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Commercial Real Estate: The Role of Global Listed Real Estate Equities in a Strategic Asset Allocation

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Executive Summary

Commercial real estate equity has become an increasingly popular and accessible asset class for investment in the United States over the last 10 years, due in large part to the proliferation and success of real estate investment trusts (REITs). Today, REITs and similar securitized products are becoming more available across the globe. In particular, the transparent tax treatment of REITs gives investors access to the same cash flow characteristics that previously were only available to direct commercial real estate equity investors. The introduction and growth of REITs and listed real estate stocks worldwide has created new investment opportunities for strategic asset allocation policy makers. We focus on the equity commercial real estate asset class and its two sub-classes, private (direct) commercial real estate equity and public (indirect) commercial real estate equity; and we use global REIT and listed real estate indices to proxy the commercial real estate asset class.

When developing a strategic asset allocation to commercial real estate, investors should consider REITs and listed real estate stocks as well as direct commercial real estate. For a large number of investors, REITs and listed real estate stocks are the only reasonable way to gain exposure to the commercial real estate equity asset class. Advantages of REITs and listed real estate stocks over direct real estate include liquidity, corporate transparency and governance, real-time pricing, and lower transactions costs.

We analyzed the historical performance of six traditional asset classes plus North American, European, and Asian real estate from 1990 to 2005. Over 11 different levels of risk, as measured by the standard deviation of annual portfolio returns, ranging from 5% to 15%, the addition of these three asset sub-classes to the opportunity set improved efficient asset allocation returns by an average of 182 basis points! The vast majority of this benefit is attributed to the outstanding performance of North American real estate.

When one is trying to create a robust forward-looking asset allocation policy, it does not make sense to only use the results of a short-term historical optimization, which often excludes important asset classes. Just as equity and bond investments should be diversified internationally, so should real estate investments. Because our historical data only extend back to 1990, we also examine two different methods of forward-looking analysis that provide an alternative perspective—the capital asset pricing model (CAPM) and the Black-Litterman model. Forward-looking capital market assumptions were used with resampled mean-variance optimization to create forward-looking asset allocations. From this alternative perspective, all of the asset classes in the opportunity set, now including European and Asian commercial real estate, receive allocations across the risk spectrum. We believe the total real estate asset allocation should be diversified internationally and implemented with a mixture of REITs and listed real estate stocks as well as direct real estate in which the relative weightings mirror market capitalization-based weights.
Introduction

Previous Ibbotson research demonstrated the benefits of including real estate investment trusts (REITs) among the universe of investable assets. The purpose of this paper is to examine within a strategic asset allocation setting the role of global commercial real estate investment through global REITs and listed property companies.

Most strategic asset allocations have consisted primarily of allocations to the three "traditional" asset classes—stocks, bonds, and cash. Expanding the investable universe beyond these three asset classes typically improves the risk-return characteristics of a strategic asset allocation. Asset classes with low correlations to the current opportunity set of asset classes provide the largest benefit. Unfortunately, there is little agreement on the role of other asset classes in a strategic asset allocation. Prior to the development of large stock and bond capital markets during the last century, real estate (or property as it was called then) dominated most strategic asset allocations. Modern asset allocators may have temporarily lost sight of the importance of commercial real estate, but commercial real estate is a "traditional" asset class and belongs in the investor’s opportunity set.

For years, many institutional investors have included a policy or strategic asset allocation to commercial real estate. Historically, this meant a direct investment in commercial real estate—physical property ownership. But the introduction and subsequent popularity of REITs and listed real estate stocks has created confusion for strategic policy makers that we believe is largely unrecognized.

REITs are publicly traded real estate companies that provide almost all investors access, albeit indirectly, to commercial real estate. The transparent tax treatment of REITs gives investors access to the same cash flow characteristics that previously were only available to direct commercial real estate investors. Today, the growth of global REITs and listed real estate stocks provides investors around the world with access to commercial real estate investment, which should provide investors with new diversification and return enhancement opportunities. Nevertheless, the dramatic growth of REITs and listed real estate also creates new questions for asset allocators as the definition of "real estate investing" evolves.
In Section 1 we examine the commercial real estate asset class and its various components. We identify REITs and listed real estate stocks as an accessible and viable method of obtaining exposure to commercial real estate. Our analysis focuses on the FTSE EPRA/NAREIT Global Real Estate Index® and its regional sub-indices. Section 1 also identifies the relevant set of asset classes in the opportunity set, their respective asset class index proxies, and the approximate size of the asset classes in the global market portfolio.

Section 2 analyzes the historical performance of the asset classes in the opportunity set. Using the traditional Markowitz’s asset allocation model (see Markowitz [1952, 1959]) we determine the asset allocations that would have been optimal in the past.1

In Section 3, we develop two forward-looking sets of capital market assumptions to determine possible forward-looking asset allocations. The first set of forward-looking capital market assumptions is based on the Sharpe-Lintner-Mossin-Treynor Capital Asset Price Model (CAPM). The second set of forward-looking capital market assumptions is based on a sophisticated robust asset allocation technique: the Black-Litterman asset allocation model (see Black and Litterman [1992]). Using the Black-Litterman model, the CAPM expected returns are blended with the historical returns to produce a mixed estimate of expected returns. The CAPM approach and the Black-Litterman approach help mitigate problems associated with input estimation error, thereby leading to more diversified forward-looking asset allocations. Additionally, we use an enhanced version of the Markowitz framework, called resampled mean-variance optimization (or resampled MVO), which expressly acknowledges that the capital market assumptions driving the model are not known with certainty in a forward-looking context.2

1 Bruno de Finetti also deserves substantial credit for developing much of the mean-variance framework in work that predated that of Markowitz (see Rubinstein [2008], Markowitz [2008], Brone [2008], and de Finetti [1940]).

Section 1: Commercial Real Estate, REITs, and the Opportunity Set

Commercial Real Estate

Real estate is an extremely diverse asset class that can be broadly segmented into two largely unrelated types: residential real estate and commercial real estate. Strategic asset allocation decisions generally focus on exposure to commercial real estate, although residential real estate often is the single largest investment, albeit highly leveraged, for most individual investors. The role of residential real estate in a strategic asset allocation is usually an individual investor concern that is often a byproduct of the investor’s housing choice. Residential real estate is beyond the scope of this article, although mortgages backed by residential real estate are a relatively large part of the broad fixed income markets.

Commercial real estate is part of a growing family of asset classes that are thought of as real return assets. Other real return assets include Treasury Inflation-Protected Securities (TIPS) and commodities, all of which are thought to provide a hedge against inflation.

Prudential Real Estate Investors (see Conner and Liang [2005]) and the European Public Real Estate Association (EPRA) (see Hughes and Arissen [2005]) estimate the total value of the commercial real estate market worldwide at approximately $14 trillion. A number of authors segment commercial real estate into four broad segments or quadrants:

- Private (direct) commercial real estate: debt
- Public (indirect) commercial real estate: debt
- Private (direct) commercial real estate: equity
- Public (indirect) commercial real estate: equity

No single, real-time index measures the collective performance of all four segments.

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3 The seemingly tight connection between residential real estate and commercial real estate that exists in the minds of some investors seems like a topic ripe for behavioral finance.

4 Greer and Yochum [2006] provides an overview of the role of real return asset in a portfolio.

5 See, for example, Hudson-Wilson and Harbaugh [2006] and Hudson-Wilson, Fabozzi, and Gordon [2003]. We should also note that Hudson-Wilson, Fabozzi, and Gordon [2003] attempts to develop a composite index to measure the performance of the four commercial real estate segments.
Private (direct) commercial real estate debt is only available to the largest investors, although smaller investors may obtain some exposure through the stocks of mortgage REITs, commercial banks, and other specialty finance companies. The Gliberto-Levy Commercial Mortgage Performance Index is the most prevalent index for measuring the performance of private (direct) commercial real estate debt.

Public (indirect) commercial real estate debt, primarily commercial mortgage-backed securities (CMBS), was added to the Lehman Brothers US Aggregate Index in 1999 and is a component of most aggregate fixed income indices (see Gendron and Berkley [2002]).

Private (direct) commercial real estate equity is typically measured using the National Council of Real Estate Investment Fiduciaries (NCREIF) property index or a refined transaction-based index such as those proposed in Fisher, Geltner, and Haurin [2003] or Fisher, Geltner, and Pollakowski [2005]. Appraisal-based indices, such as the NCREIF, suffer from excessive smoothing and serial correlation. The refined transaction-based indices try to mitigate these issues.

Public (indirect) commercial real estate equity is available to almost all investors through equity REITs and other listed real estate companies for which there are a variety of publicly available indices to measure performance.

In this article we focus on the equity commercial real estate asset class and its two subclasses, private [direct] commercial real estate equity and public [indirect] commercial real estate equity, and we use global REIT and listed real estate indices to proxy the commercial real estate asset class.

Not long ago, only the largest investors had access to the commercial real estate market. Since then, the introduction and subsequent growth of REITs, most notably in the United States, have given all investors access to diversified commercial real estate. REITs in the United States were created in 1960 when President Eisenhower signed into law the Cigar Excise Tax Extension, which included the “Real Estate Investment Trust” provision.

REITs are publicly traded companies that own, and in most cases, operate investment-grade commercial real estate such as office buildings, apartments, shopping centers, hotels, and warehouses. To qualify as a REIT under the Internal Revenue Code, a company must operate in the real estate business. In particular, a company must invest at least 75% of its total assets in qualifying real estate assets and derive at least 75% of its gross income from rents from real
property or interest on mortgages on real property. In addition, a REIT must distribute annually to its shareholders at least 90% of its taxable income in the form of dividends. In return, the company is permitted to deduct from its corporate taxable income each dollar of dividends distributed. As a result, most REITs remit at least 100% of their taxable income to their shareholders and therefore owe no corporate tax. Thus, shareholders benefit from a single level of taxation (or tax transparency) on corporate earnings and pay taxes on the dividends and on any capital gains received.

In recent years, REITs and REIT-like corporate entities have been introduced in many other countries throughout the world and have experienced exceptional growth.

Although all investors may not yet agree that direct commercial real estate investments and indirect commercial real estate investments (REITs) provide the same risk-reward exposure to commercial real estate, a growing body of research indicates that investment returns from the two markets are either the same or nearly so. Still, the remaining ambiguity coupled with investors’ growing preference for, and access to, indirect commercial real estate equity has created some lingering confusion among asset allocators.

Advantages of direct real estate investment include direct control, the ability to select individual properties, greater capacity (size), and, for taxable individual investors, some potential tax-timing benefits. Advantages of REITs and listed real estate include investor access, lower costs (for most investors), liquidity, independent analysis, corporate governance and real-time pricing in public capital markets.

- Even though the underlying assets are the same, Conner and Falzon (2004) argue that there are performance differences that go beyond performance measurement.

Feldman (2003) studies the relationship between direct real estate and indirect real estate (REITs) using the two direct real estate indices developed by Fisher, Gatzlaff, Geltner, and Haurin (2003). It finds that REIT performance is statistically indistinguishable from the two direct real estate indices at conventional significance levels. However, the correlation coefficients between the REIT index and the two direct real estate indices were only 0.08 and 0.31, suggesting that these indices are less than perfect substitutes for one another. Feldman (2003) concludes that direct real estate and REITs are complementary investments that together should play a large role in strategic asset allocations. We share this view, but we

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8 These are enhanced versions of the NCREIF Property Index.
believe the split between direct real estate and indirect real estate should not necessarily be made entirely by an optimizer given the amount of uncertainty in forward-looking capital market assumptions.

Fisher, Geltner, and Pollakowski (2005) refines the direct real estate index construction methodology proposed in earlier research and performs a series of optimizations using a relatively standard opportunity set and various combinations of REIT and direct real estate proxies. No matter which real estate proxy they used, real estate played a prominent role in the optimal asset allocation based on the traditional mean-variance optimization approach. Of note, the correlation coefficients between REITs and the enhanced direct real estate index proxies remained low, at 0.13 and 0.15, respectively.

Hudson-Wilson, Fabozzi, and Gordon (2003) finds that despite various private or public labels associated with different commercial real estate investments, the same set of common factors influences their returns. Using a market capitalization weighted composite of commercial real estate, public debt, public equity, private debt, and private equity with an opportunity set that includes cash, bonds, and equities, mean-variance optimization leads to large allocations to commercial real estate.

Perhaps most important for the approach that we take in this article, Pagliari, Scherer, and Monopoli (2005), among others, finds that there are not statistically meaningful differences in the means and volatilities of public and private real estate equities, thereby suggesting a “seamless real estate market in which public- and private-market investments display a long-run synchronicity.” Like Frost, Schioldager, and Hammond (2005), we conclude that REITs can be viewed as a proxy for direct real estate as well as indirect real estate. Hudson-Wilson and Harbaugh (2006) asks “...why not use the better real estate equity quadrant index to measure performance of the less well-measured equity quadrant?” We agree with this sentiment and proceed using public (indirect) commercial equity indices to proxy total commercial real estate equity.

Over long time horizons, direct commercial real estate investments and indirect commercial real estate investments should yield similar results because the underlying investments are largely the same. During shorter periods, structural differences may create performance disparities that will remain difficult to measure with precision given the performance
measurement issues with respect to direct real estate. While REITs currently represent a moderate percentage of total commercial real estate investment, investor demand for REITs is causing an intra-asset class shift from direct real estate to indirect real estate.

Global Listed Real Estate Investment
Over the last 30 years, the United States and Australia have provided the majority of investment opportunities for REITs and publicly traded real estate companies. However, REITs today operate in more than 20 countries, and listed real estate companies operate in many more, resulting in significant worldwide growth of publicly traded real estate equity market capitalization (see Bergsman [2005]). The introduction of REIT-like companies around the world is chronicled in Conner and Liang [2006]. The dramatic increase in the amount of money invested in global REITs and listed real estate equities is evident in Figure 1. Between January 2002 and June 2006, the free float equity market capitalization of global REITs and listed real estate equities grew from $280 billion to $720 billion, a compound annualized increase of 23%. REITs and listed real estate companies comprise an asset class that is now available to investors around the globe.

Figure 1: Free Float Market Capitalization of Global REITs and Listed Real Estate Equities

Source: FTSE EPRA/NAREIT Global Real Estate Index

Works such as Fisher, Gatzlaff, Geltner, and Haurin [2003] and Fisher, Geltner, and Poltakowski [2005] go a long way toward addressing performance measurement issues associated with direct real estate indices. Interested readers can download some of these improved direct real estate indices from the MIT Center for Real Estate (http://web.mit.edu/cree/).
As with any investment, the current market price of REIT equities can be interpreted as the market's estimated present value of expected cash flows. However, the current price of all listed equities (including listed REITs) is a function of supply and demand. It is likely that the recent propensity of investors, especially large institutions, to reduce allocations to traditional asset classes in favor of dedicated commercial real estate investments (often implemented with REITs) increases the overall demand for REIT equities. Presumably, market forces are at work to transform more direct real estate investments into securitized REIT-like investments to help meet growing investor real estate allocations and balance supply and demand.

Like most publicly traded companies, REITs and listed real estate companies finance their property portfolios with a diversified capital structure of debt and equity, implying the use of some leverage. In recent years, equity REITs on average have maintained a ratio of debt divided by total market capitalization of between 40% and 50%—currently in the lower part of that range. Such use of leverage is more conservative than typical leverage ratios of privately owned real estate and reduces the interest rate risk of most equity REITs. Nevertheless, declining interest rates tend to reduce borrowing costs of most REITs, while rising interest rates tend to increase borrowing costs, thereby affecting profitability. In general, lower real/interest rates arguably have decreased the cost of capital for all real estate investors and contributed to the general increase in property values. The increase in property values increases the value of a REIT's assets (properties), the market's assessment of the REIT's future cash flows, and ultimately, the market capitalization of REITs and listed real estate companies.

The Opportunity Set

A critical element of any asset allocation study is the identification of the relevant opportunity set of investable asset classes. The asset classes used in this study include cash, U.S. bonds, non-U.S. bonds, U.S. large-cap stocks, U.S. small-cap stocks, non-U.S. stocks, and global real estate equities. Table 2 lists the asset classes and the asset class proxies used to represent each asset class in the analysis. We will refer to the first six asset classes as "traditional" asset classes because they are a more granular version of the asset classes that have come to dominate most asset allocation strategies, namely, stocks, bonds, and bills (cash). Real estate is treated as a distinct asset class because its high-income yields arguably create a hybrid investment that combines attributes of both stocks and bonds, and its investment returns reflect those hybrid characteristics. For most U.S. investors, referring to non-U.S. bonds as a traditional asset class is a bit of a stretch; however, for non-U.S. investors it certainly is an important asset class. Thus, given the large size of non-U.S. bonds in the capital markets, it should be part of investors' opportunity sets.
Table 2: Opportunity Set

<table>
<thead>
<tr>
<th>Asset Classes</th>
<th>Asset Class Proxies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>Citigroup U.S. Domestic 3-Month T-Bill</td>
</tr>
<tr>
<td>U.S. Bonds</td>
<td>Lehman Brothers U.S. Aggregate Bond</td>
</tr>
<tr>
<td>U.S. Large Cap Stocks</td>
<td>S&amp;P 500</td>
</tr>
<tr>
<td>U.S. Small Cap Stocks</td>
<td>Russell 2000</td>
</tr>
<tr>
<td>Non-U.S. Stocks</td>
<td>MSCI EAFE</td>
</tr>
<tr>
<td>Global Real Estate</td>
<td>FTSE EPRA/NAREIT Global Real Estate Index</td>
</tr>
<tr>
<td>North American Real Estate</td>
<td>FTSE EPRA/NAREIT Global Real Estate Index North America Series</td>
</tr>
<tr>
<td>European Real Estate</td>
<td>FTSE EPRA/NAREIT Global Real Estate Index Europe Series</td>
</tr>
<tr>
<td>Asian Real Estate</td>
<td>FTSE EPRA/NAREIT Global Real Estate Index North Asia Series</td>
</tr>
</tbody>
</table>

In subsequent discussion, we will use the asset class names in Table 2 when referring to the asset classes. Global Real Estate is proxied by the FTSE EPRA/NAREIT Global Real Estate Index and its three regional sub-indices. For those who are interested, Frost, Schioldager, and Hammond (2005) provides a comprehensive review of the various real estate indices. In general, the FTSE EPRA/NAREIT Global Real Estate Index received high marks.

FTSE EPRA/NAREIT Global Real Estate Index

The FTSE EPRA/NAREIT Global Real Estate Index is a market capitalization weighted index representing all “qualifying” real estate stocks world wide. As of June 30, 2006, the index included 321 REITs and listed real estate companies from 20 countries and Hong Kong with an aggregate market capitalization of approximately $720 billion. The index consists of three regional sub-indices: North America (including the United States and Canada), Asia (including Australia, Japan, Hong Kong, Singapore, and New Zealand), and Europe (including the United Kingdom, Netherlands, France, Sweden, Spain, Austria, Switzerland, Germany, Belgium, Italy, Finland, Denmark, Poland, and Greece). As of June 30, North America’s contribution to the index was about half (47.6%), with 31.4% coming from Asia, and 21.0% from Europe. The United States represented 92.7% of the North American index while Canada represented 7.3%. Japan, Australia, and Hong Kong represented 36.6%, 32.7%, and 25.0%, respectively, of the Asian index. The United Kingdom represented the lion’s share (47.1%) of the European index, followed by France and the Netherlands at 11.4% and 11.3%, respectively.
Companies must meet several criteria to qualify for the index. They must be listed on an official exchange, meet defined geographic and financial standards for each series, and be able to demonstrate that a majority of earnings or a large percentage of assets is the result of relevant real estate activity. The index defines relevant real estate activities as the ownership, trading, and development of income-producing real estate.  

9 For additional details, see Global Rules for the Management of the FTSE EPRA/NAREIT Global Real Estate Index* Version 2.3, April 2006.
deviation of Asian real estate may have been abnormally high during this time period. One would expect the formative years of a new asset class to be more volatile. Additionally, Asian currency markets may have been abnormally volatile over the time period studied. Asian real estate is more diversified today, the market has a better understanding of the asset class, and fewer currency events may lead to reduced volatility in the future.

A core theme of modern portfolio theory is that asset classes should be viewed in a portfolio or asset allocation context. It is the interaction or, more precisely, the degree to which asset class returns do not move together that provides diversification. When assets are less than perfectly correlated, their composite or total variability when combined in the portfolio is less than the sum of the individual volatilities of each asset class. Even volatile asset classes can reduce overall portfolio volatility if they have low positive correlation or negative correlation with other asset classes. The classic example of diversification is that the volatility of an all bond asset allocation can be reduced by adding a small allocation to more volatile equities.

Table 4 summarizes historical correlation coefficients of all asset classes in the opportunity set for the period 1990 to 2005. The data illustrate that global real estate in most cases has had low correlation coefficients with the traditional asset classes. In particular, global real estate has had low or negative correlations with U.S. large-cap stocks, U.S. small-cap stocks, and U.S. bonds. Furthermore, European real estate has had very low or negative correlations with all U.S. asset classes.

Table 4: Correlations, 1990 – 2005

<table>
<thead>
<tr>
<th></th>
<th>Cash</th>
<th>U.S. Bonds</th>
<th>Non-U.S. Bonds</th>
<th>U.S. Large-Cap Stocks</th>
<th>U.S. Small-Cap Stocks</th>
<th>Non-U.S. Stocks</th>
<th>Global Real Estate</th>
<th>North American Real Estate</th>
<th>European Real Estate</th>
<th>Asian Real Estate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>1.00</td>
<td>0.34</td>
<td>-0.17</td>
<td>0.16</td>
<td>-0.19</td>
<td>-0.41</td>
<td>-0.48</td>
<td>-0.26</td>
<td>-0.62</td>
<td>-0.49</td>
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<tr>
<td>U.S. Bonds</td>
<td>0.34</td>
<td>1.00</td>
<td>0.43</td>
<td>0.17</td>
<td>0.14</td>
<td>-0.26</td>
<td>0.04</td>
<td>0.20</td>
<td>-0.09</td>
<td>0.00</td>
</tr>
<tr>
<td>Non-U.S. Bonds</td>
<td>-0.17</td>
<td>0.43</td>
<td>1.00</td>
<td>0.13</td>
<td>0.07</td>
<td>0.17</td>
<td>0.21</td>
<td>-0.01</td>
<td>0.33</td>
<td>0.21</td>
</tr>
<tr>
<td>U.S. Large-Cap Stocks</td>
<td>0.16</td>
<td>0.17</td>
<td>0.13</td>
<td>1.00</td>
<td>0.76</td>
<td>0.04</td>
<td>0.22</td>
<td>0.34</td>
<td>0.06</td>
<td>0.31</td>
</tr>
<tr>
<td>U.S. Small-Cap Stocks</td>
<td>-0.19</td>
<td>0.14</td>
<td>0.07</td>
<td>0.76</td>
<td>1.00</td>
<td>0.04</td>
<td>0.48</td>
<td>0.71</td>
<td>0.17</td>
<td>0.53</td>
</tr>
<tr>
<td>Non-U.S. Stocks</td>
<td>-0.41</td>
<td>0.26</td>
<td>0.17</td>
<td>0.64</td>
<td>0.64</td>
<td>1.00</td>
<td>0.06</td>
<td>0.28</td>
<td>0.56</td>
<td>0.76</td>
</tr>
<tr>
<td>Global Real Estate</td>
<td>-0.48</td>
<td>0.04</td>
<td>0.21</td>
<td>0.22</td>
<td>0.49</td>
<td>0.68</td>
<td>1.00</td>
<td>0.56</td>
<td>0.83</td>
<td>0.94</td>
</tr>
<tr>
<td>North American Real Estate</td>
<td>-0.26</td>
<td>0.20</td>
<td>-0.01</td>
<td>0.34</td>
<td>0.71</td>
<td>0.28</td>
<td>0.56</td>
<td>1.00</td>
<td>0.30</td>
<td>0.44</td>
</tr>
<tr>
<td>European Real Estate</td>
<td>-0.52</td>
<td>0.09</td>
<td>0.33</td>
<td>0.66</td>
<td>0.17</td>
<td>0.53</td>
<td>0.83</td>
<td>0.30</td>
<td>1.00</td>
<td>0.68</td>
</tr>
<tr>
<td>Asian Real Estate</td>
<td>-0.40</td>
<td>0.00</td>
<td>0.21</td>
<td>0.31</td>
<td>0.53</td>
<td>0.75</td>
<td>0.94</td>
<td>0.64</td>
<td>0.66</td>
<td>1.00</td>
</tr>
</tbody>
</table>
Conclusions

Commercial real estate investment is a large part of the investable universe that should be included in all investors’ opportunity sets even though the role of commercial real estate in the market portfolio is not yet well understood. When developing a strategic asset allocation to commercial real estate, investors should consider REITs and listed real estate stocks as well as direct commercial real estate. For a large number of investors, REITs and listed real estate stocks are the only reasonable way to gain exposure to the commercial real estate equity asset class. REITs and the worldwide growth of listed real estate stocks give all investors an effective and efficient method of obtaining exposure to commercial real estate equity.

Within the global commercial real estate asset class a shift is underway. The advantages of REITs and listed real estate stocks over direct real estate include liquidity, corporate transparency and governance, real-time pricing, and lower transactions costs. These advantages create a natural preference for REITs and listed real estate stocks and, over time, we believe a significant amount of direct real estate will be securitized. As REITs and listed real estate stocks continue to grow worldwide, their share of the commercial real estate market will also grow, as will their acceptance as a method of obtaining exposure to the commercial real estate asset class.

In a historical context, the inclusion of North American real estate in the opportunity set of investable assets leads to dramatic improvements in risk-adjusted performance. Over the historical time period reviewed in this study, the same is not true for European real estate or Asian real estate. However, this observation does not mean that these asset classes should be excluded from an investor’s asset allocation. Just as equity and fixed-income investors should diversify across their respective investable universes, commercial real estate investors should diversify as well. Knowing that what was optimal in the past almost certainly will not be optimal in the future encourages us to look for sensible approaches to developing robust asset allocations.

In what is best described as a modern portfolio theory approach to asset allocation, CAPM-based and Black-Litterman-based forward-looking asset allocations diversify across all of the asset classes in the opportunity set.