3
EMERGING SECTOR REITS
Wejendra Reddy and Hyunbum Cho

3.1 Introduction
This book aims to identify key areas for research in the REIT discipline for the next five to ten years by surveying the current state of the REIT discipline around the world and identifying emerging and cutting edge research areas through a thematic review of current contextual issues and a regional analysis based on case studies.

This book comprises two parts, the first part being a thematic review of emerging and cutting edge global research into current contextual issues in REITs internationally and the second part being a regional analysis of REITs around the world, each written by authoritative academic authors from the world’s leading Universities and REIT industry experts.

Part I includes six chapters each reviewing a current theme of REIT evolution through the lens of contemporary research. Chapter 1 focused on critical contextual issues in international REITs while Chapter 2, the Post-Modern REIT Era, examined the evolution of the global REIT market, what is deemed to be best current market practice and how the market is expected to change going forward, with this chapter, Emerging Sector REITs, investigating such sectors as residential, health care, self-storage, timber, infrastructure and data centres generally and then specifically through a case study of US REITs.

Chapter 4, Sustainable REITs, then analyses REIT environmental performance and the cost of equity with Chapter 5, Islamic REITs, examining the evolution of global Islamic REITs through a study of the Malaysian market. Chapter 6, Behavioural Risk in REITs, addresses the management of behavioural risk in global REITs and Part I concludes with Chapter 7 which reviews recent research into REIT Asset Allocation.

Part II includes six chapters each analysing REITs in a region of the world, using case studies from a developed, developing and emerging REIT sector in the region:

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Region</th>
<th>Developed REIT Sector</th>
<th>Developing REIT Sector</th>
<th>Emerging REIT Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>North America</td>
<td>USA</td>
<td>Canada</td>
<td>Mexico</td>
</tr>
<tr>
<td>9</td>
<td>Latin America</td>
<td>Brazil</td>
<td>Argentina</td>
<td>Uruguay</td>
</tr>
<tr>
<td>10</td>
<td>Europe</td>
<td>UK</td>
<td>Spain</td>
<td>Poland</td>
</tr>
</tbody>
</table>
Emerging sector REITs

concluding with Chapter 14 which considers Directions for the Future of International REITs.

3.1.1 Specialized sector REITs

Since their inception, REITs have either been equity REITs or mortgage REITs. Equity REITs invest in tangible real estate assets and manage the assets to generate income, whereas mortgage REITs invest in property secured mortgages, mezzanine loans, subordinated loans, construction loans and commercial mortgage backed securities (CMBS). As of November 2016, around 94% of the US REITs were equity REITs (NAREIT, 2016a).

Traditionally, equity REITs were either diversified or sector specific. Diversified equity REITs evolved to hold massive diversified portfolios comprising a combination of commercial, retail and industrial property. Sector-specific equity REITs evolved to hold massive sector specific portfolios of either commercial, retail or industrial property. Over time, commercial sector–specific REITs broadened to hold both CBD and suburban office property, retail sector–specific REITs broadened to hold shopping centres and out-of-town retail parks and industrial sector–specific REITs broadened to hold industrial property and logistics centres.

However, the evolution of the REIT sector has now seen broadening beyond the traditional commercial, retail and industrial property sectors to embrace a range of other specialist sectors such as residential, health care, self-storage, timber, infrastructure and data centres which are considered generally in this chapter and then specifically in the context of the US market, being one of deepest and most mature REIT markets in the world.

The growth of the global property market, competition from other investors, availability of attractive assets and the strong need for diversified investment strategies are the main incentives for property fund managers and institutional investors to consider more specifically targeted asset classes, with the last few years witnessing significant movement in sector-specific allocations in global real estate investment.

A notable feature of recent years was that the office sector, which was traditionally the principal investment sector in the REIT universe, has been gradually losing its market share and recorded only a 35% market share in H1 2015, being a significant decrease from 46% market share in 2007. However, during the same period, hotel and other specialist sector REITs have grown significantly and increased their market share. Also, the period has seen the industrial and logistics sector becoming significantly more popular with investors (CBRE, 2015).

Table 3.1 and Figure 3.1 show the decomposition of FTSE EPRA/NAREIT index, dividing the market by developed and emerging markets. As of November 2016, although the diversified sector is the major portion of the market, many sector-specific real estate investors are very active in some countries, especially in the developed markets. The developed markets have well-distributed sector portfolios throughout the traditional diversified (27.4%), retail (24.3%), office (11.8%) and industrial (6%) sectors, together with residential (13.1%), health care (7.3%), self-storage (3.7%) and resorts (3.7%), but the emerging markets have a skewed distribution to diversified (53.2%), retail (11.3%), industrial (5.1%) and residential (28.6%). This suggests that, once a market becomes mature, then the demand for sector-specific and specialist sector investment will increase. The CBRE survey also showed similar results, with the degree of sector change in recent years found to vary from one region to another (CBRE, 2015).
With REIT investment in the traditional commercial, retail and industrial property sectors well established and researched, this section seeks to investigate REIT investment in other specialist sectors of the property market, notably the following:

### 3.2 Specialist sector REITs

#### 3.2.1 Residential REITs

#### 3.2.2 Health care REITs

#### 3.2.3 Self-storage REITs
Emerging sector REITs

3.2.4 Hotels and lodging
3.2.5 Timber REITs
3.2.6 Infrastructure REITs
3.2.7 Data centre REITs
3.2.8 Other specialty REITs

generally, with the following section then seeking to investigate REIT investment in such sectors specifically in the context of the US REIT market.

3.2.1 Residential REITs

Residential REITs generally own and manage apartments in diverse locations, often within or in close proximity to CBDs. Some REIT managers also specialize in development, allowing them to build residential properties in desirable cities or suburbs with strong rental and occupancy rates. Depending on property location, quality (age, condition, fittings, energy ratings), financial market conditions and supply/demand factors, US capitalization rates (for example) range from 5% to 7.5% (Block, 2011).

Residential REITs perform optimally during expanding economic conditions when there is a greater creation of jobs resulting in better income and thus formation of new households. Therefore, conditions in the housing market, including cost and affordability (household income vs mortgage repayments) are critical to residential REIT performance. In addition, conditions in the single-family “individual” housing market are also important. Despite the currently prevailing global low interest rate environment, apartments continue to capture a large percentage of prospective residents. The appetite for single-family dwelling is generally declining in the face of rising house prices.

The rate of supply also impacts the performance of residential REITs. For example, higher levels of construction of similar style new apartments in an area with abating demand could force owners of existing residential complexes to reduce rents or offer incentives. Such market conditions would generally result in lower occupancy rates and reduced income. Inflation also impacts residential REIT performance, with rising inflation causing increases in operating expenses, including items such as insurance, regular repairs and maintenance, which cannot be passed along to the tenants. On the other hand, rising inflationary pressures may justify owners of newly constructed apartments charging higher rents to offset increased construction costs. If new apartment complexes are at full occupancy, owners of existing apartments may then also negotiate to raise their own rents at rent review or lease renewal.

The major risks for residential REITs are similar to those common to all other REITs and to property markets generally. Regardless of the state of national economy, regional or local economies can suffer periods of decline or even recession, pushing occupancy levels lower and causing rents to flatten or even decline significantly. This economic risk is more profound for residential REITs which often lack geographic diversity. Poor management, including failure to respond to market changes, can also adversely impact the performance of residential REITs. As the property market is cyclical, during periods of economic boom, overbuilding may occur. This is particularly common when both land and finance are cheap, with excess supply pushing rents down and adversely impacting residential REIT performance.

3.2.2 Health care REITs

Health care REITs do not engage in the operation of health care businesses but rather specialize in providing leased space for businesses that provide such services as medical facilities,
hospitals, nursing homes, seniors housing and medical science laboratories. Similar to commercial properties, the revenues generated by health care REITs are derived from lease payments from independent tenants. As such, leases tend to be long-term, with rent reviews over fixed terms or based on inflationary movements, such as CPI. The lease arrangement is normally on a ‘triple-net’ basis, where the master lessee bears all property operating expenses and taxes. The lease is structured to provide stable income to the health care REIT and protection from the usual upturns and downturns in the tenant’s business, whilst capturing rental growth through the lease structure.

To maximize revenue and reduce tenancy risk, REIT managers are likely to seek to lease to several health care providers within one building, for example, medical facilities, radiologists and pharmacists within one medical centre. Although health care REIT investors experience modest income growth, the investment upside is that these funds generally offer a low-risk profile when compared to other REITs (Block, 2011). Health care REITs are likely to trade at lower multiples of free cash flow, but they generally offer higher dividend yields than other REIT sectors.

The key risk faced by health care REITs concerns changes in government health care policies such as medical rebate or reimbursement for certain procedures performed by their tenant businesses. Reduction in medical rebates is likely to result in a lower number of patients due to higher out of pocket expenses for individuals. Increased medical rebates, on the other hand, may translate into modest internal cash flow growth, albeit with some competition as new operators enter the market to capture the benefits.

Although overbuilding has, at times, been a problem in the assisted and independent living sector such as in retirement villages, skilled nursing and hospital facilities are rarely in oversupply due to strict regulations surrounding permits to operate. A key attraction for investors is that health care REITs are generally recession resistant as demand for health services is relatively inelastic. Regardless of the state of the economy, people need medical attention, treatment and nursing facilities. Conversely, some specialized facilities, such as those providing cosmetic surgery or other non-critical procedures, are likely to be more vulnerable during periods of economic downturn. However, the health care industry is likely to continue to benefit from increasing demand for physicians, skilled nursing services and other medical services due to favourable population demographics.

3.2.3 Self-storage REITs

Self-Storage REITs own and manage properties comprising individual storage units, ranging from 1.5 x 1.5 metres to 6 x 6 metres, that are rented out often on a monthly basis (Willis, 2003). Many storage facilities are located in close proximity to major cities or in suburbs near industrial parks. The facilities allow individual renters to use the space for storing personal items such as furniture, clothing, books, documents, recreational vehicles and even boats.

Individual demand is often driven by changes in lifestyle, such as downsizing during retirement, relocation, marriage, divorce or the death of loved ones, or simply driven by the need to store items for future use. Business demand also arises, including the use of such space to store work documents and files by companies that lease expensive office space but are looking to limit their floor space requirement to save rent.

Sustained increasing demand for self-storage space has kept the sector profitable for fund managers, however the sector is susceptible to the usual risks borne by any commercial property investment, including overbuilding, then recession and then boom cycles. The self-storage sector appears to deliver above-average operating income growth and also offers some protection during periods of recession as individuals displaced or downsizing often require temporary storage
Emerging sector REITs

space. However, the self-storage sector is not recession proof with periods of recession dampening consumer spending habits. A key risk to the sector is high renter turnover with operators needing to offer frequent rent discounting and/or rent free periods to protect cash flow during periods of market decline.

3.2.4 Hotels and lodging

Hotel and lodging REITs comprise properties offering a wide range of accommodation for leisure and business travellers, conferences and business meetings. Normally, a five star hotel typifies luxury across all areas of operation, with excellent design quality and attention to detail where guests enjoy highly personalized service. Accordingly, such hotels charge a higher rate than non-five star hotels. However, such hotels are expensive to build due to high land costs, high building materials and finishing costs and long construction periods. Less than five star rated hotels offer more limited services, amenities and facilities to guests without compromising guest security or cleanliness and with additional fee-based services such as Wi-Fi and other business facilities available upon request.

There are number of factors that affect hotel and lodging REIT performance including the quality of the property (rating), changing market conditions, discretionary income, business conditions, weather seasons, disease outbreaks, terrorist attacks, currency exchange rates, geopolitical shocks disrupting travel and room supply. The industry is well known for overbuilding, mainly in the luxury hotel sub-sector, where it may take several years between planning and completion and over which period the economy may have retreated (Block, 2011). However, when market conditions are favourable, owners are able to charge premium rates.

Given the cyclical nature of the business, hotel and lodging REITs are generally less suitable for risk-averse investors. There are few long-term traditional leases in the hotel and lodging sector, therefore cash flow protection may be limited, with operating costs becoming a major drain on income during low occupancy periods. To counter this frequent volatility in earnings, hotel and lodging REITs generally negotiate a master lease agreement with a hotel operator which could provide a minimum fixed income plus an opportunity to access the hotel operator’s revenue and gross profits.

Capital expenditure is a major drain on profits as hotels and lodgings need to refurbish properties regularly to keep up with competition, especially newer properties in the market. So, unlike commercial properties which offer a high return on asset enhancement, hotels upgrade assets just to remain competitive. Therefore, it is important that REIT investors have a clear understanding of capital expenditure items covered under the master lease arrangement and those borne by the REIT.

In recognition of the nature of the risks inherent in the underlying business, while earnings may be good during peak periods compensate for, the overall cash flow position may just break-even as the higher room and occupancy rates during such peaks periods compensates for the decline in business during downturns. Accordingly, investors in the hotel and lodging sector must be prepared for a roller-coaster ride relative to other sectors.

3.2.5 Timber REITs

A timber REIT may be classified as a REIT in which more than 50% of the fund’s total asset value is real property subject to the trade or business of producing timber. Timber REITs may manage many thousands of acres of timberland and produce softwood products, panels, particleboard and fibre products. Timber REITs may also extract minerals and receive royalties from coal bed methane, natural gas and oil production on their properties.
There have been significant shifts in institutional forest ownership globally as the demand-supply gap for wood is widening due to increased population. Construction for new housing and commercial properties has increased while forestry areas have decreased due to ever expanding city boundaries.

In the United States, timber REITs have evolved since the late 1990s when most corporations that traded in forestry either sold their timberlands or securitized their holdings. It is estimated that REITs and timber investment management firms control approximately 4.2–4.3% of all timberlands in the United States (Hood et al., 2015) with one group, Weyerhaeuser, holding 13 million acres of industrial grade timberland across the United States.

Unlike other REIT sectors where the value of assets generally depreciates over time, timber REITs experience value appreciation as trees keep growing. Timber REITs are among the least sensitive to a market downturn due to their unique nature, being a long-term biological asset. As such, timber REITs can, to some extent, schedule harvesting to suit market conditions. Thus the yield function of timberland can be independent from normal business cycles. Timber REITs often adopt timber harvesting contracts and long-term leases to limit investor's risks. However, similar to any biological asset, the key risk faced by the timber industry is natural disasters such as fires, flooding and earthquakes and longer periods of extreme climate events which can impact harvesting targets and affect cash flows negatively. Accordingly, this sector mainly suits REIT investors with a long-term view.

### 3.2.6 Infrastructure REITs

Infrastructure REITs buy, develop, own and manage industrial and technology infrastructure properties and collect rent from the tenants thereof. The infrastructure sector includes a growing number of REITs focused on serving emergent demand for mobile communication and information technology by fast-growing industries such as cloud services, gaming, entertainment, analytics and social media.

Infrastructure REIT assets may include telecommunications towers, wireless infrastructure solutions including towers, distributed antenna system (DAS) networks, backup power systems, electric transmission and distribution utility assets, outdoor advertising, renewable power generation assets and midstream and downstream energy infrastructure assets that perform utility-like functions, such as pipelines, storage terminals and transmission and distribution assets.

The real estate infrastructure assets are long-term assets similar to commercial properties. For example, fibre assets are usually buried underground and have a useful life of 30–50 years. Infrastructure REITs triple-net leases typically run for periods of 15 years thus offering investors steady cash flows and returns (Keenan, 2016). Infrastructure REITs are deemed to be relatively recession proof, due to the steady demand for real estate infrastructure by ever increasing numbers of internet and mobile phone companies reflecting demand for internet, wireless telecom, cloud computing and mobile solutions from businesses and individuals.

### 3.2.7 Data centre REITs

Data centre REITs own, develop, operate and/or manage large portfolios of wholesale and retail data centres which are designed to protect and secure the information technology (IT) infrastructure of customers that use them via cloud and other interconnection specific services. As such, the product sits in-between real estate and technology. However, compared to accessing specific technology stocks such as IBM, Microsoft, Google or Amazon, REIT investors gain access to a portfolio of real estate assets occupied by a range of such technology companies.
The performance of data centre REITs is dependent on the volume of worldwide internet traffic. Every time individual users search Google, listen to music online, stream videos on Netflix or share photos on Instagram, they add to the internet traffic volume and, consequently, the data centre REIT’s earnings. The success of data centre REITs stems from their ability to accommodate a wide range of data needs. Although cloud vendors like Microsoft and Amazon sell space on their servers, companies generally are not able to manage systems independently and directly, allowing data centre REITs to offer such companies a mix of the use of their own services and those from other vendors (also known as hybrid cloud). The largest data centre REITs in the sector are the US based Equinix and Digital Reality that manage some 140 data centres in over 30 markets.

A key challenge faced by the data centre industry is managing and sustaining current growth levels in the face of increased demand for global data and secular drivers including cloud computing, big data, streaming media and other worldwide, internet and wireless services. As data centre REITs are the property companies that house, power and cool the computer servers stored therein by internet companies, they require purpose-built structures that meet data centre’s needs. Re-modelling existing properties for such operations is possible but can be extremely difficult. At the same time, new data centres are costly to build and can take several years to complete from conception.

Unlike traditional REITs, data centre REIT performance is not heavily influenced by employment, consumer sentiment and GDP movements. This defensive nature means data centre REITs are in high demand despite periods of market instability. A good example is Equinix, the largest global data centre REIT, which derives almost half of its revenue from international markets and grew substantially during the recent “Brexit” market commotion when the company acquired London-based data centre TelecityGroup.

Accordingly, despite the economic situation, data centre REITs provide a cost-effective alternative for businesses as they continue to expand their internet technology operations. However, data centre REITs are not completely resistant to market downturns as performance can be impacted by broader market sell-offs, particularly in the overall technology stocks sector of the equities market.

3.2.8 Other specialty REITs

While there are a range of other sector specific REITs of interest, three of the smaller but significant sectors for investigation include agriculture, child care and petrol filling stations.

3.2.8.1 Agriculture REITs

Agriculture REITs, also known as farmland REITs, are REITs that own a diversified portfolio of agriculture assets that are leased to experienced agricultural operators/farmers mainly on long-term leases. Agriculture REITs offer a steady stream of income backed by rising global demand for food while farmland supply remains relatively fixed.

Agricultural REITs are a relatively recent development. Bulgarian REITs, known as Special Purpose Investment Companies (SPICs), were the first globally to introduce agricultural REITs in early 2000 (Fairbairn, 2014). Unlike commercial REITs, agricultural REITs have a very specific approach to the types and locations of farmland they own. For example, the Australian-based Rural Fund Group (RFF) specializes in the ownership of farmlands operating poultry, tree nut, orchards, vineyards, cotton and cattle assets. In the United States, Gladstone Land Corp. (LAND) focuses on fruit, vegetable and berry operations, Farmland Partners Inc. (FPI) on crops such as corn, wheat, soybeans, rice and cotton and American Farmland Co. (AFCO) mainly on grapes, nuts and specialty crops such as citrus.
Similar to timberland REITs, these REITs are relatively uncorrelated to economic cycles. Even during times of economic recession, basic food is a non-discretionary item as people don’t stop eating. However, REIT investors need to understand that earnings can be impacted by food price cycles which are impacted by weather conditions and pest and disease invasions.

### 3.2.8.2 Child care REITs

Child care REITs are REITs that invest in properties providing early learning services. In Australia, two funds specialize in this sector: Folkestone Education Trust (FET) and Arena REIT. Folkestone is the largest Australian child care REIT with a portfolio of 388 properties valued at approximately A$829 million (ASX, 2017).

Child care REITs focus on providing investors with steady earnings from operators tied to long-term leases that are reviewed annually. The lease structure ensures tenant responsibility for the majority of outgoings, maintenance and capital expenditures. Both REITs have performed well on the back of a booming child care sector and increased government subsidies. In the future, limited land availability, mainly in inner city regions, means supply is likely to be restrained, forcing many new mixed-use developments to include child care centres to meet growing demand, supported by favourable demography and economic trends, which augurs well for the sector.

### 3.2.8.3 Petrol filling station REITs

A more recent introduction to the REIT industry has been REITs that specialize in petrol filling stations. In Australia, Viva Energy REIT owns a portfolio of 425 service station sites that are leased to Viva Energy, a fuel supplier that is the exclusive licensee for Shell products in Australia.

This sector is gaining traction with APN Property Group launching an A$106 million unlisted fund, comprising 23 Puma Energy service stations, in December 2016 (ASX, 2017). The leases are of a triple-net structure meaning the tenant, not the REIT, is responsible for all operating expenses including taxes, insurance and maintenance. Further, REIT unitholders are also protected under the lease in the event of site contamination which significantly reduces risk.

### 3.2.9 Summary

A common feature of specialist sector REITs is their tendency to focus on a particular industry or business, placing the structure of the lease agreement between the REIT and the occupier/operator at the centre of the risk/return equation. The REIT’s requirement for a steady income stream with some potential for upside from the business conducted therein needs to be balanced against the requirement of the occupier/operator who has to be able to operate the business profitably if it is to be sustainable.

Specialist sector REITs have recently gained greater representation in institutional property portfolios. Newell and Peng (2006b) found that the growth of specialist sector REITs is driven by an increased appetite for property investment by pension funds, acceptance of higher risk levels by many investors (for example, value-added and opportunistic funds) and demographic changes favouring the retirement and health care property sectors. In addition, there is also the mismatch between available funds and available good quality core property assets both nationally and internationally.

While residential, health care, self-storage, timber, hotel and lodging, infrastructure and data centres are now becoming more widely accepted as REIT investment sectors, increasing demand for REITs by investors suggests that these specialist sector REITs may be expected to continue to grow. Further, with agricultural, child care and petrol filling stations emerging as assets around
which a REIT may be formed, the range of property sectors suitable for investment by a REIT would appear to be limited only by the ability to structure a sustainable lease agreement between the REIT and the occupier/operator that meets the risk/return requirements of each.

### 3.3 Case study: US sector-specific REITs

The previous section investigated such sectors as residential, health care, self-storage, timber, infrastructure and data centres generally; this section now considers each specifically through a case study of US REITs.

The US market is one of the deepest and most mature REIT markets in the world and so, not surprisingly, is the home to a wide range of sector-specific REITs. A key motivating factor for fund managers seeking exposure to sector-specific REITs has been the need for new product diversity. Figure 3.2 provides an example of this diversity within US REITs market using data compiled by the National Association of Real Estate Investment Trusts (NAREIT).

As illustrated, investors have a choice of allocating capital to specific REIT sub-sectors or a combination of all sectors to achieve portfolio diversity. However, effective asset selection requires careful consideration of the basic characteristics and performance attributes of the various REIT sub-sectors, even by the most advanced investors.

The US, the most developed REIT market in the world, accounts for 65% of global REIT investment (EPRA, 2016a) and has a very broad sector specific investment universe. An entity will be qualified as a REIT in the US (NAREIT, 2016b), if it:

- invests at least 75% of its total assets in real estate;
- derives at least 75% of its gross income from rents from real property, interest on mortgages financing real property or from sales of real estate;

![Figure 3.2 US Sub-Sector REITs by Market Cap: 2016](image)

**Figure 3.2** US Sub-Sector REITs by Market Cap: 2016

Total Market Cap (Equity REITs only): USD 914.80B

As of 30 November 2016

*Source:* Author’s Compilation From NAREIT (2016a)
To be classified as a sector-specific REIT, an entity must invest 75% or more of its gross assets in a particular sector, otherwise the entity will be classified as diversified (FTSE, 2016a).

Table 3.2 illustrates the US REIT sector distribution and their total returns. Almost all sectors made strong returns in 2014, ranging from 8.6% (timber REITs) to 69.7% (infrastructure REITs), but 2016 saw different outcomes between the sectors. For example, the industrial (24.98%), data centres (18.41%), lodging/resort (14.44%) and timber (10.09%) sectors achieved positive returns in 2016, but self-storage, residential and the retail sectors recorded -15.22%, -2.33% and -0.20% returns, respectively, in 2016. Also, infrastructure and health care REITs achieved 69.7% and 33.3% returns, respectively, in 2014 but only had 5.39% and 1.53% returns, respectively, in 2016, indicating the significant fluctuations in the US REIT market over the last two years and being an obvious indicator that a sector specific strategy could provide increased fund diversification opportunities.

Figure 3.3 shows the number of REITs in the US and its market capitalization over 1971–2016. There were 226 REITs in 1994 and the market cap was only US$44.3 billion at that time. The number of REITs in the US declined to 136 in 2008 during the global financial crisis but recovered to 216 in 2014, which is very close to the previous peak (226) in 1994. Conversely, the market cap of US REITs has grown significantly over the last two decades with the market cap in 2015 becoming US$973.9 billion, including mortgage REITs, being a 2,098% increase from the 1994 figure. Notably, after the global financial crisis in 2008, the market cap has grown more than fourfold (408%) and also more than twofold from the pre-global financial crisis in 2006 when the market cap was US$438 billion.

Table 3.2 US REITs Return and Market Cap by Sector: 2014–2016

<table>
<thead>
<tr>
<th>Sector</th>
<th>No of REITs Nov 2016</th>
<th>Total Return (%)</th>
<th>Market Cap (USD B) Nov 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTSE NAREIT All Equity REITs</td>
<td>167</td>
<td>28</td>
<td>914.80</td>
</tr>
<tr>
<td>Industrial</td>
<td>11</td>
<td>21</td>
<td>24.98</td>
</tr>
<tr>
<td>Office</td>
<td>25</td>
<td>25.9</td>
<td>9.04</td>
</tr>
<tr>
<td>Retail</td>
<td>31</td>
<td>27.6</td>
<td>-0.20</td>
</tr>
<tr>
<td>Residential</td>
<td>21</td>
<td>40</td>
<td>-2.33</td>
</tr>
<tr>
<td>Diversified</td>
<td>15</td>
<td>27.2</td>
<td>4.04</td>
</tr>
<tr>
<td>Lodging/Resorts</td>
<td>17</td>
<td>32.5</td>
<td>14.44</td>
</tr>
<tr>
<td>Health Care</td>
<td>19</td>
<td>33.3</td>
<td>1.53</td>
</tr>
<tr>
<td>Self-Storage</td>
<td>5</td>
<td>31.4</td>
<td>-15.22</td>
</tr>
<tr>
<td>Timber</td>
<td>4</td>
<td>8.6</td>
<td>10.09</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>5</td>
<td>69.7</td>
<td>5.39</td>
</tr>
<tr>
<td>Data Centres</td>
<td>6</td>
<td>-</td>
<td>18.41</td>
</tr>
<tr>
<td>Specialty</td>
<td>8</td>
<td>-</td>
<td>16.69</td>
</tr>
<tr>
<td>Total</td>
<td>167</td>
<td></td>
<td>914.80</td>
</tr>
</tbody>
</table>

Source: Author’s Compilation From NAREIT (2015, 2016a)
Figures 3.2 and 3.4 illustrate sub-sector REIT markets in the US. As of November 2016, the retail sector (18%, 31 REITs) had the largest market share in the US REITs market, based on the number of REITs, followed by office (15%, 25 REITs) and residential (13%, 21 REITs), but it is also notable that non-traditional sectors, such as health care (11%, 19 REITs), specialty (5%, 8 REITs), data centres (4%, 6 REITs) and self-storage (3%, 5 REITs) also had good market shares and number of REITs. In terms of market cap, the retail sector (21.9%, US$200.7 billion) had the largest market share, followed by residential (13.5%, US$123.8 billion) and office (10.5%, US$95.8 billion).

Interestingly, non-traditional sectors, such as health care (10.1%, US$92.7 billion) and infrastructure (8.3%, US$76.4 billion) are larger than the industrial sector (6.5%, US$59.2 billion), self-storage (5.9%, US$53.8 billion), data centres (5.5%, US$50.0 billion) and lodging/resort (5.0%, US$45.8 billion). Timber and other specialty REIT sectors also have more than 3% market share while diversified REITs only have 6% market share. Accordingly, non-traditional sector REITs, such as infrastructure, timber, self-storage and data centres, which can produce regular incomes from the underlying assets, may be suitable investment vehicles for various investment strategies. This may also provide a useful guideline for many developing countries where REIT markets are evolving and are currently more focused on diversified REITs.

Table 3.3 and Figure 3.5 depict the development of sub-sector REITs market cap in the US over 1999–2016. Over the period from 1999 to 2016, the size of the REIT market in the US increased by 542%, in terms of market capitalization, from US$142 billion to US$915 billion. In the same period, other specialty REITs, health care REITs and self-storage REITs increased by 1,795%, 1,367% and 969% respectively and recorded the highest growth across the period. However, during the global financial crisis, health care REITs, self-storage REITs and other specialty REITs dropped 13%, 31% and 40%, respectively, being the smallest falls compared to other sectors.

The period shows that non-conventional sub-sectors have been growing significantly and were less affected by the global financial crisis because the underlying assets for those
non-conventional REITs sectors were less correlated with other investment assets and had their own risk-return characteristics, being attractive for property fund managers and investors seeking diversified investment strategies.

With the previous section investigating such sectors as residential, health care, self-storage, timber, infrastructure and data centres generally, this section will now consider each specifically through a case study of US REITs:

3.3.1 Residential REITs in the US
3.3.2 Health care REITs in the US
3.3.3 Self-storage REITs in the US
3.3.4 Timber REITs in the US
3.3.5 Infrastructure REITs in the US
3.3.6 Data centre REITs in the US
3.3.7 Other specialty REITs in the US

3.3.1 Residential REITs in the US

In addition to the traditional apartment market, US residential REIT investors now also have access to funds that specialize in mobile “manufactured” home parks, single-family homes and student housing.

3.3.1.1 Mobile ‘manufactured’ home parks

There are an estimated 200,000 manufactured home communities currently in North America, with the number growing (Equity Lifestyle Communities, 2017). A manufactured home is constructed on-site using traditional building techniques which meet local council and other planning requirements. Manufactured homes are different from mobile homes as they never move...
from the site. Similar to site-build homes, manufactured homes are available with unique floor plans, designs, fit-out and amenities. Residents enjoy amenities similar to single-family homes with an attractive main entrance, parking, pool, entertainment/play centres, gyms, tennis court and laundry facilities.

Manufactured home parks provide owners with a stable cash flow at modest capital expense compared to the requirements of financing apartments and traditional single-family homes. In the United States, Equity LifeStyle Properties, Inc., Sun Communities, Inc. and UMH Properties, Inc. operate in this sector-specific market.

The future of the manufactured home sector appears positive, mainly because supply has remained modest in the face of high demand as cities experience housing affordability issues. Increasing house prices have seen many individuals priced out of the traditional home markets. The steady rental return and low cost of borrowing has enticed investors to the manufactured home sector.

### 3.3.1.2 Single-family homes

Single-family home REITs acquire, renovate and lease houses to individuals and families. The REIT manages the properties, deriving weekly/monthly rental income and long-term capital appreciation.

Single-family home REITs were a product of the weak housing market during the 2007/08 global financial crisis period, when investors swooped on the huge pool of foreclosed homes, picking up properties at bargain prices and renting them to families that desired a traditional house without the burden of ownership and mortgage repayments.

There are three single-family home REITs listed in United States comprising American Homes 4 Rent with 48,000 homes, Colony Starwood Homes with 31,100 homes and Silver Bay Realty Trust Invitation Homes with 50,000 homes. These REITs manage a wide variety of houses in various cities and states which presents management and operational challenges. Each house has a different layout, fit-outs, appliances, water and energy services. This is one of the key reasons why single-family home REITs mainly focus only on areas where they already invest when purchasing new properties.

The single-family home REIT is a fast-growing sector, as the number of people renting houses, particularly in the younger demographic, has increased significantly in the face of rising house prices. However, it remains a relatively untested market and there are concerns about its long-term viability if the economic recovery results in greater home ownership in the future.

### 3.3.1.3 Student housing

Student housing is another specialized residential REIT sector where REIT managers offer to lease residential space to university/college students on a periodic basis. Usually student housing community spaces are leased at $300 to $700 per bed, with capacity ranging from several hundred to 1,000 students (Block 2011).

In the US, American Campus Communities, Education Realty Trust and Campus Crest Communities specialize in these types of properties. Generally, these REITs operate on the premise of satisfying the need for student housing for universities lacking the capability and resources to develop and manage such large housing facilities.

The risk of operating such facilities mainly arises from the seasonal nature of the university business where enrolments can vary within different teaching semesters. The turnover is
Emerging sector REITs

normally high in student housing and periods of poor leasing can negatively impact revenue and profits. As such, property management can be quite intensive and require unique skills to manage the higher operating expenses. The upside is that there can be as many as three students occupying a single room at any point, generating higher income than that of an average apartment unit. For optimal success, REIT manager preferences would be leasing space annually on campus or within walking proximity of campus. As with other property, location is a key success factor for student housing.

3.3.2 Health care REITs in the US

Health care REITs invest in and manage a variety of health-related properties, such as skilled nursing facilities, (on-campus) medical office buildings, hospitals, acute care and rehabilitation hospitals, purpose-built health care facilities and senior housing communities.

As of November 2016, health care REITs accounted for 10.14% (US$92.7 billion) of the FTSE NAREIT All Equity REITs index and recorded 17.42% average annual returns for the last three years (2014–2016). There are 23 health care REITs in the US, including 18 publically listed on a stock exchange, four public non-listed REITs and one private REIT, with more details presented in Table 3.4.

3.3.3 Self-storage REITs in the US

Self-storage REITs invest in and manage warehouse and self-storage facilities, focusing on the ownership, operation, acquisition, development and redevelopment of such facilities. As of November 2016, self-storage REITs accounted for 5.88% (US$53.8 billion) of the FTSE NAREIT All Equity REITs index and recorded 18.94% average annual returns for the last three years (2014–2016).

There are six self-storage REITs in the US, including five listed on NYSE and one listed on NASDAQ, with more details presented in Table 3.5.

3.3.4 Timber REITs in the US

Timber REITs invest in and manage a variety of timber-related properties. Timber REITs grow trees, sell timber and manufacture solid wood products, paying dividends derived from harvesting portfolios of timberlands. As of November 2016, timber REITs accounted for 3.11% (US$28.4 billion) of the FTSE NAREIT All Equity REITs index and recorded 9.35% average annual return for the last three years (2014–2016).

There are four timber REITs in the US, including three listed on NYSE and one listed on NASDAQ, with more details presented in Table 3.6.

3.3.5 Infrastructure REITs in the US

Infrastructure REITs invest in and manage public and private infrastructure properties, such as communication towers, distributed antenna systems, pipelines, storage terminals, outdoor advertising facilities and renewable power generators. As of November 2016, infrastructure REITs accounted for 8.35% (US$76.4 billion) of the FTSE NAREIT All Equity REITs index and recorded 26.28% average annual return for the last three years (2014–2016).

There are six infrastructure REITs in the US, including four listed on NYSE and two listed on NASDAQ, with more details presented in Table 3.7.
### Table 3.4 Health Care REITs in the US

<table>
<thead>
<tr>
<th>No</th>
<th>Company name (REIT)</th>
<th>Main underlying assets</th>
<th>Listing status</th>
<th>Stock Exchange</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Care Capital Properties, Inc.</td>
<td>Skilled nursing facilities</td>
<td>P-L</td>
<td>NYSE MK</td>
</tr>
<tr>
<td>2</td>
<td>CareTrust REIT, Inc.</td>
<td>Skilled nursing facilities</td>
<td>P-L</td>
<td>NASDAQ</td>
</tr>
<tr>
<td>3</td>
<td>Community Health Care Trust</td>
<td>Medical office buildings</td>
<td>P-L</td>
<td>NYSE MK</td>
</tr>
<tr>
<td>4</td>
<td>Global Medical REIT</td>
<td>Purpose-built health care facilities</td>
<td>P-L</td>
<td>NYSE MK</td>
</tr>
<tr>
<td>5</td>
<td>HCP, Inc.</td>
<td>Senior housing</td>
<td>P-L</td>
<td>NYSE</td>
</tr>
<tr>
<td>6</td>
<td>Health care Realty Trust</td>
<td>On-campus medical buildings</td>
<td>P-L</td>
<td>NYSE</td>
</tr>
<tr>
<td>7</td>
<td>Health care Trust of America, Inc.</td>
<td>Medical office buildings</td>
<td>P-L</td>
<td>NYSE</td>
</tr>
<tr>
<td>8</td>
<td>LTC Properties, Inc.</td>
<td>Seniors housing</td>
<td>P-L</td>
<td>NYSE</td>
</tr>
<tr>
<td>9</td>
<td>Medical Properties Trust Inc.</td>
<td>Acute care and rehabilitation hospitals</td>
<td>P-L</td>
<td>NYSE</td>
</tr>
<tr>
<td>10</td>
<td>National Health Investors, Inc.</td>
<td>Senior housing</td>
<td>P-L</td>
<td>NYSE</td>
</tr>
<tr>
<td>11</td>
<td>New Senior Investment Group</td>
<td>Senior housing</td>
<td>P-L</td>
<td>NYSE MK</td>
</tr>
<tr>
<td>12</td>
<td>NorthWest Health Care Properties REIT</td>
<td>Medical office buildings</td>
<td>P-L</td>
<td>TSX</td>
</tr>
<tr>
<td>13</td>
<td>Omega Health Care Investors, Inc.</td>
<td>Skilled nursing facilities</td>
<td>P-L</td>
<td>NYSE</td>
</tr>
<tr>
<td>14</td>
<td>Physicians Realty Trust</td>
<td>On-campus medical buildings</td>
<td>P-L</td>
<td>NYSE</td>
</tr>
<tr>
<td>15</td>
<td>Sabra Health Care REIT, Inc.</td>
<td>Skilled Nursing and Transitional care facilities</td>
<td>P-L</td>
<td>NASDAQ</td>
</tr>
<tr>
<td>16</td>
<td>Senior Housing Properties Trust</td>
<td>Senior living communities</td>
<td>P-L</td>
<td>NYSE</td>
</tr>
<tr>
<td>17</td>
<td>Ventas, Inc.</td>
<td>Senior housing communities</td>
<td>P-L</td>
<td>NYSE</td>
</tr>
<tr>
<td>18</td>
<td>Welltower Inc.</td>
<td>Senior housing</td>
<td>P-L</td>
<td>NYSE</td>
</tr>
<tr>
<td>19</td>
<td>CNL Health Care Properties Inc.</td>
<td>Senior housing</td>
<td>P-NL</td>
<td>N/A</td>
</tr>
<tr>
<td>20</td>
<td>Griffin-American Health Care REIT III</td>
<td>Medical office buildings</td>
<td>P-NL</td>
<td>N/A</td>
</tr>
<tr>
<td>21</td>
<td>Health care Trust, Inc.</td>
<td>Medical office buildings</td>
<td>P-NL</td>
<td>N/A</td>
</tr>
<tr>
<td>22</td>
<td>Northstar Health Care Income, Inc.</td>
<td>Senior housing</td>
<td>P-NL</td>
<td>N/A</td>
</tr>
<tr>
<td>23</td>
<td>MedEquities Realty Trust, Inc.</td>
<td>Acute and post-acute facilities</td>
<td>PR</td>
<td>N/A</td>
</tr>
</tbody>
</table>

- P-L: Public Listed/P-NL: Public Non-Listed/PR: Private

Source: Author's Compilation From NAREIT and Websites of the REITs

### Table 3.5 Self-Storage REITs in the US

<table>
<thead>
<tr>
<th>No</th>
<th>Company name (REIT)</th>
<th>Main underlying assets</th>
<th>Listing status</th>
<th>Stock Exchange</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CubeSmart</td>
<td>Self-storage facilities</td>
<td>P-L</td>
<td>NYSE</td>
</tr>
<tr>
<td>2</td>
<td>Extra Space Storage, Inc.</td>
<td>Self-storage facilities</td>
<td>P-L</td>
<td>NYSE</td>
</tr>
<tr>
<td>3</td>
<td>Global Self Storage, Inc.</td>
<td>Self-storage facilities</td>
<td>P-L</td>
<td>NASDAQ</td>
</tr>
<tr>
<td>4</td>
<td>Life Storage, Inc.</td>
<td>Self-storage facilities</td>
<td>P-L</td>
<td>NYSE</td>
</tr>
<tr>
<td>5</td>
<td>National Storage Affiliates</td>
<td>Self-storage facilities</td>
<td>P-L</td>
<td>NYSE</td>
</tr>
<tr>
<td>6</td>
<td>Public Storage</td>
<td>Self-storage facilities</td>
<td>P-L</td>
<td>NYSE</td>
</tr>
</tbody>
</table>

- P-L: Public Listed

Source: Author’s Compilation From NAREIT and Websites of the REITs
Emerging sector REITs

3.3.6 Data centre REITs in the US

Data centre REITs invest in and manage information technology (IT)–related facilities that safely store data. Data centre REITs develop unique systems and solutions to power, cool and protect servers and IT assets, collecting rent from the users. As of November 2016, data centre REITs accounted for 5.47% (US$50.0 billion) of the FTSE NAREIT All Equity REITs index and recorded 9.97% average annual return for the last two years (2015–2016). (Data centre REITs only have return data from 2015.)

There are six data centre REITs in the US, including four listed on NYSE, two listed on NASDAQ and one public non-listed REIT, with more details presented in Table 3.8.

3.3.7 Other specialty REITs in the US

Other specialty REITs invest in and manage a mix of different property types which generate income, including prisons, jails, movie theatres, farms, casinos, outdoor advertising facilities and education properties. As of November 2016, such specialty REITs accounted for 3.67% (US$33.6 billion) of the FTSE NAREIT All Equity REITs index and recorded 9.19% average annual return for the last two years (2015–2016). (Specialty REITs only have data from 2015.)
<table>
<thead>
<tr>
<th>Table 3.9 Specialty REITs in the US</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No</strong></td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>8</td>
</tr>
<tr>
<td>9</td>
</tr>
</tbody>
</table>

- P-L: Public Listed

*Source: Author’s compilation from NAREIT and websites of the REITs*

There are nine specialty REITs in the US, including six listed on NYSE and three listed on NASDAQ, with more details presented in Table 3.9.

**3.3.8 Summary**

The US case study of sector specific REITs shows that, as with the traditional commercial sector broadening to include CBD and suburban offices, the sector specific REITs may also broaden within the specific sector, such as residential sector-specific REITs broadening to include manufactured homes, single-family homes and student housing.
As noted previously, demand for REITs by investors suggests that sector-specific REITs may be expected to continue to grow with US prisons, movie theatres and casinos now available as sector-specific REIT investments reinforcing that the extent of the range of suitable assets for REIT investment may only be limited by the ability to structure a sustainable lease agreement between the REIT and the occupier/operator that meets the risk/return requirements of each.

Given the size of the US REIT market, as time passes, greater amounts of return data will become available for sector-specific REIT performance, allowing a much clearer understanding of the risk/return profile of the different sectors, both relative to each other and to the traditional commercial, retail and industrial sectors.

3.4 Summary

Chapter 1 sought to identify critical contextual issues in international REITs, including the defining characteristics of REITs, the global evolution of REITs and the risk-return characteristics of real estate investment through REITs relative to non-REIT real estate investment with Chapter 2, the Post-Modern REIT Era, examining the evolution of the global REIT market, what is deemed to be best current market practice and how the market is expected to change going forward.

This chapter, Emerging Sector REITs, investigated such sectors as residential, health care, self-storage, timber, infrastructure and data centres generally and then specifically through a case study of US REITs.

A common feature of sector-specific REITs is their tendency to focus on a particular industry or business, placing the structure of the lease agreement between the REIT and the occupier/operator at the centre of the risk/return equation. The REIT's requirement for a steady income stream with some potential for upside from the business conducted therein needs to be balanced against the requirement of the occupier/operator who needs to be able to operate the business profitably if it is to be sustainable.

With sector-specific REITs having gained greater representation in institutional property portfolios due to an increased appetite for property investment by pension funds, acceptance of higher risk levels by many investors and demographic changes favouring the retirement and health care property sectors, demand for REITs by investors suggests that sector-specific REITs may be expected to continue to grow. This may be evidenced by the acceptability of US prisons, movie theatres and casinos as sector-specific REIT investments, reinforcing that the extent of the range of suitable assets for REIT investment may be limited only by the ability to structure a sustainable lease agreement between the REIT and the occupier/operator that meets the risk/return requirements of each.

Part I continues with chapters each reviewing a current theme of REIT evolution through the lens of contemporary research. Chapter 4, Sustainable REITs, analyses REIT environmental performance and the cost of equity with Chapter 5, Islamic REITs, examining the evolution of global Islamic REITs through a study of the Malaysian market. Chapter 6, Behavioural Risk in REITs, addresses the management of behavioural risk in global REITs and Part I concludes with Chapter 7 which reviews recent research into REIT Asset Allocation.

Part II then includes six chapters each analysing REITs in a region of the world, using case studies from a developed, developing and emerging REIT sector in the region, concluding with Chapter 14 which considers Directions for the Future of International REITs.

References

Wejendra Reddy and Hyunbum Cho


Further reading


