indicator observed at the start of the past three US recessions, as determined by NBER. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe.

Data as of 31 March 2020.
Source: (All charts) Conference Board, Refinitiv Datastream, J.P. Morgan Asset Management. Periods of “recession” are defined using US National Bureau of Economic Research (NBER) business cycle dates. Elevated recession risk line is shown as the highest value for the Leading Economic Index and lowest for the Leading Credit Index at the start of the past three US recessions, as determined by NBER. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
US inflation

**US headline and core inflation**

<table>
<thead>
<tr>
<th></th>
<th>Average since 2000</th>
<th>February 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headline CPI</td>
<td>2.2%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Core CPI</td>
<td>2.0%</td>
<td>2.4%</td>
</tr>
</tbody>
</table>

**US core goods and services inflation**

<table>
<thead>
<tr>
<th></th>
<th>Average since 2000</th>
<th>February 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services CPI</td>
<td>2.8%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Core goods CPI</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Source: (All charts) BLS, Refinitiv Datastream, J.P. Morgan Asset Management. CPI is the Consumer Price Index. Core CPI is defined as CPI excluding food and energy. Core goods CPI is defined as goods CPI excluding food and energy. Past performance is not a reliable indicator of current and future results.

### Federal funds policy rate expectations

% Fed funds rate, FOMC and market expectations

#### Federal Reserve policy actions

- **Restarted asset purchase programme**
  - Purchases of Treasuries and agency MBS are now unlimited
  - Expanded the programme to include agency CMBS

- **Launched a Primary (PMCCF) and Secondary Corporate Credit Facility (SMCCF)**

- **Reduced reserve requirements for the banking sector**

- **Restarted Term Asset-backed securities Loan Facility (TALF)**

---


Data as of 31 March 2020.
Votes or seats in the Electoral College, Senate and the House of Representatives

Number of votes / elected representatives needed for majority

Electoral College

Last election result 270

227 vs. 304*

Electoral College

Democrat

Republican Party

Senate

Last election result 51**

47 vs. 53

House of Representatives

Last election result 218

238 vs. 197

Global economy

Last election result

Democratic Party

Republican Party

Source: 270 to Win, The Cook Political Report, J.P. Morgan Asset Management. *In 2016 Trump earned 306 pledged electors, Clinton 232. They lost, respectively, two and five votes to faithless electors in the official tally. **51 seats are needed for a simple majority if the dominant party in the Senate is not represented in the White House. If the president and majority party are the same, only 50 seats are needed for a majority because the vice president casts the tie-breaking vote. 2016 numbers include two independents that vote with the Democrats. Guide to the Markets - Europe. Data as of 31 March 2020.
US focus: Labour market and energy sector investment

US job openings, hires and layoffs
Millions, monthly

US investment growth and contribution of energy sector
% change year on year, contribution to private business investment

Contribution to eurozone real GDP growth and composite PMI

% change year on year (LHS); index level (RHS)

Source: Eurostat, Markit, Refinitiv Datastream, J.P. Morgan Asset Management. PMI is Purchasing Managers’ Index where a score of 50 indicates that economic activity is neither expanding nor contracting, above 50 indicates expansion. PMI data is shown with quarterly frequency. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
Eurozone business investment and investment confidence

% change year on year (LHS); index level (RHS)


Eurozone consumer

**Eurozone consumer confidence**

Index level

Recession


**Eurozone house prices relative to income**

Index level

Spain
France
Italy
Germany

Data as of 31 March 2020.
Eurozone unemployment rate and wage growth

%, wage growth is year on year

Eurozone unemployment

Germany, France, Italy and Spain unemployment rates


Eurozone inflation

Eurozone headline and core inflation

% change year on year

<table>
<thead>
<tr>
<th>Average since 2000</th>
<th>March 2020 (flash)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Headline CPI</strong></td>
<td>1.7%</td>
</tr>
<tr>
<td><strong>Core CPI</strong></td>
<td>1.4%</td>
</tr>
</tbody>
</table>

Headline inflation target

Eurozone core goods and services inflation

% change year on year

<table>
<thead>
<tr>
<th>Average since 2000</th>
<th>March 2020 (flash)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Services CPI</strong></td>
<td>1.9%</td>
</tr>
<tr>
<td><strong>Core goods CPI</strong></td>
<td>0.6%</td>
</tr>
</tbody>
</table>

Source: (All charts) Eurostat, Refinitiv Datastream, J.P. Morgan Asset Management. CPI is the Consumer Price Index. Core CPI is defined as CPI less energy, food, alcohol and tobacco. Core goods CPI is defined as goods CPI less energy, food, alcohol and tobacco. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
European Central Bank policy rate expectations

% deposit rate, market expectations

European Central Bank policy actions

- Launched the Pandemic Emergency Purchase Programme (PEPP)
  - Minimum of €750bn to be purchased by the end of 2020
  - Increased flexibility on issuer and maturity limits
  - Short-term deviations from the capital key permitted
  - Greek bonds are eligible for purchase

- Expanded existing Asset Purchase Programme (APP) by €120bn

- Expanded eligibility of non-financial commercial paper for the Corporate Sector Purchase Programme (CSPP)

- Enhanced Targeted Longer-Term Refinancing Operations (TLTROs)

Eurozone debt

Eurozone debt to GDP ratios
% of nominal GDP

- Government
- Non-financial corporates
- Households

Eurozone debt service ratios
% of disposable income

Source: (All charts) Bank for International Settlements, Refinitiv Datastream, J.P. Morgan Asset Management. Debt refers to gross debt. Debt service ratios are a GDP-weighted average of France, Germany, Italy and Spain. For the household sector, gross disposable income is the amount of money that all of the individuals in the household sector have available for spending or saving after income distribution measures (for example, taxes, social contributions and benefits) have taken effect. For the non-financial corporate sector, gross disposable income is essentially akin to gross operating surplus before dividends or interest are paid. Past performance is not a reliable indicator of current and future results. *Guide to the Markets - Europe.* Data as of 31 March 2020.
Eurozone government debt and bond spreads

France, Germany, Italy and Spain government debt to GDP

0% of nominal GDP

% spread


Eurozone focus: Sectors impacted by social distancing

Breakdown of eurozone inflation basket by type of consumption
% weight

Sectors most impacted by social distancing
- Transport
- Restaurants and hotels
- Recreation and culture
- Clothing and footwear

Sectors less impacted by social distancing
- Utilities
- Food and non-alcoholic beverages
- Misc. goods and services
- Other

Source: Eurostat, J.P. Morgan Asset Management. Weights are from the eurozone Harmonised Index of Consumer Prices index. Other category includes household furnishings, health, alcoholic beverages and tobacco, communication and education. Past performance is not a reliable indicator of current and future results.

UK GDP

Contribution to UK real GDP growth and composite PMI

% change year on year (LHS); index level (RHS)

Source: Markit, ONS, Refinitiv Datastream, J.P. Morgan Asset Management. PMI is Purchasing Managers’ Index where a score of 50 indicates that economic activity is neither expanding nor contracting, above 50 indicates expansion. PMI data is shown with quarterly frequency. Past performance is not a reliable indicator of current and future results. *Guide to the Markets - Europe.* Data as of 31 March 2020.
UK consumer

UK consumer confidence
Index level, three-month moving average

UK inflation

**UK headline and core inflation**

<table>
<thead>
<tr>
<th></th>
<th>Average since 2000</th>
<th>February 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Headline CPI</strong></td>
<td>2,0%</td>
<td>1,7%</td>
</tr>
<tr>
<td><strong>Core CPI</strong></td>
<td>1,7%</td>
<td>1,7%</td>
</tr>
</tbody>
</table>

**UK core goods and services inflation**

<table>
<thead>
<tr>
<th></th>
<th>Average since 2000</th>
<th>February 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Services CPI</strong></td>
<td>3,3%</td>
<td>2,5%</td>
</tr>
<tr>
<td><strong>Core goods CPI</strong></td>
<td>-0,7%</td>
<td>0,3%</td>
</tr>
</tbody>
</table>

Source: (All charts) ONS, Refinitiv Datastream, J.P. Morgan Asset Management. CPI is the Consumer Price Index. Core CPI is defined as CPI less energy, food, alcohol and tobacco. Core goods CPI is defined as goods CPI less energy, food, alcohol and tobacco. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
UK and G7 ex-UK real business investment
Index level, rebased to 100 in 1Q 2007

Contribution to Japan real GDP growth and manufacturing PMI

% change year on year (LHS); index level (RHS)

Source: Japan Cabinet Office, Markit, Refinitiv Datastream, J.P. Morgan Asset Management. PMI is Purchasing Managers’ Index where a score of 50 indicates that economic activity is neither expanding nor contracting, above 50 indicates expansion. PMI data is shown with quarterly frequency. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
China GDP

### Contribution to China real GDP growth

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP Growth</th>
<th>Investment</th>
<th>Consumption</th>
<th>Net Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>9.2%</td>
<td>6.1%</td>
<td>3.1%</td>
<td>2.8%</td>
</tr>
<tr>
<td>1991</td>
<td>9.8%</td>
<td>6.5%</td>
<td>3.2%</td>
<td>2.7%</td>
</tr>
<tr>
<td>1992</td>
<td>9.1%</td>
<td>6.9%</td>
<td>3.0%</td>
<td>2.6%</td>
</tr>
<tr>
<td>1993</td>
<td>8.6%</td>
<td>7.2%</td>
<td>2.9%</td>
<td>2.5%</td>
</tr>
<tr>
<td>1994</td>
<td>8.3%</td>
<td>7.4%</td>
<td>2.8%</td>
<td>2.4%</td>
</tr>
<tr>
<td>1995</td>
<td>8.5%</td>
<td>7.6%</td>
<td>2.9%</td>
<td>2.5%</td>
</tr>
<tr>
<td>1996</td>
<td>8.2%</td>
<td>7.3%</td>
<td>2.8%</td>
<td>2.4%</td>
</tr>
<tr>
<td>1997</td>
<td>7.8%</td>
<td>7.0%</td>
<td>2.5%</td>
<td>2.3%</td>
</tr>
<tr>
<td>1998</td>
<td>7.6%</td>
<td>6.8%</td>
<td>2.3%</td>
<td>2.1%</td>
</tr>
<tr>
<td>1999</td>
<td>7.3%</td>
<td>6.5%</td>
<td>2.1%</td>
<td>1.9%</td>
</tr>
<tr>
<td>2000</td>
<td>7.0%</td>
<td>6.3%</td>
<td>1.9%</td>
<td>1.7%</td>
</tr>
<tr>
<td>2001</td>
<td>6.8%</td>
<td>6.1%</td>
<td>1.7%</td>
<td>1.5%</td>
</tr>
<tr>
<td>2002</td>
<td>6.6%</td>
<td>5.9%</td>
<td>1.5%</td>
<td>1.3%</td>
</tr>
<tr>
<td>2003</td>
<td>6.4%</td>
<td>5.7%</td>
<td>1.3%</td>
<td>1.1%</td>
</tr>
<tr>
<td>2004</td>
<td>6.2%</td>
<td>5.5%</td>
<td>1.0%</td>
<td>0.9%</td>
</tr>
<tr>
<td>2005</td>
<td>6.1%</td>
<td>5.4%</td>
<td>0.9%</td>
<td>0.8%</td>
</tr>
<tr>
<td>2006</td>
<td>6.0%</td>
<td>5.3%</td>
<td>0.8%</td>
<td>0.7%</td>
</tr>
<tr>
<td>2007</td>
<td>5.9%</td>
<td>5.2%</td>
<td>0.6%</td>
<td>0.6%</td>
</tr>
<tr>
<td>2008</td>
<td>5.8%</td>
<td>5.1%</td>
<td>0.5%</td>
<td>0.5%</td>
</tr>
<tr>
<td>2009</td>
<td>5.7%</td>
<td>5.0%</td>
<td>0.4%</td>
<td>0.4%</td>
</tr>
<tr>
<td>2010</td>
<td>5.6%</td>
<td>4.9%</td>
<td>0.3%</td>
<td>0.3%</td>
</tr>
<tr>
<td>2011</td>
<td>5.5%</td>
<td>4.8%</td>
<td>0.2%</td>
<td>0.2%</td>
</tr>
<tr>
<td>2012</td>
<td>5.4%</td>
<td>4.7%</td>
<td>0.1%</td>
<td>0.1%</td>
</tr>
<tr>
<td>2013</td>
<td>5.3%</td>
<td>4.6%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>2014</td>
<td>5.2%</td>
<td>4.5%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>2015</td>
<td>5.1%</td>
<td>4.4%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>2016</td>
<td>5.0%</td>
<td>4.3%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>2017</td>
<td>4.9%</td>
<td>4.2%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>2018</td>
<td>4.8%</td>
<td>4.1%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>2019</td>
<td>4.7%</td>
<td>4.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>2020</td>
<td>4.6%</td>
<td>3.9%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>


China debt

Source: (Left) Bank for International Settlements, Refinitiv Datastream, J.P. Morgan Asset Management. Debt refers to gross debt. (Right) People’s Bank of China (PBoC), J.P. Morgan Asset Management. This chart includes two measures of credit ranging from the narrowest – bank lending – to the more extensive broad credit. Specifically, bank lending is the sum of all loans made by the commercial banking system to domestic borrowers. Broad credit includes all finance provided to non-financial entities in private and public sectors. Broad credit is all funding to domestic borrowers, including bank lending, trust loans, entrusted loans, bankers’ acceptances, corporate bonds, equity financing by non-financial enterprises, asset-backed securities, loan write-offs, central government and local government bonds. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
China inflation and policy rates

China inflation
% change year on year

<table>
<thead>
<tr>
<th></th>
<th>Average since 2007</th>
<th>February 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headline CPI</td>
<td>2.8%</td>
<td>5.2%</td>
</tr>
<tr>
<td>Core CPI</td>
<td>1.3%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Headline PPI</td>
<td>1.0%</td>
<td>-0.4%</td>
</tr>
</tbody>
</table>

Source: (Left) Bloomberg, Refinitiv Datastream, J.P. Morgan Asset Management. CPI is the Consumer Price Index. Core CPI is defined as CPI excluding food and energy. PPI is the Producer Price Index. (Right) People’s Bank of China, Refinitiv Datastream, J.P. Morgan Asset Management. Average RRR for large and small banks. SHIBOR is the three-month interbank rate. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
Emerging market currencies and current account

EM currencies vs. US dollar
% from fair value, relative to US dollar

+1 std. dev.
-1 std. dev.
Average

EM current account balance
% of nominal GDP

Source: (Left) J.P. Morgan Asset Management. Fair value is based on nominal exchange rates relative to PPP exchange rates and is adjusted for GDP per capita. (Right) Bloomberg, J.P. Morgan Asset Management. EM currencies and current account balances are created using the current weighted average of JPM GBI-EM Global Diversified Index countries. Current account balance is the balance of a country’s net trade in goods and services, its net earnings on cross-border investments and its net transfer payments. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
Emerging market structural dynamics

Urbanisation, real GDP per capita and population size
Urbanisation rates, %, and GDP per capita, USD, bubble size is population

Emerging market focus: Oil supply and net dependency

Crude oil production by country
Million barrels per day

Net oil production by country
% of nominal GDP, 2018

Global earnings expectations and equity valuations

Consensus estimates for global earnings per share growth
% change year on year, earnings per share estimates

Source: (Left) FTSE, IBES, MSCI, Refinitiv Datastream, Standard & Poor’s, TOPIX, J.P. Morgan Asset Management. MSCI indices are used for Europe ex-UK and EM. UK is FTSE All-Share, US is S&P 500 and Japan is TOPIX. Data used are in local currency, except for EM, which is in US dollars. (Right) IBES, MSCI, Refinitiv Datastream, Standard & Poor’s, J.P. Morgan Asset Management. MSCI indices are used for all regions/countries (due to data availability), except for the US, which is represented by the S&P 500. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
### Asset yield comparison

<table>
<thead>
<tr>
<th>Asset</th>
<th>% Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>German Bunds</td>
<td>0,0</td>
</tr>
<tr>
<td>Cash</td>
<td>0,0</td>
</tr>
<tr>
<td>Euro IG</td>
<td>1,9</td>
</tr>
<tr>
<td>DM equity</td>
<td>3,0</td>
</tr>
<tr>
<td>EM equity</td>
<td>3,2</td>
</tr>
<tr>
<td>MSCI Europe</td>
<td>4,5</td>
</tr>
<tr>
<td>Global infrastructure</td>
<td>5,1</td>
</tr>
<tr>
<td>Global REITs</td>
<td>5,7</td>
</tr>
<tr>
<td>EM debt</td>
<td>6,5</td>
</tr>
<tr>
<td>Global convertibles</td>
<td>6,9</td>
</tr>
<tr>
<td>DM high yield</td>
<td>8,8</td>
</tr>
<tr>
<td>Global transport</td>
<td>9,9</td>
</tr>
</tbody>
</table>

**Average Europe inflation:** 1.5% (12 months to February 2020)

### Equity index yields

<table>
<thead>
<tr>
<th>Index</th>
<th>% Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTSE All-Share</td>
<td>6,0</td>
</tr>
<tr>
<td>MSCI Europe ex-UK</td>
<td>5,4</td>
</tr>
<tr>
<td>S&amp;P 500</td>
<td>4,8</td>
</tr>
<tr>
<td>MSCI World</td>
<td>5,1</td>
</tr>
<tr>
<td>MSCI Japan</td>
<td>4,7</td>
</tr>
<tr>
<td>MSCI EM</td>
<td>3,8</td>
</tr>
</tbody>
</table>

**Buyback yield**

**Dividend yield**

Global equity sector weights

% of total market cap

MSCI World Growth and Value sector weights

% of total market cap

Source: (Top) MSCI, Refinitiv Datastream, Standard & Poor’s, J.P. Morgan Asset Management. Indices are all MSCI, except for US, which is S&P 500. (Bottom) MSCI, Refinitiv Datastream, J.P. Morgan Asset Management. Real estate is not included in these sector breakdowns due to the small size of the weight in each index. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
Equity issuance and buybacks

Breakdown of US net equity issuance
USD billions, 12-month rolling

Breakdown of European net equity issuance
USD billions, 12-month rolling


US earnings

S&P 500 earnings and performance
Next 12 months’ earnings per share estimates (LHS); index level (RHS)

S&P 500 forward EPS

US nominal GDP growth and earnings growth
% change year on year

S&P 500 trailing EPS

US equity valuations

S&P 500 forward P/E ratio

<table>
<thead>
<tr>
<th>Valuation measure</th>
<th>Average since 1990</th>
<th>Latest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shiller CAPE ratio</td>
<td>25,9x</td>
<td>23,2x</td>
</tr>
<tr>
<td>P/B ratio</td>
<td>2,9x</td>
<td>2,8x</td>
</tr>
</tbody>
</table>

US valuations and subsequent returns

Forward P/E ratios and subsequent 1-year returns

Forward P/E ratios and subsequent 10-year returns

Equities and interest rates

US Fed funds rate and equities/government bonds relative performance
% (LHS); relative total return index level, rebased to 100 in 1997 (RHS)

S&P 500 bull markets, %

- 50 months: 86%
- 43 months: 80%
- 26 months: 48%
- 32 months: 74%
- 74 months: 126%
- 60 months: 229%
- 147 months: 582%

Duration: 131 months
Price return: 401%

S&P 500 bear markets, %

- 6 months: -28%
- 8 months: -22%
- 18 months: -36%
- 21 months: -48%
- 20 months: -27%
- 3 months: -34%
- 30 months: -49%
- 17 months: -57%

Duration:
Since 19 Feb 2020
Price return: -24%

Source: (All charts) Bloomberg, Refinitiv Datastream, Standard & Poor's, J.P. Morgan Asset Management. A bear market represents a 20% or more decline from the previous market high using a monthly frequency; a bull market represents a 20% increase from a market trough. Charts and labels refer to price return. Median values are calculated excluding data from current cycle. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe.
Data as of 31 March 2020.
MSCI Europe earnings and performance
Next 12 months' earnings per share estimates, EUR (LHS); index level (RHS)

Europe nominal GDP growth and earnings growth
% change year on year

Data as of 31 March 2020.
Europe equity valuations

MSCI Europe forward P/E ratio

Average: 14.3x

<table>
<thead>
<tr>
<th>Valuation measure</th>
<th>Average since 1990</th>
<th>Latest</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAPE ratio</td>
<td>19.4x</td>
<td>14.9x</td>
</tr>
<tr>
<td>P/B ratio</td>
<td>2.1x</td>
<td>1.5x</td>
</tr>
</tbody>
</table>


MSCI Europe forward P/E ratio sector breakdown

Cheap relative to history

<table>
<thead>
<tr>
<th>Sector</th>
<th>Current forward P/E ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT</td>
<td>15.7</td>
</tr>
<tr>
<td>Comm. Serv.</td>
<td>10.6</td>
</tr>
<tr>
<td>Energy</td>
<td>7.5</td>
</tr>
<tr>
<td>Financials</td>
<td>6.6</td>
</tr>
<tr>
<td>Cons. Discr.</td>
<td>10.2</td>
</tr>
<tr>
<td>Health Care</td>
<td>14.4</td>
</tr>
<tr>
<td>Industrials</td>
<td>11.9</td>
</tr>
<tr>
<td>MSCI Europe</td>
<td>12.1</td>
</tr>
<tr>
<td>Materials</td>
<td>11.0</td>
</tr>
<tr>
<td>Cons. Staples</td>
<td>15.7</td>
</tr>
<tr>
<td>Utilities</td>
<td>12.9</td>
</tr>
</tbody>
</table>

Average: 14.3x

31 Mar 2020: 12.1x
Europe equity market and currency

MSCI Europe and euro vs. US dollar
Index level (LHS); US dollars per euro (RHS)

Europe large, mid and small capitalisation equities

MSCI Europe large, mid & small cap performance
Index level, rebased to 100 in Jan 1995

FTSE All-Share earnings and performance

Next 12 months’ earnings per share estimates, GBP (LHS); index level (RHS)

FTSE All-Share earnings per share growth

% change year on year

Source: (All charts) FTSE, IBES, Refinitiv Datastream, J.P. Morgan Asset Management. Earnings data are based on 12-month forward estimates. Margin growth is the growth rate of earnings per share divided by sales per share. Past performance is not a reliable indicator of current and future results. *Guide to the Markets - Europe.*

Data as of 31 March 2020.
UK equity market and currency

Valuation gap between FTSE All-Share and MSCI World
% premium / discount of FTSE All-Share forward P/E vs. MSCI World

FTSE All-Share and sterling vs. US dollar
Index level (LHS); US dollars per UK pound (RHS)

Source: (Left) FTSE, MSCI, Refinitiv Datastream, J.P. Morgan Asset Management. The P/E gap is the percentage premium or discount of the 12-month forward price-to-earnings ratio of the FTSE All-Share index relative to the 12-month forward price-to-earnings ratio of the MSCI World index. A zero level represents both indices trading at the same valuation level, a negative level represents the FTSE All-Share trading on a cheaper valuation than MSCI World. (Right) FTSE, Refinitiv Datastream, J.P. Morgan Asset Management. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe.

Data as of 31 March 2020.
Source: (All charts) FactSet, IBES, Refinitiv Datastream, TOPIX, J.P. Morgan Asset Management. Earnings data are based on 12-month forward estimates. Margin growth is the growth rate of earnings per share divided by sales per share. Past performance is not a reliable indicator of current and future results.

Japan equity market and currency

TOPIX and the yen vs. US dollar
Index level (LHS); Japanese yen per US dollar (RHS)


Emerging market equity drivers

**EM / DM relative equity performance and growth gap**
Relative index level (LHS); %, next 12 months’ growth estimates (RHS)

**EM / DM relative equity performance and USD REER**
Relative index level (LHS); index level (RHS)

Emerging market equity valuations and subsequent returns

**MSCI EM price-to-book ratio**

- **x, multiple**
- **Average: 1.8x**
- **31 Mar 2020: 1.4x**

**MSCI EM price-to-book ratio and subsequent 10-year returns**

- **%**, annualised total return*

## Valuations, earnings and price declines in S&P 500 downturns

<table>
<thead>
<tr>
<th>S&amp;P 500 peak to trough</th>
<th>Forward P/E at S&amp;P 500 peak</th>
<th>Forward P/E at S&amp;P 500 trough</th>
<th>% max drawdown in forward earnings**</th>
<th>% decline in S&amp;P 500 price index</th>
<th>% drawdown in US real GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug 1987 – Dec 1987</td>
<td>15,2x</td>
<td>9,6x</td>
<td>0%</td>
<td>-34%</td>
<td>-</td>
</tr>
<tr>
<td>Jul 1990 – Oct 1990</td>
<td>12,6x</td>
<td>10,1x</td>
<td>-8%</td>
<td>-20%</td>
<td>-1,4%</td>
</tr>
<tr>
<td>Mar 2000 – Oct 2002</td>
<td>24,7x</td>
<td>13,8x</td>
<td>-18%</td>
<td>-49%</td>
<td>-0,4%</td>
</tr>
<tr>
<td>Oct 2007 – Mar 2009</td>
<td>15,1x</td>
<td>10,2x</td>
<td>-40%</td>
<td>-57%</td>
<td>-4,0%</td>
</tr>
<tr>
<td>*Feb 2020 -</td>
<td>19,1x</td>
<td>15,0x</td>
<td>-3%</td>
<td>-24%</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Refinitiv Datastream, Standard & Poor’s, J.P. Morgan Asset Management. *For the February 2020 downturn, the forward P/E at S&P 500 trough, % decline in forward earnings and % decline in S&P 500 price index are calculated based on the latest data available. **The max decline in forward earnings is the largest drawdown in earnings per share in the period around the S&P 500 downturn. There was no decline in US real GDP during the period of the Aug-Dec 1987 downturn. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
### World stock market returns

<table>
<thead>
<tr>
<th>Year</th>
<th>EUR Local</th>
<th>-23,0% TOPIX</th>
<th>-40,6%</th>
<th>73,5% MSCI EM</th>
<th>62,8% Asia ex-Jp</th>
<th>28,3% US S&amp;P 500</th>
<th>2,1%</th>
<th>20,8% US S&amp;P 500</th>
<th>19,7%</th>
<th>26,7% TOPIX</th>
<th>13,7%</th>
<th>29,5% US S&amp;P 500</th>
<th>12,0%</th>
<th>24,4% TOPIX</th>
<th>12,1%</th>
<th>15,3% US S&amp;P 500</th>
<th>35,9%</th>
<th>24,8% Asia ex-Jp</th>
<th>0,4%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>-33,7% US S&amp;P 500</td>
<td>-37,0%</td>
<td>67,2% Asia ex-Jp</td>
<td>67,2%</td>
<td>27,5% MSCI EM</td>
<td>14,4%</td>
<td>-5,7% Portfolio</td>
<td>-7,5%</td>
<td>18,1% Europe</td>
<td>16,4%</td>
<td>21,5% TOPIX</td>
<td>54,4%</td>
<td>19,7% Asia ex-Jp</td>
<td>7,7%</td>
<td>12,9% US S&amp;P 500</td>
<td>14%</td>
<td>14,9% MSCI EM</td>
<td>10,1%</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>-40,2% Portfolio</td>
<td>-40,3%</td>
<td>36,0% Portfolio</td>
<td>34,9%</td>
<td>23,9% TOPIX</td>
<td>1,0%</td>
<td>-7,5% Europe</td>
<td>-8,8%</td>
<td>16,8% MSCI EM</td>
<td>17,4%</td>
<td>20,5% Europe</td>
<td>22,3%</td>
<td>16,2% Portfolio</td>
<td>8,6%</td>
<td>9,5% Portfolio</td>
<td>8,5%</td>
<td>12,7% Portfolio</td>
<td>21,8%</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>-43,3% Europe</td>
<td>-38,5%</td>
<td>32,6% Europe</td>
<td>28,6%</td>
<td>23,1% US S&amp;P 500</td>
<td>15,1%</td>
<td>-9,6% TOPIX</td>
<td>-17,0%</td>
<td>15,8% Portfolio</td>
<td>17,2%</td>
<td>16,2% Portfolio</td>
<td>24,1%</td>
<td>11,8% MSCI EM</td>
<td>5,6%</td>
<td>8,9% Asia ex-Jp</td>
<td>6,4%</td>
<td>11,2% Asia ex-Jp</td>
<td>22,2%</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>-49,8% Asia ex-Jp</td>
<td>-47,7%</td>
<td>22,5% US S&amp;P 500</td>
<td>26,5%</td>
<td>20,4% Portfolio</td>
<td>10,9%</td>
<td>-14,3% Asia ex-Jp</td>
<td>-14,6%</td>
<td>14,2% US S&amp;P 500</td>
<td>16,0%</td>
<td>-1,1% Asia ex-Jp</td>
<td>6,2%</td>
<td>10,1% TOPIX</td>
<td>10,3%</td>
<td>1,5% Asia ex-Jp</td>
<td>-5,3%</td>
<td>6,6% TOPIX</td>
<td>0,3%</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>-50,8% MSCI EM</td>
<td>-45,7%</td>
<td>1,5% TOPIX</td>
<td>7,6%</td>
<td>11,7% Europe</td>
<td>7,5%</td>
<td>-15,4% MSCI EM</td>
<td>-12,5%</td>
<td>5,9% MSCI EM</td>
<td>20,9%</td>
<td>-6,5% MSCI EM</td>
<td>3,8%</td>
<td>7,4% Europe</td>
<td>5,2%</td>
<td>-4,9% MSCI EM</td>
<td>-5,4%</td>
<td>3,2% Europe</td>
<td>7,9%</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>-50,8% MSCI EM</td>
<td>-45,7%</td>
<td>1,5% TOPIX</td>
<td>7,6%</td>
<td>11,7% Europe</td>
<td>7,5%</td>
<td>-15,4% MSCI EM</td>
<td>-12,5%</td>
<td>5,9% MSCI EM</td>
<td>20,9%</td>
<td>-6,5% MSCI EM</td>
<td>3,8%</td>
<td>7,4% Europe</td>
<td>5,2%</td>
<td>-4,9% MSCI EM</td>
<td>-5,4%</td>
<td>3,2% Europe</td>
<td>7,9%</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>-50,8% MSCI EM</td>
<td>-45,7%</td>
<td>1,5% TOPIX</td>
<td>7,6%</td>
<td>11,7% Europe</td>
<td>7,5%</td>
<td>-15,4% MSCI EM</td>
<td>-12,5%</td>
<td>5,9% MSCI EM</td>
<td>20,9%</td>
<td>-6,5% MSCI EM</td>
<td>3,8%</td>
<td>7,4% Europe</td>
<td>5,2%</td>
<td>-4,9% MSCI EM</td>
<td>-5,4%</td>
<td>3,2% Europe</td>
<td>7,9%</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>-50,8% MSCI EM</td>
<td>-45,7%</td>
<td>1,5% TOPIX</td>
<td>7,6%</td>
<td>11,7% Europe</td>
<td>7,5%</td>
<td>-15,4% MSCI EM</td>
<td>-12,5%</td>
<td>5,9% MSCI EM</td>
<td>20,9%</td>
<td>-6,5% MSCI EM</td>
<td>3,8%</td>
<td>7,4% Europe</td>
<td>5,2%</td>
<td>-4,9% MSCI EM</td>
<td>-5,4%</td>
<td>3,2% Europe</td>
<td>7,9%</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>-50,8% MSCI EM</td>
<td>-45,7%</td>
<td>1,5% TOPIX</td>
<td>7,6%</td>
<td>11,7% Europe</td>
<td>7,5%</td>
<td>-15,4% MSCI EM</td>
<td>-12,5%</td>
<td>5,9% MSCI EM</td>
<td>20,9%</td>
<td>-6,5% MSCI EM</td>
<td>3,8%</td>
<td>7,4% Europe</td>
<td>5,2%</td>
<td>-4,9% MSCI EM</td>
<td>-5,4%</td>
<td>3,2% Europe</td>
<td>7,9%</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>-50,8% MSCI EM</td>
<td>-45,7%</td>
<td>1,5% TOPIX</td>
<td>7,6%</td>
<td>11,7% Europe</td>
<td>7,5%</td>
<td>-15,4% MSCI EM</td>
<td>-12,5%</td>
<td>5,9% MSCI EM</td>
<td>20,9%</td>
<td>-6,5% MSCI EM</td>
<td>3,8%</td>
<td>7,4% Europe</td>
<td>5,2%</td>
<td>-4,9% MSCI EM</td>
<td>-5,4%</td>
<td>3,2% Europe</td>
<td>7,9%</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>-50,8% MSCI EM</td>
<td>-45,7%</td>
<td>1,5% TOPIX</td>
<td>7,6%</td>
<td>11,7% Europe</td>
<td>7,5%</td>
<td>-15,4% MSCI EM</td>
<td>-12,5%</td>
<td>5,9% MSCI EM</td>
<td>20,9%</td>
<td>-6,5% MSCI EM</td>
<td>3,8%</td>
<td>7,4% Europe</td>
<td>5,2%</td>
<td>-4,9% MSCI EM</td>
<td>-5,4%</td>
<td>3,2% Europe</td>
<td>7,9%</td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>-50,8% MSCI EM</td>
<td>-45,7%</td>
<td>1,5% TOPIX</td>
<td>7,6%</td>
<td>11,7% Europe</td>
<td>7,5%</td>
<td>-15,4% MSCI EM</td>
<td>-12,5%</td>
<td>5,9% MSCI EM</td>
<td>20,9%</td>
<td>-6,5% MSCI EM</td>
<td>3,8%</td>
<td>7,4% Europe</td>
<td>5,2%</td>
<td>-4,9% MSCI EM</td>
<td>-5,4%</td>
<td>3,2% Europe</td>
<td>7,9%</td>
<td></td>
</tr>
<tr>
<td>1Q 20</td>
<td>-50,8% MSCI EM</td>
<td>-45,7%</td>
<td>1,5% TOPIX</td>
<td>7,6%</td>
<td>11,7% Europe</td>
<td>7,5%</td>
<td>-15,4% MSCI EM</td>
<td>-12,5%</td>
<td>5,9% MSCI EM</td>
<td>20,9%</td>
<td>-6,5% MSCI EM</td>
<td>3,8%</td>
<td>7,4% Europe</td>
<td>5,2%</td>
<td>-4,9% MSCI EM</td>
<td>-5,4%</td>
<td>3,2% Europe</td>
<td>7,9%</td>
<td></td>
</tr>
<tr>
<td>Ann. return since '08</td>
<td>-23,0% TOPIX</td>
<td>-40,6%</td>
<td>73,5% MSCI EM</td>
<td>62,8% Asia ex-Jp</td>
<td>28,3% US S&amp;P 500</td>
<td>2,1%</td>
<td>20,8% US S&amp;P 500</td>
<td>19,7%</td>
<td>26,7% TOPIX</td>
<td>13,7%</td>
<td>29,5% US S&amp;P 500</td>
<td>12,0%</td>
<td>24,4% TOPIX</td>
<td>12,1%</td>
<td>15,3% US S&amp;P 500</td>
<td>35,9%</td>
<td>24,8% Asia ex-Jp</td>
<td>0,4%</td>
<td></td>
</tr>
</tbody>
</table>

Current and historical yields for selected indices

% yield, since 2008*

Illustration of the impact a 1% rise in local interest rates may have on selected indices

% change, assumes a parallel shift in the yield curve and spreads are maintained

Source: (All charts) Refinitiv Datastream, J.P. Morgan Asset Management.

*Historical yield range is since Jan 2008, convertibles is since Dec 2008.

Fixed income sectors shown are: Euro Gov. 1-3 years; Euro Gov. 10+ years; US Treasury; Euro inv. grade; US inv. grade; Euro high yield; US high yield; Global convertibles; Bloomberg Barclays Corporate Investment Grade; Euro high yield: BofA/Merrill Lynch Euro Non-Financial High Yield Constrained; US high yield: BofA/Merrill Lynch US High Yield Constrained; Global convertibles: Bloomberg Barclays Credit/Rate Sensitive; EMD USD Sov.: J.P. Morgan EMBI Global; EMD Local Sov.: JPM GBI-EM Composite.

For illustrative purposes only. Change in bond price is calculated using both duration and convexity, with the exception of convertibles, which is historical change. Past performance is not a reliable indicator of current and future results.

Guide to the Markets - Europe.
Data as of 31 March 2020.
Global government bond yields

Nominal 10-year government bond yields

% yield

-1 -0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 5.5 6 6.5 7

US
UK
Germany

Real 10-year government bond yields

% yield

-4 -3 -2 -1 0 1 2 3 4 5

US
Germany
UK

### Yield curve inversion and recession

<table>
<thead>
<tr>
<th>Yield curve inversion date</th>
<th>Curve inversion to S&amp;P 500 peak before recession</th>
<th>S&amp;P 500 peak to start of recession</th>
<th>Curve inversion to recession</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug '78</td>
<td>18</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>Sep '80</td>
<td>3</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Dec '88</td>
<td>19</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>May '98</td>
<td>22</td>
<td>12</td>
<td>34</td>
</tr>
<tr>
<td>Dec '05</td>
<td>22</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td><strong>Median</strong></td>
<td><strong>19</strong></td>
<td><strong>3</strong></td>
<td><strong>20</strong></td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>17</strong></td>
<td><strong>5</strong></td>
<td><strong>22</strong></td>
</tr>
</tbody>
</table>


Data as of 31 March 2020.
US investment-grade bonds

**US investment-grade spread**
% option-adjusted spread over US government bond yield

**US investment-grade leverage measures**
x, leverage (LHS); x, interest coverage ratio (RHS)


Data as of 31 March 2020.
US high yield spread and defaults

% default rate (LHS); %, option-adjusted spread (RHS)

<table>
<thead>
<tr>
<th>Latest</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Default rate* (LHS)</td>
<td>3.4%</td>
</tr>
<tr>
<td>Energy spread (RHS)</td>
<td>20.5%</td>
</tr>
<tr>
<td>Ex-energy spread (RHS)</td>
<td>7.5%</td>
</tr>
</tbody>
</table>

Source: (Left) Bloomberg Barclays, J.P. Morgan Securities Research, J.P. Morgan Asset Management. HY spreads are using the Bloomberg Barclays US High Yield Energy and ex-Energy indices. Default rates are defined as the par value percentage of the total market trading at or below 50% of par value and include any Chapter 11 filing, prepackaged filing or missed interest payments. *2020 default rate is for the last 12 months. (Right) J.P. Morgan Economic Research, J.P. Morgan Asset Management. Net leverage is net debt divided by earnings before interest, tax, depreciation and amortisation (EBITDA). Interest coverage ratio is EBITDA divided by interest expense. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
Europe and UK investment-grade bonds

**Euro and UK investment-grade spreads**

% option-adjusted spread over local government bond yield

- **Euro**
- **UK**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.1%</td>
<td>0.2%</td>
<td>0.3%</td>
<td>0.4%</td>
<td>0.5%</td>
<td>0.6%</td>
<td>0.7%</td>
<td>0.8%</td>
<td>0.9%</td>
<td>1.0%</td>
<td>1.1%</td>
</tr>
</tbody>
</table>

31 Mar 2020:

- **Euro**: 2.6%
- **UK**: 2.4%

**Euro investment-grade leverage measures**

x, leverage (LHS); x, interest coverage ratio (RHS)

- **Net leverage**
- **Interest coverage**

Europe high yield bonds

Euro high yield spread and defaults
% default rate (LHS); % option-adjusted spread (RHS)

Latest

- Default rate* (LHS): 1.6%
- Spread (RHS): 7.7%

Source: (Left) BofA/Merrill Lynch, Refinitiv Datastream, J.P. Morgan Asset Management. Spread to worst is BofA/Merrill Lynch Euro Non-Financial High Yield Constrained. Default rates are reported by JPMAM GFICC Quantitative Research Group. Defaults are defined as a bond rated as Ca or lower. The calculation universe is based on par value percentage of the BofA/Merrill Lynch Global High Yield Index (HW00) that is covered by Moody’s and filtered for EUR Developed Markets Ex-Financial. *2020 default rate is for the last 12 months. (Right) J.P. Morgan Securities Research, J.P. Morgan Asset Management. Net leverage is net debt divided by earnings before interest, tax, depreciation and amortisation (EBITDA). Interest coverage ratio is EBITDA divided by interest expense. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
Emerging market bonds

Real 10-year government bond yields
% yield, local currency

<table>
<thead>
<tr>
<th>Country</th>
<th>Average since 2008</th>
<th>Latest</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM sovereigns local</td>
<td>4.2%</td>
<td>5.1%</td>
</tr>
<tr>
<td>EM sovereigns USD</td>
<td>3.6%</td>
<td>5.8%</td>
</tr>
<tr>
<td>EM corporates USD</td>
<td>3.6%</td>
<td>5.4%</td>
</tr>
</tbody>
</table>

Fixed income focus: Central bank asset purchases

US Federal Reserve monthly net asset purchases
USD billions

European Central Bank monthly net asset purchases
EUR billions

Bank of England monthly net asset purchases
GBP billions

Bank of Japan monthly net asset purchases
JPY trillions, 3-month moving average

Global fixed income spreads and returns

Fixed income spreads

% option-adjusted spread

- Current
- Range since 2000
- Average

Commodities

WTI crude oil price and US rig count
USD/barrel (LHS); number of rigs (RHS)

Gold vs. real US 10-year Treasury yield
$ per Troy ounce (LHS); %, inverted (RHS)

31 Mar 2020

Gold (LHS) $1.612
Real 10-year yield (RHS) -0.3%

Stock-bond correlation and downside protection

Rolling six-month stock and bond correlations
Of weekly total return on US equities (S&P 500) and US Treasuries (10-yr)

Hedge fund returns in different market environments
% average total return in up and down months, 2001-present

Stock and bond returns moving in the same direction

Global core infrastructure returns

% rolling 4-quarter returns from income and capital appreciation

- Source: (Left) MSCI, J.P. Morgan Asset Management. Infrastructure returns represented by the “low risk” category of the MSCI Global Quarterly Infrastructure Asset Index. Data show rolling one-year returns from income and capital appreciation. The chart shows the full index history, beginning in the first quarter of 2009. (Right) CBOE, Hedge Fund Research Indices (HFRI), Refinitiv Datastream, J.P. Morgan Asset Management. Macro hedge fund relative performance is calculated relative to the HFRI fund weighted hedge fund index. VIX is the implied volatility of S&P 500 Index based on options pricing. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
Sustainable investment strategies

ESG INTEGRATION:
Consideration of material ESG information as part of the investment decision-making process

EXCLUSIONS
The exclusion from a fund or portfolio of certain sectors, companies or practices based on specific ESG criteria

POSITIVE TILT
An investment style in which the portfolio will be tilted towards sectors, companies or projects with positive ESG characteristics, while also excluding companies based on ESG criteria

BEST-IN-CLASS
A comparative investment style that involves investing only in companies that lead their peer groups in ESG performance, while also excluding companies based on ESG criteria

THEMATIC
Top-down investment approach, investments in themes or assets specifically related to sustainability

IMPACT
Investments made with the primary goal of achieving specific, positive environmental/social benefits while also delivering a financial return

Sustainable investment policy interventions and market size

Global ESG-related policy measures
Cumulative number of policy interventions

Sustainable investment assets under management
USD trillions

2020 Long-Term Capital Market Assumptions expected returns in coming 10-15 years

%, annualised return in EUR

Source: 2020 Long-Term Capital Market Assumptions, J.P. Morgan Multi-Asset Solutions, J.P. Morgan Asset Management. Returns are nominal and in EUR. Past returns are calculated from the start of 2009 up to the end of 2019, or the most recent available data. The projections in the chart above are based on J.P. Morgan Asset Management’s proprietary long-term capital market assumptions (10-15 years) for returns of major asset classes. The resulting projections include only the benchmark return associated with the portfolio and do not include alpha from the underlying product strategies within each asset class. The assumptions are presented for illustrative purposes only. Past performance and forecasts are not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
The cost of hedging

Hedging cost heatmap
Current annualised hedging cost based on 3-month FX forwards

Positive = yield pickup to hedge
Negative = cost to hedge

...and hedged into home currency

<table>
<thead>
<tr>
<th>Foreign asset in...</th>
<th>USD</th>
<th>EUR</th>
<th>GBP</th>
<th>JPY</th>
</tr>
</thead>
<tbody>
<tr>
<td>USD</td>
<td>-</td>
<td>-1,4%</td>
<td>-0,6%</td>
<td>-1,5%</td>
</tr>
<tr>
<td>EUR</td>
<td>+1,4%</td>
<td>-</td>
<td>+0,8%</td>
<td>-0,1%</td>
</tr>
<tr>
<td>GBP</td>
<td>+0,6%</td>
<td>-0,8%</td>
<td>-</td>
<td>-0,9%</td>
</tr>
<tr>
<td>JPY</td>
<td>+1,5%</td>
<td>+0,1%</td>
<td>+0,9%</td>
<td>-</td>
</tr>
</tbody>
</table>

Rolling hedging costs
% annualised hedging cost based on 3-month FX forwards

Source: (All charts) Bloomberg, J.P. Morgan Asset Management. A positive number implies that an investor gains a yield pickup when hedging currency risk, and a negative number implies that an investor is charged to hedge currency risk, based on 3-month FX forward rates. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
Life expectancy

Probability of reaching ages 80 and 90
% probability, persons aged 65, by gender and combined couple

The effect of compounding

€5,000 invested annually with 5% growth per year

EUR

€640,000

€354,000

Age

25 30 35 40 45 50 55 60 65

Starting at age 25

Starting at age 35

€5,000 investment with/without income reinvested

EUR, MSCI Europe returns

With dividends reinvested

Without dividends reinvested

'86 '90 '94 '98 '02 '06 '10 '14 '18

€64,000

€23,000

Source: (Left) J.P. Morgan Asset Management. For illustrative purposes only, assumes all income reinvested, actual investments may incur higher or lower growth rates and charges. (Right) Bloomberg, MSCI, J.P. Morgan Asset Management. Based on MSCI Europe Index and assumes no charges. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
Cash investments

Income generated by €100.000 in a three-month bank deposit
EUR (LHS); % change year on year (RHS)

Effect of 2% inflation on purchasing power of €100.000
EUR, thousands

Source: (Left) Bloomberg, Eurostat, J.P. Morgan Asset Management. Inflation is the percentage change year on year for the eurozone harmonised index of consumer prices. Data shown are yearly averages. (Right) J.P. Morgan Asset Management. For illustrative purposes only, assumes no return on cash and an inflation rate of 2%. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
**Long-term asset returns**

Total return of $1 in real terms
USD, log scale, total returns

**Annualised real returns**

<table>
<thead>
<tr>
<th></th>
<th>1900–2019</th>
<th>2000–2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equities</td>
<td>6.7%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Bonds</td>
<td>2.2%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Cash</td>
<td>0.6%</td>
<td>-0.4%</td>
</tr>
</tbody>
</table>

Despite average intra-year drops of 15.2% (median 12.0%), annual returns are positive in 31 of 40 years.

Source: MSCI, Refinitiv Datastream, J.P Morgan Asset Management. Returns are local currency price returns. Intra-year decline refers to the largest market fall from peak to trough within a short time period during the calendar year. Returns shown are calendar years from 1980 to 2019. YTD is year to date. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
Historic risk vs. return for selected asset classes
%
S&P 500 and fund flows

US mutual fund and ETF flows and S&P 500
USD billions, three-month net flows (LHS); index level (RHS)

Avoid selling at the bottom

Range of equity and bond total returns
% annualised total returns, 1950-present

### Asset class returns (EUR)

| Year | Govt bonds | EME | REITs | EMD | DM Equities | REITs | DM Equities | HY bonds | EME | Govt bonds | DM Equities | Govt bonds | REITs | EME | HY bonds | DM Equities | Govt bonds | REITs | EME | DM Equities | Govt bonds | REITs | EME | DM Equities | Govt bonds | REITs | EME | DM Equities |
|------|------------|-----|-------|-----|-------------|-------|-------------|---------|-----|------------|-------------|-------------|-------|-----|-----|---------|-------------|-------------|-------|-----|-------------|-------------|-------|-----|-------------|-------------|-------|-----|-------------|
| 2008 | 15.3%      | 73.5% | 36.4% | 12.1% | 18.3%       | 44.8% | 13.9%       | 17.7%   | 21.0%| 4.6%       | 30.8%       | 3.7%        | 10.6% | 28.6% |
| 2009 | 7.7%       | 54.4% | 27.5% | 10.9% | 17.8%       | 20.2% | 12.6%       | 15.1%   | 1.3% | 1.0%       | 30.4%       | 9.8%        | 20.1% |
| 2010 | -3.8%      | 26.7% | 24.9% |   9.9% | 16.6%       | 2.7% | 20.1%       | 11.0%   | 14.9%| 0.8%       | 18.6%       | 18.5%       | 17.5% |
| 2011 | -6.3%      | 25.4% | 22.8% |  7.8% | 16.7%       | 2.1% | 17.5%       |  8.4%  | 13.5%| -0.3%      | 16.8%       | 16.5%       | 15.5% |
| 2012 | -19.3%     | 24.2% | 20.1% |  6.6% | 14.7%       | 0.2% | 16.2%       | 12.6%   | 8.0% | -3.0%      | 18.6%       | 16.5%       | 15.5% |
| 2013 | -20.9%     | 23.5% | 19.8% |  1.7% | 10.7%       | -1.3%| 13.9%       |  7.4%  | 11.4%| -4.0%      | 14.6%       | 19.9%       | 11.7% |
| 2014 | -23.1%     | 23.5% | 19.8% |  1.2% |  9.5%       | -4.0%| 13.2%       |  7.3%  | 10.3%| -4.0%      | 13.6%       | 13.6%       | 11.7% |
| 2015 | -32.3%     | 15.5% | 18.9% |  1.2% |  9.5%       | -4.0%| 13.2%       |  7.3%  | 10.3%| -4.0%      | 13.6%       | 13.6%       | 11.7% |
| 2016 | -34.1%     | 15.2% | 13.3% |  1.9% |  9.5%       | -5.5%| 13.0%       |  7.4%  |  4.2%| -2.0%      | 10.6%       | 19.1%       | 11.7% |
| 2017 | -37.2%     | 12.5% | 13.2% |  1.9% | -5.8%       |  1.2%| -8.4%       | 11.8%   |  0.1%|  5.6%      | -5.8%       | -3.6%       |  9.2% |
| 2018 | -50.5%     |  9.9% | 12.5% | -10.4%|  0.3%       |  0.3%| -10.6%      |  0.3%  |  4.7%|  5.6%      |  7.5%       | -21.5%      |  7.3% |
| 2019 | -50.6%     |  1.1% | -2.6% | -13.4%| -5.5%       | -16.1%| -4.9%       |  4.7%  | -5.9%| -6.8%      |  7.5%       | -21.6%      |  7.3% |
| 1Q 20| -50.6%     |  1.1% | -2.6% | -13.4%| -5.5%       | -16.1%| -4.9%       |  4.7%  | -5.9%| -6.8%      |  7.5%       | -21.6%      |  7.3% |

Source: Bloomberg Barclays, FTSE, J.P. Morgan Economic Research, MSCI, Refinitiv Datastream, J.P. Morgan Asset Management. Annualised return covers the period from 2008 to 2019. Vol. is the standard deviation of annual returns. Govt bonds: Bloomberg Barclays Global Aggregate Government Treasuries; HY bonds: Bloomberg Barclays Global High Yield; EMD: J.P. Morgan EMBI Global; IG bonds: Bloomberg Barclays Global Aggregate – Corporates; Cm dty: Bloomberg Commodity; REITs: FTSE NAREIT All REITs; DM Equities: MSCI World; EME: MSCI EM; Hedge funds: HFR Global Hedge Fund Index; Cash: JP Morgan Cash Index EUR (3M). Hypothetical portfolio (for illustrative purposes only and should not be taken as a recommendation): 30% DM equities; 10% EM equities; 15% IG bonds; 12.5% government bonds; 7.5% HY bonds; 5% EMD; 5% commodities; 5% cash; 5% REITs and 5% hedge funds. All returns are total return, in EUR, and are unhedged. Past performance is not a reliable indicator of current and future results. Guide to the Markets - Europe. Data as of 31 March 2020.
J.P. Morgan Asset Management: Index definitions

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

The S&P 500® Index is widely regarded as the best single gauge of the U.S. equities market. This world-renowned index includes a representative sample of 500 leading companies in leading industries of the U.S. economy. Although the S&P 500® Index focuses on the large-cap segment of the market, with approximately 75% coverage of U.S. equities, it is also an ideal proxy for the total market. An investor cannot invest directly in an index.

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 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. As of June 2007, the MSCI Emerging Markets Index consisted of the following 25 emerging market country indices: Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Jordan, Korea, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, and Turkey.

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. As of June 2009 the MSCI ACWI consisted of 45 country indices comprising 23 developed and 22 emerging market country indices.

The Tokyo Price Index (TOPIX) is a capitalization-weighted index lists all firms that are considered to be under the ‘first section’ on the TSE, which groups all of the large firms on the exchange into one pool. The second section groups all of the remaining smaller firms.

The FTSE 100 Index is an index of the 100 largest companies (by market capitalization) in the United Kingdom.

The FTSE All Share Index is an index of the 630 largest companies (by market capitalization) in the United Kingdom.

The MSCI Value and Growth Indices cover the full range of developed, emerging and All Country MSCI Equity indexes. As of the close of May 30, 2003, MSCI implemented an enhanced methodology for the MSCI Global Value and Growth Indices, adopting a two dimensional framework for style segmentation in which value and growth securities are categorized using different attributes - three for value and five for growth including forward-looking variables. The objective of the index design is to divide constituents of an underlying MSCI Standard Country Index into a value index and a growth index, each targeting 50% of the free float adjusted market capitalization of the underlying country index. Country Value/Growth indices are then aggregated into regional Value/Growth indices. Prior to May 30, 2003, the indices used Price/Book Value (P/BV) ratios to divide the standard MSCI country indices into value and growth indices. All securities were classified as either “value” securities (low P/BV securities) or “growth” securities (high P/BV securities), relative to each MSCI country index. The following MSCI Total Return Indices® are calculated with gross dividends:

This series approximates the maximum possible dividend reinvestment. The amount reinvested is the dividend distributed to individuals resident in the country of the company, but does not include tax credits.

The MSCI Europe Index® is a free float-adjusted market capitalization index that is designed to measure developed market equity performance in Europe. As of June 2007, the MSCI Europe Index consisted of the following 16 developed market country indices: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

West Texas Intermediate (WTI) is underlying commodity in the New York Mercantile Exchange's oil futures contracts.

The Bloomberg Barclays U.S. Aggregate Index represents securities that are SEC-registered, taxable, and dollar denominated. The index covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities.

The U.S. Treasury Index is a component of the U.S. Government index.

The Bloomberg Barclays High Yield Index covers the universe of fixed rate, non-investment grade debt, Pay-in-kind (PIK) bonds, Eurobonds, and debt issues from countries designated as emerging markets (e.g., Argentina, Brazil, Venezuela, etc.) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.

The Bloomberg Barclays Euro-Aggregate Index consists of bond issued in the euro or the legacy currencies of the sovereign countries participating the European Monetary Union (EMU).

The Bloomberg Barclays Emerging Market Bond Index (EMBI) is a comprehensive global local emerging markets index, and consists of liquid, fixed-rate, domestic currency government bonds.
The Market Insights program provides comprehensive data and commentary on global markets without reference to products. Designed as a tool to help clients understand the markets and support investment decision-making, the program explores the implications of current economic data and changing market conditions. For the purposes of MiFID II, the JPM Market Insights and Portfolio Insights programs are marketing communications and are not in scope for any MiFID II / MiFIR requirements specifically related to investment research. Furthermore, the J.P. Morgan Asset Management Market Insights and Portfolio Insights programs, as non-independent research, have not been prepared in accordance with legal requirements designed to promote the independence of investment research, nor are they subject to any prohibition on dealing ahead of the dissemination of investment research.

This document is a general communication being provided for informational purposes only. It is educational in nature and not designed to be taken as advice or a recommendation for any specific investment product, strategy, plan feature or other purpose in any jurisdiction, nor is it a commitment from J.P. Morgan Asset Management or any of its subsidiaries to participate in any of the transactions mentioned herein. Any examples used are generic, hypothetical and for illustration purposes only. This material does not contain sufficient information to support an investment decision and it should not be relied upon by you in evaluating the merits of investing in any securities or products. In addition, users should make an independent assessment of the legal, regulatory, tax, credit, and accounting implications and determine, together with their own professional advisers, if any investment mentioned herein is believed to be suitable to their personal goals. Investors should ensure that they obtain all available relevant information before making any investment. Any forecasts, figures, opinions or investment techniques and strategies set out are for information purposes only, based on certain assumptions and current market conditions and are subject to change without prior notice. All information presented herein is considered to be accurate at the time of production, but no warranty of accuracy is given and no liability in respect of any error or omission is accepted. It should be noted that investment involves risks, the value of investments and the income from them may fluctuate in accordance with market conditions and taxation agreements and investors may not get back the full amount invested. Both past performance and yields are not a reliable indicator of current and future results. J.P. Morgan Asset Management is the brand for the asset management business of JPMorgan Chase & Co. and its affiliates worldwide. To the extent permitted by applicable law, we may record telephone calls and monitor electronic communications to comply with our legal and regulatory obligations and internal policies. Personal data will be collected, stored and processed by J.P. Morgan Asset Management in accordance with our Company's Privacy Policy (www.jpmorgan.com/global/privacy). For further information regarding our local privacy policies, please follow the respective links: Australia (www.jpmorganam.com.au/wps/portal/auec/PrivacyPolicy), EMEA (www.jpmorgan.com/emea-privacy-policy), Japan (www.jpmorganasset.co.jp/wps/portal/Policy/Privacy), Hong Kong (https://am.jpmorgan.com/hk/en/asset-management/per/privacy-statement/), Singapore (www.jpmorganam.com.sg/privacy) and Taiwan (www.jpmorgan.com/country/GB/en/privacy/taiwan).

This communication is issued by the following entities: in the United Kingdom by JPMorgan Asset Management (UK) Limited, which is authorized and regulated by the Financial Conduct Authority; in other European jurisdictions by JPMorgan Asset Management (Europe) S.à r.l.; in Hong Kong by JPMorgan Asset Management (Asia Pacific) Limited, or JPMorgan Funds (Asia) Limited, or JPMorgan Asset Management Real Assets (Asia) Limited; in Singapore by JPMorgan Asset Management (Singapore) Limited (Co. Reg. No. 197601586K), or JPMorgan Asset Management Real Assets (Singapore) Pte Ltd (Co. Reg. No. 201120355E), this advertisement or publication has not been reviewed by the Monetary Authority of Singapore; in Taiwan by JPMorgan Asset Management (Taiwan) Limited; in Japan by JPMorgan Asset Management (Japan) Limited which is a member of the Investment Trusts Association, Japan, the Japan Investment Advisers Association, Type II Financial Instruments Firms Association and the Japan Securities Dealers Association and is regulated by the Financial Services Agency (registration number "Kanto Local Finance Bureau (Financial Instruments Firm) No. 330"); in Brazil by Banco J.P. Morgan S.A.; in Canada for institutional clients' use only by JPMorgan Asset Management (Canada) Inc., and in the United States by J.P. Morgan Institutional Investments, Inc., member of FINRA; J.P. Morgan Investment Management Inc. or J.P. Morgan Alternative Asset Management, Inc.

In APAC, distribution is for Hong Kong, Taiwan, Japan and Singapore. For all other countries in APAC, to intended recipients only.

Copyright 2020 JPMorgan Chase & Co. All rights reserved.

Prepared by: Karen Ward, Tilmann Galler, Vincent Juvyns, Maria Paola Toschi, Michael Bell, Hugh Gimber, Ambrose Crofton, Iai Malhi and Max McKechnie.

Unless otherwise stated, all data as of 31 March 2020 or most recently available.

Guide to the Markets - Europe
JP-LITTLEBOOK

0903cO2a828686f2