# A global perspective on pension fund investments in real estate

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**The article below is a summary of the authors' research paper 'A global perspective on pension fund investments in real estate', which has been awarded the 2013 Nick Tyrrell Research Prize. The Prize, established by industry associations INREV, IPF and SPR to commemorate Nick Tyrrell's major contribution to the industry's thought leadership, recognises innovative and high-quality, applied research in real estate investment.**

Real estate is the third-largest asset class for institutional investors. To gain exposure to real estate, there are often (multiple) layers of investment management and costs between the investor and the assets, and the true performance of the real estate investments at the level of the institutional investor may be therefore be different from what empirical studies on the performance of real estate suggest.

Research into the performance of pension fund investments in real estate is scant. This paper employs a unique set of data, the CEM global database, to study the real estate investment approach, cost, and performance for a global panel of almost 1,000 pension funds over a period of 20 years. The data enables a comparison of different investment styles and approaches and a consideration of what these deliver for the bottom line of pension funds.

## Pension funds' exposure to real estate

The CEM pension fund database covers 884 pension funds in the US (536), Canada (244), Europe (86) and Australia/New Zealand (18). The dominance of US and Canadian pension funds in the database reflects CEM's North American roots. The average size of all the funds within the database is US$8.26bn, with the European funds alone averaging US$23.64bn. The researchers had data for the period from 1990 through 2009, including information about allocation, benchmarks, investment style and approach.

Figure 1 shows the asset allocation of the global pension fund industry in 2009. While equities and bonds dominate the portfolios, real estate is the most important asset class among alternatives, with an average allocation of 5.1% in 2009.

Most pension funds (for between 70% and 80% over time) invest in real estate in some form. In 2009, 75% of US funds were invested in in real estate, compared with 60% in Canada, over 80% in Australia/New Zealand and 95% of the European funds. The very high percentage for Europe may be explained partly by the fact that only the larger European pension funds report to CEM. The majority of the pension funds' holdings (over US$240bn) were private real estate investments. Holdings in listed property companies, such as REITs, totalled US$74bn, corresponding to more than 11% of the FTSE EPRA/NAREIT Global Index in 2009.

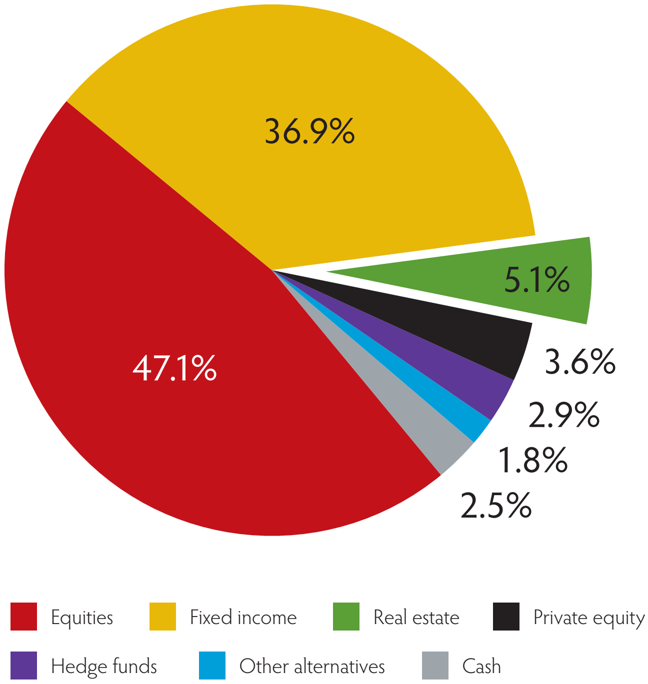
The researchers found that over the 10-year period from 2000 to 2009, indirect real estate investment was gradually gaining favour, such that around 30% of global pension funds held shares in listed property companies in 2009. However, the variation across regions was substantial. The US was close to the global trend, while only 15% of Canadian funds invested in listed real estate. That was in sharp contrast to Europe and Australia/New Zealand, where more than half of the pension funds were actively investing in indirect real estate.

The researchers looked at whether the decision to invest in real estate directly or indirectly was related to the size of the fund. Indirect real estate would seem particularly suited for smaller pension funds as, even with relatively small investments, it is possible to build up well-diversified property exposure through listed property companies at a global scale. The analysis (see Figure 2) was somewhat surprising as, of the smallest pension funds investing in real estate, less than one fifth invested indirectly. Furthermore, for every subsequent quintile, the percentage of indirect real estate investors increased, reaching about 40% for the pension funds in the largest quintile. This is contrary to intuition and has important implications for the performance of pension fund investments in real estate.

The other choice that pension funds have to make when implementing their real estate strategy is whether to opt for internal management, external management, or both. The researchers found substantial differences between US funds and their foreign peers, with only 10% of the former investing internally, compared with around 40% of the latter choosing this approach. Pension fund size is unlikely to be an explanation for this: the US pension funds are, on average, larger than those in Canada and Australia/New Zealand.

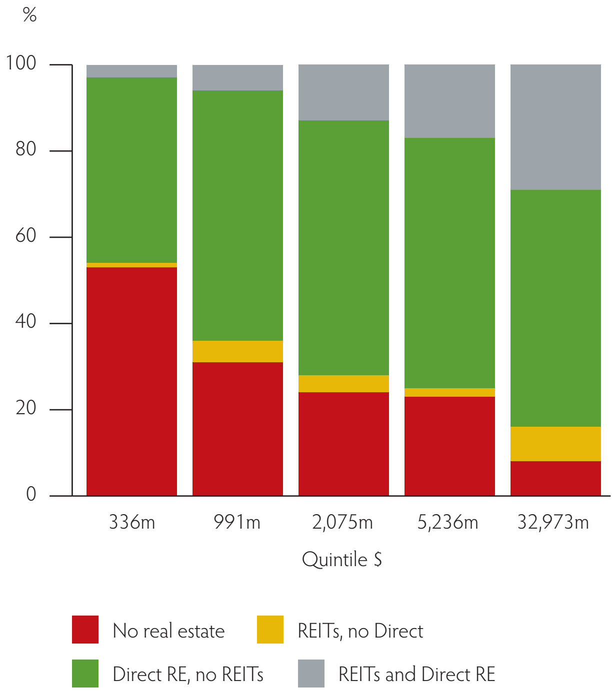
External management used to be far less popular in the rest of the world but it is gaining ground, and the percentage of pension funds using external management in real estate increased from 60% in the 1990s to 80% in 2009. As one would expect, the smallest pension funds that invested in real estate were most likely to use external management, and as the funds increased in size, the likelihood of using internal management (at least in part) also increased. However, 60% of the funds in the largest quintile still opted exclusively for external management, and a further 20% combined internal and external management.

Figure 1: **Pension fund asset allocation – 2009**




*Source: CEM Benchmarking Inc*

Figure 2: **How funds invested in real estate (per size quintile)**



The analysis points to the dominance of external management, regardless of whether institutional investors are large or small. So what implications does this have for costs and performance?

## Costs and performance

From the perspective of the participants in a pension plan, the only valid reason to put additional layers of intermediation between the plan and the cash-flow producing assets is that these layers add value in terms of net returns – see Figure 3.

Direct real estate investments generated a net return of 5.88%, and, on average, underperformed the benchmark. REITs did much better for pension funds, during 2000-09, in three ways: the gross return was higher (10.92%), the cost wedge between gross and net was lower (29 basis points), and the benchmark-adjusted return was positive (although not statistically significant).

Figure 3: **Pension fund performance in real estate**

| | All assets | Subcategory | | Approach | | |
|---|---|---|---|---|---|---|
| | | REITs | Direct RE | Internal management | External management | Fund of funds |
| Gross returns | 7.00<br>[9.41] | 10.92<br>[10.21] | 6.70<br>[8.40] | 7.77<br>[11.20] | 6.82<br>[9.17] | 6.72<br>[7.85] |
| Net returns | 6.19<br>[9.43] | 10.63<br>[9.70] | 5.88<br>[8.54] | 7.51<br>[11.21] | 5.98<br>[9.31] | 4.95<br>[7.86] |
| Net benchmark-<br>-adjusted returns | -0.70<br>[9.35] | 0.52<br>[10.80] | -0.86<br>[10.11] | 0.90<br>[10.85] | -0.98<br>[9.42] | -5.38<br>[15.42] |

*Note: Time series averages of cross-sectional mean returns in percentages for the 1990-2009 time period (for fund of funds 1995-2009). Standard deviations of the returns are in brackets.*

In terms of investment approach the funds managed internally did better than externally-managed funds and fund of funds. The internal approach had a gross annual average return of 7.77%, of which 7.51% was actually delivered to the pension plan, so annual costs were only 16 basis points. Internal mandates also outperformed their benchmarks, on average.

Looking at the added value of external managers, the results were less favourable. Not surprisingly, the cost wedge between gross and net returns was higher than for the average internal mandate; an average of 84 basis points. This implies that it would be difficult for external managers to beat the net return of internal benchmarks, even if they were able to extract a superior gross return from the real estate assets. However, the average annual gross return on external mandates was almost a full percentage lower than for internal mandates, and the annual net performance difference was 153 basis points. On average, external managers underperformed their benchmarks by 98 basis points, but due to the large variation in that performance, this is not statistically significant.

For fund of funds, the picture was even worse. Their average annual costs were 177 basis points, and their average gross return was lower than that of external managers. So, even before costs, their selection efforts did not seem to add value. The net result was that the average fund-of-fund manager underperformed the benchmark annually by 5.38%, although the variance in performance was so large that this underperformance is not statistically significant.

## Comparison of US and non-US pension funds

As highlighted above, there were substantial differences in real estate investment approach of US and foreign pension funds, and between small and large pension funds. In order to assess the consequences of these choices in terms of costs and performance, the pension fund sample was split again into quintiles, but this time based on the size of their real estate investments – see Figure 4. In terms of costs, there were obvious advantages of scale: for US pension funds, the average annual costs were about twice as high for the funds in the smallest quintile as for those in the largest quintile, and this difference is statistically significant, with a t-value of 5.42. Costs decreased monotonically from smaller to larger quintiles, with the difference being especially significant between quintiles 1 and 2.

Figure 4: **Regional effects and economies of scale in investment costs and performance**

| Quintiles on real estate assets size | Average real estate assets size US$m | Investment costs bps | | | Net benchmark-adjusted returns % | | |
|---|---|---|---|---|---|---|---|
| | | US | Non-US | t-test | US | Non-US | t-test |
| 1 (Smallest) | 12.96 | 132.95 | 64.77 | 4.87*** | -1.70 | -0.80 | -1.34 |
| 2 | 51.88 | 92.17 | 60.49 | 6.55*** | -1.68 | 0.14 | -1.99** |
| 3 | 132.45 | 88.32 | 42.65 | 14.79*** | -1.29 | 0.59 | -2.39** |
| 4 | 359.74 | 87.31 | 37.05 | 12.43*** | -0.81 | -0.30 | -0.61 |
| 5 (Largest) | 2,835.29 | 66.56 | 29.50 | 15.23*** | 0.43 | 2.66 | -2.76*** |
| t-test | | 5.42*** | 9.88*** | | -3.29*** | -4.09*** | |

*Note: The t-test row presents a t-statistic of the difference in costs and net benchmark-adjusted returns between the lowest and highest quintile. The t-tests columns measure the difference in costs and net-benchmark-adjusted returns between U.S. and non U.S. pension funds belonging to the same quintile. We report significance levels with *, ** and ***, which correspond to 0.10, 0.05 and 0.01, respectively.*

For non-US funds, there are also significant advantages to scale, but costs are at a very different level compared to what US pension funds are paying. In four out of five quintiles, the foreign funds paid less than half of what their US peers did for their real estate investments. The difference is highly significant in all quintiles. In other words, real estate investments for small pension funds are expensive, especially in the US.

Figure 4 shows that the returns to scale are also obvious in the benchmark-adjusted returns: for US funds there was a monotonic increase in net return going up in quintiles, with a 1.70% average underperformance for the smallest quintile and a 0.43% average outperformance for the largest quintile. The difference is highly significant, with a t-value of -3.29. For non-US pension funds, there is a generally positive relationship between real estate portfolio size and performance. The difference in performance between the smallest quintile and the largest quintile is even larger, and the statistical significance a bit stronger.

For pension plans in the US, the higher costs are reflected in a lower net performance than their foreign peers: on average, they underperformed in each of the quintiles, although the performance difference was not always statistically significant. The non-US funds in the largest quintile seem to outperform their benchmarks.

## Implications of the analysis

The research found that generally larger pension funds have lower costs and better performance in real estate investment. This may be due to larger funds having greater negotiating powers in terms of both costs and the real estate transactions themselves. Larger funds can also commit more resources to monitor external real estate investment managers or even establish internal divisions, which is positively linked to performance.

Another notable finding of this study is that US pension funds performed relatively poorly. They had significantly higher costs than their peers in Canada, Europe and Australia/New Zealand, and their performance was weaker. This cannot be explained by size: on average, the US pension funds in the sample were relatively large. The research suggests that the weaker performance is due, at least in part, to the higher propensity of US funds to opt for external management or fund of funds. Part of the weaker performance can probably be explained by the fact that they were much less likely to opt for internal management than their foreign peers.

The implications of these findings are as follows:

- Additional layers of real estate investment management are costly and are not generally associated with better performance for pension funds. Pension funds should therefore avoid disintermediation and aim for the shortest possible investment chain;
- Size matters: large pension funds face lower costs, and generally perform better. This is both due to a greater reliance on internal management and likely also to a better bargaining position vis-à- vis external managers. Smaller pension funds should consider relying more on investments in REITs and other listed property companies, providing low-cost access to property exposure all over the world. Moreover, listed property companies almost always have internal management, reducing the conflict of interest inherent in externally-managed real estate funds;
- Smaller pension funds could also team up with other pension funds, creating internally-managed real estate entities together. In the Netherlands and Canada, there is significant experience with this approach. For example, in 2000 the pension funds of KLM (Royal Dutch Airlines) and Hoogovens (Dutch Steelworks, currently Tata Steel) bundled their real estate portfolios into one entity, Altera, which is internally managed: the shareholders own both the assets and the management. Costs are kept low: Altera charges 30 basis points, while the standard fee for externally-managed funds in the Netherlands is over 100 basis points. Since then, 26 other Dutch pension funds have become shareholders, often by swapping their direct real estate assets for a stake in the fund. This creates additional advantages to scale;
- The significantly higher costs of US funds than their global peers seemed to be due to their greater reliance on external managers. Cost cutting and tougher negotiations with external managers should, therefore, be a priority for US pension funds if satisfactory performance on their real estate investments is to be attained; and lastly
- Pension funds should incorporate the practical implementation issues of real estate investment when deciding whether to invest in real estate in the first place. The research suggests that a pension fund that is not able to opt for the internal approach, and is not willing to invest indirectly, should seriously reconsider any allocation to real estate at all, given the relatively poor net returns generated by external managers and fund of funds, even if the theoretical return-risk trade-off for real estate seems favourable.

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