The infrastructure moment
Core infrastructure’s growing role in institutional portfolios
January 2017

IN BRIEF

• As a new asset class, infrastructure has proved itself over the last decade, establishing a strong track record that highlights its potential to enhance returns and mitigate risk as part of a broader portfolio.

• Furthermore, the expected total return for private infrastructure is now greater than the expected total return of a 60/40 portfolio, with income also representing a substantial component of the return from infrastructure.¹

• In this paper we explore how private core infrastructure provides investors with the D-I-Y benefits of diversification, inflation protection and yield along with a strong focus on environmental, social and governance (ESG) principles.

• We also examine recent trends in valuations, discuss options for accessing infrastructure investments, and explain why—with institutional investors’ average allocations still below target—the expansion of the asset class continues to provide opportunities for early movers.

THE APPEAL OF CORE INFRASTRUCTURE

Institutional investors have been allocating a growing share of their portfolios to infrastructure assets—including regulated utilities, transportation and contracted power. The focus has been on core investment strategies, which can produce stable, forecastable cash flows through the use of prudent leverage and some combination of transparent and consistent regulatory environments, long-term contracts with credible counterparties, and mature demand profiles.

Most core infrastructure assets have monopolistic positions in the markets they serve, so prices and usage are relatively insensitive to periods of economic weakness. Instead, core infrastructure investments are driven by a different—and uncorrelated—set of factors, including political and regulatory risk, development risk, operational risk and leverage. Also, each core infrastructure sector has unique risk factors, so core strategies include investments from multiple sectors to reduce volatility within the asset class.

In today’s challenging “everything is expensive” investment environment, with Barclays Aggregate yields well below their long-term averages and the S&P 500’s price-to-earnings ratio above 20 (as of 7 December 2016), investors are increasingly turning to private core infrastructure for its “D-I-Y” benefits:

- (D) = diversification and low correlation to other asset classes
- (I) = inflation protection
- (Y) = yield with high and stable cash flows

DIVERSIFICATION: INFRASTRUCTURE CAN HELP TO REDUCE PORTFOLIO VOLATILITY

A key benefit of core infrastructure investments is their ability to provide relatively high total returns with low correlations to traditional asset classes, such as equities, fixed income and real estate. Consequently, an allocation to core infrastructure may reduce the volatility of an institutional portfolio and can potentially limit the maximum drawdown during times of market stress.

Many core infrastructure assets are natural monopolies by design. For some assets, such as regulated utilities, alternative providers are forbidden by the government. For others, such as transportation assets, alternative routes are often distant and time-consuming. The monopolistic position of these assets makes the demand for their services resilient to economic downturns and fluctuating prices.

Core infrastructure assets also utilise long-term contracts. Power generation assets can protect themselves from volatile power markets through long-term contracts with utilities, corporates or governments. The contracts, which can last as long as 30 years, establish very stable cash flows in return for the asset’s availability and generation. Since core infrastructure investments have reduced exposure to market demand, their risk-return drivers are relatively uncorrelated with other asset classes (see Exhibit 1).

INFLATION: INFRASTRUCTURE CAN HELP TO PROTECT AGAINST RISING PRICES

An unexpected rise in inflation can be very costly to investors, so portfolios with a long-term focus should protect against rising prices even in low-inflation environments. This is particularly relevant today, as expectations for fiscal stimulus in the US, the post-Brexit depreciation of sterling, and a partial recovery in the price of oil have increased the likelihood that inflation could overshoot central banks’ target levels.

Infrastructure investments—especially utilities and transport assets—can provide investors with protection when inflation unexpectedly rises. In many jurisdictions, particularly in Europe, end-user rates for regulated utilities are indexed to inflation. Where automatic adjustment does not exist, utilities can typically file new rate cases when their costs rise. Regulators have also allowed utilities to earn a greater return when inflation has been higher. Exhibit 2 illustrates the positive correlation between inflation and the allowed return on equity (RoE) of US electric utilities, with a two-year lag to account for regulatory adjustment periods.

Core infrastructure return drivers differ from those of other asset classes

EXHIBIT 1: ASSET CLASS CORRELATIONS

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Global equities</th>
<th>Global bonds</th>
<th>US core private real estate</th>
<th>Private equity</th>
<th>Hedge funds</th>
<th>Global listed infrastructure</th>
<th>Global core private infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global equities</td>
<td>1.0</td>
<td>-0.2</td>
<td>0.2</td>
<td>0.9</td>
<td>0.9</td>
<td>0.9</td>
<td>0.0</td>
</tr>
<tr>
<td>Global bonds</td>
<td>-0.2</td>
<td>1.0</td>
<td>-0.2</td>
<td>-0.3</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>US core private real estate</td>
<td>0.2</td>
<td>-0.2</td>
<td>1.0</td>
<td>0.4</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Private equity</td>
<td>0.9</td>
<td>-0.3</td>
<td>0.1</td>
<td>0.9</td>
<td>0.8</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Hedge funds</td>
<td>0.9</td>
<td>-0.3</td>
<td>0.1</td>
<td>0.9</td>
<td>0.8</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Global listed infrastructure</td>
<td>0.9</td>
<td>0.0</td>
<td>0.2</td>
<td>0.9</td>
<td>0.8</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Global core private infrastructure</td>
<td>0.9</td>
<td>-0.2</td>
<td>0.5</td>
<td>0.1</td>
<td>0.1</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Source: Bloomberg, MSCI World Index for global equities, Barclays Global Aggregate Bond Index for global fixed income, NFI-ODCE for U.S. core private real estate; Burgiss for private equity, HFRI for hedge funds, S&P Global Infrastructure Index for global listed infrastructure, and MSCI Global Quarterly Infrastructure Asset Index for global core private infrastructure.2 Data are quarterly from Q2-2008 through Q4-2015 (the full available range for the MSCI Infrastructure Index), and are denominated in local currency. Data as of December 2016.

2 The MSCI Quarterly Infrastructure Asset Index is the first third-party return index in the private infrastructure space. It has a relatively small sample and a bias towards Australian assets, but it continues to evolve and is a good indicator of infrastructure performance.
Revenues derived from transportation assets also tend to have strong inflation sensitivities. This is because revenues in the sector largely come from bilateral contracts with third parties, such as airlines and shipping lines, and these contracts typically include some form of inflation indexation. While inflation tracking is also common in power contracts across the developed world, the US is a prominent exception.

**YIELD: INFRASTRUCTURE CAN PROVIDE HIGH AND STABLE CASH FLOWS**

Core infrastructure’s strong yield potential is a major reason why institutional investors are attracted to the asset class in today’s low-yield environment. Yields on core infrastructure investments have been remarkably resilient, as forecastable cash flows, long economic lives and creditworthy counterparties have bolstered asset-level cash flows.

**Exhibit 3** shows how infrastructure’s stable yield has mitigated the fluctuations in value from capital appreciation. This was especially true during the global financial crisis of 2008/2009, when steady income helped insulate infrastructure investments from the stress in capital markets. Infrastructure’s year-over-year total return was negative for only a single quarter, and the asset class’ cumulative decline never topped 2%.

A stable yield has helped to mitigate fluctuations in capital value through changing markets

**Exhibit 3: UNLISTED INFRASTRUCTURE RETURN FROM INCOME AND CAPITAL APPRECIATION**

Exhibit 3 shows how infrastructure’s stable yield has mitigated the fluctuations in value from capital appreciation. This was especially true during the global financial crisis of 2008/2009, when steady income helped insulate infrastructure investments from the stress in capital markets. Infrastructure’s year-over-year total return was negative for only a single quarter, and the asset class’ cumulative decline never topped 2%.

**INFRASTRUCTURE VALUES ARE INCREASING**

Since the recovery from the financial crisis took hold in 2009/2010, valuation discount rates for core infrastructure assets have generally trended downwards. This is due, in part, to the broader decline in interest rates, which has caused all asset classes to look more attractive on a relative basis. **Exhibit 4** shows how the estimated discount rate for core infrastructure assets has decreased alongside government bond yields, keeping the equity risk premium relatively stable.
Infrastructure valuations have generally become more attractive as interest rates have fallen.

EXHIBIT 4: ESTIMATES FOR CORE INFRASTRUCTURE DISCOUNT RATES VS. RISK-FREE PROXIES

Going forward, however, we expect the equity risk premium for core infrastructure investments to fall, regardless of changes in the cost of debt. Whereas equities are vulnerable to a slump in economic growth, and fixed income is vulnerable to rising rates, infrastructure has the ability to perform well in a wide range of economic environments.

Infrastructure, as an asset class, is slowly being institutionalised, and investors have been increasing their allocations accordingly. Valuation multiples should continue to benefit from new entrants to the market, as institutional investors remain focused on high yields and diversification. In Preqin’s most recent survey, six times as many investors said they planned to increase their infrastructure exposure as planned to reduce it. There also remains a tremendous need for infrastructure investment globally, and regulators and end users will need to offer incentives to attract and retain new capital.

Of course, individual infrastructure sectors and assets will perform differently over the coming years. Prudent due diligence and careful asset management are essential for strong financial performance, especially given the relatively inefficient investment environment. One important consideration is that large funds have more dry powder than ever before, and many of the biggest deals are now pricing at significantly lower discount rates than smaller, mid-market transactions. Return compression for these larger assets means that, while they may continue to perform well, there is less room for valuation multiples to increase further.

A STRONG COMMITMENT TO ESG

Infrastructure investing is inseparable from ESG principles, as infrastructure investors necessarily take a long-term view and so focus heavily on prudent and sustainable business practices. First and foremost, running a business and executing on a strategic vision require competent management, abetted by an independent and experienced board of directors. Successful infrastructure businesses tend to have a philosophy of continuous business improvements, reinforced through active asset management by a company’s owners.

Infrastructure shareholders are responsible for implementing the structural changes needed to promote a company’s long-term growth, rather than relying on discount rate fluctuations to paper over weak internal controls. That means infrastructure investors must promote board-level engagement and oversight, management accountability, transparency of performance, and ethical employee conduct.

Infrastructure investments are critical for the transition to an environmentally sustainable economy. The retirement of fossil fuel-based power plants is contingent on tremendous new investment in renewable energy. Significant up-front capital is also necessary to provide electricity networks with smart grid technology, to reduce water leakage, and to upgrade ports to promote energy efficiency and intermodal transport. As long-term owners, infrastructure investors cannot be blind to the future impact of climate change on individual assets and government policies.

Finally, infrastructure investments are in physical assets, and so have an inherently local component. Utilities have defined service areas, while power plants and transportation assets have tangible footprints. As a result, infrastructure investments depend on investors’ relationships with local regulators, customers and communities. Through close attention to ESG principles, infrastructure investors not only encourage sustainable development, but can also bolster their own financial performance.

OPEN-ENDED COMMINGLED FUNDS ARE MORE APPROPRIATE FOR CORE INFRASTRUCTURE

Commingled funds are the most common vehicle through which institutions invest in private infrastructure. By pooling capital from many investors, commingled funds can provide greater diversification than a single institution might be able to create with its own capital. In addition, such funds obviate the need to build an internal team with the in-depth sector-specific knowledge necessary to acquire and manage infrastructure assets.

Commingled funds can be either closed-end or open-ended, with the two fund structures offering very different strategies, fee structures and investment horizons. In general, open-ended funds focus on the D-I-Y aspects of core and core-plus investments with longer investment horizons and somewhat lower fees. Ownership by long-term investors may accrue benefits for external stakeholders, and encourage favourable regulatory treatment. Open-ended funds also facilitate an ongoing relationship between investors and managers, and may present co-investment and direct investment opportunities to investors who are interested in focusing more on specific sectors and geographies. Closed-end funds, by contrast, tend to focus more on capital appreciation and asset development, with core-plus and opportunistic investments, shorter time horizons and higher fees (Exhibit 5).

Closed-end and open-end options can offer very different strategies, fee structures and investment horizons

<table>
<thead>
<tr>
<th>EXHIBIT 5: OPEN-ENDED VS. CLOSED-END INFRASTRUCTURE FUND COMPARISON</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Focus</strong></td>
</tr>
<tr>
<td>Focus</td>
</tr>
<tr>
<td>Source of value</td>
</tr>
<tr>
<td>Risk profile</td>
</tr>
<tr>
<td>Liquidity</td>
</tr>
<tr>
<td>Fees</td>
</tr>
<tr>
<td>Transparency</td>
</tr>
<tr>
<td>Discretion</td>
</tr>
<tr>
<td>Diversification</td>
</tr>
</tbody>
</table>

Source: J.P. Morgan Asset Management.

INVESTMENT IMPLICATIONS:
RISING VALUATIONS COULD FAVOUR EARLY MOVERS

Core infrastructure is highly attractive to institutional investors, as it can provide diversification, inflation protection and yield through long-life assets, as well as relatively high expected total returns. As part of a broader portfolio, core infrastructure assets can also help to reduce volatility and mitigate losses during market downturns. However, investors should consider diversifying their infrastructure allocation in order to achieve a more stable yield and return.

In addition, increasing allocations to the asset class create a window of opportunity for early movers to benefit from rising valuations and enjoy additional capital appreciation potential. This is especially true for mid-market assets, which are still relatively inefficient with less competition. When accessing the mid-market, it is important for investors to select experienced managers with the ability to acquire and actively manage the assets prudently with the appropriate governance and incentives in place.

---

4 While listed infrastructure vehicles do exist, they are highly correlated with the equity market and do not provide the diversification benefits typically associated with the infrastructure asset class. As a result, listed funds are not a primary vehicle through which investors access the asset class.
NOT FOR RETAIL DISTRIBUTION: This communication has been prepared exclusively for institutional, wholesale, professional clients and qualified investors only, as defined by local laws and regulations.

This is a promotional document and is intended to report solely on investment strategies and opportunities identified by J.P. Morgan Asset Management and as such the views contained herein are not to be taken as advice or a recommendation to buy or sell any investment or interest thereto. This document is confidential and intended only for the person or entity to which it has been provided. Reliance upon information in this material is at the sole discretion of the reader. The material was prepared without regard to specific objectives, financial situation or needs of any particular receiver. Any research in this document has been obtained and may have been acted upon by J.P. Morgan Asset Management for its own purpose. The results of such research are being made available as additional information and do not necessarily reflect the views of J.P. Morgan Asset Management. This presentation is qualified in its entirety by the offering memorandum, which should be carefully read prior to any investment in a fund. The purchase of shares of a fund is suitable only for sophisticated investors for whom an investment in such fund does not constitute a complete investment program and who fully understand and are willing to assume the risks involved in such fund’s investment program. An investment in the funds involves a number of risks. For a description of the risk factors associated with an investment in a fund, please refer to the section discussing risk factors in the offering memorandum (available upon request). Shares of the funds are not deposits, obligations of, or endorsed or guaranteed by, JPMorgan Chase Bank, NA or any other bank and are not insured by the FDIC, the Federal Reserve Board or any other government agency.

Any forecasts, figures, opinions, statements of financial market trends or investment techniques and strategies expressed are those of J.P. Morgan Asset Management, unless otherwise stated, as of the date of issuance. They are considered to be reliable at the time of production, but no warranty as to the accuracy and reliability or completeness in respect of any error or omission is accepted, and may be subject to change without reference or notification to you. Investments in Alternative Investment Funds (AIFs) involves a high degree of risks, including the possible loss of the original amount invested. The value of investments and the income from them may fluctuate in accordance with market conditions and taxation agreements. Changes in exchange rates may have an adverse effect on the value, price or income of the products or underlying investment. Both past performance and yield are not a reliable indicator of current and future results. There is no guarantee that any forecast will come to pass.

Any investment decision should be based solely on the basis of any applicable local offering documents such as the prospectus, annual report, semi-annual report, private placement or offering memorandum. For further information, any questions and for copies of the offering material you can contact your usual J.P. Morgan Asset Management representative. Any reproduction, retransmission, dissemination or other unauthorized use of this document or the information contained herein by any person or entity without the express prior written consent of J.P. Morgan Asset Management is strictly prohibited.

In the United Kingdom, the Funds are categorized as a Non-Mainstream Pooled Investment as defined by the Financial Conduct Authority (FCA). The Funds are not available to the general public and may only be promoted in the UK to limited categories of persons pursuant to the exemption to Section 238 of the Financial Services and Markets Act 2000 (FSMA 2000). This information is only directed to persons believed by JPMorgan Asset Management (UK) Limited to be an eligible counterparty or a professional client as defined by the FCA. Persons who do not have professional experience in matters relating to investments should not rely on it and any other person should not act on such information.

Investors should note that there is no right to cancel an agreement to purchase shares under the Rules of the Financial Conduct Authority and that the normal protections provided by the UK regulatory system do not apply and compensation under the Financial Services Compensation Scheme is not available.

J.P. Morgan Asset Management and/or any of its affiliates and employees may hold positions or act as a market maker in the financial instruments of any issuer discussed herein or act as the underwriter, placement agent or lender to such issuer. The investments and strategies discussed herein may not be suitable for all investors and may not be authorized or its offering may be restricted in your jurisdiction, it is the responsibility of every reader to satisfy himself as to the full observance of the laws and regulations of the relevant jurisdictions. Prior to any application investors are advised to take all necessary legal, regulatory and tax advice on the consequences of an investment in the products.

Investing in infrastructure assets or debt associated with infrastructure involve a variety of risks, not all of which can be foreseen or quantified, and which include, among others: the burdens of ownership of infrastructure; local, national and international economic conditions; the supply and demand for services from and access to infrastructure; the financial condition of users and suppliers of infrastructure assets; risks related to construction, regulatory requirements, labor actions, health and safety matters, government contracts, operating and technical needs, capital expenditures, demand and user conflicts, bypass attempts, strategic assets, changes in interest rates and the availability of funds which may render the purchase, sale or refinancing of infrastructure assets difficult or impracticable; changes in environmental laws and regulations, investments in other funds, troubled infrastructure assets and planning laws and other governmental rules; changes in energy prices; negative developments in the economy that may depress travel activity; force majeure acts, terrorist events, under-insured or uninsurable losses; and other factors which are beyond the reasonable control of the Fund or the Investment Adviser. Many of these factors could cause fluctuations in usage, expenses and revenues, causing the value of the Investments to decline and negatively affecting the Fund’s returns.

Securities products, if presented in the U.S., are offered by J.P. Morgan Institutional Investments, Inc., member FINRA/SIPC. J.P. Morgan Asset Management is the brand for the asset management business of JPMorgan Chase & Co. and its affiliates worldwide. This communication is issued by the following entities: in the United Kingdom by JPMorgan Asset Management (UK) Limited, which is authorized and regulated by the Financial Conduct Authority; in other European jurisdictions by JPMorgan Asset Management (Europe) S.A.R.L.; in Hong Kong by JF Asset Management Limited, or JPMorgan Funds (Asia) Limited, or JPMorgan Asset Management Real Assets (Asia) Limited; in Singapore by JPMorgan Asset Management (Singapore) Limited (Co. Reg. No. 197601586K), or JPMorgan Asset Management Real Assets (Singapore) Pte Ltd (Co. Reg. No. 201120355E); in Taiwan by JPMorgan Asset Management (Taiwan) Limited; in Japan by JPMorgan Asset Management (Japan) Limited which is a member of the Investment Trusts Association, Japan, the Japan Investment Advisers Association, Type II Financial Instruments Firms Association and the Japan Securities Dealers Association and is regulated by the Financial Services Agency (registration number “Kanto Local Finance Bureau (Financial Instruments Firm) No. 330”); in Australia to wholesale clients only as defined in section 761A and 761G of the Corporations Act 2001 (Cth) by JPMorgan Asset Management (Australia) Limited (ABN 55143832080) (AFSL 376919); in Brazil by Banco J.P. Morgan S.A.; in Canada for institutional clients’ use only by JPMorgan Asset Management (Canada) Inc., and in the United States by JPMorgan Distribution Services Inc. and J.P. Morgan Institutional Investments, Inc., both members of FINRA/SIPC., and J.P. Morgan Investment Management Inc.

Copyright 2017 JPMorgan Chase & Co. All rights reserved.

4d03c20a80041f9b
LV-JPM34794 | 01/17