

Ask Not Why International, Ask Why Not International

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Research

Philip Conner
Vice President
US Office
Tel 973.734.1339
philip.conner@prudential.com

Youguo Liang, Ph.D., CFA
Managing Director
US Office
Tel 973.683.1765
youguo.liang@prudential.com

Prudential Real Estate Investors
8 Campus Drive
Parsippany, NJ 07054
USA

Tel 973.683.1745
Fax 973.734.1319
Web www.prudential.com/prei
E-mail prei.reports@prudential.com

“Why international?” has become an increasingly familiar question asked by real estate investors in recent years. Traditionally, investors have justified allocations to international real estate with arguments based on either enhancing return or diversification. Both arguments are valid, of course. In fact, although debates over the merits of investing internationally often presume that the potential diversification and return enhancement benefits are somehow mutually exclusive, *both* can be realized with a carefully developed and executed investment strategy.

Still, for US investors, who have a wealth of opportunities available in their domestic market, the decision to invest overseas is more discretionary than it is for many of their foreign counterparts, particularly those investors whose domestic markets are too small to accommodate their desired real estate exposure. However, changes in the global marketplace over the past decade suggest that the opportunity costs associated with not investing internationally have increased. Today, at least three compelling arguments exist – prudence, diversification and diverse opportunities – that suggest US investors should take a different approach when deciding whether or not to invest overseas.

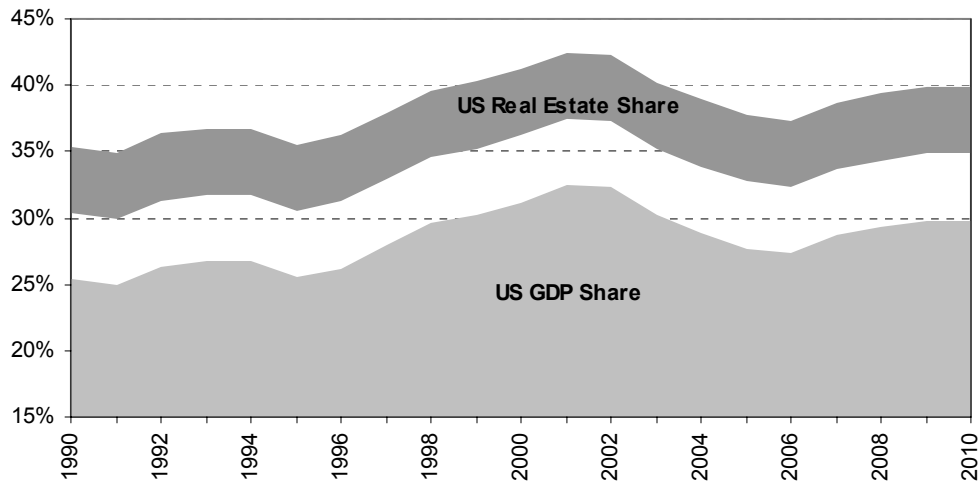
Prudence

Perhaps the most obvious answer to the question “why international?” is the size and distribution of the commercial real estate universe. The US is a large and diverse market, but it still represents a minority share of the global investable universe of commercial real estate.

Since 1990, the US GDP share relative to the world total hovered between 25% and 32.5% (see **Exhibit 1**). Due to the dollar’s recent weakness, the current US GDP share is about 27.7%. Over the longer term, the US economy will likely command a trend share of 30%. As of 2005, the top-down estimate of the US share of global investable real estate ranges from 32.7% to 37.7%, with a

mid-point of 35.2%.¹ Since 1990, the US real estate share has been as low as 32.5% and as high as 40.0% – all mid-point estimates. The US commercial real estate market will likely claim a world share of 35% to 40% – the 5% differential represents the uncertainty in the estimate itself.

Exhibit 1: US Share of World GDP and Higher-Grade Real Estate



Sources: EIU for GDP share; Prudential Real Estate Investors for real estate share

With almost two-thirds of the investable real estate universe located outside of the US, it seems fairly obvious that the set of opportunities available to global investors is significantly larger and more diverse than that available to US investors who “stay home.” The wealth of opportunities outside the US is not a new development. With the possible exception of Asia, which likely gained share due to Japan’s booming real estate market in the 1980s, the distribution of real estate assets has probably changed relatively little since the early 1970s.

What has changed, however, is the accessibility of markets all over the world with the development of investment infrastructure and vehicles that simply did not exist 20 or even 10 years ago. As recently as the late 1990s, for example, foreign investors could not invest directly in South Korea. Today, the market is readily accessible and has experienced significant foreign capital inflows.

To be sure, meaningful information costs are still associated with investing in real estate overseas. Taxes and currency risks need to be weighed. Legal systems and leasing terms and practices differ. Even language barriers and time zones are potential obstacles. However, given the size and increasing accessibility of many foreign markets, prudence alone dictates that US investors should at least consider some exposure to international real estate.

¹ For more details on the US share of the global property market, see “A Bird’s Eye View of the Global Real Estate Markets,” by Youguo Liang and Nancy M. Gordon, Prudential Real Estate Investors, March 2003, at www.prudential.com/prei.

Investors who choose to invest overseas must first consider the size of the allocation. Although the US market represents about one-third of the investable universe, it would not be appropriate for a US investor to allocate two-thirds of the real estate portfolio to international investments. The wealth of opportunities in the US, structural imperfections in many foreign markets, currency risk and a home bias in the liabilities of US institutional investors argue against such a large international exposure. To take advantage of the potential benefits of investing internationally, however, investors need a meaningful allocation – otherwise, the effort and cost are not likely to be rewarded.

Intuitively, an allocation of 20% to 35% of the real estate portfolio should provide sufficient exposure for most US investors to realize the benefits of investing internationally. This range is justifiable from a theoretical perspective. **Exhibit 2** shows a range of possible allocations to international real estate based on different volatility and correlation assumptions.

To avoid the mentality of chasing higher returns, the allocation results shown reflect identical expected returns for both US and international real estate. Under the equal-return assumption, the optimal allocation is a function of the correlation between US and international real estate and the volatility ratio of international to US real estate.²

Exhibit 2: Optimal Allocation to Foreign Real Estate Assuming Equal Returns

		Volatility Ratio (Foreign to Domestic Real Estate)				
		1.0	1.2	1.3	1.4	1.6
Correlation	0.2	50%	39%	34%	30%	23%
	0.3	50%	37%	32%	27%	20%
	0.4	50%	35%	29%	24%	16%
	0.5	50%	32%	25%	19%	10%
	0.6	50%	28%	19%	13%	2%
	0.7	50%	21%	10%	2%	0%

Source: Prudential Real Estate Investors

Although **Exhibit 2** shows a wide range of correlations, we believe the likely correlation between the US and international real estate is 0.4 to 0.5. We also assume that foreign real estate is at least as volatile as the US real estate and possibly much more so. The inclusion of emerging markets in foreign real estate, residual risk in hedging major currencies and currency risk itself when unhedgeable currencies are involved, argue for higher volatility for foreign real estate. The highest volatility ratio of 1.6, illustrated in **Exhibit 2**, would imply that foreign real estate is 60% more volatile than US real estate. Taking into consideration all factors involved, a return volatility of 1.3 – meaning foreign real estate is 30% more volatile than US real estate – seems sensible.

² For this approach to asset allocation, see “Asset Allocation and Real Estate: How to Make Prudent and Profitable Decisions,” by John Ilkiw, PREA Quarterly, Summer 2001; or “Establishing Higher Confidence Policy Exposures to Private Real Estate, Private Equity and Hedging Funds Using Two-Stage Asset Allocation,” by John Ilkiw and Steven Murray, Russell Investment Group, July 2002. The optimal allocation, w , in Exhibit 2, under the assumption of equal return for domestic and foreign real estate, can be calculated as: $w = (1 - \rho\sigma_F/\sigma_D)/((\sigma_F/\sigma_D)^2 + 1 - 2\rho\sigma_F/\sigma_D)$, where ρ = correlation coefficient between domestic and international real estate and σ_F/σ_D = volatility ratio of foreign to domestic real estate.

Of course, the inputs into the allocation model are uncertain. It is difficult to estimate them, and they do not stay constant. Viewing **Exhibit 2** as a simulation, the average of all the allocations is 28%. Assuming a correlation of 0.4 to 0.5 and a volatility ratio of 1.2 to 1.4, the optimal allocation to foreign real estate ranges from 19% to 35%, with a mid-point of 27%. Rounding up the numbers, an allocation of 20% to 35% to international real estate is an intuitive and justifiable starting point for large US institutional investors.

Diversification

Perhaps the most powerful argument for investing internationally is diversification. Measuring the diversification value of international real estate requires making some basic assumptions about expected risk and correlation. The extent to which a portfolio will benefit from exposure to different countries is a function of the correlation between markets. Generally, correlations between country markets will vary, and should be higher between country markets within a given region than they are across different regions. On a global basis, however, correlations should be modest and are likely to be positive because of macroeconomic factors.

Unfortunately, few markets have return series for private equity real estate with an adequate history to calculate the correlations directly. One of the few exceptions is the United Kingdom. Based on roughly 30 years of data from the UK and US property markets, the correlation between returns in the UK and US has been about 0.40. Given the similarities and close relationship between the UK and US, it seems reasonable to assume that the correlation between them should be among the highest.

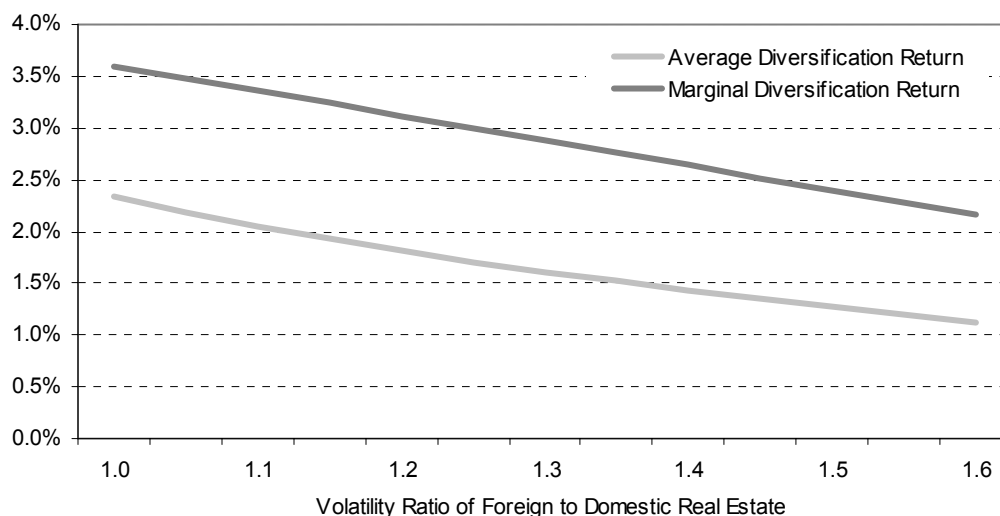
Historically, GDP growth in the US and UK has been highly correlated with domestic private equity real estate performance. This suggests an alternative, indirect approach to measuring real estate market correlations where direct data is not sufficient. Although GDP growth is an admittedly imperfect measure, it nevertheless can serve as a proxy for assessing the correlations between the US and other countries.

Since 1987, correlations between GDP growth in the US and 45 other countries that are considered investable have ranged from as low as -0.45 to as high as 0.92 , with an average of 0.19 . In the absence of actual correlations between property returns in the US and other countries, it seems reasonable to use an approximate range of 0.20 to 0.40 to measure the average correlation used to calculate a US investor's diversification benefit from investing globally.

Although increasing globalization allows capital to better match with return opportunities, it likely has increased the coordination of market forces and thus the correlation of global real estate returns. Therefore, the higher end of the correlation range of 0.2 to 0.4 is more likely today.

To calculate the diversification return of international real estate,³ we assume a real estate risk premium (real estate return less risk-free return) of 6% and a correlation between US and international real estate of 0.4. Diversification return translates the diversification value of international real estate into returns that can be compared with the expected return of US real estate. Marginal diversification return assumes that only a small amount of foreign real estate is in the real estate portfolio (in calculus, this is called the infinitesimal quantity). The average diversification returns shown in **Exhibit 3** are for portfolios with significant allocations to international real estate. For example, when the volatility ratio is 1.3, the foreign allocation is assumed to be 29%, which is the optimal allocation in **Exhibit 2** when the correlation equals 0.4 and the volatility ratio equals 1.3.

Exhibit 3: Diversification Return of International Real Estate



Note: The assumed correlation between US and international real estate is 0.4.

Source: Prudential Real Estate Investors

As the volatility of foreign real estate rises, the attractiveness and diversification return of foreign real estate decreases. Using the likely scenario of a 1.3 volatility ratio, the marginal diversification return of international real estate is 2.9%, and the average diversification return is 1.6%.

The significance of the diversification return must be seen in the proper perspective. If both US and foreign real estate have an expected return of 8%, the risk-adjusted return for international real estate would be 10.9% (a 36% increase in return!) on a marginal basis, and 9.6% (a 20% increase) on an average basis, while the risk-adjusted return for US real estate is still 8%.

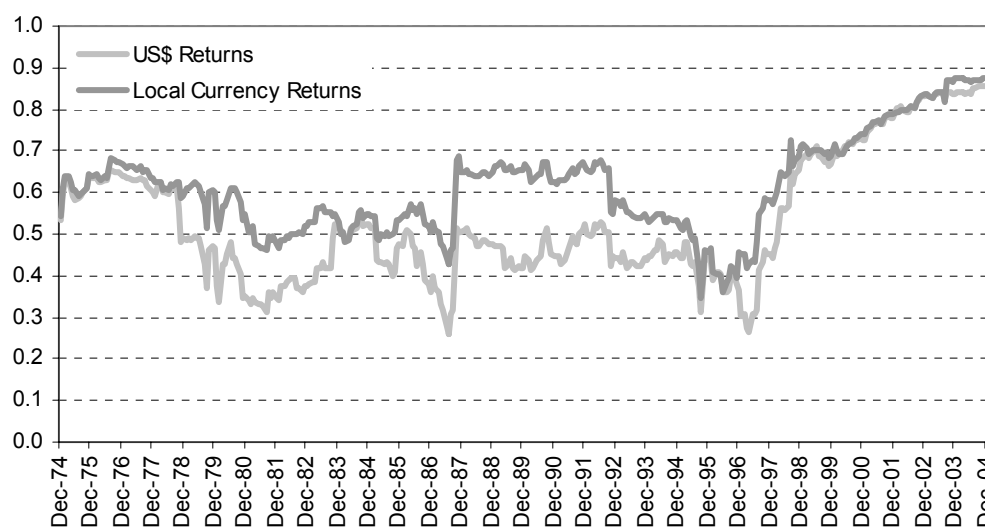
³ For details, see “Measuring the Diversification Benefit of an Investment,” by Youguo Liang and Willard McIntosh, Prudential Real Estate Investors, October 1999, at www.prudential.com/prei. Marginal diversification return = (RE Risk Premium) * (1 - $\rho\sigma_F/\sigma_D$), where ρ = correlation coefficient between domestic and international real estate and σ_F/σ_D = volatility ratio of foreign to domestic real estate. Average diversification return = (RE Risk Premium) * (1/sqrt($w^2(\sigma_F/\sigma_D)^2 + (1 - w)^2 + 2\rho w(1 - w)\sigma_F/\sigma_D$) - 1), where w is the optimal allocation to foreign real estate under the assumption of equal return for domestic and foreign real estate.

International real estate, therefore, offers significant and measurable diversification value and is a powerful tool for enhancing the risk-adjusted return of a real estate portfolio.

The positive diversification benefits of international real estate have significant implications at the overall portfolio level as well. Most US institutional investors already invest internationally in stocks and bonds. However, the correlations between US and international stocks and bonds are not only significantly higher than those estimated for private equity real estate, but they have both been increasing.

Exhibit 4 shows the correlation between US stocks (S&P 500) and international stocks (Morgan Stanley Capital Market International Europe, Australia and Far East index). The correlations are calculated on a trailing 60-month (five-year) basis between S&P 500 and dollar returns of MSCI EAFE and between S&P 500 and local currency returns of MSCI EAFE. The correlations between US and international stocks are high and have been on a secular rise over the last 10 to 15 years. The most recent correlation has surpassed 0.9 based on local currency returns and has risen to 0.87 based on US dollar returns. The recent correlations between US government bonds and currency-hedged international government bonds have been between 0.7 and 0.8.

Exhibit 4: Trailing 60-Month Correlation Between S&P 500 and MSCI EAFE Total Returns



Sources: Ibbotson Associates; Prudential Real Estate Investors

If the high levels of correlation persist, the diversification value of investing internationally in these asset classes is likely to be much less meaningful. (Their role in an institutional portfolio may be justified more on return opportunities.) While globalization clearly is affecting the capital markets for real estate as well as financial instruments, it is not materially changing local demand or the local characteristics of specific real estate markets. People cannot usually substitute office space in Singapore for office space in New York, despite the promises of technology.

As international markets become more accessible and transparent, international real estate investments offer an even more attractive diversification benefit than stocks or bonds. Hence, for US investors, international real estate not only provides a powerful and effective tool for

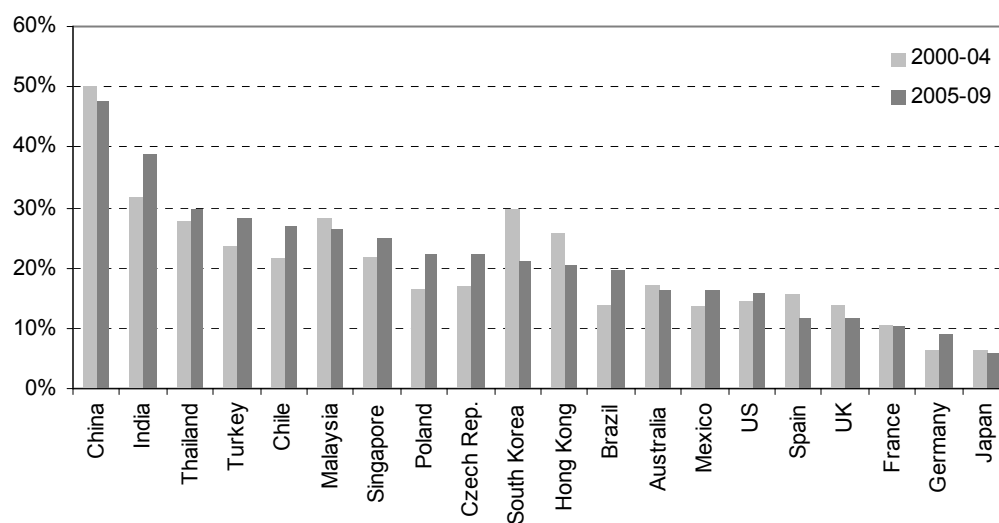
enhancing the risk-adjusted returns of the real estate portfolio, but it may very well be the optimal starting point for diversifying the overall portfolio internationally.

Diverse Opportunities

The third argument for a new approach to investing internationally is the vastly expanded set of opportunities available beyond the US market. In fact, the expanded opportunity set is (or should be) the basis for international allocations motivated by a desire for higher returns. That is, investors should not expect a foreign risk premium simply by going to a foreign market, especially now that yields in core markets (e.g., the UK, France and the US) have converged. However, the non-US portion of the global market is as diverse as it is large, and it offers a much broader array of core and higher-return opportunities than the US-only portion. Although the reasons for this diversity are many, the broad range of economic development and growth patterns, and vastly different demographic profiles among international markets, are the principal drivers.

Exhibit 5 illustrates one aspect of the diversity of global markets – the different GDP growth patterns of the major economies. China’s GDP grew 50% during the five-year period ending with 2004 and is forecast to grow 47.7% between 2005 and 2009. Among the 20 major economies in Europe, Asia and the Americas, the projected cumulative growth ranges from 47.7% for China, to 15.9% for the US, down to 5.8% for Japan over the next five years. Growth provides incremental demand for real estate of all kinds, expanding the stock of core real estate and creating value-added investments through development and upgrading.

Exhibit 5: Cumulative GDP Growth of Major Economies



Source: EIU

Powerful secular changes also contribute to the heterogeneity of opportunities in overseas markets. In Europe, the convergence brought about by the euro and the integration of the 10 recent accession countries have had profound implications for the Eastern and Southern European economies and real estate markets. In Asia, the rapid industrialization of China and

India has created new economic dynamics in Asia and globally. In Latin America, the continued integration of the Mexican economy with those of the US and Canada has fundamentally transformed investors' views of the Mexican economy and financial markets. These powerful trends are generating opportunities that simply do not exist in the US.

Taking advantage of these diverse opportunities without exposing the portfolio to excessive risks requires a systematic approach based on a risk-return framework similar to that used by most domestic portfolios. Domestically, investors have grown accustomed to thinking generically of investments along the risk-return continuum as core, value-added and opportunistic, which includes private equity investments. Overseas, however, country risk plays a significant role in the overall risk exposure of an international portfolio and must, therefore, be integrated into the risk-return framework.

To simplify the process, the investable markets are classified into three categories: developed, maturing and emerging. Developed markets are well-developed, mature countries that are fully integrated into the global capital markets and have lower long-term country risk – e.g., the US, the UK, Germany and Japan. Maturing markets have a higher degree of country risk than do developed markets because they are less advanced or are surrounded by emerging economies. Examples include South Korea, Greece and Portugal. And emerging markets, like Turkey, India and Brazil, have the highest degree of country risk among markets considered investable.

With two dimensions of risk, a matrix of expected returns and risk can be created, placing investment risk on one axis and country risk along the other. As a basis for estimating the expected returns and risk for each cell in the matrix, we assume that a core investment in the US would return about 7.5%. The matrix can then be completed using incremental returns for additional investment risk (i.e., value-added and opportunistic investments) based on the estimated expected returns of each type of investment and incremental returns for the additional country risk (i.e., maturing and emerging markets) based on statistical evidence from publicly traded securities and country credit ratings (see **Exhibit 6**).⁴

Exhibit 6: Expected Risk-Return Matrix

		Investment Risk		
		Core	Value-Added	Opportunistic
Country Risk	Emerging	12.0%	14.5%	19.5%
	Maturing	9.0%	11.5%	16.5%
	Developed	7.5%	10.0%	15.0%

Source: Prudential Real Estate Investors

Although the estimates of expected returns across the matrix may not be absolutely precise, they should be indicative of the relative risk and returns across different types of investments in different international markets. The purpose of the matrix is to provide a framework for

⁴ For Prudential's approach to estimating country risk premiums, see "A Bird's Eye View of the Global Real Estate Markets," by Youguo Liang and Nancy M. Gordon, March 2003; and "Country Risk Premiums for International Investing," by Youguo Liang and Willard McIntosh, January 2000. Both can be found at www.prudential.com/prei.

understanding the relationship between risk and return in international markets, incorporating both investment and country risk.

With this framework, investors can develop strategies to achieve specific portfolio objectives by shifting allocations within the matrix. A diversified core strategy, for example, would concentrate on core investments in developed markets, with modest exposure to core and value-added in maturing markets to improve diversification. At the other end of the spectrum, a high-return strategy would focus on opportunistic and private equity investments in developed and maturing markets as well as core to value-added investments in emerging markets. By taking a systematic approach to designing and executing an international real estate portfolio, investors can better understand the sources and magnitude of risk in their portfolios, which is critical to consistently and predictably achieving the objectives of any portfolio.

Summary

The investment landscape has changed dramatically in the past decade, and the recent volatility in global equities markets has reminded investors of the importance of diversification and sound portfolio management. With the majority of the investable commercial real estate universe located outside the US, in markets that are more readily accessible than ever before, US real estate investors may need to take a different approach to the international investment decision. Although investing overseas is probably not appropriate for all US institutional investors, prudent investors must think beyond “why international?” and start to ponder “why *not* international?”

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Prudential Real Estate Investors
8 Campus Drive
Parsippany, NJ 07054
USA

Tel 973.683.1745
Fax 973.734.1319
Web www.prudential.com/prei
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