



What can Europe learn from US REITs

November 8, 2006

Lessons from the ivory towers

The US REIT market has not developed evenly. Key pieces of legislation have accelerated the process. The volume of IPOs in particular expanded noticeably in the wake of new laws.

In the short term, US REITs correlate with equities but not with direct investments in real estate. However, the correlations with capital market products especially are not stable; they exhibit strong fluctuations over time.

There is a long-term correlation between US REITs and directly held real estate, but not with equities. So, all in all, REITs are an asset class of their own. Portfolio performance can be enhanced by adding REITs.

Specialisation on a certain type of real estate is more important than a regional focus. REITs that concentrate on one class of real estate frequently generate above-average returns. A regional focus on several types of real estate is often not worthwhile, however.

US REITs are not a good hedge against inflation. This holds for the short run. Over the long term there appears to be a weak correlation between the performance of US REITs and consumer prices.

There are optimum company sizes for REITs. REITs enjoy considerable economies of scale, but these hold primarily for smallish REITs. Very big REITs might in fact suffer from diseconomies of scale.

Limits on short-term trading strategies. While REITs do show some systematic developments in their price performance, these are in some cases not very pronounced. Consequently, trading strategies do not excel.

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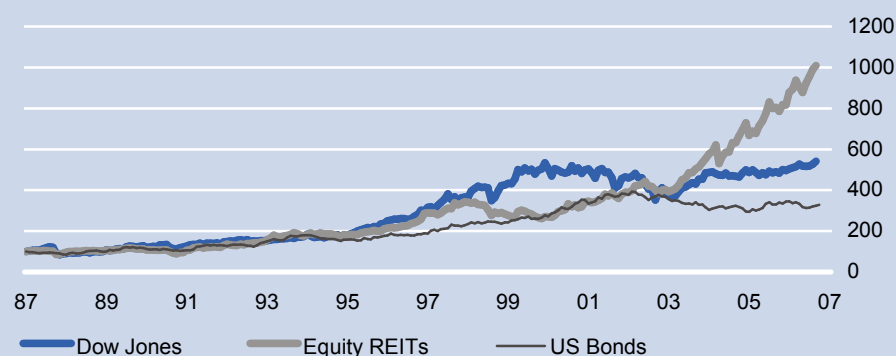
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REIT performance recently above par

Performance Indices, 1987 = 100



N.B.: NAREIT Equity REIT index versus Dow Jones and Citigroup US Bond Index

Sources: NAREIT, Datastream, DB Research



Development of the global REIT market

Selection

1960	US	Real Estate Investment Trusts
1969	NL	Fiscale Beleggingsinstelling
1985	AU	Listed Property Trust
1994	CA	Mutual Fund Trusts
2000	JP	Real Estate Investment Trusts
2002	SG	Real Estate Investment Trusts
2003	FR	Sociétés d'investissement immobilier cotées
2003	HK	Real Estate Investment Trusts
2007	UK	Real Estate Investment Trusts
(?)	DE	Real Estate Investment Trusts

Sources: ZEW, EPRA, Deutsche Bank

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Important milestones in US Reit legislation

Number corresponds to charts and graphs in the Annex

1*	1960	Real Estate Investment Trust Act
2	1986	Tax Reform Act
3	1993	Omnibus Budget Reconciliation Act/1992 first UPREIT
4	1997	REIT Simplification Act
5	1999	REIT Modernization Act
6	2004	American Jobs Creation Act

* Not illustrated

Sources: NAREIT, Block (2006), DB Research

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Introduction

Around the world, the integration of the real estate and capital markets is growing at an impressive pace. This is a sensible development, for it is the only way to enable fast and simple trading of comparatively illiquid investments in real estate as well as efficient structuring – and especially restructuring – of investor portfolios. Real estate stocks in particular are rightly gaining significance. More and more countries are taking the US approach and paving the way to tax-transparent real estate stock corporations, known as real estate investment trusts, or REITs for short.

REITs were introduced in the US in 1960 under the Real Estate Investment Trust Act. Since then, many countries have created similar real estate investment instruments. Since the turn of the millennium alone it has become possible to set up REIT-like vehicles in seven countries, among them Japan (2000), Hong Kong (2003) and France (2003). The United Kingdom will launch REITs at the beginning of 2007 and on November 2, 2006 the German cabinet approved draft legislation to introduce REITs, so Germany may also see the adoption of a REIT law in the coming year.

This report will give an overview of the key findings of academic research on REITs, though primarily on the US variant, in order to derive possible lessons for the countries that have been slow off the mark and are now jumping onto the REIT bandwagon.¹ Since real estate companies that are listed on the stock exchange offer data which is easy to obtain at highly frequent intervals, they are particularly well suited for empirical analysis. Zietz et al. (2003) published an overview article which already lists around 140 academic studies on REITs. Since 2003, researchers' interest has not ebbed in the least. Companies, analysts and the media would be well advised to pay heed to these findings, for they (probably) also apply to the budding developments in Europe.

What can we learn from the development of US REITs?

Since 1960, the US REIT market has developed anything but evenly. While there were already roughly 50 REIT companies by the mid-1970s, their total market capitalisation was very small (less than USD 500 m). The breakthrough did not come until the 1990s. Today, the 143 equity REITs alone have a market cap of nearly USD 370 bn (the market development is illustrated in the Annex).

Four aspects are particularly important:

- The growth of the REIT market has accelerated with every amendment of the law. Evidently, the rules for REITs were steadily improved. This suggests that the European REIT laws will also need to be amended over time. The market needs to gather experience, and this can only be done in practice.
- Amendments to REIT legislation have often gone hand in hand with peaks in related initial public offerings, so the amendments mirrored the market's demands. Intensive discussions between industry representatives and legislators are thus essential.
- The consolidation in the REIT sector continues. This is happening not only through mergers, but partly also through market delisting. Going private will always be the correcting force for the REIT market.

¹ Reference is made solely to articles in academic books and publications in refereed journals.

- Equity REITs dominate activity in the US market, accounting for more than 90% of the REIT market cap. While mortgage REITs have lost importance, they remain established vehicles. Nevertheless, it is right that Europe is keeping its sights focused on equity REITs.

American myths about REITs

Myth 1	REITs are only packaging for real estate
Myth 2	Real estate is a high-risk investment
Myth 3	Real estate is primarily a hedge against inflation
Myth 4	Difficult real estate environment per se is bad for REITs
Myth 5	REITs are particularly well suited for trading strategies

Source: Block (2006)

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American myths about US REITs

There are serious misgivings about REITs in Germany in particular. Primarily, these preconceptions focus on fears of tax revenue shortfalls and worries about additional social hardships in the markets for rented accommodation. A look at the US shows that deep-seated prejudices are not easily overcome. Block (2006) devotes an entire chapter of his textbook to the myths about US REITs, only to identify them as prejudices in the end.

So if a standard textbook on REITs devotes a chapter to such biases some 45 years after their establishment, it follows that knowledge about them only spreads at a snail's pace. European REITs and real estate shares are likely to share the same fate. This can only be overcome with detailed information campaigns and experience.

The REIT as an asset class in its own right

Ultimately, the question of whether Europe really needs REITs is only warranted if the REIT is an asset class in its own right. It is reasonable to presume that REITs perform either like directly held real estate, equities or a mixture of both. Interestingly, a synopsis of the literature at hand would suggest that REITs are indeed a unique mixture of direct real estate investments and equity-based investments.

For example, REITs perform considerably differently than directly held real estate in the short term. On a long-term horizon, though, REITs are cointegrated with directly held real estate, i.e. there is a long-term correlation between directly held real estate and real estate shares.²

Yet for equities there is a diametrically opposed relationship: over the short term REITs correlate with equities very noticeably in some cases, especially with shares of small and medium-sized companies.³ This leads some analysts to say, in fact, that REITs have limited diversification potential. However, this is wide of the mark for two particular reasons. First, the correlations are by no means constant over time. Therefore, the results of studies may vary considerably depending on the period of the analysis. Some researchers claim in fact to have found indications that the correlation between the performance of REITs and equities is systematically closer in phases of downswings than in upswings.⁴ However, this correlation is neither robust nor stable over time. In any event, it is not possible to derive a concrete trading strategy from it (Chiang et al., 2004). It continues to hold, however, that the short-term correlation between equities and the real estate stock market fluctuates. Westerheide (2006) determines that the difference between the risk-adjusted performance (RAP) of REITs

² See e.g. Myer and Webb (1993), Glascock et al. (2000), as well as Lee and Stevenson (2005). Furthermore, US REITs seem to lead the direct real estate market, so some authors say they have forecasting value (e.g. Barkham and Geltner, 1995).

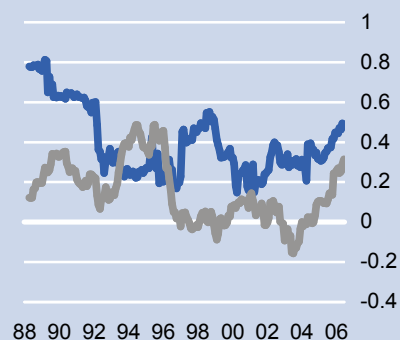
³ See among others Gyourko and Linneman (1988) and Chiang and Lee (2002).

⁴ This relationship is known in the literature as the "Asymmetric REIT-Beta Puzzle" (See Goldstein and Nelling, 1999). Beta measures the relationship between a sub-(equity) market and total (equity) market.

Only in the short run REITs correlate with equities

Correlations are not stable

36M rolling correlation coefficients



— Correlation of US REITs to equities
— Correlation of US REITs to bonds

N.B.: NAREIT Equity REIT index versus Dow Jones and Citigroup US Bond Index

Sources: NAREIT, Datastream, DB Research **4**

Performance of US REITs

Risk-adjusted performance spreads

	RAP bonds in %	RAP equities in %
1990-1995	-2.2	-1.4
1996-2000	0.8	-2.6
2001-2004	5.7	11.9

RAP = risk adjusted performance

$$RAP_i = \frac{\sigma_m}{\sigma_i} (r_i - r_f) + f_f$$

with

σ_m = Standard deviation of the benchmark (here: bonds)

σ_i = Standard deviation of US REITs

r_i = Return on REITs

r_f = Return on a risk-free investment

Source: Westerheide (2006) **5**

REITs can enhance a portfolio

and equities has been positive since 2001; however, before this it had been slightly negative for ten years.

The second reason is that no long-term cointegration has been found between a general equity market index and REITs. This would mean that REITs offer more diversification potential for long-term investment strategies than for short-term strategies. Neither a short-term nor a long-term relationship was established with bonds (Westerheide, 2006).⁵

In a nutshell, REITs may indeed be considered an asset class of their own. However, there is a lack of studies comparing real estate stock corporations and REITs, since most countries only know the existence or dominance of one vehicle or the other.

REITs only moderately suitable as an inflation hedge

Frequently it is argued that REITs are a good hedge against inflation because of their basis in real estate. This claim requires a more detailed explanation in two respects, though. First, Block (2006) points out that the hedging qualities of real estate are basically limited since the general rise in inflation is only one of many factors shaping the development of real estate values.

Second, the discussion above suggests that even if direct investments in real estate were a suitable hedge against inflation and REITs were cointegrated with direct investments, REITs could only offer long-term protection against inflation at best. This is exactly what is shown by several empirical studies: in the short term REITs do not offer convincing protection against inflation; in fact, some authors find that equities offer better protection against price upcreep than REITs. All the same, there are weak indications that REIT performance and consumer prices are cointegrated. So at least there would be slight evidence of a connection in the long term. In this case REITs could neutralise part of the inflation risk in the long run.⁶

REITs in mixed portfolios

At the end of the day, these findings are a preliminary step to the crucial question of whether REITs can play a meaningful role in portfolio diversification. Lee and Stevenson (2005) show for mixed capital market portfolios, i.e. portfolios consisting of bonds and equities, that performance of nearly all efficient portfolios can be improved by adding REITs. This holds in particular for portfolios with a long investment horizon and/or for portfolios at the lower end of the risk/reward spectrum. In this event, REITs would be an interesting supplement especially for old-age provision since they can raise the return on a portfolio by up to 8 basis points while the risk level remains constant. This would be a simple way for small-scale investors to add a real estate component to their portfolio without incurring the cluster risk of a direct investment.

The fact that REITs can enhance a mixed capital market portfolio comes as no surprise considering the long-term correlation with real estate held directly. Nevertheless, the question is whether this alone is attributable to the real estate bundled in the REIT. Feldman (2003) as well as Mueller and Mueller (2003) are able to prove

⁵ Glascock et al. (2000) also find a long-term correlation for the early 1990s; Clayton and MacKinnon (2003) believe, however, that this relationship has weakened since then.

⁶ See Liu et al. (1997) for the short-term perspective and Chatrath and Liang (1998) and Westerheide (2006) for the long-term analysis.

unambiguously that portfolios which already contain direct investments in real estate can also be enhanced with REITs. In some optimised portfolios the recommended share of REITs actually exceeds the share of directly held real estate assets. This tends to apply more to institutional or extensive private portfolios.

Scale economies of REITs

Scale economies of REITs exist...

So there is a far-reaching consensus in the academic literature that REITs do constitute an asset class of their own and that they consequently also represent a sensible enhancement of the range of investment alternatives. This means the next question has to be: what constitutes an ideal REIT? How large is it? Is it diversified or specialised and which demands are to be made of the management? For the future development of the total market a key factor is whether the sector offers pronounced economies of scale, because further consolidation via mergers and market exits would then be inevitable.

Economies of scale are plausible for REITs since big companies often find it easier to attract skilled managers; there could be marketing and information benefits and above all the costs of reporting would be spread across a larger portfolio. Moreover, Below et al. (2000) have shown that institutional investors prefer to invest in bigger REITs. The access to capital would thus be easier for large REITs.

... but do not justify boundless growth

Glaring inefficiencies have been found in US REITs by a number of studies including Anderson et al. (2002). REITs were found to be too small on average and therefore their production costs were up to 60% too high. Lewis et al. (2003) did establish much smaller deviations from the ideal production size, but they also concluded that the average REIT was still too small. Since here however only average values were assessed, there may well also be inefficient large REITs. There is probably an optimum size for REITs, and beyond that they deliver diminishing returns on scale.⁷

For Europe this could mean that the economies of scale will lead to a phase of consolidation. However, the end result would not be a highly concentrated sector. Since in addition the geographical concentration generates scarcely any efficiency gains – unlike focusing on one real estate segment – cross-border REITs in Europe would then be desirable as they help to exploit potential economies of scale.⁸

Management of REITs

The board of directors of a US REIT comprises the CEO, who is often also the chairman of the board, and several other individuals. In US “one-tier boards” a distinction is made between “internal” and “external” members. Externals have no executive functions within the company and are therefore considered to be more independent. Their role is more akin to that of German supervisory board members.

⁷ See Topuz (2005) and Devaney and Weber (2005). It may be that the consolidation which has taken place over the last few years has partially tapped the economies of scale. Then the more recent study findings would be compatible with the older ones (Miller et al., 2006).

⁸ See Ambrose (2000) regarding the cost efficiency of geographical concentration and Block (2006) regarding the benefits of concentrating on types of real estate.

REIT performance correlates negatively with board size

Several studies have found that the return of a REIT is negatively correlated with board size and positively correlated with the independence of board members. Also the REITs that tend to be more successful appear to be those where the CEO is not also the chairman and where the management owns a significant stake in the REIT.⁹ These findings are plausible on the one hand and on the other they would also be interesting for valuing European REITs, but the transferability onto European systems is likely to be limited to countries where there are structures similar to one-tier boards.

Limited short-term trading opportunities

Active trading strategies attempt to exploit arbitrage opportunities. Larson (2005) found, for example, that after REITs suffer particularly large daily losses (of at least 5%) a correction often follows on the next two days.

In addition, Payne and Zuehlke (2006) conclude that it must be possible in principle to correctly forecast key inflection points in the price performance of a REIT. Expertise on real estate securities could then be rewarded. However, the question of how an appropriately tailored strategy might look is left unanswered by Payne and Zuehlke. Furthermore, it is possible that this market inefficiency is merely a manifestation of how new the segment still is and that this arbitrage opportunity will disappear as the market matures.

Trading opportunities in an early stage

All in all, active trading opportunities are probably limited. For the fledgling European REIT markets it is however to be expected that – especially in their early stages when experience is being gathered – information asymmetries at least give the impression that arbitrage opportunities exist. It is however just as plausible that the high degree of integration between international capital markets will quickly correct this as the European markets benefit from the experience gathered in the US.

Concluding remarks

Real estate stock corporations are gaining importance internationally. The success of US REITs is increasingly being copied in other countries.

Going private will remain the regulating force for the REIT market

It is however correct that the trend towards more real estate stock corporations/REITs will not be a linear process, as there will always be phases when “going private” makes sense for individual companies. Here, too, the issue is not a simple either/or decision – there is likely to be a multiplicity of financing instruments in the future as well. At the end of these intermediate cycles the importance of real estate shares and of REITs will be much bigger than is the case today.

Furthermore, it is plausible that growth is occurring less and less within confined national boundaries. There will be increasingly international REITs. This trend is likely, however, to be restricted to the big REITs.

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⁹ See Ghosh and Sirmans (2003), Feng et al. (2005) and Block (2006).

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Annex

Important milestones in US REIT legislation

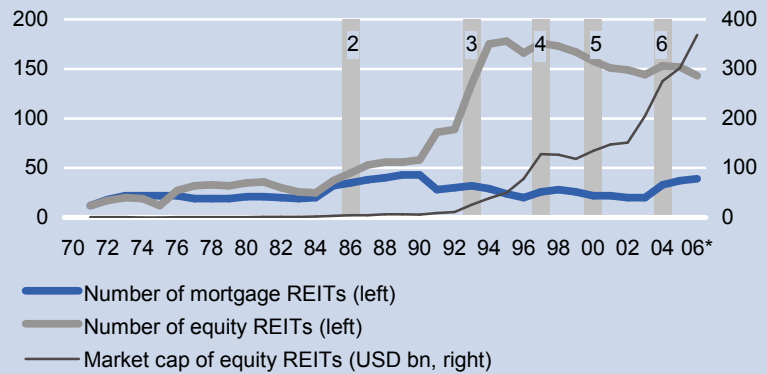
Number corresponds to charts and graphs

* Not illustrated

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Sources: NAREIT, Block (2006), DB Research

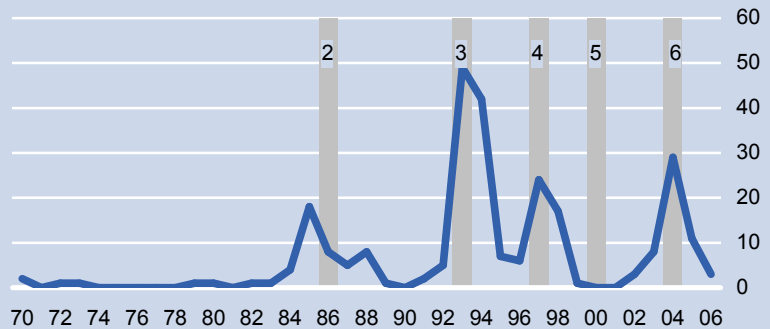
REIT market has boomed since the early 1990s



* 2006 = Sept. 2006. Source: NAREIT

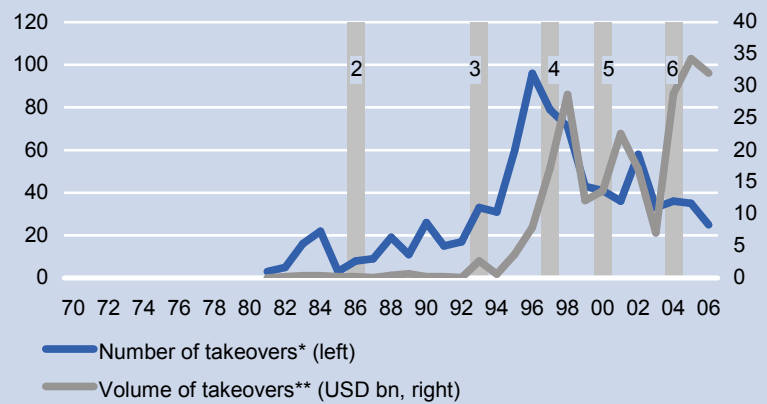
Four waves of REIT IPOs

Number of IPOs



Global initial public offerings of REITs domiciled in the US market; 2006 = Sept. 2006. Source: Thomson Financial

Consolidation of the US market continues



* Announced or completed takeovers of US REITs
 ** Including net debt of acquired company

Source: Thomson Financial

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Printed by: HST Offsetdruck Schadt & Tetzlaff GbR, Dieburg

ISSN Print: 1612-314X / ISSN Internet and e-mail: 1612-3158