REAL ESTATE MARKET SIZE 2015

Annual Update on the Scale of the Professionally Managed Global Real Estate Investment Market

Bert Teuben, Brent McElreath, Hariharan G G

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OVERVIEW

KEY TAKEAWAYS

- **Market size rose in 2015.** The size of the professionally managed global real estate investment market grew marginally from USD 7.0 trillion in 2014 to USD 7.1 trillion in 2015.
- **China climbed in rankings.** Although individual market size estimates changed, they have proved relatively consistent from year to year for the 25 countries within the IPD® Global Annual Property Index. China moved into the fourth position in 2015 among all 32 countries included in the market size estimates while in 2014 it had been ranked sixth.
- **Currency movements distorted national changes.** Currency movements effectively reduced the size of the global real estate investment market by approximately 4.6% in U.S. dollars (USD). In contrast, capital value growth and new developments in the market, such as new construction and sale & leaseback transactions, were the main contributors to growth in market size.
- **The U.S. weighting climbed again.** The relative weight of the U.S. increased within the *IPD* Global Annual Property Index in 2015, for the sixth consecutive year. The higher weighting of the U.S. within the Index resulted from strong capital growth as well as continued depreciation of many currencies against the U.S. dollar.
- **The U.K. and Japan held the second and third spots.** The U.K., whose market size had overtaken Japan in 2014, maintained second position in the rankings for the second consecutive year.
- **Capital value growth pulled up global markets.** Capital value growth in local currencies in both the U.S. (6.7%) and the U.K. (8.0%) surpassed the global average of 5.4% in 2015. Japan, the third largest market in 2015, lagged the global average capital value growth by 1.4%.

ABOUT THE ESTIMATES

MSCI began systematically estimating the size of professionally managed real estate investment markets in 2004. These estimates are fundamental to the creation of the *IPD* Global Annual Property Index and a range of other multinational indexes and benchmarks, and they provide insights into the coverage of MSCI's direct property indexes. This paper sets out the 2015 market size estimates and explains the main changes between 2014 and 2015.

The *IPD* Global Annual Property Index weights real estate investment returns across 25 countries. While MSCI's national indexes for Japan and Korea are included in the *IPD* Global Annual Property Index, our market data for seven other Asian countries – China, Hong Kong, Indonesia, Malaysia, Singapore, Taiwan, and Thailand – are excluded from that index. In this report, all national market sizes are based on bottom-up, portfolio-specific estimates, and these are converted into U.S. dollars using the year-end currency conversion rate.

ESTIMATING MARKET SIZES

MSCI captures a large amount of information on individual real estate investment portfolios around the world, which forms the foundation of our Portfolio Analysis Service (PAS) for direct real estate holdings at the asset level. By the end of 2015, the value of these directly measured real estate investment portfolios was close to USD 1.6 trillion. However, despite this high level of coverage, MSCI does not directly measure all portfolios in the market. While MSCI's data are useful for understanding how the market is changing, additional data sources are needed to build up definitive estimates of market size. MSCI does this by combining bottom-up, portfolio-specific in-house information with data obtained from the public domain, including pre-existing databases, annual and quarterly reports from companies and data from company websites. This approach aims to identify all direct real estate holdings in each country on a portfolio-by-portfolio basis, following the MSCI methodology, which seeks only to capture the value of professionally managed real estate owned for investment purposes.

Invested real estate stock is defined as property owned for the primary purpose of benefitting from investment returns, as distinct from owner-occupied and non-investment leased real estate. The owner-occupied part of the market comprises real estate that is both owned and occupied by private and public companies, real estate owned by governments and used for governmental purposes, and residential buildings owned by private homeowners. In addition, there are organizations who own and lease real estate to tenants but whose primary objective is not generating an investment return. These include social housing organizations and municipalities, which in some countries have substantial real estate portfolios. (See Appendix 1 for more information about the methodology.)

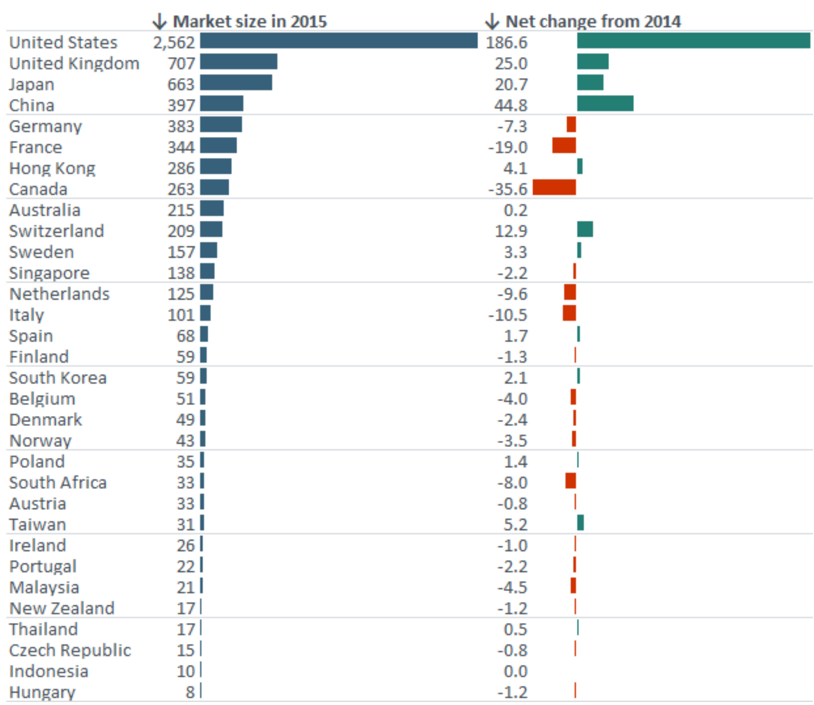
MSCI uses the total estimated size of the professionally managed real estate stock owned for investment purposes in each market to reweight national indexes that contribute to the generation of multinational indexes and benchmarks, including but not limited to the *IPD* Global Annual Property Index. For this purpose, all country-level market size estimates are converted to U.S. dollars at year-end currency conversion rates. Due to differences in MSCI index coverage levels nationally, the indexes are reweighted to provide a more representative balance between markets in the multinational indexes to which they contribute. The market size estimates are used for reweighting in the *IPD* Global Annual Property Index, the *IPD* Nordic Annual Property Index and the *IPD* Pan-Europe Annual Property Index, as well as other regional indexes and bespoke or custom benchmarks.

COUNTRY MARKET SIZES

MARKET SIZE ESTIMATES IN 2015

Although individual market size estimates can potentially have a large impact on *IPD* Global Annual Property Index returns, they have proved relatively consistent from year to year. This consistency was again evident in 2015, although there were some important changes for individual countries, as shown in Exhibit 1. The most significant absolute change was in the U.S., with a market size increase of USD 187 billion. However, the most significant change in percentage terms was in Taiwan, with an increase of 20%, albeit from a low base of USD 26 billion in 2014 to USD 31 billion in 2015. Only two other countries, the U.K. and China, saw their absolute market size increase by more than USD 25 billion. China moved into the fourth position among all 32 countries included in the market size estimates while in 2014 it had been ranked sixth. After a notable drop in its market size in 2014, Japan reversed this trend in 2015 with an increase in market size of USD 21 billion. The one country to see a significant decrease in 2015 was Canada, its market size declining by USD 36 billion, primarily due to the weakening of the Canadian dollar relative to the U.S. dollar during the year.

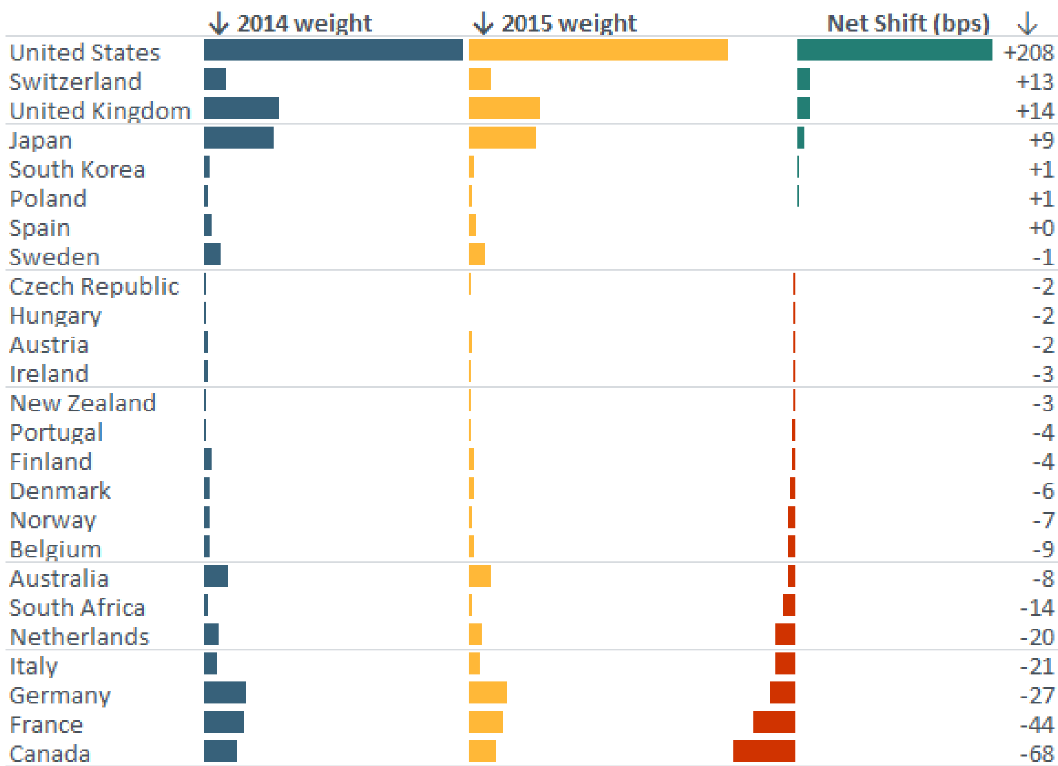
Exhibit 1: Change in National Market Sizes between 2014 and 2015, USD billion



Source: MSCI, KTI (Finland).

Among the components of the *IPD* Global Annual Property Index (Exhibit 2), no single country weighting changed by more than 2.1% between 2014 and 2015. The U.S. remained the largest market in 2015, its share of the 25-country index increasing from 38.9% to 41.0%, mainly due to the relative strengthening of the U.S. dollar through the year. The U.K. retained its second place ahead of Japan, its weight rising a marginal 14 basis points (bps) to 11.3%. With a 10.6% weighting in the Index, Japan edged up by 9 bps in 2015, trailing only the U.S., the U.K. and Switzerland, in terms of net shift. Among all countries, Canada's weighting declined most, from 4.9% in 2014 to 4.2% in 2015, a fall of 68 bps.

Exhibit 2: Change in Weight in the *IPD* Global Annual Property Index, 2014 -2015

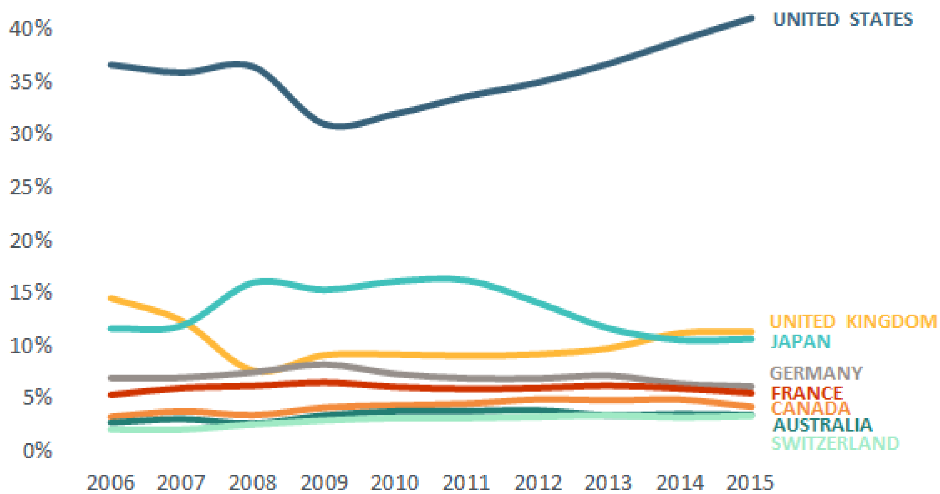


Source: MSCI, KTI (Finland).

LONGER TERM CHANGES IN MARKET WEIGHTING

The relative weights of individual countries in the *IPD* Global Annual Property Index have shifted over time, as shown in Exhibit 3. These changes have mainly resulted from a combination of capital value growth and currency impacts. National weightings were particularly impacted by the Global Financial Crisis (GFC), with large decreases seen in the weightings of both the U.K. and the U.S., due to negative capital growth. Currently, the absolute market sizes of the U.K. and the U.S. have increased by 47% and 50%, respectively, from the trough levels recorded during 2008 and 2009. The U.K., whose market size overtook that of Japan in 2014, maintained second position in the rankings for the second consecutive year.

Exhibit 3: Weight of the Eight Largest Countries in the *IPD* Global Annual Property Index



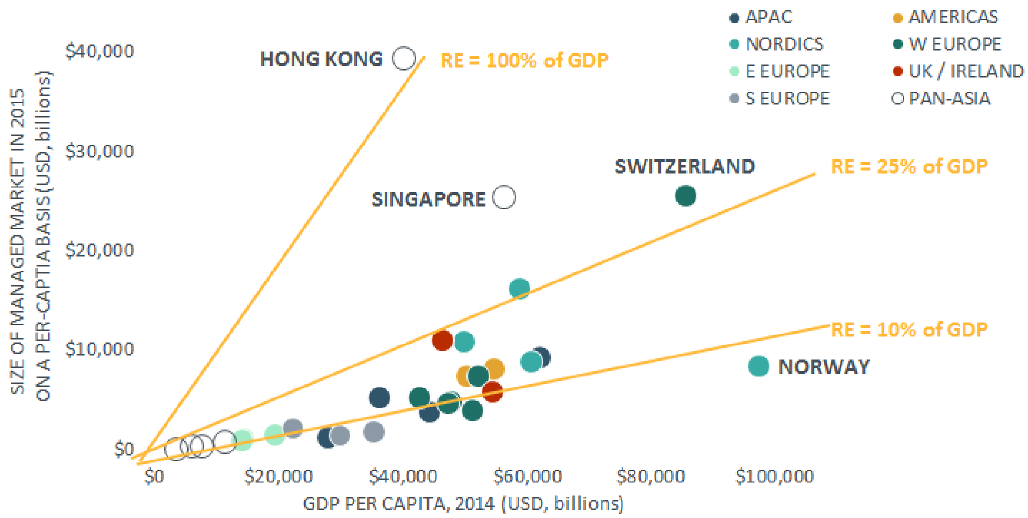
Source: MSCI, KTI (Finland).

RELATIVE MARKET SIZE ESTIMATES

Exhibit 4 compares national real estate market sizes with GDP per capita, with clear regional differences emerging. The wealthy city-states of Singapore and Hong Kong have the largest relative market sizes. The size of the professionally managed real estate investment market in Hong Kong equates to 98% of GDP, a level driven up significantly by the high value per floor area. Switzerland has the largest relative real estate investment market size in Europe, as measured by the ratio of market size to GDP. However, Norway, Europe's wealthiest country in terms of GDP per capita, falls behind several of its Nordic neighbors in relative real estate market size. A more detailed discussion of relative market size is included in the 2013 market size report[1].

[1] Clacy-Jones, M. and Teuben, A.J.J., *Real Estate Investment Market Size: A better understanding of the professionally managed real estate investment universe*, September 2014

Exhibit 4: Relative Estimated Market Size by GPD per capita



Source: World Bank, MSCI, KTI (Finland).

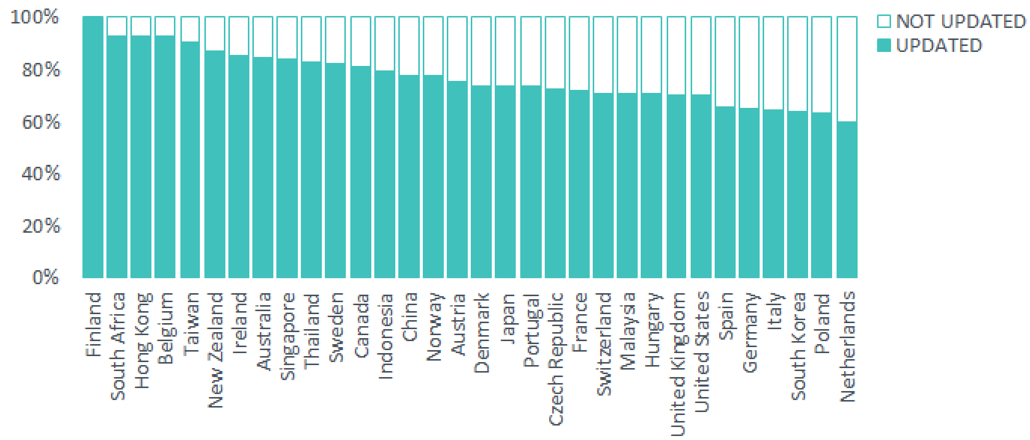
DRIVERS OF MARKET SIZE CHANGES IN 2015

MSCI's estimates of the size of the professionally managed real estate investment market are based on the most recent information available from public and private sources. The estimates are driven by national market changes, including local capital value fluctuations, currency movements and structural changes within each market.

In a perfect world, all relevant information on known real estate portfolios would be updated to year-end for each national market; but in practice this is impossible. One reason is that not all the portfolios with available information report their year-end values by the dates when the market sizes are estimated (the reporting deadlines are April for the *IPD* Global Annual Property Index and June for additional Asian markets). The timing question is particularly relevant to the investment portfolios of high net worth individuals, but also applies to some portfolios held by insurance companies, pension funds and sovereign wealth funds. These often have long lead times on the release of their annual reports, sometimes exceeding three months following period-end, while others have reporting years that deviate from calendar years. In general, listed companies do better, publishing their annual reports within three months of their reporting year end, often with quarterly or biannual reports as well. For unlisted funds the information is also often regularly available. To minimize the effect of the currency fluctuations due to lagging information, the vast majority of information is based on the value of the portfolio in local currency.

Around 73% of the total estimated market size is based on 2015 real estate market values. The proportion of updated information varies between countries, but generally stands at between 70% and 90% of the total identified investment stock. During 2015, the proportion of updated information was at or above 60% in each of the 25 markets covered in the *IPD* Global Annual Property Index, as it was for the seven emerging markets in Asia.

Exhibit 5: Updated AUM by Country, 2015 data



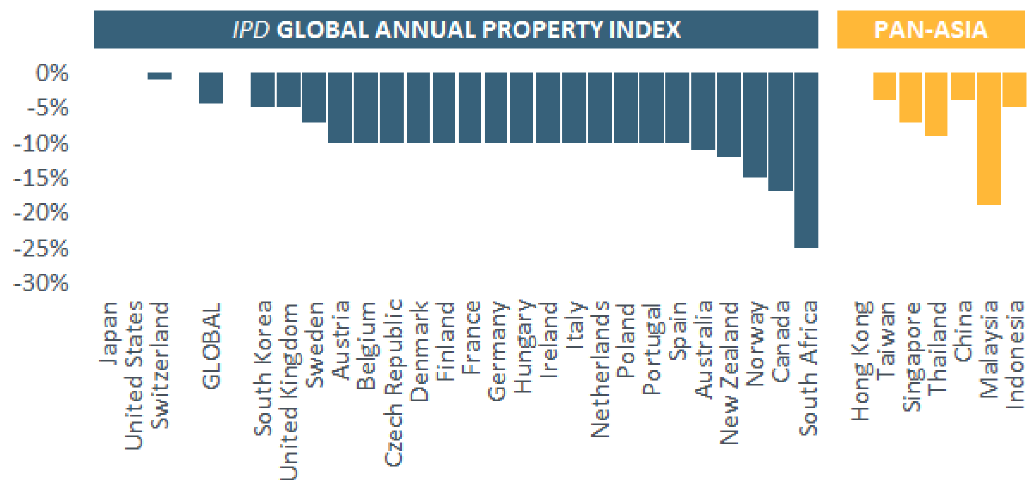
Source: MSCI, KTI (Finland).

The changes in market size estimates between 2014 and 2015 are considered below, broken down into the contributions of currency impacts, capital value growth in local currency, and other changes.

CURRENCY IMPACT

The impact of currency movements has been mentioned earlier in this report. As measured in USD, currency movements in 2015 effectively reduced the size of the global market by 4.6%. The currency impact by country relative to USD is summarized in Exhibit 5, which shows large negative impacts across markets in 2015. The impacts exceeded 10% for many countries, reaching more than 15% for Canada and South Africa. The least affected markets in 2015 were Japan and Switzerland. Among Asian markets not included in the *IPD* Global Annual Property Index ("Pan Asia"), the currency impact in 2015 was strongest in Malaysia and mildest in Hong Kong.

Exhibit 6: Currency Impact by Country in 2015, Local Currencies vs. USD

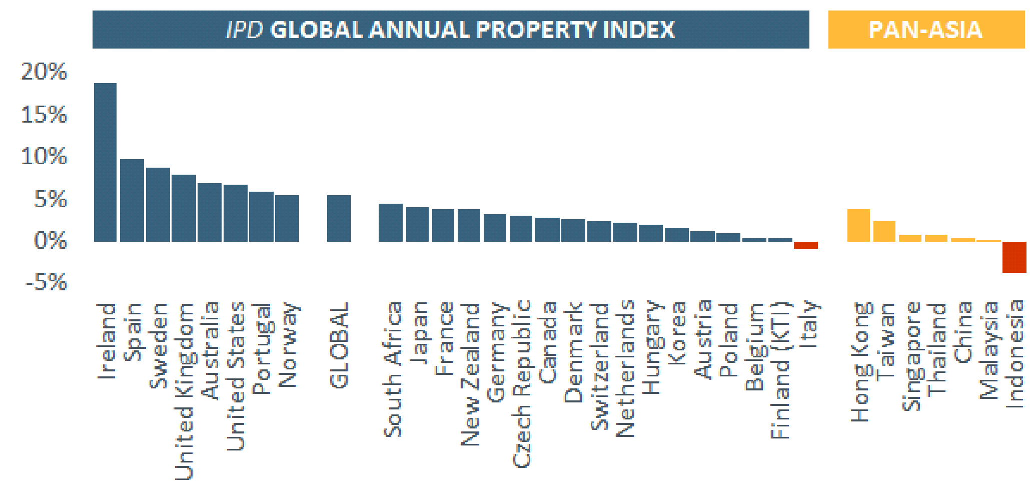


Source: MSCI, KTI (Finland).

CAPITAL VALUE GROWTH

Many countries showed positive capital value growth in their local currency in 2015, as shown in Exhibit 7. The highest levels of annual capital value growth were recorded for Ireland (18.7%) and Spain (9.7%). Six additional countries in the *IPD* Global Annual Property Index — Sweden, the U.K., Australia, the U.S., Portugal, and Norway — also exceeded the global average of 5.4% capital value growth in 2015. All the other countries recorded lower capital value growth than the *IPD* Global Annual Property Index, although negative capital value growth only occurred in one country, Italy. The 7% capital growth in the U.S. during 2015 played a significant role in raising the average capital growth of the *IPD* Global Annual Property Index, given the high weighting of the U.S. market in the index. The U.K., the second largest contributor to the index by market weight, saw capital values rise 8% during the year.

Exhibit 7: Capital Value Growth by Country in 2015, Local Currencies



Source: MSCI, KTI (Finland).

RESIDUAL

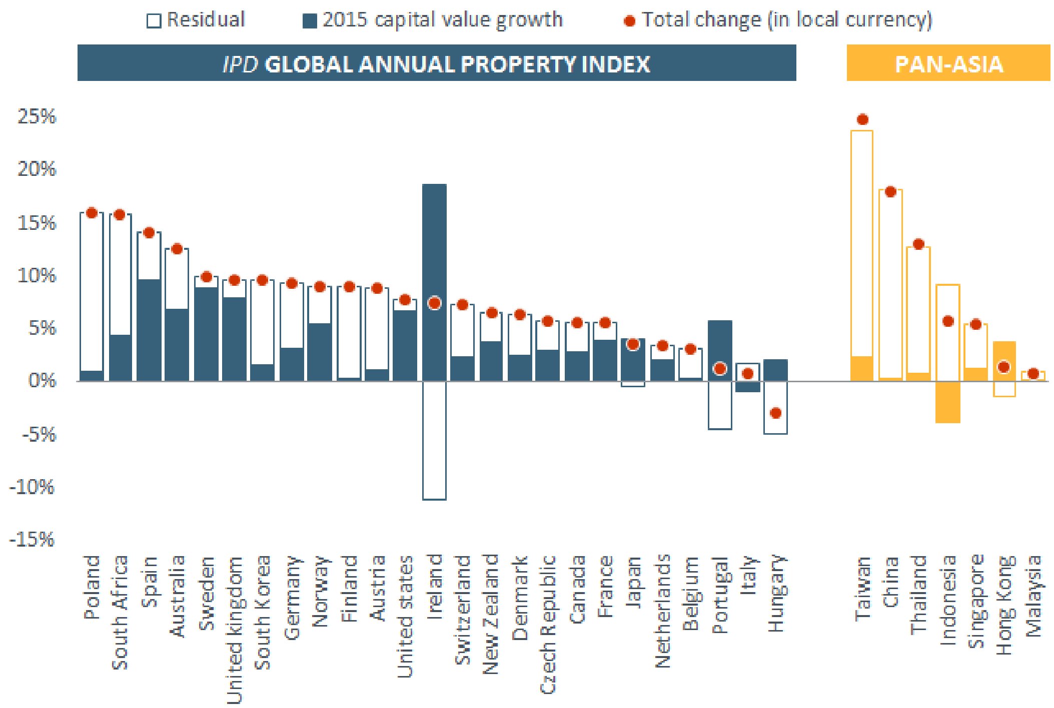
Exhibit 8 shows the percentage change in market size estimates from 2014 to 2015, together with the main drivers of change, highlighting the large impact of capital value growth and currency movements for most markets. However, a residual item remains for many markets when comparing the impact of fundamental drivers and the overall change in estimated market size. In some markets such as Poland, South Africa and Ireland, this made up a large part of the change. Beyond the 25 countries in the global index, a similar trend was evident in Taiwan, China and Thailand. In general the residual is larger for smaller, less transparent markets. There are a number of possible reasons for the residual, including:

- **Net investment due to capital expenditure on existing assets and new developments.** While MSCI measures net investment on data-submitting portfolios, this sample may not necessarily reflect the wider market. In addition, it is not always possible to break down net investment figures sufficiently to avoid double-counting. Given the uncertainty of its composition, net investment is not reported separately in this exercise, instead being included in the residual.
- **Transactions with non-professionally managed organizations.** These could arise from the sale of portfolios to small private investors or the acquisition of properties from developers or non-professionally managed organizations.
- **Sale & leaseback transactions in which real estate becomes an invested asset, having previously been owner-occupied.** This may relate to particular sectors that become

investable, such as hotels and healthcare. In some cases tenants may acquire buildings that they previously leased.

- **Timeliness of reporting.** As discussed above, not all portfolios reported end-2015 data in time to be included in this analysis. In 2015, 71% of those assets supporting *IPD* Global Annual Property Index weightings were updated with 2015 data (versus 65% in 2014), together with 84% for other Asian markets (versus 85% in 2014). The remainder were included using the most recently available data, mainly dated to year-end 2014.
- **Reporting by owner status.** Lower rates of updating occurred for private investors and other direct asset owners that only release data on their portfolios after the first quarter of the year. In general information on listed companies was updated.
- **Asset quality.** Capital value growth for MSCI-measured portfolios may differ from overall market capital value growth due to differences in the quality of the underlying assets.
- **Newly identified portfolios.** Newly identified portfolios that already existed, but were not previously included in market size estimates. These are more common in smaller, more opaque markets.
- **Better information.** Newly identified information on portfolios previously included in market size estimates.

Exhibit 8: Drivers of Market Size Change, 2015



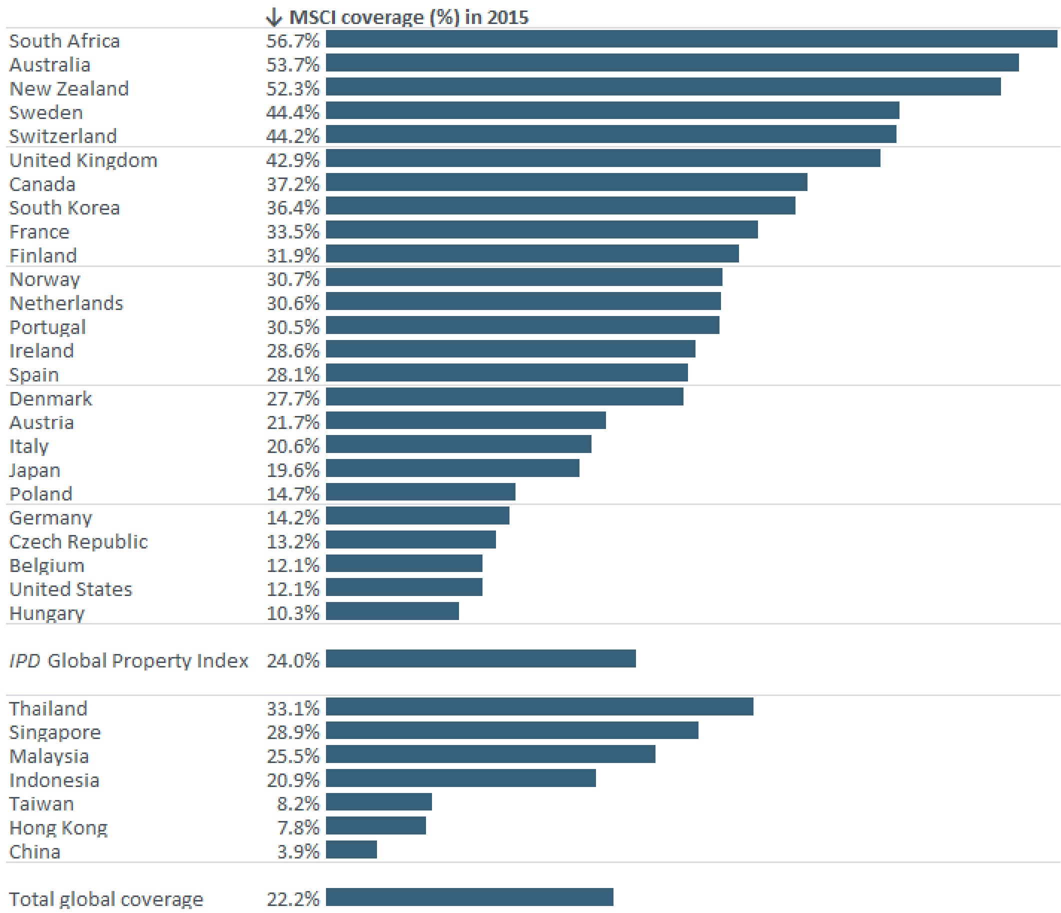
Source: MSCI, KTI (Finland).

MSCI MARKET COVERAGE AND GLOBAL TRANSPARENCY

Among the 25 countries in the *IPD* Global Annual Property Index, coverage ratios range from more than 50% of the market in South Africa, Australia, and New Zealand, to levels of 10-12% in Hungary, the U.S. and Belgium.[2] In aggregate, the 25 countries in the Index have coverage ratio approaching one quarter (24%) of the global market. Compared to 2014, MSCI's global coverage ratio rose modestly in 2015 by 10 basis points. When the seven additional Asian markets are added to the 25, the global coverage ratio falls slightly, from 24% to 22%.

[2] Although it may appear low in percentage terms, the 12.1% coverage ratio in the U.S. market refers to a relatively large volume of real estate assets, given that the U.S. has a weight of more than 40% in the *IPD* Global Annual Property Index. One of the reasons for the low coverage in the U.S. is the large proportion of the market owned by listed companies, which are not required to follow market-based appraisal processes; this means that they are not eligible for inclusion in MSCI's direct real estate indexes.

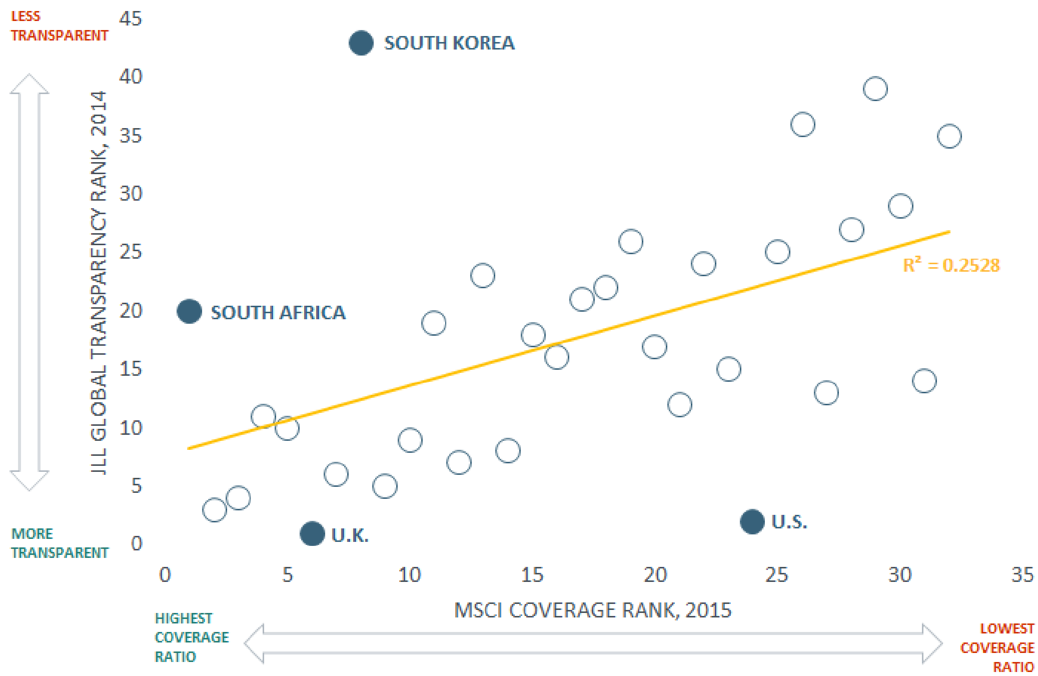
Exhibit 9: MSCI Coverage of the Professionally Managed Market



Source: MSCI, KTI (Finland).

Exhibit 10 below plots MSCI's real estate index coverage against JLL's Global Transparency Index, with the country rankings along each axis. The exhibit shows that markets that are more transparent generally also have a higher MSCI real estate index coverage ratio, with a modest positive correlation . MSCI produces index results for each of JLL's 27 most transparent ranked markets across the world. MSCI real estate indexes are published quarterly in each of the eight most transparent markets, with the exception of France, where index results are published biannually. More than half of the markets included in the *IPD* Global Annual Property Index had coverage ratios exceeding 30% in 2015. Six markets tracked by MSCI had coverage ratios of more than 40% for the year. The two most transparent markets are the U.K. and the U.S. MSCI's coverage is relatively high in the U.K., and while lower in the U.S., it grew by nearly 140 bps in 2015. Of those markets that JLL ranks as less transparent, South Africa and South Korea are among the top 10 markets in terms of MSCI index coverage.

Exhibit 10: Country Ranking by MSCI Real Estate Coverage and JLL Global Real Estate Transparency Index



Source: MSCI, KTI (Finland), JLL Global Real Estate Transparency Index 2014

CONCLUSION

The size of the professionally managed global real estate market expanded to USD 7.1 trillion in 2015 from USD 7.0 trillion in 2014. MSCI began systematically estimating the size of the professionally managed real estate market in 2004. These estimates underpin the weightings of the *IPD* Global Annual Property Index and a range of other multinational indexes and benchmarks, and they provide insights into the coverage of MSCI's direct property indexes.

Although individual market size estimates changed, they have proved relatively consistent from year to year for the 25 countries within the *IPD* Global Annual Property Index. China moved into the fourth position in 2015 among all 32 countries included in the market size estimates while in 2014 it had been ranked sixth.

APPENDIX 1: MARKET SIZE ESTIMATE METHODOLOGY

MSCI defines the real estate investment universe in each national market as the aggregation of real estate assets that meet all of the following conditions:

- They are held as investments for the purposes of delivering a mix of income and capital returns;
- They are professionally managed for the achievement of these purposes, either by the beneficial owners or by third party management businesses;
- They are structured as investment interests within portfolios.

These direct real estate portfolios, managed on behalf of institutional or private investors, are financed via a mix of equity and debt.

The criteria that are adopted for the market size estimates are summarized in Exhibit 11, with further clarifications including:

- **Mortgages:** Only direct real estate portfolios are included; portfolios of mortgages are excluded.
- **Indirect holdings:** In order to avoid double counting, fund of funds are excluded from the analysis along with the indirect investment holdings of all portfolios.
- **Joint ventures:** In order to avoid double counting, joint ventures are included as separate holdings, but only with the value of the share of the asset or portfolio included for each holding.
- **Private investors:** The number of direct private investors is enormous, ranging from those holding a single residential unit to some with portfolios of over USD1 billion. MSCI assumes that any portfolio with a value in excess of USD100 million is professionally managed. Whilst this figure is somewhat arbitrary, such a threshold is required to compile results. MSCI assumes that the majority of the professionally managed market will be captured by including these larger portfolios.
- **Other real assets:** This analysis aims to estimate the size of real estate markets globally. For this purpose infrastructure (such as airports, ports and toll roads), timberland and farmland are excluded.
- **Developers:** Pure development companies are excluded from this analysis as they do not seek an investment return; but investment property under development and construction is included.

Exhibit 11: Market Size Estimate Inclusion Criteria

Included:	Excluded:
Insurance and pension funds	Small private landlords (< USD100 million)
Sovereign Wealth Funds	Owner occupied portfolios (pubs, hotels, hospitals)
Unlisted funds (closed and open)	Timberland, farmland and infrastructure
Traditional estates and charities	Mortgage companies
Listed funds	Development companies
Large private landlords (> USD100 million)	Fund of funds and indirect holdings (double counting)
Leased office, retail, industrial, residential and other property	Municipal and social housing
Investment property under development	

Source: MSCI

APPENDIX 2: MARKET SIZE ESTIMATES

	Estimated market size 2014 (USD billion)	Estimated market size 2015 (USD billion)	Capital value growth (Local currency)	*IPD* Index Coverage 2015 (USD billion)	Coverage ratio (%)
Australia	214.9	215.1	6.8	115.6	53.7%
Austria	33.5	32.7	1.1	7.1	21.7%
Belgium	54.8	50.8	0.4	6.1	12.1%
Canada	298.4	262.9	2.8	97.9	37.2%
Czech Republic	15.7	14.9	3	2.0	13.2%
Denmark	51.9	49.4	2.5	13.7	27.7%
Finland (KTI)	60.5	59.2	0.3	18.9	31.9%
France	362.8	343.9	3.9	115.2	33.5%
Germany	389.9	382.5	3.1	54.5	14.2%
Hungary	9.5	8.3	2	0.9	10.3%
Ireland	27.4	26.4	18.7	7.6	28.6%
Italy	111.3	100.7	-0.9	20.7	20.6%
Japan	641.8	662.5	3.9	130.0	19.6%
Korea	56.7	58.7	1.6	21.4	36.4%
Netherlands	134.2	124.7	2.1	38.2	30.6%
New Zealand	18.3	17.1	3.8	8.9	52.3%
Norway	46.4	42.9	5.4	13.2	30.7%
Poland	33.9	35.3	1	5.2	14.7%
Portugal	24.4	22.2	5.8	6.8	30.5%
South Africa	41.2	33.2	4.4	18.8	56.7%
Spain	66.4	68.0	9.7	19.1	28.1%
Sweden	153.4	156.7	8.8	69.6	44.4%

Switzerland	196.0	208.9	2.4	92.4	44.2%
United Kingdom	682.5	707.4	8	303.5	42.9%
United States	2,375.0	2,561.6	6.7	309.4	12.1%
***IPD* Global Annual Property Index**	**6,100.8**	**6,246.1**	**5.4**	**1,496.5**	**24.0%**
China	*352.6*	*397.4*	*0.4*	*15.5*	*3.9%*
Hong Kong	*281.5*	*285.6*	*3.8*	*22.1*	*7.8%*
Indonesia	*10.4*	*10.4*	*-3.8*	*2.2*	*20.9%*
Malaysia	*25.3*	*20.8*	*0.2*	*5.3*	*25.5%*
Singapore	*140.6*	*138.5*	*1.3*	*40.0*	*28.9%*
Taiwan	*26.1*	*31.3*	*2.3*	*2.6*	*8.2%*
Thailand	*16.2*	*16.7*	*0.7*	*5.5*	*33.1%*
Total global coverage *(incl. Pan-Asia)*	**6,953.4**	**7,146.7**		**1,589.7**	**22.2%**

Source: MSCI, KTI (Finland)

CONTACT US

realestate@msci.com

+ 44 20 7336 4783

AMERICAS

Canada	+ 1 416 687 6284
US	+ 1 212 804 3900

EUROPE, MIDDLE EAST & AFRICA

UK	+ 44 20 7336 9200
France	+ 44 20 7336 4783
Germany	+ 49 691 3385 900
Italy	+ 44 20 7336 9684
Netherlands	+ 31 88 328 22 00
Spain	+ 34 93 467 7403
South Africa	+ 27 11 656 2115
Sweden	+ 46 8 400 252 30

ASIA PACIFIC

Australia	+ 61 2 9033 9300
Hong Kong	+ 852 2844 9333
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Japan	+ 81 3 5211 1455

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