



## **Abstract**

There is a growing awareness of, and commitment to, Responsible Investment (RI) in the institutional investment markets internationally. RI is defined as the consideration of environmental, social and/or governance (ESG) issues in long-term oriented investment decision-making. As the role of ESG in determining investment risk and opportunity becomes more evident, and as ESG data becomes more available, RI is increasingly seen as an area of potential investment innovation. This thesis applies institutional, evolutionary and relational economic geography theories to examine this trend, exploring the mainstreaming of RI through novel empirical and conceptual research. This thesis examines the investment learning processes and information channels available in Western liberal market economies of the UK, US and Australia. It adopts economic geography knowledge and innovation frames towards answering the question: 'Now that ESG information is more widely available in the investment markets, why has this not catalysed a greater shift towards RI integration in mainstream investment decisions?'. Learning, language and leadership factors within the institutional investment industry are all argued to help answer this question.

This research uses a mixed method approach, with analysis based on a survey of 154 investment professions, 97 semi-structured interviews and a case of RI innovation. This thesis develops a conceptual framework of the communication channels and information sources used in investors' innovation-decision-process, drawing attention to the importance of both social and asocial learning processes in generating and sharing knowledge about climate issues within investment markets. Following this, the thesis examines the role of 'local buzz' and 'global pipelines' in facilitating access to, and uptake of, ESG information. Levels of buzz and pipelines are found to vary in different financial centres, and are facilitated by formal and informal networking linked to RI groups. Importantly, then, this thesis finds that both spatial and relational proximity influence investors' access to ESG information and RI knowledge.

The second half of this thesis examines whether and how RI information, knowledge and practice can be integrated into existing individual and organisational decision-making frameworks. It highlights the need to better translate RI information into investment-relevant language, and provides an example of how environmentally-driven stranded assets can be reframed as a version of sunk costs, contributing novel spatial-temporal theorisations of this concept. Through an illustration of RI decision-making by the investment consultant Mercer and the University of Sydney endowment fund, this thesis highlights that the capacity to integrate RI through the investment chain does exist. However, willingness to do so is found to be hindered by institutional and organisational path dependent norms, reduced only in some firms by seeing RI as an innovative area of competitive advantage from growing client demand. This thesis therefore finds that RI is being adopted in increasingly more mainstream investment firms, but this is not always fully integrated throughout the firm, and that uptake is geographically varied based on exposure to networks of information and knowledge sharing, and institutional, organisational and individual norms. Ultimately, this thesis therefore contributes towards understandings of the processes underpinning the mainstreaming of RI, but also contributes to broader economic geographies of investment, knowledge sharing and innovation.

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## List of Abbreviations

A4S: The Prince's Accounting For Sustainability  
ABS: Advanced Business Service  
ACSI: Australian Council of Superannuation Investors  
AIST: Australian Institute of Superannuation Trustees  
AODP: Asset Owner Disclosure Project  
AUM: Assets Under Management  
CalPERS: California Public Employees' Retirement System  
CCLI: Commonwealth Climate and Law Initiative  
CDP: Carbon Disclosure Project  
CDSB: Carbon Disclosure Standards Board  
CEO: Chief Executive Officer  
CFO: Chief Financial Officer  
CII: Council of Institutional Investors  
CIO: Chief Investment Officer  
COP: Conference of the Parties  
CUREC: Central University Research Ethics Committee  
DOL: Department of Labor (USA)  
EAPF: Environment Agency Pension Fund  
EEG: Evolutionary Economic Geography  
ERISA: Employee Retirement Income Security Act  
ESG: Environmental, Social and Governance  
EU: European Union  
EU HLEG: European Union High-level Expert Group on Sustainable Finance  
EuroSIF: European Sustainable Investment Forum  
FCA: Financial Conduct Authority  
FSB: Financial Stability Board  
GFC: Global Financial Crisis  
GIC: Global Investor Coalition on Climate Change  
GRI: Global Reporting Initiative  
GSIA: Global Sustainable Investment Alliance  
IC: Investment Consultant  
ICCR: Interfaith Center on Corporate Responsibility  
ICGN: International Corporate Governance Network  
IEA: International Energy Agency  
IEG: Institutional Economic Geography  
IGCC: Investor Group on Climate Change  
IIGCC: Institutional Investor Group on Climate Change  
IIRC: International Integrated Reporting Council  
IPCC: International Panel on Climate Change  
IRENA: International Renewable Energy Agency  
ISO: International Standard Organisation  
KBS: Knowledge-Based Services  
KPI: Key Performance Indicator  
LSE: London School of Economics  
MIFID II: Markets in Financial Instruments Directive II  
NEPSF: Northern European Partnership for Sustainable Finance  
NGO: Non-Governmental Organisation

OECD: Organisation for Economic Co-operation and Development  
OXWFD: Oxford World Finance Digest  
PRI: Principles of Responsible Investing  
REG: Relational Economic Geography  
RET: Renewable Energy Target (Australia)  
RI: Responsible Investment  
RIAA: Responsible Investment Association Australasia  
SAA: Strategic Asset Allocation  
SASB: Sustainability Accounting Standards Board  
SIFF: Social Investment Forum Foundation  
SRI: Socially Responsible Investment  
TCFD: Task-force on Climate-related Financial Disclosure  
TPR: The Pensions Regulator (UK)  
UK: United Kingdom  
UNEP: United Nations Environment Programme  
UNEP FI: United Nations Environment Programme Finance Initiative  
UoS: University of Sydney  
US: United States of America  
USSIF: United States Sustainable Investment Forum  
WBCSD: World Business Council for Sustainable Development  
WRI: World Resources Institute

# **Chapter 1. Introduction**

## **1.1 Thesis Background**

The year 2015 marked an inflection point in the transition towards a sustainable financial system. In September, the Governor of the Bank of England, Mark Carney, made a speech to Lloyds of London pronouncing climate change a “systemic financial risk” (Carney 2015). Two months later, in November, Carney called for the Financial Stability Board to form the influential Task Force on Climate-Related Disclosure (TCFD). Perhaps most importantly, the Paris Agreement, signed in December 2015 by 195 countries, signalled a global policy commitment and sparked international action towards a low-carbon future. These events contributed momentum to the growing business case for, and awareness of, Responsible Investment (RI). RI is often defined as the consideration of environmental, social and/or governance (ESG) issues in investment decision-making (Hebb et al. 2016; PRI 2013a), such as climate change, human rights or board diversity. This thesis is therefore written at a time when policy, investment industry and academic interest in RI topics is growing rapidly, with new announcements made almost daily. This thesis applies economic geography theories alongside mixed methods (a survey of 154 investment professionals, 97 interviews and a case) to contribute novel empirical data and conceptual frameworks to a growing body of research on the integration of RI knowledge and practice into mainstream investment decision-making.

This is an important topic of research, as, in the current economic and geopolitical environment, the institutional investment industry is needed to help fund a resilient,

low-carbon future necessary to protect the social, economic, and environmental well-being of current and future generations. At a time when national and local governments have high budget deficits, and the US President and the head of the US Environmental Protection Agency are vocal climate change sceptics, the institutional investment industry globally is unique in having both: a) access to large pools of capital with which to finance sustainable and responsible activities, and b) direct corporate influence with which to demand sustainable business models from companies they invest in (Covington & Thamotheram 2014). Sustainability issues are relevant to the finance community as they present both risks to portfolio returns, e.g. from corporate scandals, financial loss from extreme weather, and opportunities for new investment markets, e.g. green bonds, resilient infrastructure, clean energy (UNEP FI 2014).

Throughout this thesis, I define the institutional investment industry along the lines outlined in Clark and Monk (2017b), encompassing asset owners (e.g. endowments, pension funds, sovereign wealth funds<sup>1</sup>), the intermediaries who serve them (e.g. consultants, brokers, data providers), and the asset managers who are often charged with enacting the investment strategies of the asset owners. In defining the scope of this study, the thesis primarily focuses on the integration of RI knowledge and practice by asset managers and asset owners. Where relevant, the thesis makes reference to the broader investment chain, including investment intermediaries, data providers, corporations, and beneficiaries.

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<sup>1</sup> This study does not extend to insurance companies, as they have slightly different but related investment strategies and interests. However, this group of asset owners would represent an important extension of this research, given the inherent risks around climate change in the insurance sector and their important role in the investment industry (Bank of England 2015).

The definition of RI strategies can be (and is) problematised, with different researchers and practitioners each holding their own opinions and definitions of what counts as RI. This has arguably limited the uptake of RI among mainstream investors and hampered academic research on the topic (Haigh 2016). RI has strong links to concepts of ‘ethical’, ‘impact’ or ‘sustainable’ investment (Eccles & Viviers 2011), but this thesis will use the over-arching term of RI to encompass any investment approach that promotes long-term decision-making and the consideration of externalities of investments (whether this be environmental, social and/or governance factors). This differentiates RI from an incorporation of ESG factors merely as due-diligence for short-term financial reasons, although such an approach can be one part of an RI strategy.

RI can be adopted for a variety of reasons, and whilst traditionally seen as a moral or ethical position (Eccles & Viviers 2011; Richardson & Cragg 2010), there is a growing business case supporting the financial materiality of long-term and short-term risks and opportunities in ESG factors across multiple sectors and asset classes (Hebb et al. 2016; Lewis et al. 2016; de Graaf & Slager 2009). Academic literature has explored the numerous ways in which RI can lead to financial outperformance: for example, Porter and van der Linde (1995) explore the competitive advantages available through environmental innovation, Clark and Hebb (2005) point to the lower reputational and environmental risk factors involved in more responsible companies, while Nahal and Lucas-Leclin (2013) highlight the negative impact on supply chains from rising climate anomalies. As such, the mainstreaming of RI strategies throughout the institutional investment industry is argued to be both positive for financial as well as socio-environmental stability.

The financial industry is dependent on comparable, reliable information to facilitate informed investment policies and decision-making (Curran & Moran 2007), and a lack of such data on ESG factors hinders RI (Amaeshi & Grayson 2009; Aerts et al. 2007). During the time of researching and writing this thesis, there have been multiple industry and policy initiatives designed to improve both voluntary and mandatory provision of ESG information. For example, the TCFD report provided high-level recommendations on ESG reporting frameworks (TCFD 2017), and a European Directive now requires all large public-interest entities to disclose ESG information<sup>2</sup>. A large literature has focused on the quantity, comparability, materiality and quality of ESG information (Bassen & Kovács 2004; Khan et al. 2016; Eccles et al. 2012; KPMG 2015), but very little research has focused on the ways in which investors actually learn about RI topics and render ESG information into RI knowledge and practice. Best estimates suggest that three quarters of assets under professional management are still invested without any consideration of ESG factors (GSIA 2016), so this thesis extends previous RI research by focusing on the disconnects between available ESG information and RI knowledge and practice<sup>3</sup>.

This study has its foundations in the academic neglect of spatial dimensions of learning and information provision in economics and finance (Clark & Monk 2013) and the socio-environmental-economic imperative to help investors finance the transition towards a lower carbon economy (Covington & Thamotheram 2014; Stern 2015). These suggest that it is useful for academic research to study the economic geographies of RI knowledge and information. This is particularly the case

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<sup>2</sup> More information about Disclosure Directive 2013/34/EU can be found at: <http://www.iasplus.com/en-gb/news/2014/04/eu-parliament-esg-dislosure-directive>.

<sup>3</sup> In examining RI ‘practice’, I am interested in the pragmatic extent to which RI is integrated into investor decision-making, rather than the ‘everyday practice’ of RI, i.e. the experience and processes of enacting RI. This would be of academic interest, but is beyond the scope of this thesis.

considering that information flows (and the ability to use associated knowledge) are key to corporate, economic and investment performance, but vary between individual, organisational and institutional contexts (Amin & Cohendet 2004; Clark & Monk 2017a).

This thesis examines the investment learning processes and information channels available in Western liberal market economies, examining the question: '**Now that ESG information is more widely available in the investment markets, why has this not catalysed a greater shift towards RI integration in mainstream investment decisions?**'. Whilst most literature on the topic follow information-deficit models, assuming that providing more information is beneficial to decision-making, previous academic studies have shown that simply providing more information might not impact decisions or behaviours, and increases the risk of information overload (Agnew & Szykman 2010; Marteau et al. 2002; Peng 2005; Marshall 2015; Hudson 2012; Pidgeon & Fischhoff 2011).

Many institutional investors appear able to implement RI strategies using the existing quantity and quality of information in the market (UNEP Inquiry 2017), so this raises questions around the uneven capacity and willingness to learn about and implement RI strategies. It is therefore hypothesised that '**RI knowledge and practice is stifled by the channels through which ESG information is communicated**'. Of particular interest are the information channels<sup>4</sup> used by asset owners and asset managers, as these are likely to influence the framing, availability and uptake of ESG information to inform RI strategies. As the provision of more information does not necessarily

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<sup>4</sup> In defining the 'channels' through which ESG information and RI knowledge flow, this thesis is focusing on the array of social and asocial learning networks and sources available to investment professionals, including data platforms, research articles, media, conferences, industry groups, and peer-to-peer communication.

lead to action or conviction, so my thesis will not only examine how the information reaches investors, but focus on how different types of information affect the learning and knowledge of investors, as well as shedding light on some of the other factors stopping investors from adopting the insights available from ESG information.

Economic geography can provide useful frameworks and insights for this study for a number of reasons. Firstly, economic geography has a strong history of research examining the uneven spatial and relational geographic flows of information and knowledge (Amin & Cohendet 2004; Bathelt & Cohendet 2014). For example, empirical and conceptual research on these topics is frequently published in the *Journal of Economic Geography* (c.f. Faulconbridge 2006; Cohendet et al. 2014; Beaverstock 2004; Wainwright 2013). Secondly, the discipline is interested in innovation and the evolution in economic and financial practices within and across different geographies (Clark et al. 2018). Economic geography is therefore useful in exploring both RI mainstreaming as an innovation in investment decision-making and as part of the broader economic transition towards a global sustainable financial system. Thirdly, economic geography operates at the intersection of human and physical science, providing an interdisciplinary lens from which to understand both financial and environmental processes at the heart of RI decision-making. Finally, a main contribution of economic geography is its focus on uneven economic processes at different scales (Clark et al. 2000), useful in this study of RI knowledge and practice which are necessarily influenced by institutional, organisational and individual routines, as well as national and local rules and regulations. For these reasons, this D.Phil has adopted concepts and methodologies associated with economic geography to contribute to literatures surrounding ESG information channels and the mainstreaming of RI.

This thesis begins from an assumption that the mainstreaming of RI strategies in investment organisations is needed to meet the environmental and socio-economic challenges of the 21<sup>st</sup> Century. This is not universally supported, with some individuals remaining sceptical of the need to transition to a low carbon economy, and/or the role of investors in doing so (Mooney 2017; Marshall 2015). However, such positions are being eroded as the financial materiality of ESG issues is becoming more evident: in the emergent use of carbon prices and other ESG-related regulations in many national and regional contexts (World Bank et al. 2017); the rapid deployment of low-carbon technologies and investment products (Ceres 2014); the experience of stranded assets (Simms 2015; Caldecott & McDaniels 2014); and the negative financial impact of corporate ESG scandals (Baron 2009; Ayling & Gunningham 2017; UNEP 2013). To manage the associated risks and opportunities, as well as finance the low carbon transition, RI strategies arguably need to be adopted globally throughout the investment chain (Covington & Thamotheram 2014; Carney 2015).

Whilst ‘mainstreaming’ is often discussed as a goal by academics, policy makers and civil society groups (Juravle & Lewis 2009; Amaeshi & Grayson 2009; CDP 2015), definitions and metrics of RI mainstreaming are rarely discussed. This D.Phil uses a framework set out in Caldecott (2017) to highlight four main criteria for defining and assessing the mainstreaming of RI:

- 1. Concepts entering the lexicon:** the languages and terms surrounding RI and ESG issues must become commonplace within investment markets;
- 2. Improving the quality and quantity of RI practice:** mainstreaming should raise the standard of best practice, as well as the quality of ‘routine’ RI

practice;

3. **Irreversibly adopting RI across the international investment chain:** a permanent institutionalisation of RI practices throughout the global financial system, rather than short term change in one industry group or geographic region;
4. **Changing investment flows:** mainstreaming must produce new financial outcomes, including a reallocation of capital away from unsustainable firms and industries towards those that contribute to a resilient and sustainable socio-economic future.

The mainstreaming of RI knowledge (criterion 1) and practice (criteria 2-4) is a relatively recent focus in the history of RI. Whilst 2015 witnessed several defining moments that have boosted RI internationally, related practices existed as far back as the 17<sup>th</sup> Century when religious organisations stopped investing in pro-slavery associations, and RI gained further momentum through social and environmental movements in the late 20<sup>th</sup> Century and early 21<sup>st</sup> Century (Jemel-Fornetty et al. 2011; Eurosif 2012). Historically, mainstream adoption of RI was seen as being hindered by a scepticism about the link between ESG factors and financial performance, and a concurrent lack of ESG information (Bourghelle et al. 2009). A widely held conviction that investment strategies which incorporated ESG factors would lead to lower returns meant that RI was traditionally seen as a potential breach of fiduciary duty, and suitable only for those investors and customers who prioritised moral and ethical considerations over returns (Juravle & Lewis 2008; Richardson & Cragg 2010).

However, the financial materiality of ESG and the business case for RI have become increasingly evident in both academic and financial literatures, with a meta-study of academic research showing that 80-90% of studies find a non-negative correlation between ESG criteria and corporate financial performance (Clark et al. 2014). As this gained credence in the industry in the early 21<sup>st</sup> Century, several large institutional investment firms began developing RI strategies (Hawley 2016; Louche & Hebb 2014), and industry guidelines, networks and academic studies began examining how to integrate ESG considerations into ‘mainstream’ investment firms<sup>5</sup> (Zadek et al. 2005; de Graaf & Slager 2009; PRI 2013a). The steady growth in support for RI strategies is evident in the rising membership to industry initiatives such as the Principles of Responsible Investment (PRI). The PRI was established in 2006 to create and support a global network of investors implementing RI strategies: 1,750 signatories from over 50 countries, accounting for US\$70trn assets under management, are now part of this group pledging to follow six core principles of RI<sup>6</sup> (PRI 2017c).

The world is at a turning point of action on RI and ESG information topics, but for this to become a truly mainstream consideration, ESG information not only needs to be available but also accessible and applicable to all investment actors. This thesis develops novel empirical and conceptual insights using an economic geography

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<sup>5</sup> By ‘mainstream’ investment firms, I refer to non-RI specialist investment organisations. Specialist firms such as IMPAX Asset Management and the Generation Foundation have an important role to play in the development of RI, but this thesis is focusing on the integration of RI knowledge and practice into firms without a specific RI mandate and expertise.

<sup>6</sup> The PRI Principles are: 1) We will incorporate ESG issues into investment analysis and decision-making processes. 2) We will be active owners and incorporate ESG issues into our ownership policies and practices. 3) We will seek appropriate disclosure on ESG issues by the entities in which we invest. 4) We will promote acceptance and implementation of the principles within the investment industry. 5) We will work together to enhance our effectiveness in implementing the principles. 6) We will each report on our activities and progress towards implementing the principles (PRI 2017c).

framework to shed light on the channels of information-knowledge-learning in the investment industry, a first step in moving academic discussion away from a focus on the quantity and comparability of ESG disclosures towards an understanding of how such information can reliably inform investors' RI knowledge and help mainstream RI strategies.

The first half of the empirical contribution of this thesis analyses the landscape of RI information, knowledge and learning in the UK, US and Australia, based on a survey and interviews with investment professionals (Chapters 4 and 5). Building on these findings, the second part of this D.Phil thesis examines whether and how RI information, concepts and practices can be integrated into existing individual (Chapter 6) and organisational (Chapter 7) decision-making frameworks.

This thesis highlights gaps in investor knowledge about RI topics, and demonstrates the importance of both social and asocial learning at different stages of investors' innovation-learning-processes, noting the importance of both spatial and relational proximity to other investment chain actors with knowledge and experience of RI to both learn about and implement RI. Whilst collaboration and cooperation are increasingly visible around RI topics in the form of investor-led networks and initiatives (Global Investor Coalition 2014), more work needs to be done to encourage peer learning among mainstream investors who are not part of RI networks and/or those without internal RI expertise within their organisations capable of facilitating learning and practice. This thesis also highlights the need to better translate RI information into investment-relevant language, and provides an example of how environmentally-driven stranded assets can be reframed as a version of sunk costs to help integrate this RI-related concept into existing investment lexicons and decision-

making frameworks. Through a case of Mercer and the University of Sydney endowment fund, this thesis highlights that the capacity to integrate RI does exist in knowledge-based firms within the investment industry. However, it also finds that willingness to do so is hindered by institutional and organisational norms, reduced only in some firms by seeing RI as an innovative area of competitive advantage from growing client demand. This thesis therefore finds that the mainstreaming of RI is occurring, but is geographically varied based on exposure to institutional, organisational and individual norms and networks of knowledge sharing. Learning, language and leadership are all found to be important in answering the key questions of this thesis, and indeed, in driving the mainstreaming of RI.

This thesis, therefore, does not provide a list of recommendations for mainstreaming RI, but extends academic understanding of the economic geographies of Responsible Investment. It offers empirical and conceptual academic perspectives on the mainstreaming of RI knowledge and practice through existing communication channels and decision-making frameworks. Although a wide range of approaches to this question would have been relevant and interesting, the time and financial considerations of this D.Phil has limited the scope of the research. Related topics, including the verification, standardisation and regulation of ESG information have already received wider academic attention and will therefore only be mentioned when relevant (c.f. Eccles et al. 2012; Amel-Zadeh & Serafeim 2017; Bassen & Kovács 2004). Furthermore, this research is bounded by its focus on learning, knowledge and information as barriers to RI. Other barriers are highlighted, but this thesis does not give significant consideration to them nor suggest ways in which they could be overcome. This thesis does not seek to offer investment advice, comment on the relative merits and/or feasibility of individual RI strategies nor speculate as to what

‘best practice’ RI might look like. Whilst primarily contributing to academic literatures, the findings can, however, inform investors’, RI professionals’ and policy-makers’ discussions and understandings of the flows of ESG information and RI knowledge.

## **1.2 Framework of Analysis**

To begin analysing why ESG information has not been more widely integrated into investor knowledge and practice, it is important to explore how investors learn and internalise information. The framing of this research starts from the assumption that ‘Economic actors are not isolated beings who carry out atomistic behavioural scripts; rather, they are embedded in a social environment that constitutes meaning through repeated interaction’ (Bathelt & Gluckler 2013, p.10). Although there are many differing perspectives, even within economic geography, I argue that institutions are the long-term norms, rules and behaviours, which affect (but not necessarily dictate) individual and/or collective actions. The institutional scale is used to examine the ‘real places’ that inform investment knowledge and decision-making within and between different financial centres (Boschma & Frenken 2006a). Institutional economic geography (IEG) theories examine how uneven economic development and practice is linked to variations and changes in the institutions which govern different places (Boschma & Frenken 2006b; Rodrik et al. 2004; Martin 2008). Within IEG, there is a young but growing literature examining how institutionalised norms are created, performed and reproduced through relationships, networks and knowledge (Bathelt & Gluckler 2013; FitzGibbon & Mensah 2012; Hall & Thelen 2009). This thesis uses these perspectives to analyse the learning processes and information channels that structure investment decision-making in different markets (both

geographic and RI vs. mainstream) (Chapters 4 and 5), and the extent to which RI knowledge and practice are compatible with existing institutional structures within the investment industry (Chapters 6 and 7). These help identify information-knowledge-learning barriers to the integration of RI, the processes which are involved in the creation and practice of RI in mainstream firms as well as the extent to which institutional factors have contributed to the uneven mainstreaming of RI within and between different global financial centres.

Throughout this D.Phil, the mainstreaming of RI is framed as an innovation – an evolution in investment norms towards greater consideration of ESG factors and long-term decision-making (Krosinsky & Purdom 2017). The study of the learning process of investors is therefore informed by Rogers’ (2003) insights into the ‘innovation-decision-process’. The thesis uses an evolutionary economic geography (EEG) framing to analyse the extent to which organisations and individuals can evolve their decision-making processes towards the integration of RI knowledge and practice within existing institutional structures. Such research is important; if RI is found to not fit within existing evolutionary capacities and path dependencies, mainstreaming efforts could be largely futile. EEG is interested in the processes involved in the evolution of economic landscapes (Boschma & Martin 2010; Frenken & Boschma 2007), and emphasises the ways in which learning, path dependence and dynamism interact with and influence the history, geography and innovative capacity of a firm (Martin 2009; Boschma & Frenken 2006b). This framing speaks to the opportunities and barriers in the transition towards RI and a sustainable financial system, offering a more dynamic and temporal understanding of the organisational and institutional contexts within which investors operate and learn. Specifically, Chapter 7 applies these insights at an organisational scale to examine the capacity and willingness of

investment consultants (as key conduit of investment expertise and decision-making) to evolve towards the provision of RI advice and services within investment markets.

Digging further into the flows of RI knowledge and information, questions arise surrounding the accessibility of ESG information channels and networks. These themes are examined through a framing of ‘proximity’; including individuals’ proximity to information sources, expertise and ‘communities of practice’ (Wenger & Snyder 2000; Amin & Cohendet 2004). Proximity is a broader concept than ‘distance’, and facilitates an examination of the physical, social and political space between different entities (Clark et al. 2018). It is often assumed that location in global financial centres will facilitate better access to market information, but globalisation forces and ICT have complicated information and knowledge geographies (Wójcik 2007; Bathelt & Turi 2011). This thesis applies the concepts of ‘local buzz’ and ‘global pipelines’ to examine the complex geographies of ESG information, including the importance of physical and/or relational proximity in determining access to ESG information channels (Bathelt et al. 2004; Amin & Cohendet 2004). Many of these concepts are often associated with relational economic geography (REG), which focuses on the ways in which formal and informal relations among economic actors shape economic landscapes (Bathelt & Glückler 2003; Yeung 2005), but have also been more widely adopted in economic geography literatures to study innovation, agglomeration and knowledge processes (c.f. Clark & Monk 2017a; Rodríguez-Pose & Fitjar 2013).

Behavioural finance literatures are also used to frame this investigation into the individual experience of accessing and adopting ESG information, with behavioural heuristics affecting the decision-making processes of investors, access to and

acceptance of information, and the reproduction of investment industry norms (Kahneman et al. 1991; Tversky & Kahneman 1973). Whilst centred in an institutional context, this thesis uses concepts from both REG and behavioural finance to provide insights into the information, knowledge and innovation capacities of individual investors.

To examine the overarching hypothesis of this thesis, this research therefore uses economic geography to provide multi-scalar insights into the information and knowledge flows within investment markets. This thesis is framed in the agency of individuals and organisations within institutional contexts: IEG forms an overarching umbrella (as in Boschma & Frenken 2011; Amin 2001; Martin 2000) but the depth of inquiry is boosted by the analysis of empirical findings against relational and evolutionary economic geography theories as they can provide deeper insights at different scales of barriers, agency and processes in RI decision-making. This thesis therefore uses and examines the different scales that influence investment decision-making, whilst trying to avoid prioritising any particular scale as more influential or as more important. Whilst ‘local’ and ‘global’ RI networks are discussed, neither is argued to be necessarily more significant because of their inherent scale, and it is recognised that there is dynamism between the scales – processes and practices are not necessarily bounded in a particular scale (c.f. Marston et al. 2005; Swyngedouw 1997).

Scale plays an important role in economic geography (regardless of whether or not this is sufficiently problematised), and scale has thus informed the framing for this research to explore the mainstreaming of RI knowledge and the barriers facing RI knowledge sharing and practice: from the institutional scale of IEG, to the

organisational scale of EEG and the individual scale of REG. Each geographic perspective chosen to frame this research speaks to the importance of information, knowledge and learning in driving the adoption of RI practices in the mainstream. As such, this thesis uses multiple but complementary theories against which to test and analyze my empirical data to generate insights into the ways in which the channels of ESG information influence the uneven geographies of RI knowledge and practice.

### **1.3 Research Methodologies**

A mixed method approach is used to gain insight into the experiences and opinions of investors and other professionals engaging on RI topics in the UK, US and Australia. These countries were chosen due to their comparability as Western liberal market economies, shared English language, but distinct geographies, RI characteristics and investment cultures. A pragmatist approach along the lines of traditional scientific inquiry was adopted, whereby science is seen as an ongoing process in which researchers seek to improve the concepts they use to understand the mechanisms that they study, including a focus on observing, measuring and solving ‘real world’ problems, in this case the mainstreaming of RI (Clarke 2008; Denzin 2004). This ontological foundation was relevant in the fast moving world of RI and ESG information, with a non-linear and dynamic understanding of knowledge and research, with the methods and questions of this research changing as the field of RI evolved during the course of this thesis. As philosophies of science, pragmatism and critical realism, which have both influenced the methodological approaches to this research, acknowledge the imperfection of both scientific and public knowledge, but still allow for the distinction between ‘better and worse accounts of the world’ (Sayer 2015, p.1), with this thesis assuming that a greater application of RI can facilitate a ‘better’ world.

This research is thus driven by an application of empirical scientific method to observe and question the economic geographies of the mainstreaming of RI. A mixed methods approach was designed based on the perceived need to generate novel quantitative and qualitative data on the state of existing practice with regards to knowledge and learning processes related to RI, filling a gap in existing data sets and research analysis (as espoused in Feilzer 2010; Strauss 2008; Clifford et al. 2016). Quantitative data in the form of a survey provided a base line from which to analyse investor knowledge and practice but qualitative insights from interviews and a case were necessary to provide deeper understandings and observations into the experience of RI and perceptions of the barriers and opportunities to mainstreaming RI knowledge and practice within different institutional, organisational and individual decision-making settings.

A web-based survey was designed to provide insight into the knowledge and practice of investment professionals with regards to climate change topics and related RI practices. Such surveys are widely used to ‘acquire information about the characteristics, behaviours and attitudes of a population’ (McLafferty 2003, p.87). This survey generated an international sample of 154 investment professionals. Importantly, this predominantly quantitative method provided a comparable data set of both open and closed responses that could begin to shed light on key themes and answer initial questions of this research, particularly around the main channels of ESG information used by different investment actors, and the varied levels of understanding on climate topics. However, this survey was not able to provide a

nuanced investigation into the spatial and relational geographies of RI among investors, or perceptions of barriers to RI mainstreaming, at the core of this thesis.

Semi-structured interviews were designed and were undertaken in the UK, US and Australia to provide the core empirical insights needed to examine the research questions and hypotheses. Whilst such a qualitative approach is often more associated with cultural, social and feminist geographies, economic geographers have adopted such qualitative methods to inform understanding of different economic processes and practices, including the study of business elites (Hall 2007; Thomas 1993; McDowell 1998; Ley & Kobayashi 2005). Schoenberger (1991, p.181) argues that semi-structured corporate interviews are a 'valuable component of an evidentiary strategy in economic geography', finding that this technique can be more aware of 'historical, institutional, and strategic complexity'. This research is therefore informed by a comparative study of 97 semi-structured interviews undertaken with a broad range of actors in the investment chain, including pension fund executives, asset managers, RI professionals, and investment consultants. These interviews, undertaken in 2015 and 2016, provide in-depth insights into the opinions and experience of those with and without RI expertise.

Several related interviews were cross-analyzed with public documents to provide a detailed case of one client-consultant relationship in Chapter 7, with such a case useful in analyzing how two firms are evolving towards the integration of RI through co-development of knowledge and practice. This example can help provide greater detail on the 'real places' of RI mainstreaming, with this method a common tool within IEG literatures (Boschma & Frenken 2006a).

This study is situated within a wider shift within economic geography towards the use of qualitative rather than quantitative research methods to study economic processes (Crang 2002; Eriksson & Kovalainen 2008), but this thesis uses both through mixed methods to provide both broad and deep empirical answers to the questions raised in this D.Phil. Such mixing of qualitative and quantitative methods is now a commonly accepted technique in geography literatures (Gomez & Jones 2010; Clifford et al. 2016; Yin 2009; Bryman 2006), and triangulation across methods can reduce but not completely remove the bias within a study. Chapter 3 outlines the sampling structures and data analysis in more detail, whilst offering reflections on these methodologies and the choice of geographies examined. These methodologies represent a strong empirical base from which to begin the analysis of my research questions, with difficulties surrounding accessing professional investment elites meaning that many similar studies have much lower sample sizes. This empirical research began in November 2014, as part of my M.Phil. in Geography and the Environment at the University of Oxford. Rapid changes in the RI landscape occurred during my studies, which made it an exciting and topical project, but presented challenges in comparing data generated over time.

## **1.4 Outline of Thesis Structure and Hypotheses**

*'Now that ESG information is more widely available in the investment markets, why has this not catalysed a greater shift towards RI integration in mainstream investment decisions?'* In answering this question, this thesis breaks down the learning and knowledge processes of investors. The thesis starts with a broad study of investor

learning strategies and information channels (Chapter 4), before narrowing the focus onto the provision of ESG information (Chapter 5) and the applicability of a single RI concept (Chapter 6), before applying these insights more broadly again to a practical illustration of RI integration (Chapter 7). This structure reflects the decision-making process of investors, from initial learning to knowledge adoption to practice (Rogers 2003).

The first half of this thesis (Chapters 4 and 5) empirically examines the landscape of RI-related information, knowledge and learning flows. This helps move academic and industry research away from a dogmatic acceptance of information-deficit models towards a questioning of the flow of ESG information to ensure its accessibility, relevance and utility for mainstream investment audiences. These chapters examine the following questions:

1. How do investors learn about financial and extra-financial issues?
2. How does ESG information flow throughout investment markets to help inform this learning?

The second part of this thesis (Chapters 6 and 7) uses these initial findings alongside a more critical application of academic theories to outline institutional, organisational and individual barriers to the translation and integration of RI information-knowledge-learning into *practice*. These chapters are based on the examination of the following question:

3. Is RI knowledge and practice compatible with existing mainstream investment industry structures of decision-making?

While examples of mainstream RI practices do exist, little literature actually examines the feasibility of firm-wide shifts throughout the international mainstream investment chain. Chapter 6 examines the extent to which RI knowledge (through the example of stranded asset risk) can be integrated into investor decision-making frameworks. Chapter 7 then explores the integration of RI knowledge and practice in investment industry knowledge-based service firms (with a case from investment consultancy).

The rest of this section briefly outlines the content of each chapter, including the hypotheses that have shaped them. Appendix 1.1 provides a more systematic overview and summary of each of the main research chapters (Chapter 4-7).

Chapter 2 presents an overview of relevant academic and industry literatures on RI and economic geography, highlighting the gaps in understanding that this thesis contributes towards. Chapter 3 follows with a discussion of methods. This summarises the sample selection, methodological practice and data analysis techniques adopted, as well as reflections on the research experience.

Chapter 4 outlines and analyses the learning strategies and information channels used by institutional investors to incorporate climate change into investment decisions. This begins from the view that only when you understand learning processes and ideas of knowledge within a certain audience can you properly gauge how to drive change within that system (Weigold 2001; Dawkins 2013). I start from the hypothesis that **‘Social learning channels are important in investor RI learning and knowledge processes, but there is a lack of such provision in non-expert investment circles’**. Much discussion in academic and finance circles revolves around data-driven ESG disclosure, but this chapter extends literatures to RI

knowledge through the relative importance and accessibility of social learning opportunities (discussions with peers, experts, intermediaries etc.) which are highlighted as an important communication tool in the diffusion of both innovation and climate change topics (Rogers 2003; Marshall 2015). This suggests that ESG data is not sufficient in and of itself to mainstream RI. This chapter formed the basis of a peer-reviewed paper ‘Social and asocial learning about climate change among institutional investors: lessons for stranded assets’, published in the *Journal of Sustainable Finance and Investment* (Harnett 2017a).

Building on these findings, Chapter 5 examines the uneven geographies of ESG disclosure and investor engagement in RI networks. Parts of this chapter have been published as an Oxford Sustainable Financial Programme Working Paper ‘*The state of climate change knowledge among UK and Australian institutional investors*’ (Harnett 2017b). The chapter explores the hypothesis that ‘**The networks an investor belongs to matter more than geographic location in terms of accessing ESG information**’, from the premise that ICT, global financial markets and international air travel have facilitated influential ‘global pipelines’ of RI knowledge sharing. This builds on concepts of spatial and relational proximity to understand the flows of ESG information and RI knowledge sharing through local buzz and global pipelines, whether gaps in information channels within and between financial centres might be influencing the uneven development of RI mainstreaming, and extends literatures to a consider of pipelines-between-pipelines. Chapter 5 also highlights the need to better translate academic knowledge of ESG topics into investor-relevant languages, with significant gaps in investor knowledge remaining despite a significant growth in the amount of information and knowledge sharing available in the mainstream investment markets in the UK, US and Australia.

This insight acts as a foundation for Chapter 6, which explores opportunities for reframing RI terminology into languages that are already part of investment lexicons and decision-making frameworks. This chapter examines the hypothesis that **‘concepts linked to RI fit into existing investment decision-making frameworks’**. If this were not the case, then significant education, translation and adaptation would need to take place before ESG information could generate the mainstreaming of RI, slowing international progress on the development of a sustainable financial system. The chapter uses the example of ‘stranded assets’ (Caldecott, Howarth, et al. 2013), highlighting how this concept can be reframed as similar to the traditional economic/investment term ‘sunk costs’ as outlined by Clark and Wrigley (1995). The chapter proposes a novel spatial-temporal framework through which to view stranding risk in different geographies and time horizons, building on investors’ existing behavioural capacities and understandings of investment risk and sunk costs. This chapter has been accepted for publication as Chapter 4 in *‘Stranded assets and the environment: risk, resilience, and opportunity’*, the first anthology on environmentally-driven stranded assets, edited by Ben Caldecott and due for publication in mid-2018 (Harnett 2018).

Chapter 7 presents a case of investment consultants’ capacity to act as a channel of RI information, knowledge and practice among their investment clients, examining the hypothesis that **‘Capacity to integrate RI exists throughout the mainstream investment industry, but willingness to do so is hindered by institutional and organisational norms’**. A growing number of firms have adopted RI strategies, but a resistance among others suggests that the willingness rather than the capacity to do so might be hindering the mainstreaming of RI, almost regardless of the amount of ESG

information available. Investment consultants are used as an example as they act as independent experts with influence throughout the investment chain, but are widely criticised for lagging on RI issues despite a few pockets of excellence (PRI 2017a). This chapter draws on evolutionary economic geography to examine organisation-level innovation dynamics, and also draws upon organisational change management theory - notably, Kotter (1995) - to outline steps that firms could take to successfully integrate RI into institutionalised norms and behaviours of a firm and the investment industry more broadly.

Chapter 8 provides a holistic overview of the contributions and conclusions of the thesis, as well as a discussion of the limitations of the thesis and possible avenues for future research.

Each of these chapters provide unique but complementary insights from economic geography into opportunities for the further mainstreaming of RI into institutional investment decision-making, emphasising the role of learning, language and leadership. Together they demonstrate that, despite the rise in the quantity of ESG information available in the investment market, knowledge of RI remains geographically uneven and largely confined within spatial and relational bubbles of expertise within and between global financial centres. Individual, organisational and institutional information-knowledge-learning barriers to the translation of ESG information into RI investment-relevant knowledge and practice still remain, but this thesis also highlights opportunities to reframe and redirect ESG into mainstream investment decision-making channels to facilitate the evolution of investment practice towards RI.

## Chapter 2. Literature Review

Responsible Investment (RI) topics have been under-researched to date when benchmarked against comparable financial market topics (Hoepner et al. 2016). However, academic examination of RI trends, barriers and practices has been growing in line with awareness, showing a significant rise in the 2010s, including the development of related academic programs at leading universities<sup>7</sup>. To date, some key themes have dominated academic RI research. In particular, research has focused on efforts to prove the business case for RI through establishing a link between ESG strategies and financial performance (c.f. Orlitzky et al. 2003; Clark et al. 2014), methods to improve ESG disclosure (c.f. Bassen & Kovács 2004; Eccles & Krzus 2010; Baron 2014), understanding motivations for RI (c.f. Scholtens & Sievänen 2013; Clark & Hebb 2005; O'Connor 2014; Diouf et al. 2016), and efforts to distinguish definitions and taxonomies of RI (Caplan et al. 2013; van Marrewijk 2003). Each of these have helped RI develop, and facilitated the recent shift towards the mainstreaming of RI.

However, one area on which this literature appears virtually silent is on the issue of RI knowledge in the mainstream investment markets. Whilst there is a relatively strong focus on the content and comparability of ESG information and the need for communication the business case of RI to encourage uptake (Sparkes & Cowton 2004; Bourghelle et al. 2009; Eccles & Krzus 2010; Eccles et al. 2012; Fixsen 2016;

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<sup>7</sup> These include the Smith School of Enterprise and the Environment at the University of Oxford, the Cambridge Institute for Sustainable Leadership, the Grantham Institute on Climate Change and the Environment at LSE, and the Institute of Responsible Investment at Harvard. The growth in such research capacity in these institutes has recently culminated in the creation of the Global Research Alliance for Sustainable Finance, which will further promote and coordinate academic research on these topics. For more information, see <https://www.sustainablefinancealliance.org>.

Kolk 2008; Hedberg & Von Malmborg 2003), there is yet to be significant work on how investors learn about RI topics or translate ESG information into investment-relevant knowledge. This is perhaps surprising given the focus on these topics in related fields, including behavioural finance and economic geography literatures exploring the processes and practices of knowledge sharing, information gathering and the diffusion of innovation. This thesis primarily contributes towards filling this gap in the RI literature through bringing these diverse but related literatures together. This can expand understandings of the barriers and trends in RI mainstreaming, moving beyond previous focus on ESG data and ‘proof’ of the business case, as well as opening up new opportunities for economic geography and behavioural finance research on the institutional investment industry and RI specifically. One possible reason for the lack of such research is the relative novelty of widely available ESG data and industry engagement with RI topics, to the extent that mainstream investors’ knowledge of RI was previously insufficient to warrant examination from an academic perspective.

Importantly, this thesis draws heavily on both academic and industry ‘grey’ literatures (including reports from brokers, NGOs, supranational entities). This industry literature provides insight into the content of communications informing RI knowledge and investment decision-making, and gives insight into the latest investment industry trends that have yet to be captured in the slower-moving peer review academic literatures. The speed of change in the RI industry is at loggerheads with the rigour of academic process, so it is important that both type of literatures are used, whilst triangulating industry research wherever possible to corroborate findings (Benzies et al. 2006; Pappas & Williams 2011). Although not peer-reviewed, this

information is still digested, analysed and filtered in a competitive market, driving frequent updates and a degree of credibility so as to allow it to be useful in informing this thesis.

This chapter begins with a brief examination of literatures relating to the evolution and mainstreaming of RI (Section 2.1). Secondly, I discuss the literature around the barriers to the mainstreaming of RI. To do this, I build on Juravle and Lewis' (2008) groupings of institutional, organisational and individual barriers, and discuss how each can speak to a deprioritisation of ESG-related knowledge and information. This is outlined in Section 2.2, during which I also introduce three useful theories of economic geography – institutional, evolutionary and relational economic geographies. I argue that these can act as tools to understand and analyse the trends and barriers relating to the mainstreaming of RI knowledge and practice at different spaces and scales of decision-making. Section 2.3 outlines further economic geography literatures relating to flows of knowledge, information and innovation that will be used within this thesis to analyse the uneven development of RI knowledge and practice. Finally Section 2.4 explores the conclusions and caveats of existing literatures.

## **2.1 Evolution in Responsible Investment**

Three key trends in the evolution of RI can provide important background to the thesis in both highlighting how and why mainstreaming has progressed in the last decade and the gaps in industry knowledge and practice that remain. Firstly, there has been a shift in the motivations and drivers of RI, from ethical towards financial

reasons. Secondly, the type of investors and investment firms practicing RI and incorporating ESG issues in investment decision-making has broadened to include ‘mainstream’ firms. Thirdly, the strategies used to practice RI have evolved from negative and sector-scale screening to a broad range of strategies, including ESG integration and corporate engagement. Outlining these trends can illuminate the uneven development of RI between different firms and jurisdictions, and the importance of placing ESG information and RI knowledge at the crux of this thesis investigating the further mainstreaming of RI.

### **2.1.1 Motivations for Responsible Investment**

RI is widely noted in both academic and industry literature to have its history in religious institutions who would screen out ‘sinful’ products and practices from their investments (Sparkes & Cowton 2004; Eccles & Viviers 2011). From this start, ‘socially responsible investment’ (SRI) gained ground as investors in the 20<sup>th</sup> Century began to invest with a conscience, largely based on moral and ethical grounds, with arguably the first RI fund, the US Pioneer Fund launched in 1928 (Jemel-Fornetty et al. 2011; Eurosif 2012). The late 20<sup>th</sup> Century saw a rise in such moral and ethical investments in the mainstream markets, particularly linked to social issues including boycott and divestment campaigns linked to South African apartheid and the Vietnam War (Hawley 2016; Louche & Hebb 2014), and growing environmental concerns linked to ozone depletion and corporate responsibility for environmental pollution (Sparkes & Cowton 2004; Haas 1989; Lanjouw & Mody 1996). There has also been a shift in nomenclature from SRI towards RI to reflect a wider remit of ESG topics that could influence decision-making (Drucker 2009). However, RI practices remained relatively niche as the perceived moral grounds went against broader understandings

of fiduciary duty, supported by the influential declaration of Friedman (1970, p.1) that the ‘social responsibility of business is to increase its profits’. As such, the financial materiality of an RI approach is seen as vital to raising the appeal of RI among mainstream investors.

Over time, and as disclosure on ESG topics facilitated better measurement and analysis of relative performance, industry experience and academic research began to identify a relationship between the social and environmental legitimacy of a company and its financial performance (for a metaanalysis and summary of research, see Friede et al. 2015; Clark et al. 2014). This has facilitated a shift in motivations for RI from ethical towards business case reasoning. Such a move was visible as early as the 1980s, with CalPERS (one of the largest pension funds in the world) engaging on governance issues to increase market efficiency and lower financial risks within their portfolio (Hebb 2006; Huppé & Hebb 2011). However, it wasn’t until academic and industry research was available on this link, boosted by several ESG scandals in the late 20<sup>th</sup> and early 21<sup>st</sup> centuries, that wider understanding of the business case and financially-motivated RI began to grow. This delay was also perhaps perpetuated by the continued use of SRI terminology in the majority of academic research, rather than the less morally-loaded term RI (Schopohl 2017).

The Global Financial Crisis (GFC), which began in 2007 has also shifted motivations for RI, with research noting that prior to the crisis business case motivation was largely focused on portfolio returns, where as the reputational consequences of RI strategies became more apparent during the crisis. RI is now seen as a tool to help rebuild and/or maintain the reputation of investment industry actors as good corporate

citizens and prove their social legitimacy and utility (Hawley 2016; Blanc & Cozic 2012). This motivation has been further emphasised since the launch of the fossil fuel divestment campaign in 2012, which put pressure on investment actors invested in fossil fuel companies (notably university endowment funds and public pension schemes) (Ansar et al. 2013; Arabella Advisors 2016).

However, this thesis explores how the logics of these motivations are communicated to the investment community. This is particularly relevant to the mainstreaming of RI, given the persistent scepticism regarding the financial materiality of RI and concerns around how RI fits within fiduciary duties (Lewis et al. 2016). This thesis therefore contributes to answering the question of which communication channels are best suited to help mainstream knowledge of the financial materiality of RI. In doing this, it also explores the barriers to the dissemination of this knowledge. I therefore examine ways in which the logics and practicalities of RI might be communicated to an asset manager whose company offers an ESG fund but who is not integrating RI in their own standard portfolios, or an asset owner without an explicit sustainability mandate who is unaware of the risks and opportunities of ESG factors for their long-term liabilities. This thesis does not explicitly study the shift in motivations, but starts from the assumption that there is a business case for RI, and that the mainstreaming of RI knowledge and practice will depend on growing cognition of the financial materiality of ESG factors.

### **2.1.2 Mainstream Organisations' Uptake of Responsible Investment**

Such a shift in motivations from an ethical to a business case for RI has been a key facilitator of the next trend visible in the academic and industry literature: the breadth

of investment actors engaged in RI. As already mentioned, the main actors involved in early SRI were largely confined to religious and non-profit groups. However, the growing awareness of the financial materiality of ESG factors in the late 20<sup>th</sup> Century saw a broader set of investors, including large ‘mainstream’ private and public institutional investors, begin to explore these strategies to protect their long-term financial interests (Hebb et al. 2016; Hebb 2006; Caplan et al. 2013). RI strategies have been particularly adopted by pension funds and superannuation funds with long-term liabilities and an exposure to a broad range of economic factors through their roles as Universal Owners (Hawley & Williams 2007). For example, the Asset Owner Disclosure Project (AODP 2017) found that a 60% majority of asset owners, and half of asset managers claim to be taking action to manage the risks and opportunities posed by climate change. It is therefore clear that mainstreaming of RI is underway.

This thesis will focus on institutional investors, who accounted for 74.3% of the RI market globally in 2016, but it is important to note that the demand for RI amongst retail investors is also growing rapidly (GSIA 2016; Nilsson 2016). However, even among those investors who do adopt some kind of ESG-aligned strategy, this practice tends to be across only a small fraction of their total portfolio, with mainstreaming of RI incomplete until these considerations span across geographies, sectors and asset classes (Caldecott 2017; GSIA 2016). If ESG is indeed financially material, then questions remain as to why such an approach is not being adopted by all institutional investors with long-term liabilities, and across all of their portfolio decisions, and more research is needed to understand persistent barriers to mainstreaming - this thesis examines knowledge-related individual, organisational and institutional reasons

why further mainstreaming has not occurred in the face of growing ESG data and socio-political action towards the development of a low carbon transition.

As more asset owners explored RI opportunities, they have been instrumental in catalysing consideration of ESG factors among other investment chain actors (PRI 2017b; UNEP FI 2014). Although not all asset owners have engaged across the investment chain, and some actors from other groups were already considering these factors, the growth in RI strategies has (to a greater or lesser extent, depending on the size and structure of the asset owner) required action on ESG issues from mainstream asset managers, corporations, intermediaries and data providers. While there is a small but growing literature on the investment value chain, particularly around the conflicts of interest within it (Hall 2007; FCA 2017), little literature has examined the relationships between different actors in facilitating the learning about, and execution of, RI strategies. A few notable exceptions are an article by Hebb and Wojcik (2005) who discussed the ways in which institutional investors' RI strategies can raise global ESG standards within the economic system, and Knight and Dixon (2011) who explored the role of investment consultants in facilitating ESG integration in asset managers' corporate valuations. However, this thesis will examine this gap from a different perspective, analysing the communication channels and investment industry actors that investors rely on for their information and learning, and how spatial and relational proximity to other actors in the investment chain affect access to ESG-related information, innovation and learning.

The breadth of actors now adopting RI strategies of one kind or another suggest that there is greater opportunity for peer learning, learning-by-doing, and collaborative

opportunities within and between organisations, and whilst this has been anecdotally visible in the investment industry, little research has explored these issues within the RI industry, with the exception of the work done by Danyelle Guyatt (2013; 2008; 2007). This is despite the fact that collaborate is one of six core Principles to which members of the PRI must endeavour (PRI 2017c), and the fact that these topics have been studied and found to be important within the institutional investment industry more generally (Clark & Monk 2017a). This thesis contributes to this gap in the literature by exploring in more detail the potential for knowledge sharing on the topic of RI and its financial materiality, adding a geographical component to the analysis of local and international networks of cooperation and learning, and extends Guyatt's work with pension funds to explore relationships within and between different groups of actors along the investment value chain.

### **2.1.3 Evolution of RI Strategies**

The diversity of mainstream and niche investment actors now integrating ESG considerations into the investment decision-making has contributed to growing demand for a wide range of RI strategies. RI practices have thus evolved in the past three decades, with early RI focusing almost exclusively on negative screening of particular industries, geographies or products relating to religious, ethical or social moral positions (Berry 2016; Eurosif 2016). As conceptualisations of RI transformed, investors sought new and innovative ways to influence corporate activity, integrate ESG factors into decision-making and improve risk-return performance (Woods & Urwin 2010; GSIA 2016). This was aided by broader financial innovations opening up new markets and products in the 1980s and 1990s, and increasing corporate ESG

disclosure. RI, in this D.Phil, will therefore refer to the adoption of one or more of the following strategies, based on the taxonomies of the Global Sustainable Investment Alliance (GSIA 2016):

1. **Negative/exclusionary screening:** the exclusion of sectors, companies or practices based on specific criteria;
2. **Positive/best-in-class screening:** investment in sectors, companies or projects selected for positive ESG performance relative to industry peers;
3. **Norms-based screening:** screening of investments based on compliance with international norms and standards such as those issued by OECD and UN;
4. **ESG integration:** the systematic and explicit inclusion of environmental, social and governance factors into financial analysis by investment managers;
5. **Sustainability themed investing:** investment in themes or assets specifically related to sustainability (e.g. renewable energy, clean technology or sustainable agriculture);
6. **Impact/community investing:** targeted investments aimed at solving social or environmental problems, and/or financing businesses with a clear social or environmental purpose;
7. Corporate **engagement and shareholder action:** the use of shareholder power to influence corporate behaviour, including ESG-focused dialogue with senior management and/or boards, filing or co-filing shareholder proposals, and proxy voting.

The different RI approaches are not mutually exclusive, with many institutions adopting multiple strategies. Clark and Monk (2010) present the case of the Norwegian Sovereign Wealth Fund which uses engagement and screening processes,

publicly ‘naming and shaming’ unsustainable companies that have been delisted from portfolios if they have not responded positively to engagement. Integration of RI strategies, and climate concerns in particular, are also spreading across different asset classes, including private equity, infrastructure, fixed income, sovereign bonds, real estate, forestry and land use (IIGCC 2015; PRI 2017b; UNEP FI 2012; Lewis et al. 2016).

Although screening (both negative and positive) remain the largest strategies by Assets Under Management (AUM), engagement and ESG integration have become a more integral part of mainstream investment processes in recent years (Sørensen & Pfeifer 2011; GSIA 2016). Investors are increasingly introducing ESG considerations into initial stock- and asset-selection decisions, as well as developing designated portfolios, indices and investment products focused on avoiding risks and finding opportunities from climate change (Eurosif 2016; Hudson 2006). A rise of shareholder activism and increasing corporate engagement and divestment has also been visible in the wake of research on stranded assets and unburnable carbon, and growing momentum behind fossil fuel divestment campaigns (WRI UNEP-FI and 2 Degrees Investing Initiative 2015). For example, oil and gas majors have faced shareholder resolutions to calculate and disclose their climate risk exposure (Srinivas 2015).

The adoption of one or more of these strategies does not have to count as ‘RI’ necessarily, though, and will have varied impact based on motivations and executions of individual investors and firms. For example, investors who integrate ESG factors into their decision-making processes with positive sustainability outcomes might

consider this to be good due-diligence practice, rather than a specific long-term focused RI action, whereas others who make a coal divestment pledge as part of their RI strategy might not actually own any coal stock at the time so have a more limited impact. More research is therefore needed into the calculation and attribution of impact of RI strategies, and identifying the boundaries of when adopting one or more of the above strategies is (or is not) counted as RI.

What counts as RI is therefore a social construction, construed differently between different individuals, organisations and even supranational entities. This means that comparisons of RI figures and strategies are difficult, within and between countries, and means that investors' knowledge of RI is likely to be affected by where, when and from whom they learn. Whilst there is a whole subsection of research just exploring the RI terminology (Eccles & Viviers 2011; van Marrewijk 2003; Dahlsrud 2008), and repeated calls for, and industry initiatives designed to create, an official taxonomy and definition of what should be included (EU HLEG 2017), the impact of this discrepancy on investor knowledge, and the nuances of RI learning and knowledge is rarely discussed in the literature. The transient and varied definitions of RI, linked to the social construction of RI at various stages in its evolution, has led to confusion in the market as well as a non-unified academic literature starting from different definitions, premises and purposes (Haigh 2016). This is further complicated by the unstandardised and imperfect nature of ESG disclosures upon which many RI decisions are based (KPMG 2015; Eccles et al. 2012; Farooq 2015). This thesis seeks to shed light on some of these topics through an exploration of uneven geographic RI learning processes, ESG information channels and framings.

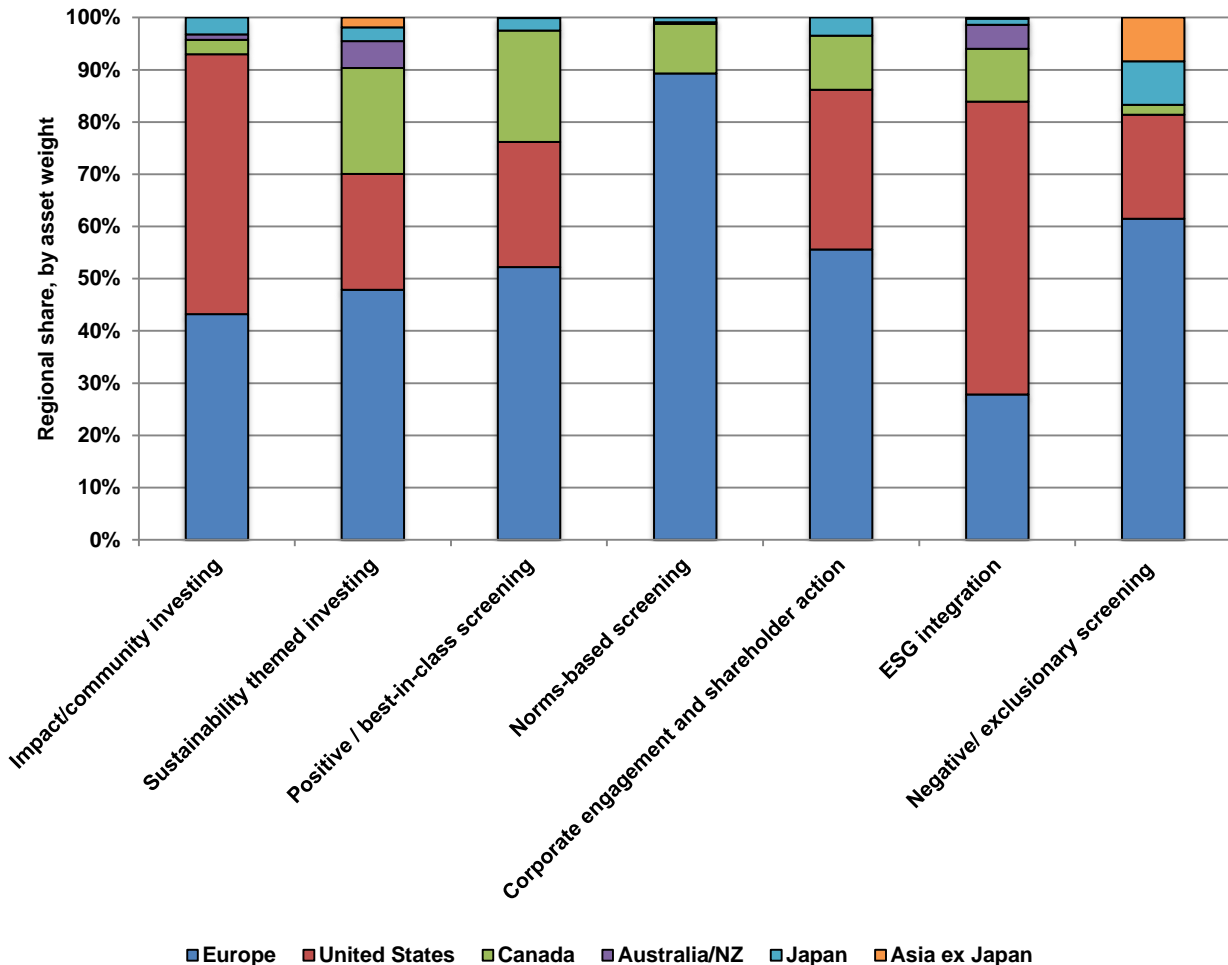
Academic and industry literature have produced a number of different guidelines on strategies open to investors. For example, the PRI have separate guidelines for asset owners (PRI 2013a) and for asset managers (PRI 2016a). De Graaf and Slager (2009) provided one of the first academic papers to outline pathways to integration, highlighting that the motive for RI is likely to direct the types of approaches that would be most relevant. However, more research is needed to explore the efficacy and impact of each approach, though this is not within the scope of this research. This thesis does not preference a particular strategy, recognising that investors are not homogenous, and that each strategy each will be appropriate for different investors' risk appetite, geography, investment strategy and expertise, with many investors adopting multiple approaches concurrently. In the context of this thesis, though, it is important to recognise that RI appetites vary, and that there is likely to be at least one RI strategy that is suitable for any investment mandate, size and/or objective.

RI and ESG vary significantly between nations, based on the differences in country-level investment industries, ESG risks, technology R&D and socio-economic cultures. Figure 2.1 highlights that preferences for RI strategies vary across geography, with European investors accounting for almost 90% of global norms-based screening, compared to less than 30% of global ESG integration. The Routledge Handbook of Responsible Investment (Hebb et al. 2016) and the annual Global Sustainable Investment Review (GSIA 2016) provide a useful snapshot of RI practice in different countries, though are necessarily out of date by the time of publication. There is a small literature examining and explaining these trends, notably: in Waring and Edwards (2008) which explored the geographic unevenness of SRI and why this matters; in comparative case studies of RI at a national scale (Pfeifer & Sullivan

2008; Scholtens & Sievänen 2013); and in explorations of the impact of RI on global economic processes and policies (c.f. Hebb & Wójcik 2005; Hawley et al. 2011).

The first analytical half of this thesis (Chapters 4 and 5) provides empirical contributions to this literature on the level of knowledge and engagement in RI processes and practices in the UK, US, and Australia. These economies were chosen as the three largest institutional investment markets in the world (OECD 2017). All three institutional investment markets analyzed have significant ESG exposure, share a common language, are common law jurisdictions, are Western liberal economies, and are home to an activism surrounding RI in some areas of the mainstream investment market. However, their political, geographical, institutional, cultural and regulatory structures vary, affecting their RI markets. Interestingly, they represent the three major time zones of financial markets, and their geographies are explored in relation to the flow of information within and between markets.

**Figure 2.1. Regional Share of Global Use of RI Strategies. Source: Author based on GSIA, 2016.**



*United States:* RI continues to rise in the US, driven by the development and uptake of new ESG products, and integration of ESG criteria by numerous large asset managers across wider portions of their holdings seeking to attract RI demand from international asset owners (Voorhes 2016; GSIA 2016; CDP 2015). The GSIA estimated total RI AUM at the beginning of 2016 to be \$8.72tr, up 33% from 2014 (GSIA 2016). This is equivalent to more than a fifth of the US investment market valued at \$46 trillion (BCG 2015). US investors use a range of RI strategies, notably ESG integration and a growing use of shareholder resolutions on ESG issues (GSIA

2016; Voorhes 2016). There is a growing membership to the PRI, and strong RI advocacy from members associations Ceres, the Interfaith Center for Corporate Responsibility (ICCR), and the US Forum for Sustainable and Responsible Investment (USSIF). The Dodd Frank financial reform law and subsequent SEC decisions have promoted corporate disclosure on ESG issues (Voorhes 2016). This was further supported by recent guidance by the Internal Revenue Service and the Department of Labor which clarifies ESG as an appropriate component of fiduciary duty for retirement pension plans if they are financially material to investment risk and return (Lewis et al. 2016; DOL 2018). However, wider policy signals are relatively weak particularly following President Trump's decision to withdraw from the Paris Agreement and effective dismantling of the Environment Protection Agency.

*United Kingdom:* The RI industry in the UK is diversified across all of the different RI strategies, and is international in its outlook due to the fact that almost 40% of the total £5.5 trillion of AuM in the UK originates from foreign clients (Eurosif 2016). Latest estimates suggest that almost £1tn is managed using RI strategies, dominated by corporate engagement and screening (both positive and negative) (Biehl & Atkins 2016; Eurosif 2016). The UK government and regulators are also trying to position themselves as leaders in green finance, with the establishment of the Task Force on Climate-related Disclosure, the UK Stewardship Code and the UK Green Finance Taskforce. The UK is also home to a large number of topical NGOs and think tanks, including the Institutional Investor Group on Climate Change (IIGCC), Carbon Tracker, CDP (formerly the Carbon Disclosure Project), PRI and Share Action who act as educators and facilitators of RI.

*Australia:* RI is a core thread in the investment narrative of Australia, with RI

strategies accounting for A\$622bn, nearly half of all professionally managed assets (RIAA 2016; Young-Ferris & O'Halloran 2016). This development reflects the strong commitment to ESG integration by some of the largest investment institutions including sovereign wealth funds and superannuation funds. There is strong collaborative action and achievement through core networks of the Investor Group on Climate Change (IGCC) and the Responsible Investment Association of Australasia (RIAA), and growing RI commitment within broader industry groups Australian Institute Of Superannuation Trustees (AIST) and Australian Council Of Superannuation Investors (ACSI). Demand for RI has been driven by strong client demand, including in response to divestment campaigns and research which found that 90% of Australia's coal reserves will be 'unburnable' if the 2°C target is to be met, meaning that exposure to asset stranding is likely to be high (McGlade & Ekins 2015; Caldecott, Tilbury, et al. 2013). Policy uncertainty on RI topics though is high, with the Australian Government under Tony Abbot repealing a progressive A\$25.40 per tonne 'carbon tax' (White 2013) and reducing the popular Renewable Energy Target (RET) (Taylor & Hoyle 2014).

Therefore, it is recognised that RI motivations, users and strategies have all evolved over time. From this, this thesis is founded on the perspective that RI is an innovation. Not only is the concept changing over time, evolving as new terminology such as carbon bubble, green bonds and stranded assets are developed in academia and industry alike, but also more broadly RI is seen as an innovation representing re-alignment and evolution of investment techniques, products and economic structures towards the incorporation of ESG factors in the decision-making process of investment value chain actors (de Graaf & Slager 2009). It is from this perspective that this research will build on literatures surrounding the diffusion and

communication of innovation to better illuminate the knowledge and information flows necessary to developing and implementing RI as an innovation in mainstream investment decision-making (c.f. Rogers 2003; Hall 2004). The geographic differences and similarities in RI within Western liberal investment systems, and the flows of knowledge and finance between them, make economy geography a suitable academic home from which to begin this analysis.

## **2.2 Uneven Development of RI: An Economic Geography Approach**

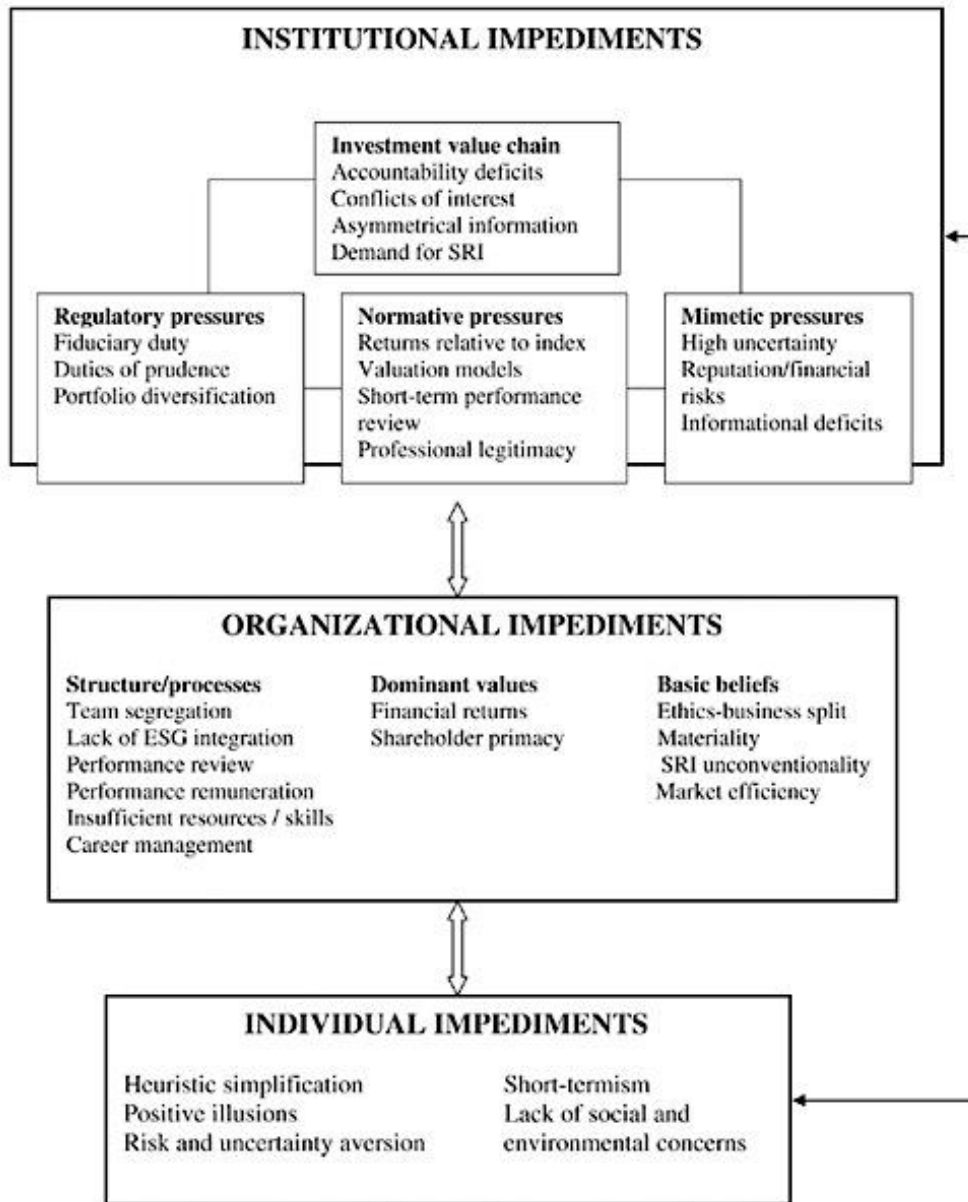
Despite the evolution in academic validity and industry practices of RI, knowledge of the financial performance and socio-economic-environmental urgency of integrating ESG factors are far from universal (AODP 2017). This is the core premise of the thesis and its hypotheses, and provides opportunity for this research to examine reasons for, and opportunities to rectify, this gap in industry knowledge and practice. The global sustainable investment market is only 26.3% of professionally managed assets (GSIA 2016). It is therefore important to outline existing literatures on the barriers to RI, which have to date been under-theorised. This thesis will predominantly focus on knowledge and information flows - a barrier to RI identified in Sievanen (2014) and in research by Columbia University (2014) - and from which, I argue, many other barriers stem.

Clark and Monk (2017b) identify a growing interest in new and innovative models of investing among individual investors seeking to find yield in a post-GFC low-yield environment: RI could potentially be one such opportunity. However, they note that individuals exhibit a strong status quo bias towards existing knowledge and practice,

and that there are no clear models for altering the embedded practices that exist within the investment industry. Exploring the capacity to adopt RI as an innovation is a key contribution of this thesis, advancing our understanding of the flows of knowledge and information in the investment markets towards innovative investment practices.

To begin, the following section applies the framework of institutional, organisational and individual impediments to RI outlined by Juravle and Lewis (2008), drawing on other related literatures to augment and update their research to provide a useful overview of the obstacles to mainstreaming that can act as a basis from which to begin my own investigation into this topic. Juravle and Lewis' framework of barriers is shown in Figure 2.2, but RI uptake and barriers have evolved in the decade since their paper was written. In this section, I argue that three associated tools and theories of economic geography can be applied to topics of RI to help explain and analyse the different scales of barriers to, and flows, of knowledge, information, innovation and practice. These are institutional economic geography (IEG), evolutionary economic geography (EEG) and relational economic geography (REG). This section therefore introduces the theories and concepts that will be used as tools of analysis throughout this thesis, and explores how their literatures can be applied to the topics of RI and ESG.

**Figure 2.2. Framework of Barriers to RI. Source: Juravle and Lewis (2008)**



### 2.2.1 Institutional Barriers to RI

Juravle and Lewis (2008) highlight key institutional impediments to greater RI uptake: some have become less salient in the decade since their paper was published, but all remain to a large extent. These are: ‘investment value chain’ barriers, ‘regulatory pressures’, ‘normative pressures’ and ‘mimetic pressures’.

Before exploring these in more detail, it is perhaps useful to briefly explore the nebulous term ‘institution’. Although several definitions exist, even within economic geography, I argue that institutions are the long-term norms, rules and behaviours, which affect (but not necessarily dictate) individual and/or collective actions. Institutions are often deeply embedded within societies and economies; they can be tacit or explicit, and can change and evolve over time. Certain behaviours and rules can therefore become ‘institutionalised’, at which point they become an integral part of practices, whether social, cultural, political, religious or economic. Institutional economic geography (IEG) seeks to understand the creation, propagation, impact and evolution of these institutions and institutionalised practices (MacKinnon et al. 2009; Bathelt & Gluckler 2013; Amin 2001). It is from this perspective that I am exploring the evolution and integration of RI practices and processes within investment firms whilst also commenting on the existing institutions, structures and systems that are acting as a barrier to mainstreaming RI.

It should be noted that, in common parlance an organisation can be referred to as an ‘institution’, as demonstrated by the term ‘financial institution’. Such firms are affected by, and often complicit in producing and reproducing, structural norms and behaviours. However, I try to avoid this term to reduce confusion, and refer instead to organisations and firms. Finally, throughout this thesis I use the term ‘investors’, though I focus primarily on ‘institutional investors’ - a heterogeneous group of investors who are often associated with being long-term and universal investors exposed to the macro-trends and overarching institutions of the financial systems and societies they operate in (Clark & Monk 2017b). This again is designed to avoid

confusion as to the concept and scale of institutions I am discussing, though I recognise that investors are not homogenous and this is not a perfect solution.

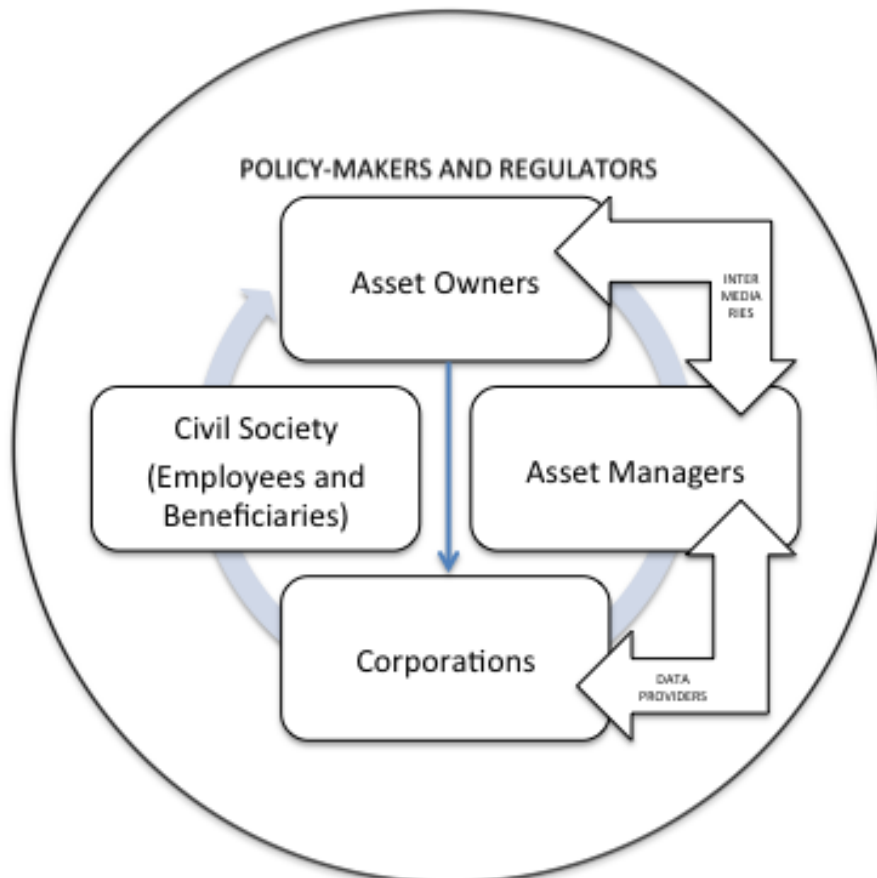
Institutional norms and structures in the financial system remain a barrier to long-term investment decision-making. For example, short-termism in investment horizons remains ingrained in the majority of firms through normalised performance incentives focused on returns relative to indices and benchmarks (Bauer et al. 2007; Rappaport 2005; Clark & Monk 2017b). Uptake of RI can be reduced by a fear of reputational, and potentially financial, risks of investing in a way that breaks from institutional and organisational norms. RI can be seen as a threat to professional legitimacy of both the firm and the individual if a strategy does not pay-off relative to peers (Juravle & Lewis 2008). These factors might help explain the growing uptake of corporate engagement, and particularly collaborative engagements, which are seen as having less financial risk relative to divestment, for example, whilst still having potential long-run risk reduction and reputational benefits (Hebb 2006). However, insufficient literature has actually explored these relative impact and performance dynamics, perhaps due to a lack of comparable and historic data, and difficulties in measurement and attribution. Such pressures can be linked to an institutionalised (but slowly changing) expectation of uncertain returns from RI and higher cost of information relative to financial data, both of which can reduce the appeal of adopting an asset-allocation approach to RI. This is important in the context of this thesis, as research exists to suggest that this is incorrect (c.f. Clark et al. 2014). Widening policy and investment decision-makers' understanding that such institutionalised knowledge is a myth could have a significant impact on the mainstreaming of RI.

Despite the wide acknowledgement of these barriers, little research to date has explored how flows of knowledge and information could alter these institutionalised norms, despite academic theories (including IEG) noting the importance of information and knowledge in changing institutional and system-wide norms (Meadows 2010; Bathelt & Turi 2011; Amin & Cohendet 2004). This thesis contributes by exploring the extent to which flows of knowledge and information within the RI system that could unravel these institutionalised obstacles to RI mainstreaming.

Another important institutional barrier to mainstreaming RI is the divergence of interests and asymmetry of information access between actors in the investment value chain (Juravle & Lewis 2008; Sievänen 2014). Figure 2.3 provides a simplified schematic of the key interactions between each. Whilst many asset owners appear to be increasingly trying to integrate ESG considerations in a more holistic and proactive way, it is argued that there are limited high-quality funds and investment opportunities of a suitable risk-return profile and market size that fully integrate ESG criteria (Lewis et al. 2016). This can be linked to the relative novelty of low-carbon and RI-aligned markets, but also the lack of demand for RI integration institutionalised within asset manager mandates from asset owner clients (ClientEarth 2017; AODP 2017; Kruitwagen et al. 2015). Recent survey data from the PRI (2017b, p.4) finds that whilst ‘74% of asset owners state they are acting on climate change’, and 54% of reporting asset owners claimed to ‘encourage portfolio managers to monitor emissions’, only ‘8% have actually aligned manager contracts with climate change factors’. Research has thus found that whilst asset owners appear to prefer to hire managers who do integrate ESG, this doesn’t necessarily translate into RI action

and strategies, due to insufficient engagement and monitoring on performance impact reducing the incentive for product innovation and marketing (Mooij 2017).

**Figure 2.3. Institutional Investment Value Chain Schematic. Source: Author**



Consultants could play a key role in communicating this asset owner demand to asset managers, but a perceived lack of demand for RI advice by asset owner clients, and a conflict of interests as conduits for both asset owners and asset managers, have also been linked to the short-termism and lack of RI products and services within investment consultancy firms (Knight & Dixon 2011; Eurosif 2009; PRI 2017a). Many consultants are becoming more educated about sustainable investment

approaches and opportunities, but most do not proactively offer sustainable investment products within their platforms (Caldecott & Rook 2015b). Key explanations for this, among other factors, are the tendency of consultants to make recommendations based on past performance track records and short time-horizons (Lewis et al. 2016; PRI 2017a). Since many sustainable opportunities are newer and lack track records, these options are discounted, and short-termism within mandates and contracts reduces the likelihood of considering the long-run gains available from RI strategies and products. Whilst there is a general up-skilling occurring throughout the investment value chain about RI in the past few years, structural disincentives can limit mainstreaming (Lewis et al. 2016), particularly among small to medium sized asset owners who rely heavily on intermediaries for research, advice on and facilitation of their investment strategies (Clark & Monk 2016). However, little research has explored the role of Intermediaries in RI mainstreaming in any depth, possibly due to the lack of investment industry engagement on these topics until recently. This thesis contributes to this gap, with Chapter 7 examining investment consultants' capacity and willingness to integrate RI into products and services for their asset owners.

A lack of regulatory framework for RI (Columbia University 2014; Hallegatte et al. 2012; Whitehouse et al. 2011), underpinned by a fractured and short-termist international policy environment (KPMG 2011; ESRB 2016), has also been identified widely in the literature as a barrier to integration. Whilst these barriers do remain, the international and national policy and regulatory environment have recently begun to provide more reliable signals, particularly since the Paris Agreement in 2015 (Mercer 2016a; Hobley 2015; Goldenberg et al. 2015). Conceptions of fiduciary duty and legal

liability are also slowly shifting towards the acceptance of ESG risks as corresponding to such interests (Sandberg 2010; Barker et al. 2016; The Pensions Regulator 2017). This change is happening faster in the UK and Australia than in the US, although the Department of Labor did update its fiduciary duty guidance in 2015 noting that integrating ESG factors is permissible if they are shown to be financially material (Lewis et al. 2016). Understanding of these shifts, and legal precedence, however, remain slightly behind best practice in all three markets, and efforts to improve this knowledge and information flow could therefore be an important contribution to mainstreaming efforts.

The lack of RI practice among a majority of investors therefore appears to be strongly linked to an institutionalised de-prioritisation of ESG-related information and knowledge inculcated in policies and practices throughout the investment chain. Internationally, financial systems have traditionally focused on quantifiable and commodifiable data points (Knox-Hayes 2010), with the effect that investment decision-making norms prioritise financial metrics rather than exploring the complexity, longer time horizons and variety of ESG topics (FitzGibbon & Mensah 2012; Jemel-Fornetty et al. 2011). This suggests that, even if the ESG data physically exists in the market, it remains institutionally underutilised in investment knowledge and practice. However, this dynamic is underexplored in academic research, and is a gap in the literature that this thesis contributes towards.

To study these institutional barriers and how they might be overcome in more detail, this thesis will adopt insights from institutional economic geography (IEG). IEG explores how uneven economic development and practice are linked to variations and

changes in the institutions which govern those places (Boschma & Frenken 2006b; Rodrik et al. 2004; Martin 2008). Such an approach is useful in a number of ways, including linking conceptualisation of institutions across the national, regional and firm-level scales, but also in providing a tool to analyse how social, cultural and institutional contexts contribute to the creation and perpetuation of economic practices (Swyngedouw 2000; Bathelt & Gluckler 2013). This can help illuminate and explain the nature of institutionalised barriers to RI, as well as highlight the importance and geographies of learning, information and knowledge in the generation, diffusion and reproduction of RI knowledge and practices.

This builds on previous IEG research highlighting the role of institutions in: providing information within economic markets (Amin & Cohendet 2004), facilitating levels of trust and collaboration amongst firms and networks (Feldman 2000), and in engendering innovation and evolution of economic organisations and systems (Martin & Beaumont 1998). Given the institutionalised nature of the financial system, I think there has been a paucity of literatures on RI from this perspective, and I seek to contribute to filling this gap. Campbell (2006) is an exception, exploring the institutional conditions that affect RI capacity. Although not expressly focused on updating Campbell's work, this thesis will apply insights from IEG to highlight ways in which RI is, and could become, institutionalised into investment beliefs and decision-making. This thesis contributes to understandings of RI mainstreaming through a 'real places' inductive empirical approach advised by IEG (particularly in Chapters 4, 5 and 7) (Boschma & Frenken 2006a).

### **2.2.2 Organisational Barriers to RI**

Barriers to RI also exist in the organisational forms operating within the financial system. Organisational barriers include the structure of a firm, and the values and beliefs held within them (Juravle & Lewis 2008; Sievänen 2014; Amaeshi & Grayson 2009). These barriers will vary between firms, and are linked to both institutional norms within regions in which firms operate and the individual decision-making of management and employees.

The structure and processes of an organisation are likely to affect the capacity and willingness of employees to learn about and enact RI. Dominant organisational values that prioritise financial returns and shareholder primacy are likely to act as a barrier to RI, deprioritising access to ESG information and knowledge sharing opportunities within and between firms (Mooney 2017; Clark & Monk 2017b; Mercer 2016b). Investment beliefs (written public statements based on organisational values) are fundamental in driving decision-making and firm-wide strategies and attitudes (Koedijk et al. 2010; Koedijk & Slager 2007; Gray 2009). The beliefs of actors within a firm can also affect RI uptake, and these can be linked to the teaching at business schools, professional education courses, as well as organisational norms embedded explicitly and implicitly within training regimes and everyday practice of the firm (Christensen et al. 2007; José Chiappetta Jabbour 2010; Jemel-Fornetty et al. 2011).

Beliefs that can limit attention to ESG issues include: a belief in market efficiency; the unconventionality of an RI approach; the immateriality of ESG to financial returns; and, that RI is an ethical rather than a business decision (Juravle & Lewis 2008). Although each of these on their own would be enough to reduce uptake of RI,

together they pose a significant and persistent barrier. If, however, beliefs were designed to reflect RI, changes in knowledge and practice could, perhaps, be rapidly mainstreamed (Bourghelle et al. 2009; Harnett 2016; Meadows 2010). There has thus been some work to develop guidelines on designing and implementing ESG-aligned investment, with contributions from both academia (Bourghelle et al. 2009; van Duuren et al. 2015; Guyatt 2006; de Graaf & Slager 2009) and the RI industry (VicSuper 2014; PRI 2016a; Freshfields 2005; IIGCC 2015; Mercer 2015). However, this thesis seeks to explore these barriers further, examining the learning needs and practical capacity of investors to instil RI-related investment beliefs into practice, building on insights from evolutionary economic geography and organisational management theories.

It is important to note that the level of top-down support and capacity building within a firm is particularly important in the adoption of investment strategies towards RI integration. Executive engagement on the topic is likely to affect: the segregation/integration of ESG expertise; the ways in which ESG performance and consideration is integrated into employee targets and remuneration policies; and the level of resources ring-fenced for RI innovation, education and practice. Whilst some research has begun to explore opportunities for integrating ESG issues into incentive structures (Romano & Bhagat 2009; PRI 2012), this is under-researched compared to similar issues in the corporate sector (c.f. Deckop et al. 2006; McGuire et al. 2003; Core et al. 1999). Much more research is needed on the level of RI resourcing, including in terms of financing, access to information and the delegation of human capital to RI and ESG expertise and research.

While it is widely accepted that the lack of ESG expertise within the firm is likely to be a significant barrier to implementation (IIGCC 2015; Bos 2014), there is some argument within industry and literature regarding the appointment of specific ESG teams: should they be encouraged to boost expertise which can be utilised by the rest of the firm, or does their creation lead to the siloing of practice outside of the decision-making circles and a de-prioritisation for other employees? (Bourghelle et al. 2009; Amaeshi & Grayson 2009). The best structure will depend largely on the type and size of organisation, and could well change over time. However, linking ESG to firm-wide investment beliefs, performance reviews and remuneration is likely to be necessary to incentivise employees throughout the firm to develop their own RI capacity, if RI is to be fully mainstreamed throughout the investment industry as defined by Caldecott (2017).

To contribute to these gaps in the literature regarding organisational barriers to the mainstreaming of RI, I will apply insights from evolutionary economic geography (EEG), to examine the development, communication and diffusion of RI routines, beliefs, and capacities in mainstream investment firms towards answering the questions of the extent to which RI fits within existing organisational routines, structures and capacities. EEG is a growing field of research that explores how economic landscapes evolve over time (Boschma & Martin 2010; Boschma & Martin 2007), and can usefully inform studies of innovation and dynamism within investment firms. From this perspective, organisations are seen as competing on the basis of their routines, which are built up over time and influenced by the institutional, informational, relational and political histories of their local geographies (Boschma & Frenken 2006b). This approach can therefore also provide a dynamic narrative from

which to explore the ways in which firms might have to adapt and evolve to incorporate RI, facilitating a temporal analysis within this research that recognises historic influences on decision-making and that innovation and change will not happen overnight. It is widely acknowledged that the transition to a low carbon economy will require the alteration of existing investment routines, to overcome the above barriers (Economist Intelligence Unit 2016; Mabey 2011), but no research that I am aware of has sought to apply EEG approaches to RI despite the evident opportunities for doing so.

Core concepts within EEG that are applied in this thesis are those of ‘path dependency’ and ‘lock-in’ (Hassink & Klaerding 2009; Hassink 2005). The basic premise of such research is that historical experiences and coincidences affect the development of a particular geographic space. Lock-in is further concerned with the persistence of certain behaviours amongst individuals, firms and regions, as they maintain, and reinforce certain knowledges, technologies and practices (Henning et al. 2013; Martin & Sunley 2006). Whilst lock-in can lead to long-term inefficiency and sub-optimal outcomes due to the persistence of old technologies, relationships and practices stifling future innovation (Stack & Gartland 2003), it doesn’t last forever (Witt 1997), as even entrenched ideas and technologies can become obsolete through socio-technical and political trends (Martin 2009). It is important therefore to retain a dynamic understanding of path-dependency and lock-in trends, as emphasised by Schumpeter’s ‘creative destruction’ (Schumpeter 1934). Organisational and institutional barriers to RI noted above, particularly short-termism (Rappaport 2005), could be argued to be ‘locked-in’ to the investment industry and hindering opportunities for innovation, but the rise in RI, and growing low carbon transition

(particularly since 2015, with social and policy action rising, including the Paris Accord), have the potential to break the current market lethargy and financial-orientation (Carney 2015), and create new organisational routines. This thesis, and particularly Chapter 7, will apply such insights to the development and diffusion of RI practices, noting that the literatures to date on this topic and in the financial literature more generally, often ignore the spatial and social aspects of innovation, evolution and knowledge transfer (Clark 2018).

### **2.2.3 Individual Barriers to RI**

Finally, it is important to briefly examine individual barriers to RI, which – in combination with, and affected by, institutional and organisation barriers – can limit investor capacity for, and interest in, RI. In particular, this thesis is interested in the individual scale of analysis as this can illuminate investors' capacity to learn, collaborate and innovate, all of which will be key features in examining the hypotheses of this thesis.

In exploring individual barriers further, this thesis draws on both Behavioural Finance and relational economic geography (REG) literatures to explore individual RI decision-making. To date, these approaches have rarely been applied to RI topics, with the exception of Nick Silver (2017) and Caldecott and Rook (2015a) who have outlined ways in which investors' and oil and gas companies' (respectively) cognitive biases and perceptions of risks can limit consideration of stranded assets risks.

Behavioural finance has seen a significant growth in research over the past few decades, exploring the influence of psychology, cognition and emotion on the actions

and behaviour of investors and other decision-makers. The work of Amos Tversky and Daniel Kahneman since the 1970s has stimulated greater academic attention in the field (Tversky & Kahneman 1973; Sewell 2007; Hong 2007). Research has found that individuals tend to '*satisfice*' rather than optimise decision-making (Simon, 1959) through unconsciously filtering out information and using 'heuristics' to bypass lengthy and complex calculations or analysis (Akerlof & Shiller 2009; Shefrin 2002). This is important in the context of this thesis, as these heuristics and satisficing affect individuals' capacity and willingness to learn and innovate. Several heuristics and behavioural biases can help explain investors' deprioritisation of RI, including risk and uncertainty aversion, tendency towards short-termism and a lack of focus on social and environmental concerns due to their emotional distance, negative framing and complexity (Juravle & Lewis 2008; Sievänen 2014; Schopohl 2017). Marshall (2015) has produced an important book exploring how behavioural biases have led to an apathy and deprioritisation of climate change, and these can apply to investors just as much as the general public.

This thesis is also informed by the focus of behavioural researchers on the importance of information and knowledge in driving decision-making: 'People are imperfect processors of information, and are frequently subject to bias, error and perceptual illusions' (Shefrin 2002, p.x). Two main biases linked to information processing that will be recurring themes throughout this thesis are 'availability bias' and 'confirmation bias':

- **Confirmation bias** is the tendency to seek or interpret evidence in ways that are partial to existing beliefs or expectations (Nickerson 1998). Members of different socio-cultural and political groups, both within and between

investment firms, are likely to respond differently to RI, with sharp differences between societal groups as to the level of conviction around climate change in particular (McCright & Dunlap 2011b; Hoepner & Schopohl 2015).

- **Availability bias** refers to the tendency to overestimate probability of outcomes that readily come to mind and underestimate those that do not (Tversky & Kahneman 1973). This could cause rare, under-researched and unfamiliar investment risks, such as those imbued in RI, to be underestimated or neglected (Marshall 2015).

Investors are likely to suffer from such biases, as the nature of their jobs mean they often have limited time to explore new information sources and ideas (Peng 2005), and this could exacerbate the tendency to stick to the status quo and industry norms. While Painter (2013) explores the ways in which providing information about the risks and opportunities arising from climate change are vital to engaging an audience and catalysing behavioural change, another literature explores how simply providing more information may not change people's decisions (Owen et al. 2012). This is a key finding that has driven this thesis' interest in moving academic research beyond a focus on ESG disclosure and the provision of more data. From this problematisation of the information-deficit-model, it can be assumed that understanding what information, learning strategies and communication channels investors find useful in translating RI into actionable knowledge is key to supporting their decision-making processes and overcoming individual barriers to learning and innovation. These are all gaps in academic research to date, and represent important contributions of this thesis.

The beliefs and norms of ones 'in-group' or peers are shown in psychology and behavioural finance research to have a significant impact on individual practices and decision-making (Marshall 2015), particularly around novel or contentious issues. Unlimited amounts of information available in the market are not going to make an impact if the investor does not think that the information is relevant or conducive to their set of beliefs (Amin & Cohendet 2004; McCright & Dunlap 2011a; Marshall 2015). Peer learning can increase capacity to accept new information, as well as reduce the associated relative risks of adopting innovative or novel practices – there is, it seems, safety in numbers and advantages in belonging to 'communities of practice' (Hara 2009; Wenger 1999). This has been briefly applied to the RI context by Danyelle Guyatt, who explored the opportunities for mobilizing peer collaboration in pensions markets (Guyatt 2013; Guyatt 2008; Guyatt 2007), but this thesis updates and extends this research. To do this, the thesis will adopt insights from relational economic geography (REG) to better elucidate the importance of local and global networked relations of RI information and knowledge flows.

Although I do not adopt a 'pure' REG approach, which suggests that all economic actions can be explained through social relations, several REG ideas and frameworks can be usefully applied to study how local and global networked relations of investor information and knowledge flows can both facilitate and hinder RI mainstreaming. Although starting from a different academic background to behavioural finance, REG shares a number of common interests to behavioural economics, notably the concern with individual agency, information capacity and behavioural norms as impacting decision-making. REG adds an explicit geographic lens and a greater focus on sociality, but I believe bringing these two disciplines together is a ripe area for

research, though more research is needed to explore the complementariness of the two disciplines. Bathelt and Glucker (2003) set out a framework for a ‘relational turn’ in economic geography, arguing for a geographically-minded social relational study of organisations, evolution, innovation, and interaction. This agenda sees economic actors as ‘situated in contexts of social and institutional relations’ (Bathelt & Glückler 2003; Sunley 2008). Such a view is reflected throughout this thesis, which presumes that investors have individual and collective agency but operate within path-dependent economic processes.

There is a growing literature around the ideas of ‘local buzz’ and ‘global pipelines’ affecting the production, dissemination and uptake of innovation and information (c.f. Rodríguez-Pose & Fitjar 2013; Bathelt et al. 2004; Bathelt & Turi 2011; Storper & Venables 2004; Morrison et al. 2013). Co-location, and the experience of ‘local buzz’, can be vital in establishing shared knowledges, common languages and similar backgrounds necessary for cooperation, learning and innovation (Amin & Cohendet 2004). However, such relationships can also be spatially distanced, based on relational rather than spatial proximity, and facilitated by temporary clusters and/or through long-term international collaborations and networks within and between firms through ‘global pipelines’ (Bathelt et al. 2004; Maskell et al. 2004). These ideas play an important role in REG literatures, but have also been used more broadly in economic geography. Clark and Monk (2017a), for example, find that both buzz and pipelines are evident in the financial industry, with global pipelines becoming increasingly important in the globalised financial system. However, this approach has yet to be applied to the RI industry, and is more generally under-empiricised. This thesis will contribute towards these gaps examining how ‘buzz’ and ‘pipelines’

reproduce or reduce behavioural biases blocking the dissemination of ESG information to mainstream investors and opportunities for the associated development of knowledge and practice.

In brief conclusion to this section, it is clear that multiple barriers to RI remain engrained within decision-making processes, across institutional, organisational and individual scales. Literatures to date have begun to examine these barriers individually and collectively, but this thesis argues that there has been insufficient focus on knowledge as a barrier – with insufficient knowledge of RI and its financial materiality caused by and contributing to many of the other barriers limiting the mainstreaming of RI. This has informed the focus of this thesis, and driven the development of related hypotheses that will be explored in the following chapters, all of which have been designed to contribute towards existing gaps in the academic literature and industry understanding of RI. Within this structure of institutional, organisational and individual barriers to RI, I have identified three economic geography perspectives that can usefully be applied to the analysis of the geographic flow ESG information and RI knowledge within and between financial centres in the UK, US and Australia, with each providing novel insights to a different scale of investment knowledge and practice.

Although some academics have explored the links between EEG and IEG (Boschma & Frenken 2006b; MacKinnon et al. 2009) and between REG and EEG (Hassink & Klaerding 2009; Li & Bathelt 2011), I am not aware of any research that adopts all three perspectives. It is therefore useful to outline briefly where these approaches meet and where they diverge, with this thesis using them concurrently to maximise

the opportunities for insights available from combining approaches to better understand the flows of knowledge and practice relating to RI.

Crucially, all three stress the importance of institutions in framing and facilitating economic development, and focus on the 'real places' of economic activity. This has come to mean that IEG is commonly used as umbrella under which other economic geography approaches can be studied and combined (Boschma & Frenken 2011; Amin 2001; Martin 2000), and will be used in this way in this thesis. It does not presuppose that other factors and scales do not affect economic development and dynamism, so adopting an Institutional approach does not discount other lenses and barriers from being considered, it merely seeks to comment on and analyse the creation and influence of norms and institutions alongside these other factors (Martin 2008; Boschma & Frenken 2006b). Each approach also examines the historical and geographical context in the analysis of economic dynamism and all emphasise the importance of knowledge, learning and networked relationships in facilitating evolution and innovation in economic processes (Bathelt & Glückler 2003). As such, they can be seen as complementary, but more research is needed to develop the empirical methodologies and applications of each (a gap to which this thesis contributes in its application to RI) and examine the advantages and disadvantages to using them concurrently. However, the core difference between them is the focus on the scale of analysis and the level of autonomy and impact of the individual within history and society. I view this as an opportunity for their co-utility, as applying ideas across the different theories has facilitated a multi-scalar perspective on the barriers to the mainstreaming of RI, but it is recognised that crossing these scales will not be suitable to all research problems.

## **2.3 Diffusion of Innovation and Information: Knowledge, Networks and Clusters**

Diffusion of environmental innovations and awareness has been a topic of academic research for several decades (c.f. Lanjouw & Mody 1996; Angel 2000; Berkhout et al. 2002). However, academic research has to date been relatively silent on the processes involved in the diffusion of RI or the conceptualisation of RI as innovation, with only a few exceptions examining the uneven spatial and temporal development of RI (c.f. Gond & Boxenbaum 2013; Waring & Edwards 2008; Hebb et al. 2016). This thesis contributes by applying literatures from economic geography on the topics of innovation, information and knowledge to examine the processes of mainstreaming RI. These literatures can act as a primer for the rest of this thesis by highlighting the opportunities and barriers to innovation, and the importance of knowledge sharing in facilitating the mainstreaming of RI across institutional, organisational and individuals contexts. This has informed a strong focus on the importance of social learning and networking as processes of RI mainstreaming throughout this thesis.

There is a large academic literature surrounding processes of innovation and the diffusion of innovative practices and technologies, including in economic geography literatures. Feldmann (2000) defines innovation (either product, process or organisational) as the novel application of economically valuable knowledge, and can be either radical or incremental. Diffusion of innovations is defined by Rogers (2003, p.34) as ‘the process in which an innovation is communicated through certain channels over time among the members of a social system’. Examining the mainstreaming of RI can be viewed as the study of the diffusion of RI knowledge and

practice. Innovation is thus seen as a creative process through which various forms of knowledge interact to create, and cater to, economic markets (Hotz-Hart 2000). As has been shown in the case of RI, adoption of new ideas often happens slowly and incrementally (Bourghelle et al. 2009), as diffusion can be seen as the cumulative outcome of a series of individual decisions that weigh the incremental benefits of adopting a new idea against the costs of change (Hall 2004). This can help explain why the continued consternation of the financial materiality of RI is a significant barrier to RI mainstreaming, and the need to further communicate and integrate the evidence of such materiality (c.f. Khan et al. 2016).

Rogers (2003), in his seminal book on the diffusion of innovation, outlines five attributes that influence the potential adoption of an innovation:

1. **Relative advantage** of the innovation compared to existing technologies and practices.
2. **Compatibility** with the potential adopter's current way of doing things and with social norms.
3. **Complexity** of the innovation; the ease with which the innovation can be understood and implemented by non-experts.
4. **Trialability** of the innovation: the ease with which the innovation can be tested by a potential adopter.
5. **Observability** of the innovation: the ease with which the innovation can be evaluated after trial.

Each of these factors have been explored in literatures in their own right as affecting innovation, with a significant proportion of literature focusing on the compatibility of

an innovation with existing institutional and individual norms. For example, Ansari et al. (2010) examine how a lack of political, cultural, and/or technical fit between a new practice and its 'host context' may explain why such practices might not be adapted, even as they knowledge about them diffuses, and Mooij (2017) finds that the rate of adoption of RI among asset owners is particularly hindered by the perceptions of relative advantage, complexity and trialability. Whilst Mooij briefly examined these topics through interviews with 10 asset owners, this thesis provides a deeper empirical analysis of these factors from perspectives of professionals across the investment value chain, explores in more detail the compatibility of RI (which is often unproblematised) within current institutional, organisational and individual decision-making, and the role of learning and information-sharing practices in facilitating the observability of RI through local buzz and global pipelines.

Martin and Beaumont (1998) thus argue that any form of diffusion has to take into account a) the local cultural and institutional context, and b) the ability and incentive of local managers to implement best practice. It can thus be difficult to fully untangle the impact that an individual or the wider system has on the speed and effect of diffusion (Rogers 2003). It is from this perspective that this thesis applies institutional, evolutionary and relational economic geographies and perspectives to examine the complex dynamics at play in the diffusion and adoption of RI innovations and practices. It is argued that, as diffusion proceeds, learning about the technology or innovation develops, so that the innovation is improved and adapted to different environments, thus making it more attractive and advantageous to a wider set of adopters over time (Rosenberg 1976; Nelson et al. 2004; Hall 2004; Rogers 2003). This has been shown to happen in the evolution of RI theories and practices as

RI has shifted towards a more mainstream audience, such as in the development of green bonds and sustainable indices that can fit into existing investment structures (Kidney 2016; Krosinsky & Purdom 2017). However, the extent to which RI has evolved to be appealing throughout the mainstream investment value chain remains to be seen, and will be analyzed through evolutionary and institutional economic geographies in the second half of this thesis (Chapters 6 and 7).

It is also clear that communication channels and information flows are vital to the diffusion of innovations, in terms of demonstrating the value of the innovation, explaining its function, providing feedback in terms of what works and what does not, and in making it visible in the market so that it can be copied and converted into practice (Nonaka et al. 1996; Martin & Beaumont 1998). Providing insight into the information and communication channels through which RI is diffused and the relevant knowledge transfers happen is a key gap in the RI mainstreaming literature that this thesis contributes. Literature has widely explored how diffusion will speed up dramatically as large organisations become early adopters and the profitability of an innovation becomes more apparent, and as innovation champions and/or external change agents contribute to disseminating knowledge through face-to-face conversations and demonstrations of the innovation (Jensen 1982; Martin & Beaumont 1998; Rogers 2003; Fiss & Zajac 2015; Juravle & Lewis 2009; Amin & Cohendet 2004). In providing an example of the integration of RI into the advice and services of Mercer as an international investment consultant, Chapter 7 is therefore a step towards contributing to industry knowledge of RI whilst also helping to understand the complex incentives and structures involved in the capacity and

willingness of investment chain firms adopting RI in the context of path dependent and innovation literatures.

The growth of the knowledge economy has had an important impact on innovation creation and diffusion, with knowledge and information playing key roles in innovative processes (Hotz-Hart 2000). It is therefore prudent to outline definitions and literatures on these topics which will be critical points of study in this thesis, noting that information and knowledge are separate entities. Whilst definitions differ slightly in economic geography literature, this thesis will define information as the ‘flow of data from the environment’ (Clark 2014, p.301), whilst knowledge is ‘a dynamic framework from which information can be stored, processed and understood’ (Howells 2002, p.1003). Economic geography literatures have demonstrated a strong focus on these topics in the past two decades, with the knowledge economy and associated clusters of innovations characterised by geographical differentiation, across both physical places and relational spaces (Amin & Cohendet 2004; Broekel & Boschma 2012; Clark et al. 2000).

These literatures are important underpinnings of this thesis’ examination of the relational and spatial processes at work in the mainstreaming of RI, including the extent to which location in a city affects learning about and exposure to investment risks and opportunities associated with ESG issues. This builds on a significant literature, notably Glaeser et al. (1992), Thrift (1994) and Tickell (2000b), that explores agglomeration effects as facilitating enhanced communication and the transfer of ideas within, across and between city-level clusters, including in the investment industry within and between global financial centres. Others have

discussed how spatial proximity facilitates individual and organisational-scale learning and innovation (Nonaka & Takeuchi 1996; Amin & Cohendet 2004; Martin & Beaumont 1998; Clark & Monk 2013). This is an important part of the ‘relational turn’ in economic geography, which has facilitated an exploration of distanced knowledge sharing through global pipelines of communication and cooperation, whereby information and knowledge are shared in temporary or permanent clusters that are geographically distant (e.g. at conferences, through international collaboration in transnational companies, through global industry networks etc.). Research on knowledge topics has thus been driven by a focus on the role of networks (both local and global) in the transfer of both tacit and codified knowledge (Faulconbridge 2006; Cowan & Jonard 2004; Hotz-Hart 2000; Maskell et al. 2004; Bathelt & Cohendet 2014). Whilst the majority of literature on ESG information to date focuses on its content and comparability, this thesis applies economic geography insights to contribute novel findings on the flows of information and its impact on decision-making.

Within this thesis, in examining individual investor engagement and learning on RI topics, I draw heavily on the broader knowledge economy literature, and notably the seminal work ‘*Architectures of Knowledge*’ by Amin and Cohendet (2004). Knowledge is viewed as a process rather than possession, whereby an individual or organisational stock of knowledge will change over time as a result of learning (Amin & Cohendet 2004; Nonaka et al. 1996), and will not be lost if shared with others. Knowledge is also assumed to not only result from a one-way cumulative process from information to knowledge, but requires continuous feedback between the different learning components including data, opinion, previous knowledge and

wisdom. There is therefore no direct or linear relationship between information and knowledge: any given piece of information may be added to the existing stock of knowledge, but it may well leave it unchanged or contribute to its complete reconfiguration (Amin & Cohendet 2004; Nonaka et al. 1996; Howells 2002).

The likelihood of information affecting knowledge will depend on the context and cognitive capacities of the individuals, and their ability and/or willingness to learn (Haas & Haas 1995). However, this is often overlooked in industry and academic discussions around ESG disclosure, which often assume that more information will be beneficial without consideration of the capacity to understand or integrate it. Questioning this assumption, and highlighting this gap in the research on the flows of ESG information into RI knowledge is an important contribution of this thesis, and first step to rectifying the oversight and developing investor-relevant RI communications that impact decision-making.

Unlike Machlup (1980), who suggested that knowledge has enduring significance, this thesis also purports that what counts as knowledge changes over time. What we know, and what information/knowledge is considered useful, interesting and accurate changes, will change over time. This is important in understanding the evolution and dissemination of RI terminologies and strategies, and is visible in the growing evidence for the financial materiality of RI but also in broader economic narratives such as understandings of Efficient Market Hypotheses since the Global Financial Crisis of 2008-9, and the discourses around ‘peak oil’ and other Malthusian economic concerns (Morse 2009; Hodgson 2009; Reuters 2014).

Research on the knowledge economy, and the geographies of knowledge flows, however, are rarely combined with financial literatures, let alone the RI literature. This is despite the fact that the investment industry depends on information and knowledge for competitiveness (Clark et al. 2018; Clark & Monk 2013), and the fact that it is a knowledge-based industry at the heart of the knowledge economy, being reliant on intellectual capabilities rather than on physical inputs or natural resources (Powell & Snellman 2004). As early as 1995, Michael Porteous outlined the opportunities for such research, arguing that a geography of finance perspective can help highlight how financial centres are developed and sustained by information, expertise and contacts (Porteus 1995). However, these opportunities have largely been missed, with research on knowledge creation and knowledge sharing focusing on cities and organisations without a specific focus on the investment industry.

One key exception to the lack of research on these topics is the work by Gordon Clark and associates, who have studied, among other things, how: the scope of financial organisations depends upon the processing of information within and between firms and market providers (Clark & Monk 2013); how finance is driven by information from the media (Clark et al. 2004); and, how peer collaboration, knowledge sharing and the associated capacity to innovate productively are key competitive advantages in the institutional investment industry (Clark & Monk 2017b). This last point was also examined by Bursztyn et al. (2014) who examined peer effects on financial decision-making, arguing that investors adapt their decisions based on knowledge and information relating to the actions and thought-processes of their colleagues and competitors. This thesis extends economic geography research on knowledge flows into the field of RI, one of the fastest growing innovations in the finance industry. In

doing so, this thesis also highlights opportunities to unite research from different spheres that both speak to the importance of information and knowledge in driving economic innovation and practice, notably behavioural finance and economic geography.

## **2.4 Reflections on Literatures**

RI as a topic remains under-researched, perhaps due to its relative youth, variegated definitions and the fact that it has not found a particular academic home, with contributions across geography, finance, economics, and business management studies, for example. To date, the majority of RI literatures have largely been empirically-driven, both quantitative and qualitative, focused on understanding the market and giving it legitimacy through the search for financial materiality and improved transparency (Haigh 2016; Hoepner et al. 2016; Viviers & Eccles 2012). Significant opportunity exists to better theorise and conceptualise RI as knowledge and practices evolve and form a larger part of the international financial system, providing both more source material and research appeal to a wider array of academics and funding bodies. Supported by novel empirics in the form of a survey, interviews and case, this thesis uses insights from economic geography literatures regarding knowledge, information and innovation to further the study of the mainstreaming of RI. In doing this, this thesis can also contribute to, and expand upon, economic geography literatures by increasing the scope of empiricism and fields of study within those same theories and concepts that have so far largely avoided comment on knowledge structures within financial markets.

In my experience of the RI literature, it remains largely focused on Western RI practices, and written from Western perspectives. This reflects the traditions of RI in leading Western economies, but Asia is experiencing the fastest growth in RI globally and it will be interesting to watch the literature grow in these markets to reflect practice (GSIA 2016). The establishment of the Global Research Alliance on Sustainable Finance is particularly exciting opportunity for the growth of future RI research and collaborations on these topics to expand the scale and scope of literature, though remains dominated by European and North American institutions, with the notable exception of Tsinghua University in Beijing.

## **Chapter 3. Research Methodologies**

### **3.1 Research Framing and Method Selection**

This research has been developed through a deductive exploration of how economic geography theories can help understand the dynamics of the on-going mainstreaming of RI. Hypotheses have evolved from gaps in literature reviews on the topic of RI knowledge processes, and awareness of the uneven geographies of RI knowledge and practice identified in my undergraduate dissertation on ESG ratings and ranking and my MPhil study of the communication of climate change to the investment community. I have approached this thesis from the normative perspective that the mainstreaming of RI has the potential to improve socio-economic-environmental stability (UNEP FI 2014; UNEP Inquiry 2015; Carney 2015), with hypotheses designed accordingly to understand processes of, and barriers to, greater mainstreaming. This research is therefore designed to be pragmatic, based on empirically-driven observations, problem solving and questioning of existing practices, analysed against economic geography theorisations of knowledge sharing and innovation.

In practice, then, this thesis is grounded in classic scientific method and pragmatism using an approach similar to that espoused by John Dewey (Flowerdew & Martin 2005). Dewey's account of pragmatism emphasised 'useful knowledge', focusing on how scientific endeavour and inquiry could help fix problems in the world (Hickman & Alexander 1998). Dewey divided the process of research into a number of key steps, notably: the identification of a problem; the bounding and location of the

problem; the development of a hypothesis that could provide possible explanations or solutions; and then observation and experimentation leading to its acceptance or rejection (Hickman & Alexander 1998). In this vein, this thesis focuses on the problem of mainstreaming RI to facilitate the development of a sustainable financial system. To bound the problem, the thesis focuses on RI in Western liberal investment markets, developing hypotheses to examine whether RI knowledge and ESG information fit within institutional, organisational and individual norms, and exploring explanations for the persistent gaps in RI within mainstream investment markets. Multiple empirical methodologies have been used to observe and measure the current knowledge of, geographies and barriers to mainstreaming RI in the investment industry, and this research also develops conceptual frameworks that could contribute further mainstreaming of RI knowledge and practice. Such a mixed method approach is in keeping with geographical research practices and pragmatist theories (Flowerdew & Martin 2005; Clifford et al. 2016; Feilzer 2010; Strauss 2008). Research questions and methods for this thesis developed over time, as the research progressed and as the field of RI evolved in the past three years, in a manner consistent with a pragmatist approach of learning-by-doing, accepting the non-linearity and fallibility of scientific inquiry (Moses 2007).

In conjunction, my thinking has also been informed by critical realism, whereby science is seen as an ongoing process focused on uncovering the mechanisms and processes in the 'real world' (Clarke 2008; Denzin 2004). Furthermore, critical realism promotes a structured and differentiated account of reality in which difference, stratification and change are central (Aitken & Valentine 2006). This provided useful framing from which to explore the geographical differences,

interconnectedness and varied implementation of RI knowledge and practice using insights from various disciplinary backgrounds, most notably economic geography. Furthermore, both pragmatism and critical realism purport that a range of methodologies are often required to generate sufficient material in a research project, and this has informed the development and diversity of the methodologies adopted and outlined below (Danermark et al. 2002; Moses 2007).

Research for this thesis began in November 2014 as part of my M.Phil. in Oxford. Three empirical methods inform the analysis of key hypotheses and questions in this thesis, with their design evolving as the research progressed. These are a web-based survey with 154 respondents, 97 semi-structured interviews and a case. These methods have provided both quantitative and qualitative insight into the opinions and practices of investment professionals and relevant stakeholders regarding innovation-learning processes, the information channels and barriers to RI at the centre of my research. Importantly, each of these methods has a strong history in economic geography research, able to shed light on geographic processes and variations across scales of decision-making.

To understand the multi-faceted factors affecting the ability and willingness of individuals and organisations to learn about and integrate RI, it was clear that individual insights would be crucial, necessitating novel empirical research rather than relying on existing data sets or secondary sources. To do this, I decided to use a survey methodology, commonly used in social science and human geography research to generate comparative data on a large sample population (De Vaus 2013; McLafferty 2003). This method could help provide both ‘closed’ quantitative and

‘open’ qualitative answers to help understand and frame the problem of mainstreaming RI at both an individual and organisational scale, answering questions on the state of individuals’ knowledge of key RI terminology, investor learning processes and firm-level investment practices. In particular then, this survey was designed to answer the question of how investors learn about financial and climate issues, as it was designed and implemented during my M.Phil before a wider focus on ESG topics.

However, a survey is limited in the fact that it only provides a snapshot of practice, and cannot provide nuanced or in-depth insight into individual attitudes and experiences. Furthermore, oversights in the initial design of the survey meant that geographic information was not collected for all participants so the survey results were unable to illuminate the nuanced geographic differences in knowledge and learning processes or highlight the complexities of local and global interactions and decision-making. This meant that the survey could not fully answer questions on the flow of ESG information, the spatial and relational proximities affecting investor knowledge and practice, or the geographic variations in RI mainstreaming. The survey is thus used for initial quantitative, comparable results from a larger sample to frame the existing levels of knowledge and practice in the mainstream market.

Subsequently, semi-structured interviews were designed to provide more in-depth qualitative perspectives from a broader range of stakeholders and RI experience across the three core geographies. In particular, the majority of survey respondents had limited RI knowledge and experience, so it was thought to be important to interview individuals with a range of experience to see whether there are lessons that

can be learnt for the mainstreaming of RI from those already engaged in RI. The findings from the survey helped bound and inform the interview questions required to further explore the thesis hypotheses, particularly relating to the experience of local and global RI networks and information accessibility.

Interviews were developed and conducted in a manner informed by critical realist perspectives, which suggest researchers should adopt interactive and semi-structured interviews to maximise the information flow through natural sociability and adaptability during the course of the interview (Sayer 1992). This semi-structured interview method offered a more flexible approach than the survey, and meant that I was able to alter my questions, framing and tone based on the interviewees' interests and experience, and follow up on particular areas I had not previously considered or thought required clarification. Questions could be adapted based on the individual's job title and profession, with different insights garnered from investors to those communicating with investors, for example. This is also encouraged in the scientific method and pragmatism, as what counts as 'useful knowledge' can evolve during the period of my research.

These interviews allowed me to ask direct questions that could inform the analysis of hypotheses, notably on how investors learn, their opinions of different information channels and availability, gain insight into their reasoning for integrating RI (or not), and their experience of barriers to mainstreaming. Through attending conferences with some interviewees, carrying out some follow-up interviews, and sharing the initial results of my M.Phil research, I have developed close dialogue with a number of interviewees to further uncover the dynamism in the understandings of and

practices of RI. These interviews are thus the core methodology used to understand the key questions of this research. Thematic coding was used to analyse the content of each interview following transcription. In line with critical realism and scientific methods of learning-by-doing these codes developed in a non-linear fashion to reflect the progression of my research ideas and the evolution of RI over the course of my thesis.

During the interviews, two themes emerged early and clearly which formed a desire to create an illustration of practice as a third methodology. Firstly, several interviewees commented on the lack of detailed academic or industry case studies demonstrating that RI could actually be integrated into practice. Where they do exist, they tend to be at the country scale (Pfeifer & Sullivan 2008; Scholtens & Sievänen 2013), or as uncritical ‘insight boxes’ within industry literatures (PRI 2016a; PRI 2016b; A4S 2015a). Hebb (2011) is an exception among academic literature, with three case studies of corporate engagement in Canada, though only one of the cases refers to engagement by a mainstream fund - The Canada Pension Plan Investment Board (CPPIB). Secondly, the interviews highlighted the importance of social learning across different parts of the investment chain as an information channel for RI. This raised further questions in my mind as to how to explore the nuance of such relationships and how they could help prove or disprove my hypotheses. Whilst I considered carrying out a network analysis of such relationships in the RI context, the time and resource constraints of my thesis made this impractical, and would have had limited analytical nuance with regards to the content and impact of the relationships. This analysis is likely to form part of my postdoctoral research, but for the purpose of this thesis I decided that an example of such a relationship, namely between an

investment consultant and an asset owner would be constructive to better understand the extent to which relationships within the mainstream investment chain can facilitate knowledge sharing and integration of RI in practice. This illustration is not sufficiently detailed to provide a full case study, with further participatory or ethnographic triangulation of evidence needed to contribute more detailed analysis.

In answering the question ‘why has better ESG information not catalysed a greater shift towards RI integration in mainstream investment decisions’, there was significant discussion among interviewees regarding the role of investment consultants (ICs) as communicators and facilitators of RI knowledge and practice. It was noted that many mainstream firms do now take some consideration of RI topics, even if not fully integrated throughout the organisation, with Mercer mentioned frequently as an IC with RI capabilities, and it was thus deemed prudent to explore the differences between capacity and willingness to integrate RI. Interviews were thus conducted with investment consultants Mercer, as well as with some of their clients, to understand the motivations for action and the barriers contributing to industry inaction. To facilitate more direct discussion of these topics, away from the overarching focus on learning and knowledge in the initial stages of the thesis, Chapter 7 consists of a case using relevant interviews and public documentation which was analyzed to challenge and triangulate the insights from the interviewees.

This combination of methods is designed to provide a strong empirical account of RI knowledge and practice, with each able to contribute to the balance between achieving the methodological goals of generalisation, accuracy and nuance (Woodside 2010). Individually, each method sacrifices one or more of these, but

together they can work towards overcoming such methodological trade-offs. These methods can also speak to the different scales of analysis framed through economic geography theories. The survey and interviews were relevant to the individual and institutional scales and are explored through institutional and relational economic geography perspectives, whereas the case provides an organisational scale and is analysed through an evolutionary economic geography approach. It is important in the context of RI to be able to study each of these scales as investment decision-making is fundamentally driven by organisational and individual investment beliefs, routines and contractual mandates, but mainstreaming of RI throughout the investment industry requires a broader institutional scale change in investment knowledge and practice. Barriers to RI therefore exist at different scales, and scalar processes directly and indirectly influence economic and geographic processes to contribute to the uneven development of RI knowledge and practice, and mixed methods have thus been designed to capture some of these dynamics.

### **3.2 Sample Selection**

The large number of institutional investors in the UK, US and Australia, the diversity of actors throughout the investment chain, as well as my position as a graduate researcher (making me an ‘outsider’ to investment professionals) made sample selection an important process in this research. Gaining access to business-people, or ‘elites’, especially in the financial world, is often perceived to be particularly difficult, and various techniques were thus used to ensure an appropriate range of participants (Thomas 1993; McDowell 1998; Harvey 2010). As is common in more qualitative business studies, this research utilised convenience sampling instead of more

systematic techniques (Eriksson & Kovalainen 2008). Respondents are thus not presumed to be representative of the wider market, but illustrative of a small sample from which trends and differences can be highlighted and commented upon.

The survey method relied upon web-based communication with members of the Oxford World Financial Digest (OXWFD), an online news outlet aimed at investment professionals. OXWFD has a global membership of 95,524 investment professionals, though the majority are US-based. As such, this survey accumulated a rich data set from 154 investors in the US, UK and Australia, as well as in mainland Europe and Asia. More details of the breakdown of participants are provided in Section 3.3. However, a flaw in the survey design meant that the disclosure of location was not mandated, so just under half of responses were not attributable to a specific country (72 of 154). The survey results therefore cannot be usefully used to inform specific cross-country comparisons. Nevertheless, the results can support the interview comparisons by providing a broader insight into the global investment market. Of those who did specify their location, the majority were based in the US, with a minority of European and Antipodean respondents.

Rice (2010) suggests adopting a business-like or ‘inside’ approach, using ‘gatekeepers’ to gain access to initial interviewees. I thus used existing contacts within the Oxford Smith School network as gatekeepers to financial professionals already interested in issues of sustainability and climate change. The economic consultancy Absolute Strategy Research<sup>8</sup> provided UK, US and Australian investor

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<sup>8</sup> Absolute Strategy Research is Europe’s leading independent macroeconomic research provider. I worked as a research intern for the company for two summers during my undergraduate and Masters degrees.

contacts, many of whom were less exposed to set climate change communications. Following web-based research, key individuals who were seen as important actors in this field were contacted directly, with this approach particularly employed in the US. As the US interviews were conducted more than a year after the survey, I also contacted those survey participants who had left contact details and were based in the US to request their participation in interviews. Although this could have created some repeated results, I ensured that these interviews contained different questions than those asked in the survey to limit the ‘double counting’ of opinions. Snowballing techniques were used to access to a wider sample (Atkinson & Flint 2001), with participants in each geography often willing and able to suggest additional individuals to interview.

### **3.3 Survey**

A structured web-based, invitation only, survey was employed to provide initial insights into investors’ learning and investment practices regarding climate change. The survey was designed and implemented during my M.Phil research project. As such, the focus of the survey was more exclusively on climate change as a subsection of RI, but still sought insight into investors’ information channels, knowledge and practice. This has informed wider predisposition in my empirical research in this thesis towards a focus on the ‘E’ of ESG considerations in the knowledge and practice of broader RI trends. This survey proffered a larger sample of investors than would have otherwise been available through qualitative methods, and a consistent set of answers unavailable through semi-structured interviews. Although it is possible that those who participated in the survey are perhaps more likely to be interested and

aware of climate change issues than those not participating, several participants commented that they did not believe in anthropogenic climate change.

The survey was undertaken in August 2015, and whilst momentum was increasing around RI at this time, with President Obama implementing climate regulation at this time, key moments in the transition, including Governor of the Bank of England Mark Carney's speech and the design and signing of the Paris Agreement, had not yet occurred. Future research could provide an interesting assessment of the transition towards mainstreaming of RI knowledge and practice through a repeat survey. Appendix 3.1 provides a list of the survey questions, to ensure that this survey is repeatable. If repeated, it would be instructive to ensure that question 26c on the country of origin of the participant is made compulsory, to facilitate a geographic analysis of results.

Pilot studies are vital to assessing the relevance and ease of comprehension of the questions (Bird 2009). A pilot study of nine individuals with varying knowledge of climate change and/or investment experience provided feedback on the content, length and readability of the survey, and this contributed to the non-linear process of survey creation. The final survey included 29 questions, and was informed by the preliminary literature review and feedback from the pilot survey and pilot interviews that took place before the survey was distributed.

The survey was sent via email with a covering letter giving a brief introduction to the research project and information about the confidentiality and anonymity of individual survey answers. Of the OXWFD membership, 5,277 opened the email, and

136 responses were garnered (a response rate of 2.57%). A further 18 responses were gained via other contacts, providing a total survey of 154 participants. Despite this low participation rate, many OXFWD members are not investors but financial advisors, and therefore less likely to respond to a survey on individual investment decision-making, and this total sample size is high compared to many academic investment surveys. 38.7% of survey respondents were executives and a further 27.8% were asset managers. Only 4.7% were ESG/RI specialists. 40.6% worked in asset management organisations. Before participants began the survey, they were asked to provide their informed consent in keeping with CUREC (Central University Research Ethics Committee) guidelines. This research aims to contribute to the availability of knowledge on ESG issues in the investment arena, so participants were offered the opportunity to receive a summary of survey findings on the understanding that all contact information would be kept securely and confidentially, and all answers would remain unattributed.

The survey is primarily used to inform the first half of this thesis (Chapter 4 and 5), which focuses on investor learning and knowledge processes. The survey asked how investors define climate change and the ways in which they relate knowledge of climate change to their investment decisions (Questions 2 – 15). Although informing wider thought process in this D.Phil, these results were more directly relevant to my M.Phil, and have been published as part of a working paper on the state of climate change knowledge in investment markets (Harnett 2017b). The second section of the survey sought insight into the information channels and learning processes used in investment decision-making (Questions 16-21), and these findings are used to examine the research question ‘How do investors learn about financial and extra-

financial issues?’ in Chapter 4. The final section of the survey was focused on providing explicit information on the engagement with climate-related investor groups (Questions 22-25), which has usefully informed the discussions on social learning and RI ‘local buzz’ and ‘global pipelines’ in Chapter 5. Although directly analysed to inform Chapters 4 and 5, survey findings also provided direction for the design of the rest of the thesis, including demonstrating a lack of awareness on the topic of stranded assets (the basis for Chapter 6) and inaction on climate topics by investment consultants (the basis for Chapter 7).

### **3.4 Interviews**

97 interviews were conducted during this research, 33 in the UK, 17 in the US and 47 in Australia. These interviews involved 89 discrete individuals, ranging from executives to analysts, NGO researchers to asset managers. Some individuals took part in follow-up interviews, whilst three interviews included more than one individual. Table 3.1 provides a breakdown of the interviewees’ roles and organisations. While only a small sample of the total number of individuals working in each investment system, the AUM of organisations interviewed was significant. In Australia, the AUM of organisations represented by interviewees equalled A\$897bn, equivalent to almost 35% of total A\$2.6tr AUM (Reserve Bank of Australia 2015). Similarly in the UK, interviews accounted for £6.5tr AUM compared to a combined market for Western Europe and the Middle East<sup>9</sup> of £26.8tr (24% of the market) (BCG 2015). In the US, interviews accounted for US\$5tr, representing over 10% of the US market valued at \$46 trillion (BCG 2015).

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<sup>9</sup> Western Europe and Middle East used in calculations due to the geographic scope of interviewed organisations’ AUM despite their investment office location in the UK.

**Table 3.1. Breakdown of Interviewees By Role and Organisation Type. Source:****Author**

	Director or Executive	RI Analyst	Investment Manager	Head of RI	Researcher	Consultant/ Financial Advisor	Policy Director	Total
Asset Manager	8	5	8	5	3	1	-	30
Pension Fund	7	8	3	4	1	-	-	23
Climate/ RI NGO	7	2	-	-	1	-	3	13
Financial Advisory	1	-	-	-	1	4	-	6
Consultant	2	2	-	1	-	1	-	6
Data/ Research Provider	2	-	-	1	-	-	-	3
Pension Fund Body	2	-	-	-	-	-	1	3
Other	1	1	-	-	3	-	-	5
<b>Total</b>	<b>30</b>	<b>18</b>	<b>11</b>	<b>11</b>	<b>9</b>	<b>6</b>	<b>4</b>	<b>89</b>

Ethical clearance was gained through CUREC prior to interviews. Written consent was gained from all participants using a consent form (Appendix 3.2). 80 interviews took place face-to-face in locations chosen by the participants (London, Oxford, Sydney or Melbourne), with all 17 US interviews occurring via telephone or Skype. Written notes and digital recordings were taken, as agreed to by participants. The duration of interviews ranged from 26 minutes to 1 hour 47 minutes, with the majority taking between 30 minutes and 1 hour.

In-person interviews were suitable in the UK and Australia due to the clustering of financial actors in major cities of London, and Sydney and Melbourne, respectively. This is not the case in the US; despite the prominence of New York as a ‘global financial centre’ (Wójcik 2013; Taylor 2003), there are significant financial centres also in Chicago, San Francisco and Boston, and state-funded pension investors

located throughout the contiguous USA. As such, it made sense to carry out interviews with American interviewees over the phone. Although this was a more flexible and convenient channel, in-person meetings presented opportunities to develop a certain level of rapport and relationship. I was much more likely to develop a ‘close dialogue’ and have follow-up discussions with in-person interviewees (Clark 1998). This close dialogue often led to more in-depth insights into an individual’s thoughts on a topic, as I felt more able to evolve the conversation beyond my initial research questions to gain further nuance and understanding as to their views and experience of RI learning and practice. I found that it was often these extended discussions that led to novel or particularly interesting insights, which have added depth and colour to my research findings.

Due to the sensitivity of the information discussed, particularly in relation to investment practices, quotations have been anonymised, with references based on their location and the order in which the interviews were conducted to reduce any bias (i.e. UK01, US01 and Aus01 for the first interview in each country). Where relevant, I refer to the position of the individual and the type of firm, without using names of people or organisations. A list of participants is included in Appendix 3.3.

Interviews were semi-structured in nature, building on the critical realist approach to creating a ‘flow’ of information between the interviewee and interviewer (Sayer 1992), and using practical insights of DiCicco-Bloom & Crabtree (2006). The initial ‘structure’ (i.e. base questions) of the interview varied depending on the individuals’ profession (mainstream investor, RI professional or NGO/intermediary), with different pre-prepared questions and over-arching themes used to steer the interviews

according to the expertise and profession of the interviewee (see Appendix 3.4 for an example of structured interview questions). However, participants' responses, interests and experiences largely shaped the discussion (Longhurst 2009). As such, no two interviews were the same. The interview process was an iterative one, with the research being refined in an on-going process, as is expected from a critical realist perspective: issues raised in early survey and interviews, including initial pilot versions, provided additional prompts and questions for subsequent interviews and created further insights (Ziebland & McPherson 2006). However, each individual is likely to be subjective in their views and offer incomplete representations of practices and opinions. Triangulation and comparison of interview answers during the analysis and supporting web-based research were thus necessary to highlight inconsistencies and absences of comments (McDowell 1998).

### **3.5 Case Example**

The case example outlined in Chapter 7 uses three of these interviews and a review of relevant publicly available documents to examine the ways in which Mercer has adapted their products, services and expertise to facilitate RI knowledge and practice amongst the asset owners and asset managers they engage with. This thesis uses an example to help answer the 'why' and the 'how' of RI integration into an investment consultant and, by proxy, its Asset Owner client, the University of Sydney. This company was selected through 'information-oriented selection', rather than random or stratified sampling (Flyvbjerg 2006, p.34), to generate an example of that which is acknowledged within the industry as relative good practice. In particular, the company was chosen based on comments from a number of interviewees who stated

that Mercer was a key actor in facilitating both social and asocial learning on RI topics. Importantly, the interviews had included both two consultants from Mercer (one in Australia, one in the UK) and an in-depth interview with a client (University of Sydney endowment fund) who had explained the role of Mercer in facilitating their ESG analysis and RI decision-making. Each relevant interview was then re-analysed from the perspective of how does it shed light on the extent to which, and process by which, RI integration occurs within existing institutional and organisational structures. From this, triangulation against public documents relating to Mercer ESG strategies and the case of University of Sydney decarbonisation was then carried out to add rigour to the illustration. However, further triangulation and evidence would be needed to create a full case study as outlined in methodological literatures, perhaps through participatory or ethnographic methodologies. This was not possible in the time frames of the thesis, and was limited by a lack of response to requests for further engagement and discussion by the organisations concerned.

As well as directly answering hypotheses in this research, lessons from this case can be used in industry and academia to analyse and learn from the practices highlighted, with few such RI examples currently available. Such goals are common among wider case study methodologies:

‘It is only because of experience with cases that one can at all move from being a beginner to being an expert. If people were exclusively trained in context-independent knowledge and rules, that is, the kind of knowledge that forms the basis of textbooks and computers, they would remain at the beginner’s level in the learning process’ (Flyvbjerg 2006, p.5).

However, case study methods have been critiqued (largely from a positivist

perspective) for their subjectivity and lack of external validity (Stoecker 1991), and have rarely been analysed as a method from a philosophical background (Easton 2010). Recent work, however, has explored how a critical realist perspective can justify the use of case study research (c.f. Tsang 2014; Fletcher 2017; Easton 2010): ‘It (critical realism) justifies the study of any situation, regardless of the numbers of research units involved, but only if the process involves thoughtful in-depth research with the objective of understanding why things are as they are’ (Easton 2010, p.119). In line with this, the case outlined therefore sought to provide less subjective and more comprehensive insights through the use of internal and external insights into the practices of Mercer.

### **3.6 Data Analysis**

Survey and interview data were analysed using a number of different techniques, including statistical analysis on quantitative data, and textual analysis on qualitative data. The survey was distributed using the online survey tool ‘SurveyMonkey’. Following the end of the survey, I initially sorted through responses and deleted those that had been left blank or had not clicked through to the end of the survey. All data were then exported into Microsoft Excel where basic statistical analysis was conducted to provide initial findings. This included filtered results analysis to compare results across different groups of respondents, notably between self-defined RI experts and non-experts, and between different professional groups (e.g. asset owners vs. asset managers). It should be noted that the majority of responses did not answer all questions, with some questions not relevant for different professionals and other answers likely unknown to the individual without further research. Therefore,

whilst 154 individuals completed the survey, question results are analysed and presented based on the individual question response numbers rather than as a proportion of total participation rate.

Before analysis, all interviews were transcribed from audio recordings and written notes. Data from interviews were then uploaded into coding software 'Nvivo' to facilitate collective analysis. This software provides a platform to organise and analyse data through coding, search, query and visualisation tools (Welsh 2002; Bandara 2006; Jemmott 2008). Each interview was uploaded as an individual source, and then classified along a number of different factors, namely 'country', 'job title', 'firm type', and where relevant whether the firm had an 'internal RI team' and whether the firm belonged to different local and global RI networks (e.g. CDP, PRI, GIC, GSIA, SIF). Thematic coding was then used to help categorise and analyse the data and better 'understand the patterns, the recurrences' of responses by framing the ways in which they illuminated, questioned and clarified key themes and answer research questions (Miles & Huberman 1994, p.170; Guest et al. 2012).

I have drawn upon a coding framework outlined in Braun and Clarke (2006): familiarisation with data; generating initial codes; searching for themes among codes; reviewing themes; defining and naming themes; and producing the final report. However, in line with critical realism and scientific methods of learning-by-doing, this process was non-linear, with themes and codes identified in initial stages of the project through literature reviews and the research questions, and then defined and redefined as new data, themes and concepts emerged during the research process. Initial analysis took place on the first 58 interviews from the UK and Australia during

my M.Phil research (see Harnett 2016 for full details of M.Phil methods), and then interviews undertaken during my D.Phil were uploaded and coded against the same M.Phil codes before additional codes were created based on D.Phil questions and insights and applied to all interviews. As such, these codes were developed through a mixture of deductive and inductive study of the research questions and transcripts (Richards 2009; Miles & Huberman 1994). For example, my research interests had led me to an early analysis of ‘information overload’ vs. ‘information deficit’ and the different ‘information channels’ that were being used, so these were some of the initial codes adopted. Other codes were driven by the theoretical frameworks chosen for this thesis, including a focus on ‘social learning’ and ‘network initiatives’ to help analyse trends from a relational economic geography perspective. However, other important themes required a more detailed analysis of survey data and interview transcripts. For example, a focus on ‘investment consultants’ as a nodal point of discussion and disagreement became apparent later in the process, informing further research questions and methodologies to generate a new chapter of my thesis (Chapter 7).

During the project, more than 80 codes were used and analysed through six themes, with the final coding structure outlined in Appendix 3.5. Once the coding had been completed, results were analysed across different classifications and geographies to inform an institutional economic geography framing, allowing an exploration of trends within and between interviewees of the same city and country, or whether organisational and/or network factors were more important through a comparison across individual professional groups and between RI experts and non-experts.

This study has focused on creating a ‘textual polyphony’ (Crang 1992) whereby the analysis reflects the complexity and contradictions between the multiple participant narratives to answer research questions. Where relevant, then, I have cross-referenced answers from both the interviews to the survey results in both qualitative and quantitative form. Both methods have provided respondent quotations from open-ended questions, as well as quantitative results in the form of aggregated numbers of respondents with a particular answer or opinion.

### **3.7 Reflections on the Research Methods**

As part of this research, I have been fortunate enough to engage with a diverse set of very interesting individuals, from a wide range of professional backgrounds. This has given me the chance to reflect on my own role as a researcher, the impact that my research did and could have in the RI industry, and the gaps in the industry that could be fulfilled by an academic or industry-based RI career. Notably, the persistent lack of academic-industry-policy collaboration has been a key motivator for a future career in academia that focuses on communicating with non-expert investment industry actors across the investment chain to help mainstream RI knowledge and practice. The contacts made through this research have provided a strong sounding board from which to develop understandings for this thesis and launch a career in the RI field.

During the research, my status as an outsider (as a student/researcher rather than a financial sector professional) has been both a blessing and a hindrance, and has also changed over time and in different settings (Merriam et al. 2001). In some circumstances being an ‘outsider’ made gaining initial participation in my research difficult, particularly in the US where I struggled to find suitable gate-keepers. In

other cases, being an outsider meant that I was more likely to be trusted with open and frank conversations, as I was not a threat to individuals' competitive advantage or career progression. As I undertook more interviews, I found that my status was changing: due to the small scale of the RI industry, particularly in Australia and London, I found that I had engaged with a significant proportion of key organisations and networks. Thus, although I was not a part of the finance community, I became an 'accepted outsider', through recognition of my work by industry bodies<sup>10</sup> and through interpersonal acquaintances. In particular, I found that I became further entwined in the industry through 'close dialogue' (Clark 1998), whereby my engagement with interviewees has extended beyond the initial interview as a result of follow-up emails, discussions and mutual attendance at conferences. This has also allowed valuable feed-back on initial research findings and industry updates, and facilitated greater number of interviews through snow-balling techniques.

Attending conferences and seminars in the UK, Australia and Singapore has been a particularly enjoyable, interesting and educational part of my research. Although not setting out to embark on observational methods, these conferences have allowed me to gain further insights into the flow of information on RI topics, and gave me anecdotal evidence of the importance of networking and the uptake of social learning opportunities over lunches and coffee within the more formal and asocial conference setting. I was able to identify a bubble of RI social learning, with many familiar faces visible at conferences, similar speakers on similar panels, and peers who tended to stick together based on localised networks within their home countries/cities. This has added valuable nuance to my own understanding of the practices of the RI industry,

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<sup>10</sup> Receiving Best Masters thesis award from the European RI bodies FIR-PRI in 2016, and a Scholarship from the industry magazine *Investor and Pensions Europe*.

including shaping my research hypotheses and allowing me to test and corroborate early research findings and both support and challenge the more formal data collection.

Throughout my research, so as to be comprehensible and amenable, I tried to frame my research towards the specific audience and engage in a two-way dialogue of information rather than just being a passive researcher, with this being an important part of critical realist approach (Pratt 1995). With experienced RI professionals, I was able to jump right into conversation linked to key hypotheses, learning as much as possible as they discussed their opinions and experiences. In contrast, I provided more context to my research for mainstream financial investors and intermediaries, offering them a greater opportunity to ask questions and express conflicting points of view rather than feel that there was a 'right' way to answer. Thus, while I was using the interview as a means of developing an understanding of the RI markets in specific cities and countries, so too the participants were able to enhance their own understandings of RI. Interestingly, Australian interviewees with an RI background were also keen to engage in dialogue, often directed to better understanding opinions of, and best practices of, RI in Europe and the US markets within which they had limited engagement due to geographic distance. This reflection formed an important finding in my research on the importance of geographic distance in ESG information and networks in Chapter 5.

As my research has progressed, I thus realised that I had become an active participant in the diffusion and mainstreaming of RI knowledge, the very subject of my thesis (Holstein & Gubrium 2004). I was thus contributing to the social learning of these

individuals, and in some cases added to their asocial learning when asked if I could recommend papers or articles on certain topics. I therefore became somewhat ‘ethically entangled’ in the communication and learning of RI through my desire (and the request of participants) to contribute information and knowledge to the networks, individuals and organisations I engaged with. I found this exciting and rewarding, giving me an opportunity to contribute to the wider industry outside of an academic context, become less of an ‘outsider’, and be a small part of the solution to some of the problems that I am researching.

Critical realism also calls on researchers to analyse not only ‘what’ is said, but ‘how’ and in what ‘context’ it is said (Sayer 2015; Pratt 1995). This drew me to brief reflections on the ‘where’ of the interviews, and the conclusions that could be drawn from this. In the UK, almost all interviews (except three) were undertaken at the participants’ offices. This created a formal atmosphere and was in the interviewees’ ‘territory’ (Rice 2010), but also provided a degree of privacy to discuss potentially contentious and confidential topics such as investment strategy and their own opinions on RI issues. In contrast, 13 Australian (more than a quarter) interviews took place in coffee shops, presenting a more relaxed and informal atmosphere. This reflected on the local financial and social cultures of the UK and Australia<sup>11</sup>, with a much stronger sense of socializing and informal networking in Australia. This helped inform my conclusions regarding the strength of the ‘social learning’ and ‘local buzz’ in the Australian context, discussed in Chapter 5.

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<sup>11</sup> As the US interviews were all done over phone/Skype, fewer such observations could be made.

Finally, over the course of this research I have naturally had to reflect on the evolution of my understanding of the issues and research techniques employed. The interviews took place over the span of more than two years (from January 2015 to August 2017). During this time, not only has my confidence in interviewing and networking developed, but also a lot of action around RI issues has taken place within the financial industry and in broader society and politics, which is likely to have influenced participants' experience and knowledge of RI<sup>12</sup>. It has thus become clear that I have created 'situated knowledges', local to the opinions, networks and experiences of the participants, geographies and subjects of this research, and my own interpretations of them (Hughes 1999; Schoenberger 1991). Repeating the survey, for example, would be an interesting project as part of my postdoctoral research to analyse how engagement with RI topics has changed over time.

Whilst it was exciting and rewarding to be researching a topic that is so relevant to current politics and practices, and pleasing to see that RI knowledge and practices are growing rapidly, it has also been daunting and often frustrating to keep up to date with the latest initiatives, research and agendas, with best practices shifting so fast that original research ideas and findings become dated. For example, I originally planned to conduct content and diffusion analysis on the term 'stranded assets' to analyse how the financial media were framing and disseminating the bounded RI term. However, by early 2017 the term had become much more commonplace and the scale of publications mentioning stranded assets became too great to track and analyse in the detail I had hoped. Whilst important as a demonstration of RI terminology

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<sup>12</sup> For example, the Paris agreement has been designed and brought into force, the G20 has established an influential Task Force on Climate Disclosure, the global fossil fuel divestment campaign has gained momentum, and the French government have instigated Article 173 which requires the disclosure of ESG risks within investment portfolios.

becoming mainstreamed into investment lexicons, it was frustrating that my research idea had become unfeasible. My thesis plan, methods and content have therefore been shaped by, and are a product of, the accelerating pace and scale of RI knowledge and practice.

In conclusion, this thesis uses a mixed-method approach to generate novel empirical research on the learning process, knowledge and investment practices of investment professionals with regard to RI. I have enjoyed the process of developing and implementing these methods, particularly carrying out the interviews and establishing a close dialogue with numerous individuals and organisations in the RI field, providing insightful contributions to this thesis and longer-term networks that will aid my future research and career. These methods were developed during the research to ensure that the key research questions were answered, adapting to the changing RI landscape and level of detail required to examine the hypotheses proffered. Each of the three empirical methodologies applied complement each other, each adding a sharper degree of insight and observation to this study, combining to provide novel analysis at multiple scales of the mainstreaming of RI knowledge and practice. I have provided the questions for both the survey and interviews, so these can be repeated to provide further insights in different markets and to create a temporal study of changing knowledge and practice in future research, and would welcome the creation of similar case studies within different organisations along the investment chain. Whilst other methods could have been applied, they would have contributed to a very different thesis, and given the time and resources available during this D.Phil I am confident in the ways in which these methods have combined to provide reliable and insightful ‘useful knowledge’.

## **Chapter 4. Investor Learning Strategies: Social and Asocial Learning about Climate Change**

### **4.1 Introduction**

This chapter will analyse the learning strategies used by institutional investors to incorporate climate change into investment decisions. In particular this chapter provides a novel framework for understanding investor learning processes, highlighting the important social and asocial learning patterns vital to translating information about climate change into investment actions. The ideas and findings of this chapter were published as a peer-reviewed paper ‘Social and asocial learning about climate change among institutional investors: lessons for stranded assets’ in the *Journal of Sustainable Finance and Investment* in January 2017. The chapter (as in the paper) builds on the findings of the survey and the first 60 interviews undertaken as part of M.Phil research, therefore focusing predominantly on insights from the UK and Australia.

Drawing on learning theories, behavioural economics and diffusion literatures, this chapter seeks to unite these literatures under the auspices of institutional and relational economic geography (IEG and REG, respectively). This analysis is underpinned by an understanding that economic action and interaction (including learning and the diffusion of ideas throughout the financial system) are situated in contexts of social and institutional relations (Bathelt & Glückler 2003; Mikl-Horke 2010). This legitimises a study of regional variation in social learning processes and networks that could affect the long-term economic growth of institutions, regions and nations through the investment decisions regarding the adaptation and mitigation of

climate change. Bursztyn et al. (2014) argued that investors adapt their own decisions based on others' investments due to 'social learning' and 'herding', but this chapter seeks to explore this assertion to understand at what points in their RI decision-making process investors use social learning as opposed to individual asocial learning. In this endeavour, this chapter identifies the actors involved in the sharing of RI knowledge and information, exploring how actors are operating in relation to each other and which are providing social and/or asocial information, and testing the hypothesis that 'social learning channels are important in investor RI learning and knowledge processes, but there is a lack of such provision in non-expert investment circles'.

This chapter thus seeks to assess and contest existing beliefs about how investors learn. A 2012 report found that investors rely on a diversity of sources to gather ESG information and develop knowledge, with the majority of respondents using multiple channels (A4S / GRI 2012): direct engagement with companies and formal reporting channels were seen as the most important, but this chapter will expand on and challenge these findings.

To achieve such an analysis, this chapter builds upon novel interview and survey data to identify investors' learning and information sources around climate issues as one part of wider RI issues. Key questions being posed in this chapter are:

1. Do investors tend to rely on social or asocial learning the most in their investment decisions?
2. Does the dependence on social and asocial learning vary at different stages of decision-making process?
3. Who are the main actors providing social and asocial learning about RI for the

investment community in the US, UK and Australia?

In particular this research highlights the useful role of some industry actors in providing both social and asocial learning opportunities at different stages of the investor learning process. Both social and asocial knowledges are important at early learning stages, but social learning appears to become central at the persuasion and decision stages. Asocial learning then plays a crucial role when implementing investment decisions. This chapter uses this exploration of learning to frame recommendations for better communication between academics, researchers and investors on the subject of RI and climate change. Social learning appears to be dominant in the development of knowledge and the decision to adopt RI practices, but there is a need for both social and asocial learning throughout the learning process from knowledge intake to the confirmation of RI decisions.

This chapter is structured as follows: Section 4.1 outlines key literatures around learning theories, including the benefits and disadvantages of social and asocial learning strategies. Section 4.2 proposes a theory of investor learning which emphasises the social and asocial inputs at different stages of investors' learning process. The following three sections (Sections 4.3-4.5) then explore the findings of survey and interview methodologies to examine the evidence for this theory, focusing on the different actors involved in the learning process, particularly paying attention to the duality between 'social' and 'asocial' learning being offered by some actors. Section 6 offers discussion and conclusions.

## 4.2 Theories of Learning

This section will explore the learning theories underpinning this chapter, firstly examining asocial and then social learning. A significant literature has been established in recent decades regarding the decision-making behaviours of investors and the financial community, most notably led by Daniel Kahneman and Amos Tversky (c.f. Kahneman et al. 1982; Kahneman & Tversky 1979; Kahneman 1973; Kahneman 2011). This work has shown that investors rely heavily on the internalisation of new information to gain knowledge and help them make decisions, with information availability a key focus of much of the behavioural finance literatures (Grossman & Stiglitz 1980; Gleick 2011; Zhao et al. 2005).

However, little attention has been paid to the different learning strategies of these investors or the firms in which they work, either regarding the sources of information they use or the type of learning they are undertaking (Amin & Cohendet 2004). This is a key gap in the literature that this research seeks to address, as this should be an important area of study to help illuminate ways in which new and developing discourses, such as RI, can potentially be further disseminated following an enhanced understanding of different audiences' learning needs and an understanding of how geography affects information availability and uptake. This section thus seeks to apply a range of literatures, including economics, geography, psychology and sociology to outline the differences between asocial and social learning, and explores the benefits and disadvantages associated with each, in the context of investment actors and the mainstreaming of RI knowledge and ESG information.

Haas and Haas (1995) suggest that the capacity to learn is based on the ‘willingness to make use of available knowledge’ that can be acquired through study, experience, or being taught. Without such learning, new innovations and ideas (such as RI practices and narratives) cannot be diffused through firms, institutions or regions.

#### **4.2.1 Knowledge and Learning**

Building on the definitions of information and knowledge in the early literature reviews, this chapter explores the acquisition of knowledge by investors, and the learning processes involved, while Chapter 5 analyses information accessibility and geographies in more detail. This chapter builds on literature that has examined the dynamic nature of knowledge sharing, facilitated by both spatial and relational proximity (Amin & Cohendet 2004; Brown & Duguid 1996; Nonaka & Takeuchi 1996; Bathelt et al. 2004). Knowledge is viewed as a process rather than possession, whereby an individual or organisational stock of knowledge will change over time as a result of learning (Amin & Cohendet 2004), and will not be lost if shared with others. This chapter will build upon this understanding to explore the role of social and asocial learning, and the extent to which these underpin RI knowledge at different stages of the information-processing process.

It is important to study the social aspects of learning in particular, as there is a need to ‘mobilize socially the dispersed forms of individual knowledge’ (Hayek 1945 In Amin and Cohendet, 2004: p.26), as no individual or institution has complete knowledge. This is no different for the RI sector, with mainstreaming relying on being integrated into investment which will need to develop a core of ‘common knowledge’ and to set collective rules and languages to facilitate the formation of knowledge,

further underlining the notion that knowledge results from a collective *social* process. Social processes can therefore be seen to shape the way knowledge is produced and circulated, with Callon (1999) arguing that novelty is the product of connections. Further, Amin and Cohendet (2004) draw on epistemologies of ‘pragmatic knowledge’ as they argue for the importance of studying ‘communities’, as an intermediate level of analysis between the behaviours of individuals and organisations, suggesting that ‘these communities are responsible for generating both routine and strategic learning, through practices of socialisation, interaction, interest alignment, knowledge translation and community maintenance’ (p.62). As such, this chapter will draw heavily on studies of the ‘social learning’ among investors, as well as the role of ‘communities of practice’ in the socialisation and diffusion of RI.

Learning, and the development of individual and institutional knowledge, is particularly relevant in the RI industry due to the difficulties associated with mandating ESG disclosure and/or RI integration in investment decisions to the extent that change is likely to result only from greater knowledge of the risks and opportunities relating to ESG factors. Most investor-relevant legislation in the UK, Australia and the US establishes a fiduciary relationship between beneficiaries and investment managers. Thus, while a growing literature explores how investor fund’s consideration of ESG issues *may* fit into a broader conception of the fiduciary’s interest if they can be shown to be financially material (Freshfields 2005; UNEP FI 2009a; Lewis et al. 2016), most legislations restrict that responsibility to maximising the investment’s expected risk-adjusted returns. France remains the only country globally that has strengthened mandatory climate disclosure requirements for listed companies and introduced the first mandatory requirements for institutional investors

as part of Article 173 of the *Law for the Energy Transition and Green Growth* (2 Degrees Investing 2015).

#### **4.2.2 Asocial Learning**

Asocial learning in this thesis will refer to new knowledge gained by an individual through the private consumption of information or individual experience (Pidgeon & Fischhoff 2011; Rendell et al. 2011). In the broader behavioural literatures, it is noted that individuals face trade-offs between the acquisition of costly but accurate information as an individual, and the use of cheap but potentially less reliable information from their social circles (Boyd & Richerson 1995; Kendal et al. 2005). Asocial learning is common in investment decisions, as investors often rely on in-depth analysis of raw data on individual companies, sectors and markets (Voss 2015).

However, for investors, attention is a scarce cognitive resource (Kahneman 1973; Clark & Urwin 2008). Peng and Xiong (2006), in their study on investor attention and learning, find that investors thus tend towards category-learning behaviours whereby they process more market and sector-wide information compared to that of individual firms. The channel of delivery through which different actors communicate with investors is shown to have a tangible impact on the take-up of new information by financial actors. Easily accessible information in mainstream media has been shown to have greater stock market impact than the same data released in scientific journals (Huberman & Regev 2001). Market-wide climate announcements, media coverage or policy shifts are thus more likely to affect investment decisions.

However, failure to consider a range of information can also be seen as a potential

limitation to the benefits of asocial learning. ‘Confirmation bias’ is acknowledged as limiting the range of literatures and opinions an individual is likely to consult before making a decision (Nickerson 1998; Jones & Sugden 2001). Confirmation bias is a tendency to search for or interpret information in a way that confirms one’s preconceptions: for example, an investor who does not believe in climate change is more likely to read sceptical articles and less likely to search for and engage with climate-aware literatures, individuals or groups (Marshall 2015). Social learning, discussed below, can be seen to help combat confirmation bias by introducing individuals to others with varied views, but its benefits can be reduced by the homogeneity of firms and friendship groups.

#### **4.2.3 Social Learning**

It is important to study the social aspect of learning and communication due to human dependence on social interaction, and the prevalence of networking and social learning within the finance industry (Bathelt & Turi 2011; Bursztyn et al. 2014). Although there remains a strong focus on data-driven investment decision-making within the academic literature on RI, in particular emphasised by the on-going focus on disclosure (FSB 2016; Caldecott 2016), three main drivers of investment markets are investment returns, investment benchmarking and herd behaviour, all of which revolve around social learning and the comparison of investors between themselves. Thus being able to discuss and compare one’s investment theses and performance is a key part of any investor’s work, demonstrating the importance of the ‘social’ aspect of the system (Mikl-Horke 2010). Social learning is seen as particularly relevant for ‘tacit’ knowledge, which tends to be ‘formed relationally’ and can be ‘context-

dependent, spatially sticky and socially accessible only through direct physical interaction' (Morgan 2004, p.12; Amin & Cohendet 2004; Nonaka & Takeuchi 1996).

Social learning facilitates the rapid dissemination of new ideas, especially when learnt from peers (Hara 2009) and if practices are expected to have positive outcomes (Rotter 1954). This suggests attention to climate change information is more likely if espoused by investors' co-workers or peers, and also if low-carbon or climate-aware strategies offer good returns (financial and/or reputational). Diffusion research has traditionally shown that most individuals do not evaluate an innovation or new idea on the basis of scientific studies of its consequences. Instead, most people (perhaps apart from the very earliest adopters) depend mainly upon a subjective evaluation of an innovation that is conveyed to them from other individuals like themselves who have already adopted the innovation (Rogers 2003). This means that the diffusion and mainstreaming of RI as an innovation in investment practices is a social process that is likely to involve interpersonal communication relationships.

A growing literature explores social learning in a number of different settings, such as in policymaking (Hall 1993; Simmons et al. 2007), but has rarely been applied to the finance community and investors. A few notable exceptions include research into herding tendencies (Chamley 2004) and the economic implications of social learning and imitation (Bossan et al. 2015; Bursztyn et al. 2014). Social learning is also important in the case of RI whereby investors start from different motivations and definitions of RI; discussion and dialogue can promote understanding and convergence from different view points that could otherwise be left unaddressed in asocial learning. As such, this thesis seeks to establish a broader research remit for

understanding the use of social learning among investors within and between different financial centres around the globe.

This section comments on the utility of different social learning theories (summarised in Table 4.1).

**Table 4.1. Summary of social learning theory. Source: Author**

<b>Theory</b>	<b>Explanation</b>	<b>Key Literature</b>	<b>Literature Linked To Climate And/or Investment</b>
<b>Social Learning</b>	Learning as a cognitive process that occurs in social environments rather than taught environment such as a classroom.	Bandura (1963) Reed et al. (2010)	Bursztyn et al. (2014) Nilsson & Swartling (2009) Hall (1993)
<b>Peer Learning</b>	Collaborative learning amongst peers is shown to expedite the learning process.	Hara (2009) Pelling et al. (2008)	Bursztyn et al. (2014) Cambridge Network (2015)
<b>Group Norms</b>	Social and professional groups provide guidelines for appropriate behaviour through the internalisation of accepted behaviours, and the transfer of accepted knowledges.	Abrams & Hogg (1988) Hornsey (2008)	Masson & Fritsche (2014) Whitmarsh et al. (2012) Dunlap & McCright (2008) Fielding et al. (2012)
<b>Communities of Practice</b>	Groups of people who share a concern or a passion for something, and meet together to discuss and learn how to improve the situation through regular cooperation.	Wenger (2011) Smith & McKeen (2003)	A4S (2015b) Bursztyn et al. (2014) Guyatt (2007)

Diverse communities of individuals are at the centre of social learning practices. At the forefront of research on the ideas of learning, social learning and ‘epistemic communities’ has been the father-son duo Ernest and Peter Haas. For example, in their book ‘Learning to Learn: Improving International Governance’ (Haas & Haas 1995), they argue that groups of like-minded professionals working on a particular issue or problem are key to disseminating new knowledge. These groups can take the form of ‘epistemic communities’ or ‘communities of practice’, which both form key knowledge-generating and knowledge sharing environments. Amin and Cohendet (2004) usefully explore the differences between the two. Epistemic communities are

described as ‘largely autonomous’ and organised around self-defined community routines with the aim of producing new knowledge and authority around a topic of mutual interest (c.f. Knorr-Cetina 1981; Cowan et al. 2000). In contrast, communities of practice aim to enhance individual competence on an issue, and refer to groups of individuals engaged in similar practices who communicate regularly about their activities to informally share knowledge and resources (Lave & Wenger 1991; Wenger & Snyder 2000). Communities of practice tend to be ‘self-organised’, ‘informal’ and ‘locally negotiated’, whereas epistemic communities tend to be explicitly established for a goal of knowledge creation or development (Amin & Cohendet 2004). Despite these differences, the sociology of their knowledge practices are not radically different, and therefore for the purposes of this chapter, and to avoid further confusion or distinction between similar concepts, I will use the more common term ‘communities of practice’, but refer to them as formal or informal.

Both formal and informal ‘communities of practice’ are argued to facilitate peer-learning and create group dynamics which affect individual behaviour through the creation and reproduction of institutions, audience effects and the dissemination of group norms and practices. These groups can complement or counter officially communicated or ‘taught’ behaviours, with significant literatures exploring the role of such groups in seeking environmental and climate solutions (Haas 1989; Haas 1990; Toke 1999; Litfin 2000). Such groups can be formed between colleagues within organisations or external groups promoting cross-collaboration and knowledge sharing (Smith & Mackie 2007). In the case of climate change-related investor groups, these communities of practice also promote learning within and between different groups, with several members belonging to multiple groups, so that knowledges, innovations and norms developed and learnt in one group setting can be

transferred to the members of another group (Guyatt 2007). This will be further explored in Chapter 5.

However, behavioural finance and psychology literatures offer some warnings against over-dependence on social learning. Rendell et al. (2011) explore the role of peer copying in processing new information. While imitation is an important cognitive process through which we adopt new behaviours, it is also potentially dangerous as the lines of social learning can become entangled in false information. While highly educated investors are perhaps less likely to fall into this trap, investors do adapt their own decisions based on others' investments due to 'social learning' and 'social utility' (Bursztyn et al. 2014), which can cause herding and market speculation (Devenow & Welch 1996; Kahneman 2011). Groupthink has various definitions within the psychology literatures (Turner & Pratkanis 1998) but broadly refers to irrational or dysfunctional decision-making within groups as a result of willingness to conform and minimise conflict leading to a lack of critical evaluation of information and/or engagement with external actors. As such, the reasoning, motivations, bias and sources behind any behaviour/information that is copied or learnt from others must be considered objectively (Fielding et al. 2014). Asocial learning is thus important in addition to social learning to ensure that up-to-date and accurate information is consumed, particularly when new information is regularly published as is the case in RI and investment markets (Rendell et al. 2011).

In addition, and as discussed in the wider literature review of this thesis, social learning among investors is likely to be concentrated in global financial centres, where individuals and institutions cluster near other advanced business services (ABS), such as law firms, consultants and universities which can facilitate learning

and progress towards best practices (Wójcik 2012; Dicken 2011; Clark et al. 2000). Cities can thus be seen as one example of ‘spaces of knowing’ (Amin & Cohendet 2004, p.84), which facilitate all manner of knowledge innovation and interaction, and might include the co-location of employee teams, a prevalence of face-to-face encounters, global networks held together through regular travel, virtual communications, flows of ideas and information through supply chains, and/or trans-corporate collaborations (Storper & Venables 2004; Taylor et al. 2014). Although discussed further in Chapter 5, this chapter will also explore some of the spatial and relational geographic factors affecting investors’ reliance on social vs. asocial learning, with social knowledge assumed to diffuse more rapidly in cities (Castells 1996; Lorenzen 2001; Glaeser 2010).

This chapter will thus explore the groups and actors facilitating both social and asocial learning to provide more knowledge and information on climate change. This contributes towards closing the gap in academic literature surrounding investor learning processes, and the diffusion of RI knowledge and practice. In addition, this study contributes empirical evidence on the institutional and relational economic geographies of RI, illustrating the importance of social dynamics and networking in the diffusion of ideas and practices. Both asocial and social learning strategies need to be problematised and should not be considered mutually exclusive.

### **4.3 Investor Learning Processes**

This section lays out the agenda for the rest of the analysis of this chapter, providing an introduction to the diversity of sources that investors use to learn about climate

change topics, based on empiric data from the survey and interview methodologies. In particular, this section outlines, explains and justifies a conceptual framework of the information sources (including communicating parties and learning process) that investors might adopt at each step of a 5-stage innovation-decision-process.

We live in the ‘Information Age’ (Hara 2009): an era defined by the Internet and online/mobile communication. This has made dissemination of ideas and content much easier, and made data more accessible, with “*Internet searching*” (Aus07) integral to sourcing information about climate change among interviewees. However, “*anyone can write anything at any time, it’s unfiltered, and it’s not peer reviewed*” (Aus11), so discernment is needed to determine which sources are reliable before the views and ideas can be accepted and learnt. Investors rely on a wide range of sources to triangulate ideas (Voss 2015), whether they are searching for information on financial or ESG performance.

Table 4.2 outlines the range of information sources used by research participants to develop knowledge about, and make decisions about the potential investment implications of, climate change. This includes knowledge learnt using both social and asocial learning strategies, demonstrating the dependence on both strategies and the fact that they are not necessarily mutually exclusive.

**Table 4.2. List of information sources (Source: Thesis Interviews and Survey)**

<b>Asocial</b>	<b>Both Asocial and Social</b>	<b>Social</b>
Academic publications Company reports Data providers (ESG) Data providers (General) Industry and national bodies Investment journals IPCC reports Lobby group reports Mainstream news RI news	Brokers Climate/RI groups Internal research Investment consultants Law firms Regulators	Experts Face to face meetings in work Management Social discussions outside work Social media

Only three survey respondents (out of 112 responses to this question, 2.67%) and none of the 60 interviewees said that they had ‘never’ read an article that had focused on climate change risks or opportunities. Furthermore, 42% of survey participants said that they had read an article in the last week. However, this figure might have been boosted by President Obama’s announcement of America’s first national standards to limit carbon dioxide in the week of the survey<sup>13</sup>. Regardless of such unintentional event bias, these research findings suggest that a market for climate-related information does exist.

Rogers (2003) suggests that five main steps occur in diffusion and learning activities: 1) knowledge; 2) persuasion; 3) decision; 4) implementation; and 5) confirmation. This is known as the ‘innovation-decision-process’; this chapter adapts this process logic to describe the integration of learning about climate change into investment decisions of both asset managers and asset owners.

The *Knowledge* stage refers to an individual’s exposure to new information, experience or idea, and the process of gaining some understanding of how a new

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<sup>13</sup> For example, this announcement was widely covered in international media, including the Economist, the BBC, the Guardian, CNN, the New York Times, the Wall Street Journal in the week beginning 3<sup>rd</sup> August 2015. The President said “I am convinced that no challenge poses a greater threat to our future, to future generations, than a changing climate,” (The Economist 2015).

concept or innovation works. In context, this stage refers to the accessing of information about the potential investment case for RI and the risks and opportunities at play. The fact that knowledge comes first in this process of learning has driven the focus on RI knowledge throughout this D.Phil, from the position that knowledge is vital to any learning process and therefore the mainstreaming of RI but has been under-researched to date. *Persuasion* occurs when an individual forms a favourable or unfavourable attitude towards the innovation/idea based on evaluation of the contextual advantages and disadvantages. *Decision* occurs when an individual engages in activities that lead to a choice to adopt or reject the innovation/idea. *Implementation* occurs when an individual puts an innovation/idea into use. This would be the stage at which an individual actively engages, invests or divests based on their knowledge of climate risks/opportunities. *Confirmation* occurs when an individual seeks reinforcement of an innovation decision that has already been made, but he or she may reverse this previous decision if exposed to conflicting messages about the innovation. For example, investors might reassess their green investment process if their portfolio consistently underperforms.

These five steps usually occur in a time-ordered sequence of knowledge, persuasion, decision, implementation, and confirmation. However, feedback and new information at different stages can alter this. Discontinuance may occur because an individual becomes dissatisfied with an innovation, or because the innovation is replaced with an improved idea. It is also possible for an individual to adopt the innovation after a previous decision to reject it. Such later adoption and discontinuance often occur during the confirmation stage (Hall 1993; Amin & Cohendet 2004). Re-invention of the concept can also occur, and is especially likely to occur at the implementation stage, whereby individuals and organisations alter the innovation to better meet their

own needs – perhaps creating a new investment product to suit their specific needs, or altering traditional concepts of RI to suit their own investment mandates or ethics. Furthermore, what counts as ‘knowledge’ will also develop over time, as what counts as useful knowledge will vary from person to person, institution to institution, and will change as science, individual learning and experience, and climate change evolve.

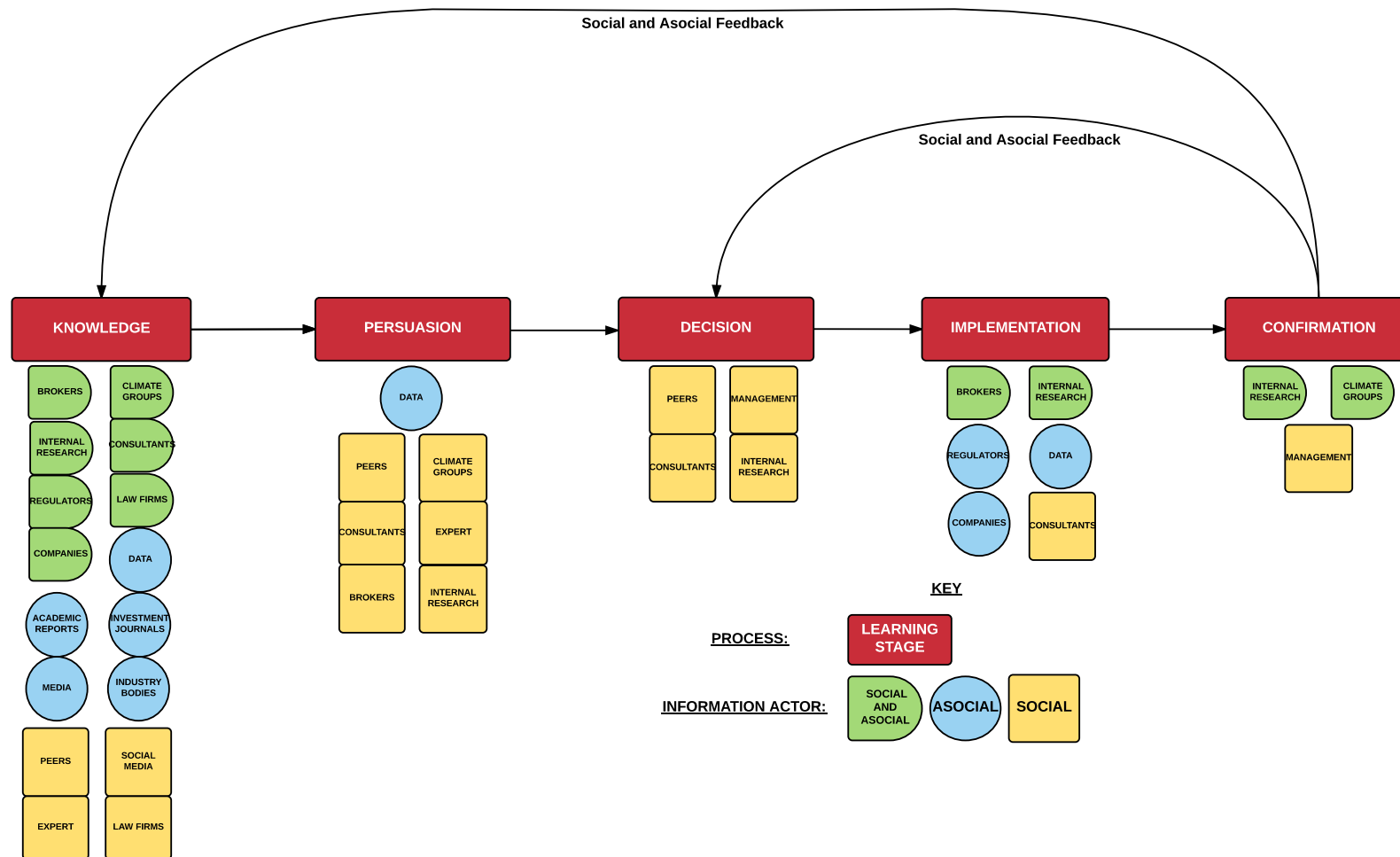
Alongside the consideration of time within the process, the perspectives of relational and institutional economic geography also help introduce an awareness that geography, social relations and location will also affect the progression and availability of information and innovation among investors. The information availability will depend on the location of the individual in terms of their access to different market information and disclosure, as well as their proximity to networks and peers who can be active discussants and facilitate knowledge exchange (Amin & Cohendet 2004). The implementation of innovation will also depend on the organisational, institutional and national regulatory and legislative context (Boschma & Frenken 2010), further demonstrating the importance of considering how geography affects the learning and decision-making process of investors.

The information, and the communication channels, needed at each stage will differ. Figure 4.1 adapts the innovation-decision-process, and outlines the learning strategies and actors at each stage of the process as exposed by empirical research findings from the interviews and survey conducted during this D.Phil. Both social and asocial information are shown to be important at the knowledge stage, whereas social communication and learning is more needed for persuasion and decisions and asocial information more at the implementation stage. This is important for the development

of outreach strategies by those seeking to optimise learning for investors and mainstream RI. It also highlights the possibility for a particular information agent to provide both asocial and/or social learning at different stages of the innovation-decision-process: for example, consultants provide both learning styles at the knowledge stage, but social learning at the persuasion and decision stage. Interestingly, peer inputs, consultants and internal research teams are highlighted as being relevant at every stage in the key ‘learning’ stages of the process (stages 1-3, as opposed to the implementation stages of 4 and 5). Social and asocial strategies also help in the feedback of results to inform the knowledge and decisions of future investors seeking to embark on the integration of climate change into investment. This demonstrates the importance of considering and understanding how social relations, networks and societal and regulatory influences can affect the learning and diffusion process of RI information and innovations.

In the following sections, I will further analyze the social and asocial communication channels aiding investors’ learning about RI. I begin by exploring the phenomena of the dual-purpose agents providing both social and asocial learning, before exploring those offering social and asocial learning separately.

**Figure 4.1. Investors' climate change learning processes – Social and asocial knowledge inputs. Source: Author**



## 4.4 Dual Social and Asocial Learning Actors

**Table 4.3. Both asocial and social sources**

Brokers
Climate/RI groups
Internal research
Investment consultants
Law firms
Regulators

This section acknowledges and explores the dual roles of certain actors (outlined in Table 4.3) in the provision of both social and asocial learning for investors. This dual communication capacity is implicitly accepted throughout the investment industry, but has gained little attention within the academic literature. Importantly, these actors can cater to individuals' differing learning requirements at progressive stages of the learning process and therefore might be well positioned to catalyse standardised messages about the risks and opportunities available, and further the mainstreaming of RI knowledge and practices.

### 4.4.1 Brokers

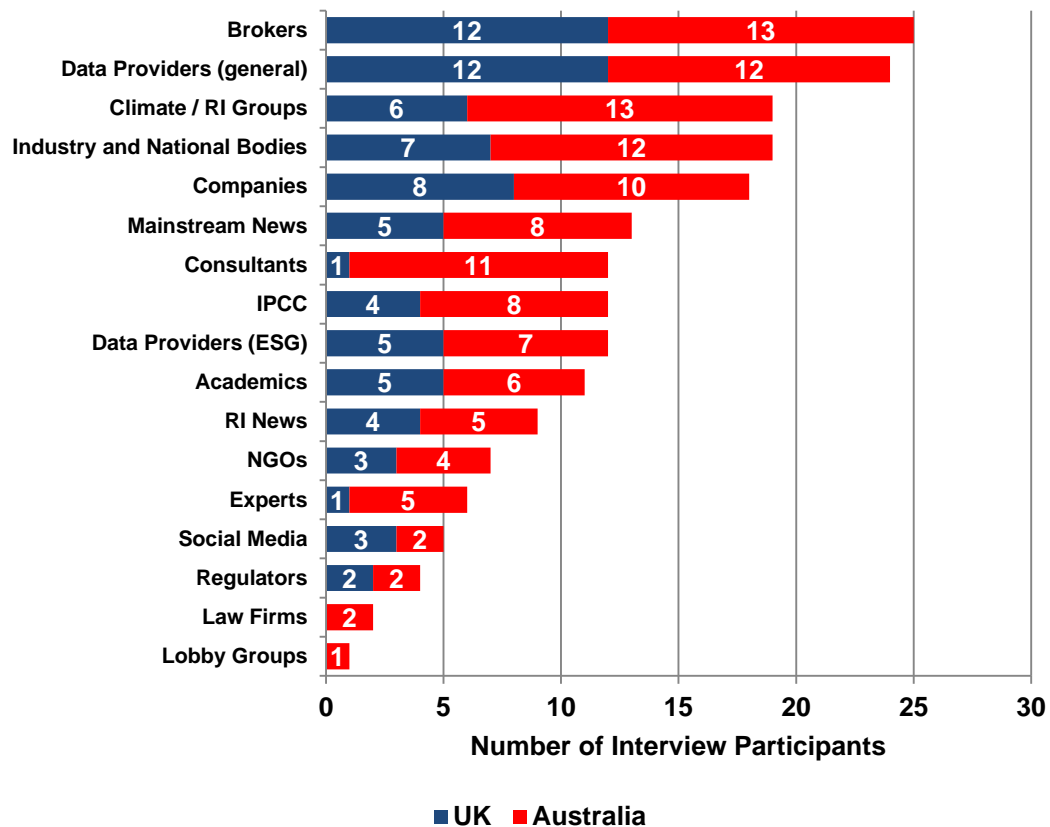
**Table 4.4. Brokers' role in investors' climate learning process**

	Social	Asocial
Knowledge	✓	✓
Persuasion	✓	
Decision		
Implementation	✓	
Confirmation		

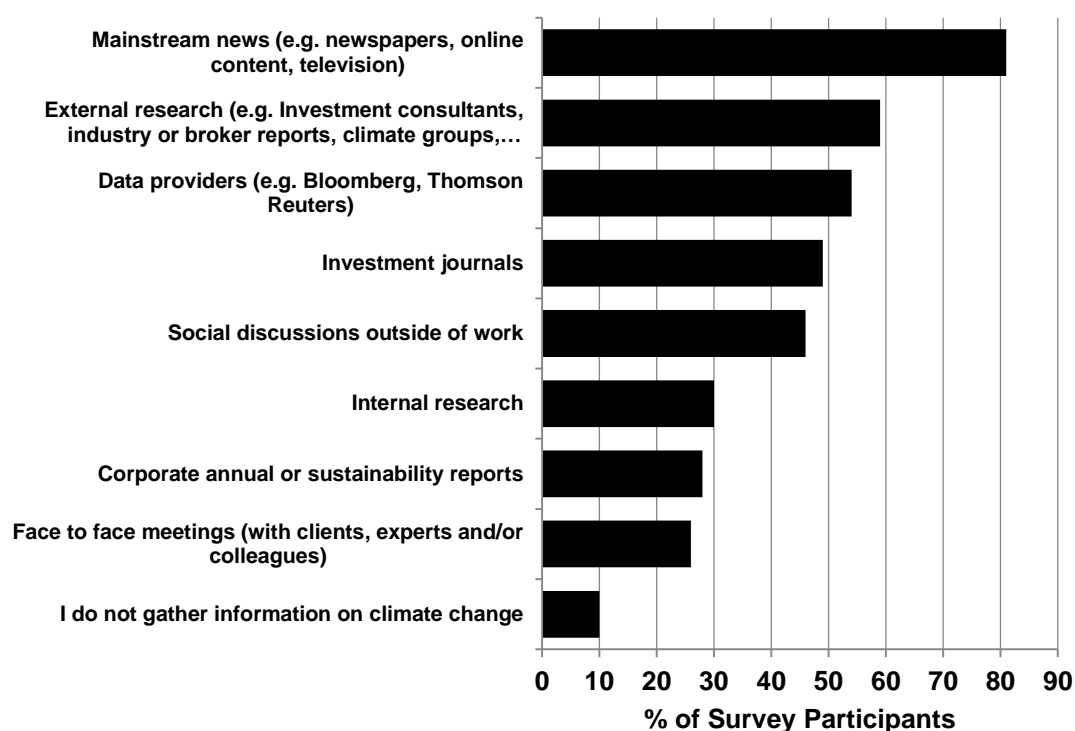
Brokers were the most-discussed source of information used by interviewees in both UK and Australia (Figure 4.2). Further, 59.5% of global survey participants reported having used external research (which included brokers) for information on climate change (Figure 4.3) and 53% said they always or regularly use those sources in

investment decisions. This further emphasises the importance of third-party data outlined in Voss (2015). One super fund RI manager commented “*I find that the work done by the brokers is really useful in distilling (climate) information into an investment context*” (Aus05). A number of leading brokerage houses were recognised as offering insightful ESG and climate research. Australian participants mentioned Citi, Deutsche Bank and Credit Suisse, and UK interviewees praised HSBC, Morgan Stanley and Citi.

**Figure 4.2. Information sources used, by country. Source: Thesis Interviews**



**Figure 4.3. How do you gather information on climate change issues? Source: Thesis Survey**



Brokers act as key intermediaries in the investment chain, bringing together the buy and sell side. As well as providing investment services at the implementation stage, brokerage houses have a research function. Importantly, this research was seen as useful in linking climate change “*back to the financial value*” (Aus06), providing value at the knowledge stage of the learning process, particularly legitimising and outlining the business case motivations for RI choices. Brokers were also praised by interviewees for drawing attention to external research reports and facilitating both formal and informal networking and social learning opportunities through client meetings and presentations on key topics, including climate change and stranded assets. One asset manager explained the importance of staying on top of broker research, saying “*The broker community is unique because if there is a hot topic, then*

*the brokers will arrange the broader meetings on those things... There will be one broker who organises a lunch that everyone goes to get up to date with that issue*" (Aus07). Several interviewees suggested that the ability to meet with peers and experts at broker events had been key to persuading them that climate change was relevant and could be integrated on a practical level, thereby having an influence via social learning at the knowledge, persuasion and implementation stages.

However, not all interviewees were so impressed: an executive in a sustainability-focused asset management firm commented, *"We have found that traditional 'broking' research is not as long-term oriented or covering these issues as well as we would like"* (UK28). Broking research can thus be useful in getting mainstream investors aware of the issues, but the level of coverage of RI issues, and the extent to which they make their views public through publishing reports, appears to vary dramatically between brokerage houses. This can affect the learning opportunities available to individual investors based on their broker relationships. Further, social learning opportunities at workshops, conferences and client presentations are likely to be greater within financial centres, meaning that those located in peripheral cities (or smaller firms, less able to afford broker services) are perhaps more reliant on asocial learning (Clark et al. 2000). As such, the role of brokers is likely to be different based on geographic location, with a knowledge role in the periphery and a greater knowledge, persuasion and implementation role more limited to financial centres.

#### 4.4.2 Climate Groups

**Table 4.5. Climate Groups' role in investors' climate learning process**

	Social	Asocial
Knowledge	✓	✓
Persuasion	✓	
Decision		
Implementation		
Confirmation	✓	

19 interviewees noted Climate/RI groups as important sources of knowledge sharing. 13 of these were Australian interviewees, compared to just 6 in the UK. This difference could perhaps be due to the apparent cohesion within Australia's RI networks revolving around the work of the Investor Group on Climate Change (IGCC), which was seen by interviewees as having a positive impact in both the policy and investment spheres. There are several groups vying for attention, time and readership in the UK, and several interviewees were members of multiple groups.

Interviewees noted that these groups provide information via formal reports and updates, and networking and peer-learning, demonstrating their dual social and asocial role. Belonging to these networks provided ample opportunity for the direct or indirect establishment of multiple formal and informal 'communities of practice' working on RI topics, which interviewees argued were key to developing innovative solutions and engagements in the RI sphere, as would be expected from the literatures on these groups (Guyatt 2013; Hara 2009). These groups are seen to be integral in the dissemination of climate knowledge as they produce a large number of reports, share data and hold regular meetings to discuss case studies and collaborative ventures that can lead to confirmation of existing practices as beneficial, but can be argued to have little impact beyond their membership. As such, their role in persuasion is often limited to individuals whose organisations are already on a path towards RI

integration, emphasising the importance of confirmation bias in the investment industry, whereby existing beliefs are likely to affect both social and asocial engagement on key topics (Nickerson 1998; Jones & Sugden 2001), reducing the power of these groups to mainstream RI outside of their sphere of influence.

Those who attend RI conferences saw them as an important learning environment, providing a “*good sense of what different companies are doing and what problems they are facing*” (UK23). However, many interviewees felt that they learned more during informal networking opportunities than the formal presentations: “*chats in-between the presentations are often more helpful / interesting*” (UK22). This suggests that informal rather than formal social learning is often preferred, given the option for both. However, 67.9% of survey respondents had ‘never’ been to a conference or presentation that focused on climate risks or opportunities, suggesting that those attending these conferences were likely to be the ones already on the path of learning and implementation. Interviewees in all three countries lamented the geographic concentration of conferences in global financial centres, saying that for many outside of these cities, attendance was impractical and expensive, limiting the type and frequency of in-person events they could attend. While an increase in webinars was noted, geographic distance from global financial centres was still seen as a disadvantage in both the formal and informal social learning processes occurring in this space, as expected among economic geography literatures. This gives support to the hypothesis that social learning is important but is geographically concentrated and highest among existing RI networks. This is explored further in Chapter 5 through the study of spatial and relational proximity and experience of RI buzz and pipelines.

### 4.4.3 Investment Consultants (ICs)

**Table 4.6. Consultants’ role in investors’ climate learning process**

	Social	Asocial
Knowledge	✓	✓
Persuasion	✓	
Decision	✓	
Implementation	✓	
Confirmation		

ICs are essential to the investment performance of many asset owners, with long-term relationships between the client and consultant facilitating trust and understanding of the owners’ investment needs (Jenkinson et al. 2016; Clark & Monk 2016; FCA 2017). As such, ICs often provide crucial social and asocial services. As well as bespoke information provision, many ICs also publish public research to further establish their role as ‘thought leaders’, including climate-related investment research (c.f. Mercer 2015; Towers Watson 2012). This, in a similar vein to broker reports, can boost investors’ knowledge regardless of location, whereas the social relationship offered by many consultants through bespoke research delivered in face-to-face client meetings is more location-dependent and aids in increasing knowledge but is also more likely to drive persuasion towards a set of decisions. Such access to ABS can be attributed as a factor in the power and dominance of global financial centres due to their importance in the provision of advice and services to a range of clients and facilitation of investment knowledge and practice (Clark et al. 2018; Wójcik 2012).

However, interview and survey participants appeared somewhat sceptical about ICs contribution regarding facilitating climate change learning, which supports a small but growing academic and industry literature problematizing IC coverage of green investment topics (Caldecott & Rook 2015b; Ceres 2012; SIFF 2009; PRI 2017a; ClientEarth 2017). A sustainability NGO director commented: *“I have heard of one IC who explicitly didn’t cover ESG unless you paid for it, even if it was material, they*

*wouldn't consider it in their recommendations or in their advice to an asset owner unless they paid extra*" (UK05). Although 12 interview participants mentioned the role of consultants in sourcing climate information, Australian superannuation funds dominated this tally with 11 responses, and Mercer was the only mainstream consultancy firm praised by name for their climate work. Many interviewees cited Mercer climate reports (Mercer 2011; Mercer 2015) as particularly influential in their knowledge development, as well as their provision of workshops on topics such as stranded assets and divestment which aided in persuasion, catalysed decisions and facilitated implementation of RI. 53 survey participants (49.1%) use consultants in their investment decisions but only 4 said that they 'always' use consultants – the least frequent information source 'always' used. This suggests that consultants could be doing more on climate issues, but perhaps at a strategic rather than individual investment level as they appear to have only limited influence at the implementation stage. Interestingly, no participants mentioned management consultants, many of whom have large environmental research capabilities and products (Bernow et al. 2017).

Further research could explore the failure of such management and investment consultants to impact investors' climate knowledge and implementation through their communication strategies, expanding on existing literatures regarding RI in IC service provision (Caldecott & Rook 2015b; Eurosif 2009). This will be explored further in Chapter 7 through the development of an example of the evolution of advice and services towards the provision of RI in the IC Mercer.

#### 4.4.4 Internal Research and ESG Teams

**Table 4.7. Internal Researchers' role in investors' climate learning process**

	Social	Asocial
Knowledge	✓	✓
Persuasion	✓	
Decision	✓	
Implementation	✓	✓
Confirmation	✓	✓

Internal research teams can provide input to every stage of investors' learning process. They serve a multifaceted role, with interviewees discussing: a) opportunities for knowledge development from internal teams' written reports on key issues, stocks and sectors; b) benefiting from internal experts' ability to communicate information both formally in meetings internally and with clients; and c) developing informal discussions at work with these internal teams that can help at each stage of the learning process.

33 survey respondents (29.7%) use internal research to gain knowledge about climate change, and 79% used internal research teams to help inform their investment decisions at the implementation stage of the process.

While most large investment institutions have research teams, there is a growing trend towards establishing in-house RI or ESG research capacity (Bourghelle et al. 2009). Although mainstream research and analyst teams might cover climate change infrequently, and therefore still provide some asocial knowledge, an ESG team is perhaps much more likely to facilitate social and asocial learning within an organisation due to their greater time and expertise on the issues. This was clear within the interview process, whereby ESG researchers and analysts were more likely

to discuss the topic with mainstream colleagues than those without an ESG remit.

Bos (2014), however, cautions that ‘to accomplish true ESG integration, one should make ESG an integral part of the investment analysis performed by the mainstream analysts’. While experts are needed within an organisation to aid the learning of others, it could be argued that the success of an ESG team could be seen in its own demise if it were able to facilitate successful integration of ESG considerations by mainstream analysts (Arjaliès 2010). However, interviewees argued that until this integration is further developed, the presence of ESG teams in-house can enable bespoke and practical guidance at every stage of the investment learning process.

#### 4.4.5 Regulators

**Table 4.8. Regulators’ role in investors’ climate learning process**

	Social	Asocial
Knowledge	✓	✓
Persuasion		
Decision		
Implementation		✓
Confirmation		

Regulators also provide social and asocial information, but only four interviewees acknowledged their role explicitly. However, they potentially could play a key role in changing industry norms within the investment system towards greater acceptance of RI given the importance of institutional context and norms in driving decision-making frameworks. This has been particularly noticeable in the year since the preliminary interviews and survey for this research were conducted (2015-2016); notably Mark Carney has cemented the Bank of England as a leading actor in the communication of climate risk to investment audiences (Carney 2015). The Bank of England has been pioneering in its call for greater analysis and disclosure of investors’ exposure to

stranded asset and climate risk. In particular, the Bank of England's Financial Stability Board has established a Task Force on Climate-related Financial Disclosures (TCFD), to develop voluntary, consistent corporate climate-related financial risk disclosures (TCFD 2017). Furthermore, there have been statements on the importance of ESG and long-term decision-making from the Financial Conduct Authority (FCA) and the Pensions Regulatory (TPR) in the UK (FCA 2016; The Pensions Regulator 2017), and by the US Department of Labor (DOL Interpretive Bulletin 2015-01) that have confirmed the notion that incorporating ESG factors into investments is compatible with fiduciary duty and is expected where these factors are financially material. Furthermore, in 2018 Central Bank governors from the UK, France and the Netherlands are considering increasing regulatory oversight to address climate-related risks to the financial system, including carbon stress tests for banks (Hook 2018). However, a new DOL bulletin in 2018 (DOL Interpretive Bulletin 2018-01) confused this picture, and demonstrated how political and uncertain these trends are, by stating that plan fiduciaries cannot focus on ESG factors solely to benefit the greater societal good.

Information and insight provided by regulators is perhaps particularly valuable, as 55 of 127 (43.3%) survey participants ranked regulatory risk the most important climate-related factor affecting investment decisions<sup>14</sup>. Regulation was also seen as a potential driver for change towards a low carbon economy, mentioned by 12 interviewees when asked where systemic change might come from: *“At the end of the day I think that governments have to be the ones who put the constraints on, there has to be some sort*

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<sup>14</sup> Survey participants were asked to rank: 'Evolving social norms', 'New technology developments', 'Regulatory risk' and 'Physical risk'. Full analysis of these findings on investors' perceptions of climate factors affecting investor decision-making formed part of my M.Phil thesis. For more details, see Harnett (2016).

*of constraint on carbon emissions*” (Aus08). As such, investors’ require regular engagement (both social and asocial) with regulators to ensure that they comply with and prepare for regulations relating to climate change and RI. Such laws and regulations are already affecting the implementation of investment strategies in global financial centres<sup>15</sup>.

#### 4.4.6 Law Firms

**Table 4.9. Law firms’ role in investors’ climate learning process**

	Social	Asocial
Knowledge	✓	✓
Persuasion		
Decision		
Implementation		
Confirmation		

Law firms such as Minter Ellison and Client Earth are producing novel research and litigation emphasizing investors’ institutional and individual liability to climate risks (ClientEarth 2017; Girgis & Barker 2015; Barker et al. 2016). Both mainstream and environmental law firms are offering asocial learning through reports outlining the latest legal thinking, and social learning contributions through client meetings, workshops and conferences which highlight the importance of climate risk to investors’ legal liabilities and responsibilities. This has been catalysed further through the establishment of the Commonwealth Climate and Law Initiative in 2016<sup>16</sup>. This is a ‘research, education, and outreach project’ focused on examining the legal basis for investment directors and trustees to be held accountable for the consideration of physical climate change risk and societal responses to climate change under existing laws in Australia, Canada, South Africa, and the United Kingdom (CCLI 2018, p.1).

<sup>15</sup> The Hauser Institute (2015) provides a detailed outline of each countries’ current regulations regarding disclosure of ESG information up until 2015, though more have been added since.

<sup>16</sup> For more information, and publications to date, see <https://ccli.ouce.ox.ac.uk>.

Although several interviewees mentioned the UK Law Commission and Freshfields Report on fiduciary duty, direct engagement by law firms with investors' appeared to be greater among law firms in Australia than the UK. Minter Ellison was praised by Australian interviewees for their work on the issue: *"There was a recent short report by a law firm called Minter Ellison about climate risk and fiduciary duty, and I thought it was very helpful in that fiduciaries will be reviewed in their duty of care based on the process they followed in evaluating risk"* (Aus18).

Another suggested that lawyers needed to be warning their clients on the potential risks coming from climate change, with any successful legal action likely to cause significant shifts in investment circles. Despite this, only a few interviewees commented that they use law reports or law firms to learn about investment risk, and several commented that the law surrounding climate risk, ESG and investors' individual and institutional liability remained too vague: *"I think there needs to be more accurate descriptions of what it (fiduciary duty) should be; its too ambiguous and we need better guidance on what it should be"* (UK06). This suggests that, although information does exist in reports, it is often not yet internalised by individuals, and that law firms could do more to disseminate published reports and provide social learning opportunities which allow investors to discuss the details and implications of country-specific laws.

#### 4.4.7 Corporate Reporting

**Table 4.10. Companies’ role in investors’ climate learning process**

	Social	Asocial
Knowledge	✓	✓
Persuasion		
Decision		
Implementation		✓
Confirmation		

Interestingly, corporate reports and meetings with companies ranked poorly among my research participants, particularly in the survey. Although corporate data was seen as the most important information source among investors in the GRI/A4S 2012 survey, and increased corporate transparency has been widely touted in academic literature as a key to improving RI considerations (Reid & Toffel 2009; Carbon Tracker 2015a), only 27.9% of survey respondents in this research use meetings with companies to gather climate data. Among interviewees this was similar, with 18 out of 60 (30%) interviewees mentioning the use of company data and meetings with companies to help inform them about climate risks and opportunities.

Many of the investor-focused climate initiatives developed in the past decades have focused on improving corporate disclosures, including CDP, Global Reporting Initiative (GRI) and Sustainability Accounting Standards Board (SASB). However, survey results suggest that this focus on improving corporate disclosures could perhaps be better redirected to other communication channels, with only 14 (13.6%) survey respondents ‘always’ using corporate reports in investment decisions, and 51 ‘never’ using meetings with companies (51.5%), suggesting that investors remain sceptical of the potential for positive spin (greenwashing) from companies to distort rigorous decisions on asset selection, and the failure of investor relation teams to discuss sustainability issues limiting the use of social and asocial learning with

corporates at the knowledge and implementation stages. This concurs with academic literatures, with Eccles and Serafaim (2013) highlighting the lack of discussion of ESG issues in corporate quarterly earnings calls, and MacDonald-Korth et al. (2018) analysing the evolution (or lack of it) of investor relations departments in fossil fuel companies in response to greater NGO and investor engagement on climate change.

Corporate data and ESG disclosure appears to have the most significant impact on at the implementation stage of investor learning. This could help understand why ESG data availability has not necessarily led to further mainstreaming of RI, as this would require pre-existing knowledge, persuasion and decisions to have been made based on a wider variety of communication channels.

#### **4.4.8 Dual Learning Discussion**

Greater explicit attention to the dual role of these actors in providing both social and asocial learning to investors could facilitate better communication and learning within the investment industry. The organisations explored above could be key to disseminating RI research and mainstream RI practices through their capacity to cater to both social and asocial learning needs of investors, but current focus on climate change by these actors was criticised as concentrated in only a few industry leaders. In particular, these actors could be beneficial due to their capacity to cater to the differing information and knowledge needs of individuals at different stages of the diffusion process whilst developing trust through stable relationships over time rather than individuals having to fulfil their informational needs via different actors at different stages of the process.

However, these actors tend to be ABS organisations, and therefore more likely to be located in global financial centres (Wójcik 2012), whereby smaller and geographically remote investors' are likely to be missing out on climate information, particularly via fewer social learning opportunities, supporting the hypothesis of this chapter. Greater outreach by these dual-capacity firms, and attention to the provision of RI information in a range of formats could be key to its further dissemination both in and between financial centres, as well as into peripheral cities via published reports and localised networking opportunities for those not within existing RI networks.

Specifically, this research has highlighted the vital role of internal research teams (both mainstream and ESG specific) in their capacity to provide both social and asocial learning as required at every stage of investors' knowledge-development and practices. As such, greater emphasis on engagement by academics to ensure that these researchers, and the executives with the power to create these teams, understand the materiality and availability of climate information could be particularly influential in catalysing change within the investment industry. Finally, ICs and brokers are likely to be important in mainstreaming RI among their investment clients, but currently only have pockets of excellence in a broader apathetic industry. These insights have driven the agenda for the discussion of the geographies of ESG access in Chapter 5, the need for translation of information into investor-relevant languages in Chapter 6, and the study of the evolution of IC advice and services towards the provision of RI in Chapter 7.

## 4.5 Asocial Learning Actors

**Table 4.11. Asocial learning sources**

Academic publications
Company reports
Data providers (ESG)
Data providers (General)
Industry and national bodies
Investment journals
IPCC reports
Lobby group reports
Mainstream news
RI news

Access to data, peer-reviewed science and the latest trends in climate and investments contribute to the learning process of investors and are more easily disseminated in written form. This type of asocial learning, alongside experience of investment markets and climate risks/opportunities, allows investors to access the information they need rather than being at the mercy of their peers' and colleagues' opinions, interests and subjectivities.

### 4.5.1 Data Providers

**Table 4.12. Data Providers' role in investors' climate learning process**

	Social	Asocial
Knowledge		✓
Persuasion		✓
Decision		
Implementation		✓
Confirmation		

Market data providers are the most relied-upon information by survey participants when making investment decisions, with 73.1% using this source 'regularly' or 'always'. In addition, these data providers are also being relied upon for climate data, with 24 interviewees (12 in each of the UK and Australia) and 54.1% of global survey participants listing this as an important data source on climate change. Ensuring that climate information is readily available on these data platforms is vital to its

integration in investment decisions. Data appears relevant at multiple stages in the learning process, notably through providing preliminary knowledge, persuading investors that such issues are material and facilitating analysis of stocks, funds and sectors at the implementation stage. In particular, many participants in both the UK and Australia discussed the importance of Bloomberg and other global financial data sources for accessing information about corporate and sector exposure to climate change at the implementation stage of RI. Of interview participants, 16 mentioned Bloomberg (4 in Australia, 12 in UK) and 12 mentioned using the MSCI database (5 in Australia, 7 in UK).

Bloomberg is a leading financial data provider, and since 2008 has been publishing ‘non-financial’ data alongside financial data. In partnership with CDP, Bloomberg now provides ESG data to more than 12,000 clients, more than double the number of clients in 2012 (Bloomberg 2017). Importantly, interviewees noted that this means that investors do not have to switch between different sources when analysing financial and non-financial data. Bloomberg also publishes short insight analysis of key concepts and data sets. Bloomberg newsfeeds also pick up and highlight important reports that come out, such as the IPCC report, and Bloomberg New Energy Finance publishes commentaries online. ESG experts are also available to help answer queries, with one RI analyst commenting that *“Bloomberg has a great product, it has loads of data all collected in one place, so you can find out pretty much anything, and they are also very helpful at filling in the blanks where they don't have the data”* (UK10).

Additionally, ESG-specific data providers are publishing reports online and being employed to provide bespoke investment-relevant information. A proliferation of products and global service providers are synthesizing, analysing and disseminating ESG data (Sadowski et al. 2010; WBCSD-UNEP 2010). 12 interview participants mentioned this source of information; Sustainalytics (6 mentions overall – 5 in UK) and TruCost (4 mentions overall – 3 in Australia) were the most commonly cited providers. While concerns exist that many are too similar, risk being repetitive and contribute to survey-fatigue and information overload (Sadowski et al. 2011), one UK interviewee defended the diversity of groups saying: *“Even if we are all in some ways talking about the same thing- making sustainability a critical aspect of the investment process- there are many different ways to say it and many different things to highlight. I don't think we run the risk of over-communicating on that front because there is so much work still to do”* (UK27).

#### 4.5.2 Media

**Table 4.13. Media’s role in investors’ climate learning process**

	Social	Asocial
Knowledge		✓
Persuasion		
Decision		
Implementation		
Confirmation		

The media also featured as an important source of ‘knowledge’ for investors learning about climate changes, but was more contentious than other channels. While 90 survey participants (81.1%) use ‘mainstream news’ to gather information on climate change, only 13 out of 60 interviewees (21%) said that they use it. This discrepancy could be caused by the type and wording of the question in each methodology: in the survey, ‘mainstream media’ was referred to as ‘newspapers, online content, television

etc.’, whereas this was not clarified during interviews. Another explanation could be the level of expertise within each sample; half of interviewees had a job in which climate change was a regular consideration (RI manager/analyst/consultant or working for a sustainability NGO or data provider) compared to only 5 (4.7%) survey participants listing their job as ‘ESG/RI specialist’. Thus the lower proportion of media usage by interview participants could be due to their greater access to, and confidence in using, specific climate-related data.

Despite high numbers of users within the survey, and the increasing frequency with which climate change issues appear in the media (Painter 2013; Boykoff 2008), interviewees problematised a dependence on media information. An asset management executive said of climate change “*there is a lot talked about it in the media, but a lot of it is fairly alarmist and maybe not very insightful*” (Aus14), and another lamented the “*dearth of rigour*” in the press (Aus21). One superannuation fund CIO said “*We don't think that media is a reliable source for having an investment thesis*” (Aus02). This suggests that media is not a suitable source of information as investors move further along the learning chain towards persuasion, decisions and implementation. While several UK interviewees sought information from mainstream sources, particularly mainstream investment news such as the Financial Times or the Economist, interviewees also noted the political skew of newspapers, and bemoaned the fact that “*there has been a debate kept alive (on whether climate change is man-made) even though the academic debate has ended*” (UK10). Investors in this research, and particularly in the interviews, suggested that they use media more to keep up to date on latest climate events and policy

developments, rather than learn about the fundamentals of climate change or make investment decisions.

Regardless, 81 survey participants (75%) said that news channels helped inform their investment decisions, suggesting that the way that climate change information is portrayed in the media can have a direct effect on investors' decisions. A senior RI manager for an asset management firm noted the importance of ensuring that rigorous climate change insights, concepts and report summaries were included in mainstream media, saying: *"People like Carbon Tracker are trying to make the academic stuff more digestible... It puts it into the more colloquial language and is more impactful... I think using mainstream media and social media is much more effective. I think there is progress being made by the academics and I would support them doing more"* (UK25).

There has also been a proliferation of RI news outlets, websites and blogs intent on trying to communicate relevant information to interested audiences. Examples of these that actively promote peer learning amongst their readership include ResponsibleInvestor.com and SRIconnect.com. However, interviewees suggested that these websites have limited outreach to mainstream investors, therefore largely aiding the learning of those who are already informed about the issue, evidencing confirmation and availability biases as a barrier to broader mainstreaming of ESG information and RI knowledge.

### 4.5.3 External Investment Research

**Table 4.14. External Researchers’ role in investors’ climate learning process**

	Social	Asocial
Knowledge		✓
Persuasion		
Decision		
Implementation		✓
Confirmation		

Investment journals were used to gather climate change information by 48.6% of survey respondents, and in informing investment decisions by 80.7%, suggesting that this type of information is useful at both the ‘knowledge’ and ‘implementation’ stages of learning. In addition, 19 interview participants noted the importance of supranational and industry body reports in highlighting important climate-related issues, citing the International Energy Agency (IEA), the OECD and the World Bank as useful sources. These appeared to be more commonly used in Australia (12 mentions) compared to the UK (7 mentions), perhaps due to their focus on broader global and regional scale issues, which are considered more frequently by Australian interviewees<sup>17</sup>. Furthermore, 75 survey respondents (69.4%) use academic reports to help inform their investment decisions at least sometimes, and 12 interviewees discussed the use of the IPCC reports to help them learn about the fundamentals of climate change, demonstrating its relevance to investors’ ‘knowledge’ stage.

However, participants commented that these reports are difficult to convert into actionable information: speaking about an IEA report, one asset manager said “*I thought it was a good piece of work, but ... its quite hard to translate that into*

<sup>17</sup> When asked which scales of information they require in their work, Australians were much more likely than UK interviewees to mention regional (5:1) and global (3:0) scales. For more detail of survey results, see Harnett (2016; 2017b)

*something that will make a difference to an investor's actual decision*" (Aus17). This issue of translation will be addressed further in Chapter 5 and 6. Additionally, investors welcomed publicly available information from other industry, lobby or climate groups, but commented that their organisational biases reduced their value. One interviewee commented that learning was hampered by the lack of funding for research, and that impartial climate research was coming up against privately funded advertising and biased research by lobby groups. This was evidenced by only five of 108 (4.7%) survey respondents knowing of climate research budgets within their organisations. This has been further affected by MIFID II regulations introduced in January 2018, which have overhauled the investment research market. Whilst the full impact of the changes remain to be seen, a number of high profile shake-ups of investment bank research teams, including ESG and utilities analysts, have already been seen (Mooney 2018).

#### **4.5.4 Asocial Learning Discussion**

Asocial learning was noted as particularly important for investors who are not already plugged into climate networks, and therefore not likely to attend conferences or networking events. Location of investors in those regulatory environments with stricter disclosure standards could be beneficial to facilitating greater information provision, learning and better decision-making. This is an interesting finding as it gives credence to the on-going drive for better provision and publication of rigorous climate finance reports and corporate transparency by a range of organisations, but also calls for greater coverage of these topics within data platforms and media outlets which are more widely used, especially at the initial 'knowledge' stage of learning. This has supported related literatures in finding that often individuals face choices

between cheap and unreliable sources (e.g. mainstream media) and more expensive but accurate data (e.g. ESG data providers) (Boyd & Richerson 1995; Kendal et al. 2005). Those with knowledge of the financial materiality of RI are more likely to choose the latter, but this can lead to further information asymmetries between those with existing RI knowledge and those without.

The quantity, quality and relevance of the written information being disseminated for investors' use should be analysed and improved by those communicating climate science. Written reports can still provide up-to-date data and knowledge at both micro and macro scales from a variety of sources, catering for investors' daily reliance on asocial learning in a range of stages of learning. This is important in the context of a dynamic understanding of knowledge practices, whereby frequent communication is needed so that discourses and practices can be adapted as accepted 'knowledge' is altered based on latest scientific understanding and investment experience, but Chapters 5 and 6 will explore the need for these to be in suitable languages and framings to appeal to, and impact upon, investor decision-making processes. This section can also stand as a call for more academic research on investor-relevant ESG and RI topics, and greater dissemination of this research into mainstream investment information channels.

#### **4.6 Social Learning Actors**

Social learning can be seen to be relevant at every stage of the learning process in investment, with increasing importance relative to asocial learning as the learning progresses from 'knowledge' to 'persuasion'.

**Table 4.15. Social Learning Sources**

Experts
Face to face meetings in work
Management
Social discussions outside work
Social media

#### 4.6.1 Peer Learning Among Friends and Colleague

**Table 4.16. Peers' role in investors' climate learning process**

	Social	Asocial
Knowledge	✓	
Persuasion	✓	
Decision	✓	
Implementation		
Confirmation		

46% of survey respondents said that they gather information on climate issues through 'social discussions outside of work' and another 26% said that they learn through 'face to face meetings with clients, experts and/or colleagues'. Learning from those of similar experiences, backgrounds and profession is a key knowledge sharing process (Hara 2009; Reed 2010), with early-adopters of RI helping to "*socialise that message and let it be heard amongst the broader investment and business communities*" (Aus16). Although apparent in both the UK and Australia, greater emphasis on the learning opportunities of 'communities of practice' was noted among Australian interviewees, perhaps due to the geographical remoteness, the smaller nature of the industry and the greater reliance on external interaction and cooperation: "*Australia is a small place. There are only two cities where anything happens (around RI) and we all know each other*" (Aus28).

Perhaps the most useful social learning techniques described by different interviewees was the concept of 'peer-learning': "*I talk to my peers about how they are looking at certain issues; you don't necessarily tell them everything but over time you develop a*

*group that you trust and an informal, smaller group with whom you might talk a bit more candidly. I think it is hugely important in our field and that information is very useful for us to take internally to use as leverage.” (UK24).*

Those engaging with such groups, and particularly RI professionals, saw informal and social learning as vital, with only 9 of the 60 interviewees favouring ‘formal’ learning over ‘informal’ learning. Interviewees emphasised the systemic nature of the climate problem, arguing that more collaborative engagement was needed to ensure that policy and corporate changes would occur at the necessary speed and scale: *“We felt like we were fighting the same battle so we almost ended up sharing approaches: what worked and what didn't work so that has built a nice platform”* (UK17). This trend towards climate collaborations can be seen in wider academic literatures and international practices (c.f. Kinnear et al. 2013; Bulkeley 2010), such as collaborations between cities (e.g. C40 cities network) and between scientists (e.g. IPCC as an institution).

However, the scope of networks was often limited to existing members - others outside of these groups lacked such knowledge sharing opportunities that were seen to help develop knowledge and aid in persuading individuals to act. This suggests that more opportunities for informal networking within the investment industry should be encouraged and could catalyse more decisions to adopt RI practices, although this has yet to be explored fully in academic literatures, with the exception, perhaps, of work by Danyelle Guyatt (2013; 2008; 2007). Chapter 5 will redress this gap in the literature through an exploration of the geographical limits and benefits of group membership as a source of social and asocial ESG information.

Top-down leadership is arguably necessary for firm-wide integration of climate considerations (Juravle & Lewis 2009; Mercer 2015). Consequently, peer-learning among senior managers could stimulate widespread firm-wide and institutional change. Such networks are perhaps less common due to acute confidentiality concerns and conflicts of interest, but examples do exist: for example, the ‘Cambridge Leaders Academy CEO Group’<sup>18</sup> and The Prince’s Accounting For Sustainability ‘CFO Leadership Network’<sup>19</sup>. The important part of such peer-learning is *“finding that core group of insiders who can be your advocates. They are respected and seen as credible and are ‘one of the club’. Therefore they can say what everyone else may have been saying, but it will be heard”* (UK18). Such peer-learning from trusted individuals could be key to overcoming confirmation bias among those who are sceptical of the materiality of climate change, with one interviewee saying *“everyone struggles to bring case studies to life when it isn’t through face-to-face interaction”* (UK18). Selection bias towards information that confirms existing beliefs can limit the likelihood of individuals changing their minds because of asocial information, but change and acceptance of new knowledge is perhaps more likely when confronted with others’ opinions and information via social learning (Nickerson 1998; Jonas et al. 2001). This suggests that forming smaller groups of executives supportive of action on climate change could be particularly effective in catalysing new knowledge, learning and RI.

However, the extent of peer-learning was challenged by the survey results: only 26% used face-to-face meetings to gather information about climate change. This

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<sup>18</sup> <https://www.cambridgenetwork.co.uk/learning/peer-learning/>

<sup>19</sup> <http://www.accountingforsustainability.org/cfos/network-of-chief-financial-officers>

divergence correlates to the lower participation rates in climate-related NGO and investor-led groups among survey participants and the fact that fewer survey respondents were RI specialists so less likely to undertake specific learning activities on climate change. While “*ad hoc*” and “*reactionary*” discussions about climate change are occurring in investment organisations, evidenced by the 70.5% of survey participants who discuss it at least sometimes, only 12.5% discuss climate risk ‘regularly’ or ‘always’ with clients or colleagues. This lack of formality and frequency, particularly among survey respondents, may limit the opportunities for social learning and the ultimate integration of climate change into investment decisions.

#### 4.6.2 Social Media

**Table 4.17. Social Media’s role in investors’ climate learning process**

	Social	Asocial
Knowledge	✓	
Persuasion		
Decision		
Implementation		
Confirmation		

An unexpected finding from my interviews was the use of social media platforms by investors, and particularly RI analysts and managers, to keep up-to-date with the release of key reports and announcements, and share their own updates. One Australian superfund RI manager uses Twitter to inform beneficiaries and peers of their ESG activities. By “*filtering*” ESG information, social media can arguably provide a useful “*news round up from different sources*” (UK24), facilitating a more efficient dissemination of knowledge. An asset management RI manager in the UK also discussed the use of LinkedIn by different climate groups: “*I have joined all these groups that then help me keep up with these things that have come out*” (UK24).

Social media can thus be used to highlight key reports without causing information overload: *“We will tweet out support for other papers but we don't want to inundate so we don't just send around other reports”* (UK27). Although only a few interviewees discussed the role of social media, it was noted in both the UK and Australia, and could be an area of expansion and future growth for those trying to communicate climate change to investors. As yet, its role in informing climate change debate, particularly in the investment system, has received little attention in the academic literatures. One caveat to this is the way in which social media can engender confirmation bias, with individuals only seeing content that is linked to those organisations and topics with which they are already engaged or interested in.

### 4.6.3 Management

**Table 4.18. Managements’ role in investors’ climate learning process**

	Social	Asocial
Knowledge		
Persuasion		
Decision	✓	
Implementation		
Confirmation	✓	

Peer learning among executives has been acknowledged in its knowledge, persuasion and decision role (Section 4.6.1), but this section also notes the role of managers in social learning at the decision and confirmation stages. Investment Committee meetings are a particularly important part of many investment firms governance, with Collie (2014, p.1) saying that ‘More often than not, it is an Investment Committee that establishes strategy, oversees critical asset allocation decisions and selects the people who take day-to-day responsibility for running the money’. As such, if climate change is to be taken seriously within organisations and incorporated into investment decisions and discussions, it needs to be established as a key concern at this strategic

decision level. These meetings thus offer important social learning platforms, but only four survey participants (3.3%) said that climate change is ‘always’ a standing agenda point in Investment Committee meetings, while the large majority (100 individuals, 83.3%) said that it was not. Despite the lack of formal discussions, interestingly, the four respondents that answered ‘yes-always’ came from different types of company (super fund, investment bank, and two asset managers), demonstrating that climate change is considered relevant to management discussions at all three firm types.

Despite the lack of formal discussions with managers in the survey sample, examples of good practice regarding internal knowledge sharing and integration of climate change issues among managers do exist and were highlighted throughout the interview process. One superfund employee described their RI governance approach, including a senior management “*Global Responsible Investment Committee*” chaired by the CEO to discuss the importance of RI at a strategic and firm-wide level, and an “*ESG Committee which is more practitioners so is more portfolio managers from across the business; each investment team is represented and that's more of an ideas sharing forum*” (Aus15). Such oversight facilitates decision-making, and enables assessment of policies and investments whereby RI can be confirmed as being successful and beneficial (or not) to the firm. This will be key to institutionalising RI within mainstream financial decision-making. These discussions could start to formalise the dialogues and social learning that are already happening on an informal basis, and encourage them to take place where they are absent. This top-down confirmation of the relevance of RI at a firm-wide level could be vital in allowing individuals within the firm to explore the issues, develop knowledge, join or establish ‘communities of practice’ and ultimately integrate RI practices into their investment

decisions. This concurs with the management literature exploring the importance of oversight and top-down organisational change (Garratt 2011; Kotter 1995), with this considered in more detail in Chapter 7 of this thesis.

#### **4.6.4 Social Learning Discussion**

In sum, social learning opportunities were acknowledged by interviewees in particular as an important learning process around climate change, particularly when encouraged by senior leadership and facilitated by intermediaries, including brokers or investor-led climate groups. However, this faces challenges from those concerned about competitive advantage, a continued perception that climate change is not material enough to be considered in Investment Committee meetings, and the lack of such social opportunities to discuss climate change for mainstream investors without relational networks with RI knowledge. Greater research into the importance of relational and institutional capacity in terms of the availability and accessibility of peers and networking opportunities could be key to understanding individual and institutional learning capacity and the facilitation of the diffusion of new innovations, practices and discourses, and is explored in more detail in Chapter 5. These results are important in acknowledging the role of ‘communities of practice’ in the diffusion of RI, and in providing recommendations for actors seeking to communicate with investors, but are perhaps not hugely surprising, given that we are all fundamentally social beings, the importance of social utility in investment markets, and the need for social learning to overcome confirmation bias within asocial knowledge environments. This has supported the hypothesis that social learning is important, but unequally distributed between those already acting on RI topics and those within mainstream investment firms lagging on the topic.

However, social learning needs to be moderated by asocial learning to avoid the pitfalls of social ‘copying’ and ‘groupthink’ (Rendell et al. 2011) and stay abreast of scientific and policy developments (Pidgeon & Fischhoff 2011). One interviewee commented of the informal RI networks *“there is insufficient cross-pollination of ideas. It’s no different to the boys club... Its probably more porous and progressive minded, but you do wonder if there is enough different thinking coming through”* (Aus28). Greater outreach by RI groups to non-members, and the facilitation of social learning opportunities at mainstream investment events could be key to increasing dissemination of ideas. This could also be aided by collaboration between RI-focused groups, with this being examined in more detail in Chapter 5.

#### **4.7 Conclusions**

Existing academic literature on climate change and investment has tended to give only limited attention to the issue of how investors most efficiently and effectively learn about developments in climate change knowledge, and how these ideas inform RI decision-making. RI remains relatively novel amongst the majority of mainstream financial actors, and learning and knowledge processes are argued to be vital in the development of and dissemination of RI as an innovation in investment decision-making (Rogers 2003; Faulconbridge 2010; Feldman 2000). This chapter is therefore a significant contribution to RI literatures through spotlighting the role of social learning and communities of practice in the diffusion of innovation within financial markets, and the outlining of the broad landscape of communication channels through which information and knowledge about RI could be disseminated. It has developed unique insights from innovation-learning and dynamic knowledge perspectives based on novel empirical survey and interview findings from the UK and Australia. This research has provided evidence that investors are actively seeking information about

climate change, but gaps remain in the internal and external supply of such information within investment firms. Importantly, this chapter has found that learning and knowledge is based on a wide range of information sources and strategies, going well beyond the ESG disclosures often focused on within academic research examining RI information provision.

This thesis has highlighted that whilst ESG information is perhaps more available through these diverse social and asocial channels than in previous years, knowledge and information still remain unevenly distributed within these channels – both geographically and between individual firms based on a range of historic, relational and institutional factors. This supports literatures that have previously discussed the diversity of information sources used by investors (Voss 2015; Peng 2005). However, it diverts from previous RI literatures which have prioritised corporate ESG reports as the key source of information (A4S / GRI 2012) by emphasizing that such reports are only one source of data used at the knowledge and implementation phase of innovation-learning-processes, and even then often accessed via data providers to improve comparability and reliability. This chapter finds that asocial information appears to be more relied upon by those investors outside of financial centres due to the concentration in global cities of peer learning, communities of practice, and ABS important in providing social learning opportunities – a finding supported by the academic literature on the geographies of knowledge sharing and the finance industry (Amin & Cohendet 2004; Wójcik 2012; Taylor et al. 2014; Faulconbridge 2006). Understanding these trends in more detail will be key to understanding the uneven mainstreaming of RI and could be used by academics and industry professionals to better target information and knowledge provision in existing gaps within the

investment landscape. Chapter 5 contributes further to this when it explores the importance of both spatial and relational proximity in accessing ESG information through both local buzz and global pipelines.

This chapter has outlined that both social and asocial learning are important at the knowledge stage of the innovation-decision-process, with social learning then playing a larger role at the persuasion and decision stages before asocial learning takes precedence at the latter implementation and confirmation stages. The dual function of social and asocial learning provision from brokers, consultants, internal research teams, regulators, law firms and climate groups is a key finding of this research. Any and all of these actors could usefully facilitate the mainstreaming of RI knowledge and practices, as they are able to facilitate learning at multiple stages in the learning process of investors, allowing important relationships, collaborations and trust to be established (Hara 2009; Hertog 2000; Clark & Monk 2017a) and bespoke learning opportunities to suit the need of investors. However, current focus on climate change was criticised as only prioritised in pockets of excellence within a few industry leaders in each group, acting as a barrier to the mainstreaming potential impact of these actors. Following the identification of gaps in academic literature on these groups, Chapter 7 will start to investigate the role of intermediaries in the mainstreaming RI knowledge and practice through an example of the role of investment consultants.

Further, climate groups and internal ESG teams appear at the forefront of both social and asocial learning but require pre-existing commitment to RI topics, with this acting as a barrier to broader mainstream uptake despite wider access to ESG information.

This supports my hypothesis that social learning channels are important in investor RI learning and knowledge processes but there is a lack of such provision in non-expert investment circles. This is particularly significant because internal research teams were the only channel found to affect learning at every step of the innovation-decision-process. Nevertheless, there is a surprising lack of academic research on the role and impact of internal research and ESG teams, perhaps due to their variation across firms and the relative novelty of their RI roles and capacity. Targeting ESG information and RI knowledge to firms without ESG teams, and encouraging more firms to hire such internal capacity and join climate groups where appropriate, could be vital in driving broader mainstreaming of ESG information. Investor groups should also ensure that they are actively trying to reach beyond their own membership to better mainstream RI, and avoid the pitfalls of imitation, confirmation bias and ossification outlined in related behavioural finance and social learning literatures (Nickerson 1998; Bandura 1963; Depledge 2006).

Brokers, data providers, and mainstream media were seen as the most common sources relied upon for climate knowledge. Efforts to provide more rigorous and timely climate information through mainstream financial information channels are thus argued to be imperative to help catalyse greater RI knowledge and practice. In particular, more widely disseminated information on the materiality of climate change is needed to dispel persistent myths regarding lower returns from long-term decision-making, despite evidence to the contrary (Clark et al. 2014; UNEP FI 2009b). This business case aspect is likely to be key, as learning about innovations is shown to be more effective when carried out by peers and trusted sources, and when the

innovation is expected to have a positive financial and/or reputational impact (Rotter 1954; Hara 2009).

Relatedly, this chapter found that peer learning has a significant influence on the learning process of investors, particularly in persuading investors to integrate climate change and make decisions about investment strategies. This supports literatures regarding the importance of peer learning and communities of practice in the generation and dissemination of innovation (Rogers 2003; Amin & Cohendet 2004; Nonaka et al. 1996). This chapter has extended these literatures into the field of RI and also contributed to them by outlining how such peer learning benefits can be compounded by the sharing of asocial codified information as a result and when practiced by executives and asset owners. Without top-down leadership through Investment Committee meetings, via manager mandates and explicit investment beliefs, the uptake and dissemination of climate information is likely to be limited. This research has highlighted such regular high-level discussions and knowledge sharing on RI topics are not yet widely institutionalised into firm behaviours, finding this to be one reason why the growth in ESG information availability has not catalysed greater mainstreaming of RI decision-making.

Networks of individuals and the role of social learning appeared stronger in Australian cities of Sydney and Melbourne than in the London, possibly a result of the geographic remoteness and small scale of the investment industry, causing a greater reliance on collaboration and knowledge sharing. This supports economic geography literatures which suggest that the physical, social and cultural geography of a city or region will affect the learning and investment opportunities within in it (Tickell

2000b; Jaffe et al. 1993; Amin & Cohendet 2004). However, Chapter 5 will examine these geographies in more detail through an application of concepts of local buzz and global pipelines to the flow of ESG information (Bathelt et al. 2004; Bathelt & Turi 2011; Moodysson 2008).

The findings of this chapter have therefore opened up a number of interesting fields of further research, some of which will be explored in the rest of this thesis. To start, this chapter should act as a call for greater academic and industry research into the networks and relationships involved in the generation and dissemination of RI information and knowledge within and between financial centres, above and beyond the quantity and quality of ESG disclosure. Now that we have a better understanding of the different actors involved in investor learning, questions arise as to whether the uneven geographies of these actors act as a barrier to mainstreaming of RI, and this will be explored in Chapter 5 with particular emphasis on the geographies of both ESG disclosure and RI peer networks. However, Chapter 5 also begins to explore a different angle, examining whether it is the content and framing of the information that is being disseminated that is acting as a barrier to mainstreaming. Chapter 6 then examines this theme in more detail, through an analysis of stranded assets as a version of sunk costs, before broadening the discussion out to whether RI knowledge fits within existing individual decision-making lexicons and frameworks. Finally, Chapter 7 examines this question of whether RI is compatible with existing investment structures at an organisational level, focusing on ICs. This chapter has highlighted ICs as having potential for both social and asocial communication at key stages of innovation-decision-processes, but only pockets of excellence in the market. Chapter 7 will explore this actor group in more detail through the case of Mercer, providing

broader insights into the potential role of intermediaries in the mainstreaming of RI, and examining organisational capacity and willingness to innovate towards the provision of RI knowledge and practice. Similar research into other channels of investor information, particularly those highlighted as offering both social and asocial learning, would also be useful future areas of research.

This chapter has therefore posited one answer to the key question of this thesis regarding why the growth in ESG disclosure not leading to broader mainstreaming of RI – the fact that investors rely on a much wider set of social and asocial knowledge flows and communication channels. ESG disclosure alone will not be sufficient to catalyse investors' innovation-decision-process towards the knowledge and practice of RI. An important contribution of this research has therefore been to outline the landscape of information requirements and the actors involved in communication at each stage of the investment learning process, from initial knowledge provision to the confirmation that RI decisions have been successfully implemented.

# Chapter 5. The Geographies of Responsible Investment Information

## 5.1 Introduction

This chapter seeks to outline and analyse the complex geographies relating to the information available for investors around Responsible Investment (RI) practices. Access to data and information on the materiality and performance of environmental, social and governance (ESG) factors is vital to the growth and integration of RI practices (Sparkes & Cowton 2004; Bourghelle et al. 2009). This chapter explores the geographies of this information, analysing how access and uptake varies with the levels of disclosure and investor engagement on these topics in the UK, US and Australia. Parts of this chapter have been published as an Oxford Sustainable Financial Programme Working Paper *'The state of climate change knowledge among UK and Australian institutional investors'* (Harnett 2017b).

Information flows are seen as integral to the operation and leverage of a system. Meadows (2008, p.14) explains that 'many interconnections in systems operate through the flow of information. Information holds systems together and plays a greater role in determining how they operate'. More information about ESG issues will not necessarily be sufficient in itself to spark change towards more RI, but it is a necessary and important step in the right direction (Pidgeon and Fischhoff, 2011). Meadows (2008, p.108) emphasises this, saying: 'It's amazing how quickly and easily behaviour changes can come, with even slight enlargement of bounded rationality, by providing better, more complete, timelier information'.

Asset managers systematically under and over invest due to imperfect and rapidly changing information (Grossman & Stiglitz 1980), but are unlikely to alter their investment beliefs until new information questions their underlying assumptions, such as the value of subprime mortgages in 2007-8 (Kojucharov et al. 2009; O'Toole 1999). Bounded rationality acknowledges that rational individual choices based on the available information can be irrational and undesirable when seen as part of the whole system (Simon 1972). Furthermore, altered information flows may also help explain the dynamism and uncertainty of complex systems, such as the financial markets, with the potential for rapid and unforeseeable transformations (Norberg & Cumming 2008; Nilsson & Swartling 2009). This highlights why understanding the information flows around ESG factors is an important contribution to potentially changing investment beliefs and behaviours towards mainstreaming RI.

Further, this chapter is contextualised by the growth of the 'knowledge economy', which has put a greater premium on the flow of information and its translation into decision-making at a range of individual and institutional scales, with the OECD (1996, p.3) saying that 'the growing codification of knowledge and its transmission through communications and computer networks has led to the emerging "*information society*"'. Despite growing research surrounding these topics in a number of different fields, research into the flows of information, and the geographies therein have not yet been studied in the context of RI. This is despite the integral role of information in investment decision-making processes discussed in the previous chapter and the strong awareness in academic and practitioner literatures that the current provision of ESG information is inadequate in both its quantity and quality (Knight & Dixon 2011; Juravle & Lewis 2008; Bourghelle et al. 2009). This research

comes at an important time in wider debates around the content and regulation of ESG disclosure, notably through the work and impact of the Task Force on Climate-related Financial Disclosure (TCFD 2017) and the European High-Level Expert Group on Sustainable Finance (EU HLEG 2018).

This study thus explores the issue of information flows from the investors' perspective using empirical methodologies, building on relational and spatial economic geographies to better understand the flow of ESG information to individual investors and RI professionals. This chapter therefore examines the hypothesis that 'RI knowledge and practice is stifled by the channels through which ESG information is communicated'. As highlighted in the previous chapter, these information flows can inform learning both asocially and socially, through the distribution of written material, presentations and conversations. This necessitates a varied geographical understanding of these flows, complicated by the increasing rapidity and volume of flows of information, people and ideas as a result of improved communication and transport technologies which have characterised modern globalisation (Amin & Cohendet 2004; Dicken 2011).

On the one hand, research suggests that there is still a distinct 'home bias' within investment circles (Wójcik 2009; Levy & Levy 2014) and a significant benefit of knowledge and informational spill-overs available from the 'local buzz' of being co-located in an agglomeration. This argument suggests that information flows (both social and asocial) are likely to be improved by spatial proximity (Bathelt et al. 2004; Rodríguez-Pose & Fitjar 2013). However, Amin and Cohendet (2004) suggest that social learning and community networks are important in the spread of information

and knowledge, to the extent that relational proximity can be argued to be more important than spatial proximity. A growing literature explores these varied ideas of ‘relational proximity’ (Gertler 2008; Amin & Cohendet 2004), ‘spatial distancing’ (Amin & Cohendet 2004; Bryson et al. 2000), and the importance of ‘global pipelines’ as opposed to ‘local buzz’ (Bathelt et al. 2004; Morrison et al. 2013). As such, this chapter seeks to understand the roles of spatial and relational geography in determining the availability, accessibility, quantity and quality of information flows of ESG data for investors. A key purpose of this chapter is to understand whether it is ‘who you know’ or ‘where you are’ that matters in accessing and integrating ESG information into investment decisions, examining the hypothesis that ‘The networks an investor belongs to matter more than geographic location in terms of accessing ESG information’.

An institutional economic geography (IEG) perspective is used in this chapter based on inductive, interview and case-study research approaches facilitating an emphasis on the local specificities of ‘real places’ and ‘real people’ within institutional settings (Boschma & Frenken 2006b). It is thus assumed that investment organisations each adopt individualised RI policies but act within the rules, routines and regulations set out in the regions and institutional contexts in which they are based and invest. From this basis, this chapter will explore the ESG-related information that exists in the financial markets of the US, UK and Australia, identifying the informational needs of investors, their perceptions of the existing supply of information, and the varied geographies at play. The chapter will also draw on concepts from relational economic geography (REG) literatures, notably developing an analysis of ‘local buzz’ and ‘global pipelines’ in the RI industry. This chapter builds on primary interview and

survey data to find that both spatial and relational geographies have a significant role to play in determining access to and use of ESG information, but that the dominance of different geographies varies between different types of investors and within different financial centres.

The chapter will thus be structured as follows: Section 5.2 outlines the relevant academic and industry literatures on these topics, before Sections 5.3 and 5.4 respectively explore the spatial and relational geographies of ESG information highlighted by my survey and interview methodologies. Section 5.5 explores the existence of information overload in the RI markets, whilst Section 5.6 analyses the greater need for the translation of academic and industry understandings of ESG into investor-relevant language. Section 5.7 concludes.

## **5.2 Literature Review**

This section provides a commentary on existing literatures and theories linked to the geography of information. To begin, I outline the existing research around ESG information and its importance in RI knowledge and practice. I then explore different geographical understandings of information flows, unpicking the importance of physical proximity versus relational information networks, building upon the work of Amin and Cohendet (2004) and relational economic geographers (Bathelt & Glückler 2003; Bathelt & Glückler 2011; Sunley 2008). Finally the literatures surrounding behavioural finance and communication theories will be used to explore how investors use and filter information, and the modern tendency towards information overload.

Whilst the previous chapter explored the importance of learning in the development of RI knowledge, this chapter more specifically deals with the information flows being made available to, and utilised by, investors. Information in this context is viewed as a piece of evidence or opinion that may or may not be added to and alter the existing stock of knowledge held by an actor. The dissemination of information depends on the successful communication between individuals. However, the form of this communication can vary, from inter-personal discussions to media statements and written publications sent out from one individual or institution to potential readers. Haas and Haas (1995, p.238) suggest that in order to become accepted and ‘learnt’, information ‘must be analysed, arranged and structured in accordance with epistemological principles that command wide acceptance in society’.

### **5.2.1 Responsible Investment and ESG Information**

Investors rely on up-to-date information to make decisions, from individual stock picking to forecasting of long-term market trends (Clark & Monk 2013; Juravle & Lewis 2008). This intrinsic information need is relevant to both financial and non-financial data, with RI decisions underpinned by an analysis of both the financial and ESG data of a company, sector or market. However, there is a significant literature highlighting a lack of quality and comparability within ESG disclosures (Hedberg & von Malmborg 2003; Epstein & Roy 2007). This is argued to limit the uptake of ESG-related information and hinder the adoption of RI practices (Knight & Dixon 2011; Juravle & Lewis 2008; Bourghelle et al. 2009).

Various national and international bodies, such as the Global Reporting Initiative (GRI), the International Integrated Reporting Committee (IIRC), the Task Force on Climate-related Financial Disclosure (TCFD) and the Sustainable Accounting Standards Board (SASB), are working to improve corporate measurement and disclosure practices. However, these frameworks are still voluntary and have yet to 'achieve a universally adopted and consistent standard' (Gill 2011, p.42), and there remains a 'fragmented' but 'dynamic' global regulatory environment with regards to ESG disclosure (KPMG 2017, p.3). The information availability and quality varies between countries and investment markets, as well as within individual sectors based on the ease with which ESG factors can be measured and compared. Investors are therefore argued to be struggling to use incomplete, heterogeneous ESG information as they are accustomed to homogenous financial information (Curran & Moran 2007) and experience high research costs in trying to locate and evaluate ESG data (Aerts et al. 2007).

Consequently, this chapter examines whether perceptions of the information available to investors vary in different physical and relational geographies. This will build on Amin and Cohendet's (2004) exposition of relational proximity, and explores in more detail the initial findings of Jemel-Fornetty et al. (2011) and Guyatt (2007), who examined how collaborative initiatives are contributing to the evolution of conventional investment practices and the integration of ESG information into the long-term shareholder value of investee companies. This research was undertaken at a time when these investor-led initiatives were in their infancy so this chapter seeks to update this work from a more explicitly geographic perspective at a time when these

groups have evolved and taken on a more formal voice in the investment, corporate and policy spheres.

Although some attention has been paid to the information deficits which continue to exist in the ESG space (Aerts et al. 2007; PRI 2013b), there remains little research (but some hypothesizing) on the disconnect between the demand and the supply-side of ESG information leading to information asymmetry. This chapter also seeks to address the paucity of research on the information requirements of different investor audiences, as much of the literature treats ‘investors’ as a homogenous group (Levy & Levy 1996), and examine the potential for information overload among RI investors, as opposed to the majority of literature which focuses on the lack of information (KPMG 2011; Bourghelle et al. 2009).

### **5.2.2 Spatial Proximity, Information Spill-overs and Agglomeration**

Within economics and geography, it is widely accepted there are many advantages to locating in a leading urban agglomeration. Cities benefit from the co-location of firms, which then coalesces to attract flows of capital, human resources and knowledge, often at the expense of peripheral areas, creating a ‘spiky’ world of uneven development and opportunities (Rodríguez-Pose & Fitjar 2013; Castells 1996; Glaeser 2010; Krugman 1991). This concentration of firms can facilitate the spread of knowledge between firms and individuals, through spatial proximity which can breed the development of mutual collaborations, institutionalised practices, professional networks, personal relationships, and labour mobility between firms (Boschma & Frenken 2006b).

Another key benefit of co-location is the clustering of advanced business service (ABS) industries within the city, with agglomerations likely to attract research providers, consultants and corporates therefore providing the possibility of increased information flows from these organisations through lower search costs and the development of knowledge sharing relationships over time (Farooq 2015; Glaeser 2010; Wójcik 2012). This contributes to the ‘home base’ advantage (Amin & Cohendet 2004), whereby investors tend to invest in local markets rather than foreign investments due to the ease of transactions and the greater availability of information (Wójcik 2009). Academic literatures thus suggest that spatial proximity is likely to increase the flow of both tacit and codified information (characterised in the study of ‘local buzz’ [Bathelt et al. 2004; Bathelt & Turi 2011]), and can lead to the development of more robust and innovation-driven firms (Boschma & Frenken 2006b; Cook et al. 2007; Clark & Monk 2017a).

Interest in the spatiality of innovation, learning and information-sharing has increased rapidly since the 1980s (Amin & Cohendet 2004; Bathelt et al. 2004). This research seeks to extend this trend into the emerging literature on RI. RI practices, it follows, are likely to be highly concentrated in investment firms, which tend to be located in financial centres around the world for many of the reasons outlined above. These soft institutional structures and networks, the ‘local buzz’, the hard infrastructure of cities, and the formal regulatory and organisational structures, create information economies that have the potential to facilitate the dissemination of information and reduce information asymmetries (von Peter 2007), but also encourage innovation of novel RI practices and knowledges and the institutionalisation of RI routines.

### 5.2.3 Spatial Distanciation of Information Flows

Despite this traditional academic emphasis on the importance of spatial proximity and the benefits of ‘being there’, there is increasing recognition of the importance of communication and transport technologies facilitating the travel of information, ideas and people (Amin & Cohendet 2004; Bathelt & Turi 2011). Studies of ‘relational proximity’ refer to the importance of the associational relationships whereby information and knowledge can be transferred, learnt, communicated and innovated through interactions amongst networks, communities and across distanced spaces (Bathelt & Glückler 2003). Examples of this are diverse, and include (but are not limited to) conventions and conferences as ‘temporary clusters’ (Maskell et al. 2004, p.1; Henn & Bathelt 2014; Rychen & Zimmermann 2008; Li 2014), the rise of online epistemic communities (Wilson et al. 2008), the vibrancy of international diaspora (Saxenian & Hsu 2001; Connell & Conway 2000) and the establishment of project teams across global companies (Amin & Cohendet 2004; O’Leary et al. 2014). Although many relational ties may indeed be localised, others - of no less commitment, power and intensity – can exist through spatially ‘stretched’ connectivity (Amin & Thrift 2002, p.63).

In this vein, and in contrast to ‘local buzz’, Bathelt et al. (2004) discuss the importance of ‘pipelines’, the channels of communication attained through relationships with selected individuals and firms located elsewhere. Clark and Monk (2013) argue that global pipelines have become increasingly apparent in finance due to the globalisation of finance industry and the improved ICT making international networks easier. They argue that these relational but distant ties are becoming just as

important (if not more so) than the spatially-anchored, relational connections of the 'old boys network' which have traditionally been so dominant in finance.

However, Morrison et al. (2013) argue that these global pipelines are likely to be most beneficial if the 'home' cluster/city is itself characterised by high quality local buzz (so that you are able to trade and transfer information with similarly high-quality networks internationally and attract high-level partnerships), or if the cluster is very small and weakly endowed with knowledge and information (so that more relationship development energy is focused externally). Bathelt et al. (2004, p.31) thus argue that 'the co-existence of high levels of buzz and many pipelines may provide firms located in outward-looking and lively clusters with a string of particular advantages not available to outsiders'. This suggests that geography (both physical and relational) affects the spread of RI, both in the availability of firms with which to collaborate and share information, but also affecting priority access to different networks and communities around the world.

Spatial distancing and the presence of active pipelines is argued to be particularly important for ensuring that global knowledges and trends are adapted for the local setting. This translation of information and knowledge is likely to involve individuals 'moving to and through 'local' contexts, to which they bring their own blend of tacit and codified knowledges, ways of doing and ways of judging things' (Bryson et al. 2000, p.28). This is perhaps particularly relevant to the case of RI, where globalised information and expertise flow out of a few leading firms and financial centres, with this knowledge then needed to be translated for the context of institutional regimes and cultures elsewhere. Flexible relationships substantiated by international travel and

growing networks of informed individuals could be key to the diffusion and ‘glocalisation’ of RI, as in a number of other knowledge-based industries (Gond & Boxenbaum 2013; Faulconbridge 2006; Faulconbridge 2010).

It can thus be argued that there is no universal spatial template through which learning and information-sharing takes place (Amin & Cohendet 2004), but instead involves mobile, distanced forms of information and collaborations. Different spatial configurations of relationships and distance can be seen to be advantageous in different settings and for different purposes. Although in some cases frequent face-to-face interaction will be necessary, there are many more environments and practices in which this will not be necessary and for which access to a diversified knowledge pool from different institutional and cultural settings could be beneficial (Bathelt & Turi 2011).

The previous chapter of this thesis noted the importance of social learning among investors, and the role of the investor-led climate groups in particular as key actors providing networking and information-sharing. Opportunities for relational connectivity appear to be strong in the RI sector, with frequent conferences and networking events at the global and national level (Bourghelle et al. 2009). However, investment firms still remain largely concentrated, suggesting that the best opportunities for both relational and spatial proximity, and certainly the best local buzz, will be concentrated in a few global financial centres. This research will thus explore whether being in the right place, or being in the right network, is more important to accessing ESG information flows for different types of actors engaging in RI.

#### **5.2.4 Rational Decision Making and Information**

Strauss (2008) argues that economic geography could benefit from engagement with behavioural finance literatures, allowing geographers to study rationality and decision-making, and helping to illuminate the significance of cognitive factors rather than solely focusing on more common social and cultural explanations for differences in learning and decision-making. As such, this chapter utilises behavioural finance to ensure that spatial and relational proximity are studied with attention to the cognitive and behavioural sensitivities of the investors and professionals.

There are four key concepts from the behavioural economics literatures that appear particularly relevant to this study of information among investors:

1. Human rationality is bounded by the information we have access to, the cognitive limitations of our minds, and the finite amount of time we have to make a decision (Simon 1972).
2. Individuals often use heuristics (mental short cuts) rather than exhaustive optimisation strategies, often based on experience and common sense to create a satisfactory rather than optimum outcome (Kahneman et al. 1982).
3. Intuition and imitation play an important role in how individuals and groups make decisions (Kahneman & Tversky 1984).
4. Preferences are not stable but are affected by existing and historic environments and framings (Tversky & Kahneman 1981).

These four concepts demonstrate the importance of timely and easily accessible information, with information asymmetry and high search costs likely to reduce an individual's decision-making capability. However, they also point to the importance

of physical and relational proximities affecting preferences and decisions in the amount of opportunities for imitation and the availability of social learning. Geography, then, affects the environments and experiences that shape heuristics, learning, relationships and connectivity. Furthermore, Amin and Cohendet (2004) argue that greater social learning dependence can lead to weaker rationality as respect for group norms, and higher risk of false imitation, can become more important guides to behaviour than rational decision-making judgements. Conversely, social proximity could facilitate increased diversity of information flows from different people and places, with this potentially reducing bounded rationality and confirmation bias. This chapter will unpick these dichotomies further through empirical evidence of investors' learning around RI, which demonstrates both strong group dynamics and rapid development in the quantity and quality of information available and being demanded.

While Amin and Cohendet (2004) argue that the assumptions of bounded rationality cannot cope with the fundamentally dynamic and praxis-based process of creation and circulation of new knowledge espoused in their theories of relational proximity, this chapter seeks to argue that, when viewed in conjunction with these other behaviours, it does indeed make sense to assume bounded rationality based on limited but differentiated information capacities, which can (and will) change over time. It is from these understandings of behavioural finance that this chapter will seek to explore the informational needs of investors, with a focus on their perceptions of information availability, their reliance on imitation and group norms, and the extent to which their decisions are affected by information and their spatial and relational geographies.

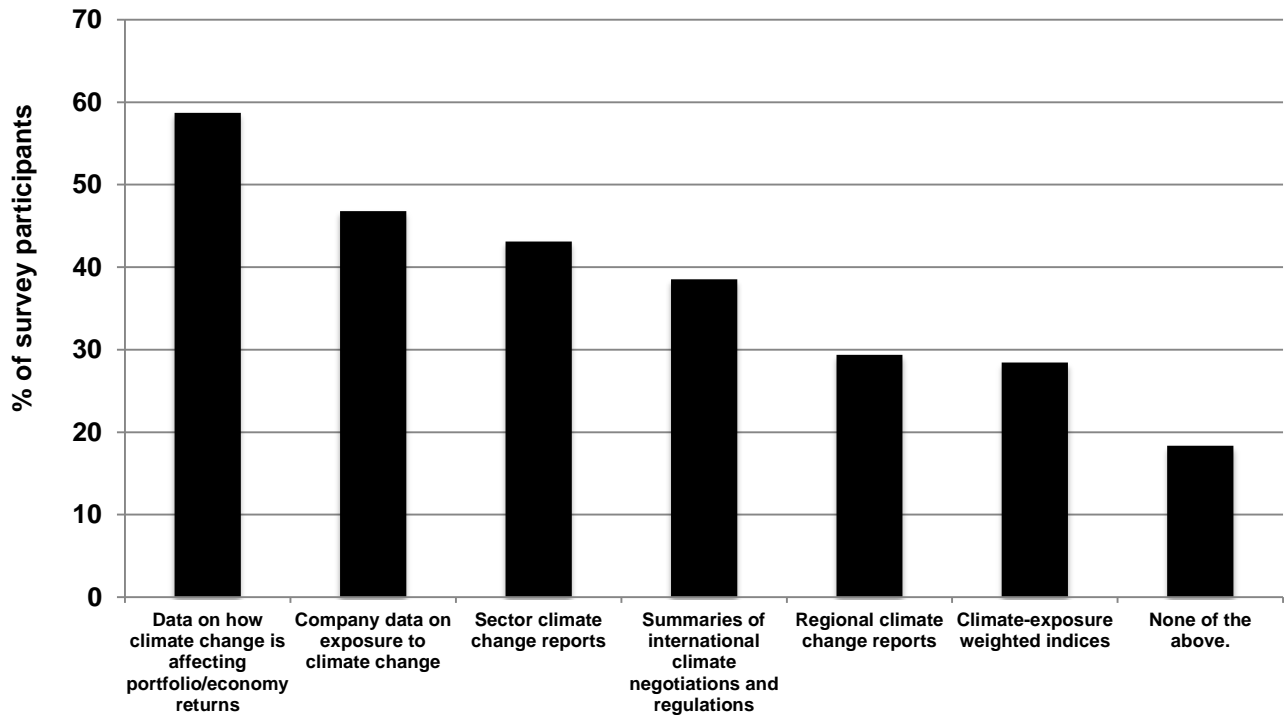
### **5.3 Spatial Geographies of Information Access**

This section will explore the ways in which spatial geography affects the access to and uptake of ESG information. An RI investment belief alone without sufficient information will not automatically foster organisational change or alter investment decisions. This explains why there is so much focus in RI discussions around disclosure: *“If you start with a belief, and you want to hard-code that into the way that you invest, you will then need to work out your monitoring mechanisms and the flow of information”* (Aus23). This section will explore the perceptions among investors in the US, UK and Australia regarding the extent to which geographical location affects their access to information. This will use survey and interview data to explore the uneven geographies of ESG disclosure, the globalisation/technologisation of data providers and the importance of ‘local buzz’ in financial centres.

#### **5.3.1 Corporate Disclosure Availability**

Corporate ESG data was viewed as important information by investors in all three markets in this research. This was supported by the findings in Chapter 4, which found that data providers (both general and ESG specific) were key communication channels for climate information. When asked what scale of information they needed to be able to properly analyse climate change risks and opportunities, company-scale data was ranked as the most important by interviewees (26 out of 60) and by 37 of 118 (31.4%) survey participants, and as not important by only 9 out of the 118 respondents who responded to that question (7.6%). Furthermore, 46.8% of survey respondents wanted more information about corporate disclosure, ranked second among the six options of additional information that would be considered useful (Figure 5.1).

**Figure 5.1. What addition information would be helpful to better account for climate change in investment decisions? Source: Thesis Survey**



This research thus demonstrates that there is still a significant unmet demand for more information in the RI sphere. This is important in the context of behavioural finance and bounded rationality, with investment decisions being made on incomplete information, with investors suggesting that they believe they would be able to make better, more rational, and more responsible investment decisions if the quantity and quality of information at a range of scales and across different geographies were improved.

Investors, and asset managers in particular, often rely on corporate annual or sustainability reports for non-financial data, or self-disclosed information via reporting platforms such as CDP. However, the content, rigour and frequency of these

reports are not uniform between different sectors and markets, leading to a distinct geographic disparity between the quantity and quality of this information (KPMG 2015). This was evident in this research, with a strong desire echoed by a number of individuals in each market for better reporting, and a more standardised approach to reporting globally. One UK respondent said:

*“Improving corporate disclosure is obviously quite key to the ability of managers to assess levels of risk across all ESG issues. There has been an element of recognising that ... with different markets there are going to be different levels of disclosure and awareness. We realised early on that we would have to flex our approach around this (geographical disparity)” (UK25).*

While many organisations internationally are working on this issue, including the CDP, CDSB (Climate Disclosure Standards Board) or SASB (Sustainable Accounting Standards Board), the diversity of groups can lead to further confusion and lack of clarification as to the best disclosure practice, with research finding that there are more than 400 reporting frameworks being used globally to disclose ESG risks (KPMG et al. 2010). This need for standardisation of the actual reporting (as opposed to just producing a higher percentage of incomparable data sources) was noted among interviewees, with one commenting: *“we need standardisation. We need to see the numbers consistently so we can do analysis and find trends” (Aus06).*

Such standardisation of disclosure internationally is the key motivator behind the Taskforce on Climate-Related Financial Disclosures (TCFD), which was established in December 2015 by the Bank of England Financial Stability Board and the G20 finance ministers. This provided a set of overarching recommendations and guidelines

for voluntary disclosure by identifying leading practices to ‘improve consistency, accessibility, clarity, and usefulness of climate-related financial reporting’ (FSB 2016, p.1). However, recommendations remain voluntary despite their integration across a number of other reporting frameworks including the PRI and CDP.

While 95% of Global Fortune 250 companies undertake some kind of ESG reporting, there remains a significant difference between markets, largely due to varying levels of disclosure requirements and institutional contexts (KPMG 2015). Although the UK has mandatory corporate ESG disclosure, the USA and Australia only have voluntary guidelines, and in each market the rigour and comparability of the disclosures remains questioned by several interview participants, particularly around Scope 3<sup>20</sup> emissions reporting along the often-complex geographies of corporate supply chains. One interviewee noted that the majority of rankings and investment tools rarely include Scope 3 metrics:

*“Levels 1 and 2 are incorporated within the rankings ... Scope 3 is seen to be much more difficult, with one company trying to implement it, but finding it virtually impossible to follow up all of the strands of the supply chain. We are pushing for best-practices but it is not always possible” (UK31).*

This uncertainty over the quality of reporting is mirrored in the academic literature (Ioannou & Serafeim 2015; Ioannou & Serafeim 2012), with KPMG (2015) finding

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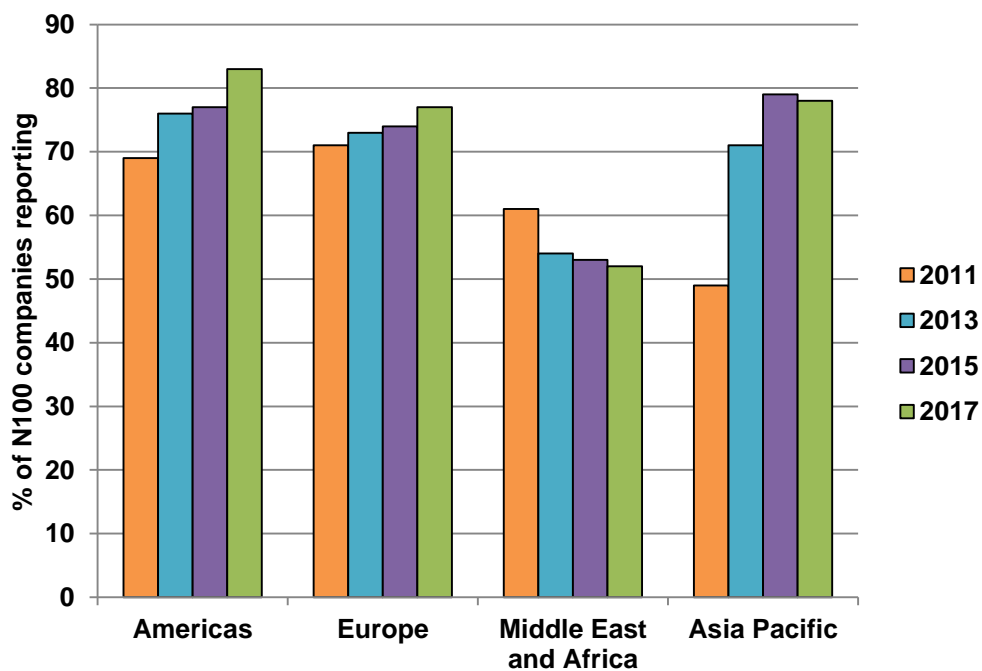
<sup>20</sup> The Greenhouse Gas Protocol outlined a three-tier standard for measuring and disclosing greenhouse gas emissions based on the relationship of the emitter to the core company:

- Scope 1: All direct GHG emissions.
- Scope 2: Emissions occurring at sources owned, or controlled, by another entity, but that contribute to a company's production.
- Scope 3: Other indirect emissions broken down into 15 upstream and downstream categories, including measurements of waste, investments and employee commuting.

While Scope 1 and 2 emissions are often reported by companies, the largest ESG impacts are often seen within Scope 3 but are 'certainly the trickiest of the three to measure' (Gill 2011, p.45).

that the *quality* of reporting had actually declined between 2013 and 2015 in all regions except the Asia Pacific (which had started from the lowest baseline). Figure 5.2 shows that Europe and Americas saw increases in the quantity of large companies reporting on ESG factors between 2015-2017, while the Middle East and Africa and Asia Pacific actually saw a slight decline. However, there are huge variations within each region at a national level. For example, Americas overtook Asia Pacific as the leading reporting region largely due to a significant regulatory boost to reporting in Mexico, where reporting rates have jumped from 58% in 2015 to 90% in 2017 (KPMG 2017).

**Figure 5.2. Corporate responsibility reporting by region (% of companies with CR reports). Source: KPMG (2017)**



Although 77% of the largest 100 companies in each country were reporting in Europe in 2017, this is likely to rise dramatically in the coming years as the 2014 European Directive came into force in 2017 requiring all large public-interest entities to disclose information on environmental, social and employee matters, respect for human rights,

anti-corruption and bribery matters in their annual reports. However, this has yet to have a full impact on reporting results, with only small rise in reporting between 2015 and 2017. Examining data in 2019 will be an important test to see if supranational regulation can have a significant impact in reducing the inequality and raising overall standards of countries' reporting, with a large gap currently separating the best and worst in Europe (KPMG 2017).

Although the majority of literature on ESG information focuses on corporate ESG reporting, there is a growing policy and industry discussion occurring around the disclosure of investors' own exposure to ESG risks and RI practices. It is hoped that greater disclosure could increase transparency for ultimate beneficiaries, and create a 'race to the top' for RI best practices. This has begun to be seen in the French context following the introduction of mandatory reporting under Article 173 of the French Energy Transition Law (2 Degrees Investing 2015), and through the reputational impact of NGO campaigns and research such as the ranking of asset owner transparency and climate action by the Asset Owners Disclosure Project (now amalgamated into the NGO ShareAction) (AODP 2017; AODP 2016).

### **5.3.2 Globalised Virtual Access to Information?**

A number of initiatives have been established to broaden information availability and the comparability of ESG-related data through online transparency, and reduce the information disparities between investors and corporates in different markets. One recent example, led by the Environment Agency Pension Fund (EAPF) and the Church of England Commissioners, in collaboration with a number of asset owners and the London School of Economics (LSE), is a new project called Transition

Pathway Initiative. When interviewed, the EAPF explained that this seeks to “*expose, publicly, how carbon-exposed companies are transitioning to a low carbon economy*”. This is an attempt to reduce the geographical divide between disclosure by creating a web-based information platform:

*“It will be a free-to-use website that shows where companies are on a pathway towards a low carbon world, both in absolute terms and relative to their peers and relative to their history. This should help trustees see what a company has done to mitigate their own exposure to carbon and identify the transition pathway needed. It will identify the KPIs to judge company progress relative to its sector. The website will promote transparency and will help trustees and investors see whether their engagement efforts are having a tangible impact on companies, visible by whether or not the company is progressing along the pathway. This information will be free, and high-level, with links to CDP data and investors can then become signatories of the CDP to get more in-depth data.”*

This has the potential to be an influential tool with a number of benefits in terms of the provision of information and corporate disclosure. Firstly, it will put pressure on companies to disclose their ESG information regularly, and to a high standard, with a number of leading asset owners supporting this initiative. The involvement of CDP and the LSE in this scheme will help ensure the rigour and reliability of the scheme. Secondly, providing this as a free-to-use platform will widen the scope of ESG information availability to under-provided investment communities, with a lot of ESG analytics and data often coming only at significant cost. For example, membership to the CDP data has an annual fee of \$7000<sup>21</sup>. Bloomberg, the preeminent global

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<sup>21</sup> <https://www.cdp.net/en-us/programmes/pages/what-is-membership.aspx>

financial information platform has annual fees of \$24,000 for one terminal<sup>22</sup>. Such costs are prohibitive to almost all but the largest investment firms, and access to this information is thus likely to be clustered in the leading financial centres globally. Thirdly, provision online of this tool creates a virtual geography that means that this information is accessible to all regardless of location and stock market affiliation. Many of the leading service providers of ESG data are geographically located in leading financial centres, particularly London, Boston and New York, creating inequality between those able to develop strong in-person relationships with these service providers and leading corporations, and therefore gain priority-access to this information, with others having to rely on secondary gossip or third-party information passed down through various channels. This suggests that spatial geographies do still affect access to information, despite the rise of communication and globalisation of information, but that a number of online initiatives are seeking to provide more equal and spatially-blind access to ESG information, though their impact remains to be seen.

### **5.3.3 Different Geographical Scales of Information**

The type of information required depends on the asset class, job description and type of investor, and can be seen to vary based on geographical location of the investor. One RI analyst from a brokerage firm said: *“Different people in the investment community have different roles and different types of portfolios, and what is relevant varies for each investment asset class or investment geography”* (Aus20). Indeed, and especially within public pension schemes or home-skewed mandates, the investments are likely to be based around differentiated local economies.

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<sup>22</sup> <http://qz.com/84961/this-is-how-much-a-bloomberg-terminal-costs/>

Investors exposed to sovereign risks, such as in fixed income markets or country-specific equities, are likely to be affected by spatially-specific information flows, such as about ESG risks at a regional and national scale and policy/regulatory news. One super fund CIO said *“We have looked at country-specific information where we are looking at things like carbon markets and policy risk”* (Aus02). Those countries with a more stable regulatory and political regime were argued by investors to provide some of the best ESG data, due to the lower policy risk and uncertainty that can affect the performance and importance of ESG in different countries. For example, when asked about the repeal of the carbon tax in Australia in 2014, one super fund employee said *“We didn't see it coming. We still can't believe that they would get rid of the renewable energy target. That doesn't help investors, it doesn't help business, it doesn't help anybody if we can't have consistent regulation”* (Aus03).

Regional geography-specific climate impacts were also seen to be in the media more often, with concerns growing around the frequency of drought affecting water scarcity, presenting both investment risks and opportunities, and more extreme weather events affecting supply chains. The level of risk, and the measurement and management of this risk, will vary on a nation-by-nation basis relating to engagement with ESG issues in local and national laws and regulations, and the interest of local investors in accessing this information. Australian participants mentioned global and regional scales more frequently than UK interviewees; perhaps due to the physical isolation of the Australian economy and the importance of regional and global influences (particularly China and the US) on the relatively small Australian asset markets. US respondents tended to have a similar international outlook to the UK

respondents, but also operated at the ‘state-level’ scale not seen in the UK or Australia, with attention to specific physical climate and policy risks identified as important and affected by state geographies.

As such, more attention needs to be focused on the informational needs of investors, rather than just assuming that more corporate disclosure will improve decision-making, as different investors need different geographically-scaled information and better disclosure across asset classes as well. The survey also showed that asset owners, for example, are more likely to be interested in thematic trends and asset class-level data due to their concern with strategic asset allocation decisions, whereas asset managers require asset-level and company data to enact those investment allocations. Furthermore, within my survey sample, firm executives were statistically more likely to be interested in global trends than the company-level data required by analysts and researchers within both asset owner and asset management firms<sup>23</sup>.

Information providers must work hard to communicate the right information to the right audience, whilst ensuring that everyone has at least a basic understanding of key facts, regulations and trends. Information needs will also vary over time, with an American pension fund employee saying *“Our focus and informational needs are becoming more international, as over the last 10 years our portfolios have become more diversified internationally, so our outlook and research interest has also become more global”* (US04).

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<sup>23</sup> Analyses of these results formed part of my M.Phil thesis. For further details, see Harnett (2016).

### 5.3.4 Local Buzz and the ‘Tyranny of Distance’

When investors are keen to analyse and/or engage with those companies or regions that do not disclose publicly, the benefits of spatial proximity and ‘local buzz’ are perhaps likely to be more obvious (Clark & Monk 2013). Proximity to these companies, or location within local markets, can facilitate more frequent dialogue, in a common language and culture, creating information asymmetries between proximate and distanced investors. This was perhaps particularly important for those investors who are not able to travel abroad, or make contact with international actors. This was the case for one public Pension Fund employee, who said, “*we are not allowed to call or even travel overseas, so we rely on local buzz, and what are the local trends*” (US05).

Among interviewees, it was suggested that co-location in major cities was important in developing relationships and gaining proprietary information. The concentration of investment firms, corporations and ABS, described in Wójcik (2012), was noted by interviewees in this research, with one asset management executive saying that they benefited from the knowledge spill-overs available from a diverse number of actors in the RI space: for example, “*The stock brokers are quite a good conduit for sharing stuff*” (Aus14) and “*Information is diffusing through the intermediaries of financial managers peddling different products to investors around the world who are demanding ESG options*” (US03).

Such information sharing resulting from spatial proximity was visible in each of the markets in this project, and this was seen in both the frequency of formal networking and collaborative projects being undertaken, but also a strong informal networking

within key cities, as noted in Chapter 4. For example, an RI manager at a leading London asset management firm said:

*“There is quite a nice informal element around people in the ESG industry in the City. We go for coffee or lunch; there are no industry secrets behind what people are doing ... we felt like we were fighting the same battle so we almost ended up sharing approaches: what worked and what didn't work so that has built a nice platform”* (UK17).

The strong networks were also evidenced by the willingness of participants to recommend others for the snowball sampling and the over-lapping nature of those referrals, particularly in Australia where the investment (and therefore RI) markets are smaller. However, this was less evident in the US due to the size of the market and the geographic distance between major financial centres on the East and West coast, although formal networks do exist on the national level, including Ceres, US Sustainable Investment Forum (USSIF), the Council of Institutional Investors (CII) and the Interfaith Centre on Corporate Responsibility (ICCR).

While this proximity was shown to be of great benefit for those in leading financial centres, those located outside of these centres felt that they often missed out on information and knowledge sharing opportunities. For example, one pension fund employee commented on the difficulty of attending meetings, even if you are part of a national network, and that although many asset management firms are located in leading financial centres, pension funds tend to be more geographically dispersed:

*“We are based in Bristol and sometimes these networking events are either in the morning or the evening which makes it a bit difficult when you are two hours away.*

*We do dial in to a lot of the meetings. We probably could do more if we were differently based. I think there is probably a need ... to be less London-centric, or think about more innovative ways of engaging broader pension funds. Pension funds are located nationally. They are not all London based. There is an element of more web-based ways of being able to access groups. It is a struggle for us.” (UK25).*

These concerns were also shared with a financial advisor based in Tulsa, who despite being well-linked to networks of RI in Boston and New York, found that there were a number of opportunities that were being missed, both at the national and international scale due to the barriers of physical geography *“I don’t think that being in Tulsa is limiting me significantly, but I would like to travel more... I would like to go to Responsible Investor’s meetings when they hold them in the US” (US02).* Although both individuals noted the benefits of webinars and teleconferencing, they felt that these did not compare to the advantages of the buzz of being in the ‘room where it happens’. Smaller, and more geographically remote institutions also appeared to be missing out on conferences due to the challenge in justifying spending the time and resources on attending international conferences that can be expensive, but have the potential to be important learning opportunities: *“The commercial business case to spend \$20,000 to go to a renewable energy conference is just not quite there yet” (AUS24),* whereas those local to the conferences (often in London, New York or Boston) found it much cheaper and more appealing for senior managers to attend. This was also felt at an industry-wide level in Australia, with one interviewee commenting that: *“Collaboration can lead to best practice. Collaboration leads to innovation. Maybe here, Australia still suffers a bit of tyranny of distance, being away from the main areas of development” (Aus09).*

This is important given the findings of the previous chapter, which showed that such networking and social learning events play a pivotal role in mainstreaming RI activities and disseminating knowledge, including among executives. One pension fund executive from the US said: *“Attending conferences is more helpful than reading reports – we get better detail about what other pension funds are doing, reports are more useful for the why, but we can get more information from conferences about the what, how, and how deep the ESG can go in the organisation, and what good Responsible Investment can actually do”* (US03). In the context of behavioural economics, these differentiated social learning opportunities can affect the heuristics and bounded rationality of investors differently around the world and in different cities, and therefore affect capacities to make RI decisions in a rational and/or optimal way.

These findings go against the emotive academic discussions regarding the ‘end of geography’ as a result of globalisation, communication and cultural convergence (Ohmae 1995; Greig 2002; Graham 1998) and the diminished importance of spatial proximity for information and learning (Amin & Cohendet 2004), demonstrating that proximity is still important in facilitating learning, access to information and collaboration.

## **5.4 Relational Geographies and Information Provision**

This section explores the importance of relational proximity, and the benefits of ‘global pipelines’ and ‘spatial distancing’ in the context of RI. Key to this is the

proliferation of RI networks and collaborations internationally since the turn of the millennium.

#### **5.4.1 Responsible Investment Networks**

The previous chapter shed some light on the scope and importance of the RI groups that have sprung up at the national and international level on a range of investor-relevant RI topics (see Section 4.4.2). These groups serve a number of different purposes, including promoting informal social learning between individuals and formal knowledge sharing through the distribution of reports and research (Guyatt 2013). The interview process for this research highlighted that the rise of network learning has perhaps been most effective when facilitated and formalised by groups, such as the networks developed through the IGCC in Australia and Ceres in the USA. Although many of these networks are local to specific countries, they have a role in creating pipelines between different organisations and cities, in addition to the international groups forming global pipelines and collective initiatives. This supports the assertions in Amin and Thrift (2002) who explore the ‘stretchiness’ of relations, being both local and international. Examples of these ‘global’ initiatives in the RI space include the PRI, CDP, Investor Corporate Governance Network (ICGN) and the Montreal Carbon Pledge, all of which have both an accountability and reporting as well as knowledge sharing aspect to their organisations. Many of these networks were thus established purposefully to develop the relational (as well as spatial) relationships that are now responsible for so much of the international progress on RI.

Peer-learning can occur organically at a local level, based on the benefits of spatial proximity, but these formalised networking opportunities mean that discussions can

involve experts as well as industry practitioners from around the world, to ensure that knowledge sharing remains focused on the latest science and business foresights. Formal sharing of latest reports and experience via webinars, conferences and meetings also occur simultaneously with the informal learning strategies within these groups. This is key to avoiding the pitfalls of imitation and ensuring that group norms and behaviours do not tend towards groupthink and herding to the extent that rationality and optimisation of decisions are lost. One interviewee commented

*“So with those forums, they are great, and they really help people like me who are engaged and interested. They have expert speakers come through, they do reports and help people network and discuss issues and understand them better”* (Aus15).

Interviewees in the UK, USA and Australia who were part of groups said that the networking opportunities provided were valuable, enabled a more outward facing strategy, and had led to the diffusion of knowledge, information and practices that were new to their respective markets. *“I think that any network is useful and it does make sure that people are up to date with whatever is out there”* (Aus20). This would tend to support the assertions within Amin and Cohendet (2004) and Bathelt et al. (2004) that suggest cities and organisations are likely to thrive when they can benefit from both local and global networks, therefore taking advantage of information and innovations from buzz and pipelines simultaneously. It was also thus important for the groups to ensure that they stayed abreast of what is going on at both the local and global levels, with one Australian climate group executive saying *“although most of our learning is done locally, we have to pay attention to what is going on elsewhere, and follow international developments in RI. For example, we have looked in-depth at the UK Law Commission, ERISA guidelines and international divestment movements”*

(Aus34). This is particularly important given the fast-moving nature of the innovations in RI knowledge and practice within the investment and policy spheres in the past few years.

#### **5.4.2 International Internal and External Collaborations**

One of the key benefits for relational proximity is the opportunity for both internal and external collaborations with members of a project team coming from a variety of geographies, background, cultures and experiences.

Several of the leading academic institutions, investment firms and NGOs have established project teams and advisory councils with international experts and commentators to enable international, and often interdisciplinary, insights into the issue of RI. These have led to a range of thought-leadership research projects, the development of practical investment products, and collaborative corporate and policy engagement strategies on a range of RI issues. One example of such external collaborations has recently been seen around the issue of stranded assets, which has resulted in direct engagement with oil and gas majors by a coordinated assortment of national and international climate groups, leading investment firms and NGOs. Investors are also facing calls from beneficiaries and NGOs to calculate their exposure to stranded assets risks, defined as the risk that investments may lose value prematurely due to a range of physical, regulatory or market risks linked to environmental change (Caldecott, Howarth, et al. 2013).

*“Stranded assets ... is definitely something that has catalysed a lot of interest and action on climate change, it's driven a whole collaborative engagement ... which is coordinated by Ceres, IIGCC and IGCC, along with ACSI in Australia. Additionally*

*there have been a few bits and pieces like shareholder resolutions happening, particularly in the US which is focused on that, but generally it has been something that has got a lot of attention. We had a few big Carbon Tracker events in London which had Christiana Figueres again speaking and it was a packed room with a few hundred investors attending from around the world, and there has been a lot of attention given to it, and rightly so” (UK05).*

Another interviewee commented:

*“We are carrying out engagement with corporates as a result of our Montreal Carbon Pledge, but less than 50% (of companies) are in the US, so we are partnering with other international investors and networks on this engagement. Many of them are further along with engagement with some foreign firms that are in the same regions as those investors, so there is no point reinventing the wheel, so we are supporting existing engagements where they are already established” (US04).*

However, such pipelines do not have to be limited to formal or informal RI groups, and can be established within multi-national companies or NGOs, whereby research and engagement can be coordinated and disseminated between international but internal project teams. One asset management employee based in Brisbane said *“Both local buzz and global pipelines are essential – we have a lot of global equity managers in Sydney, so global linkages are more available for them, and they have a global focus so need more pipelines. I don’t feel that there is a barrier to information as a result of being in Brisbane rather than Sydney; I still have good pipelines, kept fresh by frequent travel and international calls” (Aus22).* This demonstrates the ability of teams in different cities within the same firm to aid in the diffusion of

information and innovations locally, nationally and globally, on both formal and informal basis. Furthermore, the influential Mercer (2015) report ‘Investing in a time of Climate Change’ was a result of significant internal collaboration, between investment and RI specialists from throughout the firm’s international offices in each region of the world. In addition, the firm partnered with a number of leading international asset owners and asset managers from the UK, US, Australia, New Zealand and Sweden, and established an international Advisory Group drawn from academia, climate modelling, green finance, traditional finance, and risk backgrounds. Although few organisations have such a global reach, collaborations on this scale and breadth are not unique, and increasingly common within academia and investment consultancies aiming to become thought-leaders and information providers.

Similarly, many of the new RI tools and indices being developed to help investors integrate ESG information are being designed across teams within the organisations (often merging ESG teams with statisticians, modellers and finance teams internationally), as well as joint collaborations with external teams from different sectors and specialisms. Examples include the MSCI ESG Funds, the European High-Level Expert Group on Sustainable Finance (EU HLEG), the Northern European Partnership for Sustainable Finance (NEPSF) and the development of international standards on Green Bonds (ISO 14030) and Climate-Aligned Finance (ISO 14097). As such, global pipelines and spatially-distanced relational proximity can be seen as contributing directly to RI knowledge sharing and innovation, furthering the capacity for mainstreaming of RI in the investment industry internationally.

### 5.4.3 Pipelines between Pipelines

Such collaboration within and between firms is seen as particularly important as issues such as climate change are international, ‘wicked’ problems, with strong collaborative and global efforts required to change the economic infrastructures and environmental conditions sufficiently to protect society from the worst potential impacts (World Bank 2014; Lazarus 2009; Bank of England 2015).

Climate groups are also working together to share reports and organise projects that avoid overlap through an *“informal network behind the scenes of all the groups collaborating and informing each other on projects”*. Key to this collaboration is trying to ensure that *“our members time is not wasted, and that they understand how initiatives relate to each other”* (Aus25). This appears to be particularly important in the UK and US where a number of different groups are working in similar areas and with similar goals, compared to Australia which is a more concentrated market.

A diversity of groups can lead to a multitude of opportunities to catalyse progress throughout the investment system, but further collaboration between and within the organisations could increase the efficiency and efficacy of their operations through strong formal and informal relationships (Guyatt, 2007). Evidence of this has been shown in the formation of formal partnerships between regional climate and sustainability groups including the Global Investor Coalition on Climate Change and the Global Sustainable Investment Alliance (GIC, 2014; GSIA, 2014). Importantly, such interaction also facilitates international collaborations between different groups, creating a pipeline between the different networks. For example:

*“Last year we (the investor-focused climate groups) were working together on the global investor statement on climate change, and that was all four of the global investor coalition groups, PRI and UNEP FI, and we had meetings for that on a monthly, weekly, fortnightly basis depending on how busy it was and how much had to be done. So that’s the main way we coordinate, is via those calls, so we had ad hoc calls for that project, we have additional projects going on this year that will have their own calls and meetings. Often we will break off into sub committees if we need” (UK05).*

Similarly in Australia, one executive in an investor-focused climate group said, *“Lots of ESG groups do exist in this space, but we are explicitly working together. Collaboration happens often because our members (investors) don’t want duplication of work between groups” (Aus34).*

These pipelines-between-pipelines can also facilitate the more efficient sharing of contacts, within and between memberships, to ensure that the latest knowledge and information are widely disseminated globally, and give a wider platform to key experts and new innovations. This relation-based collaboration provides opportunities for different organisations and networks to establish a united voice, which is likely to be important in catalysing change on a large enough scale to encourage policy, corporate and investment decisions to be altered towards more responsible action, with so many groups, and so many members within each group, all united around a common cause. This demonstrates the importance of imitation and collaboration identified in the social learning and behavioural finance literatures (Kahneman & Tversky 1984; Bandura 1963; Amin & Cohendet 2004). These global pipelines can

help spread expertise throughout different national groups to reduce localised group-think and limit the potential pitfalls of over-imitation, but conversely could lead to international group-think and confirmation bias if these groups became too closely aligned and remained focused on the same issue informed by the same individuals. Although existing diversity in the groups suggests that this is not yet happening, future engagements between groups need to continue to avoid this behavioural trap and ensure that framings and knowledges continue to advance on a range of topics in ways that remain appropriate for the diversity of glocalised investors. Furthermore, more work needs to be done in engaging outside of existing membership to ensure mainstreaming of RI throughout the investment industry rather than within existing groups of active participants, although such groups will be vital in the development of innovation and best practice as long as they then communicate more broadly within the investment industry.

### **5.5 Information Overload from Networks and Buzz?**

However, several interviewees suggested that, despite their benefits for the provision and access of information, the presence of local buzz and global pipelines could also be seen as responsible for contributing to their experiences of ‘information overload’. A growing literature explores the idea of information overload, and the fallacy of information deficit models, whereby increasing the amount of information available will not necessarily lead to a more efficient system, and could even act as a hindrance (Gleick, 2011; Agnew and Szykman, 2010). Marteau et al. (2002, p.69) argue that ‘while information may be necessary for behaviour change, it is rarely sufficient’. There is a real concern about the impact of ‘information overload’ on individuals’ and organisations’ cognitive and operational performance as time has to be spent filtering

out useless information (Dean and Webb, 2011; Hudson, 2012). While there is clearly information overload in our day-to-day lives, this section explores the dynamics of climate-related information in the markets.

Experience of information overload with regards to information on ESG and climate change varied within my research. While only 20% of 110 survey respondents said that there is adequate information to properly analyse corporate exposure to climate change, 25 interviewees said that there was sufficient information available on climate change, compared to only nine who said there was not enough information. Comments among interviewees included *“This is not an information problem”* (UK19) and *“I don't think getting hold of information is a problem”* (UK04). Furthermore, five Australian and six UK participants said that there was *“too much information”*, with seven interviewees mentioning that they suffered from *“information overload”* (3 in Australia, 4 in the UK). However, no US participants discussed information overload, suggesting that this market still remains underprovided for, with large informational needs and a more disparate investment market and RI network of knowledge sharing.

This distinction between those that saw that there was sufficient (and perhaps too much) information, and those that felt under-provided for, can be seen to be linked to individuals' involvement in networks, both local and global, suggesting that both buzz and pipelines (both spatial and relational proximity) are important in accessing information: *“I get enough information that just sort of comes through the network, so we don't actually have to go and actively look for stuff”* (Aus13). However, those that depended more on asocial, rather than social, learning were more likely to say that

there was not enough information. This can be seen to contribute to the unevenness of information availability, with such social learning opportunities concentrated in financial centres, in ESG teams of large financial institutions and those firms which had a long history of implementing RI. There was a concern that much of the climate information was “*preaching to the converted*” (UK09), whereby those ‘in the know’ have plenty of information whilst those outside the RI circles are lacking information. This further points to the importance of local buzz and global pipelines, but that those outside of these mechanisms of information sharing were likely to miss out.

This can most clearly be seen in the data, whereby the membership of climate change groups (which are heavily involved in the research and sharing of information, creating both local buzz and global pipelines) was higher in the interviews than the survey and correlated to perceptions of whether or not there was sufficient information (Table 5.1). 60 participants who were not part of climate groups said that there was not enough information, compared to just 22 who were. Of those within climate groups more were happy (26) with the amount of information than unhappy (22), although this correlation was smaller, suggesting that improvements can still be made in the provision of information to members, which corroborates much of the literature on RI which calls for better disclosure and more standardised information provision (Sievänen 2014; Bourghelle et al. 2009).

**Table 5.1. Climate group membership and information sufficiency (Source: Thesis Interviews)**

		Is there enough information?	
		Yes	No
Are you a member of a climate group?	Yes	<p><b>26</b> 24 interview 2 survey</p>	<p><b>22</b> 12 interview 10 survey</p>
	No	<p><b>12</b> 2 interview 10 survey</p>	<p><b>60</b> 4 interview 56 survey</p>

This would suggest that climate change groups are providing a useful service and should aim to reach a wider audience than just their own membership in the provision of updates (perhaps through social media and existing investor networks), but also that information providers could better highlight the materiality of their own research directly through the provision of executive summaries and updates in mainstream investment news channels identified as important in investor learning strategies in Chapter 4. However, more research is also needed to understand what information is actually financially material to investors, and whether this correlates to the information being communicated and used in decision-making, as early research suggests that material ESG factors are not being sufficiently understood and integrated (Khan et al. 2016; Rook 2012).

Filtering of key information was seen as important to ensure that information provision didn't become information overload, and that the quantity and quality of

information remained sufficient to enable investment decisions. One pension industry body executive said there was *“probably an over-supply of information, but what might need to happen is more filtering”* (Aus08). However, within Australia there was some disagreement among interviewees, with others suggesting that such filtering already does occur informally through the sharing of information through social media and between peers, and more formally in the provision of newsletters and updates from various organisations: *“I think at the moment we have the filter- you have the UNPRI and the IGCC and the brokers producing reports which are based on the academic information ... but it’s still not getting through”* (Aus11). It is thus clear that there are both information and dissemination issues which need to be addressed if decision-making around long-term investment is going to be improved, particularly in terms of availability heuristics and overcoming confirmation bias among those who do not accept the materiality of RI strategies.

## **5.6 Translational Geography**

It has become clear through this research that, often, the information that is being shared through both buzz and pipelines is not particularly suitable or actionable within investment decision-making structures. Thus information being shared might simply add to information overload or be filtered out rather than integrated into decisions. Translating academic knowledge into material investment theses is key to its integration into investment decision-making (UNEP FI, 2009b).

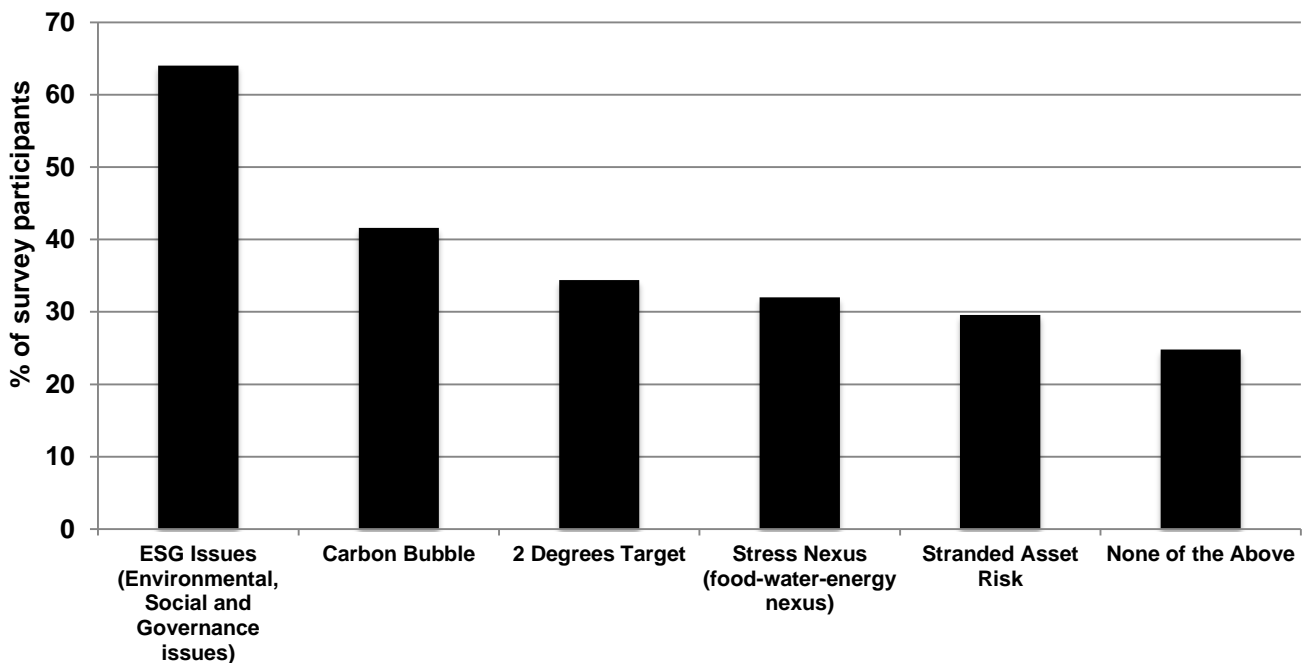
Simplifying the science around RI, and the potential implications on investment returns, is necessary but needs to avoid underplaying the important feedback loops and the natural complexity of environmental and social processes. This will require

greater communication on both the demand and supply side of the information equation – with investors needed to talk to academics and NGOs to tell them what language is needed, and communicators (including mainstream journalists) needed to put this into practice on the supply side. The urgency of this is noted in the fact that only 30% of survey participants said that the language used in climate change communications was appropriate for the investment community. Comments suggested that climate change communications were too “*nebulous and nuanced*”, “*politicised*”, “*full of jargon or difficult to follow*” and “*alarmist arguments*”. Furthermore, one Australian interviewee said: “*We all know that climate change is occurring, but what does that mean for our investment in different companies? It is just so difficult to get that direct nexus between the information, climate change and what's happening through to our investing*” (Aus04). This confusion and demand for clearer translation into investment markets was not limited to the Australian market, with UK25 saying “*What there is a huge lack of is translating this into a language that a main trustee could get their head round. It is a very complicated area and it needs to be translated into slightly less complicated language to understand why this matters to me now, and why I have to do something now*”.

Whilst 113 (88.3%) of survey respondents said that they were ‘somewhat’ or ‘very’ familiar with sustainability investment topics, almost a quarter (24.8%) said they were unfamiliar with all five RI-related terms (Figure 5.3). Only the general term ‘ESG’ was familiar to more than half of respondents. Only 34.4% said they could explain the 2°C target, which is perhaps concerning, as this target is key to understanding policy urgency and carbon budgets, although this survey pre-dated the Paris Agreement in December 2015 which has likely raised awareness of the term. Although divestment

and stranded assets debates have been recent but growing phenomena, while only 29.6% understood ‘stranded asset risk’, 41.6% were familiar with ‘carbon bubble’. These are all key terms within climate dialogues, and without clarity on this language, understanding and integration into investment decisions will likely be limited. This has informed the decision to focus on the opportunities to translate and reframe stranded assets as sunk costs in Chapter 6.

**Figure 5.3. Have you heard about the following climate-related concepts? Please tick all that you would feel confident in explaining to a friend or colleague. (Source: Thesis Survey)**



The lack of funding for climate-related investment research could be one reason for the deficit of investor-appropriate language and research, with only 4.7% of survey respondents aware of internal or external climate research budgets. Alongside technical and non-relevant language, interviewees in both countries also commented

that most climate reports were too long: *“when a big report comes through on climate that is relatively technical that might be 50 or 100 pages, I find it very hard to read”* (Aus13). Another said: *“Time is a major factor for me and for investment teams. So generally good, concise exec summaries are the things I like to look at”* (Aus15). This corroborates Peng (2005), which posits that investors have limited time and attention for learning and processing information, and demonstrates the bounded rationality of investors in that they have only limited amount of time in which to make a decision (Simon 1972). This should act as a warning for those communicating ESG for investors and seeking the mainstreaming of RI: simply providing more information is not sufficient to increase consideration of ESG factors, the information needs to be relevant to investment decisions, and of a suitable language and length. Although this was seen as lacking in the investment market in general, several interviewees (representing each market) commented that some organisations such as the Oxford Smith School and Carbon Tracker had made some progress in translating climate change into investment language through the concept of carbon bubble:

*“So like the carbon bubble - the initial carbon budget idea was in 2009 but it didn't really blow up as a massive investor concern until a couple of years ago with Carbon Tracker coming out, so the gap that existed between one and the other was Carbon Tracker taking something that already existed and putting it in a language which investors could get a handle on - so there is probably a lot of information out there that would fit into that sort of category, so we need better interpretation but also the platforms for getting it out to investors”* (Aus15).

This suggests that translation is likely to come from experts, think tanks and consultants, who can develop an in-depth understanding of both academic and investment circles. One of the benefits of these external actors playing such a role is their ability to act at different scales, whereby they can contribute to the globalisation and glocalisation of knowledge and information (Gond & Boxenbaum 2013; Amin & Cohendet 2004). These actors tend to travel extensively, networking and collaborating with a range of other professionals to understand and translate novel concepts and practices (Bryson et al. 2000). Acting as thought leaders on a local and global scale, these actors can both scale up new innovations to become understood internationally, but can also take global knowledges and translate them into locally-relevant concepts that can be adapted to fit local cultures and contexts, allowing spatially distanced information to be made pertinent. Thus these actors acknowledge the importance of local variations, but can reduce the importance of spatial proximity through their own travels ensuring that the distanced knowledge and information are made available at the local scale (Rogers 2003; Faulconbridge 2006). In this way, global scenarios and information about multinational companies and concepts can be made relevant to local investment values and markets. This could be key to improving the heuristics and information that investors have to make decisions. Consultants, experts and other research providers have the capacity to inform investors about key themes and trends, to the extent that they could help reframe RI as a legitimate and realistic investment paradigm, altering the availability heuristics, bounded rationality and decision-making of the finance community.

## 5.7 Conclusions

Whilst Chapter 4 provided insights into how investors learn about RI topics, this chapter has explored how ESG information flows in investment circles to inform this learning. This chapter explores the spatial, relational and translational geographies of this information, analysing how access and uptake varies with the levels of disclosure and investor engagement in formal and informal networks on these topics in the UK, US and Australia. It supports to some extent the hypothesis that ‘the networks an investor belongs to matter more than geographic location in terms of accessing ESG information’, but notes that spatial and relational geographies are concurrent and interlinked in affecting the availability of, and demand for, ESG information.

This chapter used interview and survey data to show that significant gaps in investor knowledge and information access to still exist – with 80% of survey participants saying there is not enough ESG information available, and many interviewees highlighting the need for the translation of the information that does exist into investor-relevant languages and formats. Though it provided a few examples of organisations and terminology seen as useful by interviewees, it left open the question of what this translation might look like in practice and this will be explored in Chapter 6 through a demonstration of how the concept of environmentally-driven stranded assets can be reframed as a version of sunk costs.

Findings of insufficient and impractical information among some research participants were complicated by an experience of information overload experienced by some investors, notably those engaged in RI networks in the UK and Australia. Building on this, this chapter has outlined the important role that investor-focused RI

groups have in the generation, filtering and flow of information at a local and global scale, but cautions that the concentration of information provision in these groups limits access to this information for mainstream investors based on their spatial - and perhaps most importantly – their relational geographies. Furthermore, it warns that the diversity of sources of ESG information available through these groups can lead to information overload, ossification and confirmation bias.

Furthermore, this chapter has highlighted the fact that the scale and content of ESG information required by investors will vary across different job types, asset classes and local investment contexts. It was built on the findings of Gond and Boxenbaum (2013) and Faulconbridge (2006; 2010) to suggest that flexible relationships substantiated by international travel and growing networks of informed individuals are likely to be key in providing such ‘glocalised’ information, which is able to both incorporate best practices from around the world whilst also being made specific for the individual investor. Chapter 7 will explore these topics further, by providing an illustration of whether and how investment consultants can play such a role in the provision of RI advice and services, able to target ESG information towards individual client needs by acting as an independent filter and provider of both social and asocial information and innovation.

In applying the concepts of local buzz and global pipelines to the flows of ESG information, this chapter has confirmed that both spatial and relational proximity to other investors and to RI experts and networks affects capacity to learn about and integrate RI in investment decision-making. Engagement with both the buzz and pipelines was found to lead to a more rapid information flow and consequently more

informed decisions, supporting existing theorisation of these topics regarding opportunities for both local and relational networks to facilitate innovation and learning (Bathelt & Turi 2011; Gertler 2008; Clark et al. 2000; Clark & Monk 2013). However, this chapter also highlighted that experience of buzz and pipelines vary based on the local cultures and geographies of financial centres. Local buzz was found to be more important in geographically distanced cities with strong home bias in Australia and Middle and Western USA, whereas both global pipelines were relatively more important in New York and London. This extends into the realm of RI the existing research on the strong links between and international scope of these leading global financial centres (Wójcik 2013; Gehrig 1998; Taylor 2012; Taylor 2003). This chapter has supported the theory that while the importance of spatial geography is perhaps being reduced by novel communication technologies and the growth of international networks, conferences and collaborative platforms, it has not been negated completely (Storper & Venables 2004). However, this chapter also extended theories of buzz and pipelines through an exploration of how these groups now exhibit pipelines-between-pipelines through inter-network collaboration and joint statements to policy makers. Economic geographers could usefully examine the geographies, impact, purpose and scope of these networks in more detail, and examine whether pipelines-between-pipelines are visible in other industries and on other topics within the finance industry.

This chapter has thus found that the wider availability of ESG information in investment markets has not created as large a shift to mainstreaming of RI as perhaps expected due to various factors, including how the information is not always communicated in known languages and relevant formats or scales, is not relevant to

the decision-making of all investors, is geographically concentrated in existing RI networks and financial centres, and can actually contribute to information overload instead of providing clarity. It has thus supported the hypothesis that ‘RI knowledge and practice is stifled by the channels through which ESG information is communicated’, but also extended this to suggest that RI knowledge is also stifled by the languages and formats of ESG information.

# **Chapter 6. Stranded Assets: An Environmentally-driven Framework of Sunk Costs**

## **6.1 Introduction**

Stranded assets are defined as when ‘environmentally unsustainable assets suffer from unanticipated or premature write-offs, downward revaluations or are converted to liabilities’ (Caldecott, Howarth, et al. 2013). A growing number of examples of stranded assets can be seen throughout the global economy, with European gas-fired power stations closed prematurely in 2013 alone costing nearly €6bn as the energy landscape shifts (Caldecott & McDaniels 2014). Weather-related losses have increased four-fold since the 1980s to \$200bn over the past 10 years, a result of economic growth and demographics increasing the Value at Risk from increases in the frequency and intensity of extreme weather events globally (Kollewe 2014).

Most often associated with environmental risk factors following the seminal Carbon Tracker (2013b) report on Unburnable Carbon, a growing literature highlights how environmental change makes investments across a range of sectors and asset classes at risk from being stranded (Caldecott & McDaniels 2014; Kepler Cheuvreux 2014; Harnett et al. 2014; Generation Foundation 2013). This will have a significant impact on the risk and returns experienced by investors, particularly longer-term institutional investors who are often exposed to broad market trends through their tendency towards Universal Ownership (Hawley & Williams 2007).

However, the importance of understanding stranded asset risk also extends beyond retail and institutional investors, with relevance to decision makers within

corporations and governments whose investments, both in the real and financial economies, are also at risk of becoming stranded, potentially affecting balance sheets and the capacity to provide for the needs of society (Bank of England 2015; Carbon Tracker 2015b). This has led to growing calls from beneficiaries and NGOs for investors and governments to calculate their exposure to ‘stranded assets’ and develop more ‘Responsible Investment’ (RI) practices to better incorporate these risks in future decision-making. Despite their potential impact on the global economy, the systemic nature, probabilities and time horizons of stranded assets remain poorly understood in mainstream investment industry, with Chapter 5 showing that fewer than a third of investors surveyed would be confident in explaining the term stranded assets to a colleague.

In exploring whether and how RI knowledge is compatible with existing mainstream investment industry structures of decision-making, this chapter examines the hypothesis that ‘concepts linked to RI fit into existing investment decision-making frameworks’. To do this, this chapter seeks to show that investors’ perceptions of stranded assets could be reframed and theorised with stranding as a version of irreversible sunk costs. This could help investors recognise the immediate and long-term investment implications of stranded assets, as investors are used to dealing with risk over varied geographical and time horizons with regards to investment costs (Blyth et al. 2007; Hallegatte et al. 2012). Translating environmental transition narratives into investor-relevant languages in this way could help facilitate the mainstreaming of RI information, knowledge and strategies. This builds on the findings of Chapter 5 which found the need for this translation, but also on Caldecott’s (2017) framework of mainstreaming of RI which argues that for this to

occur the languages and terms surrounding RI and ESG issues must become commonplace within investment markets;

Stranded assets are defined as assets which lose their value prematurely (Caldecott, Howarth, et al. 2013), and it is from this point that companies (and their shareholders) are therefore left with assets which are likely to be irreversible ‘sunk costs’ (Dixit and Pindyck 1994). Sunk costs are defined by Clark and Wrigley (1997, p.340) in the following way: ‘In contrast to fixed costs, which can be eliminated by the total cessation of production and the capital invested salvaged, sunk costs represent a non-recoverable commitment to production in an industry’. From this it is clear that stranded assets are an example of sunk costs, and it is this relationship that will be further examined in this chapter. In particular, the characteristics of sunk costs are explored in the context of stranded assets to further develop the relationship, and then a spatial-temporal framework is established to aid investors in better analysing their stranded asset risk via a sunk cost conceptualisation. While investors often suggest that they struggle to consider the risk profiles and time horizons of asset stranding, there is a stronger history of adapting investment decisions to sunk cost calculations (Bellalah 2003; Clark & Wrigley 1997; Arkes & Blumer 1985).

Dixit and Pindyck (1994:3), in their book on investment under uncertainty, assert that ‘most investment decisions share three important characteristics, in varying degrees’. Firstly, they argue that all investments are partially or completely ‘*irreversible*’. In other words, you cannot recover all your initial investment if you change your mind – you almost always face some ‘sunk costs’. Second, there is ‘*uncertainty*’ over future rewards from the investment resulting from market, political, social and

environmental factors. Third, the '*timing*' of the investment is, to a varied extent, 'fluid' – it is possible to delay a decision to get more information about future conditions and markets, and about the investment itself. The risk of environmental change, and stranded assets in particular, is likely to influence each of these characteristics for a wide range of investment decisions, increasing and accelerating the irreversibility of investment decisions, increasing the uncertainty and risk associated with future conditions (including socio-economic, political and physical environments), and ensuring that time frames of investment become more unpredictable and even more vital to reducing the likelihood of high sunk costs and stranded assets.

It is assumed in this chapter that the permanent stranding of assets necessarily results in sunk costs, but that sunk costs are not necessarily stranded assets. Only if stranding is temporary, such as a drought causing the short-term cessation of activity at a hydropower station, could you argue that stranded assets do not have to result in sunk costs, as following a period of rain the electricity production can be restored. This chapter, however, will focus on permanent stranding of assets as a version of sunk costs.

This chapter offers a theoretical argument for the use of stranded assets as sunk costs frameworks in investment decision-making, noting that much of the existing literature on the topic takes a more empiric approach. Further, it develops an approach to analyse investors' capacity to consider stranding risks, which has also received only scant attention to date, notably by Silver (2017) who argued that stranding risk does not fit into investors' typical risk profiles, and Caldecott and Rook (2015) who

applied behavioural biases to corporate decision makers regarding stranding risk. Through the expansion and update of Clark and Wrigley's (1995) economic geography framework of sunk costs, this chapter develops a check-list of key characteristics which should aid investors in reconsidering their exposure to stranded assets, and a spatial-temporal framework which could be used to identify geographic areas that could be transformed by environmental stranding risk into zones of activity or inactivity based on the prevalence of sunk costs, stranding risk and agglomeration economies. This builds on a comment by an interviewee, who highlighted that the complexities and uncertainties of the time frames around stranded assets was hindering uptake of the concept, with one asset manager saying "*if you had some models where you could point to stranding potential then that would be more helpful*" (UK09).

This chapter begins by developing the relationship and comparisons between stranded assets and sunk costs, arguing that stranded assets should be viewed as a mechanism through which costs of investment will increase and become irreversible. The chapter then proposes a new spatial-temporal framework through which to view stranding risk in different geographies and time horizons, building on literatures pertaining to sunk costs, relational economic geography and behavioural finance. It concludes by offering five research propositions which sum up interactions between environmentally-driven stranded assets and sunk costs, and provide a baseline for future research and thought on this topic. This chapter has been accepted for publication as Chapter 4 in '*Stranded assets and the environment: risk, resilience, and opportunity*', the first anthology on environmentally-driven stranded assets, edited by Ben Caldecott and due for publication in mid-2018 (Harnett 2018, forthcoming).

## 6.2 Stranded Assets and Sunk Costs

Stranded assets are likely to increase costs for companies and investors, and this chapter will outline the ways in which stranded assets share similar characteristics to sunk costs. Assets that are stranded are likely to represent sunk costs on balance sheets, and those firms with high sunk costs are also likely to lose out the most if their assets are stranded.

To establish such an association, it is important that the similarities, differences and interactions between stranded assets and sunk costs are understood. While sunk costs are traditionally seen as driven by economic factors, stranded assets are now being discussed in relation to environmental drivers (notably, physical and transition risks associated with environmental change [Caldecott, Howarth, et al. 2013; Bank of England 2015]), and this environmental stranding can be seen as an additional and separate cause of sunk costs compared to more traditional economic understandings of the drivers of investment cost decisions.

The analysis in this chapter builds upon Clark and Wrigley's (1995, 1997) economic geography framework of sunk costs, which identified the various types of sunk costs - set-up, accumulated and exit costs. In drawing comparisons and similarities between stranded assets and sunk costs, it is my suggestion that stranded assets are probably most likely to be visible as accumulated and exit sunk costs rather than set-up sunk costs. It is often assumed that those assets which are being stranded are ones that already physically exist, and that costs associated with stranding are sunk in relation to unobtainable future revenues, whereby both fixed costs and accumulated sunk costs to date are stranded (i.e. unrecoverable sunk costs). For example, in the event of

increasing extreme weather events, damage to uninsured or under-insured buildings or infrastructure could shift from being accumulated fixed and sunk costs to stranded assets and permanently sunk costs if the building is destroyed.

However, there are also some examples in which set-up sunk costs could be related to stranded assets, such as sunk costs associated with exploratory drilling in the extractives and fossil fuel industries which are then stranded due to a lack of investment or planning permissions because of environmental concerns, regulations or campaigns. Further, the growing risk of asset stranding could also raise the expected risk of entering a market if there are high set-up costs that have to be sunk and might be stranded in the short, medium or long-term. If a particular industry/region will be a focus of stranding, you will see fewer new entrants, potentially creating ‘zones of inactivity’, an idea which will be discussed in more detail in later in the chapter.

Clark and Wrigley (1995) highlighted four general characteristics of sunk costs, namely recoverability, transferability, longevity and recurrent financial need. In making the link between stranded assets as sunk costs, it is clear that stranded assets can be shown to have similar characteristics, and that the risk of stranding will alter the characteristics of projects’ sunk costs. These four characteristics should be considered in the decision-making around stranded assets as they are in the decisions of sinking costs. Sunk costs can be advantageous within a market, and are often necessary (Clark & Wrigley 1995; Bellalah 2003), but their benefits depend upon these characteristics:

- *Recoverability* of sunk costs refers to the negligible likelihood of being able to sell, or in some way retrieve, the value of the initial investment. In this way, stranded assets are examples of sunk costs, which by their very definition are ‘stranded’ and therefore not recoverable – in this way, stranded assets become sunk costs on investors’ and corporates’ balance sheets, and environmental risks are perhaps likely to increase the proportion of unrecoverable assets in the global economy.
- *Transferability* refers to the ability of investors or a parent company to shift the burden of sunk costs onto others. This determines the extent of the cost that will be borne. Fixed costs are likely to become sunk costs if there is a significant risk of asset stranding, unless there can be a transfer of the asset to a third party or a different purpose can be found for the asset. This depends on the substitutability of the assets and the willingness of others to take on the asset; infrastructure sunk costs could be repurposed away from servicing stranded assets in the fossil fuel industry, for example, and could therefore be transferable. However, if extreme weather causes asset stranding in a particular area and physical damage is done to a property, what was previously a transferable sunk cost has instead become a stranded non-transferable asset.
- *Longevity* speaks to the length of time over which a sunk cost has use-value. Under stranding scenarios, this is likely to be reduced as a result of premature write-downs and devaluations, but the longevity of assets exposed to stranding risk will vary based on a range of endogenous and exogenous factors. With both sunk costs and stranded assets, there may come a point in time where the use-

value of the assets are exhausted – and investors and companies who do not adequately prepare for such times will lose out. Environmental drivers could mean that assets become stranded more suddenly, and on a larger scale, than many investors expect in coming years, reducing the longevity of existing and future projects. If projects have high sunk costs but face declining longevity, costs are likely to rise and revenues fall – awareness of stranding risk will be vital to better analyse the risks to longevity of high sunk cost projects.

- *Recurrent financial need* identifies that different sunk costs have different financing needs, which is the same with stranded asset projects – some will have high initial set-up costs with low financing needs in the future, whereas others require on-going funding. The split of financing needs will have a significant impact on the risk to companies and investors in scenarios of high stranding, and the appetite for the projects could therefore change as stranding becomes more visible.

A clear connection is therefore visible between stranded assets and sunk costs. This section has drawn strongly on the work of Clark and Wrigley (1995), but importantly seeks to challenge, update and extend their economic geography framework of sunk costs. This 1995 paper has been widely cited as being a seminal paper in driving a consideration of sunk costs from merely the domain of economics onto the research agenda of economic geographers (c.f. Castree et al. 2004; Dicken 2011; Hassink 2010), with several authors extending the arguments of Clark and Wrigley to examine the role of sunk costs in determining spatial variations of economic activity (Melachroinos & Spence 1999; Dicken 2011; Hudson 2001; Schoenberger 1999).

Most of the criticisms of the Clark and Wrigley (1995) paper have come from those arguing that the scope of the application was too limited, and that its corporate-level investigation of sunk costs missed the broader regional and institutional picture, with work such as Phelps and Fuller (2009), Hassink (2010), and Melachroinos and Spence (2001) seeking to offer intra-corporate and regional economic geography lenses.

This chapter contributes and extends further the work of others through the focus on an individual investor-lens, which has so far been neglected in the academic literature on sunk costs but is a prominent perspective for the stranded assets and RI narratives. While critics have often questioned the scope of the Clark and Wrigley work, few have established a strong critique of the frameworks underpinning the chapter or the propositions tendered. Although not seeking to critique this framework, it is hoped that this chapter can extend, update and expand the theoretical framework through the application to stranded asset narratives and novel understandings of economic geography and behavioural finance which have been developed in the 20 years since Clark and Wrigley wrote their papers. Furthermore, the papers written on sunk costs, both from an economic and economic geography standpoint, focus on the economic causes and the policy/economic implications of sunk costs, but fail to identify the underlying environmental factors which could contribute to increased and unexpected economic sunk costs. Given the growing awareness of the economic implications of environmental change at a range of scales, from the asset- and company-level to the regional and global, it is important to address this gap in the sunk cost literatures.

Behavioural understandings of the decision-making processes of investors and individuals have advanced since the 1990s when Clark and Wrigley were writing, and

it is thus possible to shift from an institutional and organisational perspective towards one which emphasises the individual agency and biases which influence stranded asset- and sunk cost-related decision-making. Rational economic theory understandings at the time of Clark and Wrigley suggested that investors should not consider sunk costs in decision-making, but instead only consider future costs relevant to the investment decision (Arkes & Blumer 1985). However, more recent evidence from empirical behavioural finance literatures suggests that this theory does not stand up to real-world behaviour and that sunk costs do, in fact, influence investor decisions because humans are prone to loss aversion and framing effects (Kahneman 2011; Sewell 2007). This is important, as assuming that investors are not fully rational, both expected (future sunk costs) or historic sunk costs can influence decision-making, and stranded assets risks can therefore be argued to have a similar influence – with expectation and experience of stranding able to affect investment decisions. This can manifest itself in a tendency to continue an endeavour once an investment in money, effort or time has been made – the ‘sunk cost fallacy’ (Caldecott & Rook 2015a; Friedman et al. 2007; Putten & Zeelenberg 2010; McAfee et al. 2010). Such behaviour can also be linked to other biases and heuristics, including the endowment affect, status quo bias and loss aversion (Caldecott & Rook 2015a; Kahneman & Tversky 1979; Kahneman et al. 1991). Importantly, this suggests that investors who have assets in their portfolios which have required previous sunk costs are perhaps more unlikely to divest from them regardless of the risk of asset stranding. This can be seen in the continued holding of oil and gas majors (and other carbon dependent stocks) that have already suffered some stranding in the portfolios of institutional investors.

Based on the original work of Knight (1921), it is assumed in this chapter that ‘risks’ refer to circumstances where the probabilities that particular outcomes or consequences will occur in the future can be known. In contrast, ‘uncertainty’ reflects decisions for which probabilities cannot be known or estimated. Such definitions are an important factor in the distinctions between sunk costs and stranded assets. Generally, when investors are dealing with standard sunk cost decisions, they are dealing with risk, as they know that they will (sooner or later) face sunk costs. Stranded assets, however, could complicate such notions of sunk costs, as environmental change and the transition to a lower carbon economy add more uncertainty into decision-making processes.

Certain environmental factors are known risks that will impact financial portfolios, such as more frequent heat waves, increased severity of storms, an increase in crop failures, and a rise in global sea levels (IPCC 2014). Although the exact timing and magnitude of these risks is not necessarily known, they can be modelled and the risks integrated into political and economic decision-making. However, other potential consequences of climate change remain ‘uncertain’ and are as-yet unknown probabilities, including the likelihood of socio-political action adaptation and the impacts of ‘feedback loops’ on the climate system (UK Climate Impacts Programme 2003). While stranded asset ‘risks’ therefore increase the need for investors to model their exposure to increased sunk costs, they should also be aware of uncertainties in the social, environmental, political and economic systems which could result in unexpected and unprecedented sunk costs across geographies and sectors. However, it is very hard to plan for uncertain futures (Knight 1921), so it is assumed that although aware of some uncertainties involved, investors will focus on modelling and

managing known risks and it is for this purpose that the next section outlines a spatial-temporal framework of assessing stranded asset risk.

### **6.3 Towards a Spatial-Temporal Framework of Stranded Assets**

So far, this chapter has purported that stranded assets should be thought of as increasing sunk costs so they are seen as both having immediate and long-term investment implications. This section seeks to outline a spatial-temporal framework of stranded assets, which shows that stranded asset (and sunk costs) are more likely to have a high risk over long-time periods and over wider geographic distances. Investors are not homogenous, and so face a range of exposures across their different geographies and time frames (e.g. higher risk for direct capital-intensive investments than diversified listed equity portfolios, for those investors in geographies with high risk vs. those with low physical climate risk). This work builds upon a strong literature of spatial-temporal frameworks used to distinguish patterns and analysis across multiple geographies and time horizons, including in economic geography (Ratcliffe 2004; Herold et al. 2003; Dietzel et al. 2005) and climate change (Eckert et al. 2010). Such a spatial-temporal framework is being proposed as a check-list of factors which investors should include in their existing project and investment analysis to think through their own exposure to stranding and sunk cost risks, either at a portfolio or individual project level. Once risk exposure has been established, further methodologies could be adopted to measure the value at risk in different scenarios and portfolios, and reduce exposure (as recommended in, TCFD 2017). Although this chapter focuses on asset owners and asset managers, such a check-list could also be used in wider public and private investment decisions.

Before going further, it is important to briefly explore the changing dynamics of time and geography in recent years, building on the seminal works by David Harvey (1991) and Manuel Castells (1996) who have explored issues around space-time compression. Both authors focus on the importance of space and time as social phenomena constructed by economic processes, and have argued that recent economic globalisation and urbanisation have shrunk space and time relations within society. Modern infrastructure and technology have facilitated such changes, including reducing the role of physical distance and speeding up processes and interactions (Knox-Hayes 2010; Tickell 2000a; Dixit & Pindyck 1994). Investors are now exposed to multiple geographies, far beyond their own networks of influence and expertise, through the complex infrastructures of modern stock exchanges, investments in transnational companies and foreign direct investment (Wójcik 2009; Dicken 2011; Clark & Monk 2017b).

However, this speeding-up of our economic and social interaction is at loggerheads with the 'glacial time' of nature and the environment, which exists according to its own timeframes and interactions (Castells 1996, p.467). The growth of carbon markets and the integration of climate risk into decision-making has meant that investors are having to reassess the speeds and distances of their economic activity to better reflect the space-times of nature (Knox-Hayes 2013; Knox-Hayes 2010), including the use of virtual finance markets to allow the incorporation of future events in decision-making through instruments such as options and derivatives.

It is thus becoming clear that investors must consider the environmental processes that their complex portfolios and projects are exposed to both over multiple

geographies and multiple timeframes, which are at one time both compressed and multifaceted. Stranding risk is one example of such a dynamic, with both the long-term and short-term risks associated with environmental change and the transition to a low carbon economy able to affect investments in a range of locations within a single portfolio. It is clear, therefore, that producing check-lists, guidelines, and frameworks which can help to clarify the characteristics which investors should be paying attention to can be helpful, illuminating the different spatial and temporal factors likely to be at work, although it should also be clear that these will be investor, project and context specific.

The following check-list is necessarily not exhaustive, and should be used in the context of existing investment decision-making tools. I suggest that nine characterisations can be used as a check-list to help identify the level of risk of stranded assets, in the context of the earlier comparison to sunk costs, knowledge of the causes and impacts of stranded assets, and temporal, relational and spatial understanding of economic geography and behavioural finance. These factors are:

1. Information availability – this will determine the level of risk and uncertainty surrounding an investment, and is likely to be greater over shorter distances and longer time horizons.
2. Collaborative opportunities – this affects investors’ ability to form investment consortia, get information and influence company and policy decisions. They are likely to be greater over shorter distances and longer time horizons due to the development of trust-based relationships.
3. Environmental risk – fundamental for determining physical exposure to

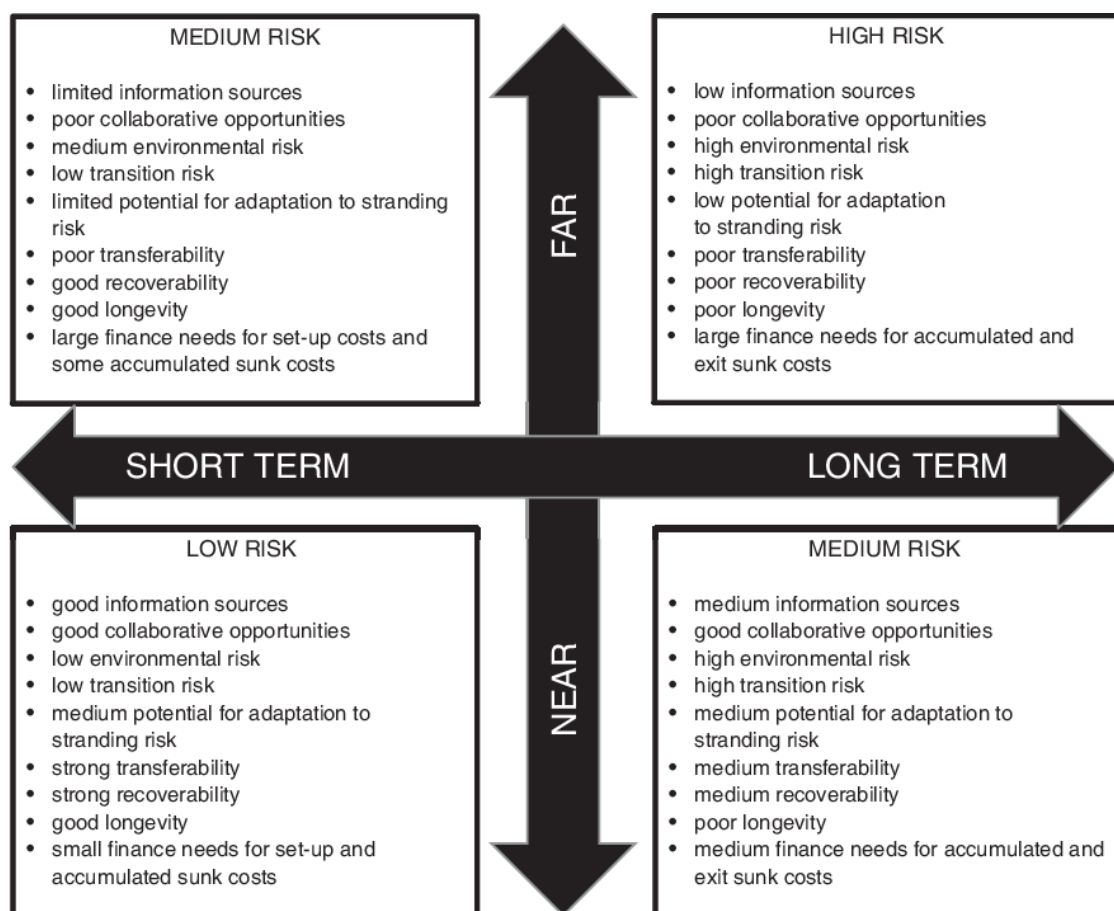
environment asset stranding, environmental risks will vary from place to place and between individual assets, projects and companies, and are likely to increase over time.

4. Transition risk – key to understanding the market-based, regulatory, technological and reputational risks associated with the low-carbon transition, these risks will increase over time and vary geographically.
5. Adaptation capacity - this will help determine the extent and impact of environmental asset stranding in a region, and will vary over time and space and the degree of cooperation exhibited by public and private sector.
6. Transferability – a key determinant of whether investors will face sunk costs as a result of stranded assets or can transform (or sell on) the asset or company to more productive future uses, and is likely to be greater at shorter relational distances.
7. Recoverability – affecting the extent of asset stranding being a sunk cost, this determines the margins at which investors can recoup an investment. Likely to be higher in the short-term.
8. Longevity – this will affect exposure to climate and transition stranding risk, and will necessarily decline over time.
9. Financing needs of assets – the higher the financing need, the greater risk to investors, particularly over long time frames and greater geographic distance due to the risks and uncertainties associated with such assets.

It is through such an analysis that investors can perhaps begin to understand the cost and risk implications of asset stranding within their portfolios. It is apparent that they vary over time and space, and it is therefore possible to start to develop a preliminary

assessment of how different investment risk analyses might look based on investors' exposure to each characteristic, although this will necessarily vary based on individual and institutional investment factors. Such a framework is outlined in Figure 6.1. As is perhaps expected, stranding risk is likely to be greatest over long time frames and long distances if these characteristics are considered.

**Figure 6.1. Framework for identifying stranding risk. Source: Author**



Although this is a useful basic framework to highlight the different risk factors affecting likely experience of stranded assets and associated set-up, accumulated or exit sunk costs, it also can demonstrate that short-term risks do exist, although are likely to be smaller. However, in reality, the conceptualisations of investment are never quite this simple. Temporal aspects of investment decisions need to be properly

considered and problematised. Time frames are vital to investor decision-making (Dixit & Pindyck 1994), but are a potential pit-fall with regards to stranded assets, as many investors focus on the long-term risk without properly assessing their short-term risk as well. As such, it is advised that an investor should assess the items on the check-list across a continuous spectrum of time to better incorporate such a spatial-temporal framework. It is assumed in this framework that information (Factor 1 in the above check-list) improves over time, but that environmental risk, transition risk, adaptive capacity, and the transferability, longevity and recoverability of assets all deteriorate over time (Factors 3 to 8).

Time horizons affect both investors' exposure to, and psychological capacity to consider, stranding risks, with short-termism and the 'tragedy of the horizons' among the greatest barriers to the integration of environmental factors into investment decisions (Carney 2015; Kay 2012). This is particularly the case for large infrastructure projects, which historically have often been over-budget and off-schedule due to the complex decision-making and realities of their design and implementation (Buehler et al. 1994; Flyvbjerg et al. 2009). However, these problems could be exacerbated by physical and transition risks and uncertainties, further undermining the timeframes and increasing the sunk costs associated with such projects (Hallegatte et al. 2012). Deciding what the relevant time-line to judge a particular project over is thus difficult in the context of sunk costs and stranded assets, given the fact that asset stranding could either be a long-term and slow process (e.g. gradual degradation of land/water quality affecting production), or a short-term and sudden process (e.g. flooding inundation destroying property, rapid regulatory change). As such, being aware of the different types of risks and uncertainties facing

an investment from environmental factors can help investors rethink their time horizons and exposure to sunk costs and investment risk.

An important contribution of this chapter is to highlight the importance of geography in determining investors' decision-making capacity and biases. As such, it is argued that investors' relative and relational geography will influence their risk profiles – whether investors are located 'near' other investors and are close to the financial markets and agglomerated economies will determine their access to information (Factor 1) and their exposure to certain sunk cost characteristics (such as collaborative opportunities and transferability, Factors 2 and 6), as well as their exposure environmental and transition risks (Factors 3 and 4) (Clark et al. 2000; Dixit & Pindyck 1994; Porteous 1995). Geography can be defined in a number of ways, and is therefore to be interpreted within this framework as relative distance (near vs. far) compared to other investors and compared to other investment projects.

However, the international nature of modern global production networks and financial markets obfuscate these notions of a linear geography. For example, the geographies of investment in Arctic oil and gas exploration are complicated when considering the myriad stranding and environmental risks involved in any investment decision, as illustrated by the range of factors included in the check-list. The corporations involved in such endeavours tend to be located near to investment centres, with key decision makers (including regulators, policy makers, corporate executives) all in relatively close proximity to the investors themselves and therefore (comparatively) available for information, collaboration and lobbying/engagement. However, the physical risks are typically much more remote, located in the Arctic where oversight

of the project and information about the physical environmental risks are much more unknown. Investors should thus consider both the close and far relational geographies of asset stranding. Regardless of this complexity, it is assumed that geographical distance will reduce access to information and collaborative opportunities (Factors 1 and 2), lower adaptive capacity (Factor 5), reduce transferability (Factor 6), and increase financing need (Factor 9), due to lack of scale economies and network effects. Investors should therefore be aware of the non-linear geographies involved when considering their exposure against this framework.

It is perhaps helpful to explore in more detail the different geographies at play in the framework, providing greater insight into the context of the geographies of stranded assets and sunk costs from the investor's perspective. Firstly, it is important to briefly consider the physical economic geography of stranding risk, building on the long line of economic geographers who have discussed the importance of geography in determining the location of economic activity (Dicken 2011; Clark et al. 2000; Sheppard 2002; Clark & Wrigley 1997). Physical geography can, in particular, affect an investments' exposure to both physical and transition risks associated with environmental change which directly affects exposure to stranded assets (Factors 3 and 4) (Carbon Tracker 2013b; McGlade & Ekins 2015). Investors should therefore ensure that they are not over-exposed to only a few high-risk areas, which could become 'zones of inactivity' (Clark & Wrigley 1995) as a result of concentrated asset stranding, and should be aware of the climate and socio-political environments in which they are investing. This should encourage investors to adopt a more distributed model of investing, with diversification reducing the risk of 'accidents of geography or history' associated with the agglomeration of sunk costs and economic activity in a

few individual locations (Clark & Wrigley 1995). However, diversified locations could perhaps face greater initial sunk costs due to poorer economies of scales, including a lack of existing infrastructure and labour pools resulting in the need to invest in physical and educational capital as sunk firm-specific costs (Clark et al. 2000; Amin & Cohendet 2004).

Behavioural finance literatures also suggest that investors will have different capacities to consider stranding risks based on their availability heuristics linked to their investment geographies (Kahneman 2011), with investors in Australia who have seen significant water stress and extreme weather events in recent years perhaps more likely to account for environmental stranding risk (Factor 3) than those in London or New York (Harnett 2017b). Similarly, those investors and networks used to investing in markets with rapid regulatory change and technology changes (such as those in Silicon Valley, perhaps) might be more likely to consider the transition risks associated with stranded assets (Factor 4). Further, those nations and markets with stronger economic performance will perhaps also have greater capacity for both public and private adaptation to environmental catastrophe (Factors 2 and 5). As such, physical geography, and the location of both investors and their investments, can have a significant impact on a number of factors within the framework espoused above.

In addition to physical geography, it is also important to acknowledge the important influence that relational economic geography will have on stranded asset risk, and its relevance to this framework. Relational approaches assume that spatial structures, including the location of economic activity in the forms of cities, assets etc., are created by social processes, including through ‘local buzz’ and ‘global pipelines of

networking' (Bathelt & Glückler 2003; Hassink & Klaerding 2009). Stronger relational proximity within cities can improve access to information networks and knowledge sharing within and between financial centres (Bathelt & Glückler 2003; Amin & Cohendet 2004), as discussed in Chapter 5. Location and engagement within a financial centre's myriad of networks can increase an individual's relational ties, trust-based relationships, and social interactions, improving their access to information about stranded asset risk from a range of financial and non-financial actors. These networked knowledge spill-overs, defined by Griliches (1992, p.36) as when individuals and institutions 'are working on similar things and hence benefitting much from each other's research', could, for example, have a direct impact on analysis of stranded asset risk, the development of regulations around climate change, and the mutual sinking of costs into large scale low-carbon technologies (affecting Factors 1 and 2). Further, this relational proximity can also affect investors' susceptibility towards availability and confirmation bias (Tversky & Kahneman 1973). It is assumed that relational proximity will increase the quantity of information and peer learning relating to stranded assets and RI topics more generally, based on the findings of research outlined in Chapters 4 and 5.

Relational proximity can also increase investors' ability to benefit from economies of scale, and increases the transferability of sunk costs and stranded assets alike due to the bigger pool of potential investment consortiums and coalitions of project partners available to share the risk (Factor 6). This is perhaps also likely to increase capacity for co-funded and collaborative adaptation and mitigation to environmental changes in these regions, so sunk costs amongst potentially stranded assets could be lowered through reduced long-term climate changes and the co-creation of economies of scale

in renewable and other low-carbon technologies and infrastructure (Factors 2 and 5). This low-carbon transition can be further enabled if investors work together with policy makers, corporations and civil society. Pressure on companies to disclose and reduce their stranded asset risk is gaining traction within the market due to such collaborative efforts, with investors joining forces through shareholder resolutions, collaborative engagement initiatives such as ‘Aiming for A’<sup>24</sup>, and through broader engagement with policy makers and regulators such as the G20 FSB Task Force on Climate Disclosures.

Whilst these arguments suggest that relational proximity can increase an investors’ propensity to consider stranded assets, behaviour and responses will depend on the networks, cultures and groups that the investor belongs to, and the engagement on the topic with their peer group. The danger is that this could amplify the risk of confirmation bias, which is the tendency to seek or interpret evidence in ways that are partial to existing beliefs or expectations (Kahneman 2011; Jones & Sugden 2001). This could have the effect of reducing the likelihood of changing investment practices or beliefs (Nickerson 1998). If investors are only spatially and relationally proximate to other investors who are not familiar with the term stranded assets, then geography could act to reinforce existing attitudes to environmental risk and ignorance of stranded assets, and by extension reduce the information availability, collaborative opportunities for investment and adaptation, and awareness of environmental and transition risks listed in the framework (Factors 1 to 5). This can easily be linked to other behavioural biases of groupthink and herding, whereby if a group is aware and

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<sup>24</sup> The ‘Aiming for A’ coalition of investors is focused on undertaking in-depth engagement with the ten largest UK-listed extractives and utilities companies, seeking to use their combined voice and expertise to effect broad changes in practices. More information can be found at: <http://investorsonclimatechange.org/portfolio/aiming-for-a/>.

concerned (or not) by stranded assets they are likely to act (or not) (Turner & Pratkanis 1998; Bursztyn et al. 2014). However, once a network is aware of the term, action could be catalysed quickly through collaboration, with relational theories discussing the ways in which informal ideas and behaviours can transition into formal ones (including being adopted into law and regulations) through ‘continuous reproduction’ (Bathelt & Glückler 2003). Widening the discussion of stranded assets, perhaps through the emphasis on stranded assets as a form of sunk costs, could help facilitate a broader awareness and integration of environmental risks and uncertainties into decision-making.

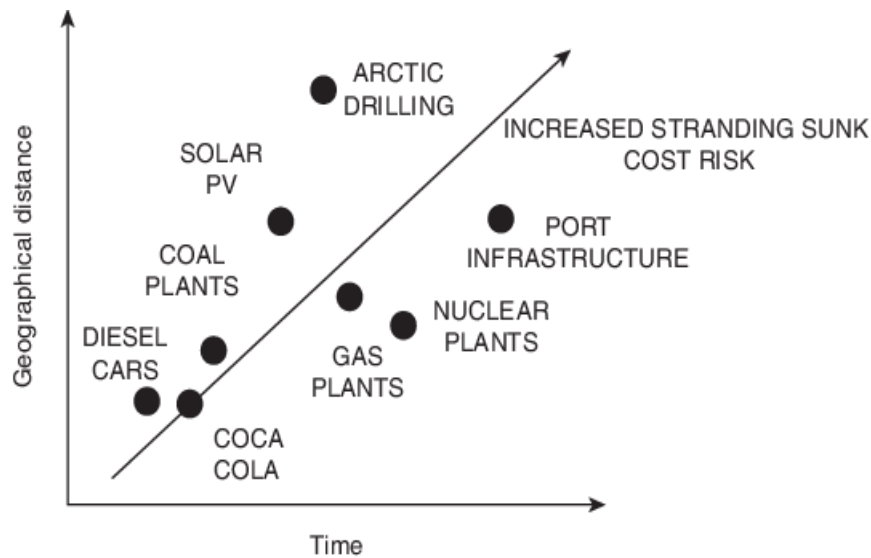
Financial investors are necessarily both competitive and collaborative, and such informal and interpersonal relationships within (and often between) leading financial sectors are argued to be an ‘important lubricant of international finance’ (Thrift 1994; Clark et al. 2000). It is these local and global relationships (Morrison et al. 2013; Bathelt et al. 2004) that can influence decision-making around stranded assets as well as directly affect their exposure to stranding risk and their valuation of sunk costs.

As such, all investors should consider their exposure to sunk costs when investing, particularly in project and physical infrastructure investment (as opposed to the more flexible equity markets). Reframing stranding risk in terms of sunk costs could help provide a compass to investors who are less aware of the material risks associated with environmental changes over different time frames and complex geographies, including helping to highlight industries and regions which could become ‘zones of activity or inactivity’ as a result of environmental stranding.

## **6.4 Applying the Spatial-Temporal Framework of Stranded Asset Risk**

The above section sought to theorise the links between stranded assets and sunk costs through an outline of the basic assumptions and potential complexities of a spatial-temporal framework. To illustrate further the relevance of such a framework, this chapter will conclude with a number of examples and propositions that can be analysed on a continuous scale of time and geography to further infer that stranding risk will likely increase with time and geography. This should help demonstrate the relevance of sunk costs and highlight the notion that stranded asset risks are not exclusive to the fossil fuel sector or even high-carbon investments, and emphasise that environmental change could lead to geographic and industrial ‘zones of inactivity’ if regions or sectors affected by stranded assets are not sufficiently diversified or resilient. Eight examples will be briefly outlined and plotted according to the framework outlined above (Figure 6.2). They further exemplify some of the complexities within the framework and demonstrate the broad range of investments to which such a framework could be applied and useful. Five propositions are then outlined to sum up interactions between environmentally-driven stranded assets and sunk costs, and provide a baseline for future research and thought on this topic.

**Figure 6.2. Application of framework to specific examples. Source: Author**



**Coca Cola Bottling Factory, India** – As local people took to the streets in Uttar Pradesh complaining that their ground water was being depleted and polluted, corporate executives thousands of miles away faced a growing reputational concern and a potential set of stranded bottling plants as local governments took note of the growing unrest and ordered Coca Cola to close its factories in the area (Harnett et al. 2014). This loss of social and political license to operate forced the closure of assets indirectly as a result of environmental damage, and shows the complex geographies involved in global production networks. Geographic distance between the factory and corporate Head Quarters arguably enhanced the risk, due to a failure of executives to comprehend the level of local unrest at the plant and fully comply with local environmental regulations, although the financial impact of the sunk costs on the corporation and investors is likely to have been small. Although water is a long-term climate risk, individual environmental (e.g. flood/drought) and social (e.g. protests, overconsumption) events can cause sudden stranding.

**Diesel Car Manufacturers, Europe** - Following the (largely unpredicted) VW scandal in 2015, diesel manufacturers have faced a significant set-back as a result of more stringent regulatory enforcement and social pressure (Blackwelder et al. 2016), forcing many to cut back on production and announce greater shifts in corporate investment towards electric and hybrid vehicles (Cremer 2017). Several leading manufacturers are also facing direct financial sunk costs as a result of legal liability for deceiving regulators and consumers (Tovey 2017). Furthermore, governments are now offering compensation to diesel car owners to voluntarily scrap their cars, creating a fleet of stranded cars in a bid to improve the environment in over-polluted cities. Transferability of factory technologies and infrastructures from diesel to electric production will be key to determining the extent of asset stranding and exposure to sunk costs, with asset stranding of fossil-fuel-reliant transport arguably a short- to medium-term risk as the transition appears to be well underway (Simms 2015).

**Gas Power Plant, Europe** – Many consider that gas power will enjoy a boom in demand as a result of the low-carbon transition as the energy landscape shifts away from the most polluting power sources of coal and oil (IEA 2013). European investors have ploughed money into a new generation of high-efficiency gas power plants on the understanding that these offer a longer-term fossil fuel future. However, many did not expect that such a rapid decrease in electricity demand following the Global Financial Crisis, changing fuel prices, the growth of renewable demand and depressed carbon prices could result in a number of stranded assets and higher sunk costs for investors (both public and private) in European gas power plants (Caldecott &

McDaniels 2014). These risks have materialised over the very short-term despite gas power plants being seen as relatively stable long-term investments.

**Coal Power Plant, USA** – Coal power plants are often associated with asset stranding, particularly since the combination of falling coal prices and a growing environmental regulatory pressure from national initiatives launched during the Obama administration have caused the premature closure of a number of power plants in the US and bankruptcy of several leading coal companies (Caldecott et al. 2015). Only a few years ago, the scale of stranding and bankruptcy would have been almost unimaginable for many investors, showing the potential for sudden shifts when a combination of forces are at play even among companies with strong investor relations and policy influence. High sunk costs and low recoverability/transferability have contributed to this, alongside strong market transitions – regardless of President Trump’s campaign pledge to ‘bring back coal’ it is perhaps unlikely to reverse clear trends towards stranding globally (Fears 2017).

**Nuclear Power Plants, Europe** – Single events can cause significant asset stranding both directly and indirectly, and across different geographies. This was seen following the nuclear disaster at Fukushima, Japan with the plant immediately stranded as a result of an earthquake, but this also had wider repercussions for nuclear investments including in Germany, where the nuclear fallout from Fukushima (and previously Chernobyl) caused a significant shift in policy and public appetite for nuclear power, and caused the stranding of existing facilities with significant sunk costs as a result due to the lack of transferability and recoverability (Dobbs et al. 2011; Carbon Tracker 2013b). Although nuclear power is seen as a long-term investment, and is

argued by some as necessary for the transition to a lower carbon economy, sudden events such as Fukushima and longer-term regulatory changes alongside the energy transitions could have significant impacts on local, regional and global investment in nuclear power (IEA 2013).

**Solar Photovoltaic (PV) Infrastructure, US** – Imagine you invested in solar PV technologies in 2005, more than a decade later and the technological innovations have been great. Those 2005 technologies are now out-dated, and it is likely that it would be more efficient to simply purchase and install new technologies. Although many associate stranded asset risk with fossil fuels and other carbon-intensive industries, renewable energy and clean-technologies are not immune from transition risks (IRENA 2017). The relatively new market also presents significant regulatory risks, as has been seen in changes to subsidies and tariffs (Shankleman 2015).

**Port Infrastructure, Australia** – Coal from the Australian outback has been fuelling the booming economies of South East Asia for a number of years, but demand has put pressure on existing infrastructure (Caldecott, Tilbury, et al. 2013). Discussions are underway to develop new port infrastructure in Queensland to help deliver future coal to the Asian market. However, investments face stranding risk as a result of physical climate risk relating to sea level rise over the long-term, but also face medium- (and even short-) term regulatory and market transition risks which threaten both long-term sustainability of coal export demand and supply, and social and political planning licenses in ecologically-important areas, most notably near the Great Barrier Reef (Carbon Tracker 2013a; Carbon Tracker 2015c; Lou & Ottery 2015). This has the potential for high sunk costs due to the lack of recoverability if assets do become

stranded – such large ports in Queensland rely on fossil fuel demand.

This chapter has sought to provide a preliminary spatial-temporal framework for the consideration of stranded assets through the use of a sunk cost lens. It is clear that investors should be aware of the myriad risks and opportunities presented by stranded assets, but that these risks are likely to increase both over longer time horizons and over greater geographic distance (both physical and relational). Through the adoption of the lens of sunk costs, this chapter has sought to suggest a framework of characteristics that could help investors consider and analyse their stranded asset risk within their existing investment decision-making processes, thereby helping mainstream investors better incorporate environmental risks into their portfolios.

However, this has been a necessarily limited exploration of the potential for such a framework and research stream, and it is therefore perhaps useful to outline a number of propositions which sum up interactions between environmentally-driven stranded assets and sunk costs, and provide a baseline for future research and thought on this topic. These build upon the propositions of sunk costs in an economic geography framework espoused by Clark and Wrigley (1995), but focus on a framework for sunk costs under the influence of asset stranding.

**Proposition 1: Stranded assets likely to increase sunk costs**

This can be shown through a brief study of Mata's (1991) definition of sunk costs, which empirically describes the nature of sunk costs, and how they can be calculated. I will briefly show how stranded assets can be shown to be a cause of, and example of, sunk costs:

$$\text{SUNK} = \text{KR} (1 - n \text{ ANDEP}) (1 - \text{RESEL})$$

where KR is the initial capital investment, n is the expected number of years that an entrant will be in the market, ANDEP is the annualised depreciated proportion of KR at the time of exit and RESEL is the recoverable portion of that investment. This equation can help demonstrate the theory behind the assumption that asset stranding will necessarily increase sunk costs. Stranded assets, by their very definition, are expected to reduce the number of years that an investment will be profitable in the market, and reduce the recoverable investment, whilst increasing the proportion of capital that is depreciated. The framework established in this chapter, based on behavioural finance and relational economic geography suggests that stranding risk is likely to increase sunk costs the most over longer time frames and in more remote spaces of investment.

**Proposition 2: Sunk costs are not without merit – but this merit could be enhanced or undermined by stranded asset risk depending on the type of investment**

Clark and Wrigley (1995:213) proposed that ‘sunk costs are hardly ever without merit’, arguing that set-up sunk costs are a necessary condition for efficient and innovative strategic shifts in competitive markets. Furthermore, they argued that sunk costs could give significant first-mover advantages and demonstrate intent in the market. Whilst not undermining this point, under the conditions of asset stranding it is clear that sinking costs in an industry likely to suffer from premature write-downs and significant asset stranding in the future are less likely to have merit, particularly in the

long-run and in geographies lacking the benefits of economies of scale. However, sinking costs in industries that are likely to outperform in the transition to a lower carbon economy could, indeed, provide significant competitive advantage. It is thus clear that the potential recoverability, transferability, longevity and frequency of financial commitment needed should be explored in the context of asset stranding in analysing the likely merits of sinking costs.

**Proposition 3: Stranded assets could increase the sunk costs associated with market entry and act as a barrier to project set-up**

Although stranded assets are often associated with market incumbency and exit, increasingly investors and companies alike will need to make market entry decisions based on the risk of stranded assets given the increased risk that costs could be sunk. For most companies, there are significant set-up costs involved in entering a market, many of which have limited salvage value, and the recoverable value and length of time that an entrant can be in the market could decrease as a result of asset stranding. The need to sink costs can therefore be a barrier to entry in an industry where stranded assets are likely, potentially leaving regions as ‘zones of inaction’ due to their inoperable stranding risk meaning that new industry locates elsewhere (Clark & Wrigley 1995, p.213). However, sunk costs as entry-barrier investments also increases the risks faced by incumbents, as new entrants can learn from incumbents’ mistakes and successes in terms of stranded asset experience, with new entrants able to analyse incumbents’ history and geography of asset stranding and better prepare for the low carbon economy.

**Proposition 4: Stranded assets are likely to increase the prevalence of sunk costs associated with exit strategies**

Stranded assets are naturally associated with exit strategies much more readily than literatures on the economic geography of sunk costs, and this frame could enhance the existing paucity of research exploring the nature and characteristics of sunk costs related to the implementation of exit strategies. Clark and Wrigley (1995:213) argued that the study of sunk costs is ‘literally the logic of spatial persistence’, purporting that the study of sunk costs in relation to exit strategies is equally as important as market entrance costs. By increasing the risk of different geographies, industries, and assets facing stranding, market exit is more likely as companies and investors will struggle to make long-term profitability in these at-risk sectors and geographies. Further, using a framework of sunk costs can help those considering the risks related to stranded assets, better facilitating a long-run investment outlook through highlighting the financial risks of stranding at the market exit, which is a time-frame often negated by investors with a short-time horizon.

**Proposition 5: Geography of stranded assets and sunk costs can contribute to zones of economic activity and zones of risk**

As discussed in the previous section, geography has a strong influence over the risk of stranded assets, but also the experience of sunk costs. Sunk costs will be higher in remote geographies, and can therefore create zones of inaction or persistence (Clark & Wrigley, 1995). This can be accentuated by agglomeration scale economies, and information availability through relational proximity to fellow investors and sector-

specific knowledge and infrastructures amongst companies. The geographies of stranded assets are likely to combine further to create zones of high and low investment risk and cost and this is likely to cause further clustering of industry but not necessarily in the same locations as at present over the long-run due to the changing geographies of productivity and risk under future climate change. Although ‘zones of activity and inactivity’ already exist due to geographical, environmental and economic factors, stranded assets and their related sunk costs are likely to alter the geographies, creation and persistence of such zones, and this could be a productive and important area of future research.

## **6.5 Conclusions**

This chapter has sought to answer a call highlighted in Chapter 5 for the translation of RI concept into investment-relevant languages. In doing so, it has shown that stranded assets can be seen as a version of sunk costs, and has outlined a conceptual framework for one way in which RI could be integrated into existing individual decision-making of investment professionals. This chapter has represented a shift in focus of this thesis from the first two empirical chapters which outlined the landscape of RI learning and information, with Chapter 7 furthering this shift by exploring how RI knowledge and practice can be integrated at an organisational, rather than individual scale. This chapter has posited that ESG data has not caused greater upscaling of RI due to the fact that RI terms and concepts are not yet part of the mainstream lexicon, and that the geographies and time frames of environmental risk are not yet sufficiently understood. This chapter has therefore sought to contribute translation and conceptual frameworks of the term stranded assets to show how

mainstreaming could be further encouraged, with such understandings possibly facilitating greater uptake of ESG information and RI.

Stranded asset risk is a growing concern among those aware of the environmental transition underway, but remains an oft-intangible concept for the majority of investors given the complex uncertainties, time frames and geographies involved in calculating exposure to such risks at a portfolio or asset level. As such, this chapter has used insights from Clark and Wrigley (1995; 1997) to establish the comparison and association between stranded assets and sunk costs to emphasise the ways in which environmental considerations can affect investment decisions at all stages of investment cycles – from project/company establishment, to accumulation and market exit. This is a useful theorisation of stranded asset risks, contributing to a young, and largely empiric, literature on the topic that has risen up policy and investment agendas since its inception within RI narratives in 2012 (HSBC 2012; Caldecott, Howarth, et al. 2013; Harnett et al. 2014; Caldecott et al. 2016).

This chapter has used economic geography and behavioural finance concepts to show that environmental risks can be integrated into investors' existing decision-making frameworks of risk and uncertainty through their impact as an actual or potential sunk cost. It has been shown that the key characteristics of determining sunk costs – outlined in Clark and Wrigley (1995) as recoverability, transferability, longevity, and financing needs – can all be associated with stranded assets. Not only are stranded assets related to sunk costs, but the environmental factors driving asset stranding are likely to increase the experience of irreversible costs over both short and long-term investment horizons. Investors are perhaps more used to considering long-term risks

involved in sunk cost decisions, so such an insight and framework could improve investors' capacity to consider and integrate asset stranding risks in their decisions, as well as facilitate a clearer understanding of the financial materiality of environmental risk across multiple geographies and time frames.

Through the expansion and update of Clark and Wrigley's (1995) economic geography framework, including applying insights from relational economic geography and behavioural finance, this chapter has highlighted key characteristics that should aid investors in considering their exposure to stranded assets and contributed to the novel expansion of economic geography theory to the topic of stranded assets: by highlighting the factors which will cause stranding risk to be higher across greater decision-making distances, and by illustrating the opportunities for the creation of zones of activity and inactivity based on current and future environmental stranding risks.

It is shown that stranding-related sunk costs are impacted by, and have an impact on, relational and relative economic geography. Importantly, it has outlined a check-list and spatial-temporal framework which could help identify environmental risks in portfolios over varied geographies and time-frames, but also could help illuminate areas in which stranding could create zones of activity and inactivity due to the prevalence of sunk costs and agglomeration economies. Those regions with high exposure to stranded asset risk, weaker networking and co-financing opportunities, and smaller scalar economies are likely to experience higher sunk costs relating to stranded assets, and could therefore face higher barriers to economic activity creating relative zones of inactivity. Awareness of the irreversibility, longevity, transferability,

and frequency of financial commitment needed to sustain an investment could be key to analysing investor liability and risk from stranding assets, and directly relates to investors' geography and time horizons.

Concepts from economics, behavioural finance, and both institutional and relational economic geography have been applied to outline the multiple ways in which geography affects investors' capacity to consider and exposure to risk from stranded assets and sunk costs. Importantly, this has further emphasised the idea outlined in Chapter 5 that the spatial and relational proximity of investors to their peers, agglomerations of investment, and to their individual investments can affect information availability, knowledge and risk relating to both stranded assets and sunk costs, affecting the ability to reduce the risk, collaborate towards adaptation and innovation, and integrate RI within mainstream decision-making.

Furthermore, geography is shown to directly impact exposure to and awareness of environmental and transition risks, and as these increase in the coming years and as investments continue to be made both locally and globally, it is likely that mainstream investors will need to consider the bottom-line impacts of the geographies of ESG risks regardless of their broader commitment to long-term views of RI. Ensuring that investors understand ESG processes, geographies and concepts is therefore of great importance to investment and environmental risk management, with a lack of understanding limiting current uptake of ESG data and RI knowledge and practice.

This chapter has highlighted opportunities for investors to better integrate stranded assets into their decision-making frameworks through the conceptualisation of sunk

costs. Importantly, it has outlined propositions for the development of future research along these lines, and - building on the findings of Chapter 5 - calls for more research that can help translate RI narratives into investor-relevant languages to better facilitate the integration of environmental topics into mainstream investment decision-making. Whilst this chapter has helped to translate stranded assets into existing decision-making frameworks of individual investors, Chapter 7 will explore the extent to which RI can be adapted and adopted within organisational structures of knowledge and practice, using the example of investment consultants due to their important controversial ESG capacity as key education and service providers within the investment chain, based on findings of Chapter 4.

## **Chapter 7. Investment Consultants and the Shift to RI Provision: Capacity and Willingness to Innovate**

### **7.1 Introduction**

Investment consultants (ICs) operate at the nexus between asset owners and asset managers, advising on and facilitating the allocation of institutional investment assets. They provide knowledge-based services, contributing to expertise, knowledge and information – all of which are highlighted as key themes of this thesis vital to the mainstreaming of ESG into the investment industry. Chapter 4 highlighted that ICs have an important social and asocial knowledge role throughout the innovation-decision-making processes of investors. ICs have traditionally provided strategic advice to trustees about investment strategies, asset allocation and asset manager selection, acting as investment experts for both the operational and legal benefit of trustees (Clark & Monk 2016; FCA 2016). However, in recent years some ICs have diversified their investment management services to include manager research and analysis, monitoring and reporting on asset manager performance, as well as direct fiduciary management of client funds (ClientEarth 2017).

As such, it is clear that the scope of IC activities has waxed and waned as individual companies and the industry itself have sought to innovate and adapt to significant shifts in investment markets. Failure to move with the market would likely be disastrous, as they are knowledge-based, demand-driven entities (Clark & Monk 2017b; Clark & Monk 2016). It is from this perspective that Caldecott and Rook (2015b, p.13) argued that a failure to provide RI advice and services ‘may cause the

relationships and reputations of ICs (i.e., their primary assets) to become stranded’, due to the rise of RI demand in institutional investment markets. Furthermore, if ESG information and knowledge are to be mainstreamed, ICs will need to be a key part of this process, given the multi-faceted role in guiding the decision-making process of senior investment professionals (Knight & Dixon 2011). Their capacity to provide advice to asset owners will affect both the legitimacy of the issue in the eyes of Investment Committee members, but also ensure that the skills and products are available to actually implement RI in practice (Guyatt 2016). This chapter will explore the capacity and willingness of ICs to offer RI advice and services within existing institutional and organisational structures.

Although some ICs began engaging on RI topics in the late 1990s, only small pockets of integrated RI activity are evident. Much of the industry remains uninterested and under-resourced compared to growing demand from asset owner clients (PRI 2017a). In a survey on sustainable investment advice and services among ICs, 69% of asset owners said that there are ‘too few’ ICs that provide top-quality sustainable investment advice, and 57% said that there were ‘too few’ ICs that provide top-quality sustainable investment management services (Caldecott & Rook 2015b, p.30). This builds on Chapter 4, in which interviewees gave varied accounts of experiences of consultants’ RI capacity. There is significant room for competitive advantage in offering ESG advice and services to the growing number of financial institutions seeking to integrate RI (Caldecott & Rook 2015b; ClientEarth 2017). Increasing ESG capacity could be particularly beneficial at a time of growing scrutiny of ICs (FCA 2017) and falling demand due to the shift to Defined Contribution pension funds, the rise in outsourced CIOs and the growth of passive investment strategies (PRI 2017a; Clark & Monk 2017b). However, these pressures on ICs could also potentially reduce

their willingness to invest in new expertise and products required to scale up ESG provision. It is thus argued that growing client demand, perhaps linked with regulatory pressure, will be needed to significantly increase ESG expertise within ICs (PRI 2017a; ClientEarth 2017; Clark & Monk 2016). To contribute towards exploring the extent to which RI knowledge and practice are compatible with existing mainstream investment industry structures of decision-making, this chapter tests and ultimately supports the hypothesis that ‘Capacity to integrate RI exists throughout the mainstream investment industry, but willingness to do so is hindered by institutional and organisational norms’.

There is a significant economic geography literature examining how new knowledge is created, externalised and commercialised, and the impact that this can have on innovation and productivity at both a firm and regional level (Howells 2002; Jaffe et al. 1993; Audretsch & Feldman 2004). However, little research to date has focused on these topics from the perspective of investment consultants, which is perhaps surprising given their important knowledge role in the investment chain. Whilst recent research has sought to extend these literatures to the financial industry (Clark 2018; Clark & Monk 2013), this chapter seeks to apply them directly to the IC industry through the lens of innovation in RI, towards answering the question of the extent to which RI can be integrated into existing organisational structures within the investment industry. However, it is important to note that lessons from this research can be applied more generally to other areas of innovation and organisational strategy, beyond adaptation to RI.

Knight and Dixon (2011) provided an insightful exploration of the potential role of ICs in facilitating ESG integration. However, it is prudent to further examine the

evolution of RI in the IC industry, given the recent criticisms of the industry from regulators (FCA 2017) and by the RI industry (ClientEarth 2017; PRI 2017a). This chapter will provide a case of how one IC, Mercer, has scaled up its RI capacity as a deliberate policy aimed at differentiating the firm from its competitors in both thought leadership and consulting services. This will draw on interviews with Mercer consultants but also on interviews from the client perspective through the example of the University of Sydney endowment fund. This can help unpick the client-consultant relationships, highlighting the ways in which Mercer is influenced by, and can influence, client demand for RI. Whilst this example focuses on one consultant and one asset owner, it should be considered as emblematic of wider shifts in the investment market towards the integration of RI knowledge and practice, but can also be seen as relatively progressive compared to peers as Mercer was the only consultancy firm mentioned positively during the interview process. The case example will further examine how the integration of ESG advice into mainstream IC business is unlikely to materialise without the willingness and incentive for such a change, as has been visible in Mercer.

This chapter will build upon organisational theories of change and innovation from an evolutionary economic geography (EEG) perspective. It draws on existing economic geography literatures focusing on innovation in knowledge-based services (KBS) firms, extending them to the IC industry and the topic of RI, which have both been largely overlooked in the literature to date. For KBS firms, such as ICs, innovation and novel insights are their key competitive advantage (Hogan 2009; Clark & Monk 2017b; Faulconbridge 2010). A key hypothesis is that knowledge-based firms, such as ICs, should have a greater capacity to change and innovate than industrial asset-based

firms. They have fewer sunk costs associated with the existing operations, so should theoretically be more dynamic and innovative. Hertog (2000, p.1), in an analysis of knowledge-based service firms, found that such firms can function as ‘facilitator, carrier or source of innovation, and through their almost symbiotic relationship with client firms, some KBS function as co-producers of innovation’. However, this chapter will argue that these firms are still path-dependent, deeply embedded in institutional, cognitive and political landscapes that can make change difficult and unappealing.

As such, it is argued that whilst ICs are intrinsically dynamic organisations and have the capacity to evolve to cater to the changing nature of investment markets, they can still face institutionalised barriers to change, and can require significant individual and organisational incentives to stay innovative. It is argued that these factors are limiting the capacity and willingness to change in ICs with regards to RI advice and services, though examples of increased demand from clients, regulators and individual consultants are leading to a (patchy) shift in the IC market. Such dynamics are important for ICs, as they largely operating within the constraints of demand from the investment industry, but the strategy of differentiation, evolution and innovation are at the heart of their competitive advantage (Guyatt 2016). It is thus argued that the institutional and organisational barriers to change are hindering uptake of RI mainstreaming, despite the growing availability of ESG information.

Section 7.2 outlines key literatures regarding EEG and innovation in KBS firms, organisational change management theory, and the history of ESG integration in IC firms. Section 7.3 provides a case example to demonstrate the *capacity* of an IC to

integrate ESG factors into their client services and functions. This provides a real-world illustration of organisational change and innovation in Mercer, and supports the assertions made by Knight and Dixon (2011) regarding the opportunities for ICs to play an important role in the mainstreaming of ESG in the investment system. However, Section 7.4 explores how this functional capacity for change does not necessarily transfer into innovation and evolution in all firms, and that the form of a firm (notably its geographical scope and governance) will affect both the capacity and, importantly, the *willingness* to change. Section 7.5 shows how theories of change management can be applied to knowledge-based firms, outlining key steps to a successful transformation towards the integration of ESG advisory services in IC firms. Section 7.6 concludes.

## **7.2 Literature Review**

### **7.2.1 Evolutionary Economic Geography and Knowledge-Based Service Firms**

Important in examining the past and future of RI advice is the assumption that economic landscapes and organisational forms and functions are dynamic and differentiated by their geographies and histories (Hassink & Klaering 2009; Boschma & Frenken 2006a). Such an evolutionary economic geography (EEG) approach critiques static conceptualisations of economic processes. I will use Martin and Sunley's (2006) 'path as process' approach, whereby economic evolution is understood as 'on-going, never-ending interplay of path dependence, path creation and path destruction that occurs as actors in different arenas reproduce, mindfully deviate from, and transform existing socio-economic-technological structures, practices and development paths'. It is from this basis that I begin exploring the

evolution of knowledge-based firms towards better accounting for, and integrating, ESG factors.

There is a significant economic geography literature examining the relationship between knowledge, innovation, geography and economic performance (c.f. Wainwright 2013; Bathelt & Cohendet 2014; Clark & Thrift 2004; Clark 2018; Howells 2002). James Faulconbridge and his collaborators have conducted much of the work in this area of evolution in knowledge-based services firms. They explore learning and innovation processes within some service firms, notably architects (Faulconbridge 2010), advertising firms (Faulconbridge 2006), and law firms (Faulconbridge & Muzio 2008). Importantly, this work has highlighted the importance of these knowledge-based firms in driving learning and innovation through local and global communities of practice (Faulconbridge 2010), which has also been a key theme of this thesis. Anand et al. (2007) have carried out similar work exploring innovation structures within management consulting firms. Suellen Hogan (Hogan & Coote 2014; Hogan et al. 2011) has also usefully explored how we measure innovative capacity in knowledge-based professional services firms, noting three broad types of innovation within these firms: client-focused, marketing-focused, and technology-focused. However, little research to date has focused on investment consultants from these perspectives, or studied RI as an innovation. This is a key contribution of this chapter.

KBS firms rely heavily on human capital expertise for their competitive advantage and profitability, enjoying low sunk costs but high fixed costs relating to employee wages and office space rents. They are, by their very nature, inherently innovative –

having to constantly adjust and adapt to client demands, new market knowledges, and seeking to develop profitable processes and practices above and beyond their competitors (Hogan 2009; Clark & Monk 2016; Ionescu & Cornescu 2012; Hertog 2000). This suggests that ICs are more likely to be able to adapt and evolve their form and function towards innovative products and practices, and indeed doing so is vital for their competitiveness and long-term survival. However, much of the EEG and innovation literature has focused on asset- and technology-based firms and industries, whereby sunk costs and economies of scale are likely to be larger than KBS firms (Antonelli 2000; Asheim 2000; Martin & Sunley 2006; Ettlie & Rosenthal 2011; Fagerberg & Mowery 2009). As such, this chapter seeks to expand the EEG literature to include ICs as another example of a KBS industry, able to shed light on the extent to which KBS firms are indeed likely to be more innovative than other firms and whether RI as an innovation can fit within existing organisational and institutional structures.

To do this, I explore the evolution of IC firms towards the integration of ESG considerations in their advisory services. Although ICs have relatively few sunk costs, they have also been criticised for their failure to respond to market demand for ESG information and advice (PRI 2017a). This chapter therefore explores the extent to which KBS firms are still bounded by institutional, political and individual path dependencies and lock-ins. These concepts are key facets of EEG; path dependence captures the way in which small, historically and geographically contingent events can create self-reinforcing processes which can ‘lock-in’ certain technologies, structures and pathways (Martin & Sunley 2006; Boschma & Frenken 2011). In doing so, it could help identify why these ICs have been less evolutionary than one might

assume given their low sunk costs. One interviewee commented “*Consultants are not the first movers, and tend to play it safe. Consultants do play a role in investment decisions, but we as a firm don’t have ESG consultants, and our consultants don’t mention ESG, they don’t understand the nuance*” (US01). This market-following and demand-driven trend, also highlighted in Guyatt (2016), would suggest from an EEG perspective that the IC industry is subject to path-dependency and potentially institutional lock-in, with poor opportunities and incentives for innovation (Clark et al. 2000).

Much of the EEG literature points to ways in which lock-in can lead to inefficiency and sub-optimal outcomes due to the persistence of old technologies, relationships and practices stifling innovation and evolution (Stack & Gartland 2003; MacKinnon 2008). Grabher (1993) researching in the field of regional economics, describes three interrelated types of 'lock-in': political, functional and cognitive. Political lock-in explains circumstances where traditional courses of development are retained and reinforced by pre-existing policies and institutional structures, inhibiting adjustment to new innovations and policy directives (Henning et al. 2013). Functional lock-in, in this case, relates to the fact that there appears to be a lack of technologies or metrics capable of measuring and integrating environmental factors into investment advice, processes and practices. Firms seek to adopt functions that are ‘functionally compatible’ with existing forms and functions of the firm (David 1994), rather than trying to implement processes which are at loggerheads with existing institutionalised practices and knowledges. Cognitive lock-in relates to collective and individual ideas and beliefs that reduce the acceptance of new ideas, for which behavioural finance literatures could be usefully applied (Tversky & Kahneman 1973; Amin 2001; Sewell

2007). These same constructs can be used to explore the persistence of a lack of ESG-related advice in the IC community.

It is also important to acknowledge that these literatures can help identify some of the risks inherent in the shift towards greater RI advice at this nascent stage of evolution. If premature and inefficient RI practices, models and beliefs become inculcated and ‘locked-in’ too soon, this could stifle further RI innovation.

### **7.2.2 Organisational Change Management Theory and ESG Integration**

This chapter starts from an assumption that whilst some innovation has taken place towards ESG integration, this remains limited to certain pockets of activity in individual IC firms (See Annex 1 for a history of ESG within IC firms). It also assumes that it is in the best interest of the IC firm and the wider investment industry to begin this transformation towards RI capacity, believing that this will provide competitive advantage to the firm (Caldecott & Rook 2015b) and vital expertise and information to their clients as part of the ongoing mainstreaming of RI (PRI 2017a; ClientEarth 2017; Knight & Dixon 2011). To achieve this, however, significant organisational change and evolution is needed, including the development of new services, new expertise, and altered remuneration and incentive systems. Impetus for such change could come from a range of both internal and external variables (Ionescu & Cornescu 2012), including but not limited to client demand, regulation, internal champions, and peer competition. This chapter will explore what such transformational change in ICs might look like through the application of organisational change theories.

Change management has been defined as ‘the process of continually renewing an organisation's direction, structure, and capabilities to serve the ever-changing needs of external and internal customers’ (Moran & Brightman 2000, p.66), and is therefore closely aligned with a dynamic EEG approach. While it is widely accepted that innovation and dynamism are crucial for success, Balogun and Hailey (2008) find that about 70 per cent of all corporate change programmes fail. However, the literature on organisational change remains piecemeal; largely lacking in rigorous empirical evidence, and often contradictory in its assumptions and findings (Todnem By 2005; Doyle 2002; Guimaraes & Armstrong 1998). Consequently, this chapter does not seek to explore the array of literatures on this topic, but wishes to apply the insights from one seminal research paper to this case of ICs and ESG mainstreaming.

John Kotter, in his research paper published in the Harvard Business Review, explores why transformation efforts fail (Kotter 1995). This paper was based on insights from watching more than 100 companies embark on processes of change. Although not a traditional methodological paper, the anecdotes and findings are usefully condensed into eight common pitfalls of organisational change. By drawing on Kotter’s outline, and combined with lessons of the Mercer case, this chapter outlines eight steps for transformation within the IC industry towards the mainstreaming of ESG advisory services. This includes a number of broader themes raised throughout this thesis, including the importance of leadership, communication, and acknowledging and unblocking institutional and cognitive barriers to change.

### **7.2.3 IC Firms and the Integration of ESG Advice and Services**

Investment consultancy has a large literature in financial research, but a large proportion of this research concentrates on ICs serving the retail investment market (Hackethal et al. 2012; Mullainathan et al. 2012; Ackermann 2011). Much less literature focuses on the institutional investment market, despite the reliance of many Trustees of pension funds and endowments on the expertise of ICs, and very little research has sought to apply economic geography concepts and theories to the IC industry, with this chapter a significant contribution to this. Existing literature on the IC industry is largely focused on the role of, performance of, and more recently the conflicts of interest within, IC firms (Youngdahl 2017; Clark & Monk 2016; Marriage & Newlands 2014; Jenkinson et al. 2016). Studies considering the contribution of ICs to RI trends are scarce, with notable exception of: Guyatt (2016) who provided a brief overview of IC involvement in RI supply and demand; Knight and Dixon (Knight & Dixon 2011) who looked at the role of investment consultants in driving ESG decision-making; Caldecott and Rook (2015b) who looked at the need for ICs to offer RI advice or else face reduced demand for their services in the future; and early surveys examining the demand for and provision of RI advice and services by ICs as the SRI and ESG movement gained momentum in the mid 2000s (Eurosif 2009; Ceres 2012; SIFF 2009; Valor et al. 2009).

However, 2017 has seen a greater focus on the IC industry within the investment industry. A significant recent contribution has been the FCA study of the asset management industry (FCA 2016; FCA 2017), with a significant chapter on the IC industry and its conflicted roles and relationships within the investment industry. Following the scathing nature of this FCA review, it is likely that regulatory and

academic focus will increasingly focus on the efficiency and legitimacy of the forms and functions of ICs. This has already materialised in the sustainable finance space. ClientEarth (2017) published a briefing on the litigation risks and liabilities of ICs relating to the provision of ESG-related advice to their clients, and PRI (2017a) released a review of IC practices relating to RI issues. Both papers found that ICs are currently falling short of the level of ESG advisory needed to help drive a sustainable financial system. These both briefly touched on the opportunities for ICs to integrate RI into their own fiduciary management practices, but more research is needed on this theme as the scope of investment management role of ICs increases internationally. Doing so could be an important demonstration of the legitimacy of RI in the market place, but could also act as a further differentiator for ICs given the growing demand for RI.

Guyatt (2016), in *'The Routledge Handbook of Responsible Investment'*, provides a useful overview of the three ways in which engaged asset owners might develop RI knowledge (namely through a specialist RI consultant, internal expertise, and/or core consultant), and the role of and implication for ICs in each. Importantly, if hiring an outside specialist consultant or in-house expertise, the pressure on core consultants to invest in RI capacity is diminished and this could allow the status quo of limited RI integration *throughout* the investment strategy to continue and could lead to significant conflicts of opinion and conflicts of interest in investment decision-making processes. More research is needed to study which of these three pathways is most common within the industry, and the experience and performance of asset owners using each. This chapter, focuses on the first method, with Mercer having established a specialist business unit of RI consultants to service interested clients.

One of the main criticisms of the sustainable finance literature (both in conversations I have had with practitioners, and highlighted in PRI (2017a)) has been the lack of tangible case studies of ESG integration. Although several case studies exist in corporate sustainability literatures (see, for example, Rubin & Carmichael 2008; Mikes 2008; Quattrone & Hopper 2005), the same does not exist for RI. This could limit opportunities for asocial peer learning. The few RI case studies that do exist tend to be self-published, short, buried within broader industry reports, and often are focused on asset owners or asset managers rather than ICs. Guyatt (2016, p.522) briefly outlines the ESG capacity of each of the leading three global ICs (Mercer, Towers Watson and Aon Hewitt), but this is not designed to be a case study. The following section will therefore seek to close this gap by developing an interview-based case example to help clarify the functional capabilities of ICs to consider ESG, illustrate innovation and highlight path dependencies and obstacles to further change.

### **7.3 A Case of ESG-related Innovation in an Investment Consulting Firm**

This section presents a case of Mercer's provision of ESG advice and services to the University of Sydney endowment fund. It demonstrates the evolution of an IC's traditional advisory services towards ESG integration, with the development of RI capacity a deliberate corporate strategy within Mercer since 2004. The case is based on interviews undertaken in Australia in February and March 2015, and supported by publicly available documentation. This was informed by a strong literature of case-based research (Knight & Dixon 2011; Rao & Holt 2005; Flyvbjerg 2011). The

relevant interviewees were Head of Investment and Capital Management at University of Sydney (henceforth GF) and a Senior RI Consultant within Mercer's Australian ESG team (henceforth AC) in February 2015. In addition, a follow-up interview was held with a UK representative of the Mercer ESG team (KB) in February 2016. This case also draws on comments from other interviewees where appropriate.

While necessarily limited by the choice of sample case, it provides an important insight into IC practice, innovation and adaptation that are emblematic (though perhaps towards the more advanced end) of moves within the wider market. Within this D. Phil research, Mercer was consistently noted by interviewees as the most active IC on RI, praised for both its collaborative publications and its client-specific ESG advisory services. Comments included:

- *“They (Mercer) are also so well respected that if they are talking about it (climate change) then their clients will listen, and if they have a sensible, detailed framework that we can then apply as an overlay then that is amazing” (Aus24 – asset manager)*
- *“The work that Mercer is doing this time is much more granular so we are hoping to get a lot more information on particular sectors and a lot more subtlety in some of the climate analysis” (UK01 – ESG data provider)*

However, I do not suggest that this case reflects best practice, or would be suitable for all ICs, or even all of Mercers' clients. It is also noted that whilst Mercer has been

adapting its services towards RI issues since 2004, ESG is not fully integrated into all the decision-making of individual consultants, with the majority of knowledge and services clustered within its international ESG team. This case therefore does not seek to offer normative statements about the Mercer methodology or state of integration, but merely demonstrates the functionality of change within a knowledge-based firm towards the integration of ESG capabilities.

### **7.3.1 Introduction to Mercer and their ESG Integration**

Mercer is a leading US-based IC firm, with 3,300 advisory clients and a global team of 1,200 ICs and 120 manager researchers providing investment research, advice, and investment solutions<sup>25</sup>. Mercer was the first large IC firm to develop a dedicated global team of RI specialists in 2004, and has continued to expand its team of experts (Mercer 2017c). This focus on RI has been largely driven by the efforts of ‘innovation champions’ within the firm (Rogers 2003; Juravle & Lewis 2009), notably Jane Ambachtsheer and Danyelle Guyatt, who have campaigned tirelessly for the integration of ESG within Mercer and broader investment markets, with subsequent but significant support from senior figures in the firm (KB comment, 2016).

On their website, Mercer state that RI is a new investment frontier, vital to better understanding long-term risk and return profiles. Importantly, they note that RI requires a break from unsustainable historic, path dependent ways of investing, and outline their desire to contribute to ESG-related innovation and transformation within the finance industry:

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<sup>25</sup> <https://www.uk.mercer.com/about-mercero/lines-of-business/investments.html> [Accessed December, 2017].

‘Taking a long-term view is never easy, especially when short-term demands require so much consideration and compete for the attention of already stretched resources. It involves challenging the status quo, questioning how capital could be better allocated and utilised, and considering what risks might emerge in the future’ (Mercer 2017c).

Mercer was thus chosen for its reputation, size, scope and activity in this space. This illustration will explore the adaptation of different IC advisory functions<sup>26</sup> towards an ESG integrated approach. In particular, it will highlight the ESG capacity and compatibility within: i) asset allocation advisory services, ii) asset manager selection and monitoring, and iii) client education and thought leadership.

### **7.3.2 Integrating ESG in Asset Allocation Advice**

Pension fund trustees in the UK, US and Australia have a legal obligation to consult an adviser regarding their strategic asset allocation (SAA); this advisory service is a main function of many IC firms (FCA 2016; Clark & Monk 2016; Knight & Dixon 2011). As the financial industry increasingly acknowledges the financial materiality of climate change, the financial and legal necessity of considering ESG topics in the asset allocation process has become more apparent (ClientEarth 2017). Mercer was one of the first to develop an SAA model that incorporated climate scenarios. Their recent research report *‘Investing in a Time of Climate Change’* outlined the reasons and methodology behind such an approach, and showed that a 2 degree-aligned SAA did not necessitate financial underperformance (Mercer 2015).

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<sup>26</sup> This case will focus on advisory functions, as opposed to investment functions also offered by some ICs, such as fiduciary management. Although this would be an interesting addition to the research, it is beyond the scope of this chapter. Advisory functions were chosen due to the fact that they account for the majority of ICs’ functional capacity, and their relevance to the expertise, knowledge and learning discussions at the heart of this thesis.

The University of Sydney (UoS) announced in February 2015 that it aimed to decarbonise its AUD\$413m (£212m) listed share portfolio by 20% over three years, by cutting its fossil fuel investments and reducing the overall portfolio carbon footprint. This decision made it the first Australian university to commit to a strategy of portfolio-wide decarbonisation of its asset allocation rather than exclusively targeting fossil fuel companies (Howard 2015). During the interviews with GF (UoS employee) and AC (Mercer employee), it became clear that this announcement followed a period of intense discussion between the multiple stakeholders of the university's investment portfolios (including pressure from student groups and environmental campaigners), as well as between the investment management team and Mercer as the university's IC. Whilst the initial impetus for considering decarbonisation came from the UoS, Mercer played an important facilitation role by identifying the most suitable paths towards this goal.

This demonstrates the importance of flexibility in the 'advice' function of an IC, and the need for ICs to innovate and evolve their SAA processes and expertise over time, relating to latest market and technological developments, to meet different client needs – including on ESG issues. AC commented:

*“Many times our clients will talk about climate change in an abstract way when we begin meetings... **So our being able to really analyse their portfolios can help them get engaged, and it (climate change) becomes more meaningful for them.** And then we really work with them to help them decide what is the best path forward for their fund: is it divestment, is it investing in clean tech funds, is it taking a portfolio*

*decarbonisation approach like Sydney Uni (sic) did. So we help them explore the different options available and how we would guide them down that path.”*

This shows that Mercer consultants have the capacity to adapt existing SAA function to the integration of ESG risks and opportunities on a client-by-client basis.

Whilst initial demand might have been external for the development of this decarbonisation strategy, internal drivers have facilitated the development of further expertise, products and services to meet client demand and establish Mercer as a leading IC on these topics. However, the extent to which such practices are actually adopted by individual consultants will vary significantly based on personal biases and client preferences, such as direct exposure to ESG impacts (such as physical climate risk), understanding of the materiality of ESG factors, and capacity to invest in innovative businesses and technologies etc. Many of these factors can be linked to cognitive and institutionalised path-dependent factors, including the geography and regulatory requirements of the consultant and client (Hoepner & Schopohl 2015; Amin & Cohendet 2004; Clark & Monk 2017b). To further mainstream ESG advice and methodologies, Mercer has produced a document called *‘The Pursuit of Sustainable Returns’*. This outlines the drivers for addressing sustainable growth trends at a portfolio level for each major asset class (Mercer 2016b). Such publications could be vital in the asocial learning of all consultants within Mercer, allowing the evolution of ESG-aligned SAA decisions beyond just the established ESG teams. The guidelines are also publicly available, for the benefit of wider market education.

### **7.3.3 Intermediation of Client-Asset Manager Relationships: Manager Selection, Monitoring and Evaluation**

Guidance for pension funds on the selection of asset managers is a key intermediary role of ICs (Clark & Monk 2016; Knight & Dixon 2011). If trustees have identified ESG risk as a material financial factor, ICs must ensure that the investment managers they select are capable of investing scheme assets accordingly (ClientEarth 2017). As such, consultants increasingly have to adapt their selection methodologies to reflect ESG capacity of asset managers.

The rise of integrated ESG scores is a key innovation in the ICs function. Mercer's basic methodology is available online (though the whole method is proprietary, a source of competitive advantage), and can be adapted to client needs (Mercer 2017b). The Mercer website states that: 'Mercer's global manager research team evaluates more than 5,000 investment manager strategies on their integration of ESG factors, and active ownership (voting and engagement)... We're working toward full ESG ratings coverage for all rated strategies across geographies and asset classes' (Mercer 2017b). Each IC firm is likely to implement a unique methodology and set of indicators for assessing and ranking managers, with varying degrees of importance placed on ESG metrics.

This methodological evolution is vital in ensuring that ESG consideration can be integrated throughout an investment strategy, and could be particularly influential in motivating the asset management industry to consider ESG (Knight & Dixon 2011; Runge & Pflieger 2013). There is thus a potential multiplier effect from ICs acting on ESG. Another interviewee, a superfund executive who also had Mercer as their

advisor, said: *“So the ESG views were sorted out in the third quarter of last year. The first manager who was put up by the investment committee was an emerging market manager who was poorly rated on ESG by Mercer, I said ‘you can’t hire him! ... they do not fit the policies that you put in place.”* (Aus23)

The University of Sydney began using ESG-aligned manager ratings from Mercer in December 2013. From the interview, it was clear that the University of Sydney felt more confident in asking for advice on a broad strategic shift towards decarbonisation because they had been receiving ESG-aligned manager selection advice from Mercer for several years. This demonstrates the strong power of existing relationships and networks within and between investment actors, as discussed in previous chapters.

Once the initial manager selection had been made, the UoS also used Mercer to help monitor the managers’ ESG credentials and performance. This communication and monitoring of managers is another traditional function of an IC, adapted to the provision of RI services.

*“We use Mercer as an extension of our team; so the quarterly monitoring, the survey and the compliance checks will all come together and that will drive an outcome ... We have already sent letters to the managers ... advised them that this (decarbonisation of equities) is what we want... We are going to be, with Mercer, measuring the carbon footprint in September each year of the listed equity portfolios and we will report progress towards our targets on our university website”* (GF).

These comments by GF were supported by those of CA at Mercer, who commented that: *“Mercer is particularly helpful as an intermediary between the AOs and AMs to say 'well our client is concerned about this and they've delegated authority to you to make these decisions for them, so how are you incorporating climate change into your decision making'”*.

This monitoring role is critical in ensuring the continued implementation of ESG considerations. The role of ICs in the communication of ESG issues both up and down the investment chain is therefore paramount, but conflicts of interest and path-dependent institutionalised norms are perhaps hindering innovation in this space. Although some ICs (including Mercer) have developed ESG-aligned selection criteria for asset managers, ESG-aligned benchmarking and monitoring remain difficult to implement under existing market structures, contracts, and data sources (PRI 2017a; Caldecott & Rook 2015c). Innovation must be developed to function within existing structures, but concurrently firms should consider collaborating and campaigning for changes in those policies and market practices that are obstructing real progress towards mainstreaming ESG.

#### **7.3.4 Client Education and Thought-Leadership**

This thesis has already discussed how education and learning about RI will be vital to the mainstreaming of ESG decision-making. Here, ICs can play an important role too: Chapter 4 outlined the social and asocial learning role of ICs.

Following the initial analysis and discussions, Mercer and the finance team began running wider workshops for the investment committee and other stakeholders. This

helped educate and placate different interests, whilst formalizing targets and working towards the wider institutionalisation of climate-aligned changes to investment beliefs and policies. GF explained:

*“We always wanted to make a positive contribution and align ourselves with the climate change ... There are many perspectives in investments; there is the return perspective, the risk perspective and then there is across all of that, if you overlay an ESG framework on that what does it mean for return and risk?... **we held a workshop with the committee, Mercer were present, and we developed a mechanism to extend the ESG framework to include climate change ... and it is where we agreed to set a target to decarbonise our listed equity sectors**”.*

In addition, ICs can also encourage the wider sharing of ESG knowledge throughout the finance industry. GF outlined how the education from Mercer is an on-going process of social and facilitated-asocial learning, saying *“**Mercer might have attended a conference on stranded assets. They often send material to us. I am appearing at a Mercer conference on the journey and how we have got there**”*. From this, it is also clear that Mercer has encouraged their clients to speak at conferences and networking events on their experiences of integrating ESG in practice, facilitating the peer learning identified as so important in Chapter 4 and 5.

Mercer is thus offering long-term strategic education for their clients based on their individual needs (offering ‘belief workshops and board training’ on ESG issues (Mercer 2017c)), wider market learning opportunities through conference presentations, and multi-stakeholder research thought-leadership reports (e.g. Mercer 2015; Mercer 2011). This is another way in which they might be able to differentiate

themselves from peers, with the survey by Caldecott and Rook (2015b) finding that more than half of asset owner respondents (54%) felt that ICs focus too much on the short term. Mercer also produce updates on key changes in the markets and trends of ESG, and were among the first to provide a summary of RI approaches available to institutional investors in their 2009 report ‘Shedding light on responsible investment: Approaches, returns and impacts’ (Mercer 2009). Further, Mercer was quick to publish a briefing note following the Paris Agreement. ‘Dispatch From COP21: What The Paris Agreement Means For Investors’ summarised the negotiations’ outcomes, highlighted the core implications for their clients’ portfolios, and outlined Mercers’ own commitment to the Paris Pledge<sup>27</sup> (Mercer 2016a). These efforts could be key to creating industry-wide momentum behind RI, and helping to break down some of the cognitive lock-in around the difficulties and drawbacks of RI compared to more traditional investment practices.

Mercer have also begun exploring different media channels for education, including debunking key ESG myths in a video blog on ‘Misperceptions and Trends in ESG Investing’<sup>28</sup>. This is particularly important given the findings of Chapter 4, which emphasised the importance of the variety of communication channels used. Such thought-leadership functions could be a key way in which knowledge-based service firms contribute to innovation and evolution within the financial industry, including the cognitive and functional development away from previous paradigms and lock-ins. This is likely to be particularly effective if the ICs promote this research beyond their own client base, with Mercer, for example, running numerous financial industry

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<sup>27</sup> Paris Pledge is a global initiative launched at COP21 for non-state actors to signify their own commitment to help limit global temperature rise to less than 2 Degrees. For more information see: <http://parispledgeforaction.org>.

<sup>28</sup> Available at: <https://www.mercer.us/our-thinking/misperceptions-and-trends-in-esg-investing.html.html>. Accessed 10/10/2018.

workshops, conferences and roundtables on their climate change papers (Mercer, 2011; 2015), discussing their implementation and conclusions (KB comment, 2016).

One RI manager at an Australian superfund outlined how the Mercer (2015) paper had thus been adopted in their organisation:

*“so they have a TIP model - Technology, Impact (of climate change), Policy ... We realised that we can't really do much on policy, we can only join organisations such as investor groups or those that lobby politics, so that's what we have done. Really where we can have some influence is the 'I' which is the physical impact risk - the Mercer report stated that in terms of the physical impact risk it is those assets that are fixed in nature, can't be moved, and for us, we thought it is really property and infrastructure... We then used an engineering firm called GHD and we asked them to do a physical risk assessment of climate change on those assets to the year 2030 and 2070.” (Aus06).*

This shows that the thought-leadership pieces by ICs can have an impact on client thinking and investment processes. However, there remain questions as to the *extent* that consultants can operate as innovators and thought-leaders (Clark & Monk 2016; Caldecott & Rook 2015b). Whilst some normative expertise does reside in IC firms, many interviewees discussed how IC thought-leadership was often heavily reliant on their intermediary status for convening external experts and facilitating collaboration across the industry and academia to identify and research leading practices.

### **7.3.5 Conclusions from the Case**

This case example has helped to illuminate how one international IC has sought to

better align their historic functions with the needs of investment clients seeking to implement RI strategies, and is indicative of wider shifts in the IC market towards catering to the growing RI market though this trend is not universal in the industry. Importantly, this highlights the multiple functions which *can* be adapted to integrate ESG expertise and insights. Mercer has clearly worked hard over the past two decades to incrementally evolve their existing functions to meet the needs of RI-conscious clients, with demonstrable innovation and flexibility in each of these three key advisory services. Driven by client demand, and internal ESG champions, the senior leadership have made clear statements about the relevance of ESG and invested in expertise and methodological development. This has shone light on client-focused innovation within a KBS firm occurring without the need for substantial sunk costs (Hogan et al. 2011). Mercer's approach should help them avoid becoming locked-in to out-dated RI practices – able to adapt as ESG methodologies and information become more sophisticated over time.

Although Mercer thought-leadership and investment policies have clearly outlined the financial materiality of ESG to client portfolios, the adoption of this advice capability is not yet universal throughout its own consultancy practice. Cognitive, political and market structure biases against the consideration of extra-financial factors limit widespread integration into daily advisory services of most consultants (Grabher 1993; PRI 2017a). Path dependence and institutionalised norms can thus be seen to hold back KBS firms, just as in industrial and technological sectors. Having to work within existing forms and functions, with limited data sets and short-term frameworks and mandates, appears to be limiting the extent to which many individual consultants are willing and able to implement ESG advice, and therefore raises further questions

about the thought-leadership of IC firms if employees are not yet implementing their own research findings.

#### **7.4 ICs Capacity and Willingness to Evolve towards ESG Advice**

This capacity and willingness to change ICs' ESG-related expertise and services is likely to differ as a result of a number of inter-related variations in form, notably geographic scope and governance structures. This suggests that path dependence can apply to KBS firms, as the historical and geographical form of a firm can affect its development potential.

The vast majority of ICs operate in geographically limited regions, normally at a national or even city scale. A few large ICs, however, operate at the global scale, catering for a wide variety of clients across multiple political and regulatory jurisdictions. Aon Hewitt services 50 countries around the world, and both Willis Towers Watson and Mercer have clients in more than 100 countries and offices on every continent<sup>29</sup>.

Location and size are likely to impact the path dependence and RI-related innovation capacity and willingness for a number of reasons. Firstly, the institutional and legal structures in a country can affect the requirement for investors to appoint ICs in the first place, alter the exposure to certain locked-in regulatory pressures and policy incentives, and affect the legal duties of ICs to consider ESG factors (PRI 2017). Secondly, the geography of the firm is likely to significantly impact the exposure and

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<sup>29</sup> All figures accurate as of October 2017, according to their respective official company websites.

awareness of management, policy makers and clients to ESG issues (Knight & Dixon 2011; Hoepner & Schopohl 2015), affecting the behavioural biases and cognitive lock-in of individuals and firms. Thirdly, and building on Chapter 5, the geography of the firm will also determine the extent to which the ICs are integrated into climate-related communities of practice and access to expertise (Bathelt & Turi 2011; Bathelt et al. 2004; Faulconbridge 2010). Finally, global scope could facilitate the scaling of RI capacity through economies of scale and access to a wider array of investment opportunities (Eurosif 2016).

As a result, large international ICs are often argued to be more likely to offer ESG services (Knight & Dixon 2011). However, within these large institutions, integrating ESG universally at the individual consultant level can be difficult. Small, boutique firms, in contrast, are offering ESG advice by capitalising on individual expertise (see for example, Rob Lake Advisors and Ario Advisory), many of whom are also able to travel freely to share knowledge and attract international clients, with ESG fully integrated as their *raison d'être*. This supports the growing body of research focusing on the important work of experts who can translate and share knowledge from global pipelines to context-relevant local buzz, as discussed in Chapter 5 (c.f. Bryson et al. 2000; Amin & Cohendet 2004; Faulconbridge 2006). Cerulli (2015, p.30) conclude that 'many institutional clients still prefer the personalised attention that a boutique firm offers', which suggests that ESG specialism could offer a viable business model going forward. Although the geographical scope and size will impact ICs' consideration of ESG factors, no one form will necessarily guarantee greater ESG innovation and evolution.

The ability and, crucially, the willingness to invest in ESG expertise and services will also depend on the internal human capital and governance of the firm. In a knowledge-based industry that relies on the heterogeneous individual consultant's cognitive and relational guidance of diverse clients, any firm-wide implementation of innovation is likely to be slow unless well integrated into firm-wide practices, structures, knowledges and incentives by executives. Without the go-ahead from firm executives and clients, few (though perhaps a growing number of) individuals would have the inclination to risk their career prospects and spend their own time and resources on developing ESG expertise and services. One superannuation CIO commented: *"I used to be a consultant and used to press funds on this, and if you press too hard, you basically lose credibility and are considered to be 'someone with a cause'"* (Aus01).

However, very little has been written about the governance structures of ICs. This is likely because of the variation between different firms which (apart from a noted few at the top of the game) tend to be localised small teams with strong autonomy for individual consultants. However, it has been noted that the languages, concepts and timeframes required to fully integrate RI stand at odds to existing path dependent norms and practices within the IC industry (Caldecott & Rook 2015b; Knight & Dixon 2011). Evolving away from these institutionalised governance structures will need a top-down shift, likely driven by 'champions' of RI at a senior level (Juravle & Lewis 2009; Rogers 2003) and collaboration within the industry.

Executive education could advance the willingness of executives to institutionalise ESG considerations, as the misconceptualisation of ESG as an ethical and non-

financial issue is recognised as a key barrier to the greater integration of RI in ICs (Knight & Dixon 2011; Ceres 2012; Mooney 2017; Juravle & Lewis 2008). For example, in a 2017 survey of European asset allocation trends conducted by Mercer, only 28% of European respondents cited ‘financial materiality of the risks’ as the key reason for integrating ESG factors in asset allocation decisions (Mercer 2017a). By mis-categorising the issue as ethical or reputational rather than financial, willingness to integrate ESG lessens, and consultants could actively lead their clients away from RI considerations.

However, guidance by the Pensions Regulator in the UK has predicated climate change as a ‘financially significant’ risk over both the short and long term for DB pension schemes, and as such, trustees and their consultants should be considering this topic or face liability (ClientEarth 2017; The Pensions Regulator 2017). This guidance directly resulted in a rare display of collaboration and coordination within the IC industry: twelve IC firms, representing a significant majority of the UK pensions advisory market, announced they will seek to raise ESG awareness among their clients (Baker 2017; Wheelan 2017). Such collaboration could be vital in scaling up willingness to offer ESG advice and services both within individual IC firms and within the wider industry through peer learning and network effects, a theme briefly explored in Guyatt (2016) and Caldecott and Rook (2015). Such executive networking and knowledge sharing is rare in the IC industry, due to lack of regulation, poor collaborative atmosphere, lack of active industry bodies and the high levels of concentration in the industry. Such collaboration, especially if encouraged between ICs and in conjunction with asset owners, could help spread the costs of knowledge and product development whilst guaranteeing demand (Guyatt, 2016).

Whilst such peer pressures and education could incentivise executives to consider ESG factors, willingness to develop ESG expertise and advice on the individual consultant level is likely to require further changes to remuneration and incentive structures. Little academic research has explored the conflicts of interest within incentive structures, remuneration packages, contracts and hiring policies of ICs (FCA 2017; Clark & Monk 2016). However, institutionalised short-termism in these structures acts as a barrier to long-term thinking (Kay 2012; Stern 2006; Clark & Monk 2016), once again highlighting the ways in which innovation in KBS firms can still be affected by path dependence and institutionalised barriers. Whilst the example above provided evidence that some AOs have begun asking their consultants to integrate ESG factors in their evaluation of asset managers' hiring and remuneration policies (see also PRI 2013a), it remains to be seen whether ICs' own governance structures and contracts reflect this shift. Further research is needed to fully understand how ESG is integrated into IC contracts and incentives. Such a shift, if widely adopted, could facilitate radical innovation in the IC industry towards long-term issues and the alignment of asset owner and asset manager interests with those of the ICs, as the capacity *and willingness* to do so would become inculcated within firm behaviours and incentive structures.

## **7.5 Organisational Change Management: Implementing ESG Innovation**

Whilst the Mercer case has shown that transformational change is perhaps not necessary to start implementing ESG, full integration will need a more radical shift in firm and industry-wide behaviours, knowledges and norms. This will be vital to the

mainstreaming of ESG throughout the financial markets, as confidence with ESG terminology and methodologies among (previously non-expert) consultants will help facilitate early conversations and decision-making surrounding RI issues for those investors who are not yet considering them (Caldecott et al. 2017).

Consultants who do not adapt their functions and offer such ESG expertise could well become stranded assets themselves; associated reputational and legal risks are increasing, and a lack of ability to perform to investors' changing standards could result in the loss of clients to those firms and individuals who can (Caldecott & Rook 2015b; ClientEarth 2017). This has been seen in the private wealth management space, with private bankers noting that the upcoming generation of Ultra High-Net-Worth Individuals are beginning to demand that their advisors consider ESG topics in their investment advice and decision-making (Caldecott et al. 2017). As such, organisational change is likely to be both reputationally and financially important in the coming years.

Having the capacity and willingness to change are key factors in the implementation of integrated ESG advice within ICs, but do not guarantee a successful organisational shift. As far as I can tell, no mainstream IC is fully integrating ESG yet. Whilst I will focus on change within ICs, there are clearly lessons to be learnt for all firms seeking to mainstream ESG into their practices and processes. A large proportion of organisational change plans fail to deliver the success expected for a number of reasons. Hirschhorn (2002) argues that many large-scale change initiatives collapse under the weight of their own complexity, whilst others fail because they declare victory too quickly or see change as a single event rather than as an on-going process

(Kotter 1995). In this respect, an evolutionary economic geography perspective can be useful in highlighting how organisational change is a long-term dynamic shift and evolutionary transition rather than a one-off announcement of change (Martin & Sunley 2006).

Kotter (1995) lays out eight 'errors' which organisations seeking change often make at different stages of the transformation process. Any error, at any stage, could spell disaster for the change project. These errors are:

1. Not establishing a great enough sense of urgency
2. Not creating a powerful enough guiding coalition
3. Lacking a vision
4. Undercommunicating the vision by a factor of ten
5. Not removing obstacles to the new vision
6. Not systematically planning for and creating short-term wins
7. Declaring victory too soon
8. Not anchoring changes in the corporation's culture

As such, eight steps towards mainstreaming ESG can be identified, with the aim of avoiding the errors highlighted by Kotter (1995).

### **Step 1: Establish a sense of urgency for all employees to integrate ESG considerations**

This first step is often lacking in the ESG space, particularly in mainstream investment industry firms. At this early stage, change leaders within a firm must

identify and communicate major ESG risks and opportunities for the organisation, and emphasise the pressing need to adapt for the future success of the firm. Communicating the business case will be instrumental in creating a willingness to change: Kotter writes that ‘Without motivation, people won’t help and the effort goes nowhere’. This is likely to be an early stumbling block around ESG issues, particularly climate change, which is seen as a long-term issue and has a low sense of urgency in much of the finance industry.

Kotter suggests that success is likely only if ‘about 75% of a company’s management is honestly convinced that business-as-usual is totally unacceptable’. I would argue that few, if any, mainstream ICs would claim to have such majority buy-in to the criticality and urgency of ESG to the future of the business, despite the speed of the low carbon transition and the growing regulation associated with it (Aser & Stansbury 2018; TCFD 2017; World Bank et al. 2017). Further social and asocial learning, especially in the higher echelons of IC firms, will be necessary to fully understand and communicate the urgency of ESG issues and subsequently create the necessary momentum for mainstreaming ESG.

## **Step 2: Form a powerful and cohesive guiding committee**

Whilst the impetus for change often comes from one or two people, for transformation processes to be successful Kotter argues that a leadership ‘coalition’ should be established. Perhaps one of the reasons behind the lack of change within many IC firms, and/or the varied uptake of ESG within different geographies of international IC firms, is the lack of such leadership and guidance from senior individuals – whether this is for political, ideological or career risk reasons. Peer

learning among executives and leaders in the firm could be key to encouraging active participation in the change process towards ESG integration, building on Chapters 4 and 5. This leadership group does not have to be led by the organisation's head, but should be powerful 'in terms of titles, information and expertise, reputations and relationships' (Kotter 1995:62). ESG experts acting as innovation champions arguably started change within Mercer, but it was facilitated by the support of executives. Crucially, the group should be willing to work together without firm hierarchies obfuscating decision-making.

### **Step 3: Create a vision of ESG integration**

'In every successful transformation effort that I have ever seen, the guiding coalition develops a picture of the future that is relatively easy to communicate and appeals to customers, stockholders, and employees' (Kotter 1995:63). This vision should clearly outline the direction a firm needs to move in, the long-term goals of the transformation, and over what time frame these should be met. While several leading ICs now have policy statements regarding the importance of climate change and ESG in investment processes, a more substantial integrated approach is arguably needed to facilitate mainstreaming. Succinct, communicable and ambitious visions are needed to transform the firm over a number of years towards a more sustainable future. In the case of IC, this should involve mainstreaming ESG both into the client-oriented advice and services, but also into the internal governance and operations of the firm.

### **Step 4: Communicate the ESG vision to all employees and clients**

In the fourth stage of a transformation, communication is key. As has already been discussed in this thesis, the communication of ESG factors – notably the urgency and

financial materiality – are often lacking in the mainstream financial markets. Executives should therefore make use of all existing asocial and social communication channels to disseminate the vision, business case, and the urgency of change – as Mercer has attempted to do (see Section 7.3.4). Importantly, employees also need to believe that change is possible (Kotter 1995); a clear vision communicated regularly by leadership, and learning from those (internally and externally) who have already taken the first steps, will likely be crucial. Case studies of change processes and ESG integration should be encouraged – improving the capacity and willingness to change through peer learning of what works and what does not.

This communication of the business case for change should also be inculcated into firm- (and even industry-) wide education programmes, the majority of which currently lack ESG material (PRI 2017a). Furthermore, this communication needs to be supported by actions of the leadership: if a visible senior executive does not integrate ESG strategies into his own client portfolios, this could undermine the sense of purpose and possibility for other employees. Kotter (1995:63) argues that ‘without credible communication, and a lot of it, the hearts and minds of the troops are never captured’; he estimates that the majority of firms under-communicate their vision by a factor of ten.

### **Step 5: Remove obstacles to ESG integration**

Even if a guiding coalition communicates a new vision well, and employees are keen to help implement changes, obstacles can still limit the degree of innovation and capacity for change. As already discussed, even within relatively innovative KBS

firms, path dependence can limit transformation by bounding innovation within existing institutionalised unsustainable structures and cultures (Grabher 1993; Stack & Gartland 2003; Martin & Sunley 2006). Whether these are cognitive, political or organisational barriers, firms who are serious about implementing change should be vocal about the barriers they face, and be prepared to work collaboratively towards removing them. No single organisation has the ‘momentum, power, or time, to get rid of all obstacles’ (Kotter, 1995:65). This is evident in ESG mainstreaming, with short-termism, benchmarking and insufficient data just some of the entrenched problems IC firms will face (PRI 2017a; Knight & Dixon 2011; Clark & Monk 2016); but these must be confronted and ultimately overcome if they want to fully implement the vision.

#### **Step 6: Plan for, and create, short-term wins**

Employees need to be rewarded and praised for implementing change and altering their consulting processes at regular intervals. Real transformation of a company will take a long-time due to the significant institutional and market structure barriers that hinder innovation. Consequently, the change process could lose momentum if there are no short-term goals to meet and celebrate. These short-term goals could also lead to important inter- and intra-firm competition and beneficial marketing opportunities if short-term goals are hit. In knowledge-based firms, incentives and rewards for innovation and change are likely to be particularly important, as each individual is capable of contributing to firm-wide change (unlike in asset-heavy industries where the main innovations are more likely be technical and hardware-based). Commitments to produce short-term wins can also establish and uphold the sense of urgency and willingness around the change (Kotter 1995). The Mercer case highlights how each IC

function can be adapted, and could help firms just starting out on the ESG journey identify achievable short-term goals towards integration, such as publishing investment beliefs, developing ESG-aligned manager selection methodologies or integrating climate scenarios into all SAA models.

### **Step 7: Consolidate improvements – don't declare victory too soon**

Kotter also warns against declaring the transformation as complete too soon, as this could undermine the willingness to change. Such victory should not be acknowledged until changes have been firmly inculcated into a company's culture and daily decision-making. Transformation within knowledge-based firms is likely to be fragile due to the importance of individual decision-making; until properly consolidated, it could only take a few sceptical managers to lower expectations of ESG integration and undermine progress. If Mercer declared now that they had achieved their ESG goals, there would be little incentive for consultants who are not yet considering ESG factors to start doing so, or for experts to develop improved methodologies. This would be to the detriment of possible future advancements and more comprehensive integration.

### **Step 8: Institutionalise ESG into behaviours and approaches**

'Until new behaviours are rooted in social norms and shared values, they are subject to degradation as soon as the pressure for change is removed' (Kotter 1995:67). Ensuring that the processes and practices needed to deliver the vision of the firm become corporate culture will be vital to ultimate success. Kotter (1995) highlights two factors he sees as particularly important in institutionalizing change into corporate cultures and practices:

Firstly, change leaders should demonstrate how the new approaches, processes and behaviours are implementable and have helped improve performance in the early stages of change. This will be vital to catalysing a willingness to change throughout the company. Evidence that ESG has not negatively impacted client satisfaction, investment portfolio returns or career progression of individual consultants will be vital to institutionalizing ESG integration, with myths around the connections between ESG and financial performance in particular needing to be dispelled before lasting change can occur. Mercer is working towards this, for example through the publication of research papers and video blogs to communicate the positive benefits and dispel negative connotations of ESG investment – but these efforts need to be scaled up at both the company and industry level.

Secondly, firms should invest sufficient time and resources to ensure that the future leaders of the firm share the same vision and support the new approaches adopted in the change process thus far. ‘If the requirements for promotion don’t change, renewal rarely lasts. One bad succession decision at the top of an organisation can undermine a decade of hard work’ (Kotter 1995:67). This underpins the importance of planning for the longevity of change and not declaring a successful transformation too early. Importantly, it emphasises the need for significant buy-in from the board and top-management so that ESG integration becomes a daily consideration in their strategic governance decision-making within the IC firm, including in their hiring policies of their successors.

To conclude, institutionalising ESG into the social norms and practices of mainstream financial firms has been a theme throughout this thesis, and it is prudent that at this stage it is reemphasised as being the core facilitator of real change. Each of these eight steps can be seen to highlight the work that still needs to be done within the IC (and wider financial) industry towards ESG integration. Ultimately, without institutionalisation, all other ESG-related change efforts could easily fall by the wayside if new leadership or new business strategies are introduced, undermining the willingness and capacity for ESG innovation. Furthermore, only institutionalising change can fully alter the path dependence and lock-in to previously unsustainable practices and structures in the organisation and wider market. But without adopting the preceding steps, firms run the risk of facing insurmountable cognitive, functional and political obstacles, and without the support of firm executives will lack the capacity and willingness of employees to enact real and lasting change.

## **7.6 Conclusions**

Whilst Chapter 6 examined the extent to which RI can fit within existing individual investment frameworks, this chapter has extended this research to examine organisational capacity for RI. Previous research has shown that ICs hold an influential position within the financial markets (Clark & Monk 2016; FCA 2017). Their gatekeeper role means that they are likely to be important in the mainstreaming of RI throughout the investment chain, facilitating and advising asset owner demand for ESG integration (Knight & Dixon 2011; Guyatt 2016). However, Chapter 4 supported the existing literature in identifying an uneven landscape of RI advice and service capacity to date (PRI, 2017; Knight and Dixon, 2017), finding that ICs are relied upon for both social and asocial knowledge at various stages of the innovation-

decision-process of investors, but that capacity and willingness to do so varies from consultant to consultant. This gave rise to the hypothesis explored in this chapter that ‘the capacity to integrate RI exists throughout the mainstream investment industry, but willingness to do so is hindered by institutional norms’.

To analyse this, a case example of Mercer was developed from interviews and analysis of public documents, though could be extended further in future research to provide a full case study. This demonstrated that ESG factors can be integrated into the advisory functions of a mainstream IC firm, through innovation and evolution in the asset allocation models, manager selection methodologies, education and thought leadership of the firm. Whilst this demonstrated that capacity for ESG integration can exist within the current market forms and functions of an IC firm, this relied upon both strong leadership (from individual RI champions and support from senior executives) and demand from asset owner clients (with evidence from the University of Sydney). The development of an RI business unit in Mercer was a conscious decision to seek competitive advantage in innovative RI products and services, but, even then, the incentives to integrate ESG into every client portfolio and relevant advisory discussion are lacking, with RI capacity still largely siloed in the firm.

Literatures on knowledge-based firms suggest that ICs should be able to innovate relatively cheaply and quickly due to low sunk costs compared to industrial asset-based sectors (Hertog 2000; Anand et al. 2007). However, this chapter has applied theories and concepts from evolutionary economic geography, notably those of path dependence and lock-in (Boschma & Martin 2007; Martin & Sunley 2006; David 1994), to show that innovation and dynamism can still be hindered by institutionalised

cognitive behaviours and lock-in to unsustainable political and market structures. Even where the capacity to integrate ESG exists, many consultants remain unwilling to do so, trapped by path dependent structures including a lack of ESG education and short-term incentives. The geography and the governance of IC firms is shown to affect both the capacity and the willingness to integrate and mainstream ESG, but more research is needed to fully understand IC incentive structures and barriers to ESG integration.

This has therefore contested knowledge-based innovation theories to suggest that whilst the strategy of differentiation, evolution and innovation are at the heart of ICs' competitive advantage, they remain demand-driven entities limited by institutional norms and structures. This is particularly the case in small and medium IC firms without sufficient resources to invest in developing new knowledge and product without guaranteed demand (Clark & Monk 2016). Sunk costs, in this case the investment in education and product development required to provide RI advice and services, still appear to out-weigh expected demand benefits. This hints at the importance of asset owners (and regulators) communicating demand to their ICs, and the potential for collaborative opportunities outlined throughout this thesis to spread the costs of education, knowledge development and product innovation across the industry. Understanding these dynamics through future research could be an important contribution to our understandings of evolutionary economic geography of knowledge-based firms and market transitions, but could perhaps be boosted by a consideration of spatial *and* relational proximity in affecting innovation processes and path dependence.

Whilst the Mercer case demonstrated incremental innovation towards offering ESG advice and services to those clients who request it, this chapter has argued that RI mainstreaming will require a more fundamental transformation. Consequently, this chapter combines the lessons from both evolutionary economic geography and organisational change management literatures to provide recommendations regarding the successful integration of ESG in the IC industry. Using Kotter's (1995) framework of why transformational change might fail, the chapter has outlined eight steps needed to mainstream ESG consideration in IC firms' investment processes and culture. Importantly, this has highlighted how clear and consistent communication, strong leadership and collaboration to remove institutionalised barriers are all essential to ensuring a successful transformation, re-emphasising the findings of previous chapters regarding the importance of social learning, leadership, information, translation and communities of practice. Due to existing cognitive, political and structural path dependence within institutional investment market structures, there is a fundamental need to change the education and incentive structures to create both the capacity and willingness for ESG integration. This will require ICs to collaborate together and with other financial industry policy makers, regulators, asset owners and asset managers to reduce and ultimately remove institutionalised barriers, before RI practices can be fully mainstreamed.

ICs must balance their capacity to be proactive and desire to demonstrate leadership to gain competitive advantage against the reality that asset owner demand still remains patchy, with many clients unwilling to pay extra for RI advice or using alternative sources (including boutique RI consultants or sustainable investment service providers) for such advice (Guyatt 2016). Chapter 4 highlighted that many ICs

still see ESG as a non-financial factor, and charge clients more for RI services as a result. This can further institutionalise the view among asset owner clients that ESG is not a material risk under fiduciary duty, delegitimising RI as a worthwhile innovation in investment markets. However, ICs face a changing landscape, particularly since 2015. There is growing policy and regulatory awareness of the financial materiality of ESG and more clients demanding RI products and services (ClientEarth 2017), at the same time as industry scrutiny of the value and practices of ICs increases (FCA 2017; Jenkinson et al. 2016), and these could help reduce the barriers to change.

Building on the findings of Chapters 4 and 5, and evidence from Mercers' decision to invest in an ESG team, it is clear that RI mainstreaming relies on seeing RI as a profitable innovation – a notion which is now supported by academic literature of the financial materiality of RI and ESG (Clark et al. 2014). Furthermore, this competitive advantage from, and demand for, RI needs to be clearly communicated via social learning amongst peers and firm executives at an institutional, organisational and individual scale to inculcate organisational change and capacity building (Kotter 1995; Juravle & Lewis 2009; Bourghelle et al. 2009). This thesis has therefore come together to show that ESG information alone will not catalyse the mainstreaming of RI, but such a shift will rely on the social and asocial dissemination of knowledge of the financial materiality and practicality of implementing an RI strategy in a way that is consistent with existing individual, organisational and institutional structures of decision-making.

Consultants could play a key role in this process, and represent one nodal actor group from which to view the findings of this thesis. For example, consultants can

contribute to learning processes of investors in their provision of RI knowledge and ESG information. They have the potential to be particularly effective in this, through their dual role of social and asocial information provision highlighted in Chapter 4 and their contribution to both local buzz and global pipelines of research and knowledge sharing discussed in Chapter 5. ICs can be argued to have significant advantage over other actors such as RI groups in doing this: they are seen to be independent investment experts, have both spatial and relational proximity to mainstream clients, and better understand the languages and decision-making frameworks of investors. As such, they could also contribute to the translation of RI knowledge into investable strategies, highlighted as important in Chapter 6. Concurrently, awareness of the links between stranded assets and sunk costs could help ICs analyse the risk and opportunities for their investment clients and internal fiduciary management business. This thesis has also warned of the risk to ICs' human and reputational capital if they fail to evolve towards the provision of RI advice and services to meet rising client demand (Caldecott & Rook 2015b). However, whilst the second half of this thesis (Chapters 6 and 7) has identified that such capacity for evolution towards RI does exist at both an individual and organisational level, willingness to do so is hindered by behavioural biases and path dependence. It has identified a deprioritisation of long-term ESG factors resulting from lock-in to short-term performance and incentive structures and a persistent scepticism among many individuals regarding the RI business case. Whilst the events of 2015 suggest that the opportunities for RI are becoming more apparent in the market, the institutionalised nature of the barriers to RI mean that this shift will not happen over night, nor necessarily as a result of improved ESG data. Instead, mainstreaming of RI will require persistent communication and peer learning from early movers in the field

regarding the opportunities for innovation, collaboration and financial value, and strong leadership from RI champions and firm executives in order to break short-term path dependencies and integrate RI strategies into individual, organisational and institutional innovation-decision-processes.

## **Chapter 8. Conclusions**

This research began in 2015, a year which, in retrospect, turned out to be an inflexion point in the proliferation of mainstream recognition of the critical importance of integrating sustainability into financial decision-making. RI rose up policy and investment agendas, as a result of growing concern for both financial stability, as highlighted by the Bank of England (Carney 2015), and global environmental and social stability, as signalled by the signing of the Paris Accord and the accompanying statement of support from investors controlling \$13tr (Slezak 2016). This momentum has manifested itself in growing investor collaboration and commitments to Responsible Investment (RI) initiatives, corporate engagements and capital allocation shifts away from unsustainable sectors and projects towards those compatible with a low carbon transition (GSIA 2016; UNEP Inquiry 2017).

The intervening years have also seen advances in the quantity and quality of environmental, social and governance (ESG) market research and data, and a growing business case for the financial and reputational materiality of RI strategies. This has been driven by market demand, and national and international initiatives to encourage the development of a sustainable financial system, including the Task Force on Climate-related Financial Disclosure (TCFD 2017) and EU High-Level Expert Group on Sustainable Finance (EU HLEG 2018). However, best estimates suggest that three quarters of assets under professional management are still invested without any consideration of ESG factors (GSIA 2016), and mainstreaming of RI – as defined by Caldecott (2017) – remains a challenging goal. The central question of this thesis has, therefore, never been more salient: ‘Now that ESG information and data has become

more widely available in the investment markets, why has this not catalysed a greater shift towards RI integration in mainstream investment?.

This thesis has applied concepts and theories from economic geography relating to innovation, information and knowledge processes to explore the mainstreaming of RI knowledge and practice. It began with an analysis of the learning processes of investors, the flows of ESG information within and between financial centres, and the opportunities for translating RI concepts into investor-relevant languages, before then exploring the extent to which RI fits within existing individual and organisational decision-making structures. This D.Phil was based on novel empiric data from a survey of 154 investment professionals, a set of 97 interviews and a case based on interviews and public documents. Importantly, this thesis found explanations for barriers to further mainstreaming in the learning, language and leadership within the investment chain. This thesis has also highlighted a landscape of RI information and knowledge beyond corporate ESG data. Corporate disclosure is recognised as important and imperfect, but is not the only information that needs to be communicated and circulated to enhance investor understandings of, and capacity for, RI, with a broader range of investor-relevant sources and information requirements among different types of financial actors, across different asset classes and between different geographies. In doing so, this thesis has found that spatial and relational geographies of investors affect the creation and diffusion of RI knowledge and practice in institutional investment markets.

Although individual and organisational capacity to integrate RI does exist, as evidenced in the adoption of RI within some mainstream firms in the past decades

(UNEP FI 2014; Hebb et al. 2016; GSIA 2016), this thesis found mainstreaming throughout the investment system to be hindered by path dependence and institutionalised barriers to long-term thinking. In contributing towards updating previous research on the barriers to the mainstreaming of RI (c.f. Juravle & Lewis 2008; Amaeshi & Grayson 2009; Sievänen 2014), this thesis has highlighted how many barriers are caused by, and contribute to, a deprioritisation of RI knowledge and ESG information. Building on economic geography, social learning, organisational change management and behavioural finance theories, this thesis has highlighted how these barriers could be overcome if RI knowledge is more widely communicated throughout the investment chain by trusted peers and firm executives as a positive innovation with financial and reputational benefits (Rogers 2003; Hara 2009; Amin & Cohendet 2004; Kotter 1995; Kahneman 1973).

This thesis is relevant and important now given that there is growing collaboration and engagement on RI topics (EU HLEG 2018; UNEP Inquiry 2017), but limited understanding as to the level of base-line RI knowledge and ESG information access within mainstream markets. Furthermore, the growth in knowledge sharing practices around RI, notably through the proliferation and expansion of related networks and conferences, has gone largely unproblematised by academics or practitioners – leaving unexamined important issues such as risks from information overload, confirmation bias and the creation of siloed echo chambers of knowledge.

Whilst economic geography has a strong history of research on innovation and knowledge processes, literature to date has not applied such research to RI topics, with this thesis acting as an initial step to unlocking the potential for such analysis and

insight. In doing so, this thesis has found that spatial and relational proximities interact across multiple scales to affect RI information, knowledge, networking and decision-making processes, expanding the work by Clark and Monk (2013; 2017b) who applied these economic geography perspectives to the institutional investment industry more broadly. The application to the RI field is particularly interesting due to its status as an evolving innovation in investment practice at the heart of significant political and industry discussions and decisions, with significant socio-economic and environmental implications for the development of a sustainable future.

## **8.1 Summary of Findings and Contributions of the Thesis**

This thesis has applied a dynamic knowledge approach using multiple economic geography theories to answer the question 'Now that ESG information is more widely available in the investment markets, why has this not catalysed a greater shift towards RI integration in mainstream investment decisions?'. Through the development of empirical and conceptual analysis, it is found that the learning, language and leadership within the institutional investment industry hinder the mainstreaming of RI knowledge and practice, and that ESG information is an important but not sufficient element in the development and implementation of RI strategies.

### **8.1.1 Investor Learning Processes**

To begin, Chapter 4 developed a framework of the communication channels and learning process of investors regarding climate information, based on Rogers (2003) innovation-decision-process. This drew on insights from interviews and a web-based survey of investment professionals, outlining the various actors engaged in

communicating climate change knowledge and information at each of the five stages of the innovation-decision-process (knowledge, persuasion, decision, implementation, and confirmation). In a novel approach to such innovation-learning research, this framework differentiated between social and asocial learning styles needed at each stage and from each channel of learning and information, with peer and social learning styles highlighted early in this research as particularly important on contentious RI topics. This framework helped identify the range of information and communication channels operating in the RI industry, suggesting that one answer to the key question of why ESG information had not catalysed wider mainstreaming of RI was that corporate ESG data is just one part of the knowledge landscape needed to incorporate RI into decision-making; it is not sufficient to catalyse change without the socialised knowledge of underlying motivations and methods of RI implementation.

This chapter was able to extend existing literature on the topics of climate communication and social learning through highlighting the dual role of some actors in providing both social and asocial learning, whilst also commenting on the geographic scope of these information providers. Whilst much of the academic and industry literature to date has focused on the provision and standardisation of corporate ESG reporting and scenario analysis (c.f. Bassen & Kovács 2004; Kolk 2008; Farooq 2015), this chapter contributes to filling gaps in the literature on non-corporate ESG information and the opportunities and barriers to social and peer learning around RI topics, building on the work started by Guyatt (2008; 2013) who examined the opportunities for pension fund collaboration on RI topics and Jemel-Fornetty et al. (2011) who explored the role of emerging RI initiatives in changing dominant beliefs in the finance industry.

Academic research has previously highlighted the important role of social learning in the generation and dissemination of innovation (Rogers 2003; Brown & Duguid 1996; Amin & Cohendet 2004; Clark & Monk 2017a), and this chapter found evidence for this theory in the evolution of mainstream investment practices towards RI. Investors were found to rely heavily on social learning around climate topics, particularly in the early learning stages when acquiring knowledge and being persuaded of the financial materiality of climate change and RI more broadly. This supported the hypothesis that social learning channels are important in investor learning and knowledge processes. However, the capacity to communicate in this way was found to be largely concentrated within a few leading firms, communities of practices within RI-focused industry groups and boutique ESG providers, and often located in global financial centres. However, another interesting finding was the role of social media in providing a tool through which to share both social and asocial, tacit and codified knowledge, with platforms such as Twitter and LinkedIn acting as a facilitator and filter of ESG information and RI updates.

Importantly, internal ESG teams and investor-led climate networks were found to be particularly important in providing both social and asocial learning opportunities throughout much of the innovation-decision-process of mainstream investors. However, access to these channels of information and knowledge often requires pre-existing commitment to exploring RI topics from firm executives, with socialisation of RI knowledge among executives therefore highlighted as a key facilitator of further mainstreaming of RI.

In highlighting the different actors and communication channels involved in the spread of RI research and knowledge, this chapter left open questions as to the geographies of the networks and flows of ESG information, with these discussed in Chapter 5.

### **8.1.2 Spatial and Relational Flows of ESG Information**

From the landscape of social and asocial channels of learning highlighted in Chapter 4, Chapter 5 analysed the spatial and relational geographies of access to ESG information. ESG data is widely recognised as being important in facilitating the implementation of RI strategies (de Graaf & Slager 2009; PRI 2014; Amel-Zadeh & Serafeim 2017). This thesis found a mixed landscape of access to ESG information: with 80% of survey participants perceiving a lack of information and data, but many interviewees commenting that they suffer from information overload. This finding therefore contested the vast majority of ESG literature which assumes that providing more information is beneficial to decision-making (KPMG 2017; TCFD 2017), whilst supporting previous sociology, psychology and behavioural finance studies which have shown that simply providing more information might not positively impact decisions or behaviours (Agnew & Szykman 2010; Marteau et al. 2002; Peng 2005; Marshall 2015). It highlighted the need for more targeted information provision and knowledge sharing for mainstream investors outside of RI networks, with those in these networks broadly content with the quantity (if not always the quality) of information they receive.

To explore these dynamics further, this thesis used insights from relational and institutional economic geography to focus on the role of ‘local buzz’ and ‘global

pipelines' of RI (c.f. Bathelt et al. 2004; Morrison et al. 2013), in a novel expansion of these concepts to this topic. Building on the findings of Chapter 4, Chapter 5 found that social and asocial learning facilitated by both 'local buzz' and 'global pipelines' were important in the access to, and the uptake of, ESG information. It outlined the important role that investor-focused RI groups have in the generation, filtering and flow of information, with these communities of practice operating at both national and international scales, providing both buzz and pipelines of information. Spatial proximity to leading financial centres was found to affect exposure to certain levels of corporate reporting based on national regulations, access to Advanced Business Services (ABS) such as consultants and brokers with RI capacity, and wider opportunities for peer learning and collaboration. However, this chapter also found that the development of RI networks has increased the importance of relational proximity, affecting both local and international opportunities for collaboration, co-operation and peer learning for the generation and diffusion of RI research and innovation, supporting and extending the work of Guyatt (2008; 2013). Relational proximity was also argued to be important in convincing sceptical mainstream investors of the value of RI, with investors more likely to listen to those perceived as peers with similar backgrounds and beliefs – supporting behavioural literatures on in-groups and peer learning (Bursztyn et al. 2014; Marshall 2015; Wenger 1998).

Greatest access to ESG information was found in the local buzz of financial centres when individuals within these localities were linked to national and international networks of experts and practitioners. This finding corroborated the theories of relational economic geography literatures (c.f. Bathelt et al. 2004; Moodysson 2008; Storper & Venables 2004), and contributed further to the ongoing relational turn in

geography by providing empiric evidence for the creation and dissemination of knowledge through both buzz and pipelines (Morrison et al. 2013; Bathelt & Cohendet 2014) and the growing importance of pipelines in the financial industry (Clark & Monk 2013). This chapter also extended these theories by exploring pipelines-between-pipelines, finding important analysis in the information flows and collaboration between different local and global networks.

However, the geographic concentration of knowledge sharing in local and global networks was also identified as a barrier to mainstreaming of RI. ESG information was not having a wider impact on mainstreaming because it was not necessarily getting into the mainstream at all, but generated and disseminated only among members of these groups. When combined with the persistent scepticism among many mainstream investors as to financial materiality of ESG factors, RI can be seen as a moral decision to which you have to ‘sign-up’, and from this it is perhaps easier to understand why mainstreaming of RI has not gathered greater pace. Greater external distribution of group research and advertisement of conferences and working groups could reduce this bias and the risks of group-think and confirmation bias within these groups. This chapter therefore highlighted that more research is needed to fully explore the opportunities for, and barriers to, engagement with investors outside of existing RI bubbles, whether through regulation, formal education strategies or investment industry body initiatives.

Chapter 5 also found a concern among many non-expert investment professionals that RI topics were not translated into investor-relevant languages and framings, with only 30% of survey participants believing that the language used in climate change

communications was appropriate for the investment community. Among the terms surveyed in 2015, stranded assets was the least well known and this informed the decision to use Chapter 6 to explore opportunities to translate this term into investor-relevant language. It was concluded that this is another reason why the growth in the quantity of ESG information has not contributed to a wider shift in the mainstreaming of RI. This has supported the findings of literature on the importance of language and framing when communicating complex topics such as climate change (Boykoff 2008; Nerlich et al. 2010; Pidgeon & Fischhoff 2011), and a small but growing literature highlighting that many investors struggle to comprehend the materiality and complexity of RI and sustainability topics (Silver 2017; Rook 2012; Khan et al. 2016; Amaeshi & Grayson 2009). This raises significant questions for the academic community (and other practitioners) as to whether and how we ensure the impact of our research, highlighting the need distil and disseminate our findings in channels and languages relevant to the decision-making of the target audience.

### **8.1.3 Stranded Assets, Sunk Costs and Investor Capacity to Integrate RI**

To take a first step towards helping the industry break down these barriers, Chapter 6 outlines how stranded assets (a relatively modern RI concept, with a limited but growing presence in the lexicon of investors) can be seen as a version of sunk costs. This made an important theoretical contribution to the largely empirical literatures on stranded assets, and represented a shift in this thesis away from studying the landscape of RI knowledge towards an exploration of the extent to which RI is compatible with investors' existing decision-making processes. The chapter updated Clark and Wrigley's (1995) framework of the economic geography of sunk costs to incorporate environmentally-driven sunk costs resulting from stranded assets,

reflecting recent understandings of behavioural finance and environmental risk. This demonstrated that RI concepts could, in theory, fit within existing investment lexicons and conceptualisations of risk.

Building on this finding of the translatability of stranded assets, Chapter 6 also developed a spatial-temporal framework of stranded assets as sunk costs. This conceptual matrix of decision-making factors facilitates an assessment of environmental investment risk that incorporates insights from relational, institutional and spatial geographies and behavioural finance literatures. Importantly, this framework demonstrates that stranded asset risk is likely to increase experience of sunk costs and investment risk over longer time horizons and when the risks are geographically distant from decision-making centres. This contributes to stranded asset research by identifying that the experience and expectation of sunk costs linked to environmentally-driven stranded assets could create zones of activity and inactivity as economic landscapes evolve to new environmental norms and a lower-carbon socio-economic-political system. More research could usefully examine where the risks and opportunities from such stranding sunk cost risk are at a sectoral and regional scale. Opportunities for further cross-fertilisation of decision-making concepts and theories in behavioural finance and economic geography could also be examined, as multiple points of mutual interest were identified throughout this thesis, including an interest in individual agency, information capacity and behavioural norms as impacting decision-making and innovation processes.

This chapter contributed a framework of analysis for environmental risk, and in doing so highlighted some of the decision-making complexity surrounding the geographies

and time frames of stranded asset risks. This chapter also contributed to academic understanding of behavioural and cognitive barriers to RI and stranded assets, both contributing another answer to the question of why mainstreaming such knowledge and practice remains a work in progress and calling for greater translation of ESG research and terminology in line with pre-existing investment languages and decision-making frameworks.

#### **8.1.4 Investment Consultants and Organisational Capacity to Integrate RI**

In further examining whether RI knowledge and practice is compatible with existing mainstream investment industry structures of decision-making, this thesis then extended the scope of study from individual decision-making of Chapter 6 to organisational decision-making in Chapter 7, building on concepts of organisational evolution and dynamism drawn from evolutionary economic geography (EEG). Chapter 7 examined opportunities for RI implementation and knowledge sharing through interactions across the investment chain through a case of the investment consultancy firm, Mercer. This focus on investment consultants (ICs) was designed based on multiple interview comments and analysis established in Chapter 4 which outlined consultants' (largely unfulfilled) potential to offer influential social and asocial learning throughout individual innovation-decision-processes across the investment chain, building on their role as intermediaries with significant influence over both asset owners and asset managers (Clark & Monk 2016; Knight & Dixon 2011).

This chapter therefore contributed a case of IC practice to a growing, and largely critical, body of academic and industry literature. This case provided evidence of the

evolution of IC functions towards RI provision, but supported findings within recent literature that whilst some RI capacity does exist in the industry, the willingness to change within the industry more broadly is lacking (Caldecott & Rook 2015b; PRI 2017a). Mercer was shown to have developed significant RI capacity through a deliberate strategy to see RI as an innovative area of competitive advantage across their service range, including asset allocation advice, client-asset manager relationships, client education and thought-leadership. As demand for RI grows among asset owners, early moves by Mercer are being replicated elsewhere in the IC market, though gaps for improved integration exist within Mercer and the wider IC industry.

Willingness to innovate towards RI capacity was found to be hindered by institutional and organisational norms, supporting EEG literatures on path dependence and lock-in (Boschma & Martin 2010; Martin 2009; Stack & Gartland 2003) and (to some extent) contesting literatures that argue for the strong capacity and incentives for knowledge-based firms to innovate and evolve rapidly due to competitive markets and low sunk costs (Faulconbridge 2010; Hertog 2000). Path dependence affects uptake of RI as investment industry structures do not currently incentivise RI and long-term decision-making. This research therefore highlighted ripe opportunities for EEG researchers to examine the levels of dynamism and lock-in within the post-financial crisis investment industry, with innovation evident but limited by convention and path dependence.

With a pragmatist interest in examining opportunities to break the path dependence and lock-in to short-termism and other institutionalised barriers towards the

integration of RI, this chapter outlined eight steps that firms could take to successfully integrate RI into institutionalised norms and behaviours of the firm and industry, using insights from organisational change management literatures, applying Kotter (1995) in particular. This analysis emphasised the importance of collaboration, communication and leadership in the creation of sustained organisational change, supporting the importance of social learning and translational geographies highlighted in previous chapters of this thesis.

This chapter therefore suggested that RI can be mainstreamed within IC firms, but ESG information provision alone is unlikely to be sufficient to spark change without sufficient demand for it. Instead, mainstreaming of RI within intermediary firms, and indeed investment firms, is likely to require strong leadership by executives, individual innovation champions and regulators so as to inculcate RI consideration in internal corporate cultures, education programmes, remuneration structures and demand. Asset owners are likely to be key to catalysing these shifts through clear demand for RI within new and existing contracts and mandates throughout the investment chain (PRI 2013a; IIGCC 2015; ClientEarth 2017).

### **8.1.5 Economic Geography as a Home for RI Research**

This thesis has highlighted opportunities for geographers to play a more significant role in the analysis of the RI industry. Professor David Angel, in Clark et al. (2000, p.611), suggests that ‘perhaps the most significant issue for both theory and practice (of economic geography) concern the capacity for innovation and change within existing institutions to generate significant improvement in the environmental performance of economic activity worldwide’. This thesis has highlighted how the

mainstreaming of RI, which has received relatively little academic attention (Hoepner et al. 2016), speaks to the heart of this research mandate and presents a ripe and potentially fruitful field of research with significant misinformation, uncertainty and unexamined novelty on sustainability topics within the investment industry.

Whilst a number of geographers have sought to analyse the complementarities and differences between different economic geography theories (c.f. Hassink & Klaerding 2009; Bathelt & Li 2014; Boschma & Frenken 2011), none that I am aware of have sought to apply institutional, relational and evolutionary theories to an empirical and conceptual study of one phenomena (in this case RI) at the institutional, individual and organisational scales respectively. These theories have been used as an analytical tool from which to view and test empirical observations and conceptual frameworks, with each offering unique focus from which to understand factors facilitating and/or hindering the uptake of RI knowledge and practice. Geographies of knowledge economies and innovation diffusion patterns are at the heart of all three theories, but these have rarely been applied (together or separately) to finance despite their importance in investment decision-making (see Clark & Monk 2017b as an exception). This thesis has therefore usefully contributed new geographic approaches to the study of mainstreaming RI, but also extended the empirical boundaries of economic geography knowledge theories into the institutional investment sphere, with interminable opportunities for future research.

This thesis has shed light on the need for academics and industry professionals to pay closer attention to both spatial and relational geographies of RI knowledge and information flows, rather than assume more information is needed and will lead to

mainstreaming – this can only happen if there is demand for the information and if the information is of a suitable content, quality and materiality, and distributed outside of existing RI networks. Relational proximity to investors with experience of RI is shown to be particularly important in learning about and implementing RI, and investment innovation more generally. Encouraging networking and the development of communities of practice in existing non-RI financial networks and among less-developed RI markets, such as in Asia and Eastern Europe, could be particularly effective at contributing to capacity building and mainstreaming of RI.

## **8.2 Implications and Recommendations**

The findings of this thesis have a number of implications for academics, investment professionals and policy-makers interested in understanding and furthering the mainstreaming of RI knowledge and practice.

### **8.2.1 Implications for Academics**

This thesis has found that many investors, particularly those outside of formal RI networks, struggle to access and translate academic research into decision-relevant information. Academics working on RI should communicate their findings to the industry in succinct, investor-relevant languages and formats. This should not dumb-down the findings, but ensure accessibility and applicability outside of academia. Academics could usefully employ both social and asocial communication strategies. This could include attending investor conferences, publishing articles and executive summaries in investor-focused journals and newspapers, and through engagement and

the dissemination of research papers directly with investors and investment intermediaries.

In examining how stranded assets can be viewed as a version of sunk costs, I have exemplified one way in which academics could begin to reframe some RI concepts that are seen as intangible into more established investment frameworks and narratives. Future research should consider opportunities for adopting or complementing the lexicons and framings of investors, rather than trying to re-invent them. This thesis also calls for the creation and publication of more case studies of RI within different mainstream investment chain firms, to aid both academic and industry understandings of RI innovation and practices.

This thesis has also highlighted opportunities for academics to apply new economic geography perspectives and examine innovation and knowledge framings in research on RI and the investment industry, and for economic geographers to extend the boundaries of their research into the finance industry and RI more specifically.

### **8.2.2 Implications for Investors**

Regarding implications for investors, a key takeaway is the power of peer learning, collaboration and engagement in facilitating the mainstreaming of RI knowledge and practice. This has implications for all types of investors and actors within the investment industry, whether they are already implementing RI and can share their motivations and experiences with others, or are only just learning about ESG trends and need to be convinced by trusted sources about the motivations for, and financial returns of, such strategies. The thesis has also begun exploring the importance of

receiving both local and global information flows, the diversity of information channels available, and the need to be aware of and reduce behavioural biases and institutionalised norms that limit capacity to implement RI strategies.

Chapter 6 of this thesis also provided a tangible conceptualisation of stranded assets as sunk costs and a check-list of key characteristics that could be used to analyse exposure to stranded assets and the risk-return implications of environmental risk on portfolios. This could be adapted by investors to better understand how stranded asset risk could affect their portfolios over both long- and short-term horizons. This chapter also highlighted the importance of considering both relational and physical distance geographies when analysing RI risk and opportunities.

Finally, the case of Mercer in Chapter 7 highlighted the important role that RI demand from asset owners has on driving innovation and capacity building for RI advice and services in intermediary firms. Investors should call for greater clarity on the conflicts of interest and information asymmetries within the investment chain, and alter mandates and contracts towards consideration of ESG factors to integrate RI through the investment value chain.

### **8.2.3 Implications for Investment Intermediaries**

Building on this, implications also exist for intermediaries working within the investment industry, particularly brokers, consultants and investor-focused RI groups. Literature and interviewees identified that RI is only integrated within small pockets of expertise and excellence among intermediaries (PRI 2017a; ClientEarth 2017; Caldecott & Rook 2015b), despite growing membership to RI networks and the

opportunities identified for competitive advantage from developing RI innovations and thought leadership capacity to cater for a growing market (Guyatt 2016). Greater networking, collaboration and internal education could facilitate the development of RI advice, products and services, including the creation of internal and industry-wide RI-focused communities of practice. Caldecott and Rook (2015b) argue that inaction could lead to reputational and financial loss through unmet client demand for RI services. This has been supported in this thesis through evidence of dissatisfaction among some interviewees and survey respondents regarding their intermediaries' lack of RI advice and services.

For RI networks, this thesis has highlighted the need for them to engage in both social and asocial learning, developing communications that are investor-relevant in their content, framing and language. It notes the importance of extending collaboration within and between the groups, with engagement outside of their membership networks likely to boost innovation and knowledge sharing within the mainstream investment industry. Important in this will be encouraging investors within the networks to reach out to peers outside of the networks both locally and internationally, as this peer learning is likely to be more impactful than the organising NGO communicating. This thesis has also raised the issue of group-think and confirmation bias, calling for groups to ensure that they are inclusive both relationally and geographically so as to attract new ideas and generate innovation.

#### **8.2.4 Implications for Policy-makers and Regulators**

This thesis also has implications for policy-makers wishing to promote stability and competitive advantage in the development of a sustainable economic system.

Opportunities exist for greater cooperation between regulatory systems, and this is starting to be seen in the development of a regulatory working group as part of the Northern European Partnership for Sustainable Finance (NEPSF). However, this could be scaled up to facilitate knowledge sharing between regulators and industry actors, and the incentivisation of innovation and knowledge sharing internationally to improve information symmetries, the evolution of institutional norms and incentives to support RI integration, and disclosure standardisation. This thesis has also highlighted opportunities for significant benefits from the creation of education and capacity building programmes, which should be integrated into market-wide regulations and professional qualification training schemes to ensure mainstreaming of RI and ESG knowledge into investment lexicons and beliefs.

Other key insights include the potential to use the check-list and framework of stranded assets and sunk costs in Chapter 6 to aid policy-makers in their understanding of, and preparation for, stranded asset risks. This could help identify regions and sectors that are at risk from becoming zones of inactivity, identifying opportunities for sinking costs in areas likely to excel in a low carbon economy, and aid consideration of options for the diversification of economies and investment incentives accordingly.

Finally, Chapter 7 highlighted the opportunities for financial regulators to incorporate RI specifications in the upcoming regulatory scrutiny of investment consultants in the UK, as incentive structures and conflicts of interest were shown to be a barrier to mainstreaming RI in the IC market with knock-on effects throughout the broader investment value chain.

### **8.3 Limitations and Future Research**

This thesis is necessarily bounded in its study of the knowledge of RI within Western Liberal economies of US, UK and Australia and in the opinions of those with whom I have engaged in the past three years. There are plentiful opportunities to further engage on RI topics from an economic geography perspective. It is hoped that this thesis will spark further research, both in my own postdoctoral studies and amongst other academics in related fields of interest.

Further research could usefully expand this study to different geographies. Of particular interest would be the study of knowledge sharing and collaboration within the European financial system, which is geographically concentrated, but complicated by multiple nodal cities, national regulatory differences within a broader European Union structure, and language barriers. Similarly, it would be interesting to study the rapid acceleration of sustainable finance in Asian markets, particularly in China and Japan, which have seen a dramatic increase in government policy, regulation and disclosure on ESG topics in the past five years (Hebb et al. 2016; GSIA 2016). These studies could then inform a comparison of liberal, controlled and coordinated market structures, exploring how varieties of capitalism alter the knowledge transfer process and the mainstreaming of RI through differences in the role of peer learning, contextualised institutions, innovation and regulation (c.f. Gond & Boxenbaum 2013; Hall & Soskice 2001; Hall & Thelen 2009).

Relatedly, one of the limitations of this thesis was that the web-based survey was distributed without requiring a geographic fix, and this has constrained its applicability to direct comparative analysis – repeating this survey but with a

compulsory geographic element could both provide insightful geographic analysis and facilitate a temporal assessment of RI knowledge and practice. This could better highlight the growth in RI knowledge and practice, and begin to empiricise the momentum that has been gathering in the market since early 2015 when my survey was distributed.

This thesis has contributed to academic understandings of the role and importance of investor-led and investor-focused networks working on RI topics, including both single-issue RI groups and wider industry bodies who are beginning to engage on RI topics. However, future research could broaden understandings of what knowledges each group is communicating (on what topics, from what source material, for what purpose, in what form), their target audience and the synergies and tensions between them. It would also be fascinating to study the membership of different groups to better understand the supply and demand of RI networking. Network analysis across group events/conferences, discourse analysis of communications and publications, and statistical analysis on membership data could all be interesting opportunities for research on these topics. Whilst some research has recently focused on the PRI as a key facilitator of RI knowledge, practice and networking (Gilbert 2011; Gond & Piani 2013; Eccles 2010), more research could explore the impact and geographies within and between different network groups. Notably, a comparison between global groups (such as the PRI and CDP) and local groups that collaborate at a global scale (such as the GIC and GSIA) could be a particularly interesting economic geography study of the importance of and relationships between local buzz and global pipelines.

Chapter 7 of this thesis revolved around a case example of Mercer. Whilst a useful exploration of how RI has been integrated into the advice and services of an international IC, the form and function of ICs varies geographically and across different sized firms, and this research (like all case studies) is subjective and limited by the firm and context analyzed. Future research could also, for example, usefully study the role of brokers and internal ESG teams, both of whom have attracted limited attention from academics in the context of RI but have been highlighted in this research as playing a potentially pivotal role in the mainstreaming of RI. Although interviews and the study of public documents were used to generate the example in this research, future research could also examine different investment actors through ethnographic or even participatory methods to generate more in-depth insights and a case study into these actors – though previous academic research has highlighted that access to business elites for these methods can be problematic (c.f. McDowell 1998).

## **8.4 Concluding Remarks**

This is an exciting time for academics working in the field of RI. The investment industry appears to be at a crossroads – there is growing awareness of the need to adapt investment practices to changing economic, social and regulatory pressures, but less knowledge of how to do this and the impact that action might have on portfolios in the process. As investment demand for long-term strategies continues to grow, academics will need to be able to contribute answers to the myriad questions that will accompany this transition in investment practice and institutional norms. This thesis has highlighted the opportunities for future research on RI from economic geography perspectives, and has contributed to initiating such understandings through a corroboration of economic geography research into knowledge and innovation

processes with empirical evidence of ESG information flows and communication channels influencing investors' innovation-decision-processes. This research has highlighted the need to analyse and support both social and asocial learning opportunities that can drive knowledge of the practicality and materiality of RI knowledge among mainstream investors, rather than remain narrowly focused on the quantity and quality of corporate ESG data available, as this information is predominantly important at implementation stage once a decision to invest responsibly has already been taken.

Economic geography has a strong history and future in the study of knowledge processes, but there is a surprising gap in the field with regards to investment innovation-decision-processes in different geographies and with regards to RI topics. This thesis has contributed both empirical and conceptual research towards closing these gaps, including highlighting the actors involved in communicating climate change topics to investors at various stages of the learning process, the reliance on both social and asocial learning, and the importance of, and intersections between, local buzz and global pipelines in accessing ESG information. In doing so, it has contributed to the ongoing shifts in economic geography research towards the use of qualitative and mixed methods (Flowerdew & Martin 2005; Clifford et al. 2016), towards a relational turn (Bathelt & Glückler 2003; Yeung 2005), and from the study of the spaces of places to the spaces of flows (Castells 1996; Henderson et al. 2002; Clark et al. 2000). This thesis has explored opportunities to combine insights from multiple different economic geography theories and enhance these through application of relevant behavioural finance and organisational management theories towards the study of flows of innovation, learning and knowledge sharing in the

investment industry. I believe that exploring these possible synergies present exciting prospects for future research.

As climate change and governance issues increasingly take centre stage in policy, public and investment agendas, and as RI mainstreaming gathers pace, I hope and expect that economic geographers will see this growing field of practice as a ripe field of analysis and contribution. RI is necessarily a geographic phenomenon – affected by the variations in economic markets, uneven exposure to ESG risks and opportunities, and the growing networks and collaborations which are global, national and local, formal and informal, exclusive and inclusive. Limited in the past by the lack of observable and comparable practice, and a focus on ESG disclosure and proving financial materiality, this thesis has capitalised on growing RI knowledge and practice in the institutional investment market to highlight the learning, language and leadership barriers to the mainstreaming of RI, and opened up numerous access points from which economic geographers could further contribute valuable analysis of these topics, and more broadly examine innovation and knowledge sharing processes in the investment industry across multiple geographies and geographical scales.

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## Appendix 1.1: Overview of the Thesis by Chapter

This table provides overview of the four main empirical chapters that constitute this thesis. This covers the title, major themes, methodologies, theoretical underpinnings and geographical coverage. Major contributions and implications are also covered, alongside opportunities for future research.

	<b>Chapter 4</b>	<b>Chapter 5</b>	<b>Chapter 6</b>	<b>Chapter 7</b>
<b>Title</b>	Investor Learning Strategies: Social and Asocial Learning about Climate Change	The Geographies of Responsible Investment Information	Stranded Assets: An Environmentally-Driven Framework of Sunk Costs	Investment Consultants and the shift to ESG provision: capacity and willingness to innovate in a knowledge-based service industry
<b>Themes</b>	Learning strategies and communication channels used by institutional investors to incorporate climate change into investment decisions	The complex spatial and relational geographies of ESG information available to inform investment decision-making	The translation of ESG terminology to aid investment decision-making over varied geographies and time horizons. Stranded assets outlined as a version of sunk costs	The capacity and willingness of Investment Consultants to evolve and provide ESG expertise for their institutional investment clients. Barriers to and opportunities for organizational and institutional change
<b>Applied Theories</b>	Institutional economic geography, social learning theory, knowledge economies, behavioural finance, diffusion theory	Institutional economic geography, relational economic geography, spatial economic geography, behavioural finance, knowledge economies	Stranded assets, sunk costs, relational economic geography, risk and uncertainty, behavioural finance	Evolutionary economic geography, institutional economic geography, knowledge economies, organizational change management theory
<b>Methodologies</b>	Semi-structured interviews; survey data	Semi-structured interviews; survey data	-	Case example
<b>Geographical Coverage</b>	Australia and UK	Australia, UK and USA	Global	Australia, UK and USA
<b>Contributions to Literature</b>	<p>First empirical study of investors' learning processes regarding climate change.</p> <p>Highlights that the learning processes and the degree of social vs. asocial learning varies geographically.</p> <p>Outlines the role and impact of</p>	<p>Moves the literature beyond the debate around disclosure, providing empirical evidence of both information overload and information gaps.</p> <p>Differentiates between spatial and relational geographies, and their impact on information access, quality and uptake in different</p>	<p>First spatial-temporal framework for analysing stranding risk over time and geography</p> <p>Develops a novel analogy between stranded assets and sunk costs, aligning environmentally-stranded assets more closely with traditional economic and investment literatures.</p>	<p>Knowledge-based services firm can innovate relatively quickly due to low sunk costs, but still face institutional barriers to change.</p> <p>Provides a case of evolution towards RI in a financial intermediary.</p>

		different actors within the investment system involved in the communication of climate change.	financial centres.		
<b>Research Implications for</b>	<b>Investors</b>	Engage in both social and asocial learning about climate change.  Mainstreaming will depend on strong peer communication and networking from those already practicing RI.	Importance of receiving both local and global flows of information, and participating in networks of peers and experts.	Tangible theorisation of stranded asset risks, showing that stranding could create zones of activity and inactivity relating to the prevalence of sunk costs and agglomeration economies  Identifies key characteristics to analyse exposure to stranded assets and the risk-return implications on portfolios.	Intermediaries need clearer signals of demand for RI integration into products and services.
	<b>Investment Intermediaries</b>	Intermediaries' roles in both social and asocial communication give them an important function in mainstreaming, but only small pockets of excellence exist.  Opportunities exist for the development of climate-focused communities of practice, particularly among executives.	Adapt information capacities to reflect variations in ESG information needs across different markets.  More global expertise should be shared outside of NY and London.	Intermediaries should develop understanding of stranded asset risks, and communicate these along the investment value chain.  Intermediaries could play a role in reducing stranded sunk costs directly and indirectly through facilitating networking and agglomeration economies.	Capacity to evolve towards provision of RI products and services does exist, but institutionalization of RI as a norm requires strong leadership and communication of a new vision.  RI can provide advantage in a competitive market.
	<b>Academia</b>	Dissemination of academic climate science findings relevant to investors should use both social and asocial communication strategies, including through investment intermediaries such as brokers, consultants and investor groups – not just research journals which are rarely used by investors.	Identifies need for enhanced translation of ESG information into investor-relevant languages and data sets, tailored to local investment and regulatory contexts. Experts should ensure they communicate directly with investors through in-person meetings and conferences internationally.	Intangible academic concepts can and should be translated into investor-relevant language.  More research is needed into the probabilities and geographies of stranded assets.	More case studies of innovation, evolution and change within financial markets towards RI capacity needed.

	<b>Policymakers / Regulators</b>	Education and capacity building regarding climate-aligned investment should be integrated into market regulations and professional qualification training schemes.	Opportunities exist for greater cooperation, and sharing of information and best practice internationally to improve information symmetries and standardisation.	Incentive structures and climate adaptation needed to prepare for, and reduce likelihood of, zones of inactivity caused by stranded assets.	Incentives for integrating RI need to be improved for both investors and their intermediaries.  RI capacity could be integrated into upcoming regulatory scrutiny of intermediaries
<b>Potential Directions for Further Research</b>		Expansion to other geographies, e.g. Europe and Asia.  Case studies of how peer networking and communities of practices within executive investment circles can work.  Experiments to see whether social learning can lead to better asocial learning, and vice versa.	Expansion to other geographies, e.g. Europe and Asia.  Network analysis of local and global investor-focused RI groups. Including overlaps between membership to multiple groups.	Mapping of likely zones of inactivity caused by systematic stranding reducing investor appetite for sinking costs.  Sector-specific analysis of risk through application of spatial-temporal framework.	Empirical studies of state of climate-aligned knowledge among mainstream investment consultants.  Whether and how ESG is integrated in consultants' contracts and incentive structures.

## Appendix 3.1: Survey Questions

### Consent:

1. Please indicate your willingness to participate in this study.
  - a. I confirm that I have read, and understood, the nature of the project.
  - b. I agree that my survey answers may be used in aggregate, and that if I participate I will be sent a summary report of the survey findings.
  - c. I agree to take part in the above study.

### Defining Climate Change:

2. The term “climate change” is broadly defined, and incorporates many issues. Please rank the following four climate-related issues in terms of importance as they relate to your investment process and consideration of the financial impact of climate change on portfolios.
  - a. Physical risks (e.g. changing water scarcity, agricultural productivity or extreme weather events)
  - b. Regulatory risks (e.g. carbon prices, air pollution regulation, emissions targets)
  - c. Regulatory risks (e.g. carbon prices, air pollution regulation, emissions targets)
  - d. Evolving social norms (e.g. divestment campaigns and changing consumer preferences)

### Climate Change Knowledge:

3. How would you rate your own familiarity with sustainable investment topics?
  - a. Very familiar
  - b. Somewhat familiar
  - c. Neutral
  - d. Somewhat unfamiliar
  - e. Very unfamiliar
4. Do you read more information about the climate investment downside risk (e.g. flood risk) or the positive market opportunities (e.g. clean tech developments)?
  - a. Downside risk
  - b. Positive opportunities
  - c. Both equally
  - d. Neither
  - e. Don't know
5. Have you heard about the following climate-related concepts? Please tick all that you would feel confident in explaining to a friend or colleague.
  - a. 2 Degrees Target
  - b. Stranded Asset Risk
  - c. Carbon Bubble
  - d. ESG Issues (Environmental, Social and Governance issues)
  - e. Stress Nexus (food-water-energy nexus)
  - f. None of the Above
6. At what scale do you most consider climate change as it relates to your investments? Please rank in order of importance. (Note that the choices will move order as you rank them.)
  - a. Global economy impacts

- b. Regional economy impacts
- c. Local economy impacts
- d. Sector-specific impacts
- e. Company-specific impacts

**Investment Behaviours and Climate Change:**

7. Is climate change a specified consideration in your organizations' official investment beliefs?
  - a. Yes
  - b. No
  - c. Don't Know
8. Does your firm or organization have an internal team looking at climate risk or environmental considerations?
  - a. Yes
  - b. No
  - c. Don't Know
9. If yes, how often would you interact with them or read a research note that they publish?
  - a. Weekly
  - b. Monthly
  - c. Quarterly
  - d. Annually
  - e. Only if I Request Information
10. Is climate change a standing agenda point in regular Investment Committee meetings?
  - f. Yes- Always
  - g. Yes- Sometimes
  - h. No
11. Is somebody in your organization responsible for ensuring that climate change considerations have been properly analyzed?
  - a. No
  - b. Don't Know
  - c. Yes– Individual AM
  - d. Yes– Chief Investment Officer
  - e. Yes- Risk Manager
  - f. Yes – Climate Change Officer (or equivalent, e.g. SRI or ESG Manager)
  - g. Yes- Other (please specify)

12. How do you incorporate climate change in your investment process? Please answer for each practice.

Answer Options	Always	Regularly	Sometimes	Never	Don't Know / Not Applicable
Negative Screening (e.g. exclusions)					
Positive Screening (e.g. best-in class)					
Climate Change Analysis when Stock-picking					
Divestment or Active Climate-risk Reduction					
Shareholder Voting					
Direct Engagement with Corporations					
Climate-related Indices (e.g. DJSI, FTSE ex-fossil fuels etc).					

13. How often do you talk about climate risk in a meeting with other investors or clients?

- a. Always
- b. Regularly
- c. Sometimes
- d. Never
- e. Don't Know

14. When was the last time you read a report / article / research note which focused on climate change risks or opportunities?

- a. Past Week
- b. Past Month
- c. Past Quarter
- d. Past Year
- e. Never

15. When was the last time you attended a conference or presentation which focused on climate risks or opportunities?

- a. Past Week
- b. Past Month
- c. Past Quarter
- d. Past Year
- e. Never

### Decision Making Practices

16. How do you gather information on climate change issues? Please tick all that apply.

- a. Mainstream news (e.g. newspapers, online content, television)
- b. Corporate annual or sustainability reports
- c. Data providers (e.g. Bloomberg, Thomson Reuters)
- d. Investment journals

- e. Internal research
  - f. External research (e.g. Investment consultants, industry or broker reports, climate groups, academic articles)
  - g. Face to face meetings (with clients, experts and/or colleagues)
  - h. Social discussions outside of work
  - i. I do not gather information on climate change
  - j. Other (please specify)
17. When making investment decisions, what forms of communication do you utilize?
- a. Corporate Reports
  - b. Meetings with Companies
  - c. Mainstream News (e.g. TV, Newspapers)
  - d. Market Data Providers (e.g. Bloomberg, Thomson Reuters)
  - e. Internal Research Teams
  - f. External Research (e.g. Broker Reports)
  - g. Investment Consultants
  - h. Academic Reports
  - i. Investment Journals
  - j. Discussions with Colleagues
18. Does your firm or organization have a separate research budget for climate change research?
- a. Yes - Internal Research
  - b. Yes - External Research
  - c. Yes - Both Internal and External Research
  - d. No
  - e. Don't Know
19. What additional information would be helpful to better account for climate change in investment decisions? Please tick all that apply.
- a. Regional climate change reports
  - b. Sector climate change reports
  - c. Company data on exposure to climate change
  - d. Climate-exposure weighted indices
  - e. Data on how climate change is affecting portfolio/economy returns
  - f. Summaries of international climate negotiations and regulations
  - g. Other (please specify in the comment box below)
  - h. None of the above.
20. Do you feel that language used in climate change communications is appropriate for the investment community?
- a. Yes
  - b. No
  - c. Don't Know
21. Do you feel that there is sufficient information available about corporate exposure to climate risks and opportunities?
- a. Yes
  - b. No
  - c. Don't Know

### **Climate Change Investor Groups**

22. Is your organization a member of a group / network on the issue of environment or climate change? Please tick all that apply



- a. PRI (Principles of Responsible Investing) a.k.a UNPRI
  - b. CDP (Carbon Disclosure Project)
  - c. UK SIF (UK Sustainable Investment and Finance Association)
  - d. A4S Investor Network (The Prince's Accounting for Sustainability Investor Network)
  - e. IIGCC (Institutional Investor Group on Climate Change)
  - f. IGCC (Investor Group on Climate Change)
  - g. RIAA (Responsible Investing Association Australasia)
  - h. Don't Know
  - i. No
  - j. Other (please specify)
23. How often have you engaged with at least one of these groups / networks:
- a. Often (at least once a month)
  - b. Occasionally (at least quarterly)
  - c. Infrequently (once or twice a year)
  - d. Rarely (less than once a year)
  - e. Never
24. In what ways have you engaged with the groups you indicated above? Please tick all that apply
- a. Sit on a board or committee
  - b. Attend workshops or conferences
  - c. Read reports and newsletters
  - d. Request further information
  - e. Participate in meetings, webinars etc.
  - f. Other (please specify)
25. Do you feel satisfied with the information provided by these groups?
- a. Very satisfied
  - b. Somewhat satisfied
  - c. Neutral
  - d. Somewhat unsatisfied
  - e. Very unsatisfied

**Contextual Information:**

26. Please provide some background information
- a. Company
  - b. City / Town
  - c. Country
  - d. Email
27. Which of the following best describes the firm at which you are currently and primarily employed?
- a. AM
  - b. Investment Bank
  - c. Pension Fund
  - d. Sovereign Wealth Fund
  - e. Other Financial Institution
  - f. Other (please specify)
28. Which of the following best describes your current position at the firm you described above. Please tick all that apply.
- a. Trustee/Board member
  - b. Executive

- c. Non-Executive AM
  - d. ESG / SRI specialist
  - e. Other (please specify)
29. Please feel free to leave any further comments on the issue of learning about climate change and the availability of climate information in the investment community.

## Appendix 3.2: Consent Form

<b>UNIVERSITY OF OXFORD RESEARCH: INVESTORS AND CLIMATE CHANGE</b>	 <b>ssee</b> Smith School of Enterprise and the Environment	
<b>CONSENT FORM</b>		
<b>Please initial box</b>		
I confirm that I understand the nature of the project, and have had the opportunity to ask questions.	<input type="checkbox"/>	
I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason.	<input type="checkbox"/>	
I agree to take part in the above study.	<input type="checkbox"/>	
I agree that my interview may be used during the write-up of the thesis, and that I may request, but will not automatically be given, a copy of the transcript before its inclusion in the dissertation to ensure that my views and opinions are put forward as I intended them.	<input type="checkbox"/>	
I agree to the interview / meeting / consultation being audio recorded. I understand that all details will be kept securely in a password-protected file.	<input type="checkbox"/>	
I agree to my name/position to be included with any reference to my interview in the discussion. (OPTIONAL - to be discussed during the meeting)	<input type="checkbox"/>	
_____ Name of Participant	_____ Date	_____ Signature
_____ Name of Researcher	_____ Date	_____ Signature

### Appendix 3.3: List of Interview Participants

My thanks to all those who participated, both listed and unlisted. This is a list of interviewees who consented to being mentioned by name. Included are the organization and position at the time of the interview.

<b>Name</b>	<b>Organization</b>	<b>Position</b>
Hitesh Thakrar	Abu Dhabi Investment Authority	Fund Manager
Saskia Kort-Chick	Alliance Bernstein Global	
Robbie Miles	Allianz Global Investors	ESG Analyst
Nader Naeimi	AMP Capital	Head of Dynamic Asset Allocation and Portfolio Manager
Paul Murphy	Australian Council Superannuation Investors	Executive Manager, Institutional Investments and Policy
David Macri	Australian Ethical Investment Ltd	Chief Investment Officer
Tom Garcia	Australian Institute of Superannuation Trustees	Chief Executive Officer
Kelly Christodoulou	Australian Super	Environmental, Social, Governance Manager
Gregory Elders	Bloomberg Intelligence	Senior ESG Analyst
Andrew Cosgrove	Bluestone Financial Advisors	President
Craig Rhines	CALPERS	Head of Corporate Governance
Garrie Lette	Catholic Super	Chief Investment Officer
Louise Davidson	CBUS	ESG Investment Officer

James Hulse	CDP	Head of Investor Initiatives
Peter Ellsworth	Ceres	Director, Investor programme
Elaine Prior	Citi Research	Managing Director, ESG Analyst
Howard Covington	ClientEarth	Trustee
Pablo Berruti	Colonial First State Global AM	Head of Responsible Investment Asia Pacific
John Purcell	CPA Australia	Policy Adviser ESG
Zoe Whitton	Credit Suisse	ESG Analyst
Zoe Whitton	Credit Suisse	ESG Analyst
Faith Ward	Environment Agency Pension Fund	Chief Responsible Investment and Risk Officer
Ian Monroe	Etho Capital	President
Frances Sawyer	Fahr LLC	Strategic Initiatives Associate
Liza McDonald	First State Super	RI manager
Fraser Murray	Frontier Advisors	Head of Equities Research Team
Kevin Bourne	FTSE Group	Managing Director

Joel Posters	Future Fund	Head of ESG
Daniela Saltzman	Generation Foundation	Director
Mark Mills	Generation Investment Management LLP	Partner
Graham Mannion	Goldman Sachs	Executive Director
Andrew Major	HESTA	General Manager - Investments
Azhar Abidi	IFM Investors	Director, Investment Responsible
David Wood	Initiative for Responsible Investment (IRI) at the Hauser Center, Harvard University.	Director
Stephanie Pfeifer	Institutional Investor Group on Climate Change	Chief Executive
George Dallas	International Corporate Governance Network	Policy Director
Therese Niklasson	Investec Asset Management	Global Head of ESG
Nathan Fabian	Investor Group on Climate Change	Chief Executive
Adam Downs	Laborers' International Pension & Retirement Funds	Fund Administrator
Alice Prudhoe	Local Government Super	Sustainability Officer
Bill Hartnett	Local Government Super	Head of Sustainability

Richard Higgins	Macquarie Group	Investment Analyst
Sam Churchill	Magellan Financial Group	Head of Macro
Julie Skye	Mariner Wealth Advisors	Senior Wealth Advisor
John Da Camara	Merril Lynch	First Vice President-Wealth Management
Ronald Bultman	Morgan Stanley Finance Advisor	Vice President - Senior Wealth Manager
Will Pomroy	National Association of Pension Funds	Policy Lead: Stewardship and Corporate Governance
Monte Tarbox	National Electrical Benefit Fund	Executive Director,
Freeman Le Page	Newton Investment Management Ltd	SRI Client Director
Richard Morris	Perpetual Limited	Manager, Investment Responsible
Paul Chandler	Principles of Responsible Investment (UNPRI)	Investor Manager, Issues Engagements Environmental
Jonathan Grabel	Public Employees Retirement Association of New Mexico	CIO
Andrew Spence	Qantas Superannuation Limited	Chief Investment Officer
Jonathan Mirrlees-Black	RARE Infrastructure Limited	Head of Research

David Bentley	RARE Infrastructure Limited	Senior Investment Analyst and Portfolio Manager
Eric Stubbs	RBC Wealth Management	Senior Vice President - Financial Advisor
Arline Seagal	RBC Wealth Management	First Vice President - Financial Advisor
Susheela Peres da Costa	Regnan	Deputy Managing Director
Simon O'Connor	Responsible Investment Association Australasia	CEO
Franziska Jahn-Madell	Ruffer LLP	Responsible Asset Manager
Mike Clark	Russell Investments	Director, Responsible Investment
Richard Stathers	Schroders	Head of Responsible Investment
Camilla Ritchie	Seven Investment Management	Asset Manager
Therese Kieve	ShareAction	Senior Analyst & Engagement Officer
Rebecca Maclean	Standard Life Investments	Responsible Investment Analyst.
Frances Hudson	Standard Life Investments	Investment Director, Global Thematic Strategist, Multi Asset Investment

Bob Welsh	Sustainability Advisors	Executive Director
Jessica Fries	The Prince's Accounting For Sustainability	Executive Chairman
Greg Fernance	The University of Sydney	Head of Investment and Capital Management
Giles Michel	Themavest	Managing Partner
Julie Hudson	UBS Investment Bank	Managing Director, ESG and Sustainability, Equity Research
Christophe McGlade	UCL	
Talieh Williams	UniSuper	Manager, Governance and Sustainable Investment
Scott Donald	University of New South Wales	Senior Lecturer, Law Faculty
Anna Jacobs	Waddell and Reed Financial Advisors	Financial Advisor
Elizabeth Ottewell	Zenkyoren Europe Limited	

## **Appendix 3.4: Semi-Structured Interview Example Questions**

Interview questions would vary for different types of interviewee, with separate question outlines designed for ESG officers, mainstream investors, and those working for climate or sustainability groups. Interviews were semi-structured, so these questions were used as prompts and discussion points. These interview questions were undertaken during the M.Phil when the focus was more on climate change than RI in general. More questions during later interviews as part of the D.Phil focused more on ESG and RI.

### **Mainstream Investor Questions:**

#### Background to you and the firm:

1. What is the role of the firm? Does it directly manage assets?
2. What is your position within the firm? Are you directly involved in investment decisions? How do you interact with the AMs if you are an AO?
3. How would you rate your own familiarity with sustainable investment topics?

#### Climate change and RI in your firm:

4. The term “climate change” is broadly defined, and incorporates many issues. What climate change issues do you most look at when making investment decisions – regulatory risk, physical risk, clean tech opportunities, changing consumer preferences?
5. Do you have a tendency to focus on risk or opportunity within your investment and/or RI strategy?
6. When looking at RI do you focus on environmental, social or governance issues the most?
7. Is someone in your firm responsible for assessing the ESG risks within the portfolios held by the firm and by individual investors? Are managers asked about climate change issues during investment management or risk management meetings?
8. Does your firm or organization have an internal team/individual looking at climate risk or environmental considerations? If yes, how often do they publish research reports or provide information for managers?

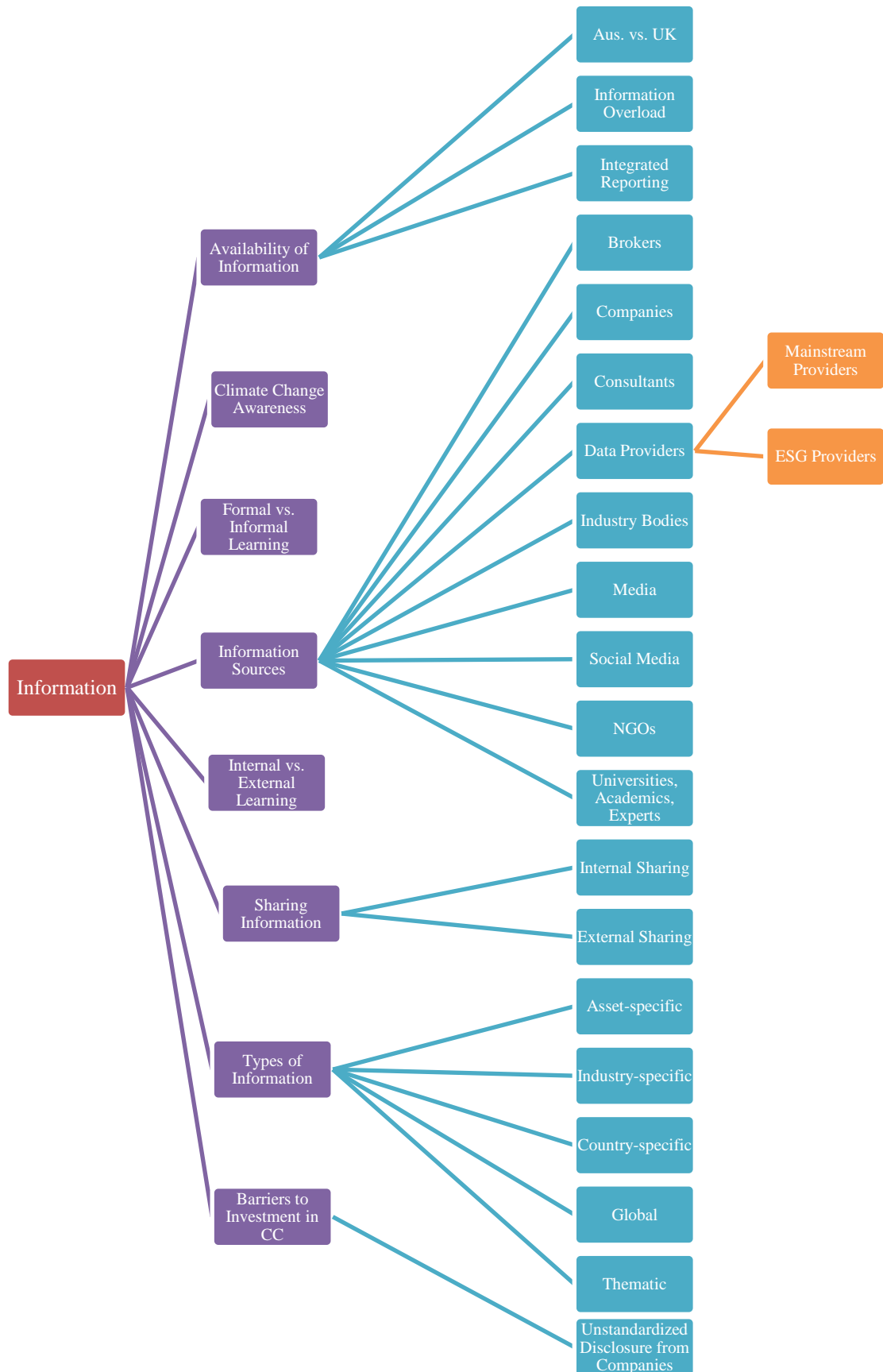
#### Forming investment beliefs:

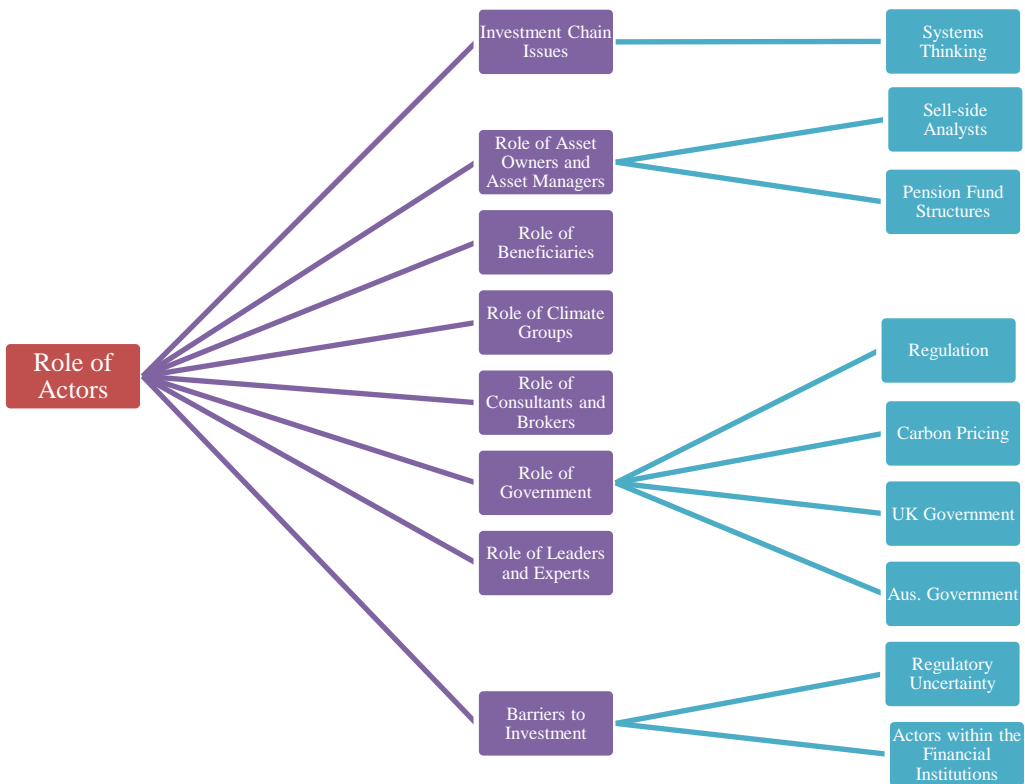
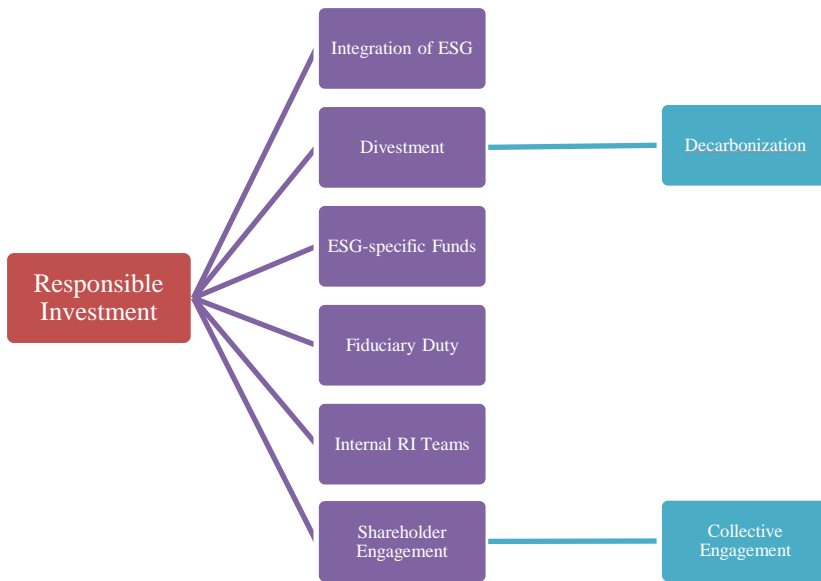
9. What information and forms of communication help to shape or inform your over-all investment beliefs and your investment decisions?
10. Is climate change included in the firms’ investment beliefs, and are managers asked to take these risks into account? If so, where has this impetus come from?
11. Do you think fiduciary duty does or should incorporate consideration of ESG and climate issues?

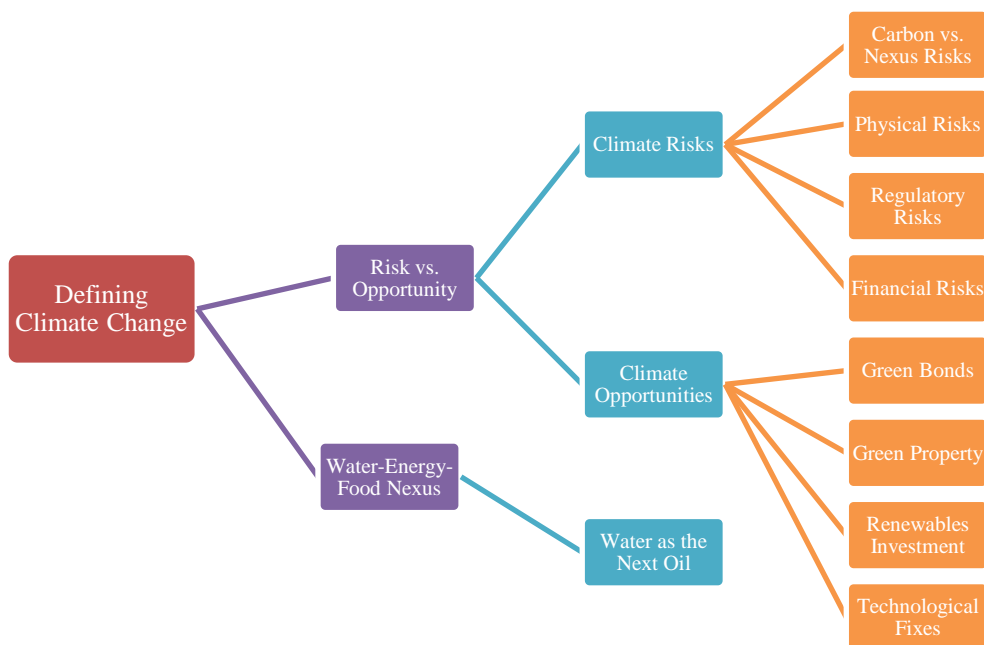
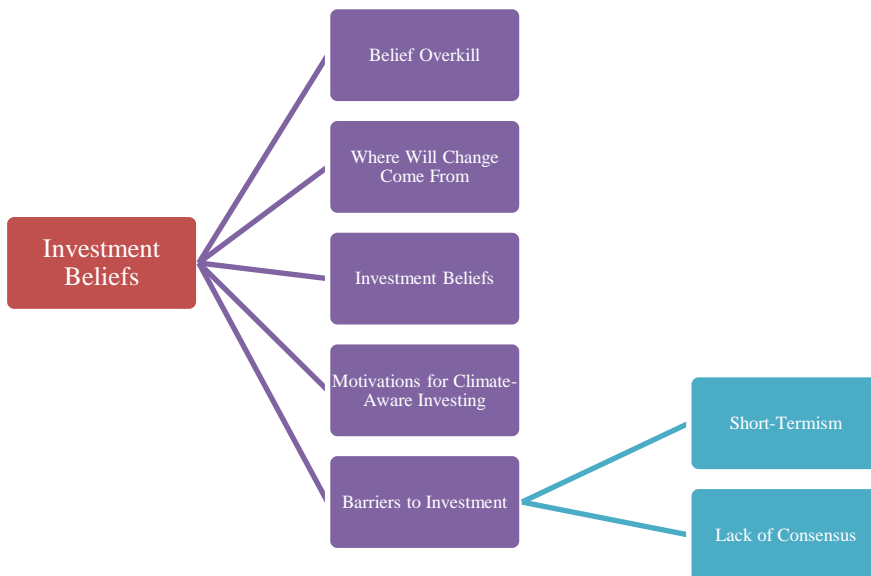
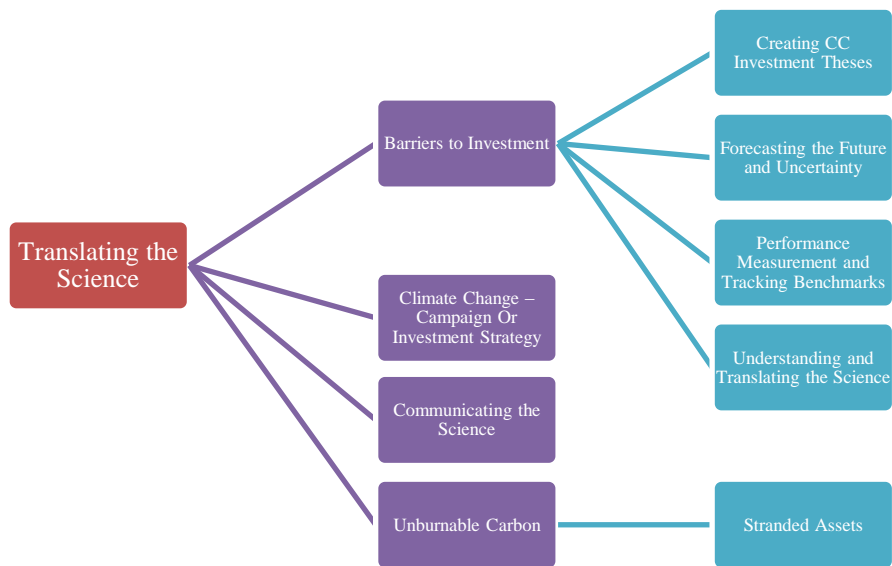
Climate change in investment decisions:

12. How frequently would you consider climate change issues in your investment decisions?
13. Do you discuss climate change risks and opportunities with your colleagues or clients?
14. How do you gather general information on climate change issues both outside and inside your investment profession? What sources of information do you use?
15. What types of information (market prices, narratives, charts, regional data, sector information)? Is this granular company information, sector specific issues or thematic trends?
16. If you find an interesting article, do you share that with your team directly, or write a note on the issue etc.
17. Do you have a research budget for information on climate change? Do you pay for external papers and reports etc.
18. Does your company belong to an investor group on climate change, and if yes, do you personally engage with them or read the reports? Do you feel that membership is useful – what type of engagement is most helpful (reports or meetings)
19. Do you network and engage with other companies, competitors etc. on climate risks and opportunities.
20. Do you feel that there is sufficient climate change data available to help inform your investment decisions? Does the uncertainty in climate data affect the ways in which you use the data?
21. What additional information would be helpful to better account for climate change in investment decisions?
22. What are the barriers to incorporating climate change considerations into daily investment decisions?
23. Has the policy regime increased the uncertainty around climate change science, the risks and opportunities?
24. Do you feel that you learn more about climate change in your job through reading reports and attending meetings, or at home via mainstream media, experience of physical changes (e.g. drought or floods) or social discussions?
25. What motivates you to find out and discuss climate change? Is it managers / beneficiaries / material concern for profits / moral / branding?

## Appendix 3.5: Coding Framework







## **Appendix 7.1: History Of IC Engagement in RI**

1998-2001: IC's start to develop RI services sporadically, and on a small scale. Many of these were based in the UK, which reflects broader ESG trends globally.

2001-2004: Following the dotcom crash and ESG scandals, such as Enron, demand for RI counsel increased, especially in the UK and Continental Europe. The larger IC firms responded to this demand and began developing small-scale expertise on corporate governance and environmental issues. For example, Mercer was one of the first large IC to develop a dedicated global team of RI specialists in 2004. A few RI and ESG specialist boutique consultants established during this time, such as onValues and Glass Lewis, hitting on an emerging trend and potential within gaps in this market for developed expertise.

2005-2007: Significant interest from investors in positive screening focused on sustainability themes, encouraging new services from ICs. Mercer, onValues and GES International became the first investment consultants to sign up to the Principles of Responsible Investment when it opened up its membership to service providers in April 2006.

2008-2009: Development of RI consulting services slowed in this period, possibly due to the onset of the Global Financial Crisis which refocused investors onto core financial considerations. However, new offerings were still being planned, and GFC did raise attention to the need to shift away from short-termism and the consideration of governance issues among some clients and consultants. Aon Hewitt became the second large, global IC firm to sign up to the PRI, in October 2009. Investor networks focusing on Responsible Investment also began putting pressure on ICs, with USSIF and EUROSIF both releasing surveys in 2009 which highlighted the persistent gap in IC RI provision but the expectation that this provision would grow in the coming years.

2010-2013: RI research and advice began to accelerate at this time, led by the large, global ICs and as a result of small but growing demand among the institutional investment market. Both Mercer in 2011 and Towers Watson in 2012 brought out significant pieces of research on ESG and sustainability, and publicised their responsible investment consulting services more widely. This period also saw a broader uptake of ESG themes by ICs around the world, including Continental Europe, the US, South America and Asia. This trend included hiring small ESG teams and signing up to PRI and other RI groups.

2014-2016: Global rise in RI agendas among institutional investors, driven by social pressures such as the Fossil-Free Divestment campaigns, and international attention on the theme around the Paris Agreement. This growing demand for Responsible Investment has been met by some ICs offering more ESG-tilted manager selection and monitoring services, but there remain a number of demand, supply and capacity issues hindering wider adoption into mainstream IC offerings.

2017: FCA review of Asset Management industry shines light on conflicts of interest and lack of long-term prospective in the IC industry. Calls for greater regulation of IC

industry. ClientEarth and PRI produce research on the need for ICs to integrate RI advice and services into their organizations.

(Sources: Knight & Dixon 2011; Caldecott & Rook 2015; Eurosif 2009; Ceres 2012; Mercer 2017c; PRI 2017; ClientEarth 2017)