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RESEARCH

Benchmarking Real Estate Investment Performance: The Role of ESG Factors

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Benchmarking Real Estate Investment Performance: The Role of ESG Factors

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This Programme supports the IPF’s wider goals of enhancing the understanding and efficiency of property as an investment. The initiative provides the UK property investment market with the ability to deliver substantial, objective and high-quality analysis on a structured basis. It encourages the whole industry to engage with other financial markets, the wider business community and government on a range of complementary issues.

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Benchmarking Real Estate Investment Performance: The Role of ESG Factors

Report

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Benchmarking Real Estate Investment Performance: The Role of ESG Factors

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EXECUTIVE SUMMARY

Environmental, Social and Governance issues (“ESG”) have increased in importance in the real estate industry over the last five years, dating back originally to the 2015 Paris Agreement. Given the urgency of climate risk mitigation globally, as well as the increased attention from investors on non-financial factors in their decision-making, it is reasonable to expect that the importance of ESG factors for the real estate sector will continue.

This project specifically examined issues around ESG benchmarking in real estate investment. Using stakeholder interviews with key players globally, the use of ESG benchmarking in real estate was assessed at various levels (delivery, reporting and internal benchmarking), across different types of asset owner (listed company, pension fund and asset manager).

In particular, the authors examined the adequacy of existing ESG benchmarks in real estate in measuring specific factors such as climate resilience, climate change risk, zero-carbon targets, supply chain risk, wellness, diversity and governance issues. Based on the interview responses, areas for improvement in current benchmark practices have been identified. The authors anticipate that increased technology and data, coupled with user demand will lead to the development of a range of new ESG benchmarks in real estate performance measurement. It is likely that these benchmarks will focus more fully on assessing performance, outcomes and impacts at a more granular level. This will also produce a fuller range of ESG metrics, particularly in the currently under-represented social (S) dimension of ESG, as stakeholders more effectively assess issues such as community impact.

Key findings from this research include:

- The key ESG issues for the future are centred around climate risk, climate resilience, clarification of zero-carbon targets and methodology, wellness and diversity, and governance issues;
- The current widely used benchmarks have driven how real estate embraces the ESG agenda up to this point;
- However, there was a clear message from interviewees that there was significant room for improvement in current ESG benchmarks;
- There have been increased demands by institutional investors (e.g. pension funds) for asset owners to complete questionnaires on ESG in a specific format beyond the standard ESG reporting metrics. This was seen as time consuming, and putting focus on reporting ESG rather than delivering ESG. This may also suggest that current standard benchmarks are insufficient to satisfy the largest investors’ requirements;
- Both external and internal benchmarks are important for effective real estate investment decision-making. The general sentiment was that external benchmarks were used for the benefit of investors, whilst internal benchmarks were used for operational purposes;
- ESG benchmarking has a variety of uses, both at the property performance level and broader investor level, to address strategic, performance and communication issues;
- A full spectrum of views was observed in relation to the level of support for benchmarking procedures;
- Benchmarking is regarded as the starting point not the end point of an ESG strategy/corporate philosophy;
- Interviewees thought ESG was more important as an effective risk management procedure rather than just being used for profile or PR purposes (i.e. ‘greenwashing’);
- Benchmarking in real estate was seen as fundamentally important as part of overall ESG best practice in the industry;
- considerable variation in ESG benchmarking and implementation practices was noted across real estate participants, regions and sectors. In addition, the extent of variation of internal practices between global leaders and those new to reporting on this area of their activities was significant; and
- strong recognition and support across all participants in the real estate industry in developed markets of the increasing moral importance of ESG and the need for the industry to contribute across the board for the benefit of the wider community.

EXECUTIVE SUMMARY

Based on the views of leading stakeholders interviewed for this project, the following recommendations can be made regarding improvements in ESG benchmarking in real estate:

1. Current ESG benchmarks should place more emphasis on more fully assessing ESG performance, outcomes and impact, in addition to ESG policy and approach.
2. At present there are several asset-level benchmarks that assess how a building is designed. There should be more emphasis and development on assessing how a building performs while in use; i.e. towards capturing its actual operational impact.
3. Any benchmark being relied upon by a significant number of investors must be giving correct information and signals to the market, and those must be fully understood by any investor relying on them.
4. Increase focus on higher level of granularity in ESG benchmarks in assessing climate change risk and climate resilience at an individual property level.
5. Make greater use of big data/technology advances for a deeper and more rigorous/granular analysis via risk analytics.
6. Higher order integration of real estate and environmental information into ESG decision-making.
7. Expand attention given to TCFD; particularly with its use being mandated in several markets.
8. Increase depth of implementation of ESG beyond just major players to more fully embrace all levels in the real estate industry.
9. Expand level of ESG benchmarking into less developed real estate markets; encourage global asset owners to apply best practices from developed markets to assets in other regions.
10. Increase level of ESG benchmarking in the social (S) dimension, in addition to more established environment (E) and governance (G) dimensions.

Overall, this report highlights the pertinent issues and identifies areas for further development of ESG benchmarking in real estate for more informed real estate investment decision-making at a global level.

TERMINOLOGY

The following terminology/abbreviations are used extensively in this report:

ANREV: Asian Association for Investors in Non-Listed Real Estate Vehicles; professional association representing the non-listed property sector in Asia.

APREA: Asia-Pacific Real Estate Association; professional association representing the listed property sector in the Asia-Pacific region.

BBP: Better Buildings Partnership; collaboration of UK's leading property owners who are working together to improve the sustainability of existing commercial building stock.

BREEAM: Building Research Establishment Environmental Assessment Method green building rating scheme.

CDP: Carbon Disclosure Project; global reporting framework for an organisation's carbon footprint.

CFP: Corporate Financial Performance.

CSP: Corporate Social Performance.

CSR: Corporate Social Responsibility; this area has expanded more fully into ESG in recent years.

EPRA: European Public Real Estate Association; professional organisation representing the listed property sector in Europe.

ESG: Environmental, Social and Governance; the three central factors in measuring the sustainability and ethical impact of an investment in a company or business; the benchmarking of these principles are the focus of this report.

GPR: Global Property Research; major benchmark index provider in the listed real estate space; includes ESG benchmarks.

GRESB: Global Real Estate Sustainability Benchmark; benchmark established for assessing ESG in real estate investment.

GRETI: Global Real Estate Transparency Index; produced by JLL to compare transparency of global real estate markets.

GRI: Global Reporting Initiative; the global framework for reporting ESG.

IIGCC: Institutional Investors Group on Climate Change; an international group of institutional investors supporting the principles of climate change in their investment strategies.

INREV: European Association for Investors in Non-Listed Real Estate Vehicles; professional association representing the non-listed property sector in Europe.

TERMINOLOGY

IPCC: Intergovernmental Panel on Climate Change; global group within UN reporting on impact of global temperature increases and global warming.

LEED: Leadership in Energy and Environmental Design; green building rating scheme.

MSCI: Morgan Stanley Capital International; major benchmark/index provider in the listed space including listed real estate and ESG benchmarks.

NABERS: National Australian Built Environment Rating Scheme; green building rating scheme.

NAREIT: National Association of Real Estate Investment Trusts; major professional association representing the REIT sector in the US.

NZAOA: Net-Zero Asset Owner Alliance.

PCA: Property Council of Australia; professional organisation representing the commercial property sector in Australia; strong ESG mandate.

PRI: Principles for Responsible Investment; a UN-initiative to give a global focus and framework to the importance of responsible investment.

REIT: Real Estate Investment Trust; major listed property investment vehicle globally.

S&P DJ: Standard & Poor Dow Jones; major benchmark/index provider in the listed space; including listed real estate and ESG benchmarks.

TCFD: Task Force on Climate-related Financial Disclosures; the global framework for organisations reporting the climate-related dimensions of financial disclosure.

ULI: Urban Land Institute; global real estate and urban development organisation providing leadership in the responsible use of land.

Several of these terminologies are discussed in fuller detail in various sections of this report; particularly in Section 3, which deals with benchmarks.

1. INTRODUCTION

1.1 Project overview

Sustainability as a concept has taken on increased global importance and awareness in recent years for all stakeholders; consumers, community, industry, investors and governments. The move has embraced not just the environmental aspects of sustainability, but also the social and governance dimensions. ESG is now treated by many market participants as a cohesive whole, embracing all three dimensions.

Initiatives such as the UN Finance Initiative Principles for Responsible Investment (PRI, 2018) have clearly articulated how ESG engagement creates value for investors and companies. With over \$23 trillion expended on sustainable investment strategies globally to date (Eurosif, 2016; Global Sustainable Investment Alliance, 2016; US SIF, 2017), incorporating various ESG factors and supporting the UN's Sustainable Development Goals (UN, 2018), this sees a better alignment for investors and the broader objectives of society, acting in the long-term interests of all stakeholders. This has seen many investors move from "whether to" to "how to" to implement ESG investment strategies. Organisations such as the Institutional Investors Group on Climate Change (IIGCC) have been active in promoting the benefits of sustainability. The introduction of the Task Force for Climate-Related Financial Disclosures (TCFD) guidelines has also had considerable recent impact. UK Government policy is for this to be mandatory for all listed companies and large asset owners by 2022.

This increased focus on ESG is driven by a combination of regulatory requirements and market demands. Companies now recognise that they need to make a positive contribution to society or risk losing support from institutional investors and investment managers. In many cases, ESG factors such as BREEAM scores are seen as an indicator of asset growth prospects, as well as effective corporate stewardship.

This increased focus on the need to integrate ESG factors into investment portfolio strategies has seen the development of ESG rating metrics and benchmarks from major providers (e.g.: MSCI, S&P DJ, Global Reporting Initiative, Carbon Disclosure Project), as well as from specialist groups (e.g. Sustainalytics). These metrics and benchmarks reflect an increased focus on the social and governance dimensions of ESG, highlighting the importance of effective corporate stewardship and community engagement.

At the asset owner level, the sector has embraced the many dimensions of ESG, with companies and funds producing separate reports on sustainability, as well as social and governance practices and achievements, in addition to the regulatory financial performance metrics. Many property companies are now world leaders in sustainability reporting, principally in Europe and Australia. Green building standards (e.g. LEED, BREEAM, Energy Star, NABERS) have facilitated this process, as have the various Green Building Councils and the International Initiative for a Sustainable Built Environment. Major ESG initiatives in the property area, such as GRESB, EPRA's Sustainability Best Practice Awards, INREV's Due Diligence Questionnaire and GPR's sustainable real estate indices, all incorporate ESG dimensions into their overall assessments (EPRA, 2018; GRESB, 2018; INREV, 2018; GPR, 2018), further highlighting the importance of integrating these ESG factors into real estate investment strategies, particularly given the high carbon footprint of real estate, as well as its significant level of human capital employed.

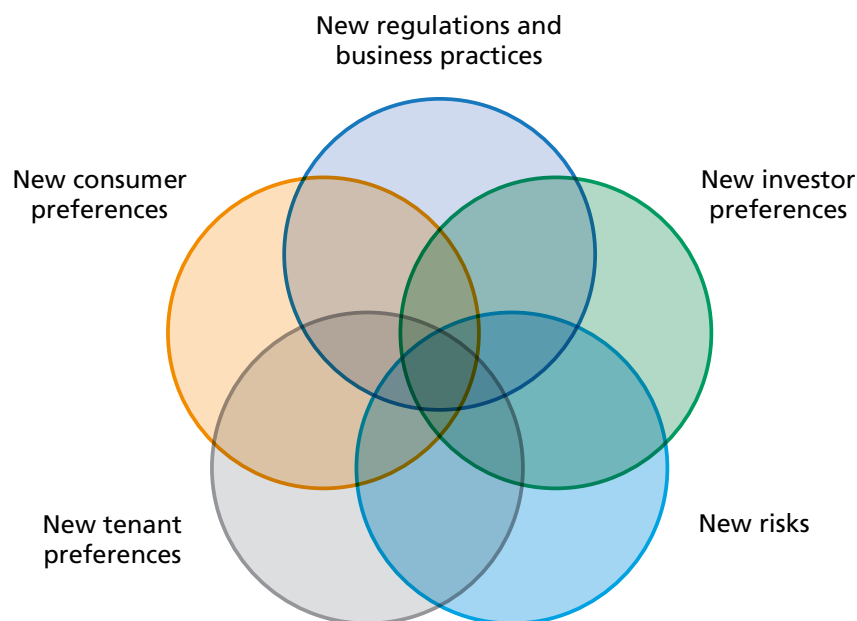
Importantly, these ESG factors are increasingly integrated into real estate investors' decision-making processes. ESG benchmarks now include issues such as climate risk management, climate resilience, zero carbon targets, gender diversity, employee turnover, gender pay ratio, human capital management, supply chain management, governance and board competence. Developing suitable metrics and benchmarks to capture these important dimensions of ESG is of paramount importance.

1. INTRODUCTION

While considerable progress appears to have been made in recent years, anecdotally, there are still substantial differences between organisations and across regions in the use of ESG metrics and benchmarks, the integration of ESG factors into real estate investors' decision-making and investor requirements.

This ESG context highlights the role and importance of effective measurement and establishment of both standards of performance and adherence in the real estate investment industry. In particular, this study seeks to determine whether the current ESG benchmarks are fit for purpose in the rapidly evolving ESG environment: see Figure 1.1. The scope and requirements of benchmarks has increased and given the take-up and adoption of ESG policies by the industry, the question is no longer "are you doing ESG" but "are you doing ESG well?" This raises a number of critical challenges regarding the E dimension of ESG, including how might real estate investments be affected and how to use real estate investments effectively regarding these potential long-term cost implications.

Figure 1.1: The changing ESG space



Source: Authors' compilation

This project examines the issues surrounding the use and application of current ESG benchmarks in real estate and what improvements are needed, as well as the changing style of ESG benchmarks and the opportunities and challenges for developing relevant and effective ESG benchmarks in real estate investment. With ESG in real estate becoming integral to decision-making and capital allocation, these benchmarking issues will take on even more relevance at all levels for real estate investment stakeholders globally.

1. INTRODUCTION

1.2 Project objectives

The following strategic issues were stated as project objectives:

- Why are ESG factors selected for application as benchmarks by investors?
- How do investors use ESG benchmarks within investment/disinvestment decision-making and are benchmarking services adequate in meeting investors' needs?
- How does the relevance of different elements of ESG vary across the different real estate sectors?
- Over time, which ESG factors are expected to have the greatest impact on portfolio composition?
- Given increasing international diversification in commercial real estate investment portfolios, how compatible are ESG benchmarks across different geographies and to what extent are they effective in enabling performance to be compared across jurisdictions?
- What evidence is there that ESG performance is a consideration in the remuneration of investment managers?
- How informed/engaged is the investment consultant community on ESG issues? What do they see as their role in this regard? Do they influence benchmark selection?

Various methodologies were used in this project to assess these ESG benchmarking issues in the real estate investment space including stakeholder interviews.

1.3 Profile of stakeholder interviews

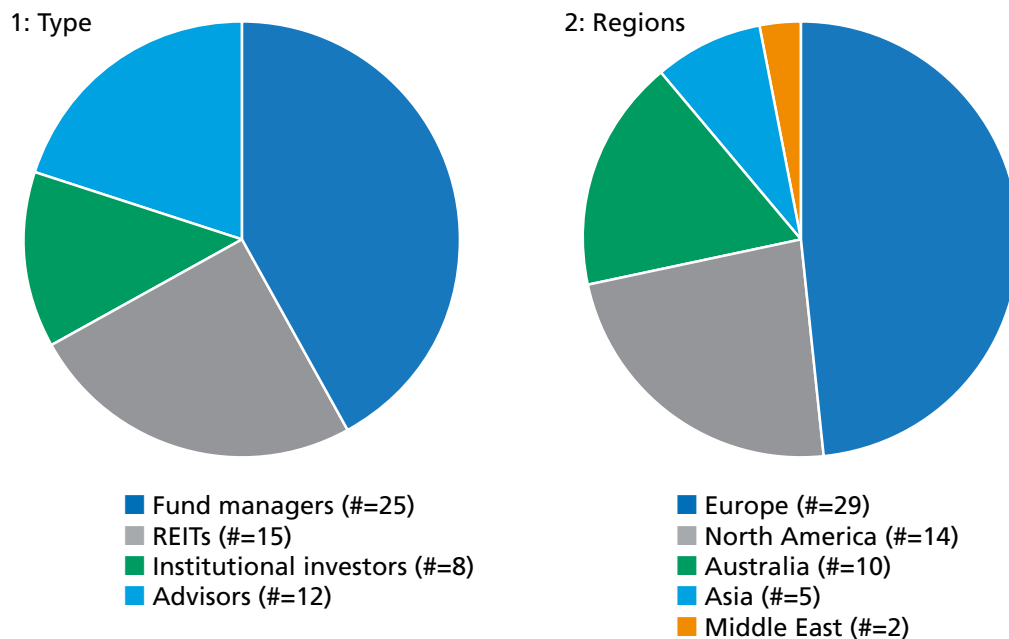
A key component of this project was stakeholder engagement to assess their views on ESG benchmarking. Sixty interviews were conducted globally between May and September 2019. Appendix 1 provides details of the stakeholder interview questions.

Priority was given to interviewing leaders in the ESG space to understand fully their use and understanding of ESG benchmarking. Interviews were also held with organisations less advanced in the ESG space in order to identify guidelines for improvements in best practice. Although no comments are directly attributed to players or individuals for reasons of confidentiality, a number of the organisations that participated are named in the Acknowledgments section.

Stakeholders were selected from a range of organisations, including fund managers, REITs, institutional investors and advisory groups. Interviews were conducted across Europe, North America, Australia, Asia and the Middle East. Total real estate assets under management from these parties totalled over US\$ 1.4 trillion. Figure 1.2 provides a summary of the stakeholder interview coverage by type and regions.

1. INTRODUCTION

Figure 1.2: Stakeholder interview profile



1.4 Key results

These stakeholder interviews enabled the following key findings regarding ESG benchmarking and real estate investment from this research:

- Increased ESG focus going forward will be on issues around climate risk, climate resilience, zero-carbon, wellness and diversity, and governance issues;
- The current benchmarks (e.g. GRESB) have been fundamentally important in transforming how real estate embraces the ESG agenda at all levels;
- Room for improvement in ESG benchmarks was clearly identified; particularly around moving on from ESG policy/approach to more fully articulating ESG performance, outcomes and impact;
- Both external and internal benchmarks are important for effective real estate investment decision-making;
- ESG benchmarking has a variety of uses; both at the property performance level and broader investor level, to address strategic, performance and communication issues;
- A full spectrum of views was seen regarding the level of support for benchmarking procedures;
- ESG benchmarking was seen as the starting point not the end point of an ESG strategy/journey;
- ESG as an effective risk management procedure was seen as more important than just for profile or PR purposes;
- ESG benchmarking in real estate was seen as fundamentally important as part of overall ESG best practice in real estate;
- Considerable variation in ESG benchmarking and implementation occurred across real estate players, regions and sectors; also, internal variation, reflecting global leaders and those just starting the ESG journey; and
- Strong recognition and support at a real estate industry level of the increasing importance of ESG.

Further details around these key results can be found in specific sections of this report.

2. ESG LITERATURE REVIEW

This section of the report draws together elements of the considerable research body of knowledge regarding ESG; both from a fuller business perspective, as well as from a real estate perspective. It clearly highlights the changing nature of ESG (moving from the CSR space), as well as drilling into the specific aspects of ESG relevant to real estate and green buildings. It focuses on the academic research in the ESG area, with the industry perspective and context on ESG practices in real estate given in Section 3.

It is important to understand the wider aspects of ESG discussed across the mainstream business and management literature, which have seen long-standing debates, especially in studies linked to Corporate Social Responsibility (CSR) and organisational performance. ESG is a relatively new term, but it is inherently linked to CSR issues and the need for long-term considerations for a company's business and investment strategies. Several unique aspects of real estate business and investment make the ESG/CSR issues particularly relevant. The following literature review draws on the business and management literature and, also, some recent literature focused specifically on the real estate and construction industry regarding ESG and CSR. Much of this earlier ESG research was also expressed in a CSR 'language'.

2.1 Theoretical considerations

In order to understand the link between CSR and organisational performance, the channels of benefits that can possibly accrue to a firm engaging in CSR activities need to be delineated.

Some possible channels of benefits are:

- *Customer loyalty* – CSR activities geared towards their customer base may increase customer loyalty by treating them in a responsible manner. In many business activities, the reputation risks can be disastrous and customer loyalty can avoid such damaging effect on firms' long-term performance and existence;
- *Investor confidence* – Not only that investors can be confident of associated risks being mitigated or effectively managed through CSR activities, but also a large amount of Socially Responsible Investment (SRI) funds can be tapped successfully;
- *Employee satisfaction* – Employees are part of society. So activities that commit to employee welfare in a responsible way foster employee morale, commitment and productivity. This can be an excellent advantage in an increasingly competitive labour market in terms of hiring and retaining talent;
- *Community trust* – Communities are at the forefront of business activities. Therefore, developing and nurturing trust and goodwill through active engagement with the community in a transparent and responsible manner can be a 'winning' strategy. Many property development firms need local market involvement in their operations. Hence, understanding the local context and tapping into local knowledge, skills and resources is crucial in 'winning' community trust and avoiding socially and economically wasteful disruption in activities;
- *Supply chain relationships* – Much of the modern business activities today depend on uninterrupted functioning of the supply chain. This is especially true for the property development companies e.g. firms relying on materials and intermediate products for buildings and infrastructure. Productive relationships with subcontractors and suppliers are important; and
- *Government and regulatory relationship* – Not only compliance with the existing legal requirements, but also staying prepared through effective pre-emption of future regulation is important in remaining competitive. This can help in avoiding wasteful delays and disruptions in planning procedures. Active engagement with the government helps alleviate any risks from misconstrued objectives.

2. ESG LITERATURE REVIEW

The issues related to Corporate Social Responsibility (CSR) have been explored very extensively in the academic literature. Several decades of research have explored a multitude of issues across a wide range of business sectors. However, due to emerging factors and recognition of new risks and challenges, the research is still quite active. The role of the private sector in dealing with matters of societal concerns is being continuously scrutinised. But, all CSR activities require resource commitment and genuine considerations, which leads to the question of return on those resource allocations.

This question has been repeatedly asked over the last few decades and therefore, the literature is rather extensive. The argument that CSR activities should also lead to increased revenue and performance of the company is compelling. It can be claimed that CSR activities can improve firms' competitive advantage by attracting socially responsible consumers and because of being a 'good corporate citizen', firms can enjoy enhanced image and reputation. Indeed, it is often argued that such brand enhancement and strategic positioning can successfully yield additional advantages linked to insulation from regulatory risks, public dissent, government sanctions and disruptions in activities, due to negative campaigns by social and environmental activists and non-governmental organisations (Bagnoli and Watts, 2003, Maxwell et al., 2000). This benefit can be of major importance to the property companies, who can be at the forefront of such campaigns and disruptions. As noted above, the definition and scope of CSR has broadened significantly in recent times, to include much more than just the environmental concerns.

At a fundamental level of theoretical understanding, the rationale behind firms engaging in CSR activities can be looked through the debate of public and private good. Besley and Ghatak (2007) provide a persuasive argument of the idea of 'private provision of public good'. The public economics literature has always grappled with the debate around who should be responsible for providing public good. The argument centres around the fact that private companies use public resources and their 'private' business activities have significant bearing on 'public good' or creating 'public bad'. Such an argument runs in tandem with perspectives of the firms themselves. From a firm's perspective, Bansal and Roth (2000) see three types of motives that can individually or together lead to a higher level of CSR commitment. The three motives are - 'caring', 'competitive' and 'concerned'. In the caring profile, firms can act as organisational leaders characterised by efforts to champion non-financial performance of the firm, i.e. boosting corporate social performance (CSP). However, being threatened by other firms' activities, some may also strictly look at the competition and try to stay ahead of the game. Another motive is pure-play pre-emption, i.e. by being concerned about future regulatory threats, firms engage in CSR activities. In the marketplace, firms may act on a combination of all of these three motives to achieve comparative advantage.

There are two theoretical approaches to understand the perspectives of the firms in this question. According to stakeholder theory, a firm engages with various actors that contribute to the firm's operation such as employees, suppliers, customers and the local community (Ruf et al. 2001; Kakabadse et al., 2005). An alternative perspective, perhaps more apt during times of recession, is 'slack resources theory', implying that Corporate Financial Performance (CFP) determines the volume of cash reserves. This, in turn, can determine the extent of CSR activities that a firm can possibly engage with without jeopardizing future CFP and thereby also improving corporate social performance (CSP) (Waddock and Graves, 1997; Surroca et al., 2010; Julian and Ofori-dankwa, 2013).

2. ESG LITERATURE REVIEW

The above discussion, in many ways, alludes to potential channels for benefits from CSR activities. More importantly, it also indicates 'less direct and long-term benefit' rather than immediate and short-run boost to profit or financial performance (Surroca et al., 2010). This implies that the CSR activities can work through 'intangible' aspects of the business and the firms can potentially accrue the benefits through enhanced 'tangible' performance at a future date and over the longer term. However, it is quite challenging in terms of empirical estimation and possibly, it can only be understood by focusing on indirect measures, mediating factors and comparative performance indicators.

2.2 Empirical ESG literature in a business context

The empirical literature regarding the effect of CSR activities on firms' financial performance has been fraught with unsettled results (McWilliams and Siegel, 2000; 2001; 2006). The main reason is an inability to understand the mediating factors and data constraints proving significant in creating estimation biases (for reviews, see Stanwick and Stanwick, 1998; Roberts and Dowling, 2002; Margolis et al., 2007; van Beurden and Goessling, 2008). Some reviews suggest that it is perhaps more relevant now than ever before, due to the increasing prominence of CSR issues in today's world. As a result, it is perhaps reasonable to expect a positive relationship between CSR and financial performance (van Beurden and Goessling, 2008), which perhaps led Vogel (2005, p.19) to assert, "were Friedman now to revisit this subject, he would find much less to concern him". Friedman (1970) famously stated, "the social responsibility of business is to increase its profits". He seemed to have implied that resources allocated to ESG constitute a deadweight loss and a negative relationship between ESG and CFP. A counterargument is that neo-classical theories of the firm tend to understate the role of human and social capital to CFP. As a result, there has now been seen a range of rather related concepts with increasing level of details emerging.

Several studies commented on organisations taking on various roles and approaches to the ESG issues with mixed perspectives. As a caring organisation, the organizational leadership is the key driver of a firm's ESG commitment. As a competitive organisation, a firm can work with the focus on enhancing business advantage. Finally, as a concerned organisation, a company may lead and be proactive on the issues to obtain reputational and regulatory benefits.

Various studies commented on aspects of company profile that can make a significant difference in how they may approach the issues and the potential benefits that may accrue to the companies. For example, Russo and Perrini (2010) examine the firm size as a decisive factor; Roberts and Dowling (2002) note high corporate reputation as linked to more sustainable CFP; Van Beurden and Gössling (2008), reviewing more recent studies from 1990 onwards, reported a vast majority of studies finding a positive relationship between ESG performance and CFP. Rather interestingly, Orlitzky's (2011) large-scale meta-analysis report authors' disciplinary bias and associated journals' focus. Publications in economics, finance and accounting generally reported significantly lower average correlations than those in management and business ethics journals. This may be attributed to different theoretical perspectives of the disciplines. In general, there is some level of agreement on the noticeable effects of ESG on CFP. The studies have commented on the risks that may be associated with a lack of due consideration of ESG issues. For example, a decrease in the size of the investor base may lead to a neglect effect and a lower demand for 'sin' securities, which can be reflected by a higher level of cost of capital (see, for example, Bauer et al., 2005; Geczy et al., 2003; Renneboog et al., 2008; Lee and Faff, 2009). The timeframe of such effects are not clear as it can crucially depend on the stage of the economic cycle and sector-specific investment dynamics.

2. ESG LITERATURE REVIEW

The literature review indicates that there is a widespread recognition of the impact of CSR/sustainability activities on firm-level performance. However, the effect is a lot less clear when the authors try to quantify it. Robust empirical analysis of the dynamic relationship between CSP and CFP requires some consideration of a number of potential issues. Any empirical investigation is fraught with significant data constraints and estimation biases.

Some studies also point out the need to look at a single industry, as the heterogeneity in risk exposure across different industries can cloud inferences and estimation power (Griffin and Mahon, 1997; Chand, 2006). Indeed, Chand (2006) recommends that any examination of the issues related to the link between ESG performance and financial performance should focus on a single industry. This provides support to the motivation of focusing on the real estate sector only, although the sector is itself heterogeneous and this aspect needs to be considered in the analysis. Therefore, relevant literature for two interlinked sectors – construction and real estate – is next reviewed.

2.3 Empirical ESG literature in a business context: construction industry

For the construction industry, Jones et al. (2006) examined the CSR issues of the UK's biggest construction companies. They identified the main characteristics of CSR and challenges related to the construction sector. Their findings indicated very significant variations in CSR reporting. Considering a broad range of issues such as health and safety, supply chain management, human resources, the communities, the government, ethics, etc., the authors suggested that although construction companies took CSR principles into consideration, their performance indicators did not seem to show a strong evidence due to possibly low participation rates in the general benchmarking exercises. Zhao et al. (2012) developed a framework for CSR indicators for the construction enterprises globally as a tool for CSR performance. Their proposed framework is a CSR indicator system based on the stakeholders' theory.

The construction industry is increasingly committed to deliver sustainable projects that not only fulfil the companies' goals for CFP, but also focusing on their CSP, bearing high sustainability awareness. Therefore, the literature around the sustainable attitudes of the construction companies and the principles and indicators followed is also relevant. Myers (2005), by looking at 42 construction companies listed on the UK Stock Exchange, made a review of the companies' attitudes towards sustainability and CSR. By examining the public disclosure of the construction companies for the financial year 2003, the author reported that very few big construction companies can follow the principles of sustainability and CSR, while he also concluded that the fragmented and complicated nature of the construction sector further complicates and hampers their operation within a sustainable framework.

Demaïd and Quintas (2006), by considering the different design and management processes of the construction sector, discussed similarities between developments of sustainability and risk across industries. Considering the market and several industries, they conclude that the construction industry is regarded as a sector that needs special treatment, as there are crucial balances between the formal, contractual and legislated processes, as well as the involvement of sustainability processes further complicating the issues. In a similar vein, Ortiz et al. (2009) reviewed key milestones of the life cycle assessment (LCA) process applied in the construction industry during 2000 and 2007 and its application to projects. To their conclusion, the application of LCA not only met consumers' demand for environmentally sustainable products but also increased productivity and competitiveness for greener construction markets. In a more recent study, Tan et al. (2011) were concerned about sustainable practices in the construction industry and examined the relationship between sustainability performance and the companies' performance and competitiveness. This research introduced a framework for implementing sustainable construction, which helps the contractors improve their competitiveness and make them develop their sustainable strategies.

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In terms of empirical research, Zuo et al. (2012) tried to investigate quantitatively the sustainability policy practices of construction companies. They analysed the leading international contractors listed by the Engineering News Record (ENR). They recommended that the construction industry can learn from the core energy sector that has performed relatively well in making substantial progress in sustainability reporting. Hwang and Ng (2013) tried to identify the challenges that project managers face when executing a sustainable project and to determine the knowledge areas and skills to meet such challenges. Zhang et al. (2014) regarded the need for a more accurate evaluation of the construction projects in terms of sustainability and developed a SDA prototype model that includes the influences of dynamic factors of sustainability. As they explain, this procedure involves the introduction of technological advancement and changes to people's perceptions. Several other studies have focused on developing tools for appraising the performance of construction companies in terms of the sustainability parameters. Hong et al. (2011) and Ugwu and Haupt (2007) studied the South African construction sector while Fernández-Sánchez and Rodríguez-López (2010) explored the sustainability indicators for the Spanish construction industry. In a more recent work, Nanda (2018) used a basic Capital Asset Pricing Model (CAPM) to examine empirically the relationship of CSR and financial performance. The study included 17 major E&C companies with monthly data over 2000-13. The results indicate that CSR activities may have significant influence on financial performance after controlling for the firm size variable.

2.4 Empirical ESG literature in a business context: real estate industry

With growing concerns about climate change and investment ethics, environmentally responsible and sustainable business practices have become major considerations for corporations' strategic and operational activities. For the real investment community, it goes much beyond the environmental issues and climate change mitigation by touching on the effects of businesses on a wide range of social and ethical concerns. The real estate sector has definitely started engaging with these issues of Environmental, Social and Governance (ESG) and Responsible Property Investment (RPI). The empirical exploration of the relationship between ESG and performance metrics within the real estate sector is rather limited. The long-term nature of most real estate investments may imply the possibility of a strong effect, in theory.

Within the real estate literature, there is a body of early works investigating the increasing importance of SRI and ESG issues for real estate investors (for example, see Hebb et al., 2010; Newell, 2008, 2009; Rapson et al., 2007). Some studies focused on the US REITs (for example, see Bauer et al., 2010; Bianco et al., 2007; Eichholtz et al., 2012; Hartzell et al., 2008). Results have not been conclusive and definitive. For example, Hartzell et al. (2008) document that the firms with stronger governance structures appear to have higher initial IPO (Initial Public Offering) valuations and better long-term operating performance than their peers. Similarly, Eichholtz et al. (2012) show a positive relationship between the proportion of 'green' buildings in a REIT portfolio and its operating performance. However, contrary to that, Bauer et al. (2010) report no significant relationship. Such contradictory findings are not uncommon.

It is nonetheless very difficult to separate out all the factors and their effects, *ceteris paribus*. As the theoretical discussion earlier indicates, the effects are very much linked in a rather complex manner. Without very granular data over a long period, it is not possible to identify statistically such relationships. The indirect channel of the effects is important and poses a very significant grey area. However, academic attempts have continued. In a more recent work, Cajias, Fuerst, McAllister and Nanda (2014) investigate the relationship between corporate social and environmental performance and financial performance for a sample of publicly traded US real estate companies. Using the MSCI ESG (formerly KLD) database on seven Environmental, Social & Governance dimensions in the 2003–2010 period and weighting the dimensions according to prominence in the real estate sector, the paper models Tobin's Q and annual total return in a panel data framework. The results indicate a positive relationship between ESG rating and Tobin's Q, but this effect is driven by the ESG concerns rather than strengths.

2. ESG LITERATURE REVIEW

Specifically, at an individual property level, several studies have also shown the link between green office buildings and performance across a range of real estate performance metrics (e.g. sales price, values, rent, vacancies and yield); further supporting the E dimension of the ESG agenda. This includes Eichholtz et al. (2010) and Newell et al. (2014) in assessing office buildings in the US and Australia respectively. Differences in office building size, age, location, quality, amenities, etc. were controlled for to ensure 'pure' green effects were identified via rigorous regression models. This has ensured a significant body of knowledge confirming greenness and financial performance.

While the academic research into ESG and real estate has been important in terms of validating ESG and performance, it has been at a very broad level and has not assessed critical real estate issues with a 'deep dive' into strategic issues such as real estate sector differences and geographic differences in ESG practices in the real estate space. Importantly, this IPF report has attempted to highlight these sector and geographic differences in ESG practices (and many other strategic issues) via extensive industry stakeholder interviews and case studies to ensure an up-to-date perspective across the full real estate investment spectrum.

Overall, this academic literature review has highlighted the importance of ESG and its contributions to performance, both from a real estate and other asset classes perspective. Much of this academic research has been focussed on the early stages of ESG's impact on performance, again from both a real estate and other asset classes perspective. Much of this academic research has been focussed on the early stages of ESG's impact on performance (particularly the E dimension) and has not captured the rapid changes in the ESG space for real estate that has occurred in the last few years. As such, the 'ESG context' section of this report highlights the richness and leading edge developments happening in the industries and asset classes now effectively enhancing ESG. Importantly, this includes real estate, with numerous instances of real estate players being world leaders in the ESG space regarding best practice and innovation in an ESG delivery perspective.

2.5 Literature on the performance of green buildings

Recent years have seen a wide range of studies concerning green buildings in various leading journals – both real estate and related journals. This includes the Journal of Real Estate Research, Journal of Property Research, Real Estate Economics, Journal of Property Investment and Finance, International Journal of Strategic Property Management, Urban Studies and Journal of Sustainable Real Estate; as well as American Economic Review, Ecological Economics, Energy Policy and others. Several earlier studies find no significant or clear effects due to limited recognition of sustainability issues, lack of sufficient data and slow adoption of sustainability standards. However, more recent studies tend to find clearer and more significant effects for the added value of green buildings.

2. ESG LITERATURE REVIEW

Key themes of this green office building research have been:

- **Performance of green office buildings:** For example, Newell et al. (2014) highlight the added-value premium of the 5-star National Australian Built Environment Rating Scheme (NABERS) energy rating scheme and the Green Star scheme in the property performance of green office buildings in Australia. The study finds energy rating premiums for green office buildings for the top energy ratings and energy rating discounts for the lower energy ratings. The authors use a portfolio of over 200 green office buildings in Australia to benchmark against a comparable portfolio of non-green office buildings. They apply hedonic regression analysis to account for differences between specific office buildings and establish the 'pure' green effect in identifying the level of energy rating premiums in several commercial property performance characteristics

Other key references to examine this issue of the performance of green office buildings include Eichholtz et al. (2010) for the US. A range of regression models are used to compare green and non-green office building portfolios after controlling for differences in office building characteristics such as age, size, quality, location and size; thus enabling the identification of a 'pure' green effect across a range of financial performance metrics such as value, rent, yield, outgoings and vacancy. In many cases, green premiums were seen, and these green premiums were more evident at the higher levels of energy rating and green rating schemes (e.g. LEED, Energy Star) and discounts being evident at the equivalent lower levels. While the extent of these green premiums has varied across these US, Australia and UK studies, typically these green premiums have been evident at significant levels (e.g.: Eichholtz et al., 2010; Fuerst and McAllister, 2011; Miller et al., 2008; Newell et al., 2014; Pivo and Fisher, 2010; Wiley et al., 2010);
- **Effect of environmental certification:** For example, Fuerst and McAllister (2011b) examines the price effects of environmental certification on commercial real estate assets. Drawing upon the CoStar database of U.S. commercial real estate assets, the authors apply hedonic regression analysis to measure the effect of certification on both rent and price. The theoretical premise of the study is built around three main drivers of price differences between certified and noncertified buildings - additional occupier benefits, lower holding costs for investors and a lower risk premium. The results of the study suggest that, compared to buildings in the same submarkets, eco certified buildings appear to have both a rental and sale price premium;
- **Energy efficiency in office buildings:** For example, Pellegrini-Masini and Leishman (2011) presents a theoretical framework to explain environmental decision making in firms. The authors also follow up with qualitative evidence using sixteen semi-structured individual and group interviews with office market stakeholders in London, Glasgow and Edinburgh. This study provides evidence on the importance of limited direct financial costs and benefits ('efficiency gaps') and market barriers. More importantly, the study is focused on the role of corporate reputation and individuals' values in shaping corporate behaviour. While the authors find that although companies are conscious of more energy efficiency, energy costs are still regarded as a negligible part of their business costs. However, since the publication of the paper in 2011, there have been much more recognition and adoption of energy efficiency measures in the office sector; and
- **Impact of energy labelling:** For example, Fuerst and McAllister (2011c) analyse the effect of energy performance ratings on appraised capital values, rental values and equivalent yields of UK commercial property assets. Using a cross-section of 708 commercial property assets and controlling for several confounding factors such as unexpired lease term, vacancy rate and tenant credit risk, a hedonic regression procedure is employed to estimate the effect of EPC rating on rental and capital values. Interestingly, the study finds no evidence of a significant relationship between environmental and/or energy performance and rental and capital values.

Additional references around these above themes are identified in the references list.

2. ESG LITERATURE REVIEW

A key element of this recent research on green office buildings has been the evidence-based approach, with performance validated across various regions. Overall, the results have clearly highlighted the added value of green office buildings across the various financial performance metrics. It is expected that this research will take on increased importance as green building data quality improves to examine specific research questions internationally.

Clearly, the evidence from this literature review shows that ESG has taken on increased importance in the research seen in recent years, both from a business/corporate perspective and from a real estate perspective. This has been captured by the considerable research body of knowledge in the business/management journals, as well as various critical issues in ESG assessed in the leading real estate journals in the US, UK and internationally. Importantly, this ESG research has appeared in both the real estate journals and the broader real estate-related journals in urban studies, economics, ecology and energy. This further highlights the importance of ESG in real estate in the fuller economic, social and environmental context.

Following sections look at ESG in the fuller real estate context, to draw out the critical issues confronting the real estate industry, as well as highlighting the scale of ESG developments on real estate globally and the breadth of activities in the ESG space for the real estate industry. This highlights the leading role that many real estate players are having in the ESG space, often being amongst the international leaders in the ESG area and helping define ESG best practice in real estate and in the fuller business context. After this real estate industry context, the more substantive elements of this research are presented, involving stakeholder interviews with 60 major real estate players and how ESG and ESG benchmarking impacts on their real estate practices.

3. ESG BENCHMARKING IN REAL ESTATE

3.1 Styles of key ESG benchmarks in real estate

With ESG issues becoming more prominent, there is a growing need for capturing, measuring and quantifying various ESG attributes at both the asset and the fund/company levels. This is important for evaluating performance and identifying areas of weaknesses and strengths. Several benchmarks have been developed over the last decade or so. These benchmarks, while still evolving, are providing crucial metrics for the stakeholders. Some benchmarks are more developed compared to others. However, as increasing numbers of issues are emerging, new regulations are being put forward, concerns of various ESG issues are deepening, and the benchmarks need to evolve. Moreover, an increasing volume of data on various ESG issues is being generated. There is a consensus across the stakeholders interviewed in this project that while some are better than others, none of the current benchmarks are 'perfect' and there is a clear need for improvements across the board.

An important consideration for benchmarking is whether these need to be external or internal. While external benchmarking provides a much-needed independence in terms of performance evaluation, these benchmarks are often standardised, offering less flexibility to a company's needs and type of business. As a result, several companies focus on developing internal benchmarks. Regardless, external benchmarks are viewed as more robust and favoured as they can provide very crucial comparisons across sectors and competitors.

There are also several motivations and uses of benchmarks in the ESG space. Benchmarks can be used for addressing property-level and the broader investor-level aspects regarding strategic, performance and communication issues including:

- Tracking performance at the portfolio and individual property level;
- Setting ESG improvement goals;
- Identifying ESG best practice;
- Assessing asset enhancement and energy efficiency;
- Communicating the ESG message to investors; particularly the flow-on effect to raising capital and informing investors; and
- Assessing peer performance.

In particular, the relationship between ESG benchmarks and real estate investment performance incorporates aspects of being a combination of a financial relationship, a risk management relationship and a PR relationship. This has important implications for an organisation's reputational risk and the capital raising ability of the asset owner; this issue is explored more fully in Section 4.

There are broadly four styles of ESG benchmarks and reporting standards capturing information at various levels as follows:

- Property fund/asset level;
- Listed property level;
- Delivery level; and
- Reporting level.

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In the following sections, a brief overview is provided of various ESG benchmarks and reporting standards currently available. The descriptions below heavily draw from the information from the respective company websites. For fuller details, refer to the websites mentioned below.

3.2 Key ESG benchmarks in real estate

3.2.1 Property fund/asset benchmarking

GRESB (<https://gresb.com>)

GRESB assesses and benchmarks the Environmental, Social and Governance (ESG) performance of real assets, providing standardized and validated data to the capital markets. It was established in 2009 by a group of large pension funds to have access to comparable and reliable data on the ESG performance of their investments. Since 2009, it has now grown into a leading Environmental, Social and Governance (ESG) benchmark for real estate and infrastructure investments across the world.

According to GRESB, their ESG data covers USD 4.5 trillion in real estate and infrastructure value and is used by more than 100 institutional and financial investors to make decisions on sustainable practices in real estate. The GRESB assessments are based on the issues recognised by the industry and conform to international reporting frameworks. The participants receive information on their performance, performance of peers, roadmap for improving their ESG performance and, also, a communication platform to engage with investors. For details on the assessment report format and associated information, see <https://gresb.com/benchmark-report/>.

GRESB has been a key player in shaping ESG in real estate. It has had a major impact at all levels in transforming the way that the real estate sector looks at ESG, from both the investor and investment management sides, and covering both the listed and non-listed real estate spaces. It continues to evolve and make improvements; this includes the introduction of the Health and Well-Being module and Climate Resilience component, and increasing the focus around the TCFD issues of governance, risk management, business and strategy, and metrics. This sees points allocated for Management and Policy (30%) and Performance, i.e. Implementation and Measurement (70%), in determining the overall ESG score. Both sides of principles adopted and execution are addressed therefore. For 2020, the management component in GRESB was upgraded from 27% to 30%.

However, there is a need for further improvement in GRESB, moving beyond just the policies implementation and data coverage aspects to more fully include the actual performance side of real estate portfolios. This was mentioned very strongly by the stakeholders interviewed for this report and is expanded on more fully in the stakeholder comments in their interviews in Section 4. The Better Buildings Partnership (2018) report provided a detailed list of areas where GRESB could be improved, with 14 recommendations in the areas of improved transparency, materiality and future developments.

GeoPhy/427 - <http://427mt.com/2018/10/11/climate-risk-real-estate-investment-trusts/>

Four Twenty Seven (www.427mt.com) is a leading provider of market intelligence on the impacts of climate change for financial markets. GeoPhy (www.geophy.com) is a technology company specialized in 'big data' in the real estate sector. GeoPhy's data fusion technology claims to combine disparate data sources into one comprehensive data overview that puts buildings into context, providing standardized information on quality, value and risk. While it shows what can be achieved in climate risk assessment as an exemplar where increased granularity is needed, other areas, including asset-specific matters, also require similar application.

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Four Twenty Seven and GeoPhy now provide granular projections of the impacts of climate change on real estate investment trusts (REITs). Four Twenty Seven applies its scoring model of asset-level climate risk exposure to GeoPhy's database of listed real estate investment trusts' (REITs) holdings, to create a global, scientific assessment of REITs' exposure to climate risk. It includes detailed, contextualized projections of climate impacts from floods due to extreme precipitation and sea level rise, exposure to hurricane-force winds, water stress and heat stress for over 73,500 properties owned by 321 listed REITs globally.

GeoPhy is an important recent development in the ESG benchmarking space, as it provides granular projections on the impact of climate change on REITs, being the first global scientific assessment of REIT exposure to climate risk. It is clearly the style of improved benchmark needed for real estate with its granular features as well as its strong level of analysis, by combining the features of a real estate service provider with a fintech at the environment level.

This sees a scoring model of asset-level exposure to climate risk, with this combination of both aspects being a powerful development in enhanced granularity for ESG benchmarking in the global REIT space. This sees risk thresholds developed for exposed properties as well as high risk (or red flag) properties identified. Climate risk is assessed as average portfolio exposure for each hazard, as well as an average climate risk score; thus enabling a more granular assessment of the impact of climate risk on the real estate portfolio. Results are presented using enhanced graphics, scorecards and the ability to do interactive analyses for scenario analysis and risk analysis. Future improvements are expected to see GeoPhy go beyond the global REIT space to also include non-listed real estate fund portfolios.

Other technology groups that are linking property and climate risk to enable a deeper and more rigorous analysis of ESG issues and real estate are Carbon Delta, Jupiter Intelligence and Verisk Maplecroft. Often these developments are initially US-focused, with expectations to be global platforms in the near future, seeing opportunities for risk analytics at a more granular level. These more granular climate risk analysis opportunities are expected to expand considerably over the next few years building on improved big data capabilities.

3.2.2 Listed property level benchmarks

S&P DJ- <https://us.spindices.com/topic/esg>

S&P offers a range of indices focused on ESG performance. S&P Global acquired the ESG Ratings Business from RobecoSAM to consolidate its position as the premier resource for essential environmental, social and governance (ESG) insights and product solutions. S&P DJI ESG Indices leverage assessment data from SAM, a division of RobecoSAM that specializes in ESG data and are based on SAM's Corporate Sustainability Assessment (CSA) survey-based approach for assessing corporate ESG performance linked with financial performance. The survey is conducted annually and is aimed at recognising companies that are better prepared to identify and address sustainability opportunities and challenges. They also focus on the larger market cap stocks.

The survey covers the following areas for each company: recognition of material ESG issues and the role ESG factors can play; understanding the potential financial impact of ESG exposures; implementation of strategies to manage ESG risks or capitalize on ESG-related opportunities; measurement of key ESG performance indicators to evaluate strategy effectiveness; validation or external audit of stated ESG strategies and results; and, transparent communication of corporate sustainability strategies and attainment of targets. The participating companies respond to one of 61 industry-specific questionnaires. The granular data are then analysed for industry-specific Criteria Scores, aggregating to Dimension (E, S, and G) Scores, and the Total ESG Scores.

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MSCI - <https://www.msci.com/esg-ratings>

MSCI rate 7,500 companies (13,500 issuers including subsidiaries) and more than 650,000 equity and fixed income securities globally as of October 2019. They collect information on ESG performance parameters into three pillars, 10 themes and 37 ESG key issues summarised in Table 3.1:

Table 3.1: Key ESG Issues

Pillars	Themes	Key ESG Issues	
Environment	Climate Change	Carbon Emissions Product Carbon Footprint	Financing Environmental Impact Climate Change Vulnerability
	Natural Resources	Water Stress Biodiversity & Land Use	Raw Material Sourcing
	Pollution & Waste	Toxic Emissions & Waste Packaging Material & Waste	Electronic Waste
	Environmental Opportunities	Opportunities in Clean Tech Opportunities in Green Buildings	Opportunities in Renewable Energy
Social	Human Capital	Labour Management Health & Safety	Human Capital. Development Supply Chain Labour Standards
	Product Liability	Product Safety & Quality Chemical Safety Financial Product Safety	Privacy & Data Security Responsible Investment Health & Demographic Risk
	Stakeholder Opposition	Controversial Sourcing	
	Social Opportunities	Access to Communications Access to Finance	Access to Healthcare Opportunities in Nutrition & Health
Governance	Corporate Governance*	Board* Pay*	Ownership* Accounting*
	Corporate Behaviour	Business Ethics Anti-Competitive Practices Tax Transparency	Corruption & Instability Financial System Instability

Source: <https://www.msci.com/documents/10199/123a2b2b-1395-4aa2-a121-ea14de6d708a> (Figure 1.1).

* Corporate Governance Theme carries weight in the ESG Rating model for all companies. In 2018, MSCI introduced sub-scores for each of the four underlying issues: Board, Pay, Ownership, and Accounting.

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Fitch – <https://www.fitchratings.com/site/esg>

Fitch Ratings has recently launched a new integrated scoring system that shows how environmental, social and governance (ESG) factors impact individual credit rating decisions. Fitch's ESG approach appears to fill a gap by publicly disclosing how an ESG issue can impact a company's current credit rating. Fitch is the first credit rating agency (CRA) to publish an opinion about how ESG issues are relevant and material to corporate credit ratings.

The new Fitch ESG Relevance Scores incorporate both the relevance and materiality of ESG elements to the rating decision. The scores are available by entities and also, by their relevant sectors.

Like other listed property benchmarks, the reliability and robustness of the data used is difficult to quantify as it relies heavily on information collected directly from corporate websites. Many stakeholders see it as a blunt tool used in ESG benchmarking in the listed property space (see subsequent stakeholder comments in Section 4.4).

GPR - <https://globalpropertyresearch.com/home>

Global Property Research (GPR) is a specialized provider of benchmarking solutions covering the listed real estate sector. They specialize in the creation of indices for the listed real estate and infrastructure sectors. GPR provides over 3,500 index series. They have launched three index series containing real estate companies with an overlay provided by GRESB.

At launch, the index series designed for institutional investors are:

- GPR Europe ESG + Index;
- GPR Europe ex-UK ESG + Index; and
- GPR Eurozone ESG + Index.

Each index series comprises the 50 most liquid constituents in the relevant region. Index constituent weights are adjusted, based on the individual company's ESG performance as measured by GRESB with high scoring companies receiving larger weights.

While these ESG benchmarks are useful in the listed property space, they are often seen as being very blunt, mainly using website collection procedures to extract the relevant information. This often raises accuracy issues.

3.2.3 Delivery level benchmarks

There are various international and country-specific frameworks available for measuring sustainability concerns for water, waste, CO₂ and energy at the asset level. These include LEED, BREEAM and EnergyStar, which enjoy well-established international reputations in reporting performance for a range of stakeholders. Local delivery benchmarks are also produced to account for local variations; this includes 'GreenMark in Singapore.

There are also standards for health and well-being issues in buildings. Launched in 2014, the International WELL Building Institute™ (IWBI™ - <https://www.wellcertified.com/about-iwbi/>) offers a cutting-edge WELL Building Standard™ and it is focused on improving health and wellness. The WELL v2™ pilot is a recently launched version of its WELL Building Standard, and the WELL Community Standard™ pilot is a district scale rating system that sets a new global benchmark for healthy communities. Similarly, the Fitwel Standard (<https://www.fitwel.org/standard/>) provides a tailored scoring system for existing and new buildings and sites by including 55+ evidence-based design and operational strategies to enhance buildings by recognising a broad range of health behaviours and risks.

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3.2.4 Reporting level frameworks

There are a number of reporting level frameworks available that are used extensively in the ESG space. Whilst they are not 'pure-play' benchmarks, they provide important frameworks used by the major international investment players when assessing ESG reporting.

PRI - <https://www.unpri.org/pri/about-the-pri>

The PRI is the world's leading proponent of responsible investment. It works to understand the investment implications of environmental, social and governance (ESG) factors and to support its international network of investor signatories in incorporating these factors into their investment and ownership decisions. The PRI acts in the long-term interests of its signatories, of the financial markets and economies in which they operate and ultimately of the environment and society as a whole. It encourages investors to use responsible investment to enhance returns and better manage risks, but does not operate for its own profit. It engages with global policymakers but is not associated with any government. It is supported by, but not part of, the United Nations.

Importantly, PRI goes beyond just being a framework; it is one of the few ESG reporting level frameworks that issues a score and compares it against their peer group score.

CDP - <https://www.cdp.net/en>

CDP is a not-for-profit charity that runs the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts. By scoring companies and cities, CDP objectives are to incentivize and guide them towards becoming a leader on environmental transparency and relevant actions. In 2019, over 8,400 companies and 920 cities, states and regions disclosed through CDP.

GRI - <https://database.globalreporting.org/>

GRI is an independent international organization that has pioneered sustainability reporting since 1997. The GRI Sustainability Reporting Standards (GRI Standards) are the first and most widely adopted global standards for sustainability reporting. Since GRI's inception in 1997, it has grown from a niche practice to one adopted by a growing majority of organizations. 93% of the world's largest 250 corporations report on their sustainability performance.

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TCFD- <https://www.fsb-tcf.org/>

The FSB Task Force on Climate-related Financial Disclosures (TCFD) aims to develop voluntary, consistent climate-related financial risk disclosures for use by companies. The TCFD's 31 members were chosen by the FSB to include both users and preparers of disclosures from across the G20's constituent countries covering a broad range of economic sectors and financial markets. The Task Force considers the physical, liability and transition risks associated with climate change and what constitutes effective financial disclosure across industries.

The TCFD's objective is to provide information to investors, lenders, insurers, and other stakeholders and develop recommendations for voluntary climate-related financial disclosure that are consistent, comparable, reliable, clear, and efficient, and provide decision-useful information to lenders, insurers and investors.

TCFD is expected to play an increasingly important international role in the near future, with its focus on governance, strategy, risk management, metrics and targets seeing TCFD as being the framework for effective climate-related financial disclosure. This is further reinforced by TCFD being mandated in the UK government policy for all listed companies and asset owners by 2022.

Whilst these can be more suitably classified as reporting level frameworks rather than ESG benchmarks, they still have a key role in the ESG space.

3.2.5 Internal benchmarks

While several companies rely on external benchmarks as discussed above, there are a number of organisations who prefer to create their own benchmarks and have the necessary resources to do so. One of the main challenges with the external benchmarks is inflexibility in reporting formats. The standardised nature of the external benchmarks does not allow certain uniqueness of the companies to be taken into account in assessing the performance on ESG. This is especially useful for large, diversified companies e.g. companies operating across a number of real estate sectors, companies with the various sector- and strategy-specific funds. However, building an internal company-specific benchmark requires a significant resource commitment and possibly, restructuring and realignment of business operations within the company. Larger companies with complex operations would require much more resources to do so. Despite this challenge, the ability to compile and process proprietary information and identify gaps in the data collection and independence in implementation of recommendations are clearly attractive for developing internal benchmarks. Given there are now several external benchmarks providing consistent and robust methodology, developing an internal benchmark is easier as the external frameworks can provide a template that can be customised to a company's needs. This sees a stronger focus on 'in-house' ESG issues, rather than at the broader generic level.

4. STAKEHOLDER INTERVIEW RESULTS

The following sub-sections provide details of the insights concerning ESG and ESG benchmarking from the 60 stakeholder interviews conducted for this research.

4.1 Importance of ESG in real estate

There was clear recognition across all those with a vested interest of the increasing importance of ESG in real estate, with the average score for importance increasing from 6.7 (out of 10) now to 8.7 in the next 3-5 years.

While stakeholder quotes can often be seen as emotive and possibly difficult to validate, the research team strongly believe that the quotes in this report add real richness in capturing the strong mood and sentiment regarding ESG in real estate. Hence stakeholder quotes are used widely throughout this report.

Typical stakeholder quotes around this issue included:

“ESG factors will have more importance going forward”

“We look closely at managers’ ESG credentials; we encourage them to improve”

“ESG is a key part of our investment decision-making processes”

From the interview responses, the authors identified Europe and Australia as leaders in recognising its importance now and in the future. The biggest improvements were expected in Asia, North America and Middle East, albeit from a low base.

Within the real estate sector, pension funds, fund managers and REITs were identified as the leaders in recognising the importance of ESG.

4.2 Critical ESG factors in real estate today

A wide range of ESG factors considered as important currently are summarised in Table 4.1:

Table 4.1: Important ESG factors today

Environmental	Social	Governance
Climate change risk, climate resilience, water and waste management, biodiversity, zero carbon	Health and well-being of staff/ tenants, customer satisfaction, staff retention, diversity and inclusion, community engagement	Meeting government guidelines, board diversity, governance structures, TCFD.

The issues of climate change risk and climate resilience were most evident across the stakeholders. Typical stakeholder quotes included:

“Climate resilience and zero carbon are big issues for us currently”

“Our board is right across our ESG strategies”

“We are focused on our communities; employees, tenants, investors and broader public”

4. STAKEHOLDER INTERVIEW RESULTS

4.3 Critical ESG factors in real estate for the future

Several ESG factors were seen as taking on much more importance, with a stronger focus on specific key factors, which are included in Table 4.2.

Table 4.2: Important ESG factors going forward

Environmental	Social	Governance
Climate resilience, climate change risk and the need to model climate change scenarios, waste disposal, zero carbon	Human rights, slavery issues in supply chain management, staff wellness, gender equity, board composition, leadership diversity	TCFD implementation

Compared to Table 4.1, the earlier focus on the Environmental dimension remains evident, but the interviews revealed attention has expanded significantly to the Social and Governance dimensions, particularly the need to measure impact in the social space.

Typical stakeholder quotes that capture this changing mood and sentiment included:

“Climate change is a global imperative”

“Occupational Health and Safety and staff well-being issues will become more important”

“There has been a positive impact on investment through institutional owners via social investing”

This evolving stakeholder sentiment for the critical ESG factors has implications for ESG benchmarking in real estate investment; in particular, whether current ESG benchmarks are adequate and will keep pace with changing levels of importance of these critical factors. This is the focus of subsequent sections of this report.

4.4 Use of ESG benchmarks in real estate

The key ESG benchmarks in real estate were assessed at various levels, particularly focusing on their use, limitations and how they can be improved to meet these increasing and changing priorities. A wide range of ESG benchmarks were cited by respondents, including both external and internal benchmarks, depending on the type of organisation involved. The views also highlighted differences between benchmarking ESG policy and approach today to the need for the fuller benchmarking of ESG performance and outcomes in the future.

4.4.1 Property fund/asset benchmarking

GRESB was often mentioned as the most relevant benchmark by respondents.

Typical stakeholder quotes included:

“GRESB is now part of our day-to-day language of how we are reporting”

“GRESB has forced some sections of the business to be exposed to ESG”

“GRESB is the best platform to engage investors in ESG”

“GRESB is a good overview of our portfolio”

4. STAKEHOLDER INTERVIEW RESULTS

There was also recognition that GRESB had evolved in more recent iterations, with the introduction of the Health and Well-being and Resilience modules, as well as accommodating TCFD issues around governance, risk management, business and strategy, and metrics regarding climate issues.

However, while recognising its relevance, it is important to put GRESB in perspective; particularly in terms of an organisation's overall ESG strategy, as evidenced by one stakeholder quote:

"We do not use GRESB to drive our strategy...we drive our strategy"

The authors believe this quote highlights a very important concept, namely that benchmarks themselves should not be allowed to drive or determine an ESG strategy, and that they are only one way of measuring performance. Asset owners themselves should determine, and indeed own, their ESG strategy. Importantly, many respondents were fully aware of the limitations of GRESB and the need for further improvement. Some of the interviewees who were most advanced in their ESG strategy had used GRESB as a starting point on their journey to structuring their individual corporate approach to ESG. In particular, interviewees felt there was a need to move beyond the current focus of GRESB on implementation of policies and data coverage to more fully include the ESG performance of the real estate portfolio. This would see the agenda evolve from 'doing ESG' to 'doing ESG well'. Some interviewees mentioned the risk of respondents 'gaming' the GRESB process to achieve a higher score without a direct positive impact on their ESG strategy. The BBP has made specific recommendations for improvements, as part of their excellent recommendations regarding transparency, materiality and future development of GRESB (BBP, 2018).

In the light of this awareness of the need for improvements in GRESB, and as just one example, a number (particularly US interviewees) mentioned GeoPhy/427 as a new development in ESG, with its focus on granular projections of the impact of climate change at the individual property level. This was perceived as enabling a fuller global scientific assessment of exposure to climate change risk. Innovative graphics, scorecards and interactive analyses were viewed as attractive features, as well as the identification of exposed and 'red flag' properties for the fuller granular assessment of the impact on the stakeholder's portfolio exposure at the asset-level to climate risk via scenario and risk analyses.

The research team (and stakeholders) see this as the 'granular' style of ESG benchmarks in real estate that will evolve over the next few years. This will involve a real estate service provider and a fintech at the environmental level utilising specific real estate and environmental/scientific information/data regarding climate change to assess the impact of climate change at an individual property and portfolio level. This benchmark in real estate is more fully explored in Section 5 of future implications.

In summary, GRESB is used extensively, but stakeholders identify a clear need for further improvement to fully capture the impact dimension of ESG. New benchmarks are also addressing the issue of granularity at the individual property level to enable more effective projections of the impact of the various aspects of climate risk.

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4.4.2 Listed property level benchmarking

A range of ESG benchmarks in the listed property space were utilised by interviewees, largely from the major index providers, but to a lesser degree to GRESB, with the MSCI ESG indices being the most frequently mentioned; as well as Sustainalytics. These ESG benchmarks covered the largest listed real estate companies by market capitalisation.

These ESG benchmarks are regarded by some stakeholders as being too blunt via their website collection procedures and thus the need for more granularity and accuracy.

Importantly, listed property level indices are also evolving in their ESG coverage, including S&P's introduction of the ESG Evaluation module in June 2019 to enable the assessment of how ESG factors will affect companies' long-term sustainability. Similarly, with MSCI's acquisition of Carbon Delta in September 2019, this provides MSCI with expanded capabilities to undertake environmental fintech and data analysis. This will see the MSCI Climate Value-at-Risk module developed, enabling climate change scenario analysis and risk analysis to be carried out in the listed property space, which may be viewed as a positive step for the fuller analysis of climate risk in the listed property space.

4.4.3 Delivery level benchmarking

Other ESG benchmarks were widely used at the delivery level (e.g.: water, waste, energy, CO₂) via LEED, EnergyStar, BREEAM, etc. These are global certification schemes seen by the stakeholders as having well-established reputations in reporting ESG performance.

Several local delivery benchmarks were also mentioned, being local variations on these global delivery benchmarks; e.g.: GreenMark in Singapore.

However, it is important to note that some of these delivery-level benchmarks do not provide performance-in-use benchmarks. They are asset-level benchmarks, so they are assessing how a building is designed, and not necessarily assessing how a building performs while in use; ie: its actual operational impact.

4. STAKEHOLDER INTERVIEW RESULTS

4.4.4 Reporting level frameworks

All of the standard reporting level initiatives were regularly mentioned in the stakeholder interviews, being strongly endorsed as global frameworks by the global players at an institutional level. These include PRI, CDP and GRI. Whilst not being benchmarks, they have an important role as reporting initiatives and frameworks.

Specific mention was made by many interviewees of the ongoing impact and increased role of TCFD (Task Force on Climate-Related Financial Disclosures) in providing an effective framework for climate-related financial disclosure. Whilst currently a voluntary disclosure platform (introduced in 2017), it will be mandatory for all PRI signatories from 2020 and for UK listed companies and large asset owners from 2022. It details governance, strategy, risk management, metrics and targets around climate change and is clearly seen by stakeholders as a key initiative for ESG and real estate.

One stakeholder indicated that:

“TCFD will be a key framework factor shortly”

4.4.5 Internal benchmarking level

Whilst much focus was given to the use of external benchmarks, the research also assessed whether interviewees used internal benchmarks. It was found that the use of internal benchmarks was far less advanced, with the main users being REITs, and the larger fund managers and pension funds. Typically, these were a combination of certain metrics used in external benchmarks and some specific calculations related to the user's business. The general sentiment was that external benchmarks were used for the benefit of investors, whilst internal benchmarks were used to run the business.

The majority of participants were unwilling to disclose the exact composition of these benchmarks as they were not for external use and/or still in the process of being developed and tested, often as part of an internal proprietary management tool.

One REIT used internal benchmarks to determine both the long-term impact of its investment decisions, as well as to shape its internal corporate culture. Elsewhere, one fund manager ran a survey to determine the optimal internal benchmark, but found that reducing answers to a simple numerical score did not produce a useful tool, as it required a far more holistic approach. Another fund manager used energy efficiency to rank assets and funds into relative performance quartiles and determine those in most need of improvement. A US fund manager used internal benchmarks as a screening process in sustainable property stock selection.

Some of the larger pension funds are developing proprietary composite benchmarks using their own data to measure physical impact as well as the volume of their impact investments. Physical data is being built into models they are developing with investment managers in collaboration with a number of universities.

4. STAKEHOLDER INTERVIEW RESULTS

4.5 Views on ESG benchmarking

Mention was also made by numerous stakeholders of specific issues regarding ESG benchmarking, including:

1. A diversity of views regarding the use of ESG benchmarking. Some fully supported the use of GRESB as having a key role. Others did not favour benchmarks, seeing a single number as incapable of capturing the nuances of their wider picture strategy/agenda in ESG. In particular, a 'one size fits all' approach did not capture fund style differences.
2. There were increasing reporting demands by many pension funds around ESG; often this went well beyond standard GRESB formats and required considerable effort in producing specific ESG details. This was seen as time consuming and placed more focus on ESG reporting than ESG delivery.
3. Concerns were raised over data collection processes, data quality and transparency of various benchmarks, being seen as an area requiring improvement in several benchmarks.
4. There was a desire to more fully assess ESG impact and performance; going beyond just ESG policy and procedures.
5. There was a need to go beyond metrics, with a fuller narrative required to explain ESG strategy and delivery.
6. ESG benchmarks (e.g.: GRESB) were seen as the starting point not the end point in the ESG agenda.
7. While an organisation's ESG profile was seen as important for capital raising (i.e. external view), the bigger issue was achieving ESG risk management (i.e. internal view).
8. ESG benchmarking was seen as a productive exercise in the longer-term, although in the short-term, it may be more challenging due to a holistic approach being required by asset owners and investors, compared to the single figure metrics produced by benchmark providers.
9. Whilst ESG benchmarking does not reduce climate change risk in itself, it is identified as a key element of an overall ESG strategy to reduce climate risk.
10. Whilst the ESG teams are typically small (between 2 and 6 staff), it is generally accepted they should have an integrated role with the real estate and management teams, working closely in developing ESG targets, strategy and agenda at an organisational level. Importantly, ESG support at a CEO and board level was deemed to be crucial.

Typical stakeholder quotes included:

"The ESG strategy we develop is strongly supported at the board level"

"ESG team is small, but actively involved at all levels"

"We use ESG as a trigger for the conversation, rather than the final investment decision"

4. STAKEHOLDER INTERVIEW RESULTS

4.6 Use of ESG benchmarks

Main uses for the ESG benchmarks included:

1. Tracking performance at the individual asset and portfolio levels; particularly against peer performance.
2. Setting ESG improvement goals.
3. Identifying best practice in ESG.
4. Effectively communicating the company's ESG credentials to investors.
5. Asset enhancement and improved energy efficiency.

It can be seen that ESG benchmarking is used at both a property and broader investor level, with strategic, performance and communication functions. For example, effectively communicating the 'ESG message' to investors has a 'flow-on' effect to raising future capital. Clearly, the longer term agenda goes beyond just getting a high score on the benchmark to setting the fuller ESG goals.

Stakeholders posed the following questions regarding benchmarks:

"Does it make a difference, what is its impact, how is it measured"

"How do we compare to our peers; are we improving"

"Our scale sees us address ESG in project delivery at a holistic level"

"We do not use GRESB to drive our strategy..... we drive our strategy"

4.7 Differences across real estate players, sectors and regions

In terms of differences in approach to ESG benchmarks between different types of participants and geography, the following were observed:

The first fundamental difference and amount of importance placed on ESG factors lay in the investment time horizon and the requirement to allocate or raise capital.

The second fundamental difference lay in the size of the participant and its ability to devote human and financial resources to an area that in the short term is not income-producing.

The third fundamental difference lay in property type, with developers of new CBD offices being most aware of current trends and developments in the sustainability area, as this is the area of great concern for their new customers (tenants seeking pre-lets), whilst owners of multi-tenanted, mature, industrial estates were least affected in the short term at the asset level, but were cognisant of ESG issues at the corporate level.

4. STAKEHOLDER INTERVIEW RESULTS

Participants to the research ranged from long term, defined benefit pension funds, to asset managers running perpetual life or finite life funds, REITs and sell-side analysts. The participants who have thought most about integrating all the ESG issues into a holistic framework for evaluating performance are the pension funds (particularly the Dutch ones), looking to service/match a long-term liability stream with sustainable income. The extent to which the income streams they invest in (via direct ownership of assets, JVs, Funds or REITs) are likely to suffer from identifiable ESG issues over time is of paramount importance. Therefore, they allocate to areas where they are confident that the relevant ESG factors are being considered, and do not allocate capital where they are not. The criteria used to determine this typically being a combination of internal and external benchmarks. This last point is extremely important, because this form of capital rationing is likely to have a very positive impact upon the willingness of funds/REITs/asset owners to ensure that their ESG performance is of the very highest level, otherwise they will not be able to attract capital. Therefore, it is of paramount importance that any external benchmarks used to determine capital allocation have a high level of transparency, and understanding by users.

For finite life funds, interest in the long-term sustainability of an asset is currently limited to the ability to sell the asset within a specific timeframe. This was particularly evident in several of the Asian player interviews, with their focus on opportunity funds in developing markets.

The group with the shortest time horizon are the sell-side analysts. Investment recommendations are based on target prices. Once these are met, recommendations need to be reviewed. Because the impact of ESG factors is felt over the longer term, its specific impact on short-term price movements and equity market valuations can be disguised and difficult to isolate. In addition, in the current market, there is often a significant disconnect between direct market values and equity market values. However, it should also be noted, that the sell side are now devoting greater resources to this area, in response to client demand, and the authors would expect this trend to continue. This ranges from developing both positive and negative screening tools for the sector specifically (i.e. which companies score best/worst), as well as incorporating sectoral analysis within an analysis of the other 10 equity sectors (i.e. how does real estate score relative to Utilities, Financials, etc.). Typically, this involves sector analysts working with equity strategy and dedicated ESG teams.

It is worth noting that the growth, usefulness and development of these tools will be at least partly dependent upon ESG factors having a material impact on pricing. At present, for example, the binary outcome of being able to sell an asset or not is predominantly driven by vendor pricing expectations and sector (office, retail, etc.). In the future, the authors would expect there to be a negative impact on pricing and the ability to sell an asset (regardless of sector popularity) with a low sustainability rating. Logically, in time, there should also be a positive impact on pricing for superior sustainability

In terms of geographic bias, it is clear that the Dutch players are the most advanced and keenest proponents of a rigorous ESG policy. Asia provided an interesting regional difference in that Asia had global ESG leaders in Japan and Singapore, but with many others yet to embrace ESG fully due to their developing market status. It was also evident in the considerable progress in ESG seen with the US players in recent years. This reflects the maturity and ESG experience of many organisations in these developed markets, and the focus on emerging markets in Asia that are yet to fully embrace ESG.

4. STAKEHOLDER INTERVIEW RESULTS

There was a significant difference in response between perpetual and finite life capital participants. Historically, the size of an asset owner has been a factor in determining ESG responses, but this is now less the case. The largest listed companies were at the forefront of best ESG practice, but it is noticeable how this has now permeated across to companies of all sizes, who regard best ESG practice as a sign of management capability and, therefore, leading to better equity valuations long term and a greater support for capital raising activities. In this regard, it is important to note that both Derwent London and Great Portland Estates have raised significant (£450m) debt capital facilities with improved rates linked to achieving environmental targets.

The role of EPRA and others in encouraging best practice and ensuring wider participation in this area and continued attention and development via its Best Practices Recommendations (BPR) guidelines and awards is very noticeable and this positive peer group pressure impact is likely to continue.

Generally, the interviews revealed that Australia and Europe were the most advanced regions in adopting best practices, with North America catching up; Asia and Middle East were well behind. This generally reflects the maturity and ESG experience of the players in the developed markets compared to the emerging markets in Asia, etc. that are only now taking on the ESG challenges in their real estate portfolios. This was also supported by an examination of the ESG documents provided by companies and funds in these regions.

Typical stakeholder quotes included:

“All real estate sectors are moving in the right direction”

“Industrial is lagging office and retail; tenants have key roles here”

“There are enormous differences across various regions”

“US players have made significant progress in recent years in ESG”

“There is increased consistency across markets regarding ESG; but Asia is still behind the game”

Outside Europe, the regional differences between respondents are summarised in Table 4.3.

4. STAKEHOLDER INTERVIEW RESULTS

Table 4.3: Regional Differences in Respondents

Australia
Most advanced in all areas of ESG; often seen as global leaders.
Strong delivery of ESG at all levels and players.
Strong awareness of limitations of current benchmarks; e.g. GRESB; and areas where improvement is needed.
Strong awareness of limitations of listed benchmarks; e.g. too blunt.
Strong awareness and focus on issues of increasing importance; e.g. climate resilience, zero carbon.
High level of delivery of best practice.
Strong awareness of increasing importance of TCFD.
Extensive experience in delivering E; now increasing importance of S; e.g. well-being, diversity.
High level of reporting ESG performance via a range of channels to investors.
Strong industry support via PCA, GBCA, NABERS, etc.
Clear understanding that they drive their ESG mandate; not GRESB.
Strong company culture around ESG and top-level leadership.
Strong awareness of importance of ESG in future capital raisings and winning projects.
Asia
Generally, behind in ESG at all levels.
Some outstanding examples of ESG delivery; e.g. some Singapore and Japan players.
Often just starting ESG journey, but well aware of importance and need to improve.
Strong awareness of ESG from advisory players.
Lack of depth in specific strategies in many cases.
USA
Major improvement recently; definitely catching up to Australia and Europe.
Some excellent examples of global leadership in ESG; e.g. several REITs.
Strong awareness of limitations of current ESG benchmarks.
Strong awareness of increasing need for granularity in benchmarks; GeoPhy specifically mentioned.
Clear mention made of increasing importance of climate resilience and zero carbon.
Strongest awareness of technology and big data directions.
Clear understanding of importance of climate resilience and zero carbon.
Numerous instances of high quality in reporting ESG performance to investors.
Increasing industry role in ESG by NAREIT etc.
Middle East
Well behind at all levels.
Still thinking about ESG issues, rather than implementing.
Lack of specific details in ESG delivery.

4. STAKEHOLDER INTERVIEW RESULTS

4.8 Relationship between ESG and investment performance

Generally, it was felt that the correlation between ESG compliance/best practice and the delivery of satisfactory financial performance over the medium term has been well established.

However, it was also noted that elements of ESG, particularly the impact of climate change were seen as risk-based factors that required a mitigation strategy, rather than a performance enhancement strategy.

Similarly, the PR side of ESG was seen more as being a threat to reputation risk rather than spin.

Typical stakeholder quotes included:

“Capital does not need to have this financial risk conversation today”

“Reputational risk is important for investors”

“Our focus is action, not words”

“We are so busy doing ESG, not just promoting ESG”

Overall, ESG and longer-term investment performance were regarded as inseparable, with ESG compliance no longer regarded purely as a financial cost, reducing short term performance.

4.9 ESG performance and remuneration

Regarding ESG performance and remuneration, there were widely varying views. It was seen as a slow-moving area, but with increasing conversations, driven by GRESB. Some stakeholders saw ESG as an increasing part of everyone's role and reflected in the ESG discussions that now occur in many annual reviews for staff; although it was not seen as explicit (e.g. by percentage). In several cases, ESG was fundamentally seen as part of the company culture.

Typical interviewee quotes included:

“ESG KPIs for employees are part of our corporate scorecard”

“All employees now have mandated KPIs in the ESG space”

“We have explicit KPIs in ESG”

4. STAKEHOLDER INTERVIEW RESULTS

4.10 Informing investors about ESG in real estate

ESG was discussed with investors in a wide range of ways, providing opportunities to communicate the ESG agenda in a transparent and timely manner. This includes:

1. Quarterly report to investors, with ESG section.
2. Regular investor meetings and presentations: both group and one-on-one.
3. Extensive ESG section on website.
4. Provide investors with details of GRESB scores and other metrics.
5. ESG reports and issues papers (see website).
6. ESG case studies (see website).
7. ESG annual report, including materiality assessment.
8. Representation and presentations in broader real estate industry forums.
9. Role in real estate industry groups.
10. Newsletters.
11. External validation.

The key priority is to embed ESG in investor and corporate materials, particularly quarterly reports, investor meetings and website. This is regarded as increasingly important by institutional investors seeking to monitor the ESG reporting as supporting their mandates for members, as well as facilitating capital raisings.

A constant issue that arose in interviews was increased demands by institutional investors (e.g. pension funds) for funds to complete questionnaires on ESG in a specific format beyond the standard ESG reporting metrics; it was seen as time consuming, and putting focus on reporting ESG rather than delivering ESG.

Typical stakeholder quotes included:

“15% of the time in investor meetings is on ESG”

“We meet regularly with boards and senior managers about ESG”

“ESG is a key presentation element in our investor days”

4. STAKEHOLDER INTERVIEW RESULTS

4.11 Communicating the message of ESG in real estate

Stakeholders had a very clear picture of ESG being a key part of how their organisation did business today, with ESG integrated into their business and investment decisions. Again, the added value from this external communication is potential future capital raisings.

Strong statements were made around what matters is what you do in the ESG space, not how you present/explain it. Some players were seen as better at presenting/explaining ESG versus doing/delivering ESG.

Typical stakeholder quotes included:

“ESG adds value to our investment decisions; it is integrated into the investment process”

“We desire to achieve ESG outcomes with investment outcomes; it is win-win”

“We are one of the industries making the deepest impression in the ESG space”

“Purpose alongside profit; a potent way to make a difference”

“We are about people, planet and profit”

4.12 Benchmarking ESG in real estate in ESG best practice context

Based on the research team’s insights and discussions with stakeholders, nine key elements of ESG best practice were identified, summarised in Table 4.4. Embedded within these nine key elements are various additional enabling strategies, such as proactive ESG leadership, board level and CEO endorsement, materiality assessment and staff buy-in for ESG. It is these key best practice factors that typically characterise the world leaders in the real estate sector in terms of their outstanding ESG leadership.

Table 4.4: Guide to best practice in ESG

1.	Clear ESG strategy
2.	Embed ESG in company culture and decision-making
3.	Effective use of ESG benchmarks: - external - internal
4.	Effective communication with investors and communities
5.	Dedicated ESG team; integrated role
6.	Effective presentation of the organisation’s ESG ‘journey’: - metrics versus narrative
7.	Deeper level of analysis: - model climate risk; impact assessment, etc.
8.	Strong and effective governance
9.	Informative ESG reporting

Source: Authors’ compilation

4. STAKEHOLDER INTERVIEW RESULTS

These nine key elements of best practice in ESG are not given in priority order, but highlight the need for a clear ESG strategy and delivery procedures at all levels of the organisation. Importantly, effective ESG benchmarking in real estate investment is seen as a key element of this best practice in ESG.

4.13 Summary of stakeholder views on ESG benchmarking

In summary, the key results from these stakeholder interviews around ESG benchmarking in real estate investment were:

- Increased ESG focus going forward will be on issues around climate risk, climate resilience, zero-carbon, wellness and diversity and governance issues;
- Current benchmarks (e.g. GRESB) have been important initially in transforming how real estate embraces the ESG agenda;
- Improvement in ESG benchmarks was clearly identified; particularly around moving on from ESG policy/ approach to more fully articulating ESG performance, outcomes and impact;
- Both external and internal benchmarks are important for effective real estate investment decision-making;
- ESG benchmarking has a variety of uses, both at the property performance and broader investor level, to address strategic, performance and communication issues;
- A full spectrum of views emerged in relation to the level of support for benchmarking procedures; There are increased demands by institutional investors (e.g. pension funds) for funds to complete questionnaires on ESG in a specific format beyond the standard ESG reporting metrics; it was seen by a number as time consuming, and putting focus on reporting ESG rather than delivering ESG. ESG benchmarking is regarded as the starting point not the end point of an ESG policy;
- ESG, as an effective risk management procedure, is more important than just for profile or PR purposes; ESG benchmarking in real estate is an integral part of overall ESG best practice in real estate;
- There is considerable variation in ESG benchmarking and implementation across real estate players, regions and sectors; this is also observed in terms of internal variation, reflecting global leaders and those just starting the ESG journey; and
- Strong recognition and support at a real estate industry level of the increasing importance of ESG.

4. STAKEHOLDER INTERVIEW RESULTS

Overall, there is a diversity in how different players and different regions have embraced the ESG agenda and ESG benchmarking. Whilst the stakeholders interviewed in this project largely focused on the international leaders in the ESG benchmarking space, it did also include players who recognised the importance of ESG benchmarking but who were only now starting their ESG journey. On balance, this saw a very supportive picture in terms of the stakeholders' increasing recognition of the importance of ESG, with a high level of awareness and understanding of the critical issues to be addressed in the ESG space in real estate. This included recognising the strengths and weaknesses of existing ESG benchmarks, as well as their added-value and the need for improved granular benchmarks in ESG for real estate investment. Stakeholder quotes covering these 'big picture' aspects include:

"We need to lift all of the boats together to improve ESG significance"

"ESG is a big part of how projects are won today; we use a holistic approach to place, which includes ESG aspects"

"Using ESG, we are reigniting the case for change across the entire employee base"

"ESG is a fundamental part of our investment process"

"We use ESG as a trigger for the conversation, rather than the final investment decision"

5. ESG BENCHMARKING IN REAL ESTATE: IMPLICATIONS

The ESG space in real estate investment is dynamic, with benchmarks needing to keep up-to-date with emerging priorities around issues such as climate risk, etc. This was clearly emphasised across the stakeholder interviews. So, where does this leave ESG benchmarking in real estate investment going forward?

5.1 Opportunities

Whilst strongly accepted ESG benchmarks are currently available (e.g.: GRESB), more needs to be done as the ESG critical factors evolve in the next few years. This will see opportunities emerge for additional new benchmarks that focus on these changes, as well as existing benchmarks addressing these issues.

Key factors around these new ESG benchmarks are:

1. Granularity.
2. Linking climate change risk analysis in with real estate via new real estate/environmental databases.
3. Increased focus on ESG performance.
4. Increased impact metrics for the S dimension of ESG.
5. Enhanced scenario analysis capabilities for a deeper level of analysis.
6. Robustness and verification.
7. Fuller delivery of TCFD implementation.

Many of the recent initiatives (e.g.: GeoPhy/427) are clearly moving in the right direction in addressing these gaps in the ESG benchmarking space for real estate investment. More is expected in this space as real estate groups link with environmental players in developing new products for a richer analysis of critical ESG issues such as climate risk and climate resilience.

5.2 Challenges/risks

Along with opportunities come challenges and risks in the ESG benchmarking space. Key challenges include:

1. The need for improved data quality and transparency.
2. Balancing of time and money needed for reporting ESG versus delivering ESG.
3. An expansion of impact metrics in the S space of ESG.
4. Fuller acceptance of the importance of ESG across the property industry and relevant communities.
5. The development of 'big data' capabilities to enable in-depth scenario analysis around climate change and climate resilience issues at an individual property level.

5. ESG BENCHMARKING IN REAL ESTATE: IMPLICATIONS

5.3 Improvements needed

The improvements needed in ESG benchmarking in real estate investment have been clearly articulated by the stakeholders in this report; and link in strongly with the opportunities discussed in Section 5.1.

In particular, the critical factors are around granularity, data quality, transparency, climate risk analysis and ESG performance analysis. Any new or updated benchmarks in real estate investment will need to address these critical issues in order to become effective ESG benchmarks.

5.4 Commitment

It was clearly evident to the research team during the course of this project, and the conducting of the stakeholder interviews, the passion for ESG delivery in several areas of the real estate sector. Key individuals and organisations have played a leading role in moving the ESG agenda forward at a regional and global level. It will be increasingly important to harness this passion as the real estate investment ESG agenda evolves its focus on climate and social impact risks and opportunities.

5.5 Role of the real estate industry

The research team, as it conducted this project, was particularly impressed with the level of leadership and commitment to ESG by the property industry. This was clearly shown in the proactive ESG agenda of individuals, companies and professional organisations such as IPF, EPRA, INREV, APREA, ANREV, ULI and NAREIT.

To the authors, one stakeholder quote very effectively summarised the ‘big game’ for ESG in real estate investment going forward:

“We need to lift all the boats together to improve ESG significance”

As well as being an interesting anecdote from one of the stakeholder interviews, the stakeholder drew an analogy of ESG with the break-away cyclists in the Tour de France. When the interviewer replied that the peloton always catches the break-away group of cyclists, the stakeholder replied “Yes, this is exactly what we want to see. We want to see everyone in real estate moving together and improving to win the ESG race”.

In summary, ESG benchmarking in real estate will take on increased importance, with the increased focus on climate resilience and climate risk analysis and the need for more granular analyses for more informed real estate investment decision-making. The commitment to ESG that was evident from these leading stakeholders interviewed and from the overall real estate industry will see this ESG agenda continue to help shape the importance of ESG in real estate to the benefit of real estate, industry players and the broader community and environment.

The challenges remain significant around issues such as how might real estate investments be affected by climate change, how to use real estate investment effectively in the longer-term and the need to ‘go beyond the metrics’ as well as the issue of taking the ESG discussion beyond the key players into the broader real estate space. The authors strongly believe the real estate industry has the commitment and ‘fire-power’ to deliver on these challenges for the ongoing benefit of the real estate industry and communities.

5. ESG BENCHMARKING IN REAL ESTATE: IMPLICATIONS

5.6 Recommendations

Based on these real estate industry insights and the views of leading stakeholders interviewed for this project, the following recommendations can be made regarding improvements in ESG benchmarking in real estate:

1. Current ESG benchmarks should place more emphasis on more fully assessing ESG performance, outcomes and impact, in addition to ESG policy and approach.
2. At present there are several asset-level benchmarks that assess how a building is designed. There should be more emphasis on assessing how a building performs while in use, i.e. its actual operational impact.
3. Any benchmark being relied upon by a significant number of investors must be giving correct information and signals to the market, and those must be fully understood by any investor relying on them.
4. Increase focus on higher level of granularity in ESG benchmarks in assessing climate change risk and climate resilience at an individual property level.
5. Make greater use of big data/technology advances for a deeper and more rigorous/granular analysis via risk analytics.
6. Higher order integration of real estate and environmental information into ESG decision-making.
7. Expand attention given to TCFD; particularly with its use being mandated in several markets.
8. Increase depth of implementation of ESG beyond just major players to more fully embrace all levels in the real estate industry.
9. Expand level of ESG benchmarking into less developed real estate markets; encourage global asset owners to apply best practices from developed markets to assets in other regions.
10. Increase level of ESG benchmarking in the social (S) dimension, in addition to more established environment (E) and governance (G) dimensions.

These recommendations are made concerning the future direction of ESG benchmarking and real estate, with clear strategies for what is required for expanding the ESG agenda more fully across the real estate space. This is expected to see further progress in the fuller embracing of ESG and ESG benchmarking as key components of real estate investment decision-making globally in the future.

6. INDUSTRY REFERENCES

The following references reflect the depth and strategic insight and commitment to a wide range of issues relating to ESG in the real estate investment space by leading real estate industry players, as well as for the other asset classes:

Aberdeen Standard Investments (2019) Dialling-up Our Integration of ESG Into Real Estate.

AMP Capital (2017) Sharing Everything and the Last Mile.

AMP Capital (2018) ESG and Responsible Investment Guidelines.

ANREV (2016) Sustainability Reporting Guidelines 2016.

APREA (2009) Sustainability Best Practice: The Challenge for Asian Property Companies.

AQR (2016) Assessing Risk Through Environmental, Social and Governance Exposure.

Axioma (2019) A Survey of ESG Vendor Data: Strategies for Managing Score Differences.

Better Buildings Partnership (2018) 2018 GRESB Survey Consultation Response.

BMO Global Asset Management (2018) ESG – A Fundamental Consideration.

BNP Paribas Real Estate (2019) How Sustainable Investment Improves Real Estate Performance.

CBRE (2018) 2017 China Green Building Report: From Green to Health.

CBRE (2018) Green Buildings: Everything Investors Need to Know.

CBRE (2019) Resilience and Property Management.

CBRE (2019) The Greening of Corporate Real Estate: Integrating Sustainability into Procurement Strategy.

CBRE (2019) The Occupier Approach to Resilience: How Tenants Can Mitigate Environmental Risk.

CFA Institute (2018) The Evolving Future of Fiduciary Duty in an ESG World.

Climate Council (2019) Compounding Costs: How Climate Change is Damaging Australia's Economy.

EPRA (2017) EPRA Sustainability Best Practice Recommendations Guidelines.

EPRA (2018) Building the Future: Reaching New Heights.

EPRA (2018) Methodology for the EPRA BPR Awards.

EPRA (2019) The Main Pillars of a Sustainability Strategy for Listed Real Estate Companies.

Eurosif (2017) European SRI Study 2016.

EY (2017) Climate Risk Disclosure Barometer.

Fidante (2018) ESG: Does ESG Matter for Asset Allocation?

Fidante (2019) ESG Investing: Operational Excellence in Real Assets.

Four Twenty Seven and GeoPhy (2019) Climate Risk, Real Estate and the Bottom Line.

Goodman Australia Industrial Partnership (2018) Quarterly Report Q3 2018.

GPT Wholesale Office Fund (2019) Quarterly Report: March 2019.

Great Portland Estates (2018) Creating Sustainable Spaces.

GRESB (2018) 2018 GRESB Real Estate Results.

GRESB (2019) 2019 GRESB Real Estate Results.

GRESB (2019) Resilience and Real Assets.

6. INDUSTRY REFERENCES

GSIA (2019) 2018 Global Sustainable Investment Review.

Hammerson (2019) 2018 Sustainability Report.

INREV (2018) Due Diligence Questionnaire for Non-Listed Real Estate Investment Vehicles.

Investec Asset Management (2017) Global Real Estate ESG Guidelines for Companies.

Jacobi (2019) Integrating ESG Considerations in Portfolio Design.

JLL (2011) Navigating Through Sustainability Reporting Standards.

JLL (2019) Global Real Estate Transparency Index: 2018.

Kilroy REIT (2019) 2018 Sustainability Report.

Legal & General Investment Management (2019) Material Change: A Five-Step ESG Checklist for Trustees.

Legal & General Investment Management (2019) Responsible Investing: Friend or Foe?

Mercer (2019) European Asset Allocation Survey 2019.

Mercer (2019) Investing in a Time of Climate Change.

MSCI (2019) TFCF-Based Reporting.

NAREIT (2019) NAREIT Guide to ESG Reporting Frameworks.

Pension Policy Institute (2018) ESG: Past, Present and Future.

PERE (2018) Sustainable Investing.

PRI (2018) How ESG Engagement Creates Value for Investors and Companies.

PRI (2018) Investment Consultants and ESG: An Asset Owner Guide.

PRI (2018) Shifting Perceptions: ESG, Credit Risk and Ratings. Part 2: Exploring the Disconnect.

PRI (2019) ESG Integration in Europe, Middle East and Africa: Markets, Practices and Data.

PRI (2019) Shifting Perceptions: ESG, Credit Risk and Ratings. Part 1: The State of Play.

QM (2018) Integrating ESG in Portfolio Construction.

RICS (2015) Climate Risk Toolkit: The Impact of Climate Change in the Non-Domestic Real Estate Sector of Eight European Countries. State Street (2017) Stewardship 2017.

TFCF (2019) Task Force on Climate-Related Financial Disclosures: 2019 Status Report.

The Investment Association (2019) The Investment Association's Consultation on Sustainability and Responsible Investment.

ULI (2016) Climate Change Implications for Real Estate Portfolio Allocations: Industry Perspectives.

ULI (2018) Ten Principles for Building Resilience.

ULI and Heitman (2019) Climate Risk and Real Estate Investment Decision-Making.

US/SIF (2019) Report on US Sustainable, Responsible and Impact Investing Trends.

Wells Fargo (2019) Real Assets In Depth: It's Not Easy Being Green: The Future of Fossil Fuels.

World Bank (2019) Green Bond Impact Report 2018.

World Economic Forum (2018) The Global Risks Landscape 2018.

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Boston Properties	MetLife
CBRE	Mirvac
CBRE Global Investors	MN
COC Capital	NAREIT
Derwent London	Nuveen RealEstate
EPRA	PGGM
ESR	Stockland
Frontier	Tishman Speyer
Goodman	UBS
GPR	ULI
GPT	Unibail
Hammerson	UniSuper
Heitman	Ventas
Hillbreak	Vernadi
INREV	Vert

Several other major stakeholders participated in this project, but have requested their company details are not included here.

The real estate sector globally for their strong commitment to ESG.

APPENDIX: STAKEHOLDER INTERVIEW QUESTIONS

The typical duration of each interview was one hour, in several cases attended by several team members, e.g. fund manager and ESG team leader. Stakeholder interviews were conducted, either in person or via video conferencing, and recorded to ensure an accurate documentation of interview comments. In total, these discussions extended to over 50 hours.

The following questions formed the basis for the stakeholder interviews:

Q1: On a scale of 1-10 (low importance to critical importance), how do you rate the importance of ESG (a) now and (b) over the next 3-5 years?

Q2: Do you use internal and/or external benchmarks/rating metrics for ESG performance?; provide details

Q3: Are you aware of the full range of ESG benchmarking services now available, both in real estate and generally?; which ones are most useful to you?

Q4: How do you use these ESG benchmarks?

Q5: What are the critical ESG factors today that you prioritise; provide details for each of the E, S and G areas?

Q6: How do you see the relationship between ESG factors and real estate investment performance; a financial relationship?; a risk relationship?; a PR relationship?

Q7: Do you see specific ESG factors taking on more importance going forward?; specify which ESG factors

Q8: How do you think these ESG issues vary over the different real estate sectors and geographic regions?

Q9: Should remuneration of investment managers be linked to ESG performance?; is there any evidence of this currently occurring?

Q10: Internally:

i: do you use peer group benchmarking for ESG performance?

ii: do you have a dedicated ESG team?

iii: who determines your future ESG targets?

iv: who sets the ESG agenda; are you proactive or reactive?

v: who delivers this ESG agenda?

Q11: Do you discuss ESG performance with your investees?; how often; in what forum?

Q12: Compared to your competitors, how do you see yourself performing on these ESG metrics?

Q13: How would you like to communicate your ESG agenda and performance to the outside world?

Q14: Any other issues relating to ESG factors and real estate investment performance benchmarking you would like to discuss.

APPENDIX: ACADEMIC REFERENCES

- Bagnoli, M. and Watts, S. G. (2003) Selling to socially responsible consumers: Competition and the private provision of public goods, *Journal of Economics and Management Strategy*, Vol. 12 No. 3, pp. 419–445.
- Bansal, P. and Roth, K. (2000) Why companies go green: A model of ecological responsiveness, *Academy of Management Journal*, Vol. 43 No. 4, pp. 717–736.
- Barthorpe, S. (2010) Implementing corporate social responsibility in the UK construction industry, *Property Management*, Vol. 28 No. 1, pp. 4–17.
- Bauer, R., Eichholtz, P. and Kok, N. (2010) Corporate governance and performance: The REIT effect, *Real Estate Economics*, Vol. 38 No. 1, pp. 1–29.
- Bauer, R., Koedijk, K. and Otten, R. (2005) International evidence on ethical mutual fund performance and investment style, *Journal of Banking and Finance*, Vol. 29 No. 7, pp. 1751–1767.
- Besley, T. and Ghatak, M. (2007) Retailing public goods: The economics of corporate social responsibility, *Journal of Public Economics*, Vol. 91, pp. 1645–1663.
- Bianco, C., Ghosh, C. and Sirmans, C. F. (2007) The Impact of Corporate Governance on the Performance of REITs, *The Journal of Portfolio Management*, Vol. 33 No. 5, pp. 175–191.
- Cajias, M., Fuerst, F., McAllister, P. and Nanda, A. (2014) Do responsible real estate companies outperform their peers? *International Journal of Strategic Property Management*, Vol. 18 No. 1, pp. 11–27.
- Cardebat, J. and Sirven, N. (2010) What corporate social responsibility reporting adds to financial return? *Journal of Economics and International Finance*, Vol. 2 No. 2, pp. 020–027.
- Chatterji, A. K., Levine, D. I. and Toffel, M. W. (2009) How well do social ratings actually measure corporate social responsibility? *Journal of Economics and Management Strategy*, Vol. 18 No. 1, pp. 125–169.
- Demaid, A. and Quintas, P. (2006) Knowledge across cultures in the construction industry: Sustainability, innovation and design, *Technovation*, Vol. 26 No. 5–6, pp. 603–610.
- Dermisi, S. V. (2009) Effect of LEED Ratings and Levels on Office Property Assessed and Market Values, *Journal of Sustainable Real Estate*, Vol. 1 No. 1, pp. 23–47.
- Dixon, T., Ennis-Reynolds, G., Roberts, C. and Sims, S. (2009) Is there a demand for sustainable offices? An analysis of UK business occupier moves (2006–2008), *Journal of Property Research*, Vol. 26 No. 1, pp. 61–85.
- Eichholtz, P., Kok, N. and Quigley, J. M. (2010) Doing well by doing good? Green office buildings, *American Economic Review*, Vol. 100 No. 5, pp. 2492–2509.
- Eichholtz, P., Kok, N. and Yonder, E. (2012) Portfolio greenness and the financial performance of REITs, *Journal of International Money and Finance*, Vol. 31 No. 7, pp. 1911–1929.
- Ellison, L. and Sayce, S. (2007) Assessing sustainability in the existing commercial property stock: Establishing sustainability criteria relevant for the commercial property investment sector, *Property Management*, Vol. 25 No. 3, pp. 287–304.

APPENDIX: ACADEMIC REFERENCES

- Ellison, L., Sayce, S. and Smith, J. (2007) Socially responsible property investment: Quantifying the relationship between sustainability and investment property worth, *Journal of Property Research*, Vol. 24 No. 3, pp. 191–219.
- Falkenbach, H., Lindholm, A. L. and Schleich, H. (2010) Environmental sustainability: Drivers for the real estate investor, *Journal of Real Estate Literature*, Vol. 18 No. 2, pp. 203–223.
- Fernández-Sánchez, G. and Rodríguez-López, F. (2010) A methodology to identify sustainability indicators in construction project management - Application to infrastructure projects in Spain, *Ecological Indicators*, Vol. 10 No. 6, pp. 1193–1201.
- Fuerst, F. (2009) Building momentum: An analysis of investment trends in LEED and Energy Star-certified properties, *Journal of Retail and Leisure Property*, Vol. 8 No. 4, pp. 285–297.
- Fuerst, F. and McAllister, P. (2011a) Eco-labeling in commercial office markets: Do LEED and Energy Star offices obtain multiple premiums? *Ecological Economics*, Vol. 70 No. 6, pp. 1220–1230.
- Fuerst, F. and McAllister, P. (2011b) Green Noise or Green Value? Measuring the Effects of Environmental Certification on Office Values, *Real Estate Economics*, Vol. 39 No. 1, pp. 45–69.
- Fuerst, F. and McAllister, P. (2011c) The impact of Energy Performance Certificates on the rental and capital values of commercial property assets, *Energy Policy*, Vol. 39 No. 10, pp. 6608–6614.
- Gabe, J. and Rehm, M. (2014) Do tenants pay energy efficiency rent premiums? *Journal of Property Investment and Finance*, Vol. 32 No. 4, pp. 333–351.
- Geczy, C. C., Stambaugh, R. F. and Levin, D. (2005) Investing in socially responsible mutual funds, *SSRN Electronic Journal*.
- Gliedt, T. and Hoicka, C. E. (2015) Energy upgrades as financial or strategic investment? Energy Star property owners and managers improving building energy performance, *Applied Energy*, Vol. 147, pp. 430–443.
- Griffin, J. J. and Mahon, J. F. (1997) The corporate social performance and corporate financial performance debate: Twenty-five years of incomparable research, *Business and Society*, Vol. 36 No. 1, pp. 5–31.
- Han, B. (2006) Insider ownership and firm value: Evidence from real estate investment trusts, *Journal of Real Estate Finance and Economics*, Vol. 32 No. 4, pp. 471–493.
- Hausman, J. A. (2015) Specification tests in econometrics, *Applied Econometrics*, Vol. 38 No. 2, pp. 112–134.
- Hebb, T., Hamilton, A. and Hachigian, H. (2010) Responsible property investing in Canada: Factoring both environmental and social impacts in the Canadian real estate market, *Journal of Business Ethics*, Vol. 92 No. SUPPL 1, pp. 99–115.
- Hwang, B. G. and Ng, W. J. (2013) Project management knowledge and skills for green construction: Overcoming challenges, *International Journal of Project Management*, Vol. 31 No. 2, pp. 272–284.
- Jones, P. and Comfort, D. (2006) Corporate social responsibility and the UK construction industry, *Journal of Corporate Real Estate*, Vol. 8 No. 3, pp. 134–150.

APPENDIX: ACADEMIC REFERENCES

- Julian, S. D. and Ofori-Dankwa, J. C. (2013) Financial resource availability and corporate social responsibility expenditures in a sub-Saharan economy: The institutional difference hypothesis, *Strategic Management Journal*, Vol. 34 No. 11, pp. 1314–1330.
- Kakabadse, N. K., Rozuel, E. and Lee-Davies, L. (2008) Corporate social responsibility and stakeholder approach: a conceptual review, *International Journal of Business Governance and Ethics*, Vol. 1 No. 4, pp. 277–302.
- Kok, N. and Jennen, M. (2012) The impact of energy labels and accessibility on office rents, *Energy Policy*, Vol. 46, pp. 489–497.
- Kok, N., McGraw, M. and Quigley, J. M. (2011) The diffusion of energy efficiency in building, *American Economic Review*, Vol. 101 No. 3, pp. 77–82.
- Lee, D. D. and Faff, R. W. (2009) Corporate sustainability performance and idiosyncratic risk: A global perspective, *Financial Review*, Vol. 44 No. 2, pp. 213–237.
- Leishman, C., Orr, A. and Pellegrini-Masini, G. (2012) The impact of carbon emission reducing design features on office occupiers' Choice of Premises, *Urban Studies*, Vol. 49 No. 11, pp. 2419–2437.
- Lintner, J. (1969) The valuation of risk assets and the selection of risky investments in stock portfolios and capital budgets: a reply, *Review of Economics and Statistics*, Vol. 51 No. 2, pp. 222.
- Luo, X. and Bhattacharya, C. B. (2009) The debate over doing good: Corporate social performance, strategic marketing levers, and firm-Idiosyncratic risk, *Journal of Marketing*, Vol. 73 No. 6, pp. 198–213.
- Lützkendorf, T. and Lorenz, D. (2007) Integrating sustainability into property risk assessments for market transformation, *Building Research and Information*, Vol. 35 No. 6, pp. 644–661.
- Maxwell, J. W., Lyon, T. P. and Hackett, S. C. (2000) Self-regulation and social welfare: The political economy of corporate environmentalism, *Journal of Law and Economics*, Vol. 43 No. 2, pp. 583–617.
- McAllister, P. M. and Fuerst, F. (2011) An investigation of the effect of eco-labelling on office occupancy rates, *SSRN Electronic Journal*.
- McWilliams, A. and Siegel, D. (2000) Corporate social responsibility and financial performance: Correlation or misspecification? *Strategic Management Journal*, Vol. 21 No. 5, pp. 603–609.
- McWilliams, A. and Siegel, D. (2001) Corporate social responsibility: A theory of the firm perspective, *Academy of Management Review*, Vol. 2 No. 1, pp. 117–127
- McWilliams, A., Siegel, D. S. and Wright, P. M. (2006) Corporate social responsibility: Strategic implications, *Journal of Management Studies*.
- Miller, N. G. and Davis, S. M. (2009) Green buildings and productivity, *Journal of Sustainable Real Estate*, Vol. 1 No. 1, pp. 65–89

APPENDIX: ACADEMIC REFERENCES

Miller, N., Spivey, J. and Florance, A. (2008) Does green pay off? *Journal of Real Estate Portfolio Management*, Vol. 14 No. 4, pp. 385–399.

Myers, D. (2005) A review of construction companies' attitudes to sustainability, *Construction Management and Economics*, Vol. 23 No. 8, pp. 781–785.

Nanda, A. (2018) Does it pay to be socially responsible for construction companies? *In International Conference on Informatics and Semiotics in Organisations* (pp. 248–256). Springer, Cham.

Newell, G. (2008) The strategic significance of environmental sustainability by Australian-listed property trusts, *Journal of Property Investment and Finance*, Vol. 26 No. 6, pp. 522–540.

Newell, G. (2009) Developing a socially responsible property investment index for UK property companies, *Journal of Property Investment and Finance*, Vol. 27 No. 5, pp. 511–521.

Newell, G. and Lee, C. L. (2012) Influence of the corporate social responsibility factors and financial factors on REIT performance in Australia, *Journal of Property Investment and Finance*, Vol. 30 No. 4, pp. 389–403.

Newell, G., MacFarlane, J. and Walker, R. (2014) Assessing energy rating premiums in the performance of green office buildings in Australia, *Journal of Property Investment and Finance*, Vol. 32 No. 4, pp. 352–370.

Newell, G., Peng, H. W. and Yam, S. (2011) Assessing the linkages between corporate social responsibility and A-REIT performance, *Pacific Rim Property Research Journal*, Vol. 17 No. 3, pp. 370–387.

Orlitzky, M. (2001) Does firm size confound the relationship between corporate social performance and firm financial performance? *Journal of Business Ethics*, Vol. 33 No. 2, pp. 167–180.

Ortiz, O., Castells, F. and Sonnemann, G. (2009) Sustainability in the construction industry: A review of recent developments based on LCA, *Construction and Building Materials*. Vol. 23 No. 1, pp. 28–39.

Ott, C. and Hahn, J. (2018) Green pay off in commercial real estate in Germany: assessing the role of Super Trophy status, *Journal of Property Investment and Finance*, Vol. 36 No. 1, pp. 104–124.

Oyedokun, T. B. (2017) Green premium as a driver of green-labelled commercial buildings in the developing countries: Lessons from the UK and US, *International Journal of Sustainable Built Environment*, Vol. 6 No. 2, pp. 723–733.

Pellegrini-Masini, G., and Leishman, C. (2011). The role of corporate reputation and employees' values in the uptake of energy efficiency in office buildings, *Energy Policy*, Vol. 39 No. 9, pp. 5409–5419.

Perrini, F. (2011), The Market for Virtue. The Potential and Limits of Corporate Social Responsibility, *Academy of Management Perspectives*, Vol. 21 No. 3, pp. 107–109.

Pivo, G. (2008) Responsible property investing: What the leaders are doing, *Journal of Property Investment and Finance*, Vol. 26 No. 6, pp. 562–576.

APPENDIX: ACADEMIC REFERENCES

Pivo, G. and Fisher, J. D. (2010) Income, value, and returns in socially responsible office properties, *Journal of Real Estate Research*, Vol. 32 No. 3, pp. 243–270.

Porter, M. E. and Kramer, M. R. (2006) Strategy & society: The link between competitive advantage and corporate social responsibility, *Harvard Business Review*, Vol. 84 No. 12, pp. 78–92.

Rapson, D., Shiers, D., Roberts, C. and Keeping, M. (2007) Socially responsible property investment (SRPI): An analysis of the relationship between equities SRI and UK property investment activities, *Journal of Property Investment & Finance*, Vol. 25 No. 4, pp. 342–358.

Reichardt, A., Fuerst, F., Rottke, N. B. and Zietz, J. (2012) Sustainable building certification and the rent premium: A panel data approach, *Journal of Real Estate Research*, Vol. 34 No. 1, pp. 99–126.

Renneboog, L., Ter Horst, J. and Zhang, C. (2008) Socially responsible investments: Institutional aspects, performance, and investor behaviour, *Journal of Banking and Finance*, Vol. 32 No. 9, pp. 1723–1742.

Roberts, P. W. and Dowling, G. R. (2002) Corporate reputation and sustained superior financial performance, *Strategic Management Journal*, Vol. 23 No. 12, pp. 1077–1093.

Ruf, B. M., Muralidhar, K., Brown, R. M., Janney, J. J. and Paul, K. (2001) An empirical investigation of the relationship between change in corporate social performance and financial performance: A stakeholder theory perspective, *Journal of Business Ethics*, Vol. 32 No. 2, pp. 143–156.

Russo, A. and Perrini, F. (2010) Investigating stakeholder theory and social capital: CSR in large firms and SMEs, *Journal of Business Ethics*, Vol. 91 No. 2, pp. 207–221.

Sayce, S., Ellison, L. and Parnell, P. (2007) Understanding investment drivers for UK sustainable property, *Building Research and Information*, Vol. 35 No. 6, pp. 629–643.

Sharpe, W. F. (1964) Capital asset prices: a theory of market equilibrium under conditions of risk, *The Journal of Finance*, Vol. 19 No. 3, pp. 425–442.

Simpson, W. G. and Kohers, T. (2002) The link between corporate social and financial performance: Evidence from the banking industry, *Journal of Business Ethics*, Vol. 35 No. 2, pp. 97–109.

Soana, M. G. (2011) The relationship between corporate social performance and corporate financial performance in the banking sector, *Journal of Business Ethics*, Vol. 104 No. 1, pp. 133–148.

Stanwick, P. A. and Stanwick, S. D. (2013) The relationship between corporate social performance, and organizational size, financial performance, and environmental performance: An empirical examination, *Journal of Business Ethics: Celebrating the First Thirty Years of Publication* (pp. 513–524).

Surroca, J., Tribó, J. A. and Waddock, S. (2010) Corporate responsibility and financial performance: The role of intangible resources, *Strategic Management Journal*, Vol. 31 No. 5, pp. 463–490.

Tan, Y., Shen, L. and Yao, H. (2011) Sustainable construction practice and contractors' competitiveness: A

APPENDIX: ACADEMIC REFERENCES

preliminary study, *Habitat International*, Vol. 35 No. 2, pp. 225–230.

Ugwu, O. O. and Haupt, T. C. (2007) Key performance indicators and assessment methods for infrastructure sustainability-a South African construction industry perspective, *Building and Environment*, Vol. 42 No. 2, pp. 665–680.

Van Beurden, P. and Gössling, T. (2008) The worth of values - A literature review on the relation between corporate social and financial performance, *Journal of Business Ethics*, Vol. 82 No. 2, pp. 407–424.

von Paumgartten, P. (2003) The business case for high performance green buildings: Sustainability and its financial impact, *Journal of Facilities Management*, Vol. 2 No. 1, pp. 26–34.

Waddock, S. A. and Graves, S. B. (1997) The corporate social performance-financial performance link, *Strategic Management Journal*, Vol. 18 No. 4, pp. 303–319.

Warren-Myers, G. (2013) Is the valuer the barrier to identifying the value of sustainability? *Journal of Property Investment and Finance*, Vol. 31 No. 4, pp. 345–359.

Westermann, S., Niblock, S. and Kortt, M. (2018) Corporate social responsibility and the performance of Australian REITs: A rolling regression approach, *Journal of Asset Management*, Vol. 19 No. 4, pp. 222–234.

Wiley, J. A., Benefield, J. D. and Johnson, K. H. (2010) Green design and the market for commercial office space, *Journal of Real Estate Finance and Economics*, Vol. 41 No. 2, pp. 228–243.

Yao, H., Shen, L., Tan, Y. and Hao, J. (2011) Simulating the impacts of policy scenarios on the sustainability performance of infrastructure projects, *Automation in Construction*, Vol. 20 No. 8, pp. 1060–1069.

Zambrano Leal, A. (2012) Sociedad de control y profesión docente. Las imposturas de un discurso y la exigencia de una nueva realidad, *Antimicrobial Agents and Chemotherapy*, No. 95, pp. 45–52.

Zhang, X., Wu, Y., Shen, L. and Skitmore, M. (2014) A prototype system dynamic model for assessing the sustainability of construction projects, *International Journal of Project Management*, Vol. 32 No. 1, pp. 66–76.

Zhao, Z. Y., Zhao, X. J., Davidson, K. and Zuo, J. (2012) A corporate social responsibility indicator system for construction enterprises, *Journal of Cleaner Production*, Vol. 29–30, pp. 277–289.

Zuo, J., Zillante, G., Wilson, L., Davidson, K. and Pullen, S. (2012) Sustainability policy of construction contractors: A review, *Renewable and Sustainable Energy Reviews*, Vol. 16 No. 6, pp. 3910–3916.



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