INTRODUCTION

Listed infrastructure appeals to investors in many ways. It has a history of attractive returns and volatility; providing an increased level of transparency and liquidity versus private-market investments. Its yields support an investment outcome that often rises with inflation. Listed Infrastructure’s total return is anchored by predictable cash flows and attractive dividends. In a sign that investors see global infrastructure as a distinct and separate asset class that deserves an allocation within a broadly diversified portfolio, Morningstar added infrastructure as a separate mutual fund category as of April 2016.

WHO INVESTS IN INFRASTRUCTURE?

Listed infrastructure is often part of an allocation to global equities or real assets. In our experience, it’s particularly popular among the following types of investors:

• Investors with an Allocation to Real Assets
  Like other real assets, global infrastructure assets are tangible, physical assets that provide a real return that often rises with inflation.

• Investors who Seek Attractive Income
  The dividend yields on listed infrastructure are higher than those of global stocks and bonds. The dividend yield has served as an anchor to the historical total return of listed infrastructure.

• Investors Seeking Competitive Risk-Adjusted Returns
  Listed infrastructure has historically had less volatility than equities. Listed infrastructure seeks to provide investors with an attractive combination of stability, income, and growth, which may enhance the risk-adjusted return potential of a mixed asset portfolio.
Global infrastructure provides the structures and systems that are essential for society to function. It consists of physical assets that are costly and difficult to replace. Such assets often benefit from monopolies and inelastic demand, which are sources of their ability to provide stable cash flows over long periods of time. This means global infrastructure is less affected by economic cycles than other investments. Government regulation and oversight often limits competition to global infrastructure providers.

The wealth of global infrastructure opportunities has expanded greatly over the past 20 years, as governments have increased the private sector’s role. The core infrastructure universe identified by CBRE Clarion has grown from about $400 billion in 1995 to $3.0 trillion in 2016 (Exhibit 1). Core infrastructure companies are defined as companies that own long-duration global infrastructure assets with a stable demand profile and low volatility of cash flows. These companies can be identified through an analysis of underlying assets, business models, and investment characteristics.

More than $57 trillion\(^1\) is needed to fund global infrastructure projects in the coming years. This suggests that there’ll be a good supply of attractive projects in regions that range from developed to emerging-market countries. This is likely to encourage the continued rise of global infrastructure as an asset class.

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**Examples of Global Infrastructure Assets:**

- **Communications:** Fixed-line networks, satellites, wireless towers
- **Oil and Gas Transport and Storage:** Gathering and processing facilities, liquid terminals, LNG facilities, long-haul pipelines
- **Transportation:** Airports, ports, railroads, toll roads
- **Utilities:** Electric distribution, electric transmission lines, gas distribution pipelines, renewable energy facilities, water distribution systems

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**Exhibit 1: Listed Infrastructure Market Growth**

<table>
<thead>
<tr>
<th>Year</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>$400 Billion</td>
</tr>
<tr>
<td>2016</td>
<td>$3.0 Trillion</td>
</tr>
</tbody>
</table>

CAGR 10.4%

GLOBAL LISTED INFRASTRUCTURE: POTENTIAL BENEFITS

Attractive Historical Returns
Listed infrastructure has historically provided attractive returns with less volatility than stocks. Looking strictly at returns, it outperformed global stocks and global bonds over the past 15 years ended May 31, 2016 (Exhibit 2). Over that period, the annualized total return of listed infrastructure was 8.5% vs. 5.9% and 5.3% for global stocks and global bonds, respectively.

Exhibit 2: Listed Infrastructure has a History of Strong Outperformance

Attractive Yields
Listed infrastructure’s returns come partly from appreciation from rising investment and partly from dividend yields. Listed infrastructure’s dividend yields are greater than those of global stocks and bonds. Dividends have accounted for approximately 50% of the total return of listed infrastructure over the past decade (Exhibit 3).

Exhibit 3: Dividend Yields Provide a Strong Source of Total Return
Global infrastructure provides investors with stable and resilient cash flows that are less vulnerable to fluctuations caused by unexpected world events.

Stable Earnings

Listed infrastructure historically has generated relatively predictable and rising cash flows across market cycles, as in the period 2001 to the present (Exhibit 4). Listed infrastructure’s relatively stable and predictable cash flows rest partly on the long-lived contractual revenue streams that make the yields on this asset class attractive. Moreover, demand for the essential services provided by global infrastructure may remain stable regardless of economic weakness. As a result, listed infrastructure’s cash flows are less vulnerable to fluctuations caused by unexpected world events.

Exhibit 4: Listed Infrastructure May Provide Stable and Rising Cash Flows

![Global Listed Infrastructure Operating Earnings Growth versus Global Equities & Inflation](chart)

Source: CBRE Clarion’s Infrastructure investable universe, MSCI AWCI Index and U.S. Consumer Price Index data as of 12/31/2015. For comparison purposes, company operating earnings and the U.S. Consumer Price Index values were rebased to 100 on 12/31/2000.

A BUILT-IN MECHANISM FOR GROWTH AND INFLATION PROTECTION

Listed infrastructure cash flows and dividends benefit from contractually driven, inflation-linked revenue growth, which may provide a long-term hedge against inflation and rising interest rates. For example, toll road assets may offer inflation protection because long-term contracts typically tie fees explicitly to inflation. In other instances, such as regulated utilities in the U.K. and Italy, returns are set based on real returns, rather than nominal returns, again allowing for a direct link to inflation. In addition to inflation-linked revenue, global infrastructure companies grow revenues and income through capital expenditures to upgrade, improve, or enhance existing infrastructure. Such spending offers them an opportunity to earn a rate of return on these investments in excess of their cost of capital, and drives cash flow growth. Regulators typically establish the rate of return such listed infrastructure companies can earn on their capital investments, which has typically been higher than the companies’ cost of capital.
Historically, listed infrastructure has contributed to portfolio diversification and portfolio-level risk-adjusted returns. The global universe of listed infrastructure securities includes a diverse opportunity set of industry sectors that are affected by the economic conditions, regulatory trends, and supply/demand dynamics that are unique to the local markets and sectors in which they operate. As a result, there has historically been a wide disparity of returns generated across the listed infrastructure sectors (Exhibit 6). The gap between the returns for the top-performing and the bottom-performing sectors has exceeded 3000 basis points (30 percent) in the six years from 2010 through 2015. For example, airports returned 6.9 percent vs. -32.6 percent for midstream/pipelines in 2015. The range of total return outcomes may further enhance an active manager’s ability to generate attractive total returns while mitigating risk.

Listed infrastructure’s historical returns look even more attractive when you look at the asset class’ historical volatility and compare it with other types of stocks. As measured by standard deviation, listed infrastructure was significantly less volatile than other major equity investments, including U.S. large-cap stocks (Exhibit 5).

Exhibit 6: Variability of Sector Performance Enhances Portfolio Diversification and Creates Opportunities for Active Management

<table>
<thead>
<tr>
<th>Sector</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midstream/Pipelines</td>
<td>32.9%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airports</td>
<td>28.3%</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Ports</td>
<td>27.2%</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Rail</td>
<td>26.8%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>11.1%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulated Electric</td>
<td>10.2%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gas Distribution</td>
<td>8.6%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>4.5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toll Roads</td>
<td>-3.1%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated Electric</td>
<td>-6.5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midstream/Pipelines</td>
<td>-32.6%</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Index data prior to 2015 is represented by UBS Global Infrastructure & Utilities 50/50 Index; 2015 data is represented by UBS Global Infrastructure & Utilities 50/50 Index; beginning March 1, 2015, FTSE Global Core Infrastructure 50/50 Index – net of withholding tax as of 12/31/2015 in USD. Data represent annual returns for sectors defined by CBRE Clarion, based on constituents of the FTSE Global Core Infrastructure 50/50 Index and Alerian MLP Index.
The combination of attractive returns and lower volatility means that listed infrastructure may provide stability and reduce portfolio risk as part of a well-diversified portfolio. Adding listed infrastructure, while reducing the allocation to global equities, may enhance a global portfolio’s risk-adjusted returns (Exhibit 7).

Exhibit 7: Listed Infrastructure May Enhance a Portfolio’s Risk-Adjusted Return

INVEST FOR RISK-ADJUSTED RETURNS, INCOME, AND DIVERSIFICATION

The historical combination of attractive returns and lower volatility than other equity investments means that listed infrastructure has produced attractive risk-adjusted returns. Investor acceptance of this growing asset class is gaining momentum due to the risk-adjusted benefits to a mixed asset portfolio. Investors also appreciate the income and diversification potential of this asset class, along with the transparency and liquidity of listed infrastructure. We welcome the opportunity to share our capabilities at CBRE Clarion Securities for investment into this attractive asset class.

The combination of attractive returns and lower volatility suggests that global infrastructure should be a key component of a well-diversified portfolio.
The infrastructure sector and the utilities sector each have a 50% weighting in terms of free-cash-flow. The UBS Global Infrastructure & Utilities 50-50 Index is a derivative of the UBS Developed Infrastructure & Utilities Index and the UBS Emerging Markets Infrastructure Index. The index is designed to provide an investment benchmark that is approximately 99% of the global equity investment opportunity set.

The MSCI ACWI IMI Index captures large, mid and small cap representation across 23 Developed Markets (DM) and 23 Emerging Markets (EM) countries. With 8,622 constituents, the index is comprehensive, covering approximately 99% of the global equity investment opportunity set.

The FTSE Global Core Infrastructure 50/50 Index gives participants an industry-defined interpretation of infrastructure and adjusts the exposure to certain infrastructure sub-sectors. The constituent weights for these indices are adjusted as part of the semi-annual review according to three broad industry sectors – 50% Utilities, 30% Transportation including capping of 7.5% for railroads/railways and a 20% mix of other sectors including pipelines, satellites and telecommunication towers. Company weights within each group are adjusted in proportion to their investable market capitalization.

Risk Statistic Definitions: Standard Deviation is a statistical measure of the historical volatility of the portfolio. Sharpe Ratio is a risk-adjusted measure calculated using standard deviation and excess return to determine reward per unit of risk. Dividend yield is the yield a company pays out to its shareholders in the form of dividends. It is calculated by taking the amount of dividends paid per share over the course of a year and dividing by the stock’s price. PA06202016