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- Alternatives fundraising
- Public and private market correlations
- Alternatives and manager selection
- Yield alternatives
- Equity market correlations and yields
- Portfolio diversification

- Global real estate
- Global real estate investment
- U.S. real estate dynamics
- U.S. real estate: Commercial and office
- U.S. real estate: Retail and industrial
- Global real estate: Retail
- Global real estate: Industrial
- U.S. REITs and real estate
- U.S. REIT sector returns

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- Global infrastructure investment
- U.S. infrastructure needs
- Sources of global infrastructure returns
- Utility profitability and household spending
- Sources of carbon emissions
- Global renewable energy
- U.S. electricity generation
- Vehicle sales
- Global trade
- Shipping trends
- Natural gas trends
- Inland transportation
- Wind power

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- Private equity deals and multiples
- Private equity returns and dry powder
- Private equity deal trends
- Private equity co-investments and the secondary market
- Private equity exit activity and IPOs
- SPAC market dynamics
- Private debt fundraising
- Credit market participants and sources of financing
- Credit returns across recent economic cycles: 2004-2020
- Defaults and recovery rates
- EBITDA, rating changes and loan defaults
- Unemployment, bankruptcies and business formation

- Hedge funds
- Hedge fund strategy returns
- Hedge funds and manager selection
- Hedge fund flows and exposures
- Hedge funds and traditional portfolios
- Hedge funds and volatility
- Equity and credit dispersion
- Equity and fixed income positioning
- Asset class volatility
- Cryptocurrencies and electricity consumption
- Cryptocurrency transactions and block sizes
- Cryptocurrency correlations

Prepared by:
David Lebovitz, Global Market Strategist, Market Insights, J.P. Morgan Asset Management
Nimish Vyas, Analyst, Market Insights, J.P. Morgan Asset Management
Global private capital fundraising

Billions USD

Source: Preqin, J.P. Morgan Asset Management.
Fundraising categories are provided by Preqin, and represent their estimate of annual capital raised in closed-end funds. Data may not sum to total due to rounding. *Natural resources include natural resources and timber funds. 2021 fundraising figures are as of May 2021.
Data is based on availability as of May 31, 2021.
### Public and private market correlations

#### Quarterly returns

<table>
<thead>
<tr>
<th>2008 - 2020</th>
<th>Global Bonds</th>
<th>Global Equities</th>
<th>U.S. Core RE (Continental Europe)</th>
<th>Europe Core RE (Continental Europe)</th>
<th>APAC Core RE</th>
<th>Global Core Infra</th>
<th>Direct Lending</th>
<th>Venture Capital</th>
<th>Private Equity</th>
<th>Equity Long/Short</th>
<th>Relative Value</th>
<th>Macro</th>
<th>Bitcoin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Bonds</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Global Equities</td>
<td>0.3</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S. Core RE</td>
<td>-0.2</td>
<td>0.0</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Europe Core RE (Continental Europe)</td>
<td>-0.3</td>
<td>0.2</td>
<td>0.8</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APAC Core RE</td>
<td>-0.2</td>
<td>0.0</td>
<td>0.8</td>
<td>0.8</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Global Core Infra</td>
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<td>-0.1</td>
<td>0.3</td>
<td>0.1</td>
<td>0.2</td>
<td>1.0</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Lending</td>
<td>-0.1</td>
<td>0.7</td>
<td>0.3</td>
<td>0.4</td>
<td>0.3</td>
<td>0.1</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Venture Capital</td>
<td>0.0</td>
<td>0.5</td>
<td>0.3</td>
<td>0.5</td>
<td>0.3</td>
<td>0.1</td>
<td>0.5</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Equity</td>
<td>0.0</td>
<td>0.8</td>
<td>0.3</td>
<td>0.5</td>
<td>0.3</td>
<td>0.1</td>
<td>0.9</td>
<td>0.8</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equity Long/Short</td>
<td>0.2</td>
<td>1.0</td>
<td>0.0</td>
<td>0.2</td>
<td>0.0</td>
<td>-0.1</td>
<td>0.7</td>
<td>0.6</td>
<td>0.9</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relative Value</td>
<td>0.1</td>
<td>0.9</td>
<td>-0.1</td>
<td>0.1</td>
<td>0.0</td>
<td>-0.1</td>
<td>0.9</td>
<td>0.5</td>
<td>0.8</td>
<td>0.9</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macro</td>
<td>0.4</td>
<td>0.4</td>
<td>-0.2</td>
<td>-0.1</td>
<td>-0.2</td>
<td>-0.1</td>
<td>0.1</td>
<td>0.2</td>
<td>0.2</td>
<td>0.4</td>
<td>0.3</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Bitcoin</td>
<td>0.1</td>
<td>0.1</td>
<td>0.3</td>
<td>-0.1</td>
<td>0.1</td>
<td>0.5</td>
<td>0.1</td>
<td>0.2</td>
<td>0.2</td>
<td>0.1</td>
<td>0.1</td>
<td>0.0</td>
<td>1.0</td>
</tr>
</tbody>
</table>


Data is based on availability as of May 31, 2021.
Private and public manager dispersion
Based on returns over a 10 year window*

Top quartile
- Global equities: 9.8%
- Global bonds: 7.9%
- U.S. core real estate: 4.8%
- U.S. non-core real estate: 3.4%
- Global private equity: 15.7%
- U.S. venture capital: 21.4%
- Hedge funds: 11.4%

Bottom quartile
- Global equities: 3.4%
- Global bonds: 1.8%
- U.S. core real estate: 3.8%
- U.S. non-core real estate: 1.8%
- Global private equity: -1.2%
- U.S. venture capital: -2.0%


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 the annual returns for global equities, global bonds, and U.S. core real estate over a 10 year period ending 1Q 2021. Hedge fund returns are based on annual returns from Feb. 2011 – Jan. 2021. 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 2020.

Data is based on availability as of May 31, 2021.
### Asset class yields

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Equities</strong></td>
<td>9.6%</td>
</tr>
<tr>
<td><strong>Fixed income</strong></td>
<td>9.5%</td>
</tr>
<tr>
<td><strong>Alternatives</strong></td>
<td><strong>4.7%</strong></td>
</tr>
<tr>
<td>Direct Lending</td>
<td><strong>4.7%</strong></td>
</tr>
<tr>
<td>Global Transport</td>
<td><strong>4.3%</strong></td>
</tr>
<tr>
<td>Preferreds</td>
<td><strong>4.2%</strong></td>
</tr>
<tr>
<td>APAC Real Estate</td>
<td><strong>4.1%</strong></td>
</tr>
<tr>
<td>U.S. High Yield</td>
<td><strong>3.9%</strong></td>
</tr>
<tr>
<td>Europe Real Estate</td>
<td><strong>3.5%</strong></td>
</tr>
<tr>
<td>U.S. Real Estate</td>
<td><strong>2.2%</strong></td>
</tr>
<tr>
<td>Global REITs</td>
<td><strong>1.7%</strong></td>
</tr>
<tr>
<td>International Equity</td>
<td><strong>1.4%</strong></td>
</tr>
<tr>
<td>U.S. 10-year</td>
<td><strong>0.2%</strong></td>
</tr>
<tr>
<td>U.S. Equity</td>
<td></td>
</tr>
<tr>
<td>Euro Govt. (7-10 yr.)</td>
<td></td>
</tr>
</tbody>
</table>

Source: BAML, Barclays, Bloomberg, Clarkson, Cliffwater, Drewry Maritime Consultants, Federal Reserve, FTSE, MSCI, NCREIF, FactSet, J.P. Morgan Asset Management. Yields are as of 3/31/2021, except Direct Lending, Global Infrastructure, and U.S. Europe, and APAC Real Estate which are as of 12/31/2020. Global Transport: Levered yields for transport assets calculated as the difference between charter rates (rental income), operating expenses, debt amortization and interest expenses, as a percentage of equity value. Yields for each of the sub-vessel types are calculated and respective weightings are applied to arrive at the current levered yields for Global Transportation; Preferreds: BAML Hybrid Preferred Securities; Direct Lending: Cliffwater Direct Lending Index; U.S. High Yield: Bloomberg US Aggregate Corporate High Yield; Global Infrastructure: MSCI Global Infrastructure Asset Index-Low Risk; U.S. Real Estate: MSCI Global Property Fund Index – North America; Global REITs: FTSE NAREIT Global REITs; International Equity: MSCI AC World ex-U.S.; U.S. 10-year: 10-year U.S. Treasury yield; U.S. Equity: MSCI USA, Europe Real Estate: Market weighted-avg. of MSCI Global Property Fund Indices - U.K. & Cont. Europe; Asia Pacific (APAC) core real estate: MSCI Global Property Fund Index – Asia-Pacific. Euro Govt. (7-10 yr.): Bloomberg Barclays Euro Aggregate Government – Treasury (7-10Y).

Data is based on availability as of May 31, 2021.
Equity market correlations and yields

Hedge adjusted yield, last 12 months

Source: Bloomberg, Barclays, NCREIF, MSCI, FactSet, ICE, J.P. Morgan Asset Management. Fixed income shown above are represented by Bloomberg indices except for EMD and ABS – U.S. Aggregate; MBS: U.S. Aggregate Securitized - MBS; U.S. corps: U.S. Corporates; Munis: Munip Bond 10-year; U.S. HY: Corporate High Yield; TIPS: Treasury Inflation-Protected Securities (TIPS); Floating Rate: U.S. Floating Rate; Convertibles: U.S. Convertibles Composite; ABS: J.P. Morgan ABS Index; EMD ($): J.P. Morgan EMBIG Diversified Index; EMD (LCL): J.P. Morgan GBI EM Global Diversified Index; EM Corp.: J.P. Morgan CEMBI Broad Diversified Index; Euro Corp.: Euro Aggregate Corporate Index; Euro HY: Pan-European High Yield Index; U.S. Real Estate: NCREIF Property Index – ODCE; Europe Real estate: Market weighted-avg. of MSCI Global Property Fund Indices - U.K. & Cont. Europe; APAC Real estate: MSCI Global Property Index - Asia-Pacific; Global infra.: MSCI Global Quarterly Infrastructure Asset Index (equal weighted blend; U.S. Direct Lending: Cliffwater Direct Lending Index; Convertibles yield is based on the U.S. portion of the Bloomberg Barclays Global Convertibles. Country yields are represented by the global aggregate for each country. Yield and return information based on bellwethers for Treasury securities. Correlations are based on quarterly return over the past 10 years through 3/31/2021, except Direct Lending, Infra, and U.S., Europe, and APAC Real Estate, which are through 12/31/2020. 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. Alts yields are through 12/31/2020.

U.S. Real Estate yield is calculated using the MSCI Global Property Fund Index -North America.

Data is based on availability as of May 31, 2021.
Portfolio diversification

Alternatives and portfolio risk/return
Annualized volatility and returns, 1989 - 2020

<table>
<thead>
<tr>
<th>Portfolio allocation</th>
<th>Volatility</th>
<th>Annualized returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 Equities/ 60 F.I.</td>
<td>6.44%</td>
<td>8.03%</td>
</tr>
<tr>
<td>60 Equities/ 40 F.I.</td>
<td>9.41%</td>
<td>8.89%</td>
</tr>
<tr>
<td>80 Equities/ 20 F.I.</td>
<td>12.63%</td>
<td>9.63%</td>
</tr>
<tr>
<td>30 Alts/ 30 Equities / 40 F.I.</td>
<td>6.26%</td>
<td>8.96%</td>
</tr>
<tr>
<td>30 Alts/ 40 Equities / 30 F.I.</td>
<td>7.79%</td>
<td>9.40%</td>
</tr>
<tr>
<td>30 Alts/ 50 Equities / 20 F.I.</td>
<td>9.37%</td>
<td>9.80%</td>
</tr>
</tbody>
</table>

Source: FactSet, Cambridge Associates, J.P. Morgan Asset Management. Alts include hedge funds, real estate, and private equity, with each receiving an equal weight. Portfolios are rebalanced at the start of the year.

Data is based on availability as of May 31, 2021.
Sources: CBRE Research, RCA (Americas), J.P. Morgan Asset Management.

APAC is Asia Pacific, EMEA is Europe, Middle East and Africa. Real estate investment data is as of 1Q21.
Data is based on availability as of May 31, 2021.
The cap rate, which is computed as the net operating income over sales price, is the rate of return on a real estate investment property. Vacancy rate data is as of 1Q21. 2019 LEED registration data is cumulative through 10/2/2019. Data is based on availability as of May 31, 2021.

Data is based on availability as of May 31, 2021.
Change in number of retail establishments

3Q10-3Q20, percent

<table>
<thead>
<tr>
<th>Category</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>17.7%</td>
</tr>
<tr>
<td>Goods-producing</td>
<td>7.3%</td>
</tr>
<tr>
<td>Service-providing</td>
<td>19.5%</td>
</tr>
<tr>
<td>Department/discount</td>
<td>23.7%</td>
</tr>
<tr>
<td>Personal care/services</td>
<td>22.3%</td>
</tr>
<tr>
<td>Restaurants/bars</td>
<td>17.8%</td>
</tr>
<tr>
<td>Pharmacies and person care</td>
<td>15.5%</td>
</tr>
<tr>
<td>Grocery/liquor</td>
<td>3.9%</td>
</tr>
<tr>
<td>Automobile dealers</td>
<td>3.5%</td>
</tr>
<tr>
<td>Gas stations</td>
<td>3.0%</td>
</tr>
<tr>
<td>Clothing</td>
<td>-10.2%</td>
</tr>
<tr>
<td>Furniture/furnishings</td>
<td>-11.9%</td>
</tr>
<tr>
<td>Electronics/appliances</td>
<td>-12.6%</td>
</tr>
<tr>
<td>Entertainment goods</td>
<td>-17.1%</td>
</tr>
</tbody>
</table>

Source: Bureau of Labor Statistics, J.P. Morgan Asset Management. (Left) Personal care/services include nail salons, barber shops, etc. Entertainment goods include sports equipment, games, musical instruments, and book stores. Industrial and retail establishments data is as of 3Q20. Industrial property vacancy rate is as of 4Q20. Data is based on availability as of May 31, 2021.

Industrial establishments and vacancy rate

Thousands of square feet, percent

- Warehouses and storage facilities
- Data processing, hosting, and related services

Industrial property vacancy rate (%)
Global online retail sales

Percent of total retail sales

<table>
<thead>
<tr>
<th>Country</th>
<th>U.S.</th>
<th>APAC</th>
<th>EMEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>35%</td>
<td>25%</td>
<td>10%</td>
</tr>
<tr>
<td>South Korea</td>
<td>23.5</td>
<td>16.8</td>
<td>11.1</td>
</tr>
<tr>
<td>Germany</td>
<td>4.6</td>
<td>4.4</td>
<td>4.1</td>
</tr>
<tr>
<td>France</td>
<td>4.1</td>
<td>3.8</td>
<td>3.6</td>
</tr>
<tr>
<td>Spain</td>
<td>3.6</td>
<td>3.4</td>
<td>3.2</td>
</tr>
<tr>
<td>Australia</td>
<td>3.4</td>
<td>3.1</td>
<td>2.8</td>
</tr>
<tr>
<td>Japan</td>
<td>2.8</td>
<td>2.3</td>
<td>2.3</td>
</tr>
<tr>
<td>Italy</td>
<td>2.3</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Thailand</td>
<td>2.2</td>
<td>2.1</td>
<td>2.1</td>
</tr>
<tr>
<td>Taiwan</td>
<td>2.1</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>China</td>
<td>2.0</td>
<td>2.0</td>
<td>1.4</td>
</tr>
<tr>
<td>South Korea</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
</tr>
<tr>
<td>U.S.</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Retail real estate per capita

Square feet per person

<table>
<thead>
<tr>
<th>Country</th>
<th>North America</th>
<th>APAC</th>
<th>EMEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>U.S.</td>
<td>15</td>
<td>11.1</td>
</tr>
<tr>
<td>Russia</td>
<td>16.8</td>
<td>12</td>
<td>9.3</td>
</tr>
<tr>
<td>South Korea</td>
<td>23.5</td>
<td>18</td>
<td>14.8</td>
</tr>
<tr>
<td>Germany</td>
<td>16.8</td>
<td>13</td>
<td>10.8</td>
</tr>
<tr>
<td>France</td>
<td>23.5</td>
<td>18</td>
<td>14.8</td>
</tr>
<tr>
<td>Spain</td>
<td>16.8</td>
<td>12</td>
<td>9.3</td>
</tr>
<tr>
<td>Switzerland</td>
<td>23.5</td>
<td>18</td>
<td>14.8</td>
</tr>
<tr>
<td>Netherlands</td>
<td>16.8</td>
<td>12</td>
<td>9.3</td>
</tr>
<tr>
<td>Japan</td>
<td>23.5</td>
<td>18</td>
<td>14.8</td>
</tr>
<tr>
<td>U.K.</td>
<td>16.8</td>
<td>12</td>
<td>9.3</td>
</tr>
<tr>
<td>Australia</td>
<td>23.5</td>
<td>18</td>
<td>14.8</td>
</tr>
<tr>
<td>Canada</td>
<td>16.8</td>
<td>12</td>
<td>9.3</td>
</tr>
</tbody>
</table>

Sources: (Left) Australian Bureau of Statistics, Centre for Retail Research (Germany, France, Italy, Spain), Korean Statistical Information Service, METI (Japan), National Bureau of Statistics (China), ONS (UK), Statistics of Singapore, U.S. Census Bureau. (Right) Statista, J.P. Morgan Asset Management. Online retail sales estimates are as of 1Q21, except for European countries which are 2020 forecast and Japan which is as of 2019. Retail space per capita per country data was published in November 2020 and represents retail square footage per person in 2018. Data is based on availability as of May 31, 2021.
Sources: CBRE, JLL, J.P. Morgan Asset Management. London is South East for office and warehouse. Prime office for Paris is Centre West excluding CBD, Madrid is City Centre.
Data is based on availability as of May 31, 2021.
Real estate investment trusts (REITs). Indices do not include fees or operating expenses and are not available for actual investment. Past performance is not necessarily a reliable indicator for current and future performance. Correlations are as of 1Q21.

Data is based on availability as of May 31, 2021.
# U.S. REIT sector returns

## Guide to Alternatives

| Year | Self Storage | Regional Malls | Mfgd. Homes | Lodging/Resorts | Other Commercial | Other Residential | Mfgd. Homes | Lodging/Resorts | Other Commercial | Other Residential | Mfgd. Homes | Lodging/Resorts | Other Commercial | Other Residential | Mfgd. Homes | Lodging/Resorts | Other Commercial | Other Residential | Mfgd. Homes | Lodging/Resorts | Other Commercial | Other Residential | Mfgd. Homes | Lodging/Resorts | Other Commercial | Other Residential | Mfgd. Homes | Lodging/Resorts | Other Commercial | Other Residential |
|------|--------------|----------------|-------------|----------------|-----------------|-------------------|-------------|----------------|-----------------|-------------------|-------------|----------------|-----------------|-----------------|-------------|----------------|-----------------|-----------------|-------------|----------------|-----------------|-----------------|-------------|----------------|-----------------|-----------------|-------------|----------------|-----------------|-----------------|-------------|----------------|-----------------|-----------------|
| 2011 | 35.2% | 31.3% | 27.2% | 46.2% | 27.2% | 30.7% | 28.4% | 13.9% | 49.1% | 21.0% | 31.6% | 19.8% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% |
| 2012 | 35.2% | 31.3% | 27.2% | 46.2% | 27.2% | 30.7% | 28.4% | 13.9% | 49.1% | 21.0% | 31.6% | 19.8% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% |
| 2013 | 35.2% | 31.3% | 27.2% | 46.2% | 27.2% | 30.7% | 28.4% | 13.9% | 49.1% | 21.0% | 31.6% | 19.8% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% |
| 2014 | 35.2% | 31.3% | 27.2% | 46.2% | 27.2% | 30.7% | 28.4% | 13.9% | 49.1% | 21.0% | 31.6% | 19.8% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% |
| 2015 | 35.2% | 31.3% | 27.2% | 46.2% | 27.2% | 30.7% | 28.4% | 13.9% | 49.1% | 21.0% | 31.6% | 19.8% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% |
| 2016 | 35.2% | 31.3% | 27.2% | 46.2% | 27.2% | 30.7% | 28.4% | 13.9% | 49.1% | 21.0% | 31.6% | 19.8% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% |
| 2017 | 35.2% | 31.3% | 27.2% | 46.2% | 27.2% | 30.7% | 28.4% | 13.9% | 49.1% | 21.0% | 31.6% | 19.8% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% |
| 2018 | 35.2% | 31.3% | 27.2% | 46.2% | 27.2% | 30.7% | 28.4% | 13.9% | 49.1% | 21.0% | 31.6% | 19.8% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% |
| 2019 | 35.2% | 31.3% | 27.2% | 46.2% | 27.2% | 30.7% | 28.4% | 13.9% | 49.1% | 21.0% | 31.6% | 19.8% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% |
| 2020 | 35.2% | 31.3% | 27.2% | 46.2% | 27.2% | 30.7% | 28.4% | 13.9% | 49.1% | 21.0% | 31.6% | 19.8% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% |
| 1Q21 | 35.2% | 31.3% | 27.2% | 46.2% | 27.2% | 30.7% | 28.4% | 13.9% | 49.1% | 21.0% | 31.6% | 19.8% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% | 31.4% |

Sources: FTSE NAREIT, FactSet, J.P. Morgan Asset Management.

All indices are from FTSE NAREIT. Mfgd. Homes represents manufactured homes. Data is based on availability as of May 31, 2021.
Average annual infrastructure need
USD trillions, constant 2017 dollars

<table>
<thead>
<tr>
<th>Infrastructure Type</th>
<th>Annual Spending, % of GDP</th>
<th>Annual Spending, USD Trillions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roads</td>
<td>1.0</td>
<td>$0.9</td>
</tr>
<tr>
<td>Rail</td>
<td>0.4</td>
<td>$0.4</td>
</tr>
<tr>
<td>Ports</td>
<td>0.1</td>
<td>$0.1</td>
</tr>
<tr>
<td>Airports</td>
<td>0.1</td>
<td>$0.1</td>
</tr>
<tr>
<td>Power</td>
<td>1.3</td>
<td>$1.1</td>
</tr>
<tr>
<td>Water</td>
<td>0.5</td>
<td>$0.5</td>
</tr>
<tr>
<td>Telecom</td>
<td>0.6</td>
<td>$0.5</td>
</tr>
<tr>
<td>Total</td>
<td>4.0</td>
<td>$3.6</td>
</tr>
</tbody>
</table>

Data is based on availability as of May 31, 2021.
Sources of global infrastructure returns

Global core infrastructure returns
Rolling 4-quarter returns from income and capital appreciation

Source: 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, and ending in 4Q20.
Past performance is not indicative of future results. Alternative investments carry more risk than traditional investments and are recommended only for long-term investment. Some alternative investments may be highly leveraged and rely on speculative investments that can magnify the potential for loss or gain. Diversification does not guarantee investment returns or eliminate the risk of loss.
Data is based on availability as of May 31, 2021.
Utility profitability and household spending

U.S. utilities allowed returns versus inflation
Average allowed return on equity

Household utility spending
Household utility spending % of personal consumption expenditures

Data is based on availability as of May 31, 2021.
Sources of carbon emissions

**Energy related CO2 emissions**
1990-2019, gigatons

- **Rest of the world**
- **Advanced economies**

**Changes in annual carbon emissions by driver***
Billions USD

Source: IEA, Dr Fatih Birol, J.P. Morgan Asset Management.

*Changes in annual carbon emissions by driver under the IEA sustainable development scenario. A gigaton is equivalent to a billion metric tons.

Data is based on availability as of May 31, 2021.
2020 generating capacity is a forecast based off July 2020 data. **LCOE is levelized cost of energy, the net present value of the unit-cost of electricity over the lifetime of a generating asset. It is often taken as a proxy for the average price that the generating asset must receive in a market to break even over its lifetime. The MSCI Global Alternative Energy Index includes developed and emerging market large, mid and small cap companies that derive 50% or more of their revenues from products and services from alternative energy, sustainable water, green building, pollution prevention and energy efficiency.

Data is based on availability as of May 31, 2021.
U.S. electricity generation

Electricity generation from selected fuels
Billion kilowatt-hours

Expected growth in renewable electricity generation
2020 – 2050, CAGR

Source: EIA, J.P. Morgan Asset Management. CAGR is compound annual growth rate. Data is based on availability as of May 31, 2021.
Light vehicle sales by technology/fuel
Millions of vehicles

New battery-powered vehicle sales
Millions of vehicles

Global trade

World trade volume
Year-over-year, % change, 3-month moving average, monthly

Mar. 2021: 6.7%
Average 4.0%

Data is based on availability as of May 31, 2021.
Global port calls
Number of calls, 7-day moving average

Idle containership capacity % fleet

Global orderbook % fleet

Source: Clarksons Research, MSI, Sea/net, J.P. Morgan Asset Management. Port calls defined as all instances of a vessel entering and leaving a defined port location, excluding instances where vessel not recorded as travelling at less than 1 knot, and combining multiple consecutive instances at the same port where the vessel has not left a buffered shape around the port. Data basis date vessel last recorded in port location. Global Port Calls excludes calls at ports by tugs. Idle containership capacity, global port calls, and orderbook are as of May 2021.

Data is based on availability as of May 31, 2021.
Global energy mix
Share of primary energy

LNG carrier engine types
Share of on-water fleet, 2020

LNG carrier fleet age profile
Number of vessels, 2020

Data is based on availability as of May 31, 2021.
Inland transportation

Average cost by mode of transportation

<table>
<thead>
<tr>
<th>Mode of Transportation</th>
<th>Average Cost (EUR/t/100km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road</td>
<td>6</td>
</tr>
<tr>
<td>Rail</td>
<td>5</td>
</tr>
<tr>
<td>Inland Waterway</td>
<td>3</td>
</tr>
<tr>
<td>Pipeline</td>
<td>2</td>
</tr>
</tbody>
</table>

Average CO2 emissions by mode of transportation

<table>
<thead>
<tr>
<th>Mode of Transportation</th>
<th>Average CO2 Emissions (g/tkm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road</td>
<td>140</td>
</tr>
<tr>
<td>Inland Waterway</td>
<td>51</td>
</tr>
<tr>
<td>Rail</td>
<td>16</td>
</tr>
<tr>
<td>Pipeline</td>
<td>5</td>
</tr>
</tbody>
</table>


Data is based on availability as of May 31, 2021.
In its “main case” scenario, the IEA projects wind, solar, hydro, and other renewable sources of energy accounting for 95% of the increase in the world’s electricity generating capacity over the next 5 years.

Data is based on availability as of May 31, 2021.
### U.S. public vs. private equity

#### Number of listed U.S. companies*

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**Apr. 2021: 5,207**


*Number of listed U.S. companies is represented by the sum of number of companies listed on the NYSE and the NASDAQ.**Other includes real estate, utilities, and energy. Percentages may not sum due to rounding. Sector weights are as of 6/30/20.

Data is based on availability as of May 31, 2021.
U.S. private equity deals

Number

B2B is business to business. B2C is business to consumer. Natural resources = Materials and resources and energy. Deal data is as of 1Q21.
Multiple data is as of 1Q21.
Data is based on availability as of May 31, 2021.
Private equity returns and dry powder

Private equity firm performance
IRR, 2004-2018

- No value creation team
- Value creation team

Pre-recession, vintages '04-'08: 12%
Recession-era, vintages '09-'13: 18%
Post-recession, vintages '14-'18: 23%

Private equity dry powder
Billions USD, by vintage year

- Pre-recession, vintages '04-'08
- Recession-era, vintages '09-'13
- Post-recession, vintages '14-'18

Data is based on availability as of May 31, 2021.
### Private equity deal trends

**Oil prices and natural resource exits**

Energy & materials exit count, WTI oil price, y/y % change

**Software investment and private equity**

% U.S. PE deals targeting software companies, software inv. % GDP

---

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

WTI oil price is a quarterly average. Software investment is represented by nonresidential fixed investment in software. Deal, exit and investment data are as of 1Q21.

Data is based on availability as of May 31, 2021.
To calculate the weighted projected program return, the 25-year periodic return for US private equity through third quarter 2018 was used, equal to a 13.4% net IRR, and co-investment returns were projected to be 500 bps higher. Weighted portfolio returns are calculated by applying the strategy weights to long-term returns. Secondary market fundraising activity is as of 1Q21.

Data is based on availability as of May 31, 2021.
Private equity exit activity and IPOs

Private equity exits by type
Billions USD

<table>
<thead>
<tr>
<th>Type</th>
<th>1Q21</th>
<th>06–’20 avg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary buyout</td>
<td>13.0%</td>
<td>35.3%</td>
</tr>
<tr>
<td>IPO</td>
<td>43.0%</td>
<td>17.7%</td>
</tr>
<tr>
<td>Corporate收购</td>
<td>44.0%</td>
<td>46.9%</td>
</tr>
</tbody>
</table>

Number of SPAC and traditional IPOs
Count, millions USD

Sources: Pitchbook, SPACInsider, SPAC Data, J.P. Morgan Asset Management.
Private equity exit data is as of 1Q21.
Data is based on availability as of May 31, 2021.
SPAC market dynamics

SPAC premiums to trust value
Jan. 2018 – Apr. 2021

Sources: J.P. Morgan Asset Management. SPACs included are limited to those with initial trust values of $10 per common stock. Upon announcing a deal, the SPAC is removed from the analysis.

Data is based on availability as of May 31, 2021.
Private debt fundraising by type
Billions USD

Sources: Pitchbook, J.P. Morgan Asset Management
Data is based on availability as of May 31, 2021.
Credit market participants and sources of financing

U.S. leveraged loan market participants
Share of total market, percent

<table>
<thead>
<tr>
<th>Year</th>
<th>Global banks</th>
<th>Non-bank companies and funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>72%</td>
<td>28%</td>
</tr>
<tr>
<td>2000</td>
<td>46%</td>
<td>54%</td>
</tr>
<tr>
<td>2006</td>
<td>20%</td>
<td>80%</td>
</tr>
<tr>
<td>2012</td>
<td>13%</td>
<td>87%</td>
</tr>
<tr>
<td>2019</td>
<td>16%</td>
<td>84%</td>
</tr>
</tbody>
</table>

Sources of financing for the corporate sector (2019)

United States
- Bank loans: 19%
- IG Bonds - BBB: 28%
- IG Bonds - A-rated and above: 28%
- HY bonds: 11%
- Institutional leveraged loans: 10%
- Private-direct middle market loans: 4%

Euro area
- Bank loans: 80%
- IG Bonds - BBB: 8%
- IG Bonds - A-rated and above: 8%
- HY bonds: 2%
- Institutional leveraged loans: 2%

Data is based on availability as of May 31, 2021.
Credit returns across recent economic cycles: 2004 - 2020

**Expansion**
Manufacturing ISM > 50 and rising

**Recession**
Manufacturing ISM < 50 and falling

**Late cycle cooling**
Manufacturing ISM > 50 and falling

**Turnaround**
Manufacturing ISM < 50 and rising


Data is based on availability as of May 31, 2021.

*Recovery rates are issuer-weighted and based on price 30 days after default date. Recovery and default rates are based on annual data from 1982-2020. Latest data is based on last twelve months. Corporate debt recovery rates are issuer-weighted and based on price 30 days after default date.

*Long-term average is 25 years for senior secured and unsecured and 23 years for first- and second-lien loans.

Data is based on availability as of May 31, 2021.
Covenant-lite loan issuance

Percent of total leveraged loans issuance

Transactions with EBITDA adjustments

Share of total transactions

Covenant-heavy versus covenant-lite loan defaults

Default rates

Number of companies with negative EBITDA

Bloomberg Barclays U.S. Corporate HY index

Source: Bloomberg, S&P LCD, Moody’s, J.P. Morgan Markets Research, J.P. Morgan Asset Management. Media and telecom loans excluded prior to 2011. EBITDA adjusted for prospective cost savings or synergies. Covenant-lite loans are a type of financing that is issued with fewer restrictions on the borrower with regard to collateral, level of income, and loan payment terms, and fewer protections for the lender, including financial maintenance tests that measure the debt-service capabilities of the borrower. All EBITDA data are based on 12-month trailing data. Negative EBITDA company count is based on companies included in the Bloomberg Barclays U.S. Corporate HY index that publicly disclose EBITDA. Data is based on availability as of May 31, 2021.
Bankruptcies are business bankruptcies across all chapters. Unemployment rate, bankruptcy, and business formation data are as of 1Q21.
Data is based on availability as of May 31, 2021.
### Hedge Fund Strategy Returns

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</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>5.6%</td>
<td>16.8%</td>
<td>23.4%</td>
<td>4.3%</td>
<td>15.1%</td>
<td>24.6%</td>
<td>3.3%</td>
<td>13.3%</td>
<td>-0.4%</td>
<td>16.8%</td>
<td>6.9%</td>
<td>16.8%</td>
<td>5.4%</td>
<td>8.1%</td>
<td>9.7%</td>
<td>15.5%</td>
<td>10.6%</td>
<td>10.8%</td>
<td>4.5%</td>
</tr>
<tr>
<td>2012</td>
<td>-8.4%</td>
<td>3.3%</td>
<td>6.4%</td>
<td>3.3%</td>
<td>3.3%</td>
<td>6.5%</td>
<td>3.3%</td>
<td>6.4%</td>
<td>3.3%</td>
<td>6.5%</td>
<td>3.3%</td>
<td>6.5%</td>
<td>3.3%</td>
<td>-8.9%</td>
<td>2.3%</td>
<td>0.0%</td>
<td>2.2%</td>
<td>0.0%</td>
<td>-4.5%</td>
</tr>
<tr>
<td>2013</td>
<td>-1.4%</td>
<td>1.0%</td>
<td>2.2%</td>
<td>1.0%</td>
<td>1.0%</td>
<td>2.2%</td>
<td>1.0%</td>
<td>2.2%</td>
<td>1.0%</td>
<td>2.2%</td>
<td>1.0%</td>
<td>2.2%</td>
<td>1.0%</td>
<td>-4.5%</td>
<td>2.3%</td>
<td>0.0%</td>
<td>2.0%</td>
<td>0.0%</td>
<td>-4.5%</td>
</tr>
</tbody>
</table>

Source: MSCI, Bloomberg Barclays, HFRI, FactSet, J.P. Morgan Asset Management.

Global equities reflect the MSCI AC World Index and global bonds reflect the Bloomberg Barclays Global Aggregate Index. All hedge fund returns are from HFRI. HFRI Composite: HFRI FW Composite Index. Returns may fluctuate as hedge fund reporting occurs on a lag. Please see disclosure pages for index definitions.

Data is based on availability as of May 31, 2021.
Hedge fund manager dispersion
Based on returns from 4Q 2010 – November 2020

Sources: HFRI, J.P. Morgan Asset Management.
Manager dispersion is based on: February 2011 to January 2021 monthly returns for hedge funds. Blue bar denotes median. All hedge funds: Fund Weighted Composite Index, Equity market neutral: Equity hedge – equity market neutral. Event-driven: Event-Driven (Total), Relative value: Relative Value (Total), Relative value multi-strategy: Relative Value Multi-Strategy, Macro total: Macro (Total), Equity hedge: Equity Hedge (Total), Emerging markets: Emerging Markets Global.
Data is based on availability as of May 31, 2021.
Hedge fund flows and exposures

Hedge fund net asset flow
Billions USD

Sector exposure of top 50 hedge funds
% of total portfolio


Data is based on availability as of May 31, 2021.
Hedge fund correlation with a 60/40 stock-bond portfolio*
1990 – present, monthly

Sources: HFRI, Standard & Poor’s, Bloomberg, Barclays, FactSet, J.P. Morgan Asset Management.

*60/40 portfolio is 60% S&P 500 and 40% Bloomberg Barclays U.S. Aggregate. Hedge funds are represented by HFRI Macro. Correlation is calculated on a 12-month rolling basis.

Data is based on availability as of May 31, 2021.
**Hedge funds and volatility**

Average monthly hedge fund returns by VIX level, 1990 – present

- **Alpha**
  - 10-15: 1.1%
  - 15-20: 0.9%
  - 20-25: 0.8%
  - 25-30: 0.6%
  - 30-35: 0.3%
  - >35: 0.2%

- **Beta**
  - 10-15: 0.5%
  - 15-20: 0.6%
  - 20-25: 0.4%
  - 25-30: 0.2%
  - 30-35: 0.1%
  - >35: -0.2%

**Macro hedge fund relative performance & volatility**

VIX index level, y/y change in rel. perf. of HFRI Macro index

- 1990: 0%
- 1991: 10%
- 1992: 20%
- 1993: 30%
- 1994: 40%
- 1995:
- 1996:
- 1997:
- 1998:
- 1999:
- 2000:
- 2001:
- 2002:
- 2003:
- 2004:
- 2005:
- 2006:
- 2007:
- 2008:
- 2009:
- 2010:
- 2011:
- 2012:
- 2013:
- 2014:
- 2015:
- 2016:
- 2017:
- 2018:
- 2019:
- 2020:

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

Historical beta is based on regression analysis, where the HFRI is the dependent variable and the MSCI AC World Index is the independent variable.

Monthly VIX reading is an average. Numbers may not sum to 100% due to rounding. Relative performance and VIX data is as of April 2021.

Data is based on availability as of May 31, 2021.
**Equity and credit dispersion**

**S&P 500 valuation dispersion by sector**
Historical range vs. current fwd. P/E ratio spreads, 2001 – present

**Credit spread dispersion**
Historical range vs. current spreads, bps, 2011 – present

Sources: S&P Global, HFRI, FactSet J.P. Morgan Asset Management.

*Dispersion is represented by the range. For equity dispersion, the Energy sector has a negative minimum P/E ratio; however, the chart only displays positive values. Current equity dispersion data are as of April 2021. Private credit spreads are as of 4Q20.

Data is based on availability as of May 31, 2021.
S&P 500 E-Mini and 10-yr. U.S. Treasury Note positioning
Net noncommercial futures positions as a percent of open interest

Source: CFTC, FactSet, J.P. Morgan Asset Management.
Positioning data is as of 4Q20.
Data is based on availability as of May 31, 2021.
Equity, interest rate and foreign exchange volatility
Z-score, weekly

Flow by firm as % of total U.S. equity market volume
2020 – 1Q21

Source: CBOE, ICE BofA, J.P. Morgan Index Research, FactSet, J.P. Morgan Asset Management. (Left) Equity volatility is represented by the VIX Index, interest rate volatility is represented by the MOVE Index and foreign exchange volatility is represented by the J.P. Morgan Global FX Volatility Index. Volatility data is as of May 2021. (Right) Based on company filings, SEC 606 disclosures. Data is based on availability as of May 31, 2021.
Sources: Bloomberg, J.P. Morgan Asset Management
Data is based on availability as of May 31, 2021.
Transactions processed per second

<table>
<thead>
<tr>
<th>Number</th>
<th>Visa</th>
<th>Mastercard</th>
<th>PayPal</th>
<th>Bitcoin</th>
<th>Ether</th>
<th>Litecoin</th>
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<tr>
<td>3526</td>
<td>2061</td>
<td>241</td>
<td>3.3</td>
<td>3.18</td>
<td>0.26</td>
<td></td>
</tr>
</tbody>
</table>

Transaction fees and block sizes

Average transaction fee and block size, 2009 – present

Sources: BIS, BitInfoCharts, J.P. Morgan Asset Management

Data is based on availability as of May 31, 2021.
Risk-on and risk-off assets
12-month rolling correlations, monthly


Data is based on availability as of May 31, 2021.
Alpha – Is the difference between an investment’s return and its expected return, given its level of beta.

Accredited investor – Defined by Rule 501 of Regulation D, an individual (i.e. non-corporate) "accredited investor" is either a natural person who has individual net worth, or joint net worth with the person’s spouse, that exceeds $1 million at the time of the purchase OR a natural person with income exceeding $200,000 in each of the two most recent years or joint income with a spouse exceeding $300,000 for those years and a reasonable expectation of the same income level in the current year. For the complete definition of accredited investor, see the SEC website.

Capital commitment – A Limited Partner’s obligation to provide a specific amount of capital to a Closed-end Fund (defined below) for investments. The Capital Commitment is “drawn down” or “called” over time, meaning a portion of the commitment must be wired to the Closed-end Fund by a set date.

Capital called – The amount of capital wired to a fund that is “drawn down” over time as the General Partner selects investments.

Carried interest (aka incentive fee) – A fee paid to a fund manager for generating returns over a benchmark; calculated as a percentage of investment profits over a hurdle rate and charged in addition to a management fee. In Private Equity, carried interest (typically up to 20% of the profits) becomes payable once the investors have achieved repayment of their original investment in the fund, plus a defined hurdle rate.

Catch-up – This is a common term of the private equity partnership agreement. Once the general partner provides its limited partners with their preferred return, if any, it then typically enters a catch-up period in which it receives the majority or all of the profits until the agreed upon profit-split, as determined by the carried interest, is reached.

Clawback – A clawback obligation represents the general partner’s promise that, over the life of the fund, the managers will not receive a greater share of the fund’s distributions than they bargained for. Generally, this means that the general partner may not keep distributions representing more than a specified percentage (e.g., 20%) of the fund’s cumulative profits, if any. When triggered, the clawback will require that the general partner return to the fund’s limited partners an amount equal to what is determined to be "excess" distributions.

Closed-end fund – A fund that has a finite capital raising period and stated term (i.e. 5 years, 10 years, etc.). Clients will have the ability to commit to the fund during the set fundraising period, after which point the fund will be closed to new investors. Unlike an open-ended fund, there is limited flexibility on when a client may invest and there is no liquidity/redemptions. Clients who invest are obligated to remain in the fund for the duration of the term; they will be required to fulfill capital calls during the stated commitment period and will receive periodic distributions based on underlying monetization of investments.

Commitment period – The period of time within which the fund can make investments as established in the Limited Partnership Agreement ("LPA"), meaning the governing document, for the fund.

Direct co-investment – An investment made directly in a single underlying asset of a fund. Example: The General Partner elects to invest in an operating company alongside a fund.


Distressed – A financial instrument in a company that is near or is currently going through bankruptcy. This usually results from a company’s inability to meet its financial obligations. As a result, these financial instruments have suffered a substantial reduction in value. Distressed securities can include common and preferred shares, bank debt, trade claims (goods owed) and corporate bonds.

Distributions – The total proceeds distributed by the fund to the Limited Partners, which may include both return of capital and gain distributions.

General partner – The managing partner of a Limited Partnership. The General Partner is managed by the asset management team responsible for making fund investments (i.e., the intermediary between investors with capital and businesses seeking capital to grow).

Gross IRR – The dollar-weighted internal rate of return, before management fees and carried interest generated by the fund.

Hedge Fund strategies:

Relative Value/Arbitrage involves the simultaneous purchase and sale of similar securities to exploit pricing differentials. Strategies in this sector offer potential to generate consistent returns while minimizing directional risk.

Opportunistic/Macro strategies involve investing in a wide variety of strategies and instruments, which often have a directional stance based on the manager’s global macroeconomic views.

Long/Short (L/S) Equity involves long and/or short positions in equity securities deemed to be overvalued, undervalued, or mispriced.

Merger Arbitrage/Event Driven strategies invest in opportunities created by significant corporate transactions and events which tend to alter a company’s financial structure or operating strategy.

Distressed Securities invests in debt and equity securities of firms in reorganization or bankruptcy.

High watermark – The highest peak in value that an investment fund has reached. This term is often used in the context of fund manager compensation. For example, a $1,000,000 investment is made in year 1 and the fund declines by 50%, leaving $500,000 in the fund. In year 2, the fund returns 100%, bringing the investment value back to $1,000,000. If a fund has a high watermark, it will not take incentive fees on the return in year 2 since the investment has never grown. The fund will only take incentive fees if the investment grows above the initial level of $1,000,000.

Hurdle rate – The rate of return that the fund manager must meet before collecting incentive fees.

Internal rate of return (IRR) – The dollar-weighted internal rate of return. This return considers the daily timing of cash flows and cumulative fair stated value, as of the end of the reported period.

J-Curve effect – Occurs when funds experience negative returns for the first several years. This is a common experience, as the early years of the fund include capital drawdowns and an investment portfolio that has yet to mature. If the fund is well managed, it will eventually recover from its initial losses and the returns will form a J-curve: losses in the beginning dip down below the initial value, and later returns show profits above the initial level.

K-1 – Tax document issued for an investment in partnership interests to report your share of income, deductions and credits. (Note that Private Investments generally issue a Schedule K-1 instead of a Form 1099 for tax reporting. K-1s may at times be issued later than 1099s, requiring investors to file for an extension).

Limited partner – An investor in a Limited Partnership, which is a form of legal entity used for certain hedge funds, private equity funds and real estate funds.

Management fee – Fee paid to a fund manager for managing the fund; typically calculated as a percentage of assets under management.

Mezzanine finance – Loan finance that is half-way between equity and secured debt, either unsecured or with junior access to security. A mezzanine fund is a fund focusing on mezzanine financing.

Multiple of Invested Capital (MOIC) – Calculation performed by adding the remaining (reported) value and the distributions received (cash out) and subsequently dividing that amount by the total capital contributed (cash in).

Net asset value (NAV) – This is the current fair stated value for each of the investments, as reported by the administrator of the fund.

Net IRR – The dollar-weighted internal rate of return, net of management fees and carried interest generated by the fund. This return considers the daily timing of all cash flows and the cumulative fair stated value, as of the end of the reported period.
Open-ended fund – As it relates to private alternatives (not mutual fund structure), an open-ended fund is a fund that has no stated term or maturity and allows clients to invest and redeem on an ongoing basis. The frequency of investments (aka subscriptions) and/or redemptions may vary. Redemptions from open-ended private alternative funds generally require advance notice in writing.

Pari Passu – At an equal rate or pace, without preference.

Portfolio company – A business entity that has secured at least one round of financing from one or more private equity funds. A company in which a given fund has invested.

Post-money valuation – The valuation of a company immediately after the most recent round of financing. For example, a venture capitalist may invest $3.5 million in a company valued at $2 million “pre-money” (before the investment was made). As a result, the startup will have a post money valuation of $5.5 million.

Pre-money valuation – The valuation of a company prior to a round of investment. This amount is determined by using various calculation methods, such as multiples to earnings or comparable to other private and/or public companies.

Preferred return – Also known as Hurdle Rate.

Private equity – Equity capital invested in a private company through a negotiated process.

Primary investment – An investment made in a newly formed limited partnership.

Real estate investment trust (REITs) – Stocks listed on an exchange that represent an interest in a pool of real estate properties.

Realized value – The amount of capital extracted from an investment.

Reported/remaining value – The current stated value for each of the investments in a fund, as reported by the General Partner of the fund.

Return on equity (RoE) - Amount of net income returned as a percentage of shareholders’ equity.

Secondary market investment – The buying and selling of pre-existing investor commitments.

Seed money – The first round of capital for a start-up business. Seed money usually takes the structure of a loan or an investment in preferred stock or convertible bonds, although sometimes it is common stock. Seed money provides startup companies with the capital required for their initial development and growth. Angel investors and early-stage venture capital funds often provide seed money.

Tax documents – See K-1.

Total value – The combination of market value and realized value of an investment. Shows the total worth of an investment.

Unfunded commitment – Money that has been committed to an investment but not yet transferred to the General Partner.

Venture capital – A specialized form of private equity, characterized chiefly by high-risk investment in new or young companies following a growth path in technology and other value-added sectors.

Vintage year – The year of fund formation and first draw-down of capital.

Write-down – A reduction in the value of an investment.
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