Guide to the Markets®

Latin America | 3Q 2020 | As of June 30, 2020
Latin America: Economic growth and inflation

Inflation

Year-over-year % change

Real GDP

Year-over-year % change

Latin America aggregate GDP growth includes Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Peru and Uruguay. Inflation does not include Argentina, Ecuador or Venezuela.

Latin America: Composition of economic growth

Real GDP growth
Contribution to growth, year-over-year % change

Exports
% of nominal GDP, USD terms, goods, 2019

Source: IMF World Economic Outlook, J.P. Morgan Asset Management; (Left) Argentina Economy Ministry, BCE, BCRP, BCU, CBC, DANE, IBGE, INEGI; (Right) IMF Direction of Trade Statistics.

Latin America aggregate GDP growth includes Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Peru and Uruguay. Uruguay is excluded from 2000 – 2005 due to data availability.

**Latin America: Inequality and fiscal balance**

### Gini index and GDP per capita

Gini index: 0 = perfect equality and 100 = perfect inequality

<table>
<thead>
<tr>
<th>Country</th>
<th>Gini Index</th>
<th>GDP per Capita, U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>50</td>
<td>$15,000</td>
</tr>
<tr>
<td>Argentina</td>
<td>40</td>
<td>$12,000</td>
</tr>
<tr>
<td>Chile</td>
<td>35</td>
<td>$9,000</td>
</tr>
<tr>
<td>Colombia</td>
<td>30</td>
<td>$6,000</td>
</tr>
<tr>
<td>Peru</td>
<td>45</td>
<td>$18,000</td>
</tr>
<tr>
<td>India</td>
<td>60</td>
<td>$0</td>
</tr>
<tr>
<td>China</td>
<td>55</td>
<td>$12,000</td>
</tr>
<tr>
<td>Mexico</td>
<td>65</td>
<td>$18,000</td>
</tr>
</tbody>
</table>

### Fiscal deficit

Nominal deficit, % of GDP

<table>
<thead>
<tr>
<th>Country</th>
<th>Fiscal Deficit 2019</th>
<th>Fiscal Deficit 2020F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>-6.0%</td>
<td>-11.0%</td>
</tr>
<tr>
<td>Argentina</td>
<td>-3.8%</td>
<td>-7.0%</td>
</tr>
<tr>
<td>Chile</td>
<td>-2.8%</td>
<td>-7.9%</td>
</tr>
<tr>
<td>Colombia</td>
<td>-2.5%</td>
<td>-9.5%</td>
</tr>
<tr>
<td>Mexico</td>
<td>-1.6%</td>
<td>-16%</td>
</tr>
<tr>
<td>Peru</td>
<td>-1.6%</td>
<td>-18%</td>
</tr>
</tbody>
</table>


GDP per capita measured in constant 2010 U.S. dollars. *Data are from 2007 or the closest year available. **Latest Gini coefficients are from 2018 or latest available. GDP per capita is from 2018.

Fiscal deficit 2020 forecasts are from J.P. Morgan Global Economic Research.

*Guide to the Markets – Latin America. Data are as of June 30, 2020.*
Latin America structural drags

Ease of doing business ranking
Overall ranking, 1 = most ease of doing business, 2019

Protectionist trade measures*
Number of measures implemented from 2009 - 2020

Selected competitiveness indicators: 2019

Cost to export goods
USD per container, 2019


*Measures that may involve or almost certainly do involve discrimination against foreign commercial interests.

**Brazil: Economic snapshot**

### Real GDP

Year-over-year % change

- '19: 2.4%
- '18: 3.0%
- '17: 0.9%
- '16: 0.8%
- '15: 0.5%
- '14: 1.4%
- '13: 0.3%
- '12: 1.8%
- '11: 1.8%
- '10: 0.8%
- '09: 0.6%
- '08: 0.2%
- '07: 0.1%
- '06: 0.7%
- '05: 1.3%
- '04: 3.1%
- '03: 2.7%
- '02: 1.5%
- '01: 0.4%
- '00: 0.2%

**Source:** IBGE (Brazilian Statistics and Geography Institute), J.P. Morgan Asset Management; (Bottom right) Central Bank of Brazil, MDIC (Ministry of Development, Industry and External Commerce), J.P. Morgan Global Economic Research.

*Real effective exchange rates (REERs) compare the value of a currency to a weighted basket of several foreign currencies. They are deflated using a producer price index.

**Guide to the Markets – Latin America. Data are as of June 30, 2020.**
Brazil: Inflation and monetary policy

Inflation targeting and inflation
IPCA, 12-month accumulated % change

Consensus*

Upper limit: 5.5%

2020 target: 4.0%

Lower limit: 2.5%

May 2020: 1.9%

Source: Central Bank of Brazil, IBGE (Brazilian Statistics and Geography Institute), J.P. Morgan Asset Management.

Target inflation bands set by Central Bank of Brazil. *Focus survey conducted by Central Bank of Brazil. **Includes prices set at federal level (telephone services, petroleum derivatives, electricity, health plans) and state/municipal level (water and sewage taxes, value-added and real estate taxes, public transport costs).

Brazil: Consumer and business dynamics

**Consumer and industrial confidence**
Seasonally adjusted

- **Industrial**
- **Consumer**

**Credit growth**
Year-over-year % change, non-earmarked credit*

- ** Corporates**
- **Households**

**Unemployment rate**
Non-seasonally adjusted, 3-month average

Source: J.P. Morgan Asset Management; (Left) FGV/IBRE (Brazilian Institute of Economics of the Getulio Vargas Foundation); (Top right) Central Bank of Brazil; (Bottom right) IBGE (Brazilian Statistics and Geography Institute).

*Non-earmarked funds are those where interest rates are determined by market conditions.

Brazil: Fiscal policy

**Public sector primary balance**
% of GDP, 12-month sum

**Social security and payroll expenditures**
% of total expenses, 12-month moving average

**Gross debt**
% of GDP

Source: J.P. Morgan Global Economic Research, J.P. Morgan Asset Management; (Left and bottom right) Central Bank of Brazil; (Top right) National Treasury of Brazil.
Public sector includes central government, local governments and selected state-owned companies.

Mexico: Economic snapshot

Real GDP
Year-over-year % change

Average: 2.0%

1Q20: -9.3%

Real consumption and investment
Year-over-year % change

1Q20: -0.5%

1Q20: -9.3%

Trade balance and exchange rate
USD billions, accumulated past 12 months, real effective FX*

REER  May 2020: $1.8bn

Jun. 2020: 88.4


*Real effective exchange rates (REERs) compare the value of a currency to a weighted basket of several foreign currencies. They are deflated using a producer price index.

Mexico: Inflation and monetary policy

Inflation targeting and inflation
Headline inflation, 12-month accumulated % change

FX and core goods inflation
Peso per USD spot rate, monthly average, year-over-year % chg.

Target policy rate and expectations
Banxico target rate

*Survey conducted by the Central Bank of Mexico.

Consumer and industrial confidence
Composite consumer index, mfg. producer confidence, sa

Private sector credit growth
Households, year-over-year % change, net of bad debts

Unemployment rate
Seasonally adjusted

Source: J.P. Morgan Asset Management; (Left) INEGI-Central Bank of Mexico; (Top right) Central Bank of Mexico; (Bottom right) INEGI (National Institute of Statistics and Geography of Mexico).

Mexico: Fiscal dynamics

Gross debt

% of GDP

% of total government revenues

% of GDP, annual

Source: J.P. Morgan Asset Management; (Left) IMF; (Top right) Ministry of Finance and Public Credit; (Bottom right) Central Bank of Mexico, INEGI.

*2019 is an IMF estimate.

Argentina: Economic snapshot

**Real GDP**
Year-over-year % change

Average: 1.3%

-20% -15% -10% -5% 0% 5% 10% 15% 20%

'00 '02 '04 '06 '08 '10 '12 '14 '16 '18 '20

Real GDP
1Q20: -5.3%
QoQ % chg: -18.0%

**Real consumption and investment**
Year-over-year % change

Consumption
Investment

1Q20: 

-6.6%

-18.3%

-20% -15% -10% -5% 0% 5% 10% 15% 20% 25% 30% 35% 40% 45% 50% 55% 60%

'00 '02 '04 '06 '08 '10 '12 '14 '16 '18 '20

**International trade**
Year-over-year % change, 4-quarter moving average

-60% -40% -20% 0% 20% 40% 60%

'00 '02 '04 '06 '08 '10 '12 '14 '16 '18 '20

-20% -15% -10% -5% 0% 5% 10% 15% 20% 25% 30%

'00 '02 '04 '06 '08 '10 '12 '14 '16 '18 '20

1Q20: 7.9%

-16.2%


Argentina: Inflation, monetary and fiscal policy

Inflation
% change month-over-month, national IPC
- Headline
- Core

May. 20 (y/y change): 43%
Expectations next 12m: 51%

Monetary policy rate
% per annum

International reserves
Billions, U.S. dollars


Colombia: Economic snapshot

Real GDP
Year-over-year % change

Real consumption and investment
Year-over-year % change

International trade
Year-over-year % change, 4-quarter moving average

Inflation targeting and inflation
Headline inflation, 12-month accumulated % change

Consensus*

Upper limit: 4.0%
Target: 3.0%
Lower limit: 2.0%

Oil prices and the Colombian peso
COP per USD (inverted); Brent US$ per barrel

Target policy rate and expectations
BanRep repo rate, end of period, percent per annum

Source: J.P. Morgan Asset Management; (Left and bottom right) Central Bank of Colombia, DANE (National Administration of Statistics); (Top right) Commodity Research Bureau, FactSet, Reuters.
*Survey conducted by the Central Bank of Colombia.

Chile: Economic snapshot

Real GDP
Year-over-year % change

Average: 3.7%

Real consumption and investment
Year-over-year % change

Investment

International trade
Year-over-year % change, 4-quarter moving average

Source: Central Bank of Chile, J.P. Morgan Asset Management.

Inflation targeting and inflation
Headline inflation, year-over-year % change

Consensus*

Target: 3.0%
Upper limit: 4.0%
Lower limit: 2.0%
May 2020: 2.8%

Chile: Inflation and monetary policy

Copper prices and the Chilean peso
CLP per USD (inverted), $/mt

Target policy rate and expectations
Central Bank of Chile rate, end of period, percent per annum

Source: J.P. Morgan Asset Management; (Left) INE (National Statistics Institute of Chile); (Top right) INE, Reuters; (Bottom right) Central Bank of Chile.

*Survey conducted by the Central Bank of Chile.

Peru: Economic snapshot

Real GDP
Avg. of 3 months, year-over-year % change

- Average: 4.8%
- 1Q20: -0.3%
- 1Q20 YOY % chg: -0.8%
- 1Q20 QoQ % chg: -11.9%

Real consumption and investment
Year-over-year % change

- 1Q20: -1.7%
- 1Q20: -12.9%

International trade
Year-over-year % change, 4-quarter moving average

- 1Q20: -3.3%

Source: Central Reserve Bank of Peru, INEI (National Statistics Institute of Peru), J.P. Morgan Asset Management.

Peru: Inflation and monetary policy

Inflation targeting and inflation
Headline inflation, Lima, year-over-year % change

Consensus*

<table>
<thead>
<tr>
<th>Year</th>
<th>Consensus</th>
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<tr>
<td>'07</td>
<td>8%</td>
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<td>'08</td>
<td>7%</td>
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<td>4%</td>
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<td>'20</td>
<td>5%</td>
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<tr>
<td>'21</td>
<td>6%</td>
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Target policy rate
BCRP official reference rate, end of period, percent per annum

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate</th>
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<tbody>
<tr>
<td>'07</td>
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<td>'08</td>
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<td>'12</td>
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<td>'20</td>
<td>13%</td>
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<tr>
<td>'21</td>
<td>14%</td>
</tr>
</tbody>
</table>

Reserve requirements
Reserve requirements as a % of total deposits

<table>
<thead>
<tr>
<th>Year</th>
<th>Reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td>'07</td>
<td>0%</td>
</tr>
<tr>
<td>'08</td>
<td>1%</td>
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<tr>
<td>'09</td>
<td>2%</td>
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<td>'10</td>
<td>3%</td>
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<td>'11</td>
<td>4%</td>
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<td>'19</td>
<td>12%</td>
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<tr>
<td>'20</td>
<td>13%</td>
</tr>
<tr>
<td>'21</td>
<td>14%</td>
</tr>
</tbody>
</table>

Source: J.P. Morgan Asset Management; (Left) INEI; (Top and bottom right) Central Reserve Bank of Peru.
*Survey conducted by the Central Bank of Peru.

Global economic growth

Source: J.P. Morgan Asset Management; (Left) Markit; (Right) J.P. Morgan Global Economic Research.

PMI is the Purchasing Managers’ Index. Global GDP growth is a GDP-weighted measure of real GDP at U.S. dollar market exchange rates. *1Q20 is a forecast.

Heatmap colors are based on PMI relative to the 50 level, which indicates acceleration or deceleration of the sector, for the time period shown. Heatmap is based on quarterly averages, with the exception of the two most recent figures, which are single month readings. Data for the U.S. are back-tested and filled in from December 2007 to September 2008 due to lack of existing PMI figures. DM and EM represent developed markets and emerging markets, respectively. Past performance is not a reliable indicator of current and future results.

Global Inflation

Heatmap is based on quarterly averages, with the exception of the two most recent figures, which are single month readings. Colors determined by percentiles of inflation values over the last 10 years. Deep blue = lowest value, light blue = median, deep red = highest value. DM and EM represent developed markets and emerging markets, respectively.

Global monetary policy

Developed market central bank bond purchases*
USD billions, 12-month rolling flow

Number of rate changes by EM and DM central banks***

Source: J.P. Morgan Asset Management; (Left) Bank of England, Bank of Japan, European Central Bank, FactSet, Federal Reserve System, J.P. Morgan Global Economic Research; (Right) Bloomberg. *Includes the Bank of Japan (BoJ), Bank of England (BoE), European Central Bank (ECB) and Federal Reserve. **Bond purchase forecast assumes $200bn GBP in net purchases from BoE through August 2021; continued BoJ QE of $50tn JPY ann. for 2020; $1.11trn EUR in net purchases from the ECB through 2020; and the Federal Reserve to purchase $2.5trn of Treasuries, $1.2trn of agency MBS and $50bn of agency CMBS through 2020. Fed assumptions are based on purchase activity in March 2020 and previous QE announcements. ***Central banks include Australia, Brazil, Canada, Chile, China, Colombia, Denmark, euro area, Hong Kong SAR, Indonesia, India, Japan, Korea, Malaysia, Mexico, Norway, Peru, Philippines, Poland, Russia, Saudi Arabia, South Africa, Sweden, Switzerland, Thailand, Turkey, United Kingdom and the United States. Guide to the Markets – Latin America. Data are as of June 30, 2020.
Global fiscal support

Fiscal response to COVID-19
% of GDP

- Spending and revenue measures
- Loans, equity and guarantees

Fiscal measures are estimates from the IMF’s Fiscal Monitor Database from June 2020.
U.S.: Economic growth and the composition of GDP

Real GDP
Year-over-year % change

-6% -4% -2% 0% 2% 4% 6% 8% 10%
'70 '75 '80 '85 '90 '95 '00 '05 '10 '15

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.

U.S.: Long-term drivers of economic growth

**Growth in working-age population**
Percent increase in civilian non-institutional population ages 16-64

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Immigrant</td>
<td>1.1%</td>
<td>1.1%</td>
<td>0.6%</td>
<td>0.4%</td>
<td>0.65%</td>
</tr>
<tr>
<td>Native born</td>
<td>0.8%</td>
<td>0.6%</td>
<td>0.7%</td>
<td>0.2%</td>
<td>0.14%</td>
</tr>
</tbody>
</table>

Source: J.P. Morgan Asset Management; (Top left) Census Bureau, DOD, DOJ; (Top left and right) BLS; (Right and bottom left) BEA.

**Drivers of GDP growth**
Average year-over-year percent change

<table>
<thead>
<tr>
<th>Year</th>
<th>1980-'89</th>
<th>1990-'99</th>
<th>2000-'09</th>
<th>2010-'19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth in workers</td>
<td>4.3%</td>
<td>4.4%</td>
<td>3.3%</td>
<td>3.4%</td>
</tr>
<tr>
<td>Growth in real output per worker</td>
<td>0.14%</td>
<td>0.3%</td>
<td>1.2%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Growth in real GDP</td>
<td>0.0%</td>
<td>0.5%</td>
<td>1.0%</td>
<td>1.5%</td>
</tr>
</tbody>
</table>

**Growth in private non-residential capital stock**
Non-residential fixed assets, year-over-year % change

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth in workers</td>
<td>2.2%</td>
<td>2.0%</td>
<td>1.5%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Growth in real output per worker</td>
<td>0.0%</td>
<td>0.5%</td>
<td>1.0%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Growth in real GDP</td>
<td>0.0%</td>
<td>0.5%</td>
<td>1.0%</td>
<td>1.5%</td>
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</tbody>
</table>

Source: J.P. Morgan Asset Management; (Top left) Census Bureau, DOD, DOJ; (Top left and right) BLS; (Right and bottom left) BEA.

GDP drivers are calculated as the average annualized growth in the 10 years ending in 4Q19. Future working-age population is calculated as the total estimated number of Americans from the Census Bureau, per the February 2020 report, controlled for military enrollment, growth in institutionalized population and demographic trends. Growth in working-age population does not include illegal immigration; DOD Troop Readiness reports used to estimate percent of population enlisted. Numbers may not sum due to rounding.

Civilian unemployment rate and growth in wages
Seasonally adjusted, year-over-year growth in wages and salaries

CPI and core CPI
% change vs. prior year, seasonally adjusted

Source: BEA, BLS, 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.

Federal funds rate expectations
FOMC and market expectations for the fed funds rate


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.

Currently, the balance sheet contains $4.2 trillion in Treasuries and $1.9 trillion in MBS. The end balance forecast is $4.7 trillion in Treasuries and $2.2 trillion in MBS by December 2020. *Balance sheet forecast assumes the Federal Reserve maintains its current pace of purchases of Treasuries and MBS through December 2020 as outlined in the June 2020 FOMC meeting. **Loans include primary, secondary, and seasonal loans, maiden lane securities and loans extended through newly established corporate credit facilities. Loan figures shown are max usage over the QE period referenced and are not growth of loan portfolio over the period. ***QE4 is ongoing and the expansion figures are as of the most recent Wednesday close as reported by the Federal Reserve.

Europe: Economic growth

Eurozone GDP growth
Contribution to eurozone real GDP growth, % change year-over-year

Eurozone unemployment and wage growth
Seasonally adjusted, year-over-year compensation growth

Eurozone credit demand
Net % of banks reporting positive loan demand

Source: ECB, FactSet, J.P. Morgan Asset Management; (Left and top right) Eurostat. Eurozone shown is the aggregate of the 19 countries that currently use the euro.

**Japan: Abenomics and markets**

### Inflation and wage growth

% change year-over-year, 6-month moving average

- Nominal wage growth
- Core CPI*

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<td>CPI</td>
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<tr>
<td>Nominal wage growth</td>
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*Core CPI is defined as CPI excluding food and energy.

### Japanese yen and the stock market

- Japanese ¥ per U.S. $
- Nikkei 225 Index

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<td>70</td>
<td>80</td>
<td>90</td>
<td>100</td>
<td>110</td>
</tr>
<tr>
<td>Nikkei 225 Index</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: J.P. Morgan Asset Management; (Top left) FactSet, Japan Ministry of Health, Labor and Welfare, Japan Ministry of Internal Affairs & Communications; (Bottom left and right) Nikkei; (Bottom left) Customs Japan.

*Core CPI is defined as CPI excluding food and energy.

China: Economic and policy snapshot

China real GDP contribution
Year-over-year % change

- Investment
- Consumption
- Net exports

Monetary stimulus: Reserve requirement ratio

Fiscal stimulus: Fiscal deficit*
% GDP

Source: FactSet, J.P. Morgan Asset Management; (Left) CEIC; (Top right) People's Bank of China; (Bottom right) China Agriculture Development Bank, China Development Bank, Ministry of Finance, People's Bank of China, Wind. *The fiscal deficit is a J.P. Morgan Asset Management estimate of the augmented fiscal deficit. It measures the aggregate resources controlled by the government and used to support economic growth. It consists of the official budgetary deficit of the central and local governments, and additional funding raised and spent by local governments through Local Government Financing Vehicles (LGFVs) and various government-guided funds, whose activities are considered quasi-fiscal.

Emerging markets

**EM vs. DM growth**
Monthly, consensus expectations for GDP growth in 12 months

**Net non-resident purchases of EM stocks and bonds**
Cumulative total and days since each date, billions of USD

Source: J.P. Morgan Asset Management; (Left) Consensus Economics; (Right) Institute of International Finance (IIF).

“Growth differential” is consensus estimates for EM growth in the next 12 months minus consensus estimates for DM growth in the next 12 months, provided by Consensus Economics.


Latin America fixed income: Returns


All returns represent EMBI Global Diversified regional and country subindices, which are USD-denominated sovereign bond indices. All returns are unhedged and shown in USD. Past performance is not indicative of future returns.

Latin America fixed income: Valuations

EMD spreads by country
USD-denominated sovereign debt, spread to worst


All spreads represent EMBI Global Diversified country subindices, which are USD-denominated sovereign bond indices.

Regional EMD spreads: Sovereigns
USD-denominated sovereign debt, basis points over Treasuries

<table>
<thead>
<tr>
<th>Region</th>
<th>Average</th>
<th>Latest</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM</td>
<td>350</td>
<td>474</td>
</tr>
<tr>
<td>EM Asia</td>
<td>209</td>
<td>299</td>
</tr>
<tr>
<td>EM Europe</td>
<td>292</td>
<td>359</td>
</tr>
<tr>
<td>EM LATAM</td>
<td>401</td>
<td>519</td>
</tr>
</tbody>
</table>

Regional EMD spreads: Corporates
USD-denominated corporate debt, basis points over Treasuries

<table>
<thead>
<tr>
<th>Region</th>
<th>Average</th>
<th>Latest</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM</td>
<td>322</td>
<td>416</td>
</tr>
<tr>
<td>EM Asia</td>
<td>239</td>
<td>330</td>
</tr>
<tr>
<td>EM Europe</td>
<td>451</td>
<td>521</td>
</tr>
<tr>
<td>EM LATAM</td>
<td>390</td>
<td>542</td>
</tr>
</tbody>
</table>

EM Sovereigns represent the Emerging Market Bond Index Global Diversified (EMBI Global Diversified) Index and subindices and EM corporates represent the Corporate Emerging Market Bond (CEMBI Broad Diversified) Index and subindices.

Credit default swap spreads
Yield, basis points, 5-yr. senior corporate credit, USD

<table>
<thead>
<tr>
<th>Country</th>
<th>Latest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>-</td>
</tr>
<tr>
<td>Brazil</td>
<td>250</td>
</tr>
<tr>
<td>Colombia</td>
<td>157</td>
</tr>
<tr>
<td>Mexico</td>
<td>155</td>
</tr>
<tr>
<td>Russia</td>
<td>109</td>
</tr>
<tr>
<td>Peru</td>
<td>90</td>
</tr>
<tr>
<td>Chile</td>
<td>85</td>
</tr>
</tbody>
</table>


*Argentina is only shown between May 2016 and May 2020 due to its default in 2014 and in 2020.

Attractiveness of Latin American local rates

**Regional EMD yields**
Local currency sovereign debt

<table>
<thead>
<tr>
<th></th>
<th>Average (%)</th>
<th>Latest (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM</td>
<td>6.6</td>
<td>4.7</td>
</tr>
<tr>
<td>EM Asia</td>
<td>3.8</td>
<td>2.8</td>
</tr>
<tr>
<td>EM Europe</td>
<td>5.4</td>
<td>3.1</td>
</tr>
<tr>
<td>EM LATAM</td>
<td>7.5</td>
<td>5.5</td>
</tr>
</tbody>
</table>

**Global – U.S. Treasuries 5-year spread**
Basis points, local currency debt, as of Jun. 2020

- **South Africa**: 628
- **Indonesia**: 622
- **Brazil**: 549
- **India**: 501
- **Russia**: 497
- **Mexico**: 454
- **Colombia**: 400
- **China**: 225
- **Malaysia**: 217
- **Peru**: 131
- **Chile**: 104
- **Korea**: 86

Source: J.P. Morgan Asset Management; (Left) J.P. Morgan Global Economic Research; (Right) Bloomberg Finance L.P.
EM local currency debt is represented by GBI-EM index and regional subindices.
Global spreads are calculated from the mid-yield to maturity for the generic 5-year government bond, as provided by Bloomberg, except for Brazil, South Africa, Colombia and South Korea which are the spot yield-to-maturity provided by FactSet.

Impact of a 1% rise or fall in interest rates
Total return, assumes a parallel shift in the yield curve and spreads are maintained

Returns shown are total returns. 2-30 year Treasury, Global high yield, Floating rate (BBB), USD EMD corporates, USD Latin America aggregate,
USD Latin America sovereigns, USD EMD sovereigns and U.S. aggregate are based on Bloomberg Barclays US Treasury indices, Bloomberg
Barclays Global High Yield, Bloomberg Barclays U.S. Floating Rate Notes (BBB), Bloomberg Barclays Emerging Markets USD Aggregate –
America, Bloomberg Barclays Emerging Markets USD Aggregate – Sovereign and Bloomberg Barclays U.S. Aggregate, respectively. For illustrative
purposes only. Change in bond price is calculated using both duration and convexity.
Global fixed income: Yields and correlation to equities

Correlation of fixed income sectors vs. S&P 500 and yields


Correlations are based on 15-years of monthly returns for all sectors. International fixed income sector correlations are in hedged U.S. dollar returns except EMD local index. Yields for all indices are hedged using three-month LIBOR rates between the U.S. and international LIBOR and are a 12-month average. Guide to the Markets – Latin America. Data are as of June 30, 2020.
Debt return composition
Year-to-date, total return, USD

Based on J.P. Morgan CEMBI Broad Index (USD EMD corporates), J.P. Morgan EMBIG Broad Diversified Index (USD EMD), J.P. Morgan Domestic High Yield Index (U.S. high yield), J.P. Morgan GBI-EM Global Diversified Index (Local EMD), J.P. Morgan GBI-DM Diversified Index (Local DM sovereigns), J.P. Morgan CEMBI Broad Diversified Latin America Index (Latin America corporates), J.P. Morgan EMBIG Diversified Latin America Index (USD Latin America sovereigns), J.P. Morgan GBI-EM Global Diversified Latin Region Index (Local Latin America sovereigns), Bloomberg Barclays Global High Yield (Global high yield) and Bloomberg Barclays Global Credit – Corporate – Investment Grade (Global IG). Past performance is not indicative of future returns.

Global negative-yielding debt

**Negative-yielding debt**
Share of ICE BofAML Global Broad Market Index

<table>
<thead>
<tr>
<th>Market value of negative-yielding debt (USD trillions)</th>
<th>5/31/2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government Debt – Japan</td>
<td>5.35</td>
</tr>
<tr>
<td>Government Debt – Europe</td>
<td>5.49</td>
</tr>
<tr>
<td>Corporate Debt – Total</td>
<td>1.27</td>
</tr>
</tbody>
</table>

**Central and domestic bank ownership by region**
% of total government debt outstanding, 4Q19

- **Japan**: 40.2%
- **Eurozone**: 16.4%
- **United States**: 11.1%

**Breakdown of global government bonds by yield**

- **Below 0%**
- **Below 1%**
- **Above 1%**

Source: J.P. Morgan Asset Management; (Left) Bloomberg, BofA/Merrill Lynch; (Top right) Bank for International Settlements International Banking Statistics, ECB, Eurostat, IMF Coordinated Portfolio Investment Survey (CPIS), IMF Currency Composition of Official Foreign Exchange Reserves (COFER), IMF International Financial Statistics (IFS), IMF-World Bank Quarterly External Debt Statistics; (Bottom right) Bloomberg, BofA/Merrill Lynch. Countries included in Europe are: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Slovenia, Spain, Sweden and Switzerland.

*Guide to the Markets – Latin America. Data are as of June 30, 2020.*
U.S. debt dynamics

U.S. debt to GDP ratios
Percentage of nominal GDP

<table>
<thead>
<tr>
<th></th>
<th>% of 4Q19 GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>103.9%</td>
</tr>
<tr>
<td>Household</td>
<td>75.4%</td>
</tr>
<tr>
<td>Non-financial corporate</td>
<td>74.9%</td>
</tr>
</tbody>
</table>

Issuance by sector
USD billions, gross issuance through May 2020 vs. May 2019

- U.S. T-bills (net): 2,213
- Corporates: 1,029
- Agency MBS: 1,001
- U.S. Treasuries: 508
- High Yield: 302
- Tax-exempt Municipals: 140
- Taxable Municipals: 107
- High Yield: 109
- Non-agency MBS: 58

Source: FactSet, J.P. Morgan Asset Management; (Left) Bank for International Settlements (BIS); (Right) Barclays, Bloomberg, FactSet, SIFMA, Standard & Poor’s, U.S. Treasury. Government, household and non-financial corporate debt refers to gross debt. General government debt is comprised of core debt instruments that include currency and deposits, loans and debt securities. All debt values are shown at market value. Issuance is based on monthly data provided by SIFMA. Past performance is not indicative of future results.

Default rate and spread to worst

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Default rate</strong></td>
<td>3.60%</td>
<td>4.85%</td>
</tr>
<tr>
<td><strong>Spread to worst</strong></td>
<td>5.74%</td>
<td>7.22%</td>
</tr>
<tr>
<td><strong>Recovery rate</strong></td>
<td>40.35%</td>
<td>15.83%</td>
</tr>
</tbody>
</table>

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. The default rate is an LTM figure (last twelve months) and tracks the % of defaults over the period. Recovery rates are based on the price of the defaulted bonds or loans 30-days post the default date. Default and recovery rates are as of May 2020 due to data availability. Spread to worst indicated are the difference between the yield-to-worst of a bond and yield-to-worst of a U.S. Treasury security with a similar duration. High yield is represented by the J.P. Morgan Domestic High Yield Index.

### Latin America equity returns

<table>
<thead>
<tr>
<th>Year</th>
<th>Argentina</th>
<th>Colombia</th>
<th>Peru</th>
<th>Mexico</th>
<th>Brazil</th>
<th>EM Asia</th>
<th>Latin America</th>
<th>EM Asia</th>
<th>EM Asia</th>
<th>EM Asia</th>
<th>EM Asia</th>
<th>EM Asia</th>
<th>EM Asia</th>
<th>EM Asia</th>
<th>EM Asia</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>77.4%</td>
<td>-5.0%</td>
<td>-12.1%</td>
<td>-17.2%</td>
<td>-21.6%</td>
<td>-20.6%</td>
<td>-19.1%</td>
<td>-18.2%</td>
<td>-21.6%</td>
<td>-19.6%</td>
<td>-20.6%</td>
<td>-19.4%</td>
<td>-20.1%</td>
<td>-20.3%</td>
<td>-19.1%</td>
</tr>
<tr>
<td>2011</td>
<td>35.9%</td>
<td>66.2%</td>
<td>2.3%</td>
<td>21.2%</td>
<td>18.6%</td>
<td>8.9%</td>
<td>15.8%</td>
<td>13.2%</td>
<td>13.2%</td>
<td>13.2%</td>
<td>13.2%</td>
<td>13.2%</td>
<td>13.2%</td>
<td>13.2%</td>
<td>13.2%</td>
</tr>
<tr>
<td>2012</td>
<td>Argentina</td>
<td>Colombia</td>
<td>Peru</td>
<td>Mexico</td>
<td>Brazil</td>
<td>EM Asia</td>
<td>Latin America</td>
<td>EM Asia</td>
<td>EM Asia</td>
<td>EM Asia</td>
<td>EM Asia</td>
<td>EM Asia</td>
<td>EM Asia</td>
<td>EM Asia</td>
<td>EM Asia</td>
</tr>
<tr>
<td>2013</td>
<td>19.2%</td>
<td>-0.4%</td>
<td>-21.1%</td>
<td>8.3%</td>
<td>-21.1%</td>
<td>-21.4%</td>
<td>-31.7%</td>
<td>-31.7%</td>
<td>-31.7%</td>
<td>-31.7%</td>
<td>-31.7%</td>
<td>-31.7%</td>
<td>-31.7%</td>
<td>-31.7%</td>
<td>-31.7%</td>
</tr>
<tr>
<td>2014</td>
<td>Brazil</td>
<td>Argentina</td>
<td>Peru</td>
<td>Colombia</td>
<td>Argentina</td>
<td>66.7%</td>
<td>6.5%</td>
<td>-21.4%</td>
<td>-21.4%</td>
<td>-21.4%</td>
<td>-21.4%</td>
<td>-21.4%</td>
<td>-21.4%</td>
<td>-21.4%</td>
<td>-21.4%</td>
</tr>
</tbody>
</table>

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

All returns are total return, unhedged and shown in USD. Past performance is not indicative of future returns.

### MSCI Latin America: Valuation measures

<table>
<thead>
<tr>
<th>Valuation measure</th>
<th>Description</th>
<th>Latest</th>
<th>1 year ago</th>
<th>3-year avg.</th>
<th>5-year avg.</th>
<th>10-year avg.</th>
<th>15-year avg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/E</td>
<td>Price-to-earnings</td>
<td>16.9</td>
<td>12.4</td>
<td>13.2</td>
<td>13.5</td>
<td>12.8</td>
<td>12.2</td>
</tr>
<tr>
<td>P/B</td>
<td>Price-to-book</td>
<td>1.8</td>
<td>2.0</td>
<td>1.9</td>
<td>1.8</td>
<td>1.8</td>
<td>2.0</td>
</tr>
<tr>
<td>P/CF</td>
<td>Price-to-cash flow</td>
<td>7.0</td>
<td>7.6</td>
<td>7.1</td>
<td>7.2</td>
<td>7.3</td>
<td>7.2</td>
</tr>
<tr>
<td>P/S</td>
<td>Price-to-sales</td>
<td>1.2</td>
<td>1.4</td>
<td>1.3</td>
<td>1.3</td>
<td>1.3</td>
<td>1.4</td>
</tr>
<tr>
<td>Div. yield</td>
<td>Dividend yield</td>
<td>3.1%</td>
<td>3.2%</td>
<td>3.4%</td>
<td>3.2%</td>
<td>3.2%</td>
<td>3.2%</td>
</tr>
</tbody>
</table>

#### Historical averages

- **Average:** 2.0x
- **Jun. 2020:** 1.8x
- **Average:** 12.2x
- **Jun. 2020:** 16.9x

**Price to earnings** is price divided by consensus analyst estimates of earnings per share for the next 12 months. **Price to book** is price divided by book value per share. **Price to cash flow** is price divided by consensus analyst estimates of cash flow per share for the next 12 months. **Price to sales** is calculated as price divided by consensus analyst estimates of sales per share for the next 12 months. **Dividend yield** is calculated as the consensus analyst estimates of dividends for the next 12 months divided by price. Consensus analyst estimates are provided by FactSet.

*Source: FactSet, MSCI, J.P. Morgan Asset Management.*

---

**Latin America corporate profits**

**MSCI Latin America forward earnings* growth**
Next 12 months, year-over-year growth, 3-month moving avg.

**MSCI Latin America profit margin and return on equity**
Trailing 12 months’ profit margin, blended 12-month forward ROE

**MSCI Latin America earnings* growth by country**
Next 12 months, year-over-year growth, local currency

---

**Source:** MSCI, J.P. Morgan Asset Management; (Left and bottom right) FactSet; (Top right) Bloomberg Finance L.P.

*Earnings are implied earnings derived from dividing the index levels by forward P/Es.

*Guide to the Markets – Latin America. Data are as of June 30, 2020.*
Latin America valuations and earnings

Latin America valuations
Price to earnings ratio, NTMA

Latin America earnings
EPS, local currency, NTMA, Dec. 2008 = 100

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

MSCI EM index by region:
- China: 41%
- Korea: 12%
- Taiwan: 12%
- Brazil: 6%
- Turkey: 0.5%
- Latin America ex-Brazil: 3%
- Asia ex-China, Korea & Taiwan: 14%
- Europe, Middle East & Africa: 12%

MSCI EM index by sector:
- Technology: 30%
- Consumer: 24%
- Financials: 19%
- Commodities: 13%
- Other: 14%

MSCI EM country index by sector:
- Brazil: 21%
- Russia: 29%
- India: 30%
- China: 35%
- Mexico*: 37%
- Korea: 14%
- Taiwan: 6%

Source: FactSet, MSCI, J.P. Morgan Asset Management.
MSCI EM index region and sector components are market value percentages.
*Mexico Communication Services sector accounts for 26% of the country’s market capitalization. **“Other” is comprised of Health Care, Industrials, Real Estate and Utilities sectors. Values may not sum to 100% due to rounding.

Emerging market equities

**EM earnings by region**
EPS for next 12-month consensus, local currency, Jan. 2007 = 100

**EM price to book ratio**
Last 12 months actual

**Growth of the middle class**
Percent of total population

Source: J.P. Morgan Asset Management; (Top and bottom left) FactSet, MSCI; (Right) Brookings Institute.
Middle class is defined as $3,600-$36,000 annual per capita income in purchasing power parity terms. Historical and forecast figures come from the Brookings Development, Aid and Governance Indicators.

Sources of global equity returns*
Total return, USD

2005-2019 annualized

2020 peak to trough

2020 current from trough

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

All return values are MSCI Gross Index (official) data, except the U.S., which is the S&P 500. *Multiple expansion is based on the forward P/E ratio and EPS growth outlook is based on NTMA earnings estimates. 2020 peak to trough periods for U.S., Latin America, Europe ex-UK, Japan, Emerging Markets and EM Asia are 2/19/20 – 3/23/20, 1/2/20 – 3/23/20, 2/12/20 – 3/19/20, 1/3/20 – 3/20/20, 1/17/20 – 3/23/20 and 1/17/20 – 3/23/20, respectively. 2020 current from trough are market returns from the trough dates for each region until the most recent date. Chart is for illustrative purposes only. Past performance is not indicative of future results.

International equity earnings, valuations and sectors

**Global earnings**
EPS, local currency, NTMA, Jan. 2006 = 100

**Global valuations**
Current and 25-year historical valuations*

**Representation of cyclical and technology sectors**
% of index market capitalization

Source: FactSet, MSCI, Standard & Poor’s, Thomson Reuters, J.P. Morgan Asset Management.
*Valuations refer to NTMA P/E for Europe, U.S., Japan and developed markets and P/B for emerging markets. Valuation and earnings charts use MSCI indices for all regions/countries, except for the U.S., which is the S&P 500. All indices use IBES aggregate earnings estimates, which may differ from earnings estimates used elsewhere in the book. MSCI Europe includes the eurozone as well as countries not in the currency bloc, such as Norway, Sweden, Switzerland and the UK (which collectively make up 46% of the overall index). Past performance is not a reliable indicator of current and future results. Sector breakdown includes the following aggregates: Technology (Information Technology) and Cyclicals (Consumer Discretionary, Financials, Industrials, Energy and Materials).

MSCI All Country World ex-U.S. and S&P 500 Index
Dec. 1996 = 100, U.S. dollar, price return

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>S&amp;P 500</td>
<td>21.7x</td>
<td>15.4x</td>
<td>1.9%</td>
<td>2.1%</td>
</tr>
<tr>
<td>ACWI ex-U.S.</td>
<td>16.7x</td>
<td>13.5x</td>
<td>3.0%</td>
<td>3.1%</td>
</tr>
<tr>
<td>As % of U.S.</td>
<td>77%</td>
<td>88%</td>
<td>155%</td>
<td>152%</td>
</tr>
</tbody>
</table>

Source: FactSet, MSCI, Standard & Poor’s, J.P. Morgan Asset Management.
Forward price to earnings ratio is a bottom-up calculation based on the most recent index price, divided by consensus estimates for earnings in the next 12 months (NTM), and is provided by FactSet Market Aggregates. Returns are cumulative and based on price movement only, and do not include the reinvestment of dividends. Past performance is not indicative of future returns. 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.

S&P 500 earnings per share
Index annual operating earnings

Consensus analyst estimates
Earnings recessions

S&P 500 2020 earnings growth estimates
Year-over-year % change

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.

MSCI Latin America intra-year declines vs. calendar year returns
Local currency, average intra-year drops of 18.9% (median -16.6%) and annual returns positive in 13 of 20 years

S&P 500 intra-year declines vs. calendar year returns
Local currency, average intra-year drops of 13.8% (median -10.3%) and annual returns positive in 30 of 40 years

Source: FactSet, MSCI, J.P. Morgan Asset Management.
Returns are based on price index only and do not include dividends. Intra-year drops refers to the largest market drops from a peak to a trough during the year. For illustrative purposes only. Returns are calendar year returns from 1980 to 2019 for the S&P 500 and 2000 to 2019 for the MSCI Latin America.

Commodity prices and Latin America economic growth
Latin America – DM GDP growth*, quarterly, % year-over-year change

Commodity prices

<table>
<thead>
<tr>
<th>Commodity prices</th>
<th>Commodity price z-scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commodity prices</td>
<td>-4  -3  -2  -1  0  1  2  3  4  5</td>
</tr>
<tr>
<td>Bloomberg</td>
<td>$59.48 $64.98 $175.42</td>
</tr>
<tr>
<td>Livestock</td>
<td>$16.21 $17.72 $41.63</td>
</tr>
<tr>
<td>Natural gas</td>
<td>$1.55 $1.64 $6.15</td>
</tr>
<tr>
<td>Agriculture</td>
<td>$34.15 $35.37 $97.67</td>
</tr>
<tr>
<td>Crude oil</td>
<td>$11.57 $39.27 $113.93</td>
</tr>
<tr>
<td>Industrial metals</td>
<td>$84.23 $104.53 $211.51</td>
</tr>
<tr>
<td>Silver</td>
<td>$11.77 $18.64 $48.60</td>
</tr>
<tr>
<td>Gold</td>
<td>$1,050 $1,892 $1,801</td>
</tr>
</tbody>
</table>

Example
Low level
Current
High level

Source: Bloomberg Finance L.P., FactSet, J.P. Morgan Asset Management; (Left) J.P. Morgan Global Economic Research; (Right) CME.
Commodity prices are represented by the appropriate Bloomberg Commodity subindex. Other commodity prices are represented by futures contracts.
Z-scores are calculated using daily prices over the past 10 years. *Latin America and developed market (DM) aggregates are produced by J.P. Morgan Global Economic Research.

**Oil markets**

### 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>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>
</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>
</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>
</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>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
</tr>
<tr>
<td>China</td>
</tr>
<tr>
<td>Global</td>
</tr>
</tbody>
</table>

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

### Price of oil
Brent crude, nominal prices, USD/barrel, monthly average

- Jul. 2008: $135.73
- Jun. 2014: $111.93
- Jun. 2020: $40.25
- Dec. 2008: $43.09
- Jan. 2016: $30.98

**U.S. crude oil inventories and rig count**
Million barrels, number of active rigs

Source: J.P. Morgan Asset Management; (Top and bottom left) EIA; (Bottom left) Baker Hughes; (Right) Commodity Research Bureau, FactSet.

*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. Brent crude prices are monthly averages in USD using global spot ICE prices.

### Importance of oil industry

#### Weight of the oil sector

<table>
<thead>
<tr>
<th>Country</th>
<th>% in equity market</th>
<th>% in fixed income market</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>2.8%</td>
<td>9.1%</td>
</tr>
<tr>
<td>Latin America</td>
<td>9.6%</td>
<td>11.0%</td>
</tr>
<tr>
<td>Colombia</td>
<td>25.5%</td>
<td>21.4%</td>
</tr>
<tr>
<td>Argentina</td>
<td>13.8%</td>
<td>32.8%</td>
</tr>
<tr>
<td>Brazil</td>
<td>12.9%</td>
<td>15.2%</td>
</tr>
<tr>
<td>Chile</td>
<td>7.7%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Mexico</td>
<td>0.0%</td>
<td>23.6%</td>
</tr>
<tr>
<td>Peru</td>
<td>0.0%</td>
<td>7.6%</td>
</tr>
</tbody>
</table>

#### Net oil consumption

% of GDP, 2017

- **Net producers:** Saudi Arabia, Russia, Venezuela
- **Net consumers:** India, Chile, Japan, China, France, Germany, Peru, U.S., Argentina, Brazil, Mexico, Colombia, Russia


% in U.S. fixed income market includes corporate credit. % in Latin America fixed income market includes only U.S. dollar debt, and includes corporate and sovereign debt.

Source: J.P. Morgan Asset Management; (Left) Federal Reserve; (Right) J.P. Morgan Global Economic Research.

Currencies in the real broad dollar index are: Australian dollar, Argentine peso, Brazilian real, British pound, Canadian dollar, Chinese renminbi, Chilean peso, Colombian peso, euro, Hong Kong dollar, Indonesian rupiah, Indian rupee, Israeli shekel, Japanese yen, Korean won, Malaysian ringgit, Mexican peso, Philippine peso, Russian ruble, Saudi Arabian riyal, Swedish krona, Swiss franc, Singaporean dollar, Taiwanese dollar, Thai baht and Vietnamese dong.

*Currencies are the real effective exchange rates (REERs), which compare the value of a currency to a weighted basket of several foreign currencies. They are deflated using a producer price index.

Asset class yields

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Yield</th>
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<tr>
<td>Global transport</td>
<td>9.9%</td>
</tr>
<tr>
<td>Direct Lending</td>
<td>9.5%</td>
</tr>
<tr>
<td>U.S. high yield</td>
<td>6.9%</td>
</tr>
<tr>
<td>USD LATAM sovereigns</td>
<td>6.0%</td>
</tr>
<tr>
<td>Preferreds</td>
<td>5.6%</td>
</tr>
<tr>
<td>Global infrastructure</td>
<td>5.1%</td>
</tr>
<tr>
<td>Global REITs</td>
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</tr>
<tr>
<td>APAC real estate</td>
<td>4.6%</td>
</tr>
<tr>
<td>U.S. real estate</td>
<td>4.3%</td>
</tr>
<tr>
<td>Europe real estate</td>
<td>4.3%</td>
</tr>
<tr>
<td>LATAM equity</td>
<td>3.4%</td>
</tr>
<tr>
<td>DM equity</td>
<td>2.2%</td>
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<tr>
<td>U.S. 10-year</td>
<td>0.7%</td>
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AlTERNATIVES CORRELATIONS

<table>
<thead>
<tr>
<th>Year</th>
<th>Global Bonds</th>
<th>Global Equities</th>
<th>U.S. Core RE</th>
<th>Europe Core RE</th>
<th>APAC Core RE</th>
<th>Global Core Infra</th>
<th>Direct Lending</th>
<th>Private Equity</th>
<th>Equity Long/Short</th>
<th>Relative Value</th>
<th>Macro</th>
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</tbody>
</table>

Source: Bloomberg Barclays, MSCI, NCREIF, J.P. Morgan Asset Management; (Top) Alerian, BAML, Clarkson, Drewry Maritime Consultants, FactSet, Federal Reserve, FTSE, Standard & Poor's; (Bottom) Burgiss, Cliffwater, HFRI. Yields are as of 6/30/20, except direct lending, global transport, APAC, U.S., Europe real estate (12/31/19), and global infrastructure (9/30/19). All correlation coefficients are calculated based on quarterly total return data for the period 06/30/09 – 09/30/19. Returns are denominated in USD. Global transport: Levered yields for transport assets; Preferreds: BAML Hybrid Preferred Securities; Global infrastructure: MSCI Global Infrastructure Asset Index-Low risk; Global REITs: FTSE NAREIT Global; U.S. real estate: NCREIF-ODCE Index; Latin America equity: MSCI EM Latin America; DM equity: MSCI World Index; USD Latin America sovereigns: J.P. Morgan EMBIG Diversified Latin America; U.S. high yield: Bloomberg U.S. Aggregate Corporate High Yield; Global equities: MSCI AC World Index; Global bonds: Bloomberg Barclays Global Aggregate Index; Europe core real estate: IPD Global Property Fund Index-Continental Europe; U.S. core real estate: NCREIF Property Index - Open End Diversified Core Equity component; APAC core real estate: IPD Global Property Fund Index-Asia-Pacific; Global core infrastructure: MSCI Global Quarterly Infrastructure Asset Index (equal-weighted blend); Direct lending: Cliffwater Direct Lending Index; Private equity: Cambridge Associates Global Private Equity Index; Venture capital: Cambridge Associates U.S. Venture Capital Index; Hedge fund indices include equity long/short, relative value and global macro and are all from HFRI. Guide to the Markets – Latin America. Data are as of June 30, 2020.
Private and public manager dispersion

Based on returns over a 10-year window*

<table>
<thead>
<tr>
<th>Category</th>
<th>Top quartile</th>
<th>Median</th>
<th>Bottom quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global equities</td>
<td>10.3%</td>
<td>7.8%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Global bonds</td>
<td>5.6%</td>
<td>10.7%</td>
<td>12.2%</td>
</tr>
<tr>
<td>U.S. core real estate</td>
<td>3.2%</td>
<td>1.8%</td>
<td>16.3%</td>
</tr>
<tr>
<td>U.S. non-core real estate</td>
<td>5.6%</td>
<td>1.9%</td>
<td>20.1%</td>
</tr>
<tr>
<td>Global private equity</td>
<td>13.2%</td>
<td>13.2%</td>
<td>20.6%</td>
</tr>
<tr>
<td>U.S. venture capital</td>
<td>10.7%</td>
<td>12.2%</td>
<td>20.6%</td>
</tr>
<tr>
<td>Hedge funds</td>
<td>1.9%</td>
<td>-0.8%</td>
<td>-2.9%</td>
</tr>
</tbody>
</table>


Global equities (large cap) and global bonds dispersion are based on the world large stock and world bond categories, respectively. *Manager dispersion is based on: 4Q 2009 – 4Q 2019 annual returns for global equities, global bonds, U.S. core real estate and hedge funds. U.S. non-core real estate, global private equity and U.S. venture capital are represented by the 10-year horizon internal rate of return (IRR) ending 4Q 2019.

### Asset class returns

<table>
<thead>
<tr>
<th>Year</th>
<th>LATAM equity</th>
<th>EM Asia equity</th>
<th>DM equity</th>
<th>LCL LATAM sov.</th>
<th>USD EM D high yield</th>
<th>Global IG</th>
<th>LATAM sov.</th>
<th>USD EM D low yield</th>
<th>DM high yield</th>
<th>USD EM D mid yield</th>
<th>Global high yield</th>
<th>EM Asia sov.</th>
<th>DM sov.</th>
<th>LCL Global IG</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>50.4%</td>
<td>43.5%</td>
<td>1.8%</td>
<td>56.7%</td>
<td>10.2%</td>
<td>19.4%</td>
<td>21.2%</td>
<td>12.3%</td>
<td>27.4%</td>
<td>8.1%</td>
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<tr>
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<tr>
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<td>50.4%</td>
<td>43.5%</td>
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<tr>
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<td>19.4%</td>
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<td>27.4%</td>
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**Investing principles**

- LATAM equity
- EM Asia equity
- DM equity
- Global high yield
- Global IG (investment grade)
- LCL LATAM sov. (sovereigns)
- USD LATAM sov.
- USD EM D high yield
- Global IG
- LATAM sov.
- USD EM D low yield
- DM high yield
- USD EM D mid yield
- Global high yield
- EM Asia sov.
- DM sov.
- LCL Global IG


LATAM equity, EM Asia equity, DM equity, Global high yield, Global IG (investment grade), LCL LATAM sov. (sovereigns), USD LATAM sov., USD EM D high yield, and cash are MSCI Latin America, MSCI EM Asia, MSCI EM Asia, MSCI The World, Bloomberg Barclays Global High Yield, Bloomberg Barclays Global Credit – Corporate – Investment Grade, GBI-EM Global Diversified Latin Region subindex (US$), EMBIG Diversified Latin Region subindex, EMBIG Diversified index and Bloomberg Barclays 1-3m Treasury, respectively. The “Asset Allocation” portfolio assumes the following weights: 10% in LATAM equity, 5% in EM Asia equity, 5% in DM equity, 10% in global high yield, 5% in global investment grade, 40% in LCL LATAM sovereigns, 15% in USD LATAM sovereigns, 5% in USD EM sovereigns and 5% cash. All asset class returns are unhedged and shown in USD.

Life expectancy and pension shortfall

**Probability of reaching certain ages**
Persons aged 65-69, by gender, and combined couple

- **Men**
  - 75-79: 90%
  - 80-84: 79%
  - 85+: 58%

- **Women**
  - 75-79: 80%
  - 80-84: 71%
  - 85+: 60%

- **Couple – at least one lives to specified age**
  - 75-79: 90%
  - 80-84: 79%
  - 85+: 58%

**Mandatory and voluntary savings by country**
Contribution to pre-retirement income replacement goal of 80%

<table>
<thead>
<tr>
<th>Country</th>
<th>Mandatory &amp; government pension replacement rate</th>
<th>Voluntary savings</th>
<th>Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>71%</td>
<td>39%</td>
<td>32%</td>
</tr>
<tr>
<td>Mexico</td>
<td>17%</td>
<td>26%</td>
<td>14%</td>
</tr>
<tr>
<td>Chile</td>
<td>29%</td>
<td>39%</td>
<td>24%</td>
</tr>
<tr>
<td>Argentina</td>
<td>60%</td>
<td>31%</td>
<td>22%</td>
</tr>
<tr>
<td>U.S.</td>
<td>80%</td>
<td>39%</td>
<td>29%</td>
</tr>
<tr>
<td>UK</td>
<td>80%</td>
<td>39%</td>
<td>31%</td>
</tr>
<tr>
<td>Germany</td>
<td>80%</td>
<td>39%</td>
<td>29%</td>
</tr>
<tr>
<td>Italy</td>
<td>60%</td>
<td>39%</td>
<td>29%</td>
</tr>
<tr>
<td>France</td>
<td>32%</td>
<td>24%</td>
<td>22%</td>
</tr>
<tr>
<td>Japan</td>
<td>24%</td>
<td>22%</td>
<td>20%</td>
</tr>
</tbody>
</table>


Life expectancy rates are based on Brazilian life expectancy tables. Mandatory and government pension replacement rate is the total public pension or forced savings in defined contribution plans; Voluntary savings is defined contribution savings by employers and employees; Gap is the savings shortfall assuming a desired pre-retirement income replacement rate of 80%. Pre-retirement income is calculated for the average earning worker who is assumed to have worked a full career, defined as entering the labor market at age 20 and working until the normal pension age within each country.

*Guide to the Markets – Latin America. Data are as of June 30, 2020.*
Investment universe & Latin American investors
Percentage of total net assets

<table>
<thead>
<tr>
<th>Market</th>
<th>Latin America</th>
<th>Global</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>94.5%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Bond market</td>
<td>96.8%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Equity market</td>
<td>99.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Average Latin American investor allocation*</td>
<td>97.5%</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

Source: MSCI, J.P. Morgan Asset Management; (Left) BIS, Cerulli Associates, IMF.
Latin American figures include Brazil, Chile, Colombia, Mexico and Peru. Share of global GDP is based on purchasing power parity (PPP) as calculated by the IMF for 2019 and is an estimate. Share of global market capitalization is based on float-adjusted MSCI data in U.S. dollar terms. Share of global bond market is based on BIS individual country total debt outstanding in U.S. dollar terms and is as of 4Q19. *Average investor allocation is an AUM weighted average of mutual fund international exposure in each country found in Cerulli Associate’s 2014 report “Latin American Distribution Dynamics 2014: Entry Points to Emergent Economies.” Percentages may not sum to 100% due to rounding.

Correlations and beta

Correlation between Latin America local sovereign bonds vs. other asset classes
Local currency, monthly total returns

Beta of regional equities to global equities (MSCI ACWI)
U.S. dollars, monthly price returns

LCL LATAM sovereigns, USD LATAM sovereigns, USD EMD sovereigns, LATAM equity, EM Asia equity, U.S. equity, Europe equity, Japan equity, Global high yield, Global IG (investment grade) and U.S. dollar are: GBI-EM Global Diversified Latin Region subindex, EMBIG Diversified Latin Region subindex, EMBIG Diversified Index, MSCI Latin America, MSCI EM Asia, S&P 500, MSCI Europe, MSCI Japan, Bloomberg Barclays Global High Yield, Bloomberg Barclays Global Credit – Corporate – Investment Grade and J.P. Morgan Emerging Market Currency index, respectively.

Correlations are based on monthly total return data in local currency terms for the period between 6/30/05 – 6/30/20. Beta calculations are based on monthly price returns in U.S. dollars for the period between 6/30/2000 – 6/30/2020.

Range of U.S. stock, bond and blended total returns
Annual total returns, 1950 - 2019

<table>
<thead>
<tr>
<th></th>
<th>Annual avg. total return</th>
<th>Growth of $100,000 over 20 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stocks</td>
<td>11.3%</td>
<td>$844,684</td>
</tr>
<tr>
<td>Bonds</td>
<td>5.9%</td>
<td>$313,758</td>
</tr>
<tr>
<td>50/50 portfolio</td>
<td>8.9%</td>
<td>$555,161</td>
</tr>
</tbody>
</table>

Returns shown are based on calendar year returns from 1950 to 2019. Stocks represent the S&P 500 Shiller Composite and Bonds represent Strategas/Ibbotson for periods from 1950 to 2010 and Bloomberg Barclays Aggregate thereafter. Growth of $100,000 is based on annual average total returns from 1950 to 2019.

Returns of S&P 500

Performance of $10,000 between January 1, 2000 and December 31, 2019, annualized total returns

<table>
<thead>
<tr>
<th>Portfolio</th>
<th>20-year annualized returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fully invested</td>
<td>$32,421 (6.06% return)</td>
</tr>
<tr>
<td>Missed 10 best days</td>
<td>$16,180 (2.44% return)</td>
</tr>
<tr>
<td>Missed 20 best days</td>
<td>$10,167 (0.08% return)</td>
</tr>
<tr>
<td>Missed 30 best days</td>
<td>$6,749 (-1.95% return)</td>
</tr>
<tr>
<td>Missed 40 best days</td>
<td>$4,607 (-3.80% return)</td>
</tr>
<tr>
<td>Missed 50 best days</td>
<td>$3,246 (-5.47% return)</td>
</tr>
<tr>
<td>Missed 60 best days</td>
<td>$2,331 (-7.02% return)</td>
</tr>
</tbody>
</table>

Six of the 10 best days occurred within two weeks of the 10 worst days.

20-year annualized returns by U.S. asset class (1999-2019)

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>20-year Annualized Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>REITs</td>
<td>11.6%</td>
</tr>
<tr>
<td>Gold</td>
<td>8.6%</td>
</tr>
<tr>
<td>S&amp;P 500</td>
<td>6.1%</td>
</tr>
<tr>
<td>60/40</td>
<td>5.6%</td>
</tr>
<tr>
<td>40/60</td>
<td>5.4%</td>
</tr>
<tr>
<td>Bonds</td>
<td>5.0%</td>
</tr>
<tr>
<td>Oil</td>
<td>4.2%</td>
</tr>
<tr>
<td>EAFE</td>
<td>3.8%</td>
</tr>
<tr>
<td>Homes</td>
<td>3.4%</td>
</tr>
<tr>
<td>Average Investor</td>
<td>2.5%</td>
</tr>
<tr>
<td>Inflation</td>
<td>2.2%</td>
</tr>
</tbody>
</table>

Source: J.P. Morgan Asset Management; (Top) Barclays, Bloomberg, FactSet, Standard & Poor’s; (Bottom) Dalbar Inc.

Indices used are as follows: REITs: NAREIT Equity REIT Index, EAFE: MSCI EAFE, Oil: WTI Index, Bonds: Bloomberg Barclays U.S. Aggregate Index, Homes: median sale price of existing single-family homes, Gold: USD/troy oz., Inflation: CPI. 60/40: A balanced portfolio with 60% invested in S&P 500 Index and 40% invested in high-quality U.S. fixed income, represented by the Bloomberg Barclays U.S. Aggregate Index. The portfolio is rebalanced annually. Average asset allocation investor return is based on an analysis by Dalbar Inc., which utilizes the net of aggregate mutual fund sales, redemptions and exchanges each month as a measure of investor behavior. Returns are annualized (and total return where applicable) and represent the 20-year period ending 12/31/19 to match Dalbar’s most recent analysis.

Source: Barclays, Bloomberg, CME, FactSet, J.P. Morgan Global Index Research, MSCI, Standard & Poor’s, J.P. Morgan Asset Management. Indices: S&P 500: S&P 500 Index; DM Equity: MSCI EAFE; EM Equity: MSCI EM; U.S. HY: Bloomberg US High Yield; U.S. IG: Bloomberg US Corporate Investment Grade Index; U.S. Treasuries: Bloomberg US Treasury Index; U.S. Dollar: US Dollar Index (DXY); Gold: Gold (NYM $/oz) continuous contract; Cash: US Treasury 3M Bellwether. All data are total returns and are in USD. *Previous four bear markets are the GFC ('08-'09), tech-bubble ('00-'01), 1990 and the flash crash ('87). Drawdowns are measured from market peak to market trough. EM equity returns do not include the 1987 bear market due to data availability. Past performance is not indicative of future returns.

Fixed income:

- **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 equity market performance in Europe.
  - The MSCI Pacific Index is a free float-adjusted market capitalization index that is designed to measure equity market performance in the Pacific region.
  - The Russell 3000 Index measures the performance of the 3,000 largest companies in the Russell 3000.
  - The Russell 1000 Index measures the performance of those Russell 1000 companies with higher 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.
  - The Russell Midcap Index measures the performance of the 800 smallest companies in the Russell 1000.
  - 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 Russell Midcap Value Index measures the performance of those Russell Midcap companies with lower price-to-book ratios and lower forecasted growth values.
  - The S&P 500 Index is widely regarded as the best single gauge of the U.S. equities market. It 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.
  
- **Bonds:**
  - The Bloomberg Barclays Corporate Bond Index is a unmanaged index that measures the performance of investment grade fixed-rate bonds of issuers in non-EMG countries. It includes U.S. dollar denominated Brady bonds, Eurobonds, traded loans and local market debt instruments issued by sovereign and quasi-sovereign entities. The index limits the exposure of some of the larger countries.
  - The Bloomberg Barclays Emerging Markets Bond Index (EMBI) is designed to mirror the investable universe of the U.S. dollar denominated emerging market corporate debt 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 Mortage 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.

Equities:

- **Index Definitions:**
  - All indexes are unmanaged and an individual cannot invest directly in an index. Index returns do not include fees or expenses.
  - 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.
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Other asset classes:

The Alerian MLP Index is a composite of the 50 most prominent energy Master Limited Partnerships (MLPs) that provides investors with an unbiased, comprehensive benchmark for the asset class.

The Bloomberg Commodity Index and related sub-indices are composed of futures contracts on physical commodities and represents twenty two separate commodities traded on U.S. exchanges, with the exception of aluminum, nickel, and zinc.

The Cambridge Associates U.S. Global Buyout and Growth Index® is based on data compiled from 1,768 global (U.S. & ex-U.S.) buyout and growth equity funds, including fully liquidated partnerships, formed between 1986 and 2013.

The CS/Tremont Hedge Fund Index is compiled by Credit Suisse Tremont Index, LLC. It is an asset-weighted hedge fund index and includes only funds, as opposed to separate accounts. The Index uses the Credit Suisse/Tremont database, which tracks over 4500 funds, and consists only of funds with a minimum of US$50 million under management, a 12-month track record, and audited financial statements. It is calculated and rebalanced on a monthly basis, and shown net of all performance fees and expenses. It is the exclusive property of Credit Suisse Tremont Index, LLC.

The HFRI Monthly Indices (HFRI) are equally weighted performance indexes, utilized by numerous hedge fund managers as a benchmark for their own hedge funds. The HFRI are broken down into 4 main strategies, each with multiple sub-strategies. All single-manager HFRI Index constituents are included in the HFRI Fund Weighted Composite, which accounts for over 2200 funds listed on the internal HFRI Database.

The NAREIT EQUITY REIT Index is designed to provide the most comprehensive assessment of overall industry performance, and includes all tax-qualified real estate investment trusts (REITs) that are listed on the NYSE, the American Stock Exchange or the NASDAQ National Market List.

The NFI-ODCE, short for NCREIF Fund Index -Open End Diversified Core Equity, is an index of investment returns reporting on both a historical and current basis the results of 33 open-end commingled funds pursuing a core investment strategy, some of which have performance histories dating back to the 1970s. The NFI-ODCE Index is capitalization-weighted and is reported gross of fees. Measurement is time-weighted.

Definitions:

Investing in alternative assets involves higher risks than traditional investments and is suitable only for sophisticated investors. Alternative investments involve greater risks than traditional investments and should not be deemed a complete investment program. They are not tax efficient and an investor should consult with his/her tax advisor prior to investing. Alternative investments have higher fees than traditional investments and they may also be highly leveraged and engage in speculative investment techniques, which can magnify the potential for investment loss or gain. The value of the investment may fall as well as rise and investors may get back less than they invested.

Bonds are subject to interest rate risks. Bond prices generally fall when interest rates rise.

Investments in commodities may have greater volatility than investments in traditional securities, particularly if the instruments involve leverage. The value of commodity-linked derivative instruments may be affected by changes in overall market movements, commodity index volatility, changes in interest rates, or factors affecting a particular industry or commodity, such as drought, floods, weather, livestock disease, embargoes, tariffs and international economic, political and regulatory developments. Use of leveraged commodity-linked derivatives creates an opportunity for increased return but, at the same time, creates the possibility for greater loss.

Derivatives may be riskier than other types of investments because they may be more sensitive to changes in economic or market conditions than other types of investments and could result in losses that significantly exceed the original investment. The use of derivatives may not be successful, resulting in investment losses, and the cost of such strategies may reduce investment returns.

Distressed Restructuring Strategies employ an investment process focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obligor (par value) at maturity as a result of either formal bankruptcy proceeding or financial market perception of near term proceedings.

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 losses 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 borrower.

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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