A New Tool for Private Real Estate Performance Measurement

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EXECUTIVE SUMMARY

Over the past 20 years, Partners Group's real estate team has invested over USD 30 billion in private real estate. Historically, Partners Group has collected and maintained proprietary industry-wide real estate data for in-house use and research projects. In order to leverage these insights, in 2010 Partners Group teamed up with Thomson Reuters to develop an index for private real estate investments.

The Partners Group Thomson Reuters Private Real Estate Index ("PGTR Index") is a consistent and high quality database that provides significant value-add for users and the broader investment community. The data verifies several of the anecdotal claims and observations about the private real estate asset class.

- The data highlights the benefits of the asset class which has outperformed public equity markets by over 8% since 2000.
- Private real estate investments have continued their strong rebound, generating 10.4% during 2011 despite a challenging economic environment in the second half.
- The data suggests that careful selection of managers is even more important in private real estate compared to private equity, where from 2000-2010 none of the vintage years shows a negative median IRR.
- Investors with a contrarian view, investing into a market with increased uncertainty are typically rewarded with better performance relative to investments made during a positive market environment (that typically exhibit higher fundraising). The PGTR data highlights that vintage years with higher fundraising volume tend to underperform ("money chasing deals"); a phenomenon already documented for private equity investments.
- Because of the lack of transparency, Partners Group has been conducting an industry survey among non-core funds since 2001 to establish a broadly available global, transparent standard for non-core private real estate fund data. In 2010, Partners Group teamed up with Thomson Reuters, a leading provider of business data and information.
- PGTR Index complements existing databases. The index provides global performance data based on net cash flows and net asset values for a sample of more than 300 opportunistic and value-added funds from over 60 firms.
- PGTR Index provides standard industry performance measures such as IRRs, and time-weighted returns for user-defined sample selections. Given several aspects of the data collection, the data is believed to be representative for a "quality index" (i.e. having an upward bias). At the same time, Partners Group and Thomson Reuters have a joint vision to further broaden data collection in order to provide a view on the market that is as unbiased as possible.

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PRIVATE MARKETS – PRIVATE DATA

It is a common theme in private markets that data is not readily available. In industry surveys, the lack of adequate data and the absence of longer time series of data are often bemoaned by a broad range of market participants.[1] Even in the most established private markets segment, private equity, no database has established itself as the clear market leader.[2] Decades since the development of the private equity market, investors and academics still struggle to agree on the most stable and accurate database. For younger segments of private markets, such as private real estate, this problem is even more pronounced.

There are various reasons why private markets data is not readily available. A large part of private markets transactions are not publicized and the final price is only a matter between buyer and seller. This is often the case when transactions were changing hands in an auction process where various bidders were involved. Keeping transaction data private is understandable. At the same time, it is Partners Group's conviction that in order to better promote the benefits of private markets, and to allow investors to better assess its characteristics, more fund-level transparency will be needed going forward.

THE PARTNERS GROUP THOMSON REUTERS PRIVATE REAL ESTATE INDEX

Over the past 20 years[3], Partners Group's real estate team has invested over USD 30 billion in private real estate. Acknowledging the fact that no reliable data for private real estate investments was available, the team has been collecting, aggregating and evaluating global private real estate performance data for over a decade, in order to enhance the understanding of the asset class on a global basis. In order to further promote the benefits of the asset class and to share these insights with the broader investment community, Partners Group looked for a strong partner to leverage its network of industry relationships, while handing the collection, the technical backbone and the distribution over to a partner focused on providing high quality financial market information.

To further increase the scope and breadth of the data collected, in 2010 Partners Group teamed up with Thomson Reuters, a leading provider of business data and information. The collaboration builds on the strengths of these two groups. Thomson Reuters is responsible for running periodic surveys using its established processes and experience from 20 years of private equity data collection; cleaning, aggregating and distributing the data through its ThomsonOne.com platform. Extending these efforts to the private real estate universe was a natural step. In addition, it is worth highlighting that Thomson Reuters is a dedicated data provider and as such strives to provide an unbiased view on the relevant market segments. Partners Group continues to support the data collection efforts by promoting survey participation among its network of industry partners. Acknowledging the confidential nature of individual fund data, the constituents of the database are kept anonymous.

Leveraging the foundation that Partners Group had established through its periodic data surveys, the Partners Group Thomson Reuters Private Real Estate Index ("PGTR Index") was launched in 2010 with an initial sample of 250 opportunistic and value-added funds and has

[1] See for example: The IPD Solvency II Review Summary: Informing a new regulatory framework for real estate, April 2011.
[2] While Thomson Reuters and Cambridge Associates are the longest established databases, in recent years other market participants have emerged such as Preqin or The Burgiss Group.
[3] Partners Group acquired the discretionary real estate asset management business and team of Pension Consulting Alliance, Inc. ("PCA") on 1 July 2007. PCA was established in 1988.

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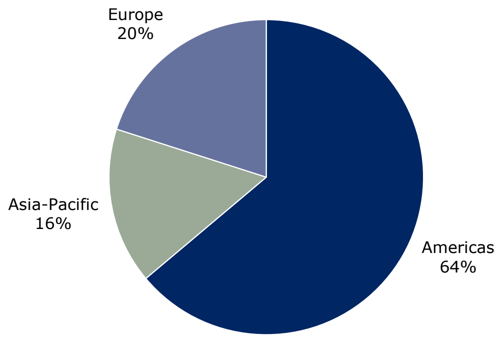
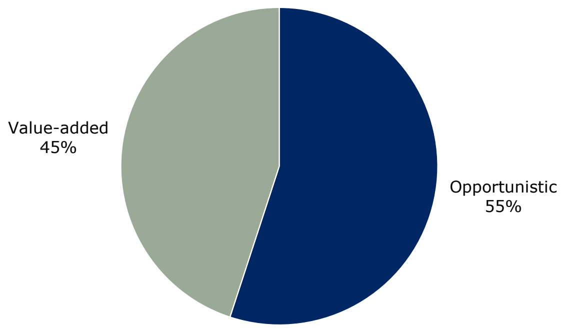
grown as of the end of 2011 to a sample of 300 funds provided by over 60 firms with total commitments of close to USD 200 billion. Given the industry has raised an estimated USD 650 billion, the PGTR Index currently covers approximately 30% of the market, which is a relative high market share compared to other alternative data sources.

The PGTR Index is based on fund-level cash flows of opportunistic and value-added funds net to investors. While the asset class has historically been dominated by North American firms, the industry has expanded its geographical footprint during the last decade and is considered a global asset class today.

Exhibit 1 shows the PGTR Index's regional composition with over 35% of the reporting funds being active outside North America. The data focuses on opportunistic and value-added funds in terms of value creation strategies. Opportunistic funds currently account for approximately 55% of the sample in terms of number of funds, but since the value creation strategy is self-reported, caution should be exercised against focusing on the characteristics of any single value creation strategy. The industry still lacks objective and widely recognized criteria in determining whether a fund follows an opportunistic or a value-added approach.

Exhibit 1: Composition by region and strategy





Source: Partners Group Thomson Reuters Private Real Estate Index, data as of December 31, 2011. Percentage by number of funds.

One of the main questions the development of the PGTR Index sought to answer is to what extent the index represents an unbiased picture of an asset class. Given the fact that there is no performance data for the overall industry, a definitive conclusion is not possible. However, arguments can be made that the PGTR Index today is still a "quality index" having an upward bias for four main reasons:

- Although constituents are anonymous and samples queried must be sufficiently large to mask performance of any single fund, sponsors most likely will still tend to rather report on better performing funds. Given the goal of establishing a leading index for the private real estate asset class, this bias might diminish over time, with sponsors having an incentive to report on less successful funds in order not to be measured against an upward biased database ("reporting bias").
- Investment partners with whom Partners Group has built a relationship over the years are more likely to contribute to the survey and a significant part of the Index is still based on the initial sample collected by Partners Group's real estate team ("selection bias").

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- There is a number of large funds from the boom era who do not yet provide data to the survey ("size bias").
- We believe that there is a certain survivorship bias in the data with firms that have gone out of business due to poor performance not reporting. At the same time, fully liquidated funds will stay in the index, which reduces a potential survivorship bias. Promoting participation in the PGTR Index by other investors active in the asset class, and not just Partners Group, will be necessary to reduce these biases over time.

BEYOND TRADITIONAL BENCHMARKING

Historically, one of the main purposes of private markets data was benchmarking. In order for a manager to get access to capital, a manager needed to provide evidence that prior programs were part of the top quartile of the respective peer group. The top-quartile claim has since been used in an inflationary manner, and this statement has lost some of its credibility among investors.[4] The ability for a manager to make this top-quartile claim is magnified in private real estate, where no database can claim adequate coverage of the overall industry. At the same time, further uses of data have emerged. We would want to give two additional applications where access to quality data is highly relevant.

The first application relates to the use of data in a portfolio and risk management context. More investors are seeking an answer on the optimal allocation of private markets assets classes in an overall asset allocation framework. Simultaneously, private markets investments have gained increasing importance in the portfolios of institutional and private investors. Therefore, it has become more relevant for investors to quantify their allocations to private markets segments beyond purely qualitative aspects. Understanding the characteristics of the private markets data series (such as the significant auto-correlation inherent in the data) is highly relevant to draw the right conclusions.[5] These data series will not only assist in identifying the appropriate allocation, but with regulation increasing across the globe (with for example Basle III and Solvency II), reliable data will be necessary to highlight the benefits and the characteristics of private markets for regulators.[6]

Second, next to the use of data in a portfolio management context, comparative data also plays an integral role in the secondary underwriting (i.e. the purchase of portfolios or individual assets on the secondary market). On top of analyzing and valuing individual assets in a portfolio, investors active in the secondary market also need to price uncalled capital that will be deployed in the future. Historical data will allow an assessment of both the quality of the manager (using "traditional" benchmarking), but also give an indication of the range of possible outcomes based on the prevailing economic environment.

ALTERNATIVE DATA SOURCES

The PGTR Index provides performance information of global (leveraged) opportunistic and

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[4] According to a study from Peracs, 77% of private equity funds can claim top-quartile status. Private Equity Online, July 28, 2009.
[5] See also "What is the optimal allocation to private equity?", Partners Group Research Flash March 2011.
[6] See also "Private equity under Solvency II: Evidence form time series models", Partners Group Research Flash September 2011. While private real estate investments are not specifically addressed in the Solvency II frame work, they will most likely fall under the category "Other Equity" together with private equity and asset classes such as hedge funds and commodities. This class is subject to a stress factor of 49% in the specifications for the latest quantitative impact study (see "QIS5 Technical Specifications", European Commission, July 2010).

value-added private real estate fund returns net of fees. We have chosen to focus on net fund level data because investors base their investment decisions on net returns and net returns are finally reflected in their portfolios. In order to calculate aggregated performance measures, like pooled IRRs or time-weighted returns, cash flows and NAVs of the underlying funds are necessary. Providing only readily computed IRRs and time-weighted returns alone are insufficient for the computation of meaningful aggregates across several funds. One might also argue that letting managers calculate their funds' IRRs and time-weighted returns is less reliable compared to the PGTR Index where firms report cash flows and NAVs and returns are calculated independently (i.e. by Thomson Reuters).

The PGTR Index is not the only source for private real estate data. In the US, the National Council of Real Estate Investment Fiduciary ("NCREIF") publishes the NCREIF Property Index ("NPI"). The index is available on Bloomberg and provides property level returns of cash-flowing US properties gross of any potential management and fund fees. The index thus reflects unleveraged gross of fee core property returns. Only aggregated total returns on a quarterly basis are available, either as an overall index or split-up by property type and region. Methodologically, each property return is weighted by its market value and quarterly returns are chain-linked to a time-weighted return series. NCREIF also publishes a complement to the NPI, the open-end diversified core equity fund index "NFI-ODCE." This index is based on the investment returns reported by 26 open-end commingled funds pursuing a core investment strategy.

IPD ("Investment Property Databank") applies a similar approach as NCREIF with the NPI and publishes several indices with a global, regional and country-specific focus. The indices report time-weighted returns which are calculated based on a collection of property-level data and gross of any fees. Some country data is available in annual frequency only, and so are thus the aggregates. This provides a major drawback to investors that typically need quarterly (or higher) frequency data for benchmarking and modeling purposes.

The NCREIF and IPD indices have a focus on core investments and cover a different part of the real estate investment universe compared to the PGTR Index. Nevertheless, since standard non-core benchmarks are not available, non-core investors often use core data adjusted by a given risk premium for benchmarking purposes. Standard capital market theory suggests that this should be valid, given that non-core and core strategies share the same underlying assets (i.e. real estate). The considered risk premium accounts for incremental risks through leverage, leasing risk, development risk, country risk and illiquidity.

The most comparable database to the PGTR Index is the NCREIF Townsend Index ("NCREIF/Townsend"). The NCREIF Townsend database collects data from open-ended and closed-ended vehicles across the private real estate universe covering core, value-added and opportunistic strategies. The database contains about 280 funds in the value-added and opportunistic space making the index largely comparable in terms of coverage of the industry. Compared to the PGTR Index, where we collect the actual net cash flows of the underlying funds, the NCREIF/Townsend collects performance figures directly and reports on IRRs, multiples and time-weighted returns both on a net basis and on a gross basis. The NCREIF/Townsend therefore provides an additional layer of insight into the industry by providing a database of gross returns. At the same time, the fact that performance figures, instead of underlying cash flows, are collected is a significant drawback compared with the PGTR Index, as collecting performance figures on a standalone basis does not offer the ability to generate pooled industry returns. Importantly, NCREIF/Townsend publishes data on USD denominated funds only. While the majority of programs are predominantly US focused, investments within North America account for 60% of the allocation in the segment opportunistic and essentially 100% within core and value-added strategies. Therefore, the

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NCREIF/Townsend does not adequately cover international (non-US) markets.

Last but not least, Preqin has gained in importance across the private markets industry in the last few years. Collecting data based on FOIA[7] requests allows Preqin to collect a considerable amount of performance data. Preqin has recently launched indices for the overall private equity industry including an index for private real estate investments. At the same time, heavily relying on FOIA requests makes the database more vulnerable in terms of data quality as data reported from FOIA investors may have investor specific features (e.g. a UK pension fund might report the returns of a EUR investment in GBP which can heavily distort investment performance).

Exhibit 2 gives a brief overview over some of the most important characteristics of the various databases.

Exhibit 2: Overview of data providers

Data base	Investment universe	Regional coverage	Performance data	Time period covered	Sample size
PGTR	Opportunistic and value-added	Global (64% Americas, 20% WEU, 16% APC)	Net cash flows to investors allowing to generate pooled returns	First data in the 90's.	> 300 closed-ended funds
NCREIF/ Townsend	Opportunistic value-added and core	Global (80% NAM, 10% WEU, 10% APC & EM)	Multiples, IRRs and time-weighted returns (gross and net)	First data in the 90's.	284 closed- and open- ended funds
NCREIF (NPPITR)	Core	U.S. only	Unlevered transaction returns (gross)	First data in the 70's.	6,489 properties
Preqin	Opportunistic and value-added	Global	Multiples, IRRs, quartiles (gross and net)	Mainly since 2000	800 funds
IPD	Focused on core	Global (40% NAM, 39% WEU, 21% APC & EM)	Time-weighted returns (gross)	First data in the 80's.	1,076 funds, 52,657 properties

Source: Partners Group Thomson Reuters, Bloomberg, NCREIF/Townsend, Preqin, IPD. The following abbreviations are used: North America (NAM), Western Europe (WEU), Asia-Pacific (APC) ane Emerging Markets (EM).

EVALUATION OF PRIVATE REAL ESTATE PERFORMANCE

Let us finally evaluate the performance characteristics of the funds tracked in the PGTR Index database. Evaluating private real estate performance highlights the benefits, but also the challenges of the asset class. Looking at the performance data for the asset class over the last 15 years reveals the strong performance in the years 1997-2003, but also the significant impact of the recent financial crisis (see Exhibit 3). Until 2003, even the average manager (using the median of the funds represented in a particular vintage year) was able to generate a solid double-digit performance with the top-quartile managers posting an IRR of over 20%. It can also be observed that the average 2006-2007 vintage manager is reporting negative

[7] Freedom of Information Act ("FOIA"), a law applied especially in the U.S. that requires certain investors such as public pension funds to publish detailed investment performance information.

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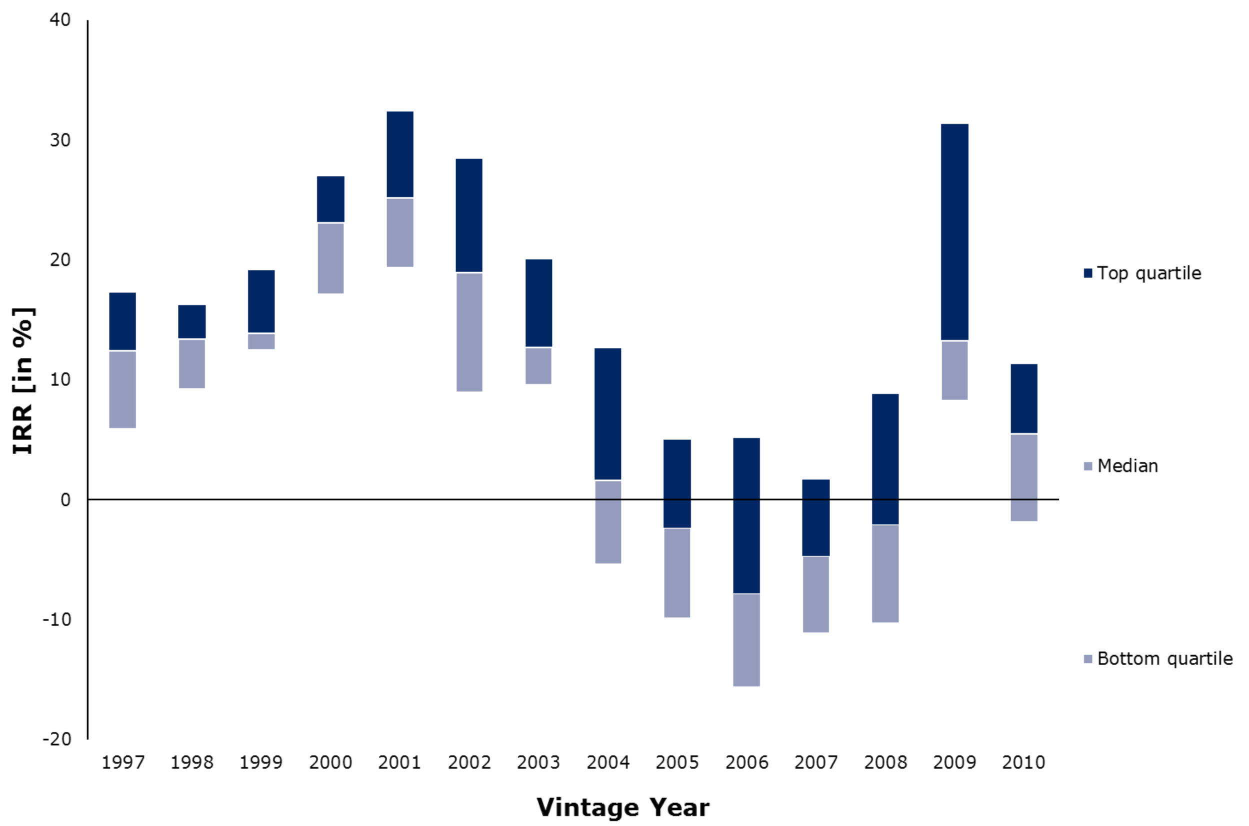
performance as of the end of December 2011. Excess leverage and the severe market downturn – for example, US house prices are still around 35% below their peak when measured by the S&P/Case-Shiller Home Price Index[8], which does not account for the effect of leverage – have had a significant impact on returns. At the same time it is worth mentioning that the managers in the top quartile were able to avoid negative returns for every vintage year on record. The peak-to-through performance of core, value-added and opportunistic investments during the financial crisis as reported by NCREIF/Townsend stands at around 40% for core investments and at around 55% for value-added and opportunistic investments. This is in line with the peak-to-through performance of global equity markets.

Exhibit 3: Private real estate performance by quartile



Source: Partners Group Thomson Reuters Private Real Estate Index, data as of December 31, 2011. Performance by quartile. Given the characteristic of private market investments, performance of recent vintage years is not yet meaningful.

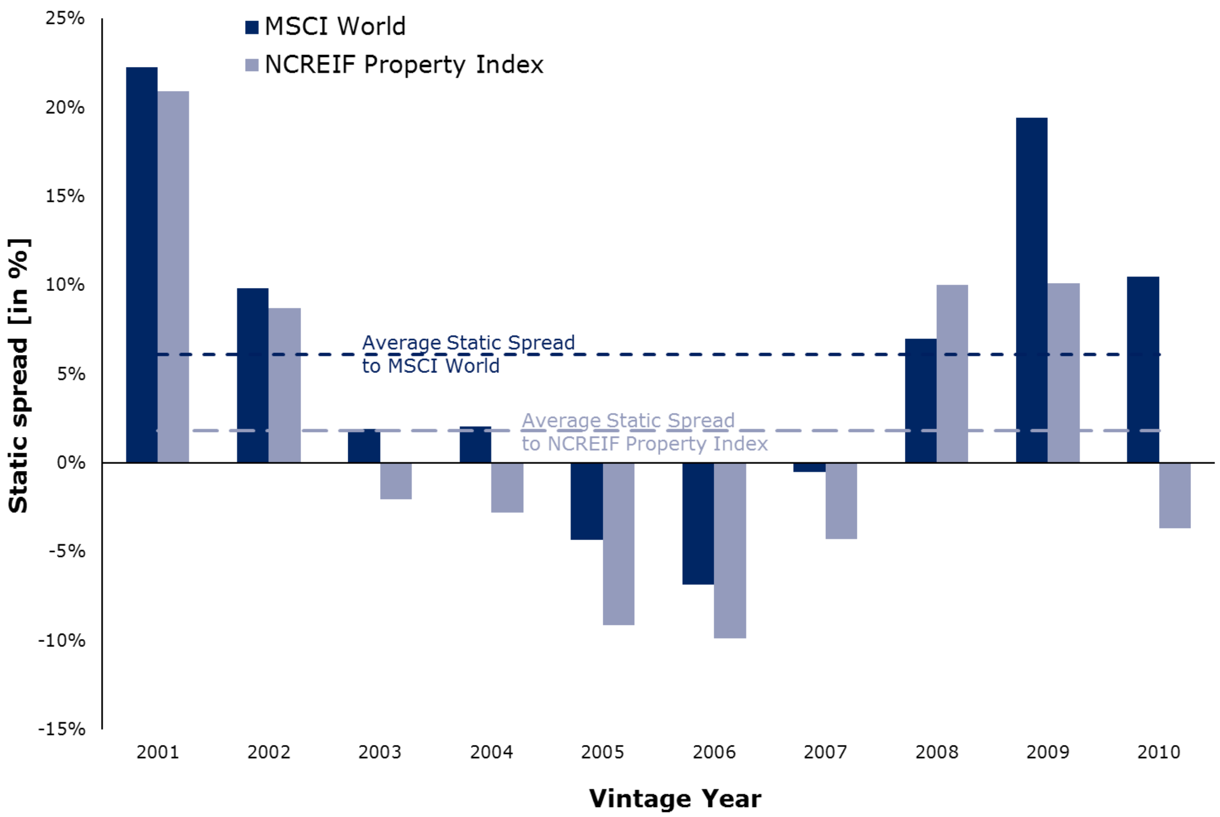
Exhibit 3 suggests that careful selection of managers might even be more important in private real estate compared to private equity where from 2000-2010 actually none of the vintage years shows a negative median IRR according to Thomson Reuters. In addition, it highlights the same phenomenon that is already documented for private equity investments[9]; vintage years with a high fundraising volume tend to underperform ("money chasing deals"). Investors with a contrarian view, investing into a market with increased uncertainty are typically

[8] http://www.standardandpoors.com/indices/sp-case-shiller-home-price-indices (figures for 20 metropolitan regions as of February 2012).
[9] Gompers, P. and J. Lerner, Money Chasing Deals? The Impact of Fund Inflows on Private Equity Valuation, Journal of Financial Economics 55, 2000, 281-325.

rewarded with better performance relative to investments made during a positive market environment (that typically exhibit higher fundraising).

However, private real estate investments should not only be judged in absolute terms. An important characteristic to understand is how these investments have performed relative to other asset classes, other market segments and whether they have added diversification benefits.

Exhibit 4: Static spread of the PGTR versus MSCI World and NCREIF per vintage year



Source: Partners Group Thomson Reuters Private Real Estate Index, data as of December 31, 2011. Static spread of PGTR Index against the MSCI World (NDDLWI Index) and the NCREIF Property Index.

Given the capital call and distribution structure of closed-ended vehicles, a simple comparison of returns is not applicable. A classic way to compare private markets investments with "traditional" investments is based on the idea of a public market equivalent portfolio. Capital calls and distributions of the private market investment are mirrored in investments/divestments of the public market investment with which the investment is to be compared against. Partners Group has introduced the static spread as an intuitive measure in this context.[10] In short: the static spread is the performance delta the comparable public market index would have had to perform better or worse in order for the public market equivalent portfolio (using the adjusted index) to have performed exactly equal to the private markets portfolio.

[10]See "Practitioner's Guide To Private Equity Benchmarking", A. Frei, M. Studer, Winter 2004 issue of The Journal of Alternative Investments.

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An analysis of the static spread of private real estate investments compared to public equity markets and core investments reveals that the pool of private real estate investments was able to outperform both public stocks and core investments by an average of 200-500 basis points for the vintage years 2001-2010. However, it also shows that funds raised in 2005-2007 have not only underperformed in absolute terms (posting negative IRRs to date), but also have underperformed stocks and core investments in relative terms.

Looking at the time-weighted returns[11] achieved by private real estate investments from 1 January 2000 through 31 December 2011 (7.70% p.a.) reveals an outperformance compared to stocks (-0.73% p.a. over the same time period), indicating that investors who invested across the cycle fared better with their investments in private real estate[12] relative to public stocks.

PARTNERS GROUP THOMSON REUTERS PRIVATE REAL ESTATE INDEX - CONCLUSION

Analyzing the (quantitative) characteristics of various private market segments will gain increasing importance in the future as investors continue to allocate to private markets investments. The PGTR Index provides an additional tool for performance measurement of private real estate. In order to make the database a leading provider of high quality data for this asset class, Partners Group, in collaboration Thomson Reuters, will strive to further broaden the sample covered by the PGTR Index. The intention is that the index will serve as a complement to the core data that has been available from databases such as NCREIF and IPD, and adds pooled performance figures of the asset class.

The data suggests that careful selection of managers might be even more critical in private real estate compared to private equity; where between 2000-2010 no vintage year generated a negative median IRR according to Thomson Reuters. Investors with a contrarian view, investing into a market with increased uncertainty are typically rewarded with better performance relative to investments made during a positive market environment (that typically exhibit higher fundraising). The present data provides further evidence of the weak performance of the funds launched shortly before the financial crisis. However, it also highlights the benefits of the asset class, having outperformed public equity markets by over 8% since 2000. Thus, current data supports the notion that implementing a disciplined global relative value investment approach in private real estate markets can deliver attractive risk-adjusted returns.

[11]Time-weighted returns for the PGTR Index are calculated by generating a quarterly return using the change in NAV over a quarter adjusted for cash flows of the funds reporting.
[12]It must be noted however that the observation period is comparably short.

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