



MSCI Global Intel Report: Building Targeted Real Estate Portfolios

MSCI Real Estate

Introduction

Institutional investors include private real estate in their portfolios for a variety of reasons, including diversification, return enhancement, income to pay benefits and inflation hedging. Regardless of the objectives, investors looking to execute on an allocation strategy will often target certain markets. However, heterogeneity of assets and high asset-specific risk mean that a representative market exposure cannot be built with just one or two assets. Investors targeting particular markets should therefore think carefully about how many assets they need to obtain broader market exposure.

Focusing on the example of an investor targeting global office markets, this paper shows that a representative exposure to such markets could have been achieved with portfolios approaching 10 assets in size. Indeed, the majority of the reduction in tracking error against mean performance comes from the

first few assets acquired. However, the number of assets needed to approach market exposure can vary from market to market, and over the business cycle.

In this paper, we used MSCI asset-level data to simulate the performance of 250,000 hypothetical office portfolios of different sizes across 25 global cities from 2012 to 2016. We examined how many assets would have been needed in order to build sufficient exposures to individual markets. At the end of this paper, we provide insights on how to manage performance and risk when investors don't own "enough" assets.

How the Number of Assets Influences Performance

From a portfolio construction perspective, the use of attribution analysis (allocation and selection) helps to align and manage a portfolio's stated strategy with its actual sources of performance. Allocation tracks the top-down

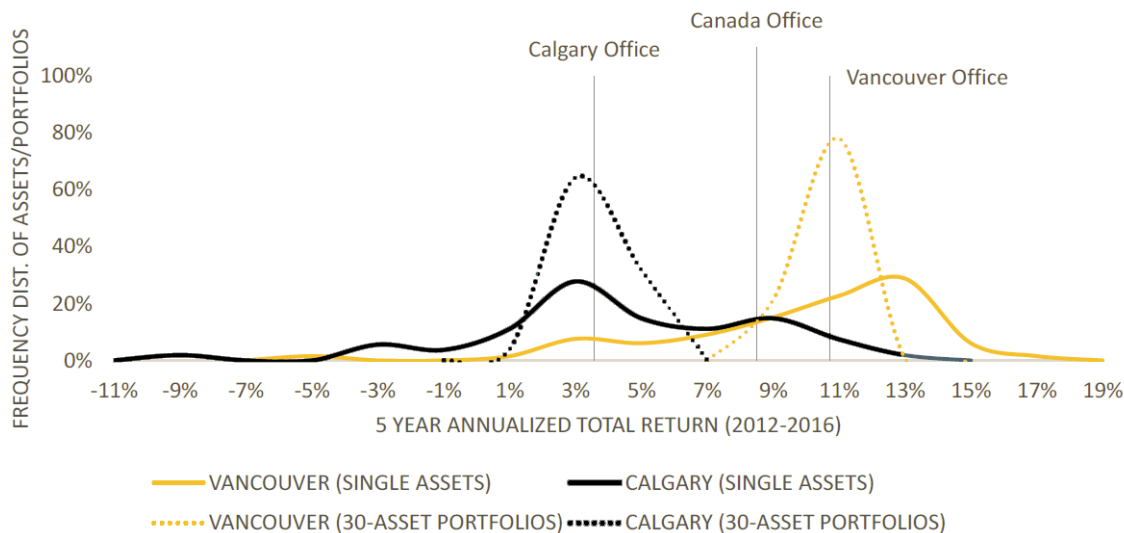


Exhibit 1: Distribution of Office Returns in Calgary and Vancouver

Source: MSCI

strategic decisions a portfolio manager makes regarding which markets, property types or risk strategies to target.¹ Selection tracks the bottom-up execution of the strategy, i.e., have the assets acquired in a defined segment (e.g., Sydney office) outperformed, underperformed or exhibited performance in-line with other assets in that segment?

Allocation is a major part of any real estate strategy, but can be difficult to implement due to asset heterogeneity. In Exhibit 1, we show the distribution of office returns for individual assets and 30-asset portfolios for the Canadian cities of Calgary and Vancouver. The economies of these cities are very different, and, at an aggregate level, real estate performance has differed sharply in recent years. For our 5-year study period, Calgary and Vancouver had total returns of 3.6% and 10.7%, respectively.²

Over the 5-year period, the distribution of performance of individual assets in these two cities overlapped considerably. However, the overlap of return distributions was eliminated when we looked at the distributions of 30-asset portfolios. Does this mean that investors would have needed to create portfolios of 30

assets in each market to obtain market exposure? The answer is no, but begs the question of how many assets would have been enough.

To answer this question systematically, we randomly selected assets to create portfolios of increasing size, from one to 30 assets, across 25 different global cities, and then calculated their performance, including the tracking error of each portfolio versus the city it was located in, over the analysis period.

In Exhibits 2a and 2b, we illustrate the results of this analysis for Washington, D.C. In Exhibit 2a, we show the distribution of portfolio return outcomes around the mean as we increase a portfolio's size from a single asset to 30 assets. As more assets are added, the range of possible return outcomes narrows around the market average. In Exhibit 2b, we show the

reduction in tracking error as a portfolio adds additional assets. The reduction in average tracking error fell rapidly after the first couple of assets and the marginal change became relatively insignificant by the 10th asset.

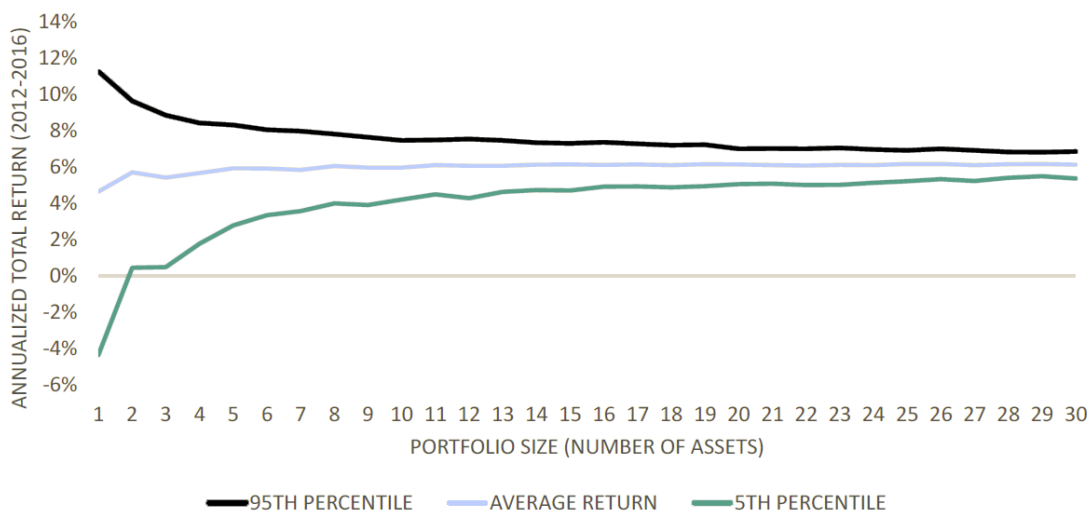


Exhibit 2a: Distribution of Washington, D.C. Returns

Source: MSCI

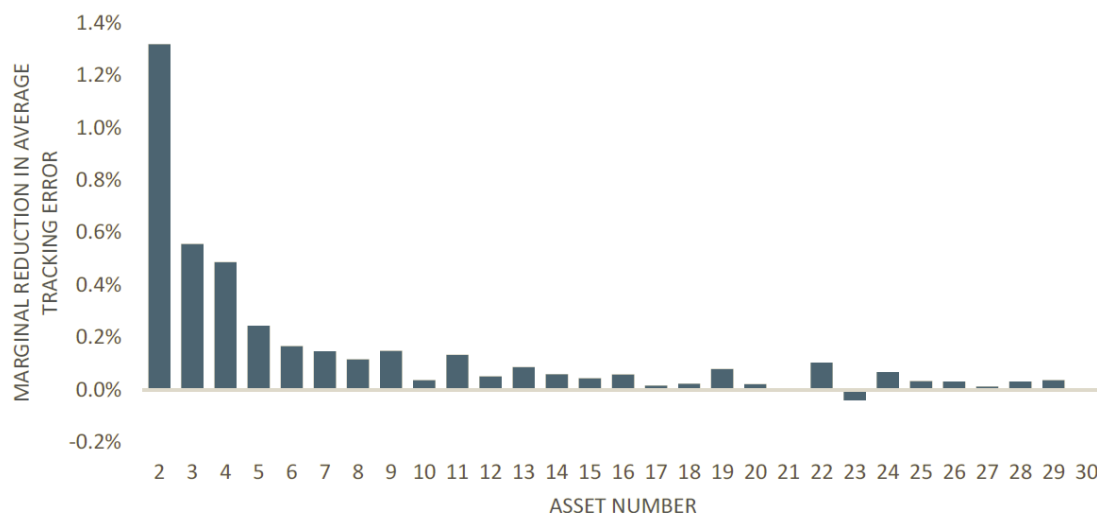


Exhibit 2b: Reduction in Average Tracking Error for Washington, D.C.

Source: MSCI

While Washington, D.C. provides a good example of the benefits of increasing the number of assets, we also found that the reduction in average tracking error varied across cities depending on the level of heterogeneity in the local market. For example, a city with multiple nodes and economic drivers could have required more assets to achieve a market exposure than more homogeneous markets with only a single node (Central Business District versus suburban) and one economic driver. Volatile markets, such as those experiencing a turning point or rapid capital growth movement, could also have required more assets to achieve market exposure. Exhibit 3 presents the results for tracking error reduction for the cities in our analysis, with London, Dublin, Washington, D.C. and Tokyo highlighted.

We caveat our findings against real-world portfolios. In our analysis, each asset is assumed to have an equal probability of being included in a portfolio, but an actual actively managed portfolio might have needed more assets to track the market; the reverse could also have been true. Relative asset size can also have an impact. If a portfolio of 10 assets contains one asset that makes

up a dominant weight in the overall portfolio (say 50% or more), then the portfolio would have tended to act like that asset more than the market.

When Market Exposure Cannot Be Obtained

Naturally, it is not always possible to build representative exposure in every market. Sometimes it is too costly or the assets are just not available. In situations where only a smaller portfolio can be constructed, what risk factors might investors consider the most important?

In previous research, we showed that over the long term about 80% of total return has come from income and 20% from capital growth.³ The reverse is true when we look at risk, as measured by standard deviation, where 80% came from capital growth and 20% from income. This relationship is magnified in smaller portfolios that cannot diversify away assetspecific risk. In these cases, investors may be best served by focusing on the duration, concentration, credit strength and reversionary potential of the contractual income in their portfolio. By carefully managing

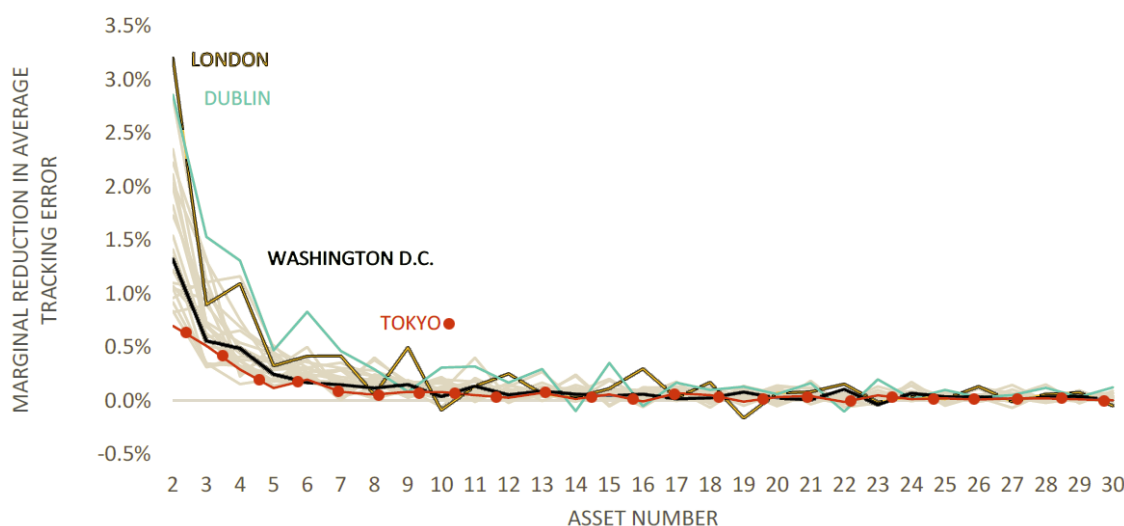


Exhibit 3: Marginal Reduction in Average Tracking Errors

Source: MSCI

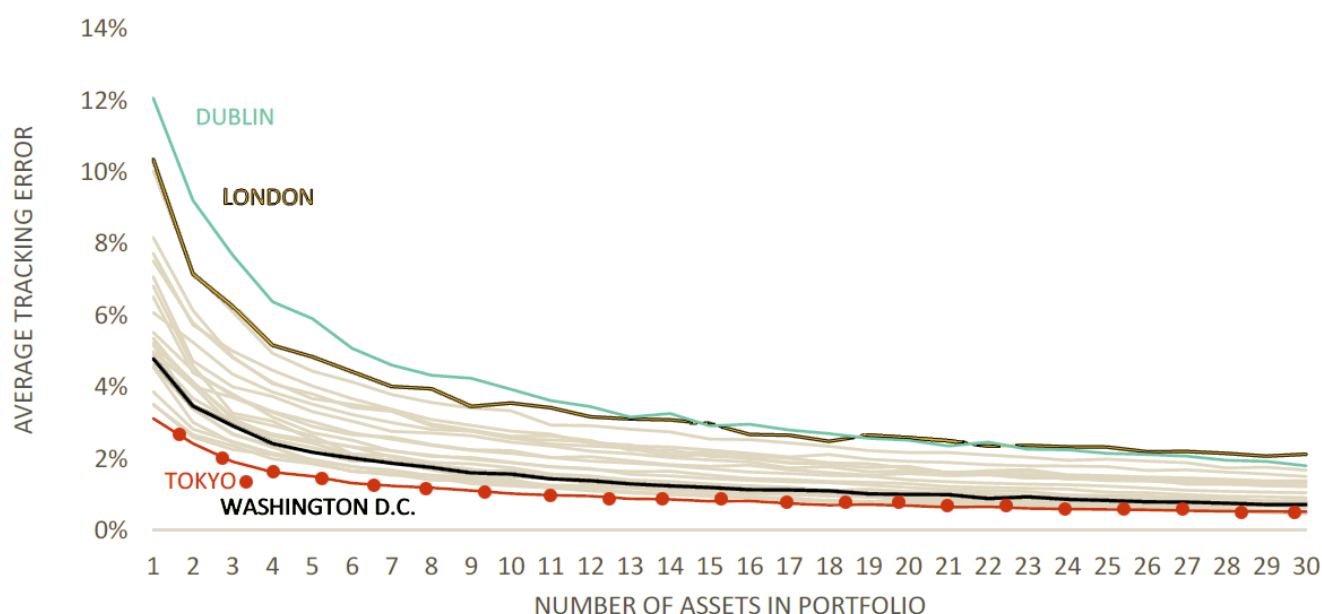


Exhibit 4: Average Portfolio Tracking Error

Source: MSCI

and monitoring these risks, investors may improve their chances gaining full exposure to a given market, even with a small portfolio.

Investors can also consider indirect investment in listed or unlisted vehicles that are built around their target strategy. Indirect investment can make it easier to achieve sufficient exposure, but it comes at the cost of direct control over the portfolio. Indirect investors may also want to study and monitor the contribution and attribution scores of the funds they invest in, to measure whether they are achieving their desired exposures.

It is also worth noting that our analysis simulates the performance of unlevered, asset-only portfolios only. In the real world, fund level overlays such as debt, swaps and cash can add further complications. These aspects may not be as important for direct investors but may be larger considerations for indirect investors looking to target a particular market.

Does The Choice of Assets Still Matter?

Might investors with a sufficiently large and balanced exposure to their target market still look to consider which assets or funds they have invested in? The answer is likely yes. Real estate assets, and by extension real estate portfolios, are by nature typically heterogeneous. Even though our analysis shows that most of the marginal reduction in tracking error was achieved by the 10-asset mark, the overall level of tracking error remained high, as illustrated in Exhibit 4. This suggests the importance of picking the right assets or managers.

Conclusion

In our analysis, we have used the example of an investor targeting global office markets to explore the challenges in building market exposures. Using data over a 5-year period across 25 global cities, our results illustrate that the number of assets required varied from market to market, and over the business cycle. But, in most markets, the majority of the reduction in tracking error comes

from the first few assets acquired, and a representative exposure could have been achieved as a portfolio approached 10 assets in size.

We offer several additional observations:

- Where it was not possible to build sufficient exposure, the duration, concentration, credit strength and reversionary potential of the contractual income played a larger role in performance.
- Investors can also consider using indirect investment to target the market exposures they are unable to build directly, but need to be aware of the potential impact that fund-level overlays like cash and gearing can have on their investments.
- Even when a representative exposure has been built, the heterogeneous nature of the asset class means that care needs to be taken when selecting assets or funds in which to invest.

When seeking to build exposures to target markets, real estate investors may want to understand each market's distinct characteristics and construct their portfolios carefully.

Endnotes

1. Here we are referencing asset specific risk strategies at the time of purchase. What was the business plan when the asset was purchased? Was it purchased as an operating asset, a leasing play, a rehab/reposition or a new development?
2. These are same store returns, calculated on a fixed sample of assets held as standing investments over the whole 5-year period.
3. Reid, B. (2017). "Global Property Performance: Trends and Insights from MSCI's 2016 IPD® Global Annual Property Index. MSCI Research. <https://www.msci.com/documents/10199/00d5b517-aa55-4d93-8160-470a18b57683>

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