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Combining Real Estate and Infrastructure: A Real Assets Approach to Investing

By Todd Canter*

Introduction

Investor demand for listed infrastructure has been on the rise due to growing interest in real assets which offer predictable cash flows and compelling investment characteristics. Infrastructure assets are typically described by the characteristics they share. They are often large monopolistic assets such as roads, seaports, airports, electricity networks and water assets. Since many of these companies have monopolistic businesses, they tend to have relatively consistent and long-term cash flows due to regulation, long-term contracts and inelastic demand. Governments around the world have used infrastructure spending to propel economic growth, leading to increased private investment in this sector. Like property, infrastructure has a strong performance history leading to a growing recognition of the asset class. We believe interest will continue to grow in infrastructure as the U.S. and other countries modernize their aging infrastructure systems and as the sector continues to deliver strong investment performance.

Defining the Infrastructure Sector

The core infrastructure sector is best described as companies that own, operate, manage or maintain physical structures or networks used to process or move goods, services, information, people, energy and/or life essentials. Revenue from operations is similar to stable, annuitized cash flow over a relatively long period of time while also being inflation linked. The sector is comprised of three major categories: transportation, energy and telecommunications. Within each of these categories are many subcategories.

Transportation consists of railroads, bridges and tunnels, airports and seaports as well as commuter rail and light rail and other commuter transportation. Energy consists of gas distribution, pipelines, water and conventional electricity. Energy doesn't consist of pure electricity generators unless they own or operate significant portions of the local grid. Finally, telecommunications consists of fixed line networks as well as mobile networks and includes companies that own, operate, manage, maintain or lease to others telephony and data networks, transmission lines or towers, wireless transmission towers and transmission satellites. Telecommunications also includes companies providing voice and data communications if they control significant portions of the network.

Infrastructure related sectors that are captured include delivery services, marine transportation, trucking and airlines as well as materials and engineering companies that provide cement, concrete and asphalt, surveying, engineering and logistics, iron and steel and aluminum. Communication companies that own or use physical networks are also included.

FTSE introduced the FTSE Infrastructure Index Series in 2011 to benchmark the performance of publicly listed infrastructure companies. Within the index series, the FTSE Developed Core Infrastructure Index focuses on core sectors. The market cap of the index is $2.2 trillion versus $1.3 trillion for the global real estate securities index. Combined these two indices have a market cap of greater than $3.5 trillion.

Exhibit 1: FTSE Developed Core Subsector Breakdown

Subsector	# of Companies	Weight
Pipelines	12	10.2%
Heavy Construction	1	0.1
Railroads	10	14.6%
Transportation Services	47	7.4%
Broadcasting & Entertainment	3	0.7%
Travel & Tourism	6	4.6%
Fixed Line Telecommunications	1	0.06%
Mobile Telecommunications	4	0.51%
Conventional Electricity	69	34.3%
Gas Distribution	32	7.6%
Multiutilities	14	11.1%
Water	18	2.8%
Specialty REITs	5	5.9%
Telecommunications Equipment	4	0.2%
Total	226	100%

On a regional basis, North America (including Canada and Mexico) accounts for 59% of the index. Asia Pacific accounts for 21% of the index. Europe accounts for 17% of the index. The other 3% of companies are from South America.

The Investment Case for Global Infrastructure

Looking at the investment performance history of the sector, it compares favorably to stocks, bonds and real estate (see Exhibit 2). Average annual returns over the time period 2000 to 2016 are nearly identical to global real estate securities however risk, as measured by standard deviation, is significantly lower at 8.85%. As a result, on a risk-adjusted returns basis, global infrastructure outperformed global real estate securities and easily outperformed global equities. Global bonds remain the strongest performer on a risk-adjusted returns basis over the time period measured.

Exhibit 2: Infrastructure Sector Performance Compares Favorably

Global Asset Class	Avg. Annual Return 2000-2016	Annualized Std. Dev. 2000-2016	Risk-Adjusted Returns 2000-2016
Infrastructure	9.09%	8.85%	1.027
Real Estate Securities	8.93%	16.98%	0.526
Equities	3.58%	14.12%	0.254
Bonds	4.34%	3.11%	1.396

A noticeable characteristic of listed infrastructure is the resiliency of its performance, even during the global financial crisis. During the 2007 and 2008 capital markets storm, global listed infrastructure performed well compared to global equities and even global real estate, posting a -5.7% return and with a standard deviation of just 9.8%.

Exhibit 3: Relative Performance during GFC

	Annualized Return	Annualized Std. Deviation
Global Infrastructure	-5.71%	9.8%
U.S. Equities	-18.4%	18%
U.S. Bonds	10.5%	4.9%
Global Real Estate Securities	-30.9%	22.1%

When examining the relationship between infrastructure and other asset classes, listed infrastructure, like real estate securities, behaves differently as measured by correlation of returns. Looking at the period of 2000 to 2016, correlations span from a low of 0.01 to international bonds to a high of 0.62 to international equities. At these levels, it is safe to say that infrastructure has a low to moderate correlation to other asset classes, including global real estate securities, at 0.6. This would suggest that infrastructure would offer moderate to high levels of diversification to a mixed-asset portfolio.

Real Estate + Infrastructure = Real Assets

Real estate and infrastructure share many similar characteristics. Both represent hard assets. Both tend to act as a strong inflation hedge. Both offer attractive dividend yields. Both have had similar average annual returns over the past 16 years as well as low to moderate correlations to other asset classes.

Combining global real estate securities and listed infrastructure, we can examine the investment characteristics of a "real assets" portfolio and how the two sectors interact (see Exhibit 4). At lower levels of risk and return, say at a 9% standard deviation, listed infrastructure dominates the portfolio with an 83% weight. At the midpoint of risk and return we find the allocation of the portfolio evenly

divided between global real estate securities and listed infrastructure. At higher levels of risk and return, global real estate dominates the real asset portfolio.

Exhibit 4: Real Assets Efficient Frontier

Optimal Mixed-Asset Portfolio: Real Estate and Infrastructure

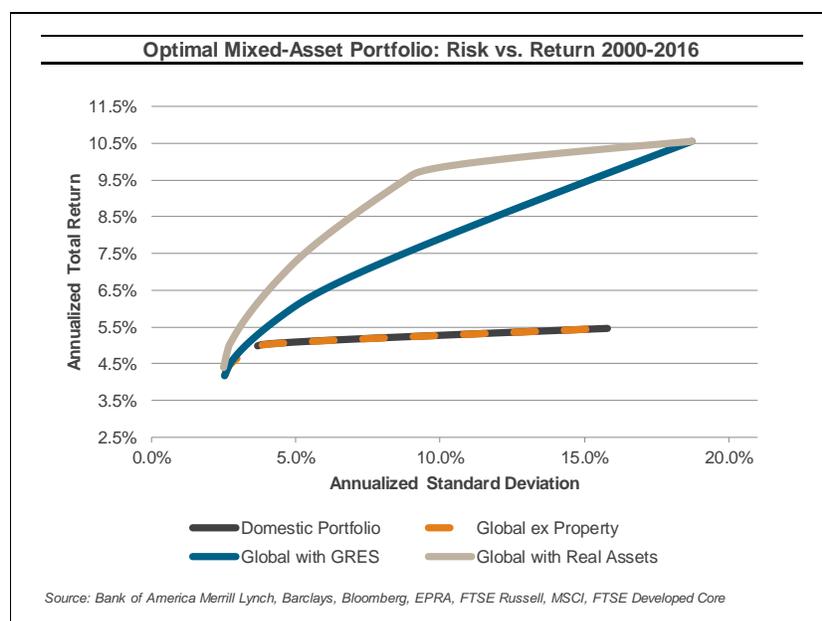*Source: FTSE EPRA NAREIT & FTSE Developed Core*
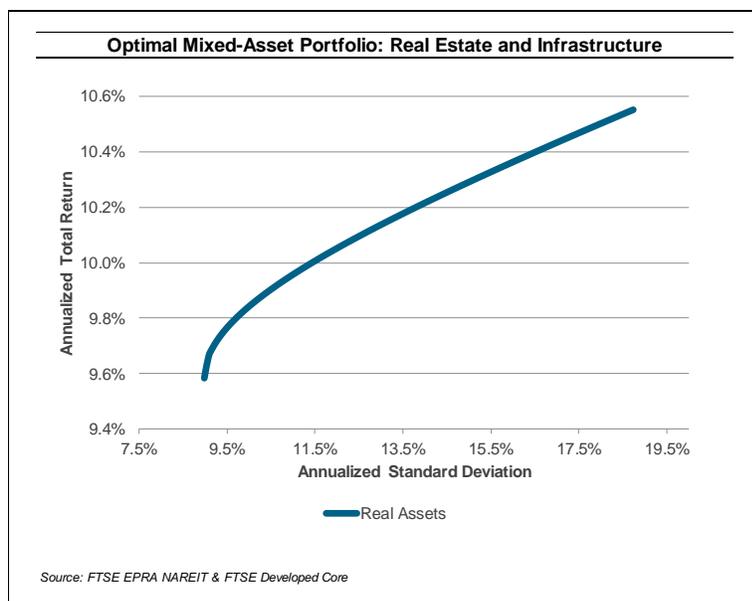
The Impact of Real Assets on a Mixed-Asset Portfolio

In order to estimate the impact of real assets on a mixed-asset portfolio consisting of stocks and bonds, a series of efficient frontiers were created. Exhibit 5 illustrates four portfolios: the first portfolio is a domestic portfolio consisting of U.S. stocks and bonds (Domestic Portfolio); the second is a domestic portfolio with international equities and bonds but without global real estate (Global ex-Property); the third is a domestic plus international equities and bonds with global real estate securities (Global with GRES); and finally, the fourth is a domestic plus international equities and bonds portfolio along with global real estate and infrastructure. As illustrated in Exhibit 5 there is no benefit from adding international stocks and bonds to a U.S. domestic portfolio. This is so because during the time frame analyzed international equities and bonds had lower returns relative to their counterparts in the U.S. while having only slightly lower risk. Moreover, the correlation between U.S. stocks and international stocks is high as is the case between international bonds and U.S. bonds. Therefore, no diversification benefits were gained from the addition of international equities and bonds.

The addition of global real estate securities, on the other hand, results in strong diversification benefits. All along the risk spectrum there is a return benefit from the addition of global real estate securities, ranging from a low of +97 basis points to a high of +398 basis points.

As strong as the diversification benefits are from the addition of global real estate securities, the diversification benefits are even stronger as a result of combining global real estate with global listed infrastructure into a real assets portfolio. The addition of infrastructure to global real estate results in added return of +217 basis points at lower risk levels and +591 basis points at higher risk levels relative to the "Global ex Property" portfolio. In this model, there were no constraints placed on any of the assets.

Exhibit 5: The Role of Real Assets in a Mixed-Asset Portfolio

Optimal Mixed-Asset Portfolio: Risk vs. Return 2000-2016

Legend:
- Domestic Portfolio
- Global ex Property
- Global with GRES
- Global with Real Assets

Source: Bank of America Merrill Lynch, Barclays, Bloomberg, EPRA, FTSE Russell, MSCI, FTSE Developed Core

As a result of superior risk-adjusted returns and low to moderate correlations, the real assets portfolio dominated the domestic and global equities and bond portfolios. Although in the real world investors would likely place constraints on the various asset classes involved in this demonstration, the point is made that global real estate and infrastructure have earned their way into a globally diversified mixed-asset portfolio, resulting in significant diversification benefits. Investors should take note that the addition of real assets (real estate and infrastructure) to their portfolios should result in added return without added risk.

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