

## A LIQUID BENCHMARK FOR PRIVATE REAL ESTATE

Commercial real estate represents an important element of the asset allocation process but is difficult to access directly, with high barriers to entry and exit. Listed (or publicly held) real estate is far more liquid, but these securities are far more volatile and incorporate an additional layer of leverage. Indexes tracking direct and listed real estate differ significantly in their calculation methodologies, making exact comparisons difficult.

The MSCI USA IMI Liquid Real Estate Index seeks to provide the best of both worlds: an investable index with a risk and return profile of direct real estate, and the liquidity of listed real estate.

### KEY FINDINGS

- Commercial real estate offers diversification, income, inflation protection and expected capital appreciation over the long term.
- Both direct and indirect real estate ownership offer exposure to the asset class but there are significant differences between the two and certain unique disadvantages.
- The MSCI USA IMI Liquid Real Estate Index attempts to capture the best of both approaches: an investable index with a risk and return profile of direct (private) real estate, and the liquidity of listed (public) real estate.
- The index represents a new way to benchmark commercial real estate, with a distinct set of characteristics designed to meet the needs of a broad base of investors.

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## Introduction

Commercial real estate is the most commonly held alternative asset class, following only equities and fixed income in size in the typical institutional portfolio. Thanks to its risk and return profile, real estate can offer a significant diversification effect to the total portfolio. It offers a stable income stream from rent, as well as inflation protection and expected capital appreciation over the long term given limited supply and constantly growing demand. Real estate investments can be made in two ways:

1. Directly or through an unlisted fund. High barriers to entry, illiquidity and significant capital outlays as well as asset class-specific structuring experience make this a choice suitable for only the largest institutional investors.
2. Indirectly, through listed securities with property portfolios such as Real Estate Investment Trusts (REITs). REITs generally offer lower transaction costs and daily liquidity. However, accessing real estate through equity markets also comes with disadvantages: leverage, higher volatility and a high equity market beta.

## Private and Listed Real Estate Indexes

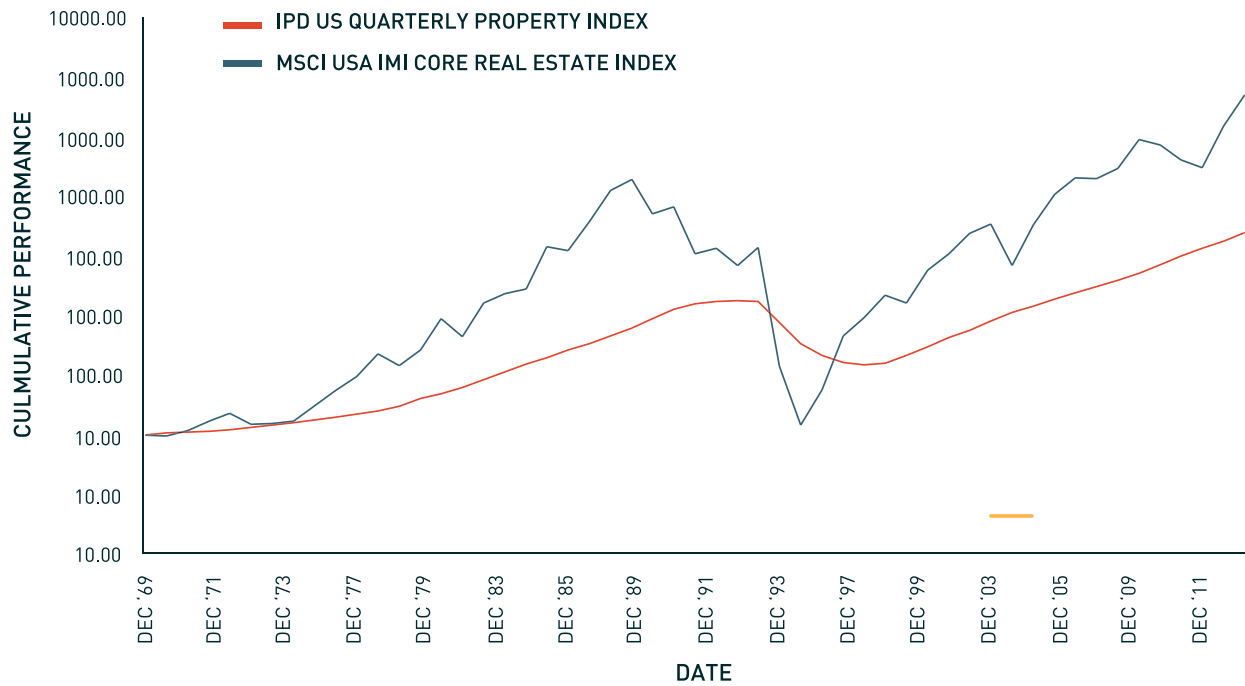
Much of the debate on the link between public and private real estate is fueled by the difference in the ways in which performance is measured. Private real estate indexes, such as the IPD Indexes, measure the performance of physical real estate based on transactions and valuations of individual properties. Listed real estate indexes, on the other hand, measure the performance of companies that are quoted on the stock market and hold, develop and operate real estate.

In principle, because listed companies are exposed to the same type of properties as those included in private real estate indexes, an investor should obtain equivalent exposure to real estate as an asset class. There are, however, important differences between public and private real estate indexes:

- **Leverage.** Listed real estate companies frequently carry leverage on their balance sheets. Securitized real estate returns reflect this leverage and the associated financial risks whereas direct real estate indexes are reported on an unlevered basis.
- **Volatility.** Listed real estate indexes exhibit more volatility than direct real estate indexes due to higher leverage and because they are part of the broader equity market. Direct real estate indexes, on the other hand, experience smoothing of their returns because appraisals occur only periodically.
- **Valuations.** Listed real estate indexes typically incorporate changes in valuations much more quickly than direct real estate indexes because the former are based on market prices while the latter are appraisal-based.
- **Net Income.** Listed real estate companies may choose to retain some of the net income generated by their portfolio. In some situations, rules, such as those governing U.S. REITs, require that most net income is passed through to investors. In contrast, 100% of net income generated by direct real estate will flow back into index returns.
- **Geographic classification.** Real estate securities are generally classified by the country of listing and incorporation. For example, if a listed Australian REIT owns assets in Japan, these assets will contribute to the Australian listed index return. In the direct market, assets are classified according to their physical location.
- **Fees and cash.** Any asset management fees charged will affect listed vehicle profits and thus will be reflected in public market returns as well as cash holdings. Direct indexes do not incorporate fees and cash.
- **Taxes.** If a listed real estate company is not structured to be tax exempt, its returns will be affected by tax payments. This is not relevant for direct real estate returns which are all pre-tax.

The performance of the IPD US Quarterly Property Index and the MSCI USA IMI Core Real Estate Index (proxies for direct and indirect exposure respectively) followed a similar pattern for the 13-year period ended June 30, 2014, as can be seen in Exhibit 1. However, the effects of leverage, volatility and lagging appraisals can also be clearly observed, especially around the global financial crisis of 2007-2008.

EXHIBIT 1: MSCI USA IMI CORE REAL ESTATE INDEX AND IPD US QUARTERLY PROPERTY INDEX RISK AND RETURN



	IPD US Quarterly Property Index	MSCI USA IMI Core Real Estate Index
TOTAL RETURN (%)	8.0	11.0
TOTAL RISK (%)	5.8	23.5
TRACKING ERROR (%)	0.0	22.5
MAXIMUM DRAWDOWN (%)	25.6	65.8
YIELD <sup>1</sup> (%)	6.1	5.0
TURNOVER <sup>2</sup> (%)		7.1
BETA TO MSCI USA <sup>3</sup>	0.12	0.92
BETA TO IPD <sup>4</sup>	1.00	1.60

Period: 06/29/2001 - 06/30/2014

Annualized from quarterly data

<sup>1</sup> Average of year-end values

<sup>2</sup> Annualized from semi-annual index review data

<sup>3</sup> The IPD index is lagged by 4 quarters

# A LIQUID BENCHMARK FOR PRIVATE REAL ESTATE

## Building a Liquid Benchmark for Private Real Estate

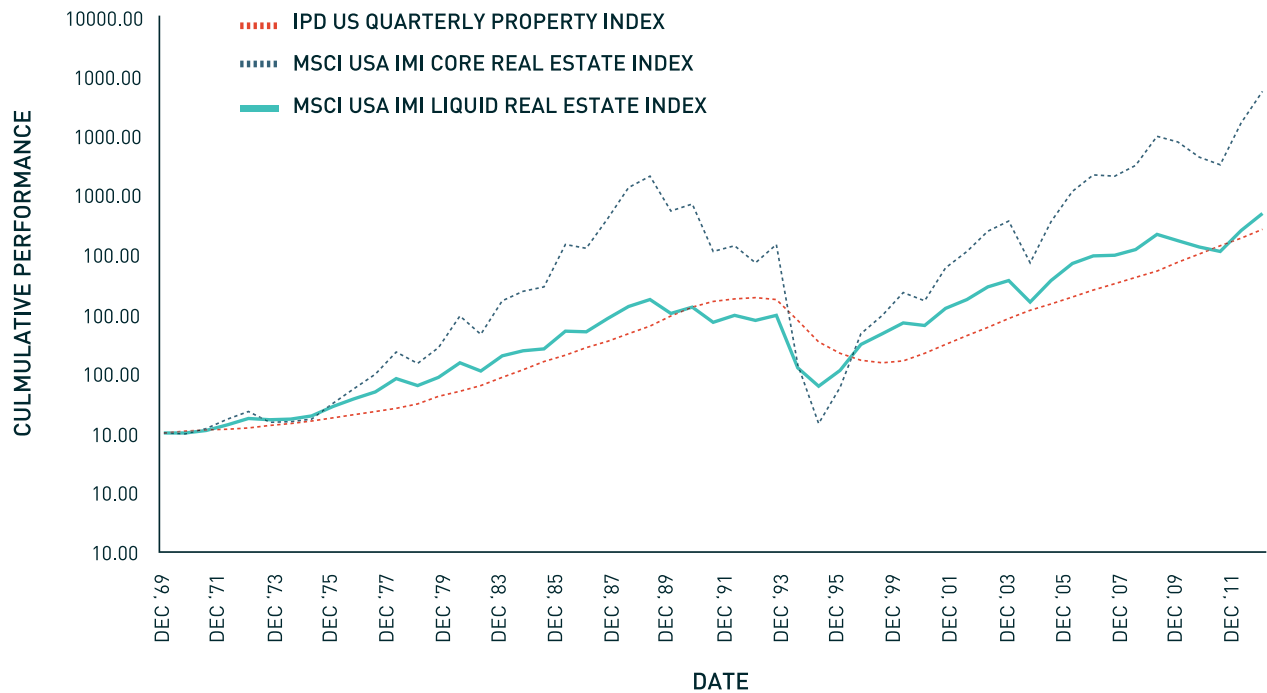
First, we need to narrow the universe to companies that actually have an exposure to real estate properties. We use the MSCI Core Real Estate Indexes as a starting point. We next seek to reduce the volatility of the listed index by applying the MSCI Volatility Tilt Factor Index methodology to the core real estate index; the volatility tilt methodology over-weights securities of the parent index with lower than average volatility and under-weights the riskier securities. In the final step, we deleverage the MSCI Core Real Estate Volatility Tilt Index by combining it with a Markit iBoxx short-duration inflation-linked index. Deleveraging both better replicates unlevered direct property returns and further reduces the risk of the equity index.

## Liquid Real Estate Index Characteristics

The resulting MSCI USA IMI Liquid Real Estate Index tracked the direct property index much more closely than the MSCI USA IMI Core Real Estate Index, as can be seen in Exhibit 2. While the liquid index appears to be more volatile than the IPD index, the smoothness of the latter stems in part from appraisal-based valuations.

Other key metrics for the three indexes show that the liquid index's characteristics are closer to the direct index over the June 2001 – June 2014 period, as can be seen in Exhibit 3.

EXHIBIT 2: MSCI USA IMI LIQUID REAL ESTATE INDEX APPROXIMATES DIRECT INDEX PERFORMANCE



## EXHIBIT 3: KEY METRICS OF THE DIRECT, CORE AND LIQUID REAL ESTATE INDEXES

	IPD US Quarterly Property Index	MSCI USA IMI Core Real Estate Index	MSCI USA IMI Liquid Real Estate Index
TOTAL RETURN (%)	8.0	11.0	8.4
TOTAL RISK (%)	5.8	23.5	11.7
TRACKING ERROR (%)	0.0	22.5	11.3
MAXIMUM DRAWDOWN (%)	25.6	65.8	34.2
YIELD <sup>1</sup> (%)	6.1	5.0	4.1
TURNOVER <sup>2</sup> (%)		7.1	3.9
BETA TO MSCI USA <sup>3</sup>	0.12	0.92	0.43
BETA TO IPD <sup>4</sup>	1.00	1.60	0.74

Period: 06/29/2001 - 06/30/2014

Annualized from quarterly data

<sup>1</sup> Average of year-end values

<sup>2</sup> Annualized from semi-annual index review data

<sup>3</sup> The IPD index is lagged by 4 quarters

## CONCLUSION

Creating a liquid index that replicates performance of a direct real estate index is notoriously difficult. The MSCI USA IMI Liquid Real Estate Index offers a close approximation by reweighting the securities of the parent index to reduce volatility and deleveraging the index by combining it with an index of short-term inflation-protected bonds. In doing so, this new index aims to combine the best features of direct real estate indexes (“truer” measurement of the asset class) and listed real estate indexes (more responsive valuations, greater transparency and investability).

At the same time, the liquid index corrects for their disadvantages. Unlike the direct real estate index, it is replicable and liquid. And unlike the listed real estate index, the new index provides lower volatility and a lower correlation with the equity market. In short, the MSCI USA IMI Liquid Real Estate Index offers an innovative tool for investors seeking a more liquid benchmark for this important asset class.

If you'd like to read more about any of these subjects, please visit [msci.com/resources/research\\_papers](https://msci.com/resources/research_papers) for the full version of this research paper.

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#### ABOUT THE AUTHORS



**Mark Clacy-Jones**  
Vice President,  
Research  
[mark.clacy-jones@msci.com](mailto:mark.clacy-jones@msci.com)

Mark Clacy-Jones is Vice President, and Head of Applied Research at IPD / MSCI. He joined the Research department of IPD in early 2007 and has been involved in the design and creation of a wide range of

research products and reports spanning global real estate investment markets, with particular emphasis on market data. Mark's current focus is on a program of research aimed at bringing transparency and insight to the real estate investment market, including understanding the role of real estate in the multi-asset portfolio, as the asset class matures and becomes increasingly global.



**Roman Kouzmenko**  
Vice President,  
New Product Development  
[roman.kouzmenko@msci.com](mailto:roman.kouzmenko@msci.com)

Roman Kouzmenko joined MSCI in 2006 shortly after graduating and is a Vice President within the MSCI New Product Research Team. The team is responsible for enhancing existing MSCI indexes and developing

new index methodologies, as well as for conducting research, publishing articles, and giving client and conference presentations to promote MSCI indexes. Roman is a Chartered Financial Analyst and holds an MSc in Mathematics from the Swiss Federal Institute of Technology in Lausanne.



**Bryan Reid**  
Senior Associate,  
Analytics  
[bryan.reid@msci.com](mailto:bryan.reid@msci.com)

Bryan joined IPD in 2013 as a Senior Associate in Analytics. Based in Sydney, he is responsible for local coverage in Australia and New Zealand while also working on larger initiatives as part of IPD's global research team.

An economist by training, Bryan developed considerable experience with residential real estate indexes before starting his career at the Reserve Bank of Australia. Bryan also has experience in real estate debt and credit having worked at Moody's Investor Service in their structured finance team prior to joining IPD.



**Bert Teuben**  
Vice President,  
Fundamental Research  
[bert.teuben@msci.com](mailto:bert.teuben@msci.com)

Bert Teuben joined one of MSCI's predecessors in the Netherlands in 2004 after graduating and is Vice President within the MSCI's Real Estate Research Team. The team is responsible for research on the private real estate

investment industry developing new index methodologies, as well as for conducting research, publishing articles, and giving client and conference presentations to promote MSCI's real estate indexes and benchmarks. Bert holds an MSc in Architecture, Building and Planning from the Eindhoven University of Technology under the masters program for Real Estate Management & Development.

# CONTACT US

## AMERICAS

Americas	1 888 588 4567 (toll free)
Atlanta	+ 1 404 551 3212
Boston	+ 1 617 532 0920
Chicago	+ 1 312 675 0545
Monterrey	+ 52 81 1253 4020
New York	+ 1 212 804 3901
San Francisco	+ 1 415 836 8800
São Paulo	+ 55 11 3706 1360
Toronto	+ 1 416 628 1007

## SOUTH ASIA

China North	10800 852 1032 (toll free)
China South	10800 152 1032 (toll free)
Hong Kong	+ 852 2844 9333
Mumbai	+91 22 6784 9160
Seoul	00798 8521 3392 (toll free)
Singapore	800 852 3749 (toll free)
Sydney	+ 61 2 9033 9333
Taipei	008 0112 7513 (toll free)
Tokyo	+ 81 3 5290 1555

## EUROPE, MIDDLE EAST & AFRICA

Cape Town	+ 27 21 673 0100
Frankfurt	+ 49 69 133 859.00
Geneva	+ 41 22 817 9777
London	+ 44 20 7618 2222
Milan	+ 39 02 5849 0415
Paris	0800 91 59 17 (toll free)

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## CONTACT:

[clientservice@msci.com](mailto:clientservice@msci.com)

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