

**The Challenges of
Responsible Investment Mainstreaming:
Beliefs, tensions and paradoxes**

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Preamble

Every dissertation is influenced by the perspective and life experience of its author. My perspective is one of a Belgian and American citizen, trained in a business school and teaching finance in another business school, after having worked in the financial service sector, mainly on corporate governance, from the mid-1990s to the mid-2000s.

I spend my time researching, educating (as a teacher and as a parent), reading, and engaging in my local community. My research interests started with questions about why financial markets seem impervious to critique, and evolved to focus on inquiries concerning *finance and society*. This includes questions on value, beliefs, and paradoxes.

In some ways my interest in this area can be traced back to much earlier in my life. When I was growing up in a family of 6, my father used to say "strive for excellence". My mother added "perfection does not exist on this side of resurrection" and "it's not important to be first". She told us "we trust you" and my father added "we're proud of you whatever you do". This forged my ideas of what is just and what is possible – just about anything, when dialogue takes place. It is the continuous process of becoming better that counts. As an educator, I see how the becoming of people and things is important, focusing on the development of a potential rather than considering things and people as a final product. And I see education as a means to change the belief of what is just and what is possible, as a way to construct a new imaginary. It is this process of becoming that fascinates me, even more than the outcome which is never quite reached.

My PhD process was marked by moments of great enthusiasm as I discovered theories which reintroduced the concepts of beliefs, values, compromises and change.

As I wondered what made me so enthusiastic about studying my topic, I realized that I found sense in studying the becoming of things. This dissertation therefore has a recurrent theme of change and stability, as I analyze the process of responsible investment mainstreaming at different levels and through different lenses.

After the 2008 financial crisis, it was striking to see how fast things came back to business as usual. As a teaching assistant in the finance department of ICHEC Brussels Management School, I organize every year a trip to London for our master students to discover “finance in the City”. We visit big banks, meet their HRM and fund managers, tour their trading floors. On one of these trips, the students met a former Lehman Brothers employee and asked him what the fall of Lehman changed for him, in his life as a banker. His reply was: “after only a few weeks, our whole team had been hired by competing banks in London, which goes to prove that we were the best.” This anecdote of back to business as usual is just one illustration of how financial markets seem to be impervious to radical change and to critique, a puzzle pointed out by several authors (Boltanski & Thévenot, 2006; Dardot and Laval, 2013). So this thesis is about studying change and stability in finance, with the case of responsible investment.

Abstract

The mainstreaming of responsible investment (RI) is an aspirational notion introduced by practitioners to promote the inclusion of ESG (environmental, social and governance) criteria in institutional investor's decision process. This mainstreaming, though undefined so far, is characterized by new actors in RI and new tools, which should lead to an increase in RI assets under management. But mainstreaming brings along new challenges for RI in terms of legitimacy and practices. The belief that business and market-based strategies will bring positive social and ecological change is far from natural, and results in tensions. Reconciling such different logics as maximizing shareholder return and aligning investors with broader objectives for society, provokes a transformation of RI, leading to paradoxes.

To overcome the difficulties associated with RI's mainstreaming, researchers increased their attempts to demonstrate the value of RI for institutional investors. To do so, most literature on RI, and on the value of sustainability in general, adopts a neoclassical approach focusing on financial return, with inconclusive results. This thesis set out to explore the challenges of RI mainstreaming in terms of beliefs, tensions and paradoxes. By adopting a new theoretical perspective this thesis seeks to develop a nuanced, critical understanding of RI mainstreaming. Specifically, it seeks to answer four questions: (1) "What are the collective beliefs for responsible investment and how have they evolved over time?" (2) "What are the disputes and resolutions around responsible investment's mainstreaming?" (3) "What tensions are embedded in RI mainstreaming and through which arrangements are they coped with?", and (4) "What are the ESG factors most relevant for a company's market risk, depending on its sector?"

The first study focuses on the content of collective beliefs (Orléan, 2006) through five periods of RI. The data revealed the existence of RI's "civil rights" years (1982-1991), "green niche" years (1992-1997), "professionalization" years (1998-2000), "SRI" years (2001-2004) and "ESG" years (2005-ongoing). This study followed the evolution of multiple collective beliefs over time to identify two distinct categories of collective beliefs – justifying RI and practicing RI—that characterize how mainstream actors collectively make sense of RI.

The second study goes further into "justifying RI", and contributes to research on processes of legitimacy using convention theory (Boltanski & Thévenot, 2006) to understand ESG challenges. A discourse analysis of UK press shows that RI focuses on appealing to conventional finance with a market logic, resulting in very few challenges of the legitimacy of the existing institutional order. Indeed, by referring to the dominant worlds of worth, RI validates them and strengthens the existing compromise.

The third and fourth study deal with "practicing RI". They complete the investigation with an empirical, data driven and investor-oriented approach. Study three provides evidence of the variety of tensions present in the process of RI mainstreaming and of the coping mechanisms used to deal with the tensions in practice, namely framing, shifting, transcending and defending the arrangement. We

see that while tensions are inherent in organizational systems, they are constructed as paradoxes by the actors involved with them. A duality of “contradictory, yet interrelated elements” (Smith & Lewis, 2011) is not a paradox if it is not acknowledged and treated as such by those subject to it. The fourth study analyses the link between sustainability and risk, measured by downside deviation. The results show that ESG metrics matter for market risk, particularly when measured by semi-deviation, but without any predictive power on the magnitude of future risk's reduction. The most relevant factors to reduce a company's market volatility vary from one industry to another.

Samenvatting

De mainstreaming van Duurzaam Beleggen is een ambitieus begrip ingevoerd door professionals om het bijvoegen van ESG-criteria (milieu-, maatschappelijke en bestuur criteria) te promoten in het besluitvormingsproces van institutionele beleggers. Hoewel deze mainstreaming tot nu toe ongedefinieerd is, wordt hij gekenmerkt door nieuwe actoren en nieuwe werktuigen in Duurzaam Beleggen, wat tot een groei van het beheerd vermogen zou moeten leiden. Maar de mainstreaming brengt ook voor Duurzaam Beleggen nieuwe uitdagingen mee qua legitimiteit en gebruik. Het geloof dat business- en marktgerichte strategieën een positieve sociale en ecologische verandering zullen teweegbrengen, is ver van vanzelfsprekend en leidt tot spanningen. Het verzoenen van zo uiteenlopende logica's, zoals het maximaliseren van de aandeelhouderswaarde aan de ene kant, en beleggers rijp maken voor bredere maatschappelijke doelstellingen aan de andere, leidt tot een transformatie van Duurzaam Beleggen, en dit brengt een aantal paradoxen met zich mee.

Om de met de mainstreaming van Duurzaam Beleggen gepaarde moeilijkheden te boven te komen, probeerden onderzoekers de waarde van Duurzaam Beleggen voor institutionele beleggers steeds grondiger aan te tonen. Het gros van de vakliteratuur over Duurzaam Beleggen, alsook over de waarde van duurzaamheid in het algemeen, hanteert een neoklassieke aanpak die op het financiële rendement focust en die aanpak leidt niet tot overtuigende resultaten. De doelstelling van dit proefschrift is het bestuderen van de uitdagingen die verbonden zijn aan Duurzaam Beleggen in termen van geloof, spanningen en paradoxen. Via een nieuw theoretisch perspectief wordt er getracht genuanceerd en kritisch inzicht aan te brengen in de mainstreaming van Duurzaam Beleggen. En er wordt dan ook in het bijzonder gefocust op vier vragen: (1) Wat zijn de collectieve geloven over Duurzaam Beleggen en hoe hebben ze zich mettertijd ontwikkeld? (2) Wat zijn de onenigheden en de overeenkomsten over de mainstreaming van Duurzaam Beleggen? (3) Welke spanningsvelden zijn te vinden binnen de mainstreaming van Duurzaam Beleggen en aan de hand van welke strategieën worden ze aangepakt? (4) Wat zijn de meest relevante ESG-factoren voor het marktrisico van een bedrijf, afhankelijk van de businesssector?

Het eerste onderzoek is vooral gericht op de inhoud van de collectieve geloven (Orléan, 2006) en dit over vijf periodes van Duurzaam Beleggen. Kwamen uit de data tevoorschijn: de 'civil rights'-jaren (1982-1991), de 'green niche'-jaren (1992-1997), de 'professionalization'-jaren (1998-2000), de 'SRI'-jaren (2001-2004) en de 'ESG'-jaren (2005- tot op heden). Deze studie bestudeert de evolutie van veelvoudige collectieve geloven na verloop van tijd, en daaruit kunnen we twee aparte categorieën identificeren, namelijk, Duurzaam Beleggen bewijzen en Duurzaam Beleggen in de praktijk brengen. Die categorieën bekenmerken de manier waarop mainstream actoren gezamenlijk verstandig gebruik maken van Duurzaam Beleggen.

De tweede studie gaat dieper in op 'het bewijzen van Duurzaam Beleggen', en draagt bij tot onderzoek over legitimiteitsprocessen door gebruik te maken van de 'convention theory' (Boltanski & Thévenot, 2006) om ESG-uitdagingen te begrijpen. Een redevoering analyse van de Britse pers toont aan dat Duurzaam Beleggen niet werkelijk verschilt van de traditionele Finance met een marktlogica, zodat de legitimiteit van de bestaande institutionele orde heel weinig uitgedaagd wordt. Inderdaad, door te verwijzen naar de dominante werelden van waarde, bevestigt Duurzaam Beleggen die en versterkt dan ook het bestaande compromis.

De derde en vierde studies focussen op het “uitoefenen van Duurzaam Beleggen”. Zo wordt het onderzoek afgewerkt met een empirische, data gedreven en investeerdersgerichte aanpak. De derde studie bewijst het bestaan van allerlei spanningen in het mainsteamingsproces van Duurzaam Beleggen, en van de mechanismen die gebruikt worden om met deze spanningen, in de praktijk, om te gaan. We weten natuurlijk dat spanningen inherent zijn aan organisaties en systemen, maar we kunnen toch vaststellen dat die, door de betrokken actoren, beschouwd en behandeld worden als paradoxen. Een dualiteit van “tegenstrijdige maar toch met elkaar verbonden elementen” (Smith & Lewis, 2011) is geen paradox zolang die niet erkend en behandeld wordt door diegenen die daarmee te maken krijgen. De vierde studie analyseert het verband tussen duurzaamheid en risico, gemeten door een negatieve standaardafwijking. De resultaten tonen dat ESG-metrieken van belang zijn voor het marktrisico, in het bijzonder wanneer dit door semi-afwijking wordt gemeten, maar zonder voorspellende kracht over de omvang van toekomstige risicovermindering. De meeste relevante factoren om de marktvolatiliteit van een bedrijf te verminderen, variëren van de ene industrie naar de andere.

Résumé

L'intégration de l'investissement socialement responsable (ISR) est une aspiration des praticiens de la finance qui vise à inclure des dimensions environnementales, sociétales et de bonne gouvernance (ESG) dans les critères de décision des investisseurs institutionnels. Si cette notion d'intégration de l'ISR est actuellement en manque de définition, elle se caractérise par l'arrivée de nouveaux acteurs et de nouveaux outils, qui devraient mener à une augmentation des actifs ISR sous gestion. Mais cette tendance ne se concrétise que peu, et l'intégration de l'ISR amène de nouveaux défis en termes de légitimité et de pratiques. En effet, la croyance que des stratégies de gestion ancrées dans une logique financière mèneront naturellement à des améliorations sociétales et environnementales est loin d'être évidente, et provoque des tensions. Les tentatives pour concilier des objectifs aussi différents que la maximisation du rendement actionnarial et l'alignement des intérêts des actionnaires avec les enjeux de société mènent à une transformation de l'ISR, et exacerbent sa nature paradoxale.

Pour pallier les défis de l'intégration de l'ISR, de nombreux chercheurs ont tenté de démontrer la valeur de l'ISR pour l'investisseur institutionnel. Dans cette optique, la littérature académique sur l'ISR et sur la soutenabilité en général tend à adopter une approche néo-classique qui se focalise sur le rendement financier, avec des résultats mitigés. Cette thèse vise l'exploration des défis de l'intégration de l'ISR en termes de croyances, de tensions et de paradoxes. En suggérant un nouveau cadre théorique pour cette problématique, notre objectif est d'apporter une compréhension plus nuancée et critique de l'intégration de l'ISR. Ceci se fera à travers quatre questions de recherche : (1) Quelles sont les croyances collectives pour l'ISR et comment ont-elles évolué dans le temps ? (2) Quels sont les épreuves et les arrangements dans l'intégration de l'ISR ? (3) Quelles sont les tensions au cœur de l'intégration de l'ISR et comment sont-elles gérées ? Et (4) Quels sont les facteurs ESG qui impactent le risque de marché d'un investissement, selon son secteur ?

La première étude explore le contenu des conventions collectives (Orléan, 2006) à travers les cinq périodes de l'ISR que sont les années « droits civils » (1982-1991), les années « niche verte » (1992-1997), les années de « professionnalisation » (1998-2000), les années « ISR » (2001-2004) et les années « ESG » (2005-en cours). Cette étude suit l'évolution des multiples conventions collectives à travers le temps pour en identifier deux sortes – justification de l'ISR et pratique de l'ISR – qui caractérisent la manière dont les acteurs financiers donnent sens à l'ISR.

Un pas plus loin, la seconde étude analyse la question de la « justification de l'ISR », contribuant ainsi à la recherche sur les processus de légitimation, sur base de la théorie des conventions (Boltanski & Thévenot, 2006). Une analyse du discours dans la presse anglo-saxonne met en lumière la logique de marché utilisée pour justifier l'intégration de l'ISR, avec très peu de mise à l'épreuve de l'équilibre institutionnel en place. En effet, en se référant aux cités dominantes, l'ISR valide et consolide le compromis existant.

Les troisième et quatrième études plongent dans la « pratique de l'ISR ». Elles complètent la recherche avec une dimension empirique orientée vers l'investisseur, grâce à une approche ethnographique. Les tensions liées à l'intégration de l'ISR sont identifiées, ainsi que la gestion de ces tensions, illustrant comment les tensions inhérentes à un système organisationnel peuvent être considérées comme paradoxales par les acteurs. Des dualités d'éléments contradictoires et inter-reliés (Smith & Lewis, 2011) ne deviennent en effet des paradoxes que si elles sont reconnues et traitées

comme tels par les acteurs avec des allers-retours constants d'une dimension de la dualité à l'autre. La quatrième étude, enfin, analyse le lien entre la soutenabilité et le risque de marché, mesuré par le demi écart-type du rendement. Les résultats permettent d'identifier les indicateurs ESG qui influencent ce risque de perte, malgré l'absence de pouvoir prédictif concernant l'amplitude de la réduction de perte. Ces indicateurs ESG sont spécifiques à chaque industrie.

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Part 1

1 Introduction

I once attended a workshop on sustainability where the guest speaker, whom I had specifically come to hear, concluded that “responsible investment is ridiculous, and makes no sense”. This kind of reaction towards responsible investment (RI) is not uncommon. It illustrates the conflicting logics and objectives that characterize RI as it is defined and practiced today. RI is particularly full of paradoxes since it has begun a mainstreaming process. These are hard to reconcile, and can lead to tensions. So we could simply dismiss responsible investment as a flawed concept -- as the quote suggests. But then aren't all organizations flawed by nature because they are paradoxical? Or, as I chose to do, we can instead study RI to better understand this phenomenon, and investigate what we can learn from the challenging process of RI mainstreaming.

The mainstreaming of responsible investment is an aspirational notion introduced by practitioners to promote the inclusion of ESG (environmental, social and governance) criteria in institutional investor's decision process. This mainstreaming, though undefined so far, is characterized by new actors in RI and new tools, which should lead to an increase in RI assets under management. But mainstreaming brings along new challenges for RI in terms of legitimacy and practices. The belief that business and market-based strategies will bring positive social and ecological change is far from natural, and results in tensions. This preconception is similar to the idea that with RI you can “do well by doing good”. Reconciling such different logics as maximizing shareholder return and aligning investors with broader objectives for society, provokes a transformation of RI, leading to paradoxes.

RI mainstreaming is, of course, a compelling object to study if we are interested in alternatives to conventional finance. There are many frustrations with conventional financial markets, which seem to have lost contact with business and society. By including environmental, social and governance criteria in investment decisions, by adopting a long term focus, and by taking stakeholders into account, RI may offer an alternative to some of finance's shortcomings. But RI mainstreaming is also an opportunity to study the becoming of things. Indeed, change is omnipresent in RI, with external invasions from multiple influences, translations through time and space, or collective agreements evolving and overlapping through time.

Over the past 40 years, RI has evolved through different periods, from being a faith-based investment, which excluded stocks based on religious values, to what is now called ESG integration, which institutional investors practice by adapting their financial tools to include environmental, social and governance criteria. The case of responsible investment is interesting because it offers a complex and fragmented institutional environment to study change and stability. With the different RI periods, we can study different equilibriums and the processes that lead from one to the other.

In addition, RI mainstreaming is an opportunity to study value, and particularly whether the coexistence of multiple forms of value is possible. ESG mainstreaming addresses the ambivalence of turning unique qualities into one single-minded (economic) metric of worth, which makes it an interesting case for anyone experiencing the audit society we live in.

The next sections will further introduce the research. Section 1.1 clarifies the aim of the research, which is to build a framework for a nuanced, critical understanding of RI. It introduces the four research questions that will be answered. Together, they give insight into the challenges of responsible investment

mainstreaming with an alternative perspective, different from the traditional, neo-classical study of finance. Section 1.2 describes the structure of the thesis. My research was conducted through four different academic articles. I show how these relate to each other and contribute to a multifaceted but coherent analysis of the challenges of responsible investment mainstreaming. Section 1.3 lays out the context and some concepts required to understand the research object. Section 1.4 details the ontology and epistemology underlying the research, leading to a coherent methodology which I describe and justify in section 1.5.

1.1 Research objective and questions

The aim of the studies I conducted during my PhD was to understand the phenomenon of RI mainstreaming as a way to uncover the standards, ideals, and goals which are evolving in RI. In the following chapters, I will address four research questions, which are declinations of “What are the challenges of responsible investment mainstreaming, in terms of beliefs, paradoxes, and tensions?” because this phenomenon is having trouble materializing

First, I ask “what are the collective beliefs (Orléan, 2005) for responsible investment and how have they evolved over time?” With this question I identify the collective beliefs of RI in mainstream finance; I address the evolution of the collective beliefs over time; and I discuss the implication of those collective beliefs for mainstreaming and RI in general.

Then, I ask what are the disputes and resolutions (Boltanski and Thévenot, 1999) around responsible investment’s mainstreaming? More specifically, what are the arguments and counter-arguments around those disputes and what are potential resolutions of the disputes surrounding responsible investment? I address this question

in terms of justification, as proposed by the “economies of worth”, using discourse analysis.

After studying discourse, I study practice by following a group of institutional investors creating a framework to practice RI. I ask: What tensions are embedded in RI mainstreaming? And through which arrangements do the individuals, the group or the institution cope with the paradoxical tensions (Smith & Lewis, 2011)?

Finally, I ask: “what are the factors most relevant in evaluating a company’s market risk, depending on its sector?” The originality of my approach resides in the framework that I explore, after having observed its construction by a group of institutional investors over 2 years.

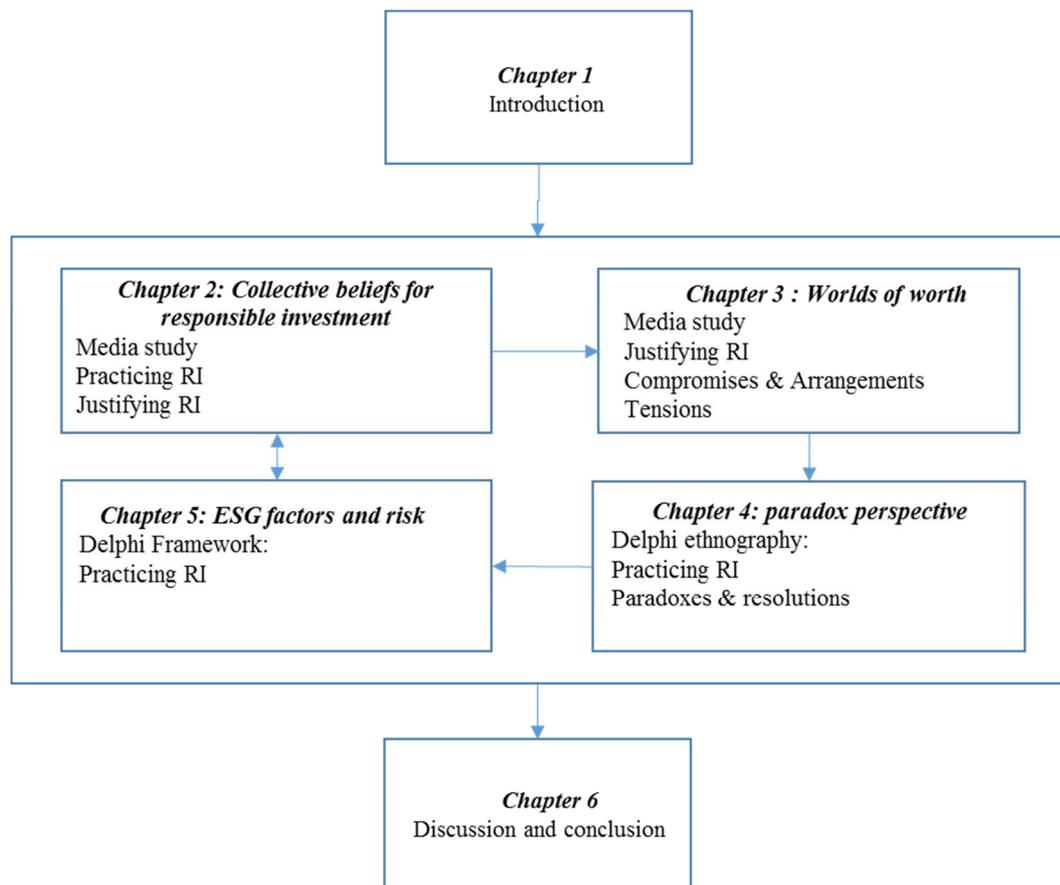
As a result, this thesis primarily contributes to the literature on RI mainstreaming. I provide insights into the capacity of RI to become mainstream and I define five periods that characterize the evolution of RI. But I also provide accounts of why the phenomenon of RI mainstreaming exists and how it operates in the manner it does, thereby theorizing the phenomenon of RI mainstreaming, which very few studies have done so far (see Arjaliès, 2010; Slager, Gond, & Moon, 2012, for exceptions). With the different studies I conducted, I participate in an ongoing conversation about how institutions, such as collective beliefs, and processes, such as paradox resolution, influence our thoughts and behavior.

1.2 Structure and chapter flow

This dissertation is built around four chapters (chapters 2 through 5) corresponding to four academic articles. Two of these articles, both published, are media studies based on press data, with media articles from the financial and non-financial press on the topic of responsible investing. The other two articles are respectively a quantitative and an ethnographic study based on a group of institutional

investors which I followed for two years in their commensuration efforts to design a framework for ESG mainstreaming which would allow them to compare different investments according to common metrics. Figure 1 below represents the overall structure of the chapters and the flow of the dissertation in a graphical manner, illustrating the way certain chapters (re)use/build on each other

Figure 1 : Flow of chapters



1.3 The challenges of responsible investment mainstreaming: context and concepts

This dissertation draws on three conceptual pillars: collective beliefs as coordination mechanisms, tensions conceived as test situations for a dispute, and paradoxes understood as contradictory, yet interrelated elements. We clarify these concepts here a first time, along with the context of responsible investment (RI) and RI mainstreaming to which these concepts apply.

Responsible investment is intuitively referred to as “doing well, while doing good”, suggesting a double objective of financial return along with a positive impact on society. It is generally defined as an investment process that integrates social, environmental, governance and ethical considerations into investment decision making (Cowton, 1994; Eurosif, 2010; Hudson, 2005; Renneboog, Terhorst, & Zhang, 2008; Sparkes, 2002; Waddock, 2003).

Responsible investment is part of the changing environment of financial markets. Inequities in the economic system have grown in recent years, prompting debates and crises. One of the latest discussions aimed at addressing this in the EU institutions is on the evolution of responsible investment. Indeed, the European Commission has issued a call to “team up with investors to drive the transition to a sustainable economy”. This link between financial markets and a sustainable economy is one that has been criticized as insufficient in the past years. The recent financial crises have illustrated quite strikingly the disconnect between finance and the real economy. Responsible investment, and its mainstreaming, is often presented as a possible solution to this disconnect (Novethic, 2011) insofar as the RI community acknowledges that an investment has an impact on society, and accepts the responsibility to “evaluate that impact and to direct it, as much as reasonably possible,

to societally productive ends, while achieving a competitive return” (Louche & Lydenberg, 2011).

RI is a very diverse field, as any historical contextualization will highlight. The ambiguity inherent to RI provides room for the coexistence of multiple interpretations and practices, and allows different stakeholders to identify with the same idea, even though they do not necessarily agree on its specific content (Christensen, Morsing, & Thyssen, 2013). In this thesis, I acknowledge all forms of RI to provide a historical grounding, but then focus on ESG integration as the expression of its mainstreaming. Despite its contested definition and the variety of labels, constant denominators of responsible investment approaches include a stakeholder view, a long-term vision and a broad definition of materiality. As a consequence, RI could address many of the criticisms that financial markets have been facing, including short-termism, disconnect from the economy, and the idea of a rational maximizer of shareholder value ignoring stakeholders’ interests.

At this point, it is worth asking whether the term RI is an ‘essentially contested concept’, or whether it is merely ‘radically confused’ (see Gallie, 1955). The theory of essentially contested concepts suggests that there are certain concepts whose very nature will lead to endless disputes about the proper meanings of these concepts. These essentially contested concepts share specific characteristics for seven key conditions: (1) appraisiveness, (2) internal complexity, (3) various describability, (4) openness, (5) aggressive and defensive uses, (6) original exemplar, and (7) progressive competition. Scholars consider Corporate Social Responsibility (CSR) to be an « essentially contested concept » (Okoye, 2009). I argue that RI, on the other hand, is rather a confused concept which would benefit from being treated as a cluster

concept (Choi and Majumdar, 2014), i.e. a conglomerate of sub-concepts such as ESG investing, impact investing and ethical investing.

If RI is obviously not a univocal concept, let alone a set of clear cut practices surrounded by academic and practitioner consensus (Matten and Moon, 2008; Christensen et al. 2014), the phenomenon of **RI mainstreaming** is even more of a moving target. Mainstream is not a concept, and has not really been the subject of academic research. It is rather a practitioners' aspiration reflecting their ideals and intentions rather than actual behaviors (Christensen, Morsing, & Thyssen, 2013). Exploring mainstreaming therefore uncovers the standards, ideals, and goals which are evolving in RI. Since the arrival of institutional investors in the RI arena, mainstreaming has become a litany in RI experts' discourse.

Responsible Investment mainstreaming is currently scrutinized in a growing body of literature (Giamporcaro & Gond, 2010; Sparkes & Cowton, 2004). Despite a growing interest in responsible investment, the literature highlights a number of impediments, both internal and external to the organization, which make the actual practice of responsible investment among institutional investors rather limited (Amaeshi, 2010; Guyatt, 2006; Juravle & Lewis, 2008). Furthermore, when ESG criteria are used by mainstream investors, the ESG team will often be isolated within the institutional investor's organization and the process is not integrated in the institution (Louche, 2004). However, many indicators do point towards an ongoing process of the institutionalization of the field, including the appearance of RI indices, RI rating agencies, and RI considerations in financial analyst training material.

While RI mainstreaming is not currently achieved, albeit well under way (Amaeshi, 2010), it provides a case in point of the fast changing field of finance. Indeed, the financial sector is one field that has been changing very rapidly in recent

years. It has been characterized by impressive innovation, growing complexity and interdependence, dramatic uncertainty and instability (Carruthers & Kim, 2011). A multitude of actors in this field impose their particular institutional order, imposing processes and giving legitimacy to financial intermediaries: stock exchanges and their regulators set rules for listed companies, rating agencies set norms for equity and debt issuers (Sinclair, 2000), consultants and analysts set norms for valuation methods (Lordon, 2000).

Collective beliefs are one of the challenges of responsible investment's mainstreaming, as I show in this thesis, because the current collective beliefs regarding responsible investment are not favorable to mainstreaming. For example, RI is believed to be complicated, making it hard to put in practice. And RI is believed not to lead to superior returns, making it hard to justify. To address concepts such as beliefs and justification, which are important in this thesis, I rely among others on **convention theory** – a theory developed by a group of institutionalist economists and pragmatist sociologists (Boltanski & Thévenot, 2006; Boltanski & Chiapello, 2005; Dupuy, Favereau, Orléan, Salais, & Thévenot, 1989). Together they propose an enlarged model of rationality, with embedded questions of coordination and values. Convention theory focuses on analyzing cognitive interactions and the multiplicity of equilibriums using discourse and conventions. Its authors adopt a constructivist perspective on the objects they study, and focus on legitimacy as the outcome of a process of justification when facing disputes, privileging research methods close to ethnography. This research philosophy and methodology are aligned with the ones I adopt in this thesis, as explained in the methods section.

Tensions are conceived as test situations for a dispute. The values which are disputed may be shaken, but may also come out strengthened by the dispute after a

test. Boltanski (2009) identifies three types of tests, leading to different resolutions. The “test of truth” attempts to defend what is, a good versus evil story. It is a simplification characterized by a tautological discourse to defend the constructed reality with the intent of confirming it rather than criticizing it. The next level is the “test of legitimacy” during which actors question the reality as it is constructed by confronting it with what they are experiencing. Finally comes the “existential test”, which takes place at an individual level, based for example on a personal experience of injustice. These tests have uncertain outcomes but may lead to arrangements or compromises as a result of the institutional work of justification (Patriotta et al., 2011), which is one reason why they are relevant to discuss how responsible investment might impact the financial system.

Paradoxes, the third conceptual pillar, allow to consider the dynamics of RI mainstreaming. Indeed, these contradictory, yet interrelated elements, like judgment and metrics in a commensuration process, or like the economic rationale and the sustainability rationale in responsible investment, can co-exist, feed each other and can be channeled through or eliminated from a process. With paradoxes, we see that the evolution of RI is not a linear process, made of one equilibrium after the other. In fact, the ambiguity of RI could be exacerbated with mainstreaming, because of the many coexisting paradoxes.

Researching RI mainstreaming, therefore, requires sensitivity to process and allowance for exploration and disagreement. For such objects of study, a mix of methods is required, combining historical and longitudinal studies, case studies, and empirical exploration (which we apply to discourse as well as to tools, as described in the methods section).

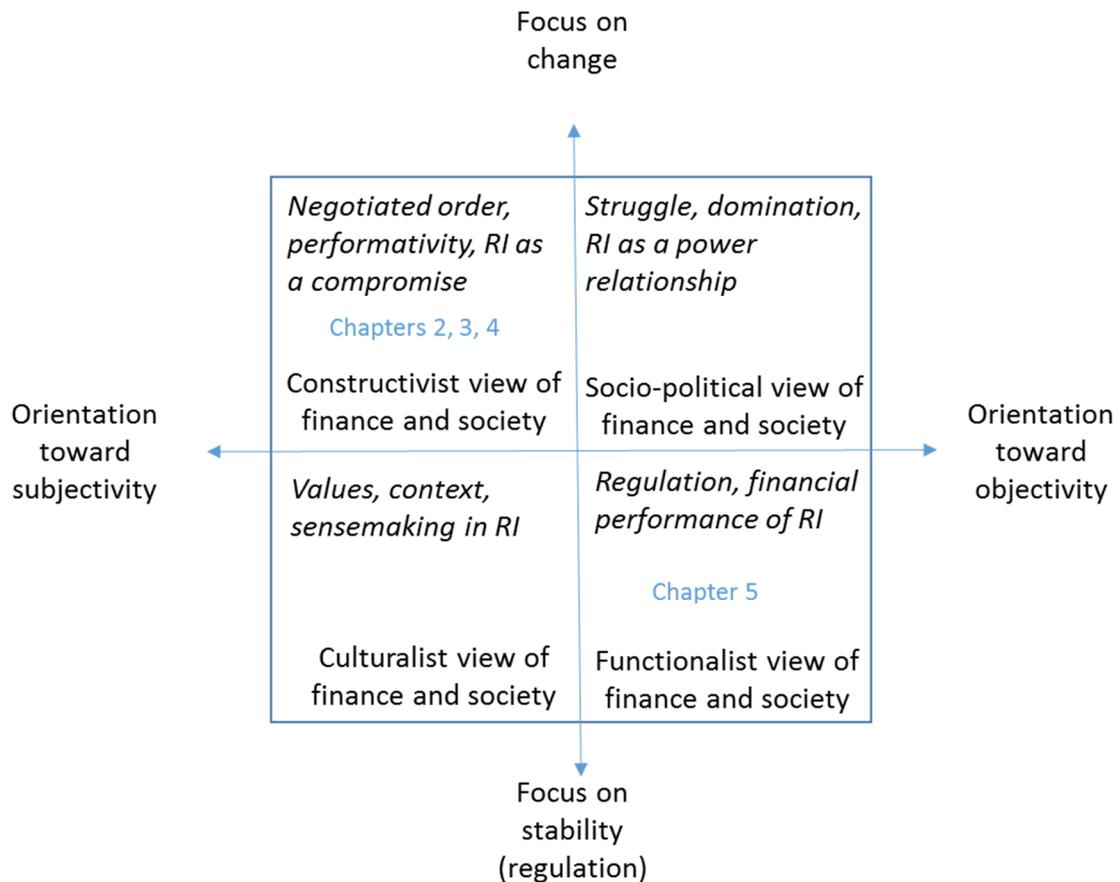
1.4 Research philosophy: ontology and epistemology

I consider myself to be an interpretivist constructivist. Meaning emerges from our engagement with the realities of the world – and is constructed. I consider that individuals are not agents but interpretative actors with critical capacities, rendering their discourse relevant. I chose this approach of my topic because I was frustrated by the lack of critical thinking on business and society throughout my professional experience. I was surrounded by two perspectives, neither of which satisfied me. A first, most common approach was utilitarian: in my professional environment, I saw no questioning on meaning, no taking into account of any historical context. Events were taken for granted and appreciated for their functionality. A second approach, more of an NGO vision, was extremely critical and normative, anti-business, and did not correspond to my desire to focus on what positive outcomes can result for things. I wanted an approach where critiques are welcome, and alternatives are considered, including critiques on alternatives, without falling into pessimism and negativity. To do this, I had to learn and practice a critical perspective myself. So I devoted the past five years pursuing a PhD to develop my fluency in critical thinking, through the examination of theories and methodologies in institutional theory and convention theories. The thesis process allowed me to adopt a new critical perspective on my subject, to reformulate propositions and reevaluate them. As an illustration, I re-evaluated my position on paradoxes during my research. I initially thought complexity is good and necessary (despite students shying away from it). My pre-conceptions were similar to Quinn and Cameron's views on positive organization theory -- that it is desirable to have both sides of a paradox. But this position ignores the dark side of paradox, and the burden that these paradoxical tensions may be for some individuals (i.e. the emotion resulting from the paradox). After this PhD process, I could say I

have become attracted to critical inquiry, which I would like to adopt as a theoretical perspective in future research. This ontology corresponded to my perspective and life experience.

Figure 2 positions my research in the pluralistic epistemological perspectives of existing RI research. Most existing research can be placed in the bottom right quadrant, such as the current debate on RI's performance, which I participate in with chapter 5. Most of my research questions are positioned in the upper left quadrant, with a focus on change and an orientation toward subjectivity.

Figure 2 positioning my research perspective in a pluralistic RI framework, adapted from Gond and Matten (2007)



1.6 Methodology: data selection and research design

My methodology varies from econometrics to interpretative ethnography as well as discourse analysis as illustrated in figure 3.

Figure 3 : A research design combining multiple approaches and levels of analysis

	Chapter 2 <i>Collective beliefs for RI</i>	Chapter 3 <i>Worlds of worth in RI</i>	Chapter 4 <i>Paradox perspective on RI</i>	Chapter 5 <i>ESG factors and risk on RI</i>
Object of analysis	Discourse	Discourse	Practice	Practice
Data	Media	Media	Process data	KPIs
Keywords	Coordination	Coordination Justification	Justification	Standardization Materiality
Perspective	Constructivist	Constuctivist	Constructivist & Interpretivist	Functionalist & Interpretivist
Related theory	Convention theory	Worlds of worth	Paradox	Neo-classical finance
Concepts	Collective beliefs	Justification and resolutions	Paradoxes and resolutions	Correlations Factors
Reference authors	Orléan	Boltanski & Thévenot	Smith & Lewis	Fama & French
Method	Discourse analysis	Discourse analysis	Ethnography	Econometric

In chapters 2 and 3 I use media data to study discourse. The press articles I collected provided non-sensitive, publicly available material, from which I was independent as a researcher. This media data lent itself well to an analysis with theories on equilibrium, such as convention theories.

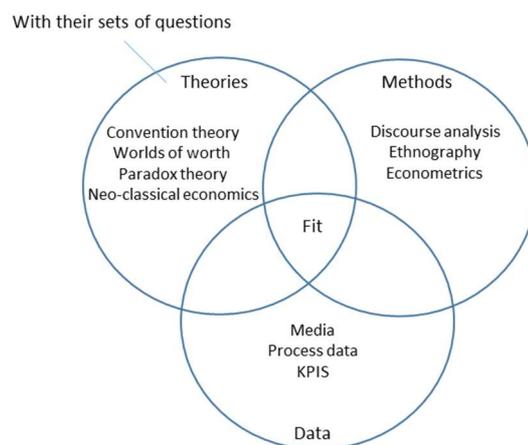
In chapter 4, the data I collect comes from my ethnographic observation of the Delphi process. This data lends itself to analysis with theories on processes, such as paradox theory. While I limited my interferences in the Delphi process, I could not be independent as a researcher, in the same way as I was in the other studies. As an illustration, I was considered by the people in the Delphi project as a justification mechanism: being observed by an academic was a way to increase their legitimacy. I address this possible distortion with reflexivity, and document it in the chapter.

Chapter 5 is data driven. In it, I adopt an exploratory approach, with the Delphi framework and Bloomberg data as my point of departure. The framework was

constructed by institutional investors, through a dialectic process leading to consensus on what KPIs should appear in the framework. The Bloomberg data, which I use to populate the framework, is collected from publicly disclosed information by companies, without any extra level of interpretation. As a result, I distinguish myself from previous research of this kind that typically uses the KLD framework, and uses composite metrics constructed by third parties, which adds a level of interpretation between the data and the researchers.

The rationale for this mixed methods approach flows from the research questions I raised, and the discussions I meant to participate in. While the econometric chapter was important in order to take part in the current discussions on RI's challenges (namely, its un-evidenced value creation), this approach also showed its limits in advancing research on RI mainstreaming, because of the necessary fit between theories, data and methods. In this thesis, I offer multiple perspectives on the challenges of RI mainstreaming, which only a mixed methods design could help me address.

Figure 4 : Rationale for mixed methods: the fit between theory, data and methods.



In addition, the different articles and research questions allowed different levels of analysis. Orléan's positioning in convention theory is well suited to study the

meso-level, with the auto-referential belief of the market. Boltanski and Thévenot's worlds of worth allowed a focus on the micro-level, with the individual actor's justification. Paradox theory seemed well suited for all levels of analysis, including individual paradoxes, organizational paradoxes, and institutional level paradoxes. Paradox theory also allows me to add a focus on dynamics rather than on a series of equilibriums. And finally I took a micro-level look at tools. Economic tools such as the modeling of an ESG framework imply a micro level focus on individual preferences and productive acts. Throughout this dissertation, my focus is on institutions, and I draw on institutional theory to understand their influence. But I also look at the behaviors and beliefs of actors in these institutions, as part of the puzzle.

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Part 2

2 Collective beliefs on responsible investment

2.1 Chapter summary

Attempts to define and evaluate RI have not gathered much consensus. They fail to recognize that RI is a construction, which evolves over time and covers heterogeneous practices. In this context, we need to identify the belief underlying RI to determine the value it can represent for financial markets.

This first chapter¹ provides insights to help understand what RI mainstreaming consists in, by adopting a new theoretical perspective on ESG. Building on responsible investment (RI) data from the U.K. financial press between 1982 and 2010, I examine the collective beliefs which financial actors rely on to take decisions under uncertainty, as a way of understanding the status of and implications for RI mainstreaming. The analysis of collective beliefs through five periods of RI lead me to define two theoretical dimensions—justifying RI and practicing RI—that characterize how mainstream actors collectively make sense of RI. My analysis reveals that the RI collective beliefs currently (a) do not provide a favorable environment for RI mainstreaming and (b) need to be taken into account when discussing the value of sustainability.

2.2 Introduction

Academic literature has struggled to demonstrate the business case of sustainability in responsible investment (RI), that is the integration of environmental, social and governance (ESG) issues into mainstream finance (Kurtz, 2008). However demonstrating the value of RI is important and probably necessary for RI to shift from

¹ This chapter was published as the following article: Dumas, C., & Louche, C. (2015). Collective beliefs on responsible investment. *Business & Society*, 0007650315575327.

a niche to mainstream. More than 200 academic articles exist on the subject of sustainability's financial performance (Derwall, Guenster, Bauer, & Koedijk, 2005; Bauer, Derwall, & Otten, 2007) including several meta-studies (Orlitzky, Schmidt & Rynes, 2003; Allouche & Laroche, 2005; Wu, 2006). Despite the ongoing spirited debate, the performance of RI remains largely inconclusive (Margolis, 2009). This highlights a paradoxical situation where on the one hand many signs show that responsible investment has gained importance in capital markets (Mercer, 2009; Mercer & UNEP FI, 2007), but on the other hand there has not been a significant global shift towards greater sustainability in finance.

In this chapter I propose to explore this paradox through a new theoretical lens. Building on the concept of collective beliefs (Orlean, 2004; Bourghelle 2005; Dequech, 2008), we argue that RI mainstreaming is unlikely to happen as long as it is not supported by the collective beliefs, that is shared interpretations, that guide investors' actions and decisions (Jemel-Fornetty, Louche, & Bourghelle, 2011). We argue that the understanding of the collective beliefs around the activity of responsible investment can provide insights on equity market participants' decision making. They thereby inform the debate on sustainable development and financial markets.

To advance this perspective, we ask two main questions: What are the collective beliefs for responsible investment and how have they evolved over time. Three objectives flow from these research questions. We first want to identify the collective beliefs of RI in mainstream finance. Second, we address the evolution of the collective beliefs over time. Third, we aim to discuss the implication of those collective beliefs for mainstreaming and RI in general.

The analysis of the collective beliefs is based on the RI media coverage in the UK financial press between 1985 and 2010. During this period, we identified 3,462 articles to which we applied a bracketing method (Langley, 1999) in order to decompose the history of responsible investment into successive RI periods. We then performed an in-depth content analysis of the press articles for a sub-sample of 89 articles.

The data shows that five periods characterized the evolution of RI. Those periods are each marked with a very specific terminology and focus. It highlights the dynamism of the field but also the fact that RI is still in a process of institutionalization. The analysis has allowed us to identify collective beliefs around RI and revealed that the collective beliefs are not stable yet. The collective beliefs identified in our study can be classified in three main areas– ‘what is RI’, ‘why do RI’ and ‘how to do RI’. The content of the collective beliefs highlight the complexity of RI and tensions linked to RI mainstreaming.

We primarily contribute to the literature on RI mainstreaming. Although mainstreaming has been widely discussed, very few studies, if any, have tried to theorize this phenomenon. We first provide a longitudinal study of RI supported with empirical data. Second we focus on the meso-level, between the individual actors and the institutional level, by considering collective beliefs. And third we provide insights in the capacity of RI to become mainstream.

Furthermore, our research on RI provides a new area of study for convention theory. Most of all, we offer an empirical exploration of collective beliefs as well as a method to examine collective beliefs. Most of the studies on collective beliefs are indeed either conceptual or remain rather vague on how to empirically examine collective beliefs.

Finally our study contributes to theory development by refining the notion of collective beliefs. We identify two types of collective beliefs – justifying RI and practicing RI – and show that justification and action coexist and interact. It therefore participates in an ongoing conversation about how institutions influence our thoughts and behavior.

This chapter is organized as follows. The first part outlines the theoretical framework and context of RI mainstreaming. The second part presents the research design, data and methods used in the study. The third part provides the analysis and findings with a focus first on the RI periods, then on the collective beliefs. The results are discussed in the fourth and last part, including their implications and ideas for further research in the area of RI mainstreaming.

2.3 Collective beliefs and RI mainstreaming

2.3.1 Collective beliefs

The concept of belief is not common in economics and finance (Orléan, 2006). The financial system is largely based on economic analysis and neo-classical financial theory that both give great importance to quantitative measures. However, by disregarding the beliefs and social context in which these numbers are produced,

standard theories fail to explain anomalies such as speculative bubbles, confidence crises, excessive volatility, not the least of which is the latest financial crisis. They also fail to consider important dimensions of value (Orléan, 2011).

Value is a representation constructed by a group (Orléan, 2011; Zajac & Westphal, 2004). This is true for religious value or aesthetic value but also for economic value, which neo-classical economics does not recognise. Even if economic value distinguishes itself from others because it is represented by a price, it still is largely a social construction.

A well-documented illustration of this social construction of value is the Black–Scholes–Merton options pricing formula which gained exponential success in the 1970s among option traders, regardless of its accuracy in calculating option prices and of traders’ personal belief in the accuracy of the model. Economic actors used this model to coordinate their actions under uncertainty, based on the collective belief that a majority of other economic actors used the model, with the unintended consequence of changing patterns of prices in the option market (Beunza, Hardie, & MacKenzie, 2006; MacKenzie, 2006 ; Millo & MacKenzie, 2009).

The collective belief is a shared interpretation of the future evolution of financial markets, and plays a central role in Orléan’s research (2004). He defines collective beliefs as follows:

“An individual I believes that the group G believes the proposition P if he believes that, in the majority, the members of the group G believe that the group G believes P” (Orléan, 2006, p.171).

A collective belief can therefore be disconnected from what individual agents believe: this is its self-referential nature. As a result, the market has its own

autonomous belief, which is not the sum of individual beliefs. This becomes evident when investors make decisions based on their anticipation of the future behavior of “the market”, and when we observe discourse such as “*the market* believes bonds are over-priced” (Schaefer, 2013) or “*the market* does not believe the FED” (Shellock, 2013).. Under uncertainty, collective beliefs will serve investors to make decisions, thereby influencing economic value and the adoption of new practices.

A number of empirical papers have explored how financial market participants coordinate their actions based on collective beliefs (Table 1). Bourghelle et al. (2011) and Guyatt (2006) address more specifically the case of RI mainstreaming, both suggesting that collective beliefs constitute impediments to mainstreaming. The former discusses this thesis theoretically, but is not backed up by empirical data. And though the latter refers to collective beliefs, these notions are presented in a behavioral finance perspective rather than according to Orléan’s framework.

Table 1: Some illustrations of collective beliefs in literature

Author	Collective belief
Brière (2005)	Interest rates result from collective beliefs based on statements of the central bank
Jemel-Fornetty, Louche, & Bourghelle (2011) Guyatt (2006)	RI mainstreaming is slowed down by current collective beliefs
Cheung, Chinn, & Marsh (2004)	Foreign exchange spreads quoted by traders are based on collective belief due to strong market norm.
Lordon (1999)	EVA formula spread by collective belief pushed by consultants
Gillet & Szafarz (2005)	Market efficiency hypothesis is a collective belief, not a reality
Orléan (1999)	Asian miracle was based on a collective belief

During a period of instability, coordination based on collective beliefs increase stability. Everyone considers the same references, which reinforces their legitimacy. But since this coordination is based on beliefs and choices which could have been different, it is regularly challenged and may be put in peril. The studies therefore

illustrate the content of collective beliefs and how they influence financial markets, but do not give much insight on how these conventions were formed or how they evolved. However, Bourghelle (2005) notes in his conceptual chapter that since financial actors all read the same press and listen to the same experts, the financial press is an essential mediator in the formation of collective beliefs.

The concept of collective belief is part of a theory, convention theory, which has been developed by a group of institutionalist economists and pragmatist sociologists (Boltanski & Thévenot, 2006; Boltanski & Chiapello, 2005; Dupuy, Favereau, Orléan, Salais, & Thévenot, 1989). Together they propose an enlarged model of rationality which becomes embedded in questions of coordination and values. Convention theory focuses on analyzing cognitive interactions and the multiplicity of equilibriums using discourse and conventions. Within this group of theorists, authors like Orléan, Bourghelle and Dequech focus more specifically on understanding economic value in financial markets and highlight the self-referential nature of collective beliefs.

This self-referential approach is the one that we adopt in studying collective beliefs in RI mainstreaming. There is no scientific basis to determine the mathematical expectations (probabilities) of the impact of environmental, social or governance (ESG) factors on the return of an investment. In this sense, expectations in the future of an asset's performance have a subjective component. They are informed opinions (which is indeed what ESG rating agencies say they deliver). Consider the following example: an individual fund manager believes a majority of other fund managers believe the market considers environmental, social and governance (ESG)

criteria as non-material. This does not result from the fund manager's personal view on RI, or from other market players' personal views, but it will influence his investment decision.

In this chapter I examine the collective beliefs around the activity of responsible investment as one way to show how equity market participants' decision making informs the debate on sustainable development and financial markets. We argue that collective beliefs play an important role in mainstreaming a new activity in financial markets because they can either support or hinder it depending on their content. Therefore we need to better understand the collective beliefs that have formed around RI and their evolution over time to address the question of RI mainstreaming.

2.3.2 Responsible Investment mainstreaming

Although the definition of RI has been the object of ongoing debate (Sandberg, 2009; Dahlsrud, 2008), scholars often agree that RI is as a set of investment principles and practices defined as:

... a set of approaches which include social or ethical goals or constraints as well as more conventional criteria in decisions over whether to acquire, hold or dispose of a particular investment. (Cowton, 1999, p.60)

However, both practitioners and the media use varied terminology when speaking about “doing well while doing good”. A non-exhaustive lists includes «ethical investment», «green funds», «socially responsible investment», «sustainable investment» or «ESG investing» (Sandberg et al. 2009). This variety in terms of the vocabulary points to a high heterogeneity that characterizes RI (Sandberg et al. 2009) and which can partly be explained by its evolution over time. The roots of RI can

indeed be traced back to philosophical schools and world religions rather than to the business and investment community (Kreander, 2004; Louche & Lydenberg, 2010; Sparkes & Cowton, 2004). In the literature, it is often considered to date back to the influence of the Quakers at the beginning of the 19th century (Entine, 2003; Kurtz, 2005; Louche & Lydenberg, 2010). In the 1970s RI gained a new political dimension with civil protests in the wake of the Vietnam War and apartheid. Environmental considerations were added next, leading to green investing, as a reaction to ecological disasters in the 1980s and '90s. Then the RI market also took into consideration corporate governance aspects, which were developed to promote better governance and more transparency. These different conceptions of RI coexist today, illustrating how the field is still under construction.

Practicing RI is neither easy nor unproblematic, because the heterogeneity of RI is not limited to its definition (Sandberg et al. 2009). The varied terminology goes along with a variety of investment strategies and practices (Entine, 2003). Scholars have classified RI practices in different categories, ranging from exclusion based on screens, to shareholder engagement with companies, to selecting investments with a focus on having a community impact (Louche & Lydenberg, 2011). These approaches go along with a variety of strategies, exemplified by two claims commonly made by fund managers: superior financial return, and corporate change resulting from a lower cost of capital (e.g. Haigh & Hazelton, 2004) or engagement practices (e.g. Vandekerckhove et al. 2007; Logsdon and Van Buren 2009; Core et al. 2008, De Bakker and Den Hond 2008). These claims are far from supported by literature, and may even seem antithetic. For example, we know almost nothing about the impact these social investments have on their intended beneficiaries (Margolis and Walsh, 2003, Hebb and Louche, 2014). Despite this heterogeneity and tension in logics, we

would argue that RI approaches share a long-term vision (Guyatt, 2004), a stakeholder focus (Williams, 2007), and a broad definition of materiality (AccountAbility, 2006).

The process of institutionalization is ongoing and observable, despite the confusion and heterogeneity (Déjean and Le Theule, 2011, Louche, 2004, Penalva-Icher, 2012). In parallel, mainstreaming is proclaimed by many RI practitioners (World Economic Forum and AccountAbility, 2005; Robeco and Booz & Company, 2008) and has become a central question in the RI research arena (Lydenberg, 2009). But there is an implicit assumption within the field, in both academic and business community, that everybody knows what mainstreaming is about, so it has never been quite defined. Mainstreaming of RI is sometimes considered as the maturation of RI (Sparkes and Cowton, 2004). Lydenberg (2009) mentions the notion of professionalization, or even the notion of progress. These claims to RI mainstreaming recognize the evolution of the RI market in two directions: growth of assets under management and new investor categories. Mainstreaming is about the adoption or the practice of RI by major investors. Those are referred to as institutional investors which represent the most important ownership group of quoted companies, mostly represented by pension funds and insurance companies (Sparkes 2002, McCann et al. 2003). Another element that we find in the literature on RI mainstreaming is the notion of RI spreading to every financial investment product category (Strandberg, 2005; Lydenberg 2009). Amaeshi et al. (2010) argue that RI mainstreaming implies a fit between RI and the dominant financial market logic of calculation and singularization for profit, putting high emphasis on the financial performance of RI: “for the RI market to be mainstreamed, it has to be amenable to the mainstream financial market demands of objectivation and singularisation” (Amaeshi 2010, p.52).

All those arguments lead us to say that RI mainstreaming means the integration of social, environmental and governance issues into conventional finance.

Following these claims to mainstreaming, recent scholarship has focused on the impediments to mainstreaming. Various impediments to mainstreaming have been highlighted in literature, both at the institutional level, the organizational level and the individual level. These include, but are not limited to, opposing logics, lack of adequate products and tools, and lack of evidence of effectiveness in terms of social return, and profitability (Amaeshi, 2010; Guyatt, 2006; Juravle and Lewis, 2008). These different impediments represent areas that may cause friction between RI and mainstream financial practice. Juravle and Lewis (2008, p. 287) state that “these views act almost as social paradigms within the finance community, facilitating or impeding the mainstreaming” of RI.

A second set of results in these studies point to the importance of the economic value of RI. It highlights that this debate is important to legitimize ESG on economic grounds, grounds that prevail in the business world and financial market (Amaeshi, 2010). But economic value is also a key impediment if we refer to the number of studies attempting to prove the link between social performance and financial return. The question has been addressed from a management perspective (are executives taking money that would otherwise go to the firm’s owners?) and an investor perspective (are investments in RI underperforming, opposing fiduciary duty?). A few meta-analyses of these studies give an idea of the importance of this research topic: Orlitzky, Schmidt, and Rynes (2003) analyzed 52 studies, Allouche and Laroche (2005) analyzed 82, Wu (2006) analyzed 39 and Margolis et al. analyzed 251 studies (2009). According to Margolis et al.’s meta-analysis, “after thirty-five

years of research, the preponderance of evidence indicates a mildly positive relationship between corporate social performance and corporate financial performance”, a result which neither satisfied the proponents of RI nor its detractors.

Some authors state that the results are inconclusive because the question was not correctly addressed. They criticize “several important theoretical and empirical limitations” (McWilliams and Siegel, 2000), such as the sample size, insufficient historical data covering a short time span, aggregation of E(nvironmental), S(ocial) and G(overnance) issues which should be considered separately (Waddock and Graves, 1997; Margolis et al., 2009). A more recent type of criticism, made by authors including Orlitzky (2013) and Vogel (2005), is epistemological: financial markets are not efficient, financial actors are not rational, and there is no such thing as an intrinsic value which the market supposedly reveals. In that context, determining the value, and legitimacy, of sustainability may require looking away from neo-classical theories and financial return. With such views, this scholarship also challenges the dominant, simplified view of markets as fully efficient, transparent, and rational.

Together, these studies reinforce the importance of understanding a financial activity in terms of discourse, representations, and social context. Although previous studies have elaborated on a variety of consequences resulting from RI’s non-financial aspects (Arjaliès, 2009, Orlitzky, 2013), much is still unknown about the implications of RI in a theoretical context of market inefficiency, and how this matters for mainstreaming.

The point to be made here is that another perspective is needed to address how ESG signals affect financial markets and to understand how we collectively make

sense of RI and its value. We argue that insights into the collective beliefs inform us on the capacity of RI to become mainstream. Our approach links RI mainstreaming to collective beliefs, as crystallized in the financial press. We see this as an opportunity to link convention theory research to the standard research on RI mainstreaming.

2.4 Research design, data and methods

2.4.1 Media as a proxy for collective beliefs

To probe the concept of collective beliefs and to study their evolution in an emerging field with high uncertainty, we focus on the media coverage of RI in the financial press over time. We consider that the media crystallizes collective beliefs by repetitive coverage of a topic. Indeed, Barkemeyer et al. (2010, p.382) suggest that “whilst it cannot be proven that there is a direct correlation between coverage of a specific event and change in behaviour, there is no doubt that media coverage can influence the level of awareness of specific issues and could act as a general barometer of the contextual framing of issues such as business ethics, sustainable development, corporate citizenship, and accountability within society.”

There is a tradition of CSR studies as well as of finance studies using data from the media. Many authors are currently investigating the role and influence of the media in financial markets either in terms of the influence of media on companies’ CSR (Baron, 2005; Dyck, Volchkova, & Zingales, 2008; Zyglidopoulos, Carroll, Georgiadis, & Siegel, 2010), or in terms of the influence of media on share prices (Fang & Peress, 2008; Palomino, Renneboog, & Zhang, 2009; Tetlock, 2007). However, the study of RI through media coverage is new to our knowledge.

Much of the existing research considers that one role the media plays is as a civic forum (Norris & Robinson, 2003). As such, the media have the ability to promote a greater understanding of topics and draw attention to examples of good practice. It also has a watchdog function, illustrated by the tales of widespread financial mismanagement and corporate fraud at Enron, Tyco and WorldCom that led to the enactment of the US Sarbanes-Oxley Act of 2002 and greater scrutiny of the financial management of companies (Barkemeyer et al., 2010). While these examples demonstrate the power of media when it comes to informing society of business failures, scholars argue that the effect of the media on issues such as executive remuneration or corporate scandals remains inconclusive (Core et al., 2008). While our study does not enter into this debate – we do not attempt to prove an accelerator role of media for RI mainstreaming – it does build on these studies to consider media as a valid proxy for collective beliefs.

Finally, media is highly selective in terms of content and speakers allowed in these platforms, as illustrated by Dyck et al. (2008) with the case of corporate governance advocates. A media bias arises from the news organization and its ideological orientation, from the journalists' preferences and from the reader's preferences and beliefs. We acknowledge this bias and try to mitigate it via data collection from multiple sources, which we describe in the next section.

2.4.2 Data sampling and analysis

The data we present comes from the UK financial press and was selected in several stages. Table 2 outlines both stages of the research, with their respective sampling and analysis.

Table 2: Method in two stages of sampling and analysis

	Stage 1	Stage 2
Objective	Periods of RI	RI collective beliefs
Sampling	Full coverage	Theoretical years
Sample size	3,462 articles	89 articles
Analysis	Bracketing	Content analysis
Unit of analysis	RI article	5 RI Periods
Validation	Prior research	Duplication on new sample
Result	5 RI periods	2 theoretical concepts

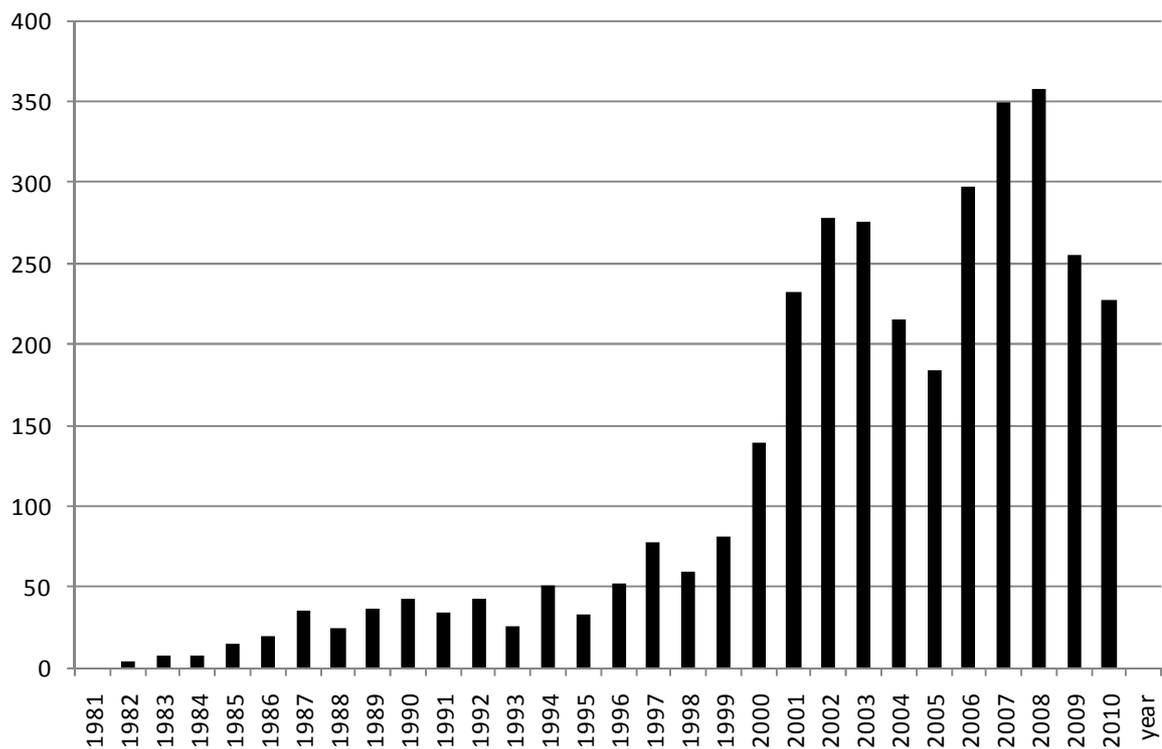
We compiled articles by searching Factiva, a Dow Jones news database encompassing more than 28,000 sources², including newspapers such as the Financial Times and magazines such as the Economist. We identified journals based on prior studies. According to Fang and Peress who studied the impact of media coverage on investors, “there is a considerable overlap – about 75% – in the different newspapers’ coverage. This overlap [...] indicates that [if] we focus on only four papers, [the] data is representative of the newspaper media. To the extent that coverage is correlated across media types, [the] data is also a reasonable proxy of overall media coverage.” (2008, p.9). We therefore limited our search to the Financial Times which is a far reaching title in Europe (with a daily circulation of 399,862 as of May 2010), the Wall Street Journal Europe and The Economist, which all generally correlate closely with other sources of financial information such as Bloomberg, as suggested by Kaminsky and Schmukler (1999) and confirmed by Dyck et al. (2008). The press articles provided non-sensitive, publicly available material, from which the researchers were independent.

Stage 1: Determining the RI periods

²On Factiva’s content, see <http://factiva.com/sources/contentwatch.asp?node=menuElem1522> (accessed July 12, 2010). The data was collected in July 2010.

Sampling. In the first stage we constructed a large sample of all UK press articles addressing RI. We identified these articles by keywords searches using an iterative snowball process. The first set of keywords, selected based on their appearance and frequency in RI academic literature, included: “responsible investment”, “ESG”, “sustainable investment” and “ethical investment”. This led to a first set of articles, in which we identified key RI actors over time that we added to our list of keywords to complete the sample of articles with new searches. EIRIS, FTSE and UN PRI are some examples of such actors that we collected, much like names of informants are collected in interviews as a basis for snowball sampling (Lincoln & Guba, 1985). The process was reiterated until searches using the names of field actors led to no new relevant articles: the saturation point. At the end of the first round of data collection, we had 3,982 articles on RI published between 1982 and 2010, as illustrated in Figure 4. The first articles we found in the database were published in March 1982.

Figure 4: The number of responsible investment articles per year increases cyclically.



Analysis. In the first stage of analysis, I organized the data with a bracketing method (Langley, 1999) for its descriptive utility in a longitudinal analysis, but also as a structuring process for analyzing and sensemaking. The bracketing lead to the identification of five RI periods over time, which constituted new units of analysis for the exploration of the collective beliefs in the second stage of analysis. According to Langley, “this [temporal bracketing] approach involves decomposing time lines into distinct phases where there is continuity in activities within each phase and discontinuity at the frontiers”. (Langley, 2009, p920). We identified the discontinuities based on the discourse, using word counts in Nvivo 9. For example, between 2000 and 2001 the word “ethics” practically disappears and words such as “pension fund” and “pension manager” become salient in the data. This was the third discontinuity we identified, leading to the fourth RI period as described in the table below. This delineation based on content offers a stronger theoretical meaning than

delineation based on coverage frequency, which can be influenced by economic cycles.

Table 3: Five periods in the history of RI

Periods		Salient discourse
1982-1991:	Civil rights years	Civil rights, South Africa
1992-1997:	Green niche years	Niche ethical investment (green funds etc.). Limited press coverage
1998-2000:	Professionalization years	Pension funds as key actors. More neutral wording. Transition period.
2001-2004:	SRI years	Ethical discourse replaced by responsibility discourse
2005-2010:	ESG years	RI linked to corporate governance; climate change as main issue

Our approach is the first to provide empirical evidence of the evolution of RI over time, although several studies do trace the history of RI. We therefore verified the validity of our periods against periods proposed in literature (Giamporcaro & Gond, 2010), leading to similar conclusions with one exception: the early religious period of RI, which takes place before any coverage of RI in the financial press, that is before any sign of mainstreaming, and is therefore not represented in our time line.

Media studies tend to concentrate on this type of quantitative content analysis that is relatively easy to measure (Fico, Lacy, & Riffe, 2008). But this type of analysis does not allow examining the symbolic meaning of the content. Our second stage of analysis focuses on this content, which is more difficult to measure and requires smaller samples.

Stage 2: Identifying collective beliefs

Sampling. To preserve the representativeness of the sample while reducing its size, we then constructed theoretical two-week years, a recommended sampling method in media studies (Hijmans, Pleijter & Wester, 2003). Studies like those of Riffe, Austen, and Lacy (1993) show that a qualitatively good newspaper sample

should be based on at least twelve editions, where each day of the week is represented proportionally. For magazine articles in our data, such as articles from *The Economist*, we followed Wester (2006) according to whom an analysis of a weekly magazine can also be performed with a randomly selected issue per month, thus constructing a theoretical month, in some way similar to the process of theoretical weeks. We constructed our theoretical years after verifying that there was no seasonality in RI media coverage. The theoretical sub-sample is a selection of 89 articles distributed over the 18-year timeframe, a more manageable size for our second level of analysis which consists in identifying the RI collective beliefs.

Analysis. The data analysis to identify collective beliefs was conducted in three main stages, a process which allowed us to move back and forth between the data and the emerging concepts to finally reach two abstract theoretical concepts. Our initial approach to code development was prior-research driven (Boyatzis, 1998). We started the code list using literature on impediments to RI mainstreaming (Juravle and Lewis, 2008, Guyatt, 2006) based on the idea that these impediments are issues around which there is uncertainty and confusion. These are typically situations where investors will need to rely on collective beliefs to coordinate their decisions. Since using an existing code requires rater-to-expert reliability (Boyatzis, 1998, p. 37), this was achieved through a discussion with the author of the prior research driving the code. Juravle was interviewed on the meaning and academic background of each category to refine our definition of the code. Some codes were modified as a result of this discussion.

We read a first selection of articles searching for salient representations of RI, in the light of our prior-research driven list. Very soon it became apparent that we needed additional codes to cover the issues discussed in the articles. We therefore completed the list of codes with a few codes based on the data. Once all codes were named and grouped in categories, we returned to our data to verify fidelity with the data. We either corrected a category or reconceptualised it when the revisited data did not fit it well. For instance, after several discussions we agreed that our initial category “conflict of interest” which was identified in literature as an impediment was too restrictive, and did not allow us to capture different types of conflict between asset managers and asset owners or final beneficiaries. So we changed it to “conflicts of logic”, a broader category. This was an iterative process during which we drafted a coding tree which included examples and counter examples for each code, to serve as a basis for our discussions. Intra-rater reliability was achieved by coding the same text twice on different days, on the one hand, and inter-rater reliability was achieved by comparing the coding of a sample of texts by two researchers.

The second step involved axial coding (Corbin & Strauss, 1998), where we compared first-order codes with one another looking for patterns and themes to create second-order constructs. This process consisted in trial and error constructions of models, regrouping different codes based on their characteristic in order to develop a set of more abstract, theory-rich constructs. To illustrate, when comparing codes we found that the distinction used in Juravle and Lewis (2008) between institutional level issues, organizational level issues and individual level issues, had little explanatory power in terms of collective beliefs. On the other hand, codes linked to people’s arguments to defend ideas or practices, appeared more helpful in terms of collective

belief. “Screening”, for example, which was sometimes discussed as a desirable way to do RI, or an impractical way to do RI, seemed to correspond better to a belief among market players to coordinate their actions. The axial coding was done by one researcher and put to test by the other researcher in a series of meetings. Through these iterative discussions, three second-order constructs appeared to have useful explanatory power in terms of collective beliefs.

We tested the validity of the second order constructs quantitatively for the fifth RI period. The frequency of each second order construct was set as a hypothesis, which we tested by duplicating our analysis on a new random sample of 20 articles selected from within the universe of 1710 RI articles published during the fifth period (2005 to 2010). The results do not permit to affirm the existence of significant differences, with a confidence level of 1%.³

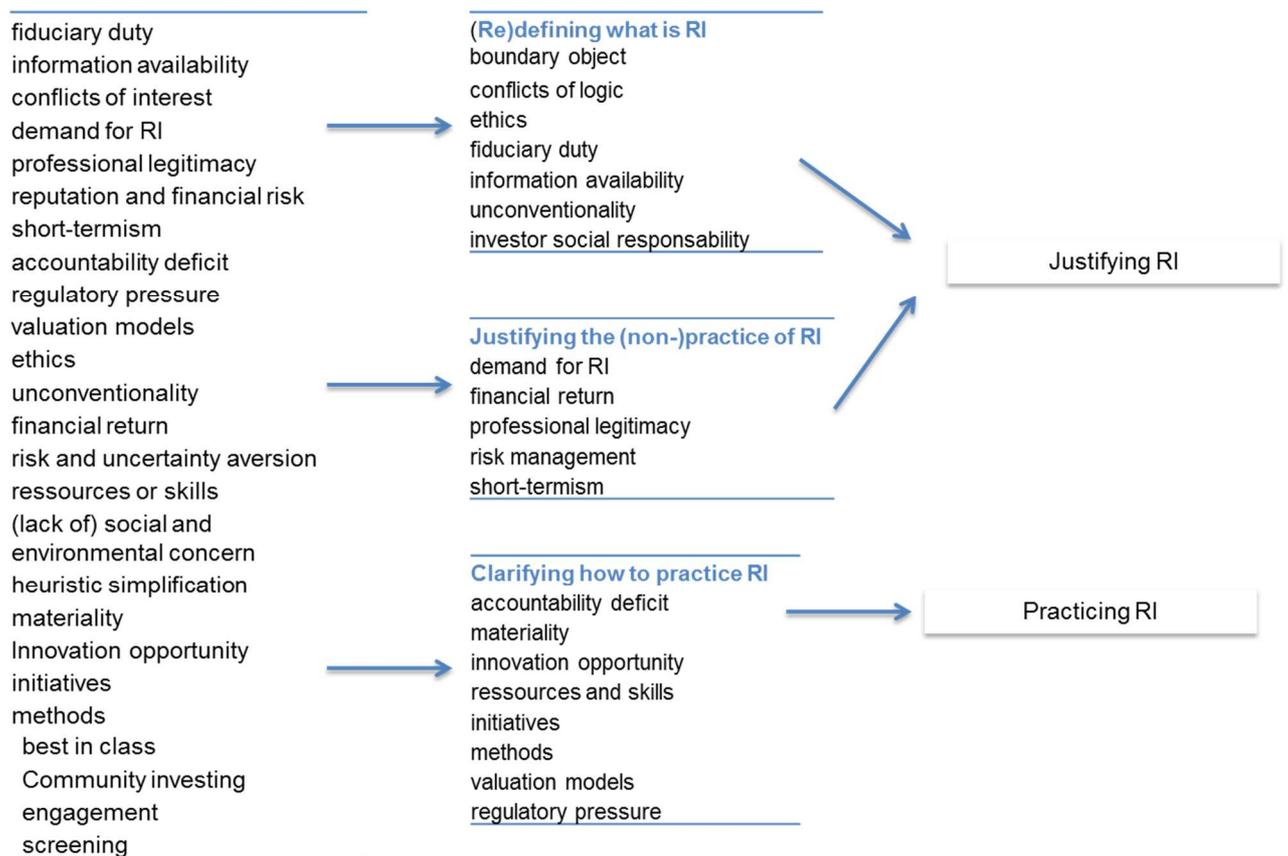
Finally, in the third step we identified important dimensions from the sets of second-order constructs. For example, some codes like ethics or conflicts of logic appeared earlier in the history of RI. They were attempts to define and justify RI and they addressed more directly a critique, which was either implicit or explicit. Other codes, like engagement or innovation opportunity, appeared later in the history of RI. They were linked to success stories, or challenges met by RI practitioners. We saw these as linked to the practice of RI and its challenges. Working in such a way through

³When a confirmatory analysis is performed using a chi-square test, it appears that a difference exists between the proportions of occurrences of the three second order constructs “How”, “Why” and “What”. The confidence intervals constructed for the percentages of these occurrences indicate that the occurrences of “How” may be slightly over-estimated in the tested two-week-year sample, and the occurrences of “Why” may be slightly under-estimated, while the percentage of “What” falls within the constructed confidence intervals when the significance level was under 5%. Furthermore, with a 1% significance level, the data collected does not sanction the assertion of significant differences between the p_i proportions of these three occurrences for Period 5 and the p_i estimations of the theoretical two-week-years.

the relevant insights each construct provided, we consolidated the second level constructs into two broad theoretical dimensions: “justifying SRI” and “practicing RI.” The theoretical dimensions resulting from the data resonate with convention theory literature, with a focus on the multiplicity of equilibriums and institutional maintenance or change. Most importantly, they provided guidance to understand the financial actors’ collective beliefs around RI.

Figure 5 provides a schematic overview of this process, showing our first-order codes, second-order constructs, and derived theoretical dimensions which we use to study the mainstreaming process of RI among financial actors.

Figure 5: Three levels of coding lead to two theoretical concepts



2.5 Analysis and Findings

Our analysis explores the collective beliefs for responsible investment and how have they evolved over time, in order to contribute to the discussion on RI mainstreaming. In this section we present our findings organized in two subsections. We first present the five periods we have identified. They are both a result for the first level of analysis, as well as a step in the methodology providing units of analysis for the second level of analysis. Second we analyze the evolution of the collective beliefs throughout the five periods of RI. Our investigation of RI collective beliefs also surfaced two key sets of mainstreaming activities around RI: (1) justifying RI and (2) practicing RI, which we develop at the end of the section. The implication of those collective beliefs for mainstreaming and RI in general will be addressed in the discussion section.

2.5.1 RI periods

We found five RI periods in our data, spanning between 1982 and 2010: the «civil rights» years (1982-1991), the «green niche» years (1992-1997), the «professionalization» years (1998-2000), the «SRI» years (2001-2004) and the “ESG” years (2005-2010). Because our data consists in articles from the financial press, read by mainstream investors, the first RI period begins with the appearance of RI linked terminology in the Financial Times, which dates back to 1982. This corroborates Boxenbaum and Gond’s observation that “RI” terminology first appeared in the New York Times in the late 1980s” (2013, p. 13). In addition, the last period is not yet over as no discontinuity in the RI discourse in the press was identified despite the 2008 financial crisis. From our data we can say that the financial crisis did not provoke any change in the normative arrangement in finance. However the impact of the crisis may

be long term rather than short term. Therefore it would be interesting to further monitor this last RI period to determine when it gives place to a new RI period, with new characteristics in terms of discourse and salient representations of RI.

Civil rights years. Media coverage during this period is overwhelmingly turned to South Africa, apartheid, black worker wages, and targeted campaigns against companies. The main RI strategy discussed is the divestment practice. In the data, finance is linked to ethics during this period. We label it the “civil rights” period (1982-1991) because of the focus on social issues.

Green niche years. The second period (1992-1997) corresponds to the end of the apartheid coverage in the financial press. This period is characterized by low media coverage of RI. Still, there are a few references to niche financial initiatives, mostly environmentally oriented such as “green funds”. The concern for financial return linked to these ethical investments comes up for the first time in the discourse.

Professionalization years. The third period (1998-2000) corresponds to the early professionalization years. Pension funds start to get a lot of attention in the financial press, along with the issue of their social responsibility. This is a transition period during which the word “responsibility” becomes the preferred terminology when discussing ethical investments.

SRI years. In this fourth phase (2001-2004), the term “ethical” is abandoned, and the term “SRI” is introduced. The professionalization is increasing and “fund managers” and “fund management” become some of the most frequent words of the

sample. With the boom in the coverage of pension funds come the first discussions on materiality and regulation linked to RI.

ESG years. The fifth period begins in 2005, when the focus of RI shifts to climate change. It is also characterized by the combination of RI and corporate governance, which were so far treated separately. We label this last period the ESG period because media coverage is characterized by a search for neutrality in its wording, away from any ethical shade. It is also during this period that the term ESG appeared. Although our sample ends in 2010, there is no discontinuity so far that would allow closing the bracket. We therefore consider this period to be ongoing.

2.5.2 Collective beliefs

Our findings in terms of collective beliefs regarding RI (Table 4) consist in three second-order constructs: defining or redefining what RI is, justifying the practice or non-practice of RI and clarifying how to approach RI, which we also refer to respectively as “what is RI”, “why do RI” and “how to do RI”. These collective beliefs are representations that emerge as focal points for individuals who, faced with uncertainty regarding the nature of RI, attempt to determine what the market will act upon. The collective beliefs for RI mainstreaming evolved over time around each of the three constructs. Table 4 highlights this evolution from period 1 to 5 for each second order construct from one period to the other, showing how the content of collective beliefs evolved, and how the number of collective beliefs increased.

Table 4: 3 types of collective beliefs for RI mainstreaming evolve over time

Content of collective belief	Defining what is RI	Justifying the (non-)practice of RI	Clarifying how to approach RI
period 1			

	RI is about ethics business and ethics are separate concerns	RI demand will grow in the future	NRQ*
period 2	NRQ	RI demand will grow in the future. RI returns underperform	NRQ
period 3	RI is not all black or white	RI's financial performance is unclear	NRQ
period 4	RI is long-term lack of information	demand for RI exists	materiality is unclear RI requires a more sophisticated approach
period 5	NRQ	inconclusive financial performance growing demand for RI	RI initiatives are multiplying RI networks are important Do RI through engagement RI needs better data

*NRQ = no relevant quote

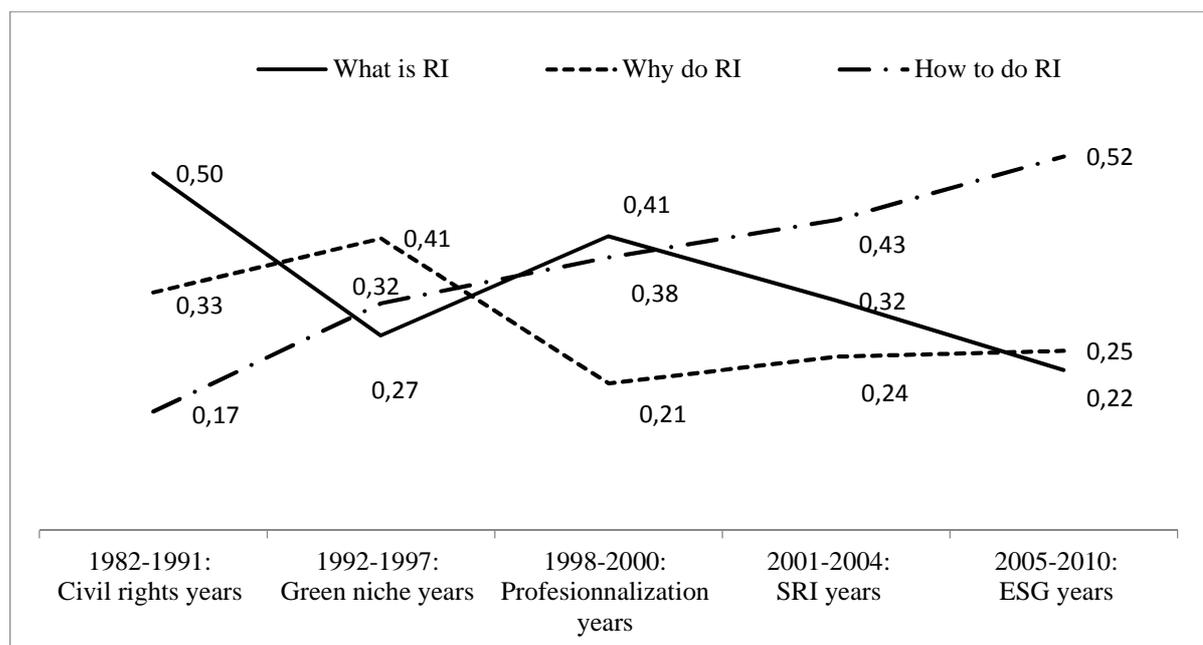
A more detailed examination of the collective beliefs shows that they are dynamic and contribute to a changing landscape. The “civil rights” years (1985-1991) are dominated by the belief that RI is about ethics, where business and ethics are separate concerns and thereby disconnected. However there is a belief that RI will grow in the future. The «green niche» years (1992-1997) emphasize the belief that RI does not lead to better (financial) performance than regular investment strategies, but that demand may grow. The «professionalization» years (1998-2000) highlight the complexity of RI, complexity which reappears in the «SRI» years (2001-2004). However this fourth period also shows an increasing number of collective beliefs around RI including the long term perspective of RI, the need for a more sophisticated approach to practice RI, the issue of materiality and the lack of good information to evaluate companies on ESG factors. The «ESG» years (2005-2010) bring in the notion of collaboration among actors and the importance of networks. The discourse in this period highlights the importance of engaging with companies rather than

merely confronting them. In this last period we witness an evolution of the collective belief justifying the practice of RI: demand for RI is collectively believed to be growing, whereas in the previous periods demand for RI was seen as potentially growing in the future.

We can see that the number of different collective beliefs around RI increases over time, meaning that constituents increasingly share common beliefs around this activity. The results also show that the debate around RI has shifted from “what is RI” to “how to do RI”, highlighting the professionalization of the field (Figure 6). Indeed the questions of definition and understanding disappear from the debate. The same is true for the justification discourse related to “why do RI”. Although RI is not yet mainstream, it has gained recognition among mainstream investors.

In the next two subsections we go in more details into the content of the three identified collective beliefs.

Figure 6: Three second-order constructs represent varying proportions of the discourse over time.



Redefining what is RI

Much of the RI discourse describes, defines or redefines responsible investment. This is particularly true in the early years of RI. We captured this discourse in the “Redefining what is RI” second order construct.

Our data shows that discussions around the ethics of RI play an important role in the first three periods. However references to ethics are often located at the personal level rather than collective. In 2001 Sparkes raised the question «whose ethics?» is RI referring to. Personal ethics may lead to many contradictions and tensions and hinder the process of mainstreaming. To mainstream RI a higher level of abstraction may be necessary, what Donaldson and Dunfee (1999) refer to as hypernorms. Hypernorms are transcultural values that include fundamental concepts of rights and social good common to most major religions or countries. The reference to personal ethics tends to disappear as from the professionalization years.

With the professionalization of RI comes a need to define the conditions and methods of their work (DiMaggio et al., 1983). During this period, there is an attempt to obtain a certain normative control by standardizing professional norms. As a result, the predominant preoccupation relayed by the press in recent years has to do with information availability and standardization, which have been documented by academics. Slager et al. (2012) document the standardization role of the FTSE4Good index, a public metric which was co-opted by its users. They show how the organization recaptures and mobilizes the regulative capacity of its standard, in a way that is not always visible or planned. When it comes to standardization by multistakeholder initiative, IS26000 is an example discussed by Ruwet (2010) who highlights the alternative to democracy presented by such a governance model. The

Global Reporting Initiative (GRI) is another example, investigated by Brown et al. (2009) who show how the GRI's institutional entrepreneurship strategy left a "legacy of unresolved tensions", while Etzion and Ferraro (2010) highlight the role of analogy used by GRI to resolve some of the tensions in institutional entrepreneurship. The collective belief is that there is a lack of good data. And when information is available, it is often perceived as of low quality and very dispersed, which does not allow benchmarking.

"First comes greater standardisation of SRI performance measurement. The Social Investment Forum concluded: "With different definitions of SRI, market factors, cultural concerns and methodologies for collecting data, it is difficult to make controlled comparisons on a global scale." Source: 20070305FT

The collective beliefs (re-)defining RI are characterized by ambiguity and differentiation over time: the data shows a difficulty in being coherent. How can RI have values and bring financial return? Uncertainty around what is RI seems to be reduced during the green years: the belief during that period is that RI is green funds. The challenge of defining RI is not resolved for long, and resurges with the professionalization of the field. Funds cannot be "all things to all people" as one fund manager states (source: 20001026FT). This has practical implications when faced with investment decisions in grey areas and suggests a fragmentation of the RI market.

During the green years, RI has a narrow definition, making it easier to circumscribe. After the green years, RI has a broader definition. The discussion on defining RI still goes on but on a different, more granular level. The RI press coverage of recent years highlights the notion of short-termism: the focus of financial markets is short-term, for many reasons, including quarterly reporting and remuneration

structure linked to short-term objectives. In contrast, RI is believed to have a long-term focus. Investors are left to interpret this salience in different ways. If RI is long-term, it does not fit the short-term focus of financial markets. But it also means RI can offer the long-term vision missing in financial markets. Finally, it means that any effect of RI (performance or materiality for example) would be visible in the long-term.

To conclude, the collective beliefs for defining what RI is, tell us about investments driven by personal values versus hypernorms, a heterogeneous market, and long-term horizon. In addition, RI is perceived as a boundary object, with few shared representations regarding what RI is, beyond the idea that it has varying definitions, interpretations, and practical applications.

Table 5: illustrative quotes of collective beliefs for RI: (re-)defining *what is RI*

Civil rights years	Green niche years	Professionalization	SRI years	ESG years
Personal values "Most ethical investors think the time is not yet right to relax their restrictions on groups with South African interests" Source: 19911012ft	Personal values "The deposits are used as loans for environmentally friendly projects in construction, farming and industry. You could say these depositors are idealistic," says Mr. Schwarz. "But there's satisfaction in their money cleaning up the air." Source: 19960306WSJ	Hypernorms "We have been taking heed of the active side of stock picking for some time now," says Simon Baker, fund manager of the Jupiter Ecology Fund. "When we first started out we focused on the negative side, excluding companies and trying to be all things to all people, but now we're moving into SRI." Source: 20001026FT	Boundary object "There are several debilitating limitations. One is the lack of a broad consensus on what actually constitutes socially responsible corporate behaviour." Source: 20030303.2FT	Common principles "Efforts should accelerate to find greater common ground and build from there, perhaps around widely agreed upon benchmarks. Investors' ability to evaluate options and make informed choices is critical to efficient, liquid capital markets worldwide." Source: 20070305FT
	Personal values "I can think of nothing more ludicrous than investing in companies which make our future worse," says Tessa	Conflict of logics He offers a word of caution to those marketing such funds, however, not to rely too heavily on religious sentiment at the expense of		Boundary object "When people say they want to invest ethically, we ask them what they mean," he explains. Source: 20090411FT

<p>Tennant, head of global-care research at NPI. "Ethical investing isn't idealism, but ultimate pragmatism." Source: 19960306WSJ</p>	<p>fundamentals. Even if something is Shari'ah compliant, he says, "Muslims are shrewd investors. They will still want something that is well managed, and they will want returns." Source: 19990305WSJ</p>
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Justifying the (non-)practice of RI

Justifying the (non-)practice of RI is a second order construct that answers the question “why do RI”. An important proportion of the discourse throughout all periods attempts to legitimize RI by building business cases and disseminating examples of RI success. This covers discussions on the link between RI and financial return, risk management arguments, professional legitimacy considerations, as well as the market demand for RI. This theme peaks during the green niche years, then fluctuates without ever being the main issue. Interestingly, the discourse justifying the practice of RI and the discourse defining RI evolve in opposition.

In the data, the question of financial return is key and even by the last period, the data shows that RI funds have not yet truly proven their performance. In addition, a new consensus seems to form around the idea that it is complex to prove performance. For example, articles relay the academic and practitioner studies trying to prove the link of financial return. Depending on the article, or even within a same article, statements on the financial performance of RI are inconclusive. Within our sample of articles we found the following positions: a link between RI and performance exists but is unclear; RI leads to underperformance; RI does not lead to underperformance; or RI gives superior performance. We see a difference between the first four periods, mentioning more underperformance, and the last period. By the

ESG years, the financial return discourse becomes mostly positive. More specifically, our data for the ESG years affirms a positive link in 27% of cases and claims no financial underperformance due to RI in another 27% of cases. The other 45% is discourse saying there is a link but it is unclear, or noting that financial performance is key but that nothing more can be said about it. The collective belief is that the link between RI and financial return is inconclusive, unclear and complex, reflecting a very similar debate in academic literature.

Witness the conflicting results from analyses to determine whether investors sacrifice returns for ethical investing. According to Morningstar, US domestic equity SRI funds had an average annualised return of 8.53 per cent over the past three years, while the Standard & Poor's 500 Index posted 10.32 per cent. By stretching the period to 10 years, which includes the dotcom boom, this gap narrows, largely because of SRI funds' technology holdings - a 7.21 per cent gain on average each year versus 7.93 per cent for the S&P 500. A Wharton School study over a longer period equally shows SRI funds underperforming a broader universe of funds. Other research, though, finds (...)"
Source: 20070305FT

Demand for RI is the second most important justification discourse for practicing RI. As for financial return, it is also a market driven discourse. In the first four periods, the collective belief is that there will be a demand for RI, and that it will grow. This demand is mostly believed to come from the base (private investors) and from unconventional institutional investors, such as faith based investors or NGOs. In the ESG years, the collective belief changes to *there is a demand for SRI and it is growing*.

Table 6: illustrative quotes of collective beliefs for RI: justifying the (non-)practice of RI

Civil rights years	Green niche years	Professionalization	SRI years	ESG years
Lower return "There are some circumstances in which that duty [of getting the best possible return] has to give way to considerations derived from Christian morality» argued	Growing demand "Not everyone agrees, of course. But interest in ethical investment funds appears to be growing, [...] "there are not enough of these trusts to satisfy	Growing demand "In the U.K., money in funds tailored along religious or ethical lines, which tend to overlap in their investment philosophies, quadrupled in the past five years to GBP 2.2	Growing demand "The quest for fund managers willing - or, rather, able - to run pension fund money over the long term is well and truly on. A consortium of big investors - led by the	Performance, an important issue "It's no good our saying, 'we don't perform so well but count on us to save the world' ". Source: 20060407FT

<p>Robert Walker QC, for the Church Commissioners in the High Court this week." Source: 19911012ft</p>	<p>investor demand." Source: 19960306WSJ</p>	<p>billion (\$3.55 billion) as of last June, according to the Ethical Investment Research Service, reflecting growing investor demand for these kinds of specialised vehicles. Source: 19990305WSJ</p>	<p>Universities Superannuation Scheme - is today launching a competition to find specialists who can implement a Euros 30bn long-term mandate in a genuinely responsible manner. Source: 20030303.3FT</p>
<p>Inconclusive performance Over the three year period, seven ethical funds were in the bottom half of their sectors and four in the top half. The record is better for the one year period with ethical funds split evenly into the the two halves making a long-term assessment of their performance impossible. But in that period the average ethical fund has outperformed the average unit trust. Source: 19911012ft</p>	<p>Performance, an important issue "The novelty of Islamic funds has long ago worn off. Now, the issues are the performance of these funds compared with conventional funds, and the depth of the market. Source: 19921005ft</p>	<p>Performance, an important issue "This brings us to the much debated question of company profits/fund performances versus morality. Can ethical investment and shareholder value really make comfortable bed partners? Investors at times have had to sacrifice some of their returns to satisfy their convictions in the short term, but research shows that many individual ethical funds have outperformed their mainstream equivalents." Source: 19990305WSJ</p>	

Clarifying how to practice RI

A third type of collective belief contributes to clarifying how to practice RI. It is an RI implementation oriented discourse, addressing and discussing methods, regulations, RI initiatives, available resources and skills, accountability and materiality challenges. It steadily increases over time, and becomes the main topic in the last RI period.

With the professionalization of RI comes a need to operationalize RI. Before the SRI years, our European data makes very few mentions of professional associations or RI training, and there is no mention of RI organizations with enough visibility to organize and regroup mainstream investors (except for the ICCR). In

contrast, in the last period the focus of many articles is on networks, with statements such as “I invite all institutional investors to consider becoming signatories to the PRI and join a global network of peers working to address these priorities” (source: 20090302FT.2) or “an increasing number of networks are sharing information, developing knowledge centres and finding new ways to communicate”. The collective belief at this stage is that RI requires collaborative engagement: active investors working together as described in the following quote.

“As active owners, investors should work with investee companies to ensure comprehensive and systematic disclosure of the information they need in order to make responsible investment decisions. Ensuring the disclosure of information on ESG and other issues will enhance investors' understanding of their underlying investments and avoid a repeat of recent mistakes.” Source: 20090302FT.2

The collective belief of “how to do RI” is that RI requires a more sophisticated approach. And until this approach is available (in terms of models, of materiality assessment, of analyst skills...), the coordination process based on this collective belief may lead mainstream funds to cautiously not engage in RI. Another result of the belief may be to push institutional investors to develop the tools and models currently missing for RI mainstreaming.

Table 7: illustrative quotes of collective beliefs for RI: clarifying how to practice RI

Civil rights years	Green niche years	Professionalization	SRI years	ESG years
NRQ	Uneven quality of research “Some of continental Europe's 'green' investment funds which make environmental or ethical claims could lose the confidence of investors because of poor definitions and a low level of supporting research.” Source: 19930306ft	Changing methods "Fundamentally the ethical market has changed over the past ten years," says Lee Coates, director at UK ethical financial adviser, Ethical Investors Group (EIG). "When the market first started it had absolutist notes and focused on exclusion. But now institutional investors are coming in on a more proactive, positive stance on	Materiality, key criteria “The key litmus test will be whether performance on a given social or environmental issue provides useful insights into the company's strategic management capabilities and organizational agility. For instance, the extent to which a company manufactures contraceptive devices does not - in my view - provide such insights. On the other hand, the	Uneven quality of research “Another complication is this: how does one independently confirm proprietary analysis? More work is needed to develop objective, comprehensive and verifiable processes that enable investors to compare companies' ESG performances.” Source: 20070305FT

behalf of their clients." Source: 20001026FT

quality of its labor relations and human capital development capabilities - arguably - does."Source: 20030303.2FT

Changing methods

"You can't be ultra-ethical if you want to make money. European multinationals investing in China would be out on ethical grounds. There's a new trend in ethical investment, a pragmatism built on compromises. You take five hotel chains, for example, and pick the one which offends the least." Source: 19960306WSJ

Engagement required

Constructing such funds, however, presents a delicate balance between ideology, investment-management strategy, and, occasionally, shareholder activism." Source: 19990305WSJ

Need for comparability

"The Johannesburg Securities Exchange hopes to capitalise on both trends by launching a socially responsible investment (SRI) index. The index will include only companies that meet "triple bottom-line" criteria, covering financial, social and environmental responsibility. It will be the world's third such index, and the developing world's first, with a launch expected early next year. Source: 20031006FT

Need for comparability

"But data are often too vague, lacking order and integrity, and there is no agreement internationally over what a sustainability report should comprise." Source: 20101004FT.2

Insufficient transparency

"strengthening regulatory pressure for greater transparency and stronger environmental and social responsibility from both companies and institutional investors" Source: 20030303.2FT

Insufficient transparency

"Screening is also hampered by the difficulties inherent in quantifying environmental, social and governance (ESG) issues. Data points may not be readily obtainable. Opaque corporate disclosures may obstruct data gathering." Source: 20070305FT>

2.6 Discussion and conclusion

This chapter focuses on responsible investment in financial markets, informed by an alternative theory of market participants' decision making. Our analysis of the collective beliefs for responsible investment and of the evolution of these beliefs over time allows us to develop two categories of collective beliefs which influence the capacity of RI to become mainstream: justifying RI and practicing RI. We now elaborate on how our findings contribute to RI literature and extend existing accounts of collective beliefs.

2.6.1 On the RI periods

The history of RI can be decomposed in five different periods, each with their specific characteristics. In this chapter I build on existing research on RI's history to understand the roots and heterogeneity of RI today, but we construct the RI periods empirically, giving a solid basis to what was so far mostly intuition. Our data reveals the existence of RI's "civil rights" years (1982-1991), "green niche" years (1992-1997), "professionalization" years (1998-2000), "SRI" years (2001-2004) and "ESG" years (2005-ongoing).

Our findings show that RI is regularly reformulated in new terms, translated to fit the collective beliefs of the time. Each period is characterized by its own terminology for RI, particularly the latter two in which the terms SRI and ESG were coined. Many publications give empirical evidence of RI translation in space (e.g. Sakuma & Louche, 2008, Lozano et al. 2006). Gond and Boxenbaum (2013) in particular followed the steps of RI translation to fit geographical contexts, through glocalization. They distinguished the translation in meaning brought by glocalization from an "interpretative translation, which solely involves symbolic, rhetorical or discursive changes" (p.7). In this chapter I illustrate a case of translation over time rather than through space, and more specifically translation to fit collective beliefs. In fact, we add to their assertion that translation goes beyond discursive changes if it reflects the content of the new collective belief.

These first findings are helpful in understanding the current RI terminology, and in providing sound units of analysis for further research on discourse and meaning

within these periods. Furthermore, they highlight the transition years between each period, which will require further research with different data and fieldwork methods, to understand what happened in between periods. So far, our data highlights that both actors and events play a determining role in the period change. For example at the end of the 1980s and beginning of the 1990s, many environmental events took place. These are the Brundtland report in 1987, Montreal Protocol on ozone depletion in 1987, Rio de Janeiro Earth Summit in 1992, just to mention a few. 1991-92 marks a turning point for the first period during which RI takes a more environmental focus. At the end of the 1990s, many new actors came into the RI field, such as rating organizations, consultancy firms, but also pension funds. These new actors generated the launch of the third period. So each period is characterized by a very specific set of actors and events that can explain the transition to the next period, warranting a refocus on these groups of actors.

2.6.2 On the collective beliefs of RI

Our data illustrated that beliefs are not fixed but evolve over time: from “RI underperforms” to “RI performance is inconclusive”; from “RI demand will grow in the future” to “RI demand has now grown”. They thereby contribute to a changing landscape of RI. But a significant amount of coordination work is required for the prevailing collective beliefs to evolve. As Boyer and Orléan wrote, “agreements are typically harder to change than individual decisions” (1992, p18). Changes in the collective beliefs are difficult because of the behavioral and institutional resistances, but possible. Boyer and Orléan (1992) put forward a taxonomy for changes in conventions, including: general collapse (a general collapse annihilating the existing

structure of conventions), external invasion (slow increase of the number of individuals adopting the new convention until it reaches a critical mass where all will convert to the new convention), translation (the new convention integrates certain properties of the old one and is being reformulated in its proper terms) and collective agreement (the community as a whole may recognize the superiority of the new convention and triggers a coordinated change in collective behavior).

It is the latter three conditions – external invasion, translation and collective agreement – that are of particular interest for considering the adaptation of conventions that investment professionals and their agents adhere to, since the industry is by nature conservative and mindful of fiduciary obligations to beneficiaries. The importance of legitimacy within the conventions framework also makes collective agreement, or collaboration, preferable to going alone (Guyatt, 2006). Our data shows that these processes are taking place. Translation occurred at each change of period, with the adoption of new discourse, new terminology as one element of translation. A large increase in articles discussing RI occurred since the SRI years in 2001, illustrating external invasion by institutional investors and hinting toward mainstreaming. However, the content of the collective beliefs shows little to no sign of collective agreement: in our data the community as a whole does not recognize the superiority of a new way of coordinating itself. Instead, the collective beliefs recognize the complexity of RI and the need for new tools and approaches. These collective beliefs tell us RI is still under construction. Our findings raise an interesting question for future research: how do suboptimal solutions persist. There are many cases in finance where sub-optimal solutions are long lasting, or non-desirable ones, such as the efficient market hypothesis.

This study follows the trajectory of multiple collective beliefs to finally identify two distinct categories of collective beliefs: “justifying RI” and “practicing RI”. Both types of beliefs allow coordination among market participants who need to make decisions under uncertainty. Our data reveals that in the case of RI, collective beliefs “justifying RI” come first. It is not until these are largely resolved that collective beliefs about “practicing RI” dominate the discourse. These two types of collective beliefs emerging from our data reinforce an ongoing conversation about how institutions influence our thoughts and behavior or, as Dequech (2008) puts it, about logics of justification (referring to Boltanski and Thévenot’s principles of justification [1999]) and logics of action (defined a set of shared and regular ways of thinking and acting). Our findings support a perspective on legitimacy in which both logics of justification and action coexist. In addition, our findings illustrate how justification comes before action. This result may seem to contradict previous suggestions that the adoption of procedures comes logically prior to justification (Dequech, 2008). Although our data does not allow to explain this observation empirically, we would like to suggest that, in the case of RI mainstreaming, justification can come before action because both take place in the pre-existing context of financial markets. As a result, the objects, people, units of measurement according to which RI will be justified already exist – even if they are subsequently reinvented. In sum, the interaction between justifying and practicing plays a role in legitimizing RI and further analysis should tell us more about the implications of justification before practice.

I also contributes to the existing scholarship on collective beliefs by developing a method to identify and study the collective beliefs. While interviews dominate in qualitative studies (Kvale 2008), the use of interviews to identify beliefs and justification may force the respondent into artificial discourse. The use of media, on the other hand, provides a forum independent from the researchers on a sensitive topic of auto-referential beliefs. Our study represents an attempt to achieve methodological fit for convention theory by applying a particular method of data collection.

2.6.3 On the implication of collective beliefs for RI mainstreaming

From our findings, it appears that investors can no longer reasonably really ignore the topic of RI. Between 1982 and 2010, 3,462 financial press articles discussing RI were published. However is it enough to claim that RI has moved from a niche activity to a mainstream practice? Some have argued that RI has become or is becoming mainstream (World Economic Forum and AccountAbility, 2005; Robeco and Booz & Company, 2008) while others are claiming that RI remains a niche (Entine, 2008). In this chapter I do not intend to directly answer the question whether or not RI is mainstream but instead we explore the collective beliefs of RI over time to understand how we collectively make sense of RI. We argue that insights into the collective beliefs inform us on the capacity of RI to become mainstream.

The data highlights uncertainty and confusion around RI. The confusion regarding which methods to follow, which criteria are material, and the need to collaborate make it necessary for RI players to consider the opinion of other market

participants. To do this, they need to adopt and follow collective beliefs. This helps RI market players to coordinate, meaning that they can form opinions that do not go against the dominant opinion on the market. These collective beliefs should also allow them to process information in a simpler way.

From the collective beliefs identified in the press, it seems difficult and premature to conclude that coordination has taken place among mainstream investors in terms of RI integration in mainstream finance. The nature of the collective beliefs remains confused and portrays a diffused perception of RI, but above all highlights the numerous impediments for practicing RI. Those beliefs may well lead investors and analysts not to consider ESG factors. This cannot be described as an intentional strategy – this is not a case of dominant convention based on the belief that «*no one uses ESG factors*» – but rather as a result of the lack of clarity about RI. However, collective beliefs around RI are still evolving. As long as there is no collective belief encouraging the adoption of RI, the market for sustainability remains a niche market. Although we cannot conclude on the existence of a collective belief leading to the integration of RI, we can say that the process of mainstreaming of RI is under way (Louche, 2004).

Our findings support that as the discourse shifted from ethics to market logics (Mehrpooya, 2011), RI matured, attained greater professionalization, and has become less critical of mainstream finance. The collective beliefs in the fifth, “ESG years”, period show no sign of RI altering the financial order, but point rather to RI being modified by conventional finance as it is slowly co-opted by the financial community. Do the collective beliefs identified in the “ESG years” still support our definition of

RI as an investment that acknowledges its impact on society, and accepts its social and environmental responsibilities? We would suggest that the definition of RI is still sufficiently vague to allow this strong interpretation.

The financial market often seems impervious to critique and to change, as illustrated by the RI periods and collective beliefs which did not change after 2008. If RI has the ambition to change mainstream finance's supply and demand for sustainability, the collective beliefs of RI have important implications. These beliefs indeed influenced the value and desirability of RI, which they do not endorse so far.

2.6.4 RI in a theoretical context of market inefficiency

With collective beliefs, our study emphasizes the meso-level, which tends to be understudied in the field of RI. Most studies on sustainability focus on the individual actors or on the institutional level. Convention theory is a middle-range theory which allows us to look in between the individual and the institution. We consider that value is created at the collective level, through coordination processes. In this way, convention theory is very different from typical economic theory: we are not studying micro-level individual preferences, like economic theory that presents equilibriums resulting from personal utility functions. Similarly, the focus of behavioral finance stays on the micro-level – individual's irrational beliefs – when it proposes to reconsider the rationality of actors and the efficient market hypothesis (Schleifer, 2000, p.50.). But that framework creates new challenges, in terms of how to assess value. If there is no such thing as intrinsic value then value cannot be calculated by discounted cash-flows. Furthermore, while these critiques are founded,

they do not facilitate the case of RI mainstreaming because they do not fit in the financial language, which focuses on commensuration and mathematical models. If actors are irrational there is no commensuration, there is no benchmarking possible. This dilemma highlights the need for alternative models to neo-classical theory that can be translated in a market logic (Orlitzky, 2013).

With the convention theory lens, we also consider the RI market to be uncertain and confusing, thus not an efficient market. But we do not consider market players as irrational. Rather they take rational decisions based on their anticipations of collective beliefs. We built on Orléan's questioning regarding financial markets' efficiency and regarding the fallacy of intrinsic value to better understand the collective beliefs around which actors coordinate. Our findings help us develop our proposition that the meso-level is the missing piece of a theoretical puzzle.

Much effort has gone into demonstrating the value of responsible investment by measuring the link between RI and financial return. Those attempting to make the business case for RI, however, end up with inconclusive or unsatisfactory results. We suggest that these studies struggle to demonstrate the value of sustainability, because they approach value as an intrinsic notion instead of considering value as resulting from coordination processes. It is not that sustainability has little or no value; rather, its value is influenced by collective beliefs.

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3 Disputes and resolutions around responsible investment

3.1 Chapter Summary

After having identified the collective belief on RI in the previous chapter, I now move on to study to what extent RI manages to legitimate itself through discourse. I have shown that whatever definition or intentions we put behind RI, it is not a subversive practice. RI does not challenge conventional finance. Rather, RI purifies finance, bringing it back to its normative foundations. This is how RI might be making a difference and contributing to society. This statement is quite different from most of the management research on responsible investing which consists in demonstrating how RI is good for business and good for society. But the belief that business and market-based strategies will bring positive social and ecological change is far from natural and results in disputes.

This chapter⁴ shows how the mainstreaming of RI requires developing and combining arguments in order to construct and defend a valid and plausible discourse. This will allow RI to resist the critiques and appease the disputes resulting from its institutionalization.

I collect articles in the media to identify the RI controversies. For these disputes, I look at the attempts of RI to give a robust justification of the particular arrangement it promotes, vis-à-vis a public audience, and discuss possible resolutions. I find that RI focuses on appealing to conventional finance with a market logic, resulting in very few challenges of the legitimacy of the existing institutional order. In a few cases, RI seeks a resolution based on a competing principles resulting in hybrid constructions of compromises, which could be consolidated by RI models and tools.

⁴ This chapter was published as a book chapter : Dumas, C., & Michotte, E. (2014). Where do-gooders meet bottom-liners: Disputes and resolutions surrounding socially responsible investment. In *Socially Responsible Investment in the 21st Century: Does it Make a Difference for Society?* (pp. 119-148). Emerald Group Publishing Limited. It was awarded the Outstanding Author Contribution in the 2015 Emerald Literati Network Awards for Excellence.

The results contribute to a better understanding of RI as it is perceived today, and of how the disputes around its mainstreaming may unfold in the future. This helps us clarify our expectations towards RI and shows that if we want to address shortcomings in finance, we should probably not rely on RI as it is defined and practiced today.

3.2 Introduction

The history of responsible investment (RI) and the variety of RI practices suggest that there is more to it than the often cited process of including “social, environmental, governance and ethical considerations into investment decision making” (Cowton, 1994; Eurosif, 2010; Hudson, 2005; Renneboog, Terhorst, & Zhang, 2008; Sparkes, 2002; Waddock, 2003). RI is also about aligning investors with broader objectives for society (PRI, 2012, p. 24). Of course RI should not be confused with advocacy as practiced by nonprofits, and it does not limit itself to the fast growing area of impact investing, which both focus on having an impact on society (Sparkes, 2002). But RI does claim to make companies act in a more socially responsible way (Eurosif, 2010), and acknowledges that investments have an impact on society. Therefore, RI aims to “evaluate that impact and to direct it, as much as reasonably possible, to societally productive ends, while achieving a competitive return” (Louche & Lydenberg, 2011). With such claims, RI seems to position itself differently than mainstream finance. Some authors even suggest that RI introduces an alternative – potentially subversive (Markowitz, Cobb, & Hedley, 2011) - vision of the role and ends of financial markets.

The proponents of RI thus defend the idea that finance not only must but also can have a positive impact on society. However, looking at it more closely, RI seems

to be a fuzzy concept for different reasons. First, the principle of competition on the market that is characteristic for conventional finance, and that goes hand in hand with a particular representation of the common good, is in RI "completed" by, if not "in competition" with other principles pertaining to the environment and to society as a whole. By nature, RI combines principles that could be seen as different from each other, or even antithetic. Second, the RI actors put different meanings behind this big idea of "doing good by doing well", and translate it differently in practice. RI is still under construction. Third, despite this heterogeneity, RI is nowadays undergoing institutionalization (Déjean and Le Theule, 2011, Louche, 2004, Penalva-Icher, 2012). But this attempt to stabilize RI inevitably results in tensions precisely because of the two first reasons. Fourth, the literature on RI mainly focuses on its expected financial return (2006; Derwall, Bauer, & Koedijk, 2005; Renneboog et al., 2008) and rarely investigates other types of return for society, with the exception of a stream of literature which focuses on the impact of shareholder engagement on corporate social performance (Carleton, Nelson, & Weisbach, 1998). The proof that RI has a positive impact on society is therefore currently rather weak. Considering all these issues, it is probably not an easy task for the RI proponents to convince a financial and a non-financial audience alike that RI not only must but also can have a positive impact on society.

In order to convince, RI must be "valid" from a normative point of view, and also "plausible" from a cognitive point of view (Berger & Luckmann, 1966). The RI proponents have to develop and to combine arguments in order to construct and defend a valid and plausible discourse on RI that could resist the critiques and appease

the controversies, which we call "disputes" according to the theoretical framework that will be presented in the next section. This chapter aims to

- a) Identify the disputes around RI's mainstreaming
- b) Analyze the arguments and counter-arguments around those disputes
- c) Explore potential resolutions of the disputes surrounding RI.

To answer these questions, we analyze the UK media coverage of responsible investment in the past 10 years. We rely on the framework of Boltanski & Thévenot (2006) as a tool to identify how the RI discourse negotiates different representations of common good. We first find a number of expressed tensions regarding the justness of a particular social order. We then look at the attempts of RI to give a robust justification vis-à-vis a public audience. In doing so, we show to what extent RI discursively not only justifies competing visions of how the world should be - what is worthy and what is just - but also proposes a way to bring them together, through compromises. We thereby contribute to a better understanding of RI as it is perceived today, and how of the disputes around its mainstreaming may unfold in the future.

This chapter first recalls how RI evolved over time through multiple definitions, to focus on its current characteristics in the 21st century: a fragmented concept which moved away from ethics towards investment practices based on the integration of environmental, social and governance criteria (ESG) integration. Following that, we present the main concepts of the theoretical framework. We then describe the data and method applied to select the topics of disputes for a multi-level content analysis of press articles on RI. Follows, for each topic of dispute, a set of results identifying whether the dispute challenges the legitimacy of a specific institutional order. Another set of results determines the possible resolution of these

disputes among a plurality of forms of agreement such as compromise seeking or shorter term arrangements. This development places our chapter in the new strand of RI literature on the legitimacy of ESG issues, which Gond and Piani (2013) recently referred to in their call for research on processes of deliberative negotiation by investors and managers over claims' moral legitimacy, using convention theory.

3.3 Disputes and Justification for Socially Responsible Investment

3.3.1 RI Over Time

The history of responsible investment can shed light on the current disputes surrounding the institutionalization of RI. RI went through different periods, as explained in the previous chapter, during which not one, but plural visions of justice were defended by RI actors. In its early days, the first RI actors, who were Quakers, were governed by principles derived from religion (Kurtz, 2008; Louche & Lydenberg, 2011), which lead in practice to the exclusion of sin stocks from investment portfolios. The RI actors of the 1980s were more inspired by a civilian representation of justice, where collective solidarity and human rights played an important role. This resulted for example in investment decisions against apartheid. The RI actors of the 1990's were mostly green funds governed by ecological principles.

These different “anti-market” and “anti-corporate” visions precede thus what became today ESG-integration: an approach consisting in the integration of environmental, societal and governance criteria into investment decision-making. This is a very corporate focused view of RI involving quantification in the form of key performance indicators, ratings, and financial modeling. With this approach comes the quest for materiality (AccountAbility, 2006) (what criteria influence financial

performance) and commensuration (Déjean, Gond, & Leca, 2004) (how can the criteria be measured). But the legitimacy of these ESG issues have to be built in the RI institutional context as they are quite different from the original drivers of RI.

While RI continued to evolve, these various approaches did not disappear. In fact, they coexist today, illustrating how the institutionalization of RI leads to disputes that must be resolved if RI wants to survive. This makes RI an ideal place to understand how different representations of justice, relying each one on disparate notions of common good, are conflicting. It also makes convention theory, with its ability to take pluralism into account, an indicated framework to deal with RI, which we explain next.

3.3.2 Dispute and Justification Through the Lens of the Orders of Worth

In the thriving literature on convention theory, the orders of worth of Boltanski and Thévenot (2006 [1991]) are usually used as a means to study plural social orders, typical of complex and fragmented institutional environments. The original intention of the authors, however, was not only to develop a functional tool as such, but also to better understand how people practically qualify other people or things in their daily lives and can create or use categories that help to distinguish them from each other. They particularly paid attention to the kind of qualifications that are taken for granted because they are seen and experienced as legitimate in a certain situation. These are legitimate in terms of coherence or logic (justness) but also in terms of justice – which, in our view, Berger and Luckmann (1966) identified as the plausibility and validity of an institution. These qualifications rest on general conventions oriented towards specific conceptions of the common good, and allow to assess if someone or something is a worthy being or not through a "test". This is possible because everyone

is well aware of the principle that governs the situation. The authors call this kind of principle the higher common principle. This principle can take various forms, but it always has the characteristic that it is a very general principle on which people can base themselves to find an agreement. It functions as a landmark that contributes to the coordination of human activity. It makes it possible to evaluate the beings (persons or things) and to articulate them logically to this principle. The social order, the "world" as the authors say, is seen as legitimate, and what is judged as worthy is considered as contributing to the common good as it is represented in this social order.

According to the authors, the invisible hand of Adam Smith is the most accomplished way to justify an unequal distribution of the wealth held by rich people. The 'market world' is harmonious in this sense that competition, as higher common principle, guides human activity. Of course, social life is far more complex and fragmented. The market world is only one of the different ways to organize social order around a higher common principle. To reflect this multiplicity, Boltanski and Thévenot (2006 [1991]) identified five other worlds, namely the “domestic”, “fame”, “industrial”, “civic”, and “inspired” worlds (Thévenot, 2007). New worlds were added later such as the "green" one and “information” world (Lafaye & Thévenot, 1993; Thévenot, Moody, M. and Lafaye, C., 2000) and the "connectionist" one, also called project oriented world (Boltanski & Chiapello, 2005, Chiapello & Fairclough, 2002). Table 8 presents these worlds and the higher common principles in relation to which people and things are evaluated as being more or less worthy.

Table 8: Worlds organized around a higher common principle to determine what is most worthy.

World	Higher common principle	Highest worth
Market	Competition	Desirable, wealthy
Industrial	Efficiency	Efficient, productive, operational

Civic	The preeminence of collectivities	Representative, statutory
Domestic	Anchored tradition	Hierarchically superior
Inspired	Inspiration	Graceful, singular
Fame	The reality of the opinion	Renowned, famous
Green	Respecting and protecting nature; Sustainability	Environmentally friendly
Connectionist	Project oriented activities in networks	Committed, mobile, engaging others

Within each of these worlds, there can be disagreements among the actors about how a being has been evaluated. The judgment is thus subject to critiques, and those who criticize as well as those who defend the judgment both need to justify their point of view in relation to the conventions of the world in question. This is what the authors call a dispute. In order to take back the course of the action, people have to appease this dispute and to find an agreement. One example among many (Boltanski & Thévenot, 2006 [1991]) is a situation of the selection of a candidate for a job. It appears, after the selection process, that the chosen candidate is the nephew of one of the jury members, the one who precisely gave him a very positive evaluation. Because of the preeminence of the industrial world in terms of efficiency of the selection, and not the domestic world in terms of personal ties, the selection of this candidate is questionable and subject to criticism. After a debate made of critiques and justifications, those who are responsible for the selection process agree that a new test has to be organized and that the candidate's uncle has to be replaced in the jury by a non-relative. In this case, the test had been purified without betraying the higher common principle. This example illustrates how a dispute can arise within a situation which is dominated by one world where the persons (the candidates, the jury members) and the objects (the tests) have to be well articulated from a logical point of view as well as from a normative point of view if they want to be seen and experienced as legitimate.

But disputes also arise in situations where multiple worlds are at stake. Suppose we take the same situation in the context of a family business where the industrial logic competes directly with the domestic one wherein loyalty, tradition, and personal ties are very important. It is then more difficult to find a legitimate agreement because of the presence of different conventions and higher common principles. The answer to the question of which one is the best candidate is not the same depending on the logic that are seen and experienced as legitimate, not only to take a decision but also to justify it in front of those that (could) contest it. Still, people can try to find a resolution of the dispute, through a local arrangement, or through a compromise. The first one does not pretend to preserve the common good, whereas the second one does. However, a compromise can't go back to one higher common principle and to one representation of the common good. This is why a compromise remains fragile, especially when a dispute about it may lead to the clarification of the common good (Boltanski & Thévenot, 2006, p.410).

As De Blic & Lemieux (2005) stress in their study on the institutionalization role of scandals, conceiving a scandal or a dispute (such as those we will identify below) as a test situation means that we recognize the uncertain outcome of the dispute. The values, or rather “worths”, which are disputed may be shaken, but may also come out strengthened by the dispute. Boltanski (2009) identifies three types of tests, leading to different resolutions. The “test of truth” attempts to defend what is. It is characterized by a tautological discourse to defend the constructed reality with the intent of confirming it rather than criticizing it, with readymade formulas, glorifying or blaming, and by opposing good and evil. The next level is the “test of legitimacy” during which actors question the reality as it is constructed by confronting it with

what they are experiencing. As illustrated by Patriotta, Gond & Schultz (2011) in the case of a nuclear crisis in Germany, it may lead to a institutional change while preserving the legitimacy of existing institutions (political parties, media...). Finally comes the “existential test”, which takes place at an individual level, based on personal experience of injustice or humiliation for example and which therefore does not have the same institutionalization role as the previous two tests. These tests have uncertain outcomes but may lead to arrangements or compromises as a result of the institutional work of justification (Patriotta et al., 2011), which is one reason why they are relevant to discuss how responsible investment might impact the financial system.

There are many other approaches than convention theory that could be appropriate to perform discursive analysis of institutions. However, based on the above, and confirmed by Cloutier and Langley (2013), we see several arguments supporting this approach to study RI. First is the micro perspective, including a way to relate to the macro level through daily narrative accounts, which counter-balances the meso scope of institutional theory. Then comes the focus on legitimacy struggles and how they are resolved on a day to day basis, since the framework offers more than just a grammar to quantify worlds of worths. In addition, there is the pragmatic view according to which Boltanski and Thévenot bet on actors’ capacity to define by themselves what is fair or unfair, and hence the focus on the “critical capacities of actors”. For these reasons, and while not a common approach, researchers have recently reached a similar conclusion regarding its appropriateness to study financial and CSR related topics (Huault & Rainelli-Weiss, 2011, Gond & Piani, 2013; Taupin, 2013).

3.5 Results of Justification in RI

The proponents of RI seem to bring to the marketplace principles that, at least discursively, endorse other conceptions of the common good and of justice than those of the "market world" which is the main justification for conventional finance. To decide on the issue of a test (typically to decide to invest or not in a certain company) is, in the context of RI, problematic by nature. As a result, it is correct to believe that RI is profoundly crossed by tensions between different "worlds", and that these tensions are harmful in terms of the validity and plausibility of RI. In this chapter, we ask ourselves which kind of resolutions RI proposes to appease these tensions (arrangement, compromise), depending on their justness.

We thus need to identify the main disputes surrounding RI. This can be the contested financial performance of RI, the lack of key performance indicators for RI, or the shareholder versus stakeholder debate, to name a few. Three different scenarios need to be considered for these disputes and their resolutions.

A first possibility is that the disputes stirred by RI are about the products and practices in financial markets, rather than about the underlying principles. In other words, RI uses mainly the same conventions as in conventional finance, and complies thus with the same logic. In this vein of thought, a recent report has challenged the presupposition that RI is different from mainstream finance, suggesting that conventional funds invest in a similar way as RI funds (Aeby, 2012), echoing some earlier vocal RI critics (Entine, 2003; Hawken, 2004). As noted by Hoffman and Ventresca (1999), remaining within the confines of a clearly defined logic cannot lead to evolution to profoundly different institutions. As a result, RI would be a way for

conventional finance to continue business as usual while appeasing the critique of outside actors. Daudigeos and Valiorgue suggest similar results for the evolution of corporate responsibility strategies (2010), which were absorbed by the corporate system as they matured. Some of the most damaging financial products and practices could be halted, but the underlying principle would be confirmed and reinforced.

A second possible vision for the RI discourse is to circumscribe conventional finance, by showing that the financial sphere must comply with other spheres of justice (democracy, ecology, civil rights...) rather than constantly relying on the principle of competition and the dominant conventions of the financial markets. If it justifies visions of justice that compete with the one promoted by conventional finance, RI is subversive (Markowitz et al, 2011). In this case, the dispute questions competing representations of common good and may imply an in-depth reform of the financial system. For example, it could argue that, with competition as higher common principle, finance doesn't serve the real economy and, in the end, doesn't serve society as a whole. Such a critique calls for a significant shift of focus and power. In this scenario, RI would be more consistent with the assertion that business should generate wealth for society, within social and environmental frameworks (Sparkes, 2002, p. 42).

A third possibility, which we hypothesize as the most likely, is that RI is neither completely compliant nor completely subversive in relation to the market logic. In this third possible type of RI discourse, there is no clear vision of the common good and of justice. RI in the 21st century proposes hybrid practices and language, but does not discuss the underlying principles that it is built on, because this

would probably lead RI to a dead end. RI would be a form of temporary compromise. But as suggested by Boltanski & Thévenot, compromises as the resolution of disputes are by nature fragile because it is never possible to go back to one higher common principle in order to find an agreement.

3.6 Method: Use of Media Discourse

For a methodological fit with the theoretical framework, we need to collect data in a way that brings us to the actors and to what they are really saying, and in a way that does not force actors' discursive engagement. It is indeed not so much how the worlds interact which is key in convention theory but rather how the actors call upon the different worlds to justify a situation. Because we did not want to force artificial discourse and justification, a risk particularly present in interviews with "why" questions, we chose to collect data in the media.

A stream of research in media studies presents news reports as a "social thermometer", an important source of information about society (Montes-y-gómez, Gelbukh, & López-lópez, 2008). According to this view, their textual analysis allows the measurement of current social interests, and the trends for these main opinion topics. This vision of media as a platform for discussion (Norris & Robinson, 2003), while very convenient for this study, requires a note of caution. Media is indeed much more than a platform. On the one hand, we cannot omit to mention the power games and agenda setting that form the media content. And on the other hand, general audience media as forums for public discourse on an issue, and their impact on public opinion, should not be overestimated (Gamson & Modigliani, 1989). When researching how media discourse and public opinion interact, Gamson notes the relatively marginal role media discourse plays for the respondents' understanding of

issues that are close to their everyday experience (i.e. nuclear power in his example). In these cases, their own experiential knowledge and popular wisdom take precedence over media discourse, which is merely used to “spotlight” (p. 134) particular facts and public figures but not to inform respondents’ understanding. The author shows the role of framing of an issue in media, by developing the idea of a “media package” which conceives of media discourse as a set of interpretive packages that give meaning to an issue. These packages, or frames, include a range of positions, allowing a certain level of controversies on the issue (Gamson, p3) as we see in the responsible investment media discourse. Our data includes the discourse of many different actors, reflecting the range of positions around the RI mainstreaming. Most speakers in our data are service providers. Specialized responsible investors come next, followed by mainstream investors, and RI advocates. Each of these will have different interpretative packages and justifications.

In addition to the framing done by media, we need to bring the notion of power into the analysis of media and its framing (Vliegenthart & van Zoonen, 2011). This was highlighted in particular by Golding & Elliott (2006) who show the ideological consequences of the way news is produced, for example by demonstrating how production routines maintained the societal status through power. Because media production and interpretation are affected by social context, media frames, power games and agenda setting, we need to avoid an individualist and voluntarist orientation assuming that both individual journalists and individual audience members are relatively autonomous in their news production and consumption (Vliegenthart & van Zoonen, 2011). These notions highlight the importance of multiplying media sources with different ideological backgrounds, as we do in this study with three

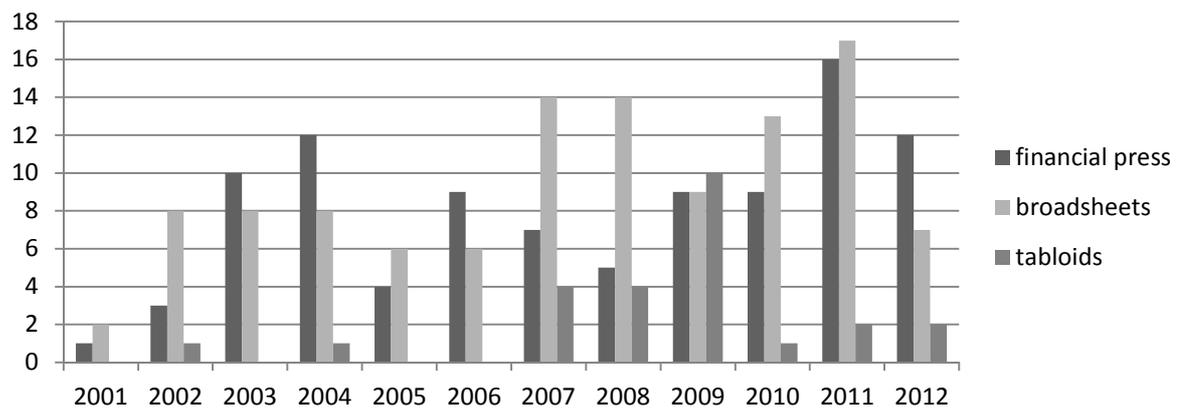
different media samples, and by developing a solid qualitative method of analysis, as described in the next section.

3.5.1 Sampling of Newspapers and Articles

We tracked the evolution of responsible investment disputes through the UK press from 2001 to 2012, with three samples of data. A first sample of articles comes from the financial press, represented by the Financial Times, Wall Street Journal Europe, and the Economist. These media provide good data in terms of articles on responsible investment, since they all largely coincide with other sources of information, as confirmed by Kaminsky and Schmutler (1999) and applied by Dyck et al. (2008). Two other samples of articles were collected in the non-financial press, represented by a sample of 11 newspapers from the UK and split in two groups: the tabloid and the non-tabloid press. For each non-financial newspaper, the typical selection criteria of significant circulation size, and area of circulation was amended to take cultural aspects into account. Broadsheet press was added to the sample for its content and nature, despite a smaller circulation than tabloid press. When newspapers were not accessible through the databases over the full period of analysis, they were included in the sample from the first full month they became available. This sampling resulted in a selection of articles from broadsheet press (The Times, The Guardian, Daily Telegraph, The Sunday Times) and another selection from tabloids (Daily Express, Daily Mail, Daily Mirror, Daily Star, The Sun, News of the World, Sunday Mirror, The Mail on Sunday), including both daily and Sunday papers. In the pursuit of efficacy for a qualitative analysis, we constructed theoretical two-week years, a principle used in media research as discussed by Hijmans, Pleijter, and Wester (2003), leading to a sample of 97 financial press articles for the 2001-2012 period, 112

broadsheet press articles and 25 tabloid articles. Levels of coverage are used as surrogate measures of the penetration of RI questions into society, similarly to previous research by Barkemeyer et al. (2010).

Figure 7: RI press coverage increases cyclically over time



Since 2001, when the first article on RI appeared in the UK financial press, the coverage in the financial and non-financial press follows similar cycles. One exception is the financial crises year 2008 where coverage dropped in the financial press but peaked in the non-financial press. The coverage in tabloids is negligible.

3.5.2 Data Coding and Analysis

Our coding process went through three stages, leading to our analysis of the type of disputes.

1) Open coding. We began the analysis by identifying initial concepts in the data and grouping them into categories. This open coding was performed with the NVivo software. This first descriptive coding focused on the categories of dispute between responsible investment and mainstream investment, which was then confronted with the impediments to RI mainstreaming identified in literature for validity (Guyatt, 2006; Juravle & Lewis, 2008). Indeed, impediments are likely to

coincide with the areas where mainstream investors' practices are challenged.

Impediments flow from characteristics of RI that are new, or different, resulting in tensions or conflicts. Each utterance in the discourse was taken to be a “unit of meaning” (Miles & Huberman, 1994), that is, a phrase bound by a clear ending and that expressed at least one clear idea. Sixteen themes of disputes emerged from this coding (see Table 9).

Table 9: How RI justifies itself for 16 main disputes

Critique from market world to market world	Critique from domestic world to market world	Critique from industrial world to market world	Critique from civic world to industrial /market/domestic world	Critique from fame world to industrial / domestic world
Inconclusive financial performance (2)	Short-termism (5)	Lack of information (3)	Environmental concerns (1)	Accountability deficit (10)
Agency problem and inactive shareholders (11)	Unknown materiality of factors (6)	Inappropriate investment methods (4)	Lack of ethics in financial markets (12)	RI no different than traditional funds (15)
Claim to financial return with limited diversification (16)	Fiduciary duty (7)	Lack of clear methodology (9)	Need for regulation (13)	
	Missing resources and skills among analysts (8)			
	Shareholder vs. stakeholder debate (14)			

* the number in parenthesis corresponds to the ranking of the disputes according to its frequency in the media discourse.

2) Axial coding. We applied the orders of worth to give sense to the first results, showing, when aggregated, which orders of worth are called upon and coexist for each type of dispute. When an utterance referred to multiple worlds, based on a list of words identified by Boltanski and Thévenot (2006 [1991]) and by further research, presented in Table 10, it was assigned to more than one code, as suggested by the authors.

Table 10: Terminology for nine worlds of worth that guided the axial coding

World	Content
Market	<p><i>Key words used during the axial coding to link 'units of sense' to 'worlds of worth'. Italicized terms reflect additions to the original list provided by Patriotta et al. (2011) based on Boltanski and Thévenot (2006)</i></p>
	<p>Competition, rivalry, value, saleable, interest, love, desire, selfishness, market, wealth, luxury, opportunism, liberty, opening, attention to others, sympathy, detachment, distance, possess, contract, deal, price, money, benefit, result, management, conversion, costs, calculation, liberalisation, profit, allowance, economy, profit maximization, success, compensation, services, business processes, forfeit, dividends, euro, calculation, finance, payment, wages, oligopoly, monopoly, commerce, price, politics, saving, margin, asset, ownership, demand, supply, economy, production, millionaire, winner, competitors, client, buyer, salesman, independent worker, employee (worker), investor, supplier, buy, get, sell, economically, business, cheap, expensive, economical efficiency, <i>growth</i>.</p>
Industrial	<p>Efficiency, performance, future, functional, predictability, reliability, motivation, work energy, professionals, experts, specialists, operator, person in charge, means, method, task, space, environment, axis, direction, definition, plan, goal, calendar, standard, cause, series, average, probability, variable, graph, time models, goals, calculation, hypothesis, solution, progress, dynamic control (security, opposite of risk), machinery, cogwheels, interact, need, condition, necessary, integrate, organize, stabilize, order, anticipate, implant, adapt, detect, analyse, determine, light, measure, formalize, standardize, optimize, solve, process, organize, system, trial, setting up, effectiveness, measure, instrumental action, operational, measurement instruments, technique, technological, technological event, technological effects, nuclear power, degree of efficiency, coal, technological production process, faults, security, security management, security system, lack of danger, production, uncontrollability, consequences, analysis, report, information, causes, construction, knowledge, scale, security tests, time, emergency power supply system, aggregators, perturbation, supply system, components, construction, check, proof, solution, energy, technology, system, installation, <i>approach</i>, (<i>intangible, market, ESG</i>) factors, <i>tobacco, pornography, armament</i>,</p>

Civic	<p>Collectives, collective will, legal, rule, governed, official, representative, common objectives, unitary concept, participation, rights and obligations, solidarity, moral beings, democratically, legislation, formality, code, statement, organizational goals, membership, mobilization, unification, freeing people from selfish interest, escape from chaos (division) and isolation, aspiration to civil rights, renunciation of the particular, transform interests of each into a collective interest, gathering for collective action, exclude, join, assemble, association, recruiting, extending, active mobilization, liaising, constant contact with organization, the legal text, republic, state, democracy, assembly, movement, election process, consultation, corporatism, rules, law, legal and formal steps, actions, processes, decisions and orders, reaction of state institutions, orderliness, legal way, socialization, central state control, control, agreement, precept, political interests, approbation, political negotiation, legality, legal evaluation, legal precondition, right/false, political commission, political intervention, state regulation, political misuse, political report, anticompetitive, legal force, cartel, nuclear consensus, state observation, violation of law, resolution, proposal, democratic principle, public interest, corporate secrets, suing, <i>ethical</i>.</p>
Domestic	<p>Engenderment, tradition, generation, hierarchy, leader, benevolent, trustworthy, honest, faithful, determination of a position in a hierarchy, inscription of signs of worth (titles, heraldry, clothing, marks), punctuality, loyalty, firmness, honest, trust, superior, informed, cordial behaviour, honest, trusting, good sense, leaders, family, rejection of selfishness, duties (even more than rights), loyal, harmonically, respect, responsibility, authority, subordination, honour, shame, hierarchy, cooperation, celebrations, family ceremonies, responsibility, transparency, duty, task, dialogue, seriousness, information, German nation, irresponsible, arrogant, euphemism, common identity, integration, common sense within organization, <i>vice</i>.</p>
Inspired	<p>Anxiety of creation, passion, dream, fantasy, vision, idea, spirit, religion, unconscious, emotional, feeling, irrational, reflex, invisible, un-measurable, magic, myth, ghost, anthroposophy, super-human beings, affective relationships, warmth, creativity, escapism, intuition, fantastic, memories, genius, fascination, <i>harmony with beliefs</i>.</p>
Fame	<p>Public opinion, public, audience, public attention, reputation (through mass communication), desire to be recognized, public debate, boycott, public pressure, public legitimating, opinion leader, journalist, PR-agent, sender, receiver, media contact, communication strategy, banner headlines, reporting, personality, advertising, brand, message, campaign, recognition, public image, persuasion, influence, propaganda, promotion, mobilization, down playing, misleading, camouflage, fig leaf, red herring, lip service, pillory, populism, rumour, lie, breach of promise, <i>best, biggest, largest, transparency (to signal good image)</i>.</p>

Green	Environment, influence or danger on environment and human beings, ecological, environmental protection, protection of the nature, plants, climate, environmental pollution, atomic waste, climate protection, climate change, radioactive pollution, rescue of the planet, reduction of CO2-emissions, global warming, climate catastrophe, earth, renewable energies, sustainability, biomass, protection of the nature, fauna and health, <i>ecology, carbon, green.</i>
Connectionist	Engaged, engaging, mobile, enthusiastic, involved, committed, flexible, adaptability, evolving, autonomy, employability, tolerant, team lead, reputation (through personal relationships), corruption, privileges, old-boys networks, <i>a group, signatories, members, initiative, in association with, UN PRI, CDP, community, part of, involved in.</i>
Information	<i>information, data availability, data quality, data gathering, CSR data, Carbon data, report, questionnaires, forecast, advisers.</i>

Source: adapted from Patriotta (2011)

3) *Stakeholder coding.* To be able to interpret discourse based on the speakers, we coded categories of speakers in the financial press and broadsheet press. We did not code this in the tabloids once it appeared that the sample was much smaller and the content less relevant. As highlighted in table 11, the main speakers in the financial press are service providers such as consultants and rating agencies, who are concerned by the practicalities of doing RI, while the main speakers in the broadsheet press are RI investors and RI advocates.

Table 11: actors behind the RI discourse vary according to the press medium

Speaker	Financial press	Broadsheet press
Mainstream Investor	19%	8%
Other*	11%	24%
RI advocate	11%	16%
RI Investor	24%	33%
Service provider	35%	20%

*academics, corporates, individuals, and international associations.

3.5.3 Analysis of the type of disputes

We began the analysis as we collected the data, grouping controversies by themes, identifying the orders of worth and keeping track of stakeholders. The final analysis focused on how the tests unfold and are resolved for each dispute.

As mentioned earlier, each test unfolds either through a test of truth, a test of legitimacy or an existential test. After identifying the type of test, we determined whether it seemed to be resolved in the form of a temporary (local) arrangement or of a compromise. In other words is the compromise that would allow a contribution to the real economy reached? Since RI is somewhat ambiguous, it could accommodate several worlds as required by a compromise. But this supposes that the debate agrees on a general interest, a common good. If this is not possible, then all there can be is private arrangements, in the sense that they do not address a common good but rather the private interests of the parties involved.

3.8 Disputes and Resolutions for RI

For each dispute identified in the data, we identify the type of justification used by the actors as a combination of orders of worth. For a specific dispute with a specific justification, we then look at the quality of the test and how is it resolved.

3.6.1 First Level Results: Disputes and Justification

We quantified the worlds of worth in the justification discourse of RI. We counted the occurrences of each stakeholder's voice in the 234 articles in our dataset, identifying 1047 passages corresponding to a stakeholder's expression of a justification based on a given order of worth. The market, civic and industrial orders of worth clearly dominate the discourse (see Table 12), confirming the observations in previous research (Taupin, 2011) which identify the resolution of disputes as a market-civic-industrial compromise.

Table 12: Occurrences of worlds in the justification discourse, including multiple worlds in the discourse

Column1	civic	connectionnist	domestic	fame	green	industrial	information	inspirational	market
civic	201	4	19	6	9	12	11	5	40
connectionnist	4	48	8	4	0	7	9	0	2
domestic	19	8	113	3	8	4	7	1	16
fame	6	4	3	78	3	3	4	1	11
green	9	0	8	3	97	3	3	2	30
industrial	12	7	4	3	3	157	15	4	17
information	11	9	7	4	3	15	60	4	11
inspirational	5	0	1	1	2	4	4	52	12
market	40	2	16	11	30	17	11	12	241
	19%	5%	11%	7%	9%	14%	8%	5%	23%

However, some variations appear depending on the type of press. A first noteworthy point is that the main orders of worth mobilized to justify responsible investment in the financial press is the civic logic rather than the market one. A plausible reason for this is that the market logic does not need to justify itself in the financial press: it is taken for granted and shared by all, within a specific arena of justification (here, the financial press). On the contrary, the market logic is the most called upon in the broadsheet and tabloid press, where it is not taken for granted and needs to be justified. In the broadsheet press, the domestic logic is part of the top three justifications, instead of the industrial logic.

The discourse disputing RI, just like the discourse disputing conventional finance, promotes a specific vision of how the world should be - what is worthy and what is just. Investing is about making money. However, even when this discourse is strongly oriented, it still combines multiple logics in order to increase legitimacy. A second result to be highlighted is that most of the justification occurs within the three dominant logics of financial markets -- the market, industrial and civic orders of worth, as illustrated in the following quote.

It's just as well virtue is its own reward, for it seems vice is much better for the wallet [market world]. An upstart fund based on the principle of anti-ethics has just ended the quarter as one of the top ranking investment funds based on returns over the past 12 months [market world]. Driven by distaste at the new craze of "socially responsible" investing [inspirational world], Mutuals.com decided to look at all those things mother told you to steer clear of - guns, fags, booze and gambling [domestic world]. Fund manager Dan Ahrens admits the Vice Fund was established as a reaction to the do-gooders. "Investing should be about making money," he says, "not making a political or social statement." Months of research convinced him the idea was a flyer. [market world]. Dan Ahrens in The Daily Telegraph, 9 April 2005.

It is particularly in the broadsheet press that justifications come from multiple worlds. Again, looking at the speakers in table 11 sheds light on this result: there is a broader variety

of speakers in the broadsheet press (with the “other category”, representing academics, individuals or international associations such as the United Nations). The broadsheet press also gives room to justification using the green, domestic and fame worlds of worth, each one relying on a competing vision of justice (Table 13). As a result, we might observe a higher quality of tests in the broadsheet press.

Table 13: justification discourse in the financial and non-financial press

	Financial press	Broadsheet	Tabloid
Civic	125	59	17
Market	113	61	67
Industrial	107	25	25
Domestic	63	39	11
Fame	60	11	7
Green	54	24	19
Information	45	8	7
Connectionnist	42	5	1
Inspirational	32	17	3

* Worlds representing more than 15% of the media’s discourse are highlighted in grey.

Another possibly counter-intuitive result is that the green world of worth comes in the sixth position only, in the financial and broadsheet press, although RI has focused a lot on global warming issues in the past years. While the CO2 dispute is present in many articles, the sustainability and environmental protection arguments are anecdotal when justifying investing based on CO2 considerations. When CO2 emissions are mentioned, it is not in terms of global warming but in terms of risk and return, a market discourse and in terms of certificates, an industrial discourse. This is not the case in the tabloid press, where the green logic comes in fourth position. But as mentioned, we chose not to focus on this sample of data due to its nature and small size of the sample.

We noted that RI justifies itself in different ways, as illustrated in table 12. Many of the disputes around RI are linked to a market logic, responding to critiques coming from the market world, domestic world or industrial world (the first three columns of table 12 in

appendix). The competing logics are only found in disputes that are much less important in the media discourse, with the exception of the environmental debate which we will focus on in the next section.

The next level of analysis is to determine whether the content of the dispute is a test of truth (confirming the institutional order) or a test of legitimacy (the existential test not being quite applicable in media discourse, as it would require interviews).

3.6.2 Second Level Results: Tests and Resolutions

We now drill into some of the most common disputes emerging from the data, to identify how the disputes around RI are resolved. We limit our analysis here to three disputes among the 16 identified for the sake of conciseness. Our choice of disputes was based on their relevance in terms of frequency in the media discourse, and in terms of variety in the type of justification. For each of the three disputes, we look at the possible resolution of the conflict in terms of short-term arrangement or longer lasting compromise.

When Environmental Sustainability becomes Carbon Finance: A Critique of the Civic World to the Industrial World

As a first illustration of the resolution of a dispute, we take the dispute around environmental issues, one of the most common disputes in our data. We have shown in the previous section that the tests are mostly grounded in the areas of market, industrial and civic logics. One could imagine that the disputes on environmental issues are resolved through tests grounded in the green world of worth.

The green world defends the principles of respecting and protecting nature, and of sustainability, yet it is barely present in the RI disputes linked to environmental concerns. The

dispute on environmental issues which is deployed both in the financial and non-financial press is in fact generally a critique from the civic world to the industrial world, and is largely resolved with a market and industrial world compromise.

Mr Tickner says investors should be asking companies whether they have mapped any of their operations and supply chains in relation to areas where water is scarce (green), whether they have a water risk strategy in place (industrial world) . Dave Tickner, head of fresh water at WWF in Financial Times, 22 April 2011.

Mr Simpson perhaps sums up the new mood among institutional investors: "If governments fail to regulate to avoid dangerous climate change then investors need to act to protect their wealth." (civic and market world) Paul Simpson, chief executive of the Carbon Disclosure Project in Financial Times, 22 April 2011.

Looking further at the quality of dispute, we see that the dispute about environmental concerns in RI is a legitimacy test. It takes the context into account , such as the current mood and the current state of regulation and confronts the experienced reality with the socially constructed reality -- a real questioning can take place.

A civic justification is brought in to resolve the market-industrial disagreement. This third logic allows a compromise between opposing logics, bringing together seemingly irreconcilable conceptions of the world, and of worthiness. But our data suggests that the resolution of the dispute between the civic world and industrial/market worlds is not that solid, and can be qualified as a fragile compromise. Sometimes the attempts to propose an acceptable resolution reconciling all logics seem too stretched to be genuine, which may lead to ironic discourse as illustrated below. And irony and sarcasm could be good indicators of the loss of common good.

This tree-hugging nation loves its recycling and fair trade coffee (green + civic), so it should seem natural that companies are trying to attract shareholders by branding themselves as "socially responsible" (fame). Peter Michaelis, manager of Norwich Union's UK ethical fund, explains that such marketing can pull in the investors (market). He says: "The younger generation is more

concerned about global issues like climate change, fair trade, child labour, employees' rights and human rights." (green + civic) The Daily Telegraph, 13 March 2006.

We conclude from this first dispute that there seems to be no main obstacle to drag the ESG criteria into the market world. This corresponds to the second possible vision for the RI discourse we had envisioned: it circumscribes conventional finance, by showing that the financial sphere must comply with other principles. But our data shows that ESG proponents rarely seize the opportunities offered by the possibility of framing responsible investment within other worlds. As a result, the ecological critique has been taken over by capitalism. The current public debate about global warming is not framed in terms of a green logic. Instead, the civic world is brought into the discourse for justification. In other words, the framing strategy revealed here consists of attempts to suspend the disagreement with the industrial and market worlds. This is done by proposing a perspective that would be acceptable to all, because it is located within the civic world, where “beings all belong to a collective that includes and transcends them” (Boltanski & Thévenot, 2006, p. 192).

Maximizing Shareholder Value: Critique Circumscribed to the Market Logic

Just like much of the academic research on RI focuses on financial return, much of the RI disputes in the public discourse are about financial return. This dispute is dealt with within a single logic, the market one.

HCT Group, a transportation firm, also blends commercial [Market] and social aims [Civic]. It reinvests a third of its profits into social schemes such as training for unemployed people [Market, civic]. Dai Powell, HCT's chief executive, attributes part of its success to the fact it does not have shareholders to satisfy [Market], which means it can accept lower margins on tenders [Market]. As well as bank loans and asset-backed financing, it has an equity-like loan whose interest rate is based on turnover: investors get paid more when HCT earns more [Market]. The Economist, 31 March 2012

As in the above abstract, the discourse for the shareholder value dispute is anchored in a market logic: it is about profit, investors, return. In other words, RI uses the same language

and principles as conventional finance. RI is not subversive; it complies with the market logic's vision of justice.

But within the market logic, the objective of maximizing shareholder value is explicitly challenged. So far, maximizing shareholder value was accepted as a higher common principle, which means it was supposed to benefit the whole of society and was thereby more than the pursuit of individual interests. This is now contested, and an alternative objective of satisfying social aims is proposed. As a result, maximizing shareholder value becomes an arrangement rather than a compromise, meaning that it serves the interest of a minority, which reduces its legitimacy.

Because the critique is circumscribed to the market logic, the validity of the test itself is not challenged, and the dominant values come out strengthened from the test. This situation falls in the first possible scenario we had envisioned for the results of justification in RI. We therefore conclude that RI disputes about shareholder value “purify” the market logic of finance, to use a term coined by Boltanski & Thévenot (2006 [1991]). Some of the most damaging financial products and practices can be halted, but the underlying principle and conventions are confirmed and reinforced. Daudigeos and Valiorgue suggest similar results for the evolution of corporate responsibility strategies (2010), which were absorbed by the corporate system as they matured.

The Need for a Practical and Efficient Framework: Critique of the Industrial World to the Market World.

The dispute on the appropriateness and completeness of financial tools (the need for company disclosure, ESG integration, and a framework to determine the materiality of issues) available for investment decisions refers to a larger number of worlds than most disputes.

Many logics are called upon to resolve this dispute. While the main critique comes from the industrial world, it is framed according to the principles of the market, industrial and civic worlds as well as the green world and the connectivity world. However, it does not seem that the presence of these other, new, worlds in the debate will result in shaking up the dominant compromise.

Dark green funds apply negative screening procedures [industrial] and do not invest in companies in certain sectors that are deemed harmful, such as tobacco or armaments [market, green]. Light green funds focus on the measures that companies are taking to be more sustainable, such as waste efficiency plans or even community outreach programmes [green, civic]. However, light green funds are not necessarily "less ethical" than dark green ones. Fund managers of light green funds often use their clout as shareholders to encourage companies to take more sustainable measures - which are arguably just as beneficial for sustainability in general as investing directly in a wind turbine company [market + green]. Financial Times, 11 April 2009

This is a test of truth, debating who is right or wrong, what is ethical or not, as illustrated above regarding the effective way to invest and manage funds. The discourse proposes hybrid practices and language, but does not discuss the underlying principles that it is built on, because these are not clear. There are multiple examples of such hybrid discourses and constructions when the common good is unclear or misunderstood. The discourse is focused on market and industrial worlds of worth, with a domestic and inspirational worth subordinated to them, which implies reconciling multiple principles. But the principle resulting from a possible arrangement is unclear, and not specific to RI: is it active fund management, or superior financial performance, or environmentally-friendly acts? It is unclear what RI stands for, and what it stands against.

"We never use screening as a justification for poor performance," she says. "I have to deliver in the same way that any other fund manager does. If I can't invest in oil, for example, then I will look for an alternative that I believe offers a good investment opportunity [market world] and meets our ethical criteria [domestic world]. If anything, investment teams running ethical and sustainable funds have to work harder because they can't rely on following the stocks that the mainstream funds do [industrial]. This is good for investors as it means the funds are being actively managed." [industrial world + market] (...) Quinn is passionate about recycling

[inspirational, green world] and predicts legislation forcing us to recycle more will be introduced. 'Britain is behind the times when it comes to educating people on their personal responsibility,' [domestic world] she says. Julie Quinn in The Mail on Sunday, 13 April 2008

The justification using a plurality of orders of worth is characteristic of this dispute and makes RI potentially subversive, but the quality of the dispute is hindered by the absence of a clear common good. The following quote also introduces the value of networks into the debate. The common good might then become “avoiding legislating”. This is a possible basis of a new compromise between seemingly opposing worlds of worth, if it were more than a lonely quote among the sizeable dataset.

[...] Analysts want data on non-financial matters, such as use of raw materials and energy consumption. [industrial] "There is a strong feeling across Europe that if we had a better understanding of this, much of the financial crisis could have been avoided," [industrial] Mr Hinkel says. Reflecting this trend, more than 800 investors have signed up to the UN's Principles for Responsible Investment, accounting for \$2,200bn - 10 per cent of global capital markets. [fame] The goal is to nudge companies to provide environmental, social and corporate governance (ESG) data voluntarily, rather than legislating. [civic] Hans-Joerg Hinkel, strategic planning manager at Mitsubishi Electric, in Financial Times, 4 October 2010.

There are more proposals for a vision of a common good, but they are anecdotal in our data at this stage. This last quote suggests a vision of the common good, which is to make RI obsolete by making extra-financial issues mainstream. Is this what RI stands for? To become the common good, this objective needs to be perceived as representing the interests of all, and not just of a portion of the RI community. Otherwise, any resolution of the conflict would be only a local arrangement, with a limited contribution to the real economy.

The EAI has been one of the loudest voices calling for investors to pay more attention to long term and hidden risks. Set up four years ago to encourage brokers to produce more and better research on "extra-financial issues", the EAI declared at the outset its intention to make itself obsolete by bringing these extra-financial issues into the mainstream. Financial Times, 6 October 2008.

We conclude that RI is neither completely compliant nor completely subversive in relation to the market logic when it justifies the need for a new, practical framework to take investment decisions. In some ways it challenges the underlying principle and conventions of mainstream finance. We also see that tools, objects such as models and frameworks, help to determine and influence what is worthy. The current search for RI models and tools might therefore play an important role in resolving the RI disputes resulting from its institutionalization.

3.9 Implications and Conclusion

In order to understand how tensions around different notions of common good are negotiated, we looked at the disputes and resolutions around RI, as reported in the financial and non-financial press. We collected data in three separate samples of 97 financial press articles, 112 broadsheet press and 24 tabloid articles. The articles span over the 2001-2012 period, corresponding to the professionalization years of RI during which ESG became the key RI approach. Using Boltanski and Thévenot's framework, we analyzed the justification discourse for a series of disputes on RI that emerged from the data. Three such disputes are about environmental concerns; inconclusive financial performance; and inappropriate investment methods and tools. We conclude from our data that (a) the RI proponents try to develop arguments from multiple worlds, a majority of these arguments coming from the market, industrial and civic worlds; (b) the green world is almost absent from justifications, even when the discussing ecological issues; (c) the quality of the tests is advanced, showing a maturity in the RI debate; and (d) a sometimes fragile compromise is reached to appease the RI disputes, but it would require RI models and tools to consolidate it.

RI critiques and justifications combine multiple worlds in order to construct a valid and plausible discourse on RI, confirming the importance of using a framework that allows

studying multiple logics and grammars. This first conclusion based on our analysis means that currently the market, industrial and civic logics are perceived as the most legitimate ones in responsible investment since they are most used to justify RI. In addition, a variety of other logics are present in most justifications, namely the green, domestic and fame logics, which is where the quests of do-gooders and bottom-liners can meet. Stating that RI is hybrid may sound obvious. But it is important to say so because the discourse on RI is often Manichean: RI is presented as meaningless or presented as a way to save the world, neither of which is exact. This brings us back to the scenarios we hypothesized as the most likely -- that RI is neither completely compliant nor completely subversive in relation to the market logic and that there is no clear debate, no clear vision of the world and of justice. We had hypothesized that RI in the 21st century proposes hybrid practices and language, but does not discuss the underlying principles that it is built on, because these are not clear and because it is too dangerous for the future of RI. We conclude that most of the justification occurs within the three dominant logics of financial markets -- the market, industrial and civic orders of worth --, making it unlikely that RI will significantly challenge the dominant order by debating and discursively justifying competing visions of the world. By referring to the dominant worlds of worth, RI validates them and strengthens the existing compromise. This positions RI as the solution offered by financial markets to appease the critique, rather than as a critique of financial markets. But interestingly, although RI follows a market logic, it challenges it from the inside, by questioning the common good within that world. As a result, it purifies finance, bringing it back to its foundations. It is in this way that RI might be making a difference and contributing to society. This first conclusion on the slow legitimating and diffusion of RI raises new questions about practices that do not get legitimacy -- are not valid and plausible -- but still are diffused. A variety of practices in the financial industry could possibly fit this description, and should be studied to understand the other side of the story.

Another finding of our study is the quasi-absence of the green world from the justification discourse of RI, compared to the frequency of ecological debates. Our coding process highlighted a problem within the ecological order, linked to commensuration and certification. The ecological aspects need to be measured and fit in models because they are justified by certification more than by discourse. Paradoxically, certification is part of the industrial logic. This results in a tension within the green logic, leading to the reinforcement of the industrial logic, not the green logic. The same trend characterizes ESG investing, the mainstreamed version of RI, where one could say that the commensuration and certification requirements transform the ecological product and ecological discourse.

The quality of the tests in RI is advanced, showing a maturity in the RI debate. When it justifies itself with the need for a practical and efficient framework for investment practices, or when it calls for dutiful shareholders (in terms of active ownership and fiduciary duty), RI not only attempts to appease the disputes surrounding it, but it also becomes a legitimacy test for financial markets, because it challenges the reality of how markets currently function. In those disputes, RI critiques the market principle by confronting it with a domestic logic (responsibility) or a green logic (sustainability). If we consider that a valid critique is one that questions the underlying assumptions, the legitimacy test is the type of critique that will do so. There are examples in existing literature illustrating how this type of test is institutional work which may lead to a new institutional order. Our results show that RI's justification efforts are another such situation of applying legitimacy tests.

Lastly, our findings point to the role of tools and models in strengthening the compromises between multiple logics. We consider these compromises to be fragile, not only

because they are hybrid by definition but because they are not (yet) consolidated by recognized RI tools and models. The dispute on the need for a practical and efficient framework illustrated the absence of such tools. Should such RI tools be developed in the future, they would deserve scholarly attention as one of their consequences would be to stabilize the RI compromise between multiple logics.

With all of the above, we have contributed to clarifying our expectations towards RI and shown that if we want to address shortcomings in finance, we should probably not rely on RI as it is defined and practiced in the 21st century, i.e. mainly including ESG factors in institutional investors-decision making process as a result of mainstreaming.

A limit of this chapter lies in the discourse versus practice tension, which suggests further research. It would be naïve to believe that a media discourse leads to a practice. How professional and organizational processes in the newsroom (leading to media discourse) influence public processes remains an even more complex issue than the impact of public discourse on public opinion. There clearly is a discursive practice, but beyond that we would like to know if there are other, non-discursive practices. The link between media discourse, a discursive practice, and non-discursive practices of the audience (in terms of investment decisions) suffers from shortcomings inherent to our research approach, since we are basing ourselves on press articles without assessing how the discourse is translated in day-to-day processes. This is a common difficulty for all discourse analysis that must recognize that discourse does not forcibly correspond to practice. However, RI practices are documented, in practitioner reports for example, and do show an evolution similar to the discourse on these practices, such as the evolution from screening, to engagement, to ESG integration. For future studies using the Boltanski and Thévenot framework to understand RI, it would be important

to focus on the micro-level by meeting and observing the actors in their daily practice and attempts of justification.

3.10 References

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4 A paradox perspective on responsible investment

4.1 Chapter Summary

After focusing on “justifying RI” in chapter 3, chapter 4 now focuses on “practicing RI”, the second collective belief identified in chapter 2. Looking at practice with a framework for ESG investing built by institutional investors, I show that the design of an RI valuation tool is not just a series of equilibriums, but rather a dynamic paradox process, made of constant arrangements between multiple dualities.

This chapter examines the tensions embedded in the dynamics of responsible investment (RI) mainstreaming, and the arrangements through which individuals, a group or an institution cope with paradoxical tensions. In the previous chapters, I relied on convention theory to highlight the multiplicity of equilibriums which may lead to institutional maintenance or change. In this chapter, I analyze the tensions and coping mechanisms related to RI mainstreaming through the lens of paradox theory. This allows me to present RI valuation not only as a series of equilibriums, following the economics of convention approach, but also as a process.

Through an ethnographic study of asset managers building a framework for responsible investment, we found that four paradoxes specific to RI (lack of convention; stability and transformation; time horizon; judgment and metrics) were subject to multiple arrangements but did not need to be resolved for the process to reach an outcome. The results suggest that the dynamics of paradoxes is a continuous circular process of constant shifting between both branches of each duality. We show that the typologies of paradoxes are a useful categorization tool, but we suggest that the untapped essence of paradox theory lies in its capacity to study the dynamics of a process.

4.3 Introduction

Although responsible investment (RI) mainstreaming, i.e. the integration of environmental, social and governance (ESG) issues into mainstream finance (Kurtz, 2008), has been widely discussed and announced (Déjean and Le Theule, 2011, Louche, 2004, Penalva-Icher, 2012), very few studies have tried to theorize this phenomenon. The existing literature focuses on how to mainstream RI and on identifying impediments to mainstreaming (Juravle & Lewis, 2008). However it does not yet capture the tensions associated with the divergent goals of finance and sustainability that characterize RI mainstreaming. These tensions result from competing demands and create contradictory prescriptions for actions. With the mainstreaming of RI, a multitude of actors in this field attempt to provide guidelines and processes to set common rules about RI: stock exchanges and their regulators set rules for listed companies, rating agencies set norms for equity and debt issuers (Sinclair, 2000), consultants and analysts set norms for valuation methods (Lordon, 2000). Finance versus sustainability tensions in the RI field are reinforced by the mainstreaming of the field. To expand our understanding of RI mainstreaming in this changing context, we need to understand the tensions that shape it and the ways actors cope with them. This leads us to the two following questions: (1) What tensions are embedded in RI mainstreaming? And (2) through which arrangements do the individuals, the group or the institution cope with the paradoxical tensions?

To address these questions, we carried out an ethnographic study of RI mainstreaming with a working group composed of experts in the field of responsible investing. For two years, investment professionals in conventional banks worked together to reach a consensus on a short-list of the most significant ESG factors and the appropriate metrics for these factors. This group, called Delphi, is an interorganizational group representing international and major

financial institutions. We consider the Delphi group to be representative of the RI mainstream organizational field, as they represent several institutions of the financial market. This distinguishes our study from existing empirical articles focusing on one organization or business unit. We consider this setting appropriate to our research purpose, because responsible investment practitioners often face ambiguity regarding both the objectives they set to reach and the tools they use to make responsible investment decisions. In addition to paradoxes inherent to RI, our research setting offers paradoxes linked to the process of consensus seeking in a collaborative environment and paradoxes inherent to the framework developed, which is a standardization exercise.

First, we identify the variety of tensions that co-exist and persist over time and the multiple levels at which they occur in the field of RI: individual level, group level and institutional level. Among the many tensions in the Delphi process, we show that those specific to the activity of ESG standardization and commensuration are paradoxes between learning and performing, namely: convention; stability and transformation; time horizon; and judgment and metrics. Second, we identify the arrangements used to cope with the tensions in practice by the individuals and by the group. Framing the tension as a paradox, shifting, transcending and defending are the required ongoing responses in order to channel the paradox and its creative potential. Finally, we propose a spiral model for the dynamics of paradoxes, showing how paradoxes co-exist, feed-each other and can be channeled through or eliminated from a process.

How paradoxes are dealt with critically impacts an organization's success, or an institutions' orientation, yet remains relatively unexamined. In that respect, addressing our research question is important to deepen understanding of a critical practice - managing

paradoxical tensions - that underlies all activities associated with changing dominant views in a field. In our discussion section, we explore how our line of inquiry can not only inform research on RI mainstreaming, but also the growing literature on paradox theory by clarifying the nature of a paradox, shifting the focus on arrangements, and illustrating the potential of paradox theory as a theory of dynamic processes.

4.4 Literature review

4.3.1 ESG valuation as paradoxical

The practice of ESG integration, an approach consisting in the integration of environmental, societal and governance criteria into investment decision-making, combines the efficiency, quantitative analysis, and resources of traditional fund management with the beliefs, values, and judgment of sustainability, such as a long-term focus, attention to stakeholders, and non-financial measures. This combination brings together “multiple and inconsistent goals, norms, and values, creating contradictory prescriptions for action”, a fertile ground for paradoxes according to Besharov & Smith (2013). The actors of ESG integration are analysts in conventional banks, who focus on financial consideration, but for who this combination of dimensions generates ethical dilemmas (Dees, 2012; Margolis & Walsh, 2003). ESG is quite remote from the “anti-market” and “anti-corporate” visions that initially drove responsible investment. Today’s ESG integration is a very corporate focused view of RI where valuation involves quantification in the form of key performance indicators, ratings, and financial modeling. With this approach comes the quest for materiality (AccountAbility, 2006) --which non-financial criteria have the most value, meaning influence most financial performance-- and commensuration (Déjean, Gond, & Leca, 2004) --how can the value of a non-financial criteria be measured.

This transformation of qualities into quantities is inherently paradoxical, because it is an attempt to reconcile metrics and judgment. Scholars have analyzed the obstacles to commensuration, as well as the conditions necessary for commensuration to succeed (Espeland & Stevens, 1998). But there is room for further research when it comes to the characteristics of the agreement to be reached (Huault & Rainelli, 2011). ESG commensuration projects are particularly paradoxical, because they try to reconcile financial and non-financial performance. Here, the arrangement for the financial world and sustainability paradox is ongoing and observable, and as such the Delphi group provides a laboratory for observing tension and arrangements at different levels, from the individual and group level, to the field level.

4.3.2 Tensions in paradox theory

Paradoxes refer to "contradictory, yet interrelated elements—elements that seem logical in isolation, but absurd and irrational when appearing simultaneously" (Lewis, 2000: 760), like judgment and metrics in a commensuration process, or like the economic rationale and the sustainability rationale in responsible investment. Scholars in social sciences agree that these tensions are inherent to organizations, and result from contradictory demand from divergent internal and external interest groups (Smith & Lewis, 2011). Individuals, groups or institutions may be tempted to frame contradictory elements as a dilemma, by addressing the elements separately in time or space to make them more manageable. But paradox theory argues that addressing the divergent goals, logics, values, norms, and identities simultaneously will lead to long term organizational success and sustainability (Smith, Gonin & Besharov, 2013).

Collaborations are one setting where these multiple and inconsistent goals, norms, and values are embedded within the boundaries of one group, and therefore seems to be a good

place to study paradoxes. Indeed, one insight emerging from the existing research on interorganization collaborations (Domenico et al., 2009; Jarzabkowski & Fenton, 2006; Philips & Lawrence, 2002) evidences tensions within these organizations. These tensions enable participants to develop difficult-to-imitate organizational capabilities through the transmission or sharing of resources (Domenico et al., 2009). In the responsible investment organization field, collaborations are starting to emerge due to the institutionalization and ongoing structuration of the field (Louche, 2004), which is characterized by increased interaction among organizations in the field; the emergence of interorganization structures; the increase in information load; and the increased awareness among participants who are involved in common enterprises (DiMaggio & Powell, 1983). These characteristics drove collaboration initiatives that group different actors from the field around a table – one of which is Delphi, the collaborative venture we chose as our setting for paradoxes.

A few well-documented paradoxes are flexibility and efficiency (Gibson & Birkenshaw, 2004), exploration and exploitation (Andriopoulos & Lewis, 2009; Garud & Gheman, 2011; Raish, 2009; Smith, 2014); collaboration and control (Lusher & Lewis, 2008); and profit and social responsibility (Domenico et al. 2009, Smith et al., 2013). These paradoxes are experienced in various areas, including innovation, change, identity, corporate governance, communication and leadership (Smith, 2006) and at multiple levels as well for individuals, business units, companies and interorganization collaboration. Smith & Lewis (2011) propose to organize these tensions into four categories, as performing, organizing, belonging and learning paradoxes. However, there remains a gap in literature regarding the nature and management of strategic paradoxes (Lewis, 2014).

An analysis of the existing literature on paradox theory reveals first that most contributions come in the form of conceptual papers. Garud, Gheman & Kumaraswamy (2011), Jay (2013) and Luscher & Lewis (2008) are three exceptions, with action research methodologies conducted respectively at 3M, Cambridge Energy Alliance, and Lego. Moreover, studies that take a longitudinal perspective on paradoxes, with ethnographic field study or action research methods, are scarce and called for (Raisch, 2009).

Second, studies in paradox research have addressed many different levels in separate studies. The middle management and the business unit level are addressed by Luscher and Lewis (2008) and Smith (2014). The organization level is studied by hybridity scholars (Borys & Jamison, 1989; Jay 2013) as well as identity scholars (Pratt and Foreman, 2000). And paradoxes at the interorganization level are illustrated in literature on collaboration, with examples of interorganizational collaboration by Jarzabkowski and Fenton (2006) and Philips and Lawrence (2002). But so far none of these studies have investigated paradoxes at the field level, a level which includes organizations that constitute a recognized area of institutional life and are subject to similar competition, reputational and regulatory pressures (DiMaggio & Powell, 1983: 148). Studying the field level offers an opportunity to study how paradoxes shape a field, in our case responsible investment mainstreaming.

Thirdly, the tensions specific to RI mainstreaming have not yet been analyzed using the paradox framework. A tension between social performance and financial performance has been documented in various settings such as social entrepreneurship (Smith, Besharov, Wessels & Chertok, 2012), corporate social enterprise collaboration (Domenico et al.; 2009) and corporate social performance (Margolis & Walsh, 2003). But RI mainstreaming is

paradoxical through multiple dualities of co-existing tensions, which gain to be investigated systematically using the paradox framework.

4.3.3 Arrangements mechanisms in paradox theory

Before coping with a paradox, it needs to be identified. Different mechanisms have been discussed in literature as indicators of the existence of a paradox, among which are external interventions, drawings, open discussion forums and humor (Lewis, 2006). Humor is a subtle mechanism to point out incongruencies, incoherencies and paradoxes in manager's daily lives by joking about them (Hatch & Ehrlich, 1993). Identifying a paradox may already be a challenge, because it means confronting a tension. But managing complexity, even when it is desired or constructed, can be even more challenging.

Arrangements appear in the earlier studies of paradox theory, which do not limit themselves to identifying tensions, but also discuss the importance of dealing with paradoxes. Indeed, while most teams and organizations have a tendency to avoid tensions, as they find paradoxes difficult to accept and manage (Pool & van de Ven, 1989), some recognize the potential of complexity and even strive for it. But resolving the tensions is neither easy nor always desirable (Goodpaster & Holloran, 2008) as shows the ongoing debate between acceptance and resolution of paradoxes (Smith & Lewis, 2011). The authors suggest “working through” the paradox instead of resolving it (Luscher & Lewis, 2008), “preserving” the paradox rather than resolving it (Goodpaster, 2008; Lado, 2006) or in other words “accepting” the paradox (Lewis, 2006; Poole & Van de Ven, 1989). While previous studies of institutional logics suggested that choosing between one logic and another is the desirable course (Pache & Santos, 2010), paradox theory defends an inclusive approach rather than “either/or” stances. Pratt and Foreman (2000) illustrate the problematic consequences of deletion as one way of managing multiple identities within individuals and organizations. For Andriopoulos et al.

(2009), “managing paradox does not imply resolution or eliminating the paradox, but tapping into its energizing potential”, which would require preserving the paradox. Hence, a paradox framework shifts the notion of "managing" from modern definitions based on planning and control to coping—its original meaning (Lewis, 2006). We will adopt the notion of arrangement to capture this idea, as suggested by Garud et al. (2011).⁵ This requires mindsets and approaches that embrace complexity resulting from multiple identities, goals and logics (Andriopoulos & Lewis, 2009).

Four types of arrangements emerge from existing research. A first type of arrangement serves to identify the paradox, to recognize existence of a contradiction, a first step in the dynamics of paradoxes. This arrangement consists in embracing an ‘either/and’ view of the contradiction, in which the opposites both continue to exist and can be united in an arrangement. The alternative view is to resolve, and thus reject, the paradox by fully separating the opposites and choosing one branch of the duality over the other.

A second arrangement consists in simplifying the situation. This can be done by compartmentalizing - making a separate but equal segregation of the different logics (Pratt & Foreman, 2003). Segregation can be achieved either by spatial or temporal separation, as observed by Pool and Van de Ven (1989). In both cases, the difficulty of achieving a clear separation of contrary assumptions, theories, or processes remains to be solved and leads to either/or positioning within one of the levels or time frames. These strategies are similar to framing tensions as dilemmas and either/or options and ultimately choosing one alternative within one context (Smith, 2014), losing the rich potential of a paradox.

⁵ and not in the sense of Cloutier and Langley (2007) as one type of short-lived coping mechanism.

A third arrangement consists in shifting from one strategy to the other. Multiple studies recommend switching between differentiating - recognizing the uniqueness of each alternative - and integrating - bringing the alternatives together to address them simultaneously and seek synergies between them (Andriopoulos, 2009; Raish, 2009; Smith, Besharov, Wessel and Chertok, 2012; Smith, 2014). Switching between adaptability and alignment (Gibson & Birkenshaw, 2004) characterizes successful ambidextrous environments. Switching between organizing and strategizing (Jarzabkowski & Fenton, 2006), diversity and shared understanding, trust environment and conflict-friendly environment (Sundaramurthy & Lewis, 2003), aggregation and integration (Pratt & Foreman, 2000) are all possible examples of how to cope with a paradox over time. Recent studies have focused on how this shifting occurs over time (Raisch et al, 2009; Smith & Lewis, 2011; Smith, 2014).

Finally, a fourth type of arrangement involves innovation (Philips & Lawrence, 2002); developing new, creative alternatives which Lewis (2006) refers to as transcendence. It requires a complex, paradoxical way of thinking, viewing tensions as complementary and interwoven. All of these arrangements are identified in literature, as illustrated in table 15.

Table 15: Arrangements explored in paradox literature.

Year	Authors	Arrangements			
		Identification accept or reject	simplifying	shifting	transcending
1989	Poole & Van de Ven	Accept the paradox and use it constructively	Clarify levels of analysis	Temporally separate the two levels	
1991	Oliver	Defiance	Avoidance; manipulation		Compromise
1993	Hatch & Ehrlich,	Humor			
2000	Pratt & Foreman	Deletion	Compartmentalize	Aggregating - Integrating	
2002	Philips & Lawrence		Reproduction		Innovation
2003	Sundaramurthy & Lewis	External interventions		Fostering virtuous circle (trust and conflict; diversity and shared understanding)	
2004	Gibson & Birkinshaw			Alignment and adaptability	
2006	Jarzabkowski & Fenton			Strategizing and organizing	

2006	Lado	Preserve rather than resolve	
2006	Lewis	Confrontation; Acceptance	Transcendence
2007	Denis & Langley		Conventions as compromises
2008	Goodpastor	Preserve rather than resolve	
2008	Luscher & Lewis	Working through paradox instead of resolving	
2009	Andriopoulos		Differentiating - Integrating
2009	Domenico et al.		Synthesis
2009	Raisch		Differentiating - Integrating
2012	Smith & Besharov	Accepting	Differentiating - Integrating
2013	Smith		Many sorts of shifts identified in literature
2014	Smith		Differentiating - integrating

These different arrangements can be consolidated with discourse related mechanisms.

Van de Ven (1989) notes the use of new terms to resolve a paradox. Garud and Gheman (2011) discuss the helpful role of narratives that legitimize transcendence by innovation. Jay (2013) adds linguistic hooks as a useful mechanism to identify and cope with paradoxes. And Philips and Lawrence (2002) focus on the translation of rules and resources as a way of legitimizing an arrangement. Besides these tools, there is still much unknown about arrangement strategies for paradoxes, with a need for further research.

This study seeks to expand and build on existing studies that have identified arrangements, to further our understanding of the nature of paradoxes and arrangements.

4.5 Method

4.4.1 Research setting

To investigate the role of paradoxes in the commensuration of RI, we followed a working group of conventional asset managers and asset owners who came together in 2012 with the objective to create a framework of key performance indicators (KPIs) for ESG. This

working group was called ‘Delphi’. The group served as a laboratory, as participants were put outside their ‘natural’ environment to work together on a project. In the following section, we drill down into our research setting by presenting responsible investment mainstreaming, and more specifically the activity of valuing responsible investment. We then provide some background on the Delphi group.

Our study is based on qualitative data analysis, following a tradition which focuses on the means by which organization members go about constructing and understanding their experience (Creswell, 1998). This approach seemed the most appropriate to examine a moving picture of a process (Gioia, Corley, & Hamilton, 2012) such as the dynamics of paradoxes.

Research laboratory: the Delphi project

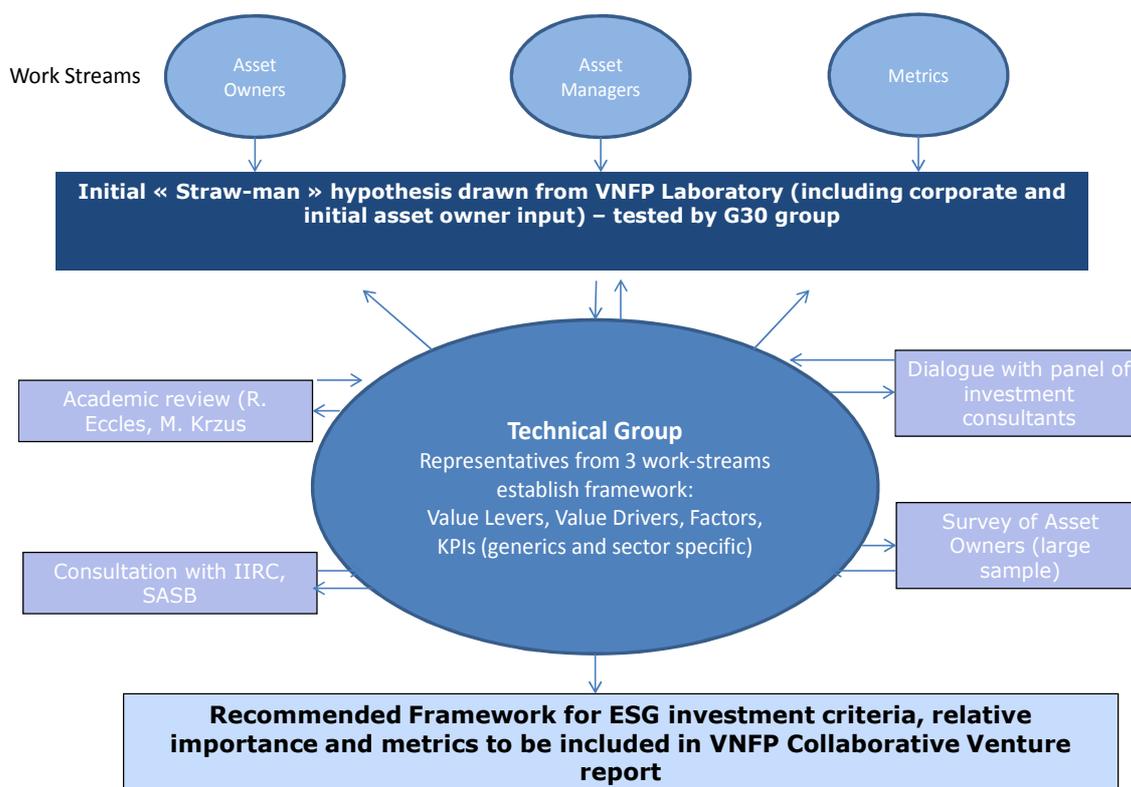
With the rise of ESG requests from the investment community comes the need to develop tools and techniques to value non-financial performance. This is what led the Delphi project to develop a framework of KPIs for ESG: a short-list of the most significant ESG factors and the appropriate metrics for these factors.

Delphi is an investor-lead initiative grouping recognized experts in the field of responsible investing -- asset managers and asset owners -- all working in large international banks. It is a collaborative venture with 45-50 different participants, all bound to operate under strict confidentiality rules. The project is organized in three workstreams, with a leader for each. The Asset Manager workstream is led by the head of a big bank’s global Environmental, Social and Governance (ESG) investments business. The Asset Owner workstream is led by the Head of Governance of a large pension fund and the Metrics workstream is led by the Managing Director of the European Federation of Financial

Analysts. To coordinate communication between these three groups there is a project manager, our lead informant, whose responsibilities include project management at the Global Advisor branch of an international bank.

For Delphi's working process, our lead informant and his partners deliberately searched for complexity, as a validation of their legitimacy. This process evolved over time as it soon was considered to be an inefficient way of working. A Technical Group composed of 10 people was set up to address conflicting demands of consensus and efficiency. Participants to the Technical Group came from the three workstreams and needed to commit to thorough reading of the framework, a bi-weekly 90-120 min meeting (by conference call), and responding to 3-4 short surveys. This allowed to speed up the process of determining the material ESG factors. Figure 8 presents an overview of the project with its workstreams and stakeholders.

Figure 8 : An overview of the Delphi Group⁶



The project was launched in June 2012 and was scheduled to be completed by June 30th 2013. However, it took longer than expected. In October 2014, the framework was finally presented publicly, and the “socialization phase” (presenting the framework to the public through conference calls) was still ongoing in December 2014. The data presented here spans the 2 first years of the project, and stops at the launch of the framework, that is October 2014.

Getting people engaged in the Delphi process and gathering their opinion was a constant challenge, due to the voluntary basis of participation. Participants came and went, with varying levels of engagement over time. Work was divided by sector, with one or two

⁶ VNPF = valuing non-financial performance.

people in charge of identifying KPIs per sector, after which all the contributions needed to be brought together. “*So what is the next step?*” was a recurrent critical question.

While the framework developed by Delphi, with its indicators for ESG, is an interesting object to study for ESG scholars, we rather focused our research on the process of generating indicators and the debates Delphi has had on each of the issues it encountered. We see this process as the real contribution, not only to ESG but also to a better understanding of arrangements when faced with paradoxical tensions. As one participant stated: “*The spreadsheet is useful, but the discussions it makes us have with analysts are brilliant. This is the big change, the better conversations we are having.*”

My role in this group was observation. The conference call format of most meetings was favorable to this role. I seldom participated in the discussion, and was invisible most of the time. I was of course visible during the on-site meeting, but intervened as little as possible. Despite this, it is clear that I was one among many coping mechanisms for the group. Having a scholar observe their process added legitimacy.

4.4.2 Data collection

The study relied on unique access to multiple data sources: archival material, participant observation, formal semi-structured interviews, informal talks and multiple artifacts.

Over 18 months, the author of this thesis followed Delphi’s Technical Group. When she joined the project, it had already been running for 6 months but she was granted access to the archival material in the form of email exchanges and minutes of previous meetings. The ethnographic observation consisted in 22 Technical Group meetings and 7 asset manager

workstream meetings, which typically took place by conference call every two weeks and, on two occasions, in-person meetings of the whole group.

While challenging for the group, the conference calls had the advantage of making her presence discreet and non-intrusive so that participants spoke freely. During the in-person meetings, participants would frequently peer at her work and ask about her abundant notes and “analysis” of their interventions, not entirely comfortable at the idea of being under scrutiny. They invoked “Chattam House Rules” before speaking their minds. In addition to observation, 15 interviews were conducted. First came two exploratory interviews with the lead informant, who facilitated the initial contacts for meeting attendance and appointments for interviews, and who was one of the initial sources of information for this study. Then a first round of 9 interviews was held at with active members of Delphi at the beginning of the project, in winter 2012. A second round of 4 interviews was conducted later in the project, in winter 2013, with participants who were available at that time for a 1-hour interview. The objective was to capture the evolution in the process and individual perceptions of the process. Data validity was gained through the repeated interviews over time, rather than through the number of people interviewed. Indeed, the number of people to be interviewed was limited by the size of the Technical Group. Artifacts such as the various versions of the document, which were to become the framework, or such as reports and definitions produced by others but referred to in the Delphi process were used to support the analysis by clarifying the concepts discussed.

Table 16 : Data sources and use

Data source	Type of data	Use in the analysis
Archival data	<i>Project related documents from previous workstreams: Documents drafted to launch the project, minutes of meetings from workstreams, email conversations prior to my arrival in the project.</i>	Familiarize with organizational context. Situating the tensions identified in the context of the project Support, integrate and triangulate evidence from observations and interviews.
Observations	<i>Field notes from meeting attendance: 1 half-day meeting with company representatives,</i>	Map the tensions resulting from the process and the resolutions adopted by

	1 two-day meeting with investors interested in the project, and 26 conference call meeting. (203 pages, times new roman 12, double-spaced) Framework in its different versions as it was built and evolved. Informal conversations with project participants ranging from brief email exchanges to longer talks during conference breaks or dinners.	participants over time. Validate interpretation from phone conversations. Triangulate interpretations emerging from conference calls and interviews. Familiarize with the project and participants, build trust, discuss insights from the observations, clarify uncertainties regarding project related events and motivations.
Interviews	Preliminary interview with project leader to understand the project and its context. (2) First round interviews (8). Second round interview (5). Pictures: visual inspired by business model canvas filled in at intervals. (8) (178 pages, times new roman 12, double-spaced)	Familiarize with the project and its context. Investigate perceived process Investigate tensions in the process as perceived by participants. Validate interpretation
External data	Articles, models, standards referred to during the workstreams (27 items including power point presentations and external reports)	Support the reconstruction of concepts built into the framework.
Intranet	Web discussions Data shared via web platforms	Map the tensions and arrangements throughout the process.

4.4.3 Data analysis

The initial stages of analysis focused on the meeting material, both archival and ongoing, to derive a narrative of main events on a time line (see Appendix 2), such as changes in the process with the creation of a Technical Group or the use of a communication platform, the arrival of new members or departure of members in the group, or the introduction of new factors in the framework. The narrative was used to make sense of the overall development of the framework, and as such served both as a data organization device and as a validation tool (Langley, 1999). The rest of the data analysis followed a cyclical process, with the first analysis beginning as the interviews went along, and consisting in a three level content analysis (Gioia, Corley, & Hamilton, 2012).

Step 1: tracing types of paradoxes

In line with prior empirical studies adopting an institutional perspective on standardization (Glaser & Strauss, 1967; Slager, Gond & Moon, 2012), we used a process of ‘constant comparison’ between theory and data. The first order constructs were derived from

our data and rephrased as questions to highlight the tensions, without determining yet if they were paradoxical or not.

We then plotted the questions on the paradox framework proposed by Smith and Lewis (2011). By doing this we noticed that there was a multitude of tensions in Delphi, linked to different aspects of the project: in terms of the knowledge needed, the identity of the participants, the process to follow and the outcome to be reached. Many tensions in the Delphi process, specific to the activity of ESG standardization and commensuration, were paradoxes between learning and performing. Another group of tensions, specific to collaborative ventures, were paradoxes of belonging or paradoxes between belonging and organizing, already documented in literature as flexibility and control paradoxes. Other tensions, between learning and belonging or learning and organizing, had in common the difficulty of not sharing a common reference framework.

We induced from the mapping of tensions seven constructs that captured a homogenous cluster of tensions in relation to paradoxes in the Delphi process. We then compared these constructs to prior literature, to distinguish new constructs from documented ones. Table 17 summarizes this process, showing how the second order constructs were built out of the coded tensions from the first order constructs. It also provides illustrative quotes for each of the first order constructs we identified.

Table 17 : Paradoxes encountered at Delphi, related to the Delphi process, to SRI integration and to the framework.

Second order code	First order code	Illustrative quote
Time horizon	How can I reconcile economic rationale and sustainability rationale? ⁷	If you try to monetize things in dollars, you understate the real value of things like employee engagement. Putting a dollar on things does not reflect the importance of an ESG aspect. If we try to squeeze ESG into the existing valuation process you underestimate it. We should not want to put a dollar on everything.
Stability and transformation	How can I reconcile performance and exposure indicators?	I would not feel very comfortable with claiming to be forward looking and predictive and ending up with presenting policies and targets, especially when talking about ESG targets you can typically find in reports. That would cost us credibility. Even if you look back and take performance measures it does not mean they cannot be looked at as a forward looking manner. This is true for financial metrics as well.
	How can we give a static picture of something dynamic?	Let's not lose sight that we are not putting this forward as a model. It's the collective wisdom of us. We can take some editorial freedom and liberties because it's not a full blown model. This gives us an outlet for the tension between what's available and actionable now and what we'd like to see. We've acknowledged this tension regularly and maybe we just need to be clear on the final output, what it is and why it's in there. This doesn't move us much closer to any decision... [laugh].
	How can we agree on indicators in a fragmented SRI sector?	New Business and new products... is this limited to eco products? Having a large quantity of new products is not a

⁷ Including various declinations such as

How can I reconcile brand value and sustainability rationale?

How can I reconcile economic rationale and corporate governance?

How can I reconcile economic rationale and climate change?

How can I reconcile supply chain management and sustainability rationale?

	How can we combine granularity with parsimony?	measure of a good business, is it? Plus, are there metrics for this? Is it good or bad to have a short product life cycle? That's just not the way the City works, even if it's more accurate: they use 10 sectors, broken down into 2 or 3 subsectors and that's all. It may be more accurate to work like this, and build a sum of the parts, but it's not as useful because that's not how the City works.
Judgment and metrics	How can we value SRI when the reporting is incomplete?	Delphi has had some points of tension during the process : thinking about the metrics that bring the factors to life; do we limit ourselves only to what is available or to what we would like to have?
	How much judgment can we apply if we are lacking objective measures?	We treat financial data as if it were weather data, when in fact it is physically constructed data.
	How can our model be legitimate if it is grounded in opinions?	What we are doing here is standard setting. It requires a good methodology, and we're getting there. But it also requires commensuration and judgment. If you have an opinion that something is important, that adds to the quality of the model. Your expertise stands in for the lack of justification.
Performing	How can we aim for materiality if we can't define it?	There is a natural allure about having generic factors because they are the ones that rise to the fore because they will be seen as the cover material that arise in all industry. It may seem material but in practice they may not be that material. That is the dilemma I am struggling with.
Belonging	Who do I represent if I'm not an ordinary investor speaking for his company?	This convergence between sustainability and mainstream has happened on the sell side, there are quite a lot of sell side people involved in the technical expert group, or I don't know how we call ourselves anymore, [...], I think the others call us the engineers because we try to work out the details of this thing. These people are in the same kind of role as we are here, having two hats on. On the buy-side and asset owner side it's a bit more separated. It's called the dedicated RI analyst but they still have to be equipped to understand when you talk internally to your portfolio manager or to the other analysts on the buy-side.

	How do we collaborate if we are competitors?	It's an internal/external collaborative venture and it will be open source. I think the real power in this is the participation and the collaboration between those who are typically competitors and we normally act on a contractually driven provider-client basis.
Flexibility and control	How can we combine efficiency and consensus?	[The creation of a technical group] TG is thought to significantly speed up the process of arriving at a shared and consensual view on material ESG factors across all workstreams, so that controversial aspects or issues which require more deliberation within or across the workstreams can be given enough space in workstream meetings.
	How can we have both commitment and voluntary work? How can we foster empowerment without losing direction?	It feels weird, we have almost all of the class that did their homework this time. Actually doing real work ! [laughs] Something that's come up is the governance set up behind that. Everyone one starts off enthusiastic but where does the decision making process really lie? Where is the ownership of the output, the recognition of the work we put in?
	How can we be complete and keep the framework manageable?	You could probably identify certain patterns, clusters of factors. That could take us a step forward from wherever we are at the moment which is at best one aggregate coefficient of ESG. That's the complexity of what we are trying to do.
Conventions	How can we get the users involved, when they don't have the knowledge?	[The asset owners] know roughly what they want. They know there is value in the long term. They know there is value in ESG. And they want the [asset] manager they appoint having that knowledge and track record. They want to see how you manage that risk. But when you ask them what is your model, they haven't got one. [...] I said do you have a model that you apply to your investments? He said no, we are hoping to get that from the Delphi project!
	How can we understand each other if we come from different worlds?	[We need] a definition of value and value drivers that makes the output more accessible, more understandable to someone who thinks more in terms of financials.

Step 2: tracing arrangements adopted throughout the process

Our second formal stage of data analysis focuses on strategies to cope with tensions. In a preliminary stage, we engaged in open coding of interviews, searching for relevant text segments that referred to or suggested how and why arrangements were used to address the tensions. We initially labeled these arrangements with “in vivo” terms used by the informants.

Following multiple re-readings of the data and discussions between co-authors, we gradually combined in-vivo codes into first order categories. At the end of this stage, we compared our codes with existing literature, searching for similarities. Finally, a last coding was performed to aggregate dimensions of arrangements and to reduce the number of themes for arrangements into broader and more theoretically relevant categories, as illustrated in table 18.

Table 18: Mechanisms adopted by Delphi to cope with paradoxes

Second order construct	First order construct	First order construct definition and conceptual sources	Resolution type in literature	Level	Illustrative quote from Delphi
FRAMING THE PARADOX	Acceptance	Acknowledging tensions and appreciating their existence. (Poole & Van de Ven, 1989)	Acceptance	Individual Group	They [the UN PRI] ask us to engage, with proxy voting etc. but so far engagement was not integrated in the research. So engagement will more and more influence the evaluation of the brand. I'm speaking about adding complexity, although I don't want to add more complexity than needed. In the future we will have more integration of engagement with analysis.
	Confrontation	Discussing the tensions to socially construct a more accommodating understanding or practice. (Lewis, 2006)	Identification	Individual	I understand your point of view but it doesn't make sense. Then many other issues should be out. I don't agree.
	Spontaneous humor	Pointing out paradoxes in manager's daily lives by joking about them (Hatch & Ehrlich, 1993)	Identification	Individual Group	Sorry! Forgot to say we agreed we wanted this to be a life transforming experience hothousing with some of the best brains in the industry 24/7 until October 5. For our US friends, that's ENJOY!
	Defining, setting rules of the game	Constructing a rule system that confers membership and status (Lawrence & Suddaby, 2006)	Simplifying	Individual Group Institution	I think it works because we defined the terms, we defined the objectives from the start which were very oriented on materiality, on the drivers. After that, it's just finance. It's not an exact science... nothing perfect or systematic.
	Use of metaphors, analogies, etc	Using figures of speech to assert similarities or dissimilarities between two domains (Entzian & Ferraro, 2010)	Tools	Individual Group	But how detailed does it have to be. Should it be just a list of ingredients or should we also include some recipes? If you include the supermetrics we have the form of a diamond. Without the supermetrics we have a triangle: a few factors, a larger number of indicators and a larger number of metrics. We have to decide if we want supermetrics in there, that's how I see it.

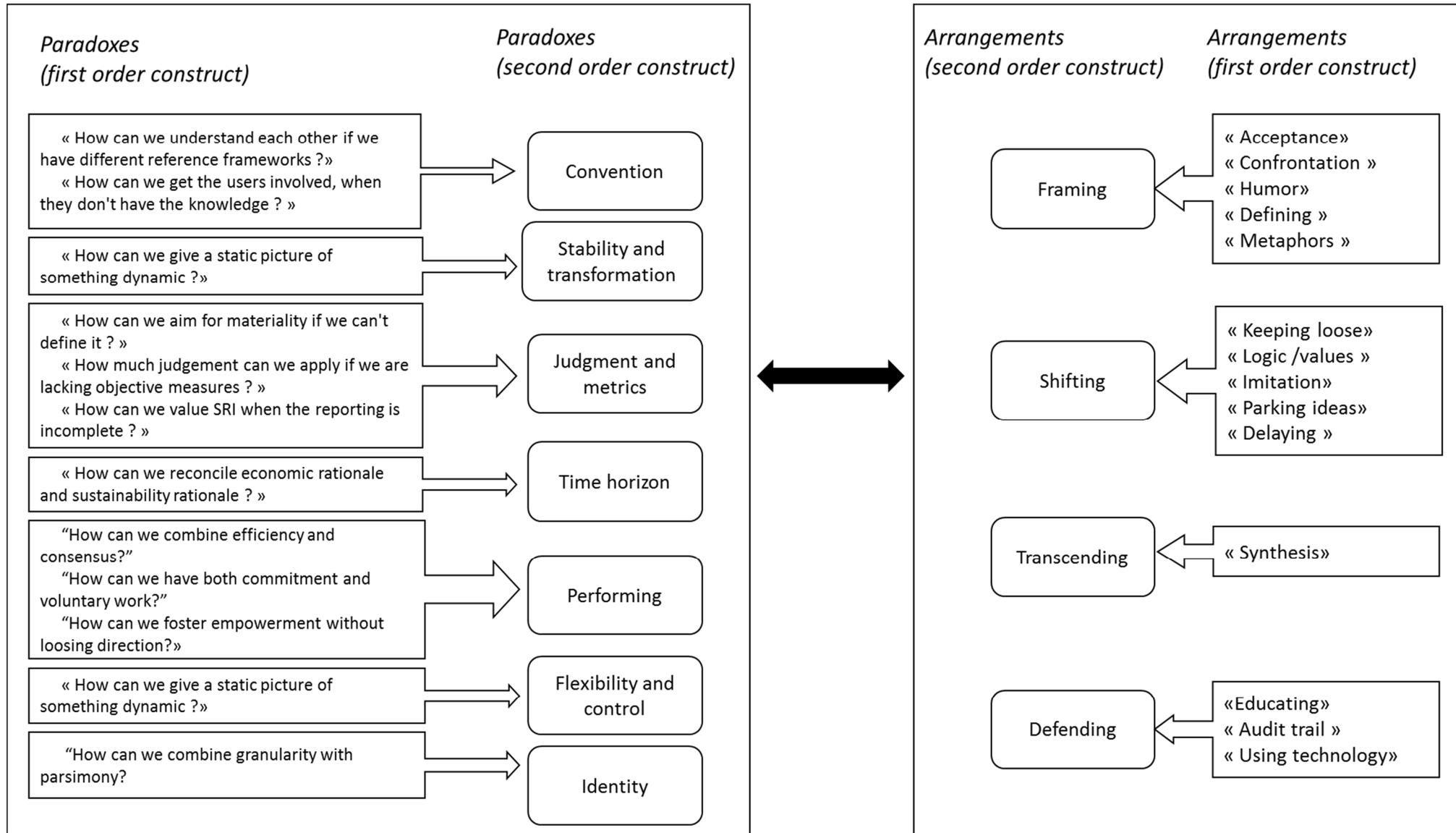
SHIFTING	Keeping things loose	n/a	Shifting	Individual Group Institution	My personal belief, and I think what would be the belief of the asset manager work stream at least, is that the framework will be for time zero based on information at time zero. And it is hopefully going to be flexible enough so that it can capture or be adjusted easily for longer term issues.
	Imitation. copying what others have done	Imitating existing practices or templates in order to legitimize new practices or organizational forms (Lawrence & Suddaby, 2006)	Shifting	Individual Group Institution	Typically, an excellent way of ensuring the future connectivity of a standard in the process of definition is to reference and endorse other standards.
	Shift of logics to values	n/a	Shifting	Individual	We all have biases, more or less strong ones, more or less convictions and engagement. And there comes a time where we want to share this, to make things change, you see. It doesn't have to happen in our industry, because it doesn't have that engagement and conviction dimension. These are not values that we share there. So to me, we find each other here based on those values. And that's what we need, it's good and it just happens naturally. OR The spreadsheet is useful, but the discussions it makes us have with analysts are brilliant. This is the big change, the better conversations we are having.
	Parking ideas	Separate in space (Poole & Van de Ven, 1989)	Simplifying or shifting	Individual Group	We'll take this off line and come up with suggestions for the next meeting.
	Delaying	Separate in time by switching from one form of the paradox to another depending on which one holds at what time. (Poole & Van de Ven, 1989)	Simplifying or shifting	Individual Group	It's not the first time that you raise this issue. It's not that it's being ignored but it's being mashed and re-mashed. We could take it back to the group or to a subgroup and then take it for consultation to the arbitrarily supreme court which is on the 17th March when we all meet together.

TRANSCENDING	Synthesis	Fully integrating existing identities for a most highly synergistic response (Poole & Van de Ven, 1989)	Transcending	Group Institution	<p>Without pretending that it is the answer to everything, it will start creating a consensus and a convergence in the thinking, in the production of the tool and additional convergence for the people that weren't involved in production but can see the relevance of the tool. They get a clear understanding of what are the critical issues and how you go about measuring them. I mean the mainstream industry, not the ESG industry. It has to emerge from people who have been thinking about this stuff for long enough, trying and experimenting and playing around with it and are now coming together and can say based on our experience here is what we think is relevant.</p> <p>OR</p> <p>No need for more data, no need for more stories, it's about a new process to invest capital. Our industry doesn't want to know how to link the metrics of ESG to P&L. What they want is a different model, of how to think about investing capital. Not just looking at how much capital a company makes, but also looking how a company makes capital. This is what sustainability is about. It's not always called ESG data, but that's what it's about. And Delphi is a framework for investing capital in a more long term way.</p>
DEFENDING THE PARADOX	Educating	Providing standard adopters with the knowledge to comply with the standard (Brunsson & Jacobsson, 2000)	tools	Individual Group	I think we will have to do a certain amount of education, through press and through various other means of communication. So that's the "theoretically" bit. If we do that, there is no reason why they should not benefit from [the framework].
	Creating an audit trail	n/a	tools	Group	I'll pull something up in an email. This about process quality. I spend too much time with standard setters. They have a black box and they don't remember weeks after how they reached a decision.
	Use of technology to create new communication platform	n/a	tools	Group	

Step 3: building a theoretical framework for tensions and arrangements.

Finally, drawing on the content of interviews and ethnographic notes, we associated the seven types of tensions linked to RI mainstreaming with the four arrangements identified in Delphi. The resulting data structure, inspired by past research adopting similar analytical approaches (e.g. Corley & Gioia, 2004; Stigliani & Ravasi 2012), is illustrated in Figure 9.

Figure 9 : Data structure



There is no one-to-one correspondence between arrangements and paradoxes. Instead, paradoxes cumulate over time, in multiple dualities of co-existing tensions, creating an edge of chaos. And the more the process evolves for the group and the individuals, the larger the variety of arrangements gets, with more creative mechanisms to capture both extremes of a duality. This situation is much richer than a half-way point between two extremes, as a compromise would be, which we now show in our findings.

4.6 Findings

The process of managing paradoxes is not smooth, linear or planned. As one participant stated:

“No, you can’t give up [laughs]. You have to have a plan. We had a plan but it’s been one that’s kind of moving forward and back. Perhaps now we need to go back and get some key things that need to be done by a certain date.”

Arrangements at Delphi rested on the willingness to frame tensions as paradoxes again and again, and the flexibility to shift from one approach to the other over time. We found multiple examples of each arrangement for the paradoxes encountered by Delphi. We explore the tensions by building a paradox typology and by describing the arrangements they were subject to, and the dynamics between them, in the next parts of this section.

4.5.1 Paradox typology

By mapping the Delphi paradoxes in the different categories identified by Smith and Lewis (2011), we tested and confirmed the categorization power of their paradox framework.

All tensions encountered fitted in the framework, which is built on tensions as dualities between two elements. In contrast, an expected level of complexity suggested by Smith and Lewis (2011) did not emerge: our data did not require us to expand the framework to more complex trialectics or pluralistic tensions. Indeed, despite the multiplicity of

competing demands, the Delphi participants addressed the tensions as multiple dualities. Perhaps multiple dualities is a level of complexity which the mind can still grasp, unlike trialectics. Or perhaps the plurality is found on the level of arrangements, rather than tensions. This finding strengthens the diamond shaped paradox framework put forth by Smith and Lewis (2011).

Not all paradox categories were represented in our data, due to the specificities of our case study. There is no “belonging vs. performing” tension in our data, i.e. paradoxes between identity and goals. This makes sense as Delphi was a very homogenous group, not a multi-stakeholder initiative. It seemed quite clear to participants that they rightfully belonged in the group, for the purpose of sharing their expertise on ESG commensuration.

Finally, we did not meet the need to either transform or create new categories in addition to the four dimensions of learning, belonging, organizing and performing at the level of the classificatory framework. These categories are sufficiently comprehensive and mutually exclusive to describe the field we were studying (Gerring, 1999). In addition, they have enough depth to bundle multiple tensions, including the paradoxes for which we had to coin new names.

In addition to the paradoxes of belonging, performing, and flexibility and control that have already been amply discussed in previous research, we identified new types of paradoxes inherent to RI integration, namely: convention; stability and transformation; time horizon; and judgment and metrics. The construct of convention captures the difficulty of working together without common references, be it in terms of knowledge, tools, or terminology. The construct of stability and transformation relates to tensions between formalizing things firmly to be

efficient and facilitate decision, and remaining open to change imposed by the environment. Raisch and Birkinshaw (2008) present organizations that manage to combine this stability with dynamism and change in their structure. The time-horizon construct refers to tensions of change that emerge from divergent time horizons, classified as “learning tensions” by Smith (2013), but to which are added tensions resulting from a double bottom line measure of performance, depending on financial and social goals (Smith and Lewis, 2011). Finally, judgment and metrics captures the tensions related to measuring the non-financial dimensions of ESG and defining metrics for the factors.

4.5.2 Arrangements by framing, shifting, transcending and defending

Our data shows that a same tension can be viewed as a paradox or as a dilemma, depending on the approach taken by the group. Faced with a choice, Delphi sometimes chose to address it as a dilemma to simplify things. On the other hand, the group chose to tackle some issues as paradoxes, recognizing the value that this approach would bring to the output. We called this arrangement the framing, as in the quote below where the group recognizes a paradox and chooses to keep it.

Delphi 1: Is there such a thing as a qualitative metric?

All: [Laughs]

Delphi 2: I actually tried that, a factor without a metric, in London, but we don't want to go back to that argument.

Delphi 3: We don't, but that doesn't mean it will go away.

Throughout its process, Delphi shifted from one process to another, from one logic to another, from one knowledge form to another. The group often expressed the importance of keeping things loose and flexible.

« When I go back and look at the mission statement, we're actually still pretty much in line with that. There are slight variations in it, but it started out with the right objectives. Or maybe they were so loosely defined that it could fit anything [laugh]. »

In practice, this meant that the usual project management procedures were not followed, but were adapted to fit the group dynamics. The group structure was also flexible and was adapted to the needs, shifting from three working groups to a collective technical group when communication proved difficult. Flexibility was seen as a value that allowed the group to function. Flexibility was also required to acknowledge that the related parties did not all share the same conventions. When it appeared that the contribution of asset owners could not be as expected because of their different frame of reference, the validation process of the framework was changed.

« It doesn't make sense to keep pushing for these asset owners, but [we need to] keep them for the next step. I'm comfortable with the people working in this group: leading industry experts. The next step is a road show where we need asset owners. [...] Go there and show them, rather than involve them. We are like brain surgeons talking to a patient who doesn't want all the information »

Transcending means introducing new concepts or new perspectives, allowing an arrangement that satisfies both sides of the paradox. This type of arrangement was much rarer in Delphi, suggesting that when it comes to RI mainstreaming, there is not much creation of novelty . RI mainstreaming is not a new paradigm for finance, but rather a shifting between different approaches to reconcile opposing objectives. For example, there is a convention that ESG is worthwhile, but there is no convention of how it is worthwhile, or how much. Rather than address that paradox, Delphi want to create a convention on how to do RI, by providing a tool, the framework.

« Without pretending that it is the answer to everything, it will start creating a consensus and a convergence in the thinking, in the production of the tool and additional convergence for the people that weren't involved in production but can see the relevance of the tool. »

Reaching an arrangement for a paradox is not something done once and for all, according to our data. It must be accompanied by mechanisms defending the arrangement, to make it acceptable. As a result, Delphi wrote documents to clarify the approach, keep traces,

communicate and convince. The group used academic references to justify their approaches. And as a participant-observation researcher documenting the process, the author was also an arrangement mechanism for the group.

4.5.3 Dynamics of paradoxes

We see the dynamics of paradox as a circular process. The arrangements in our data consist in moving back and forth between both branches of each duality, keeping the paradox present and unchanged, despite applying a variety of framing, switching and defending arrangements. For Delphi, this was the case for discussion on how to reconcile economic rationale with climate change, corporate governance or value chain rationale. Neither were these discussions ever resolved, nor did Delphi ever create a new rationale to reconcile these opposing logics. For this reason, we prefer a circular model to a spiral model that would wrongly suggest a constant evolution towards an outcome.

Some paradoxes are eliminated, either because they don't fit with the other paradoxes in the process, or because they are not productive. Such examples are identity tensions. They are revealed mostly when the group meets other parties like asset owners, or company representatives, to present the framework and the working process, as well as in individual interviews. This paradox distinguishes itself from others because it is felt at the individual level. Perhaps because of the different level it occurs on, this paradox does not take up much space in the Delphi process, although the same arrangements are applied to it as for other paradoxes: humor, renaming things, copying what others did, keeping things loose, creating an audit trail.. It is as if the paradox of identity at Delphi did not participate in the dynamics of the other paradoxes, and could be put aside more easily, even if it is not resolved. The group thus eliminated the paradox after a while (scenario 2).

Other paradoxes move on to another level, a higher circular loop, when arrangements allow them to transcend the existing situation. The arrangements do not resolve the paradox (so the next loop in our model is not thinner than the first one), but allow a maturing of the discourse, evidenced in our data by the evolution of discussions around these paradoxes.

More and more paradoxes appear during the process, some of them feeding each other. As a result, the next level loop in our proposed model gets larger with this accumulation of paradoxes. One reason is that paradoxes co-exist, but they don't all appear at the same time. This is due to the nature of the group discussions, and to the evolution of the project. These multiple dualities increase over time, some of them getting rejected from the process (with or without resolution), while new ones appear. In our case, the result was an increase in paradoxes over time. For example, flexibility and control tensions appeared mostly at the beginning of the process, when the working method needed to be designed or redesigned in a way that was efficient yet allows the individuals to identify with the group and contribute their most distinctive personal strengths. These tensions between the individual and the aggregate are categorized as a paradox of belonging and organizing in the Smith and Lewis 2011 framework. No clear-cut arrangement emerged from the data for these paradoxes. Humor is regularly used to recognize the tension, but no resolution is attained within the group. The flexibility and control tensions become less present in the discourse once they are outsourced to special task groups or to individuals, but they never quite disappear. Along the process, the time horizon paradox appears in addition to the existing paradoxes. It becomes more present at the end of the process, when Delphi digs deeper into the model in search for specific metrics for each value driver.

Another reason that paradoxes co-exist is that some of them are exacerbated, or provoked by others. This is the case of the judgment versus metrics paradox, which is strongly present from the first to the last day in our data. This paradox underlies the whole project, and appears with other paradoxes, sometimes of a very different nature (efficiency and consensus; voluntary commitment). The question of opinions, and what value these have in a metric environment, is so key to the project that is revived by discussions on other paradoxes.

Figure 10: Building a theoretical framework for the dynamics of paradox



It is important to note that the paradox dynamics is not a series of equilibriums but a continuum, illustrated by interactive loops. While many theoretical frameworks consider a series of equilibriums, our data shows no such pattern. Rather, the group experiences a constant flow of paradoxes coming, going and co-existing. An analogy for this process could be a conversation, which also flows, and which one participant highlighted as an unintended but valuable consequence:

“The spreadsheet is useful, but the discussions it makes us have with analysts are brilliant. This is the big change, the better conversations we are having.”

Indeed, the process created dialogue, which stimulated learning for the group and for the individuals. While the process did not lead to radical change – the financial logic was not overturned, which was not the objective –, it did lead to a framework which departs from a pure financial logic. Indeed, the framework is hard to use with typical financial resources like Bloomberg, as the author discovered when she tested it.

While Delphi members were not working on this project full time, work on it did occur between meetings. Part of the paradox management must have occurred outside of the meetings, unaccounted for in our data. These arrangements took place at the subgroup level, with informal discussion between participants, or one-on-one phone calls, as well as at the individual level, with individuals' thought processes maturing between two meetings. Although invisible in our data, these other processes must be accounted for here as they influenced the paradox dynamics. Literature on conflict resolution may shed light on the processes outside the group that influence paradox dynamics (Ring and Van de Ven, 1994; Rao, Morrill and Zald, 2000). At this stage, we can note that resolving a paradox requires work at the individual level and outside of the group.

4.5.4 Paradox resolution

An unanticipated result emerged from the data on paradox resolution: practically nothing is resolved at the end of the process. After two years, most of the paradoxes are more present than ever, despite the variety of arrangements adopted and the seeming willingness of the group to move forward. Despite this, Delphi did end up with a framework. This suggests that the paradoxes were necessary to the process. The group needed most of the paradoxes to work with, in order to build its framework.

One exception is the question “How do we collaborate if we are competitors”, a paradox of identity and organization. This paradox was resolved early in the process by framing the group functioning with agreements and covenants, i.e. defining the rules of the game. Had this identity /organization tension not been resolved, the group might not have been able to work together at all. So while some paradoxes are necessary and sources of creativity, other paradoxes are paralyzing and need to be dealt with. In other words, while not all paradoxes should be resolved, not all paradoxes should be maintained. This is a reminder not to ignore the dark side of paradoxes, and the burden that these paradoxical tensions (such as the emotions resulting from the paradox) may be for some individuals.

Do the paradoxes live on when the group dissolves? Tensions of belonging and organizing will disappear when the working group dissolves, since they result from the collaborative venture of seeking a consensus among competitors. However, the tensions linked to learning and to performing are embedded in the document produced by Delphi. The Delphi framework is constructed on the paradoxes of judgment versus metrics, time horizon, stability and transformation. Using the model we developed, we understand that what happens to the paradoxes when the group dissolves will depend on the arrangements adopted by the users of the Delphi framework. They may choose to frame the tensions in the framework as either/or, and dismiss its paradoxical nature. Or they may choose to use the framework in an “and...also” approach and dynamically embrace the paradoxes in the framework by constantly choosing to frame the paradoxes and shift from one branch to the other of the dualities.

4.8 Discussion and conclusion

In this article we identified the tensions embedded in RI mainstreaming and analyzed the framing, shifting, transcending and defending arrangements used to cope with the paradoxical tensions.

4.6.1 *Implication for theory and practice*

This study contributes to paradox theory by highlighting the continuous circular aspect of paradox dynamics. A first contribution is to Responsible Investment literature. We show that ESG abounds with paradoxes, which we expected. The paradoxes specific to RI are lack of convention; stability and transformation; time horizon; and judgment and metrics. What was less expected is that a mainstreaming exercise could take place without resolving these paradoxes. We discovered indeed that paradoxes may not need to be resolved for mainstreaming to occur. These are an argument to shift away from the debate on the financial contribution of RI, in order to focus on the nature and management of ESG's tensions. Our results show that no single arrangement (no one way of framing, of shifting, of transcending, of defending) dominates and no single map tells you how to deal with paradoxes. A recurrent discussion at Delphi about creating a framework but not a standard is one illustration of this striving to "keep things loose".

A second contribution is to paradox theory. Our study offers a step forward in defining what is – and what is not- a paradox. We showed that while tensions are inherent in organizational systems, they are constructed as paradoxes by the actors involved with them. A duality of "contradictory, yet interrelated elements" (Smith, 2006) is not a paradox if it is not acknowledged and treated as such by those subject to it. The logic in which the tension is approached (either/or, and/or, either/and) determines the nature of the tension. This means

that to answer the question “is this a paradox” we need to look at the logic behind the practices observed. In our case, dualities that were treated with a logic of dilemma, were therefore no longer considered as paradoxes for the purpose of our study.

4.6.2 Limitation and future research

The context of this study raises questions about the model’s generalizability. The limited size of the group did not allow for a large number of interviews. More importantly, the interactions that must have happened outside of the meetings were not observed, which does not mean they were not influential. In addition, we would have liked to observe more occurrences of transcendence in order to better understand this arrangement. Transcendence is only partial and precarious, in our results. It is not “managing” a paradox as prior research suggests; it is rather an umbrella approach keeping the paradox open.

Our results show the importance of flexibility, which allows flowing with the cadences of institutional life and bringing forth first one and then the other side of the paradox at the right time and the right place. This leads us to new questions such as “how do you identify the right time and place to switch from one branch of the duality to the other”; or “what is the link from processes to outcomes”?

4.6.3 Conclusion

Most studies from a paradox perspective focus on outcomes. We show that paradox theory is in fact also a theory about processes. The focus on typologies of paradoxes was a necessary first stage, but we suggest that the untapped essence of paradox theory lies in the dynamics of a paradoxical process.

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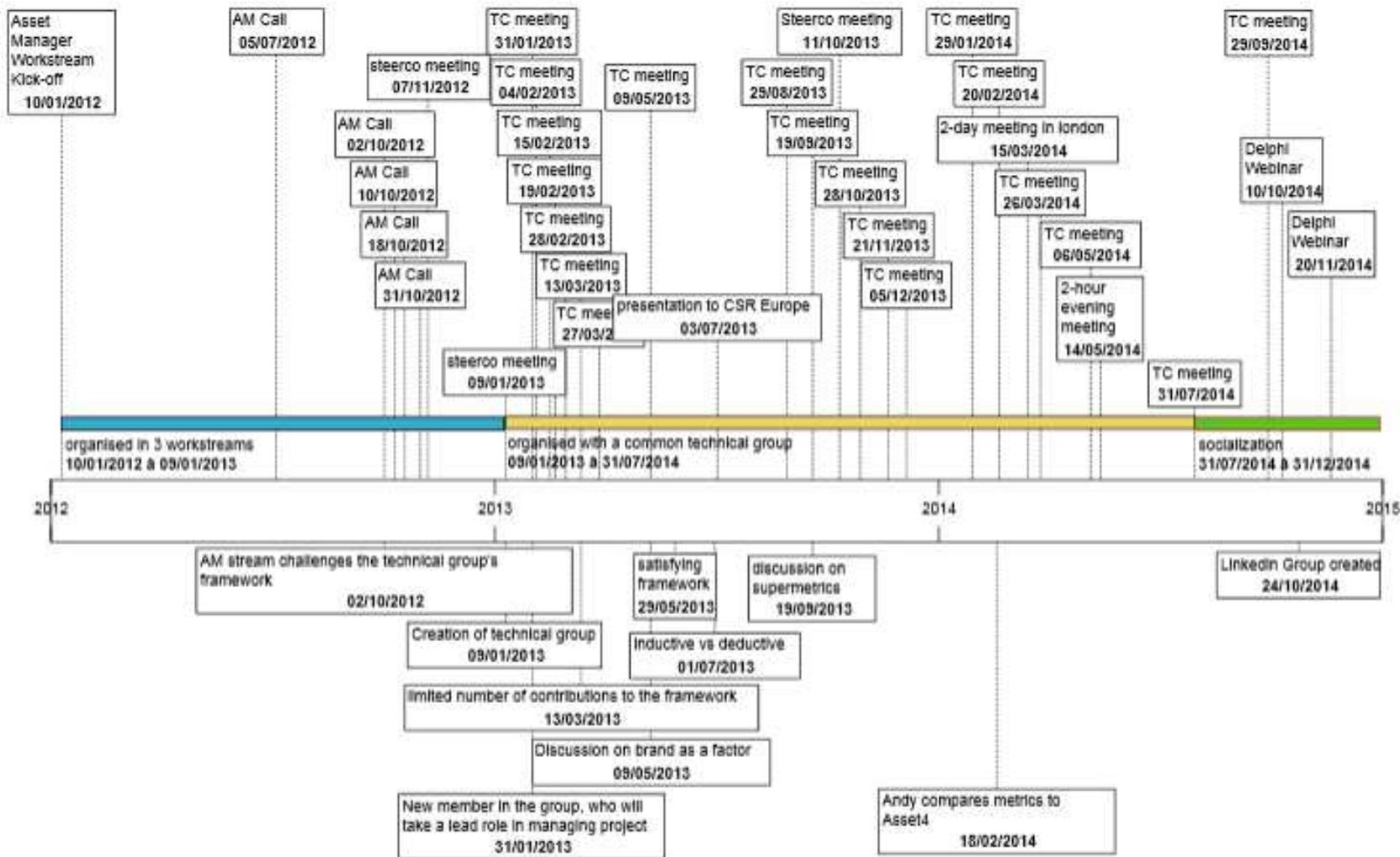
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4.10 Appendix

Appendix 1: Profile of investors interviewed on the Delphi process.

Name	Workstream	Company	Function	Background	Previous experience	Country
Laura Aarnio	Steerco	State Street Global Advisors	VP, ESG Investment Analyst	Economics	Newton Investment Management, PIRC	US, FI
Cecile Churet	Steerco, Asset managers, Metrics	RobecoSAM	Sustainability Investing Client Specialist		HSBC , World Business Council for Sustainable Development	CH
Ralph Frank	Steerco; Metrics	DVFA	Managing Director			DE
Frank Curtiss	Steerco	RAILPEN Investments	Head of Corporate Governance	Asset Owner		UK
Mark Hooker	Steerco	State Street Global Advisors	Senior Managing Director, Advanced Research Center		Assistant Professor in Money and Banking, Federal Reserve Board	USA
Andrew Howard	Asset managers	Goldman Sachs	Equity Analyst	Business Administration, Economics	McKinsey	UK
Alistair Lowe	Steerco	State Street Global Advisors	Chief Investment Officer and Business Leader	Economics and Computer Science	NatWest	USA
Christopher McKnett	Steerco, Asset managers	State Street Global Advisors	Managing Director & Head of ESG	Business Administration	KLD	USA
Nazzaro Paolo	Steerco	Telecom Italia	Head of Business Compliance	Business Administration, Accounting	Blue	IT
Michael Polya	Steerco	State Street Global Advisors Ltd	Director Client-Facing Support EMEA	Business Administration		UK
Pascale Sagnier	Asset managers	AXA Investment Managers	Head of ESG country research and impact Investing			FR
Stéphane Voisin	Metrics	KeplerChevreux	Head Sustainability Research & Responsible Investment	Business, Finance	NatWest, Barclays, BNP Paribas, JPMorgan	FR
Daniela Carosio	Asset managers	Etica SGR	Head of Research, Advocacy and Engagement	Economics, Finance	S&P, Italian Stock Exchange	IT

Appendix 2: Delphi time line



5 Responsible investing: what factors matter most for market risk?

5.1 Chapter Summary

Following up on the previous chapters, we now take a closer look at the content of a tool constructed to practice RI, adopting a big bank and institutional investor perspective. In the previous chapters, it appeared that there is a demand for RI investing, regardless of the inconclusive ESG and financial return debate. I suggested that there is an understudied aspect of RI, in terms of values and beliefs underlying RI. Another understudied aspect of RI is the financial risk side. Indeed, while the link between environmental, social and governance (ESG) factors and financial return has been abundantly demonstrated in literature, though not in a satisfactory way, the link between ESG and risk is still unknown.

In this chapter, I focus on this link between ESG factors and risk, and question what the Delphi framework, a tool for RI mainstreaming, can tell us about it. I adopt an exploratory approach, with the Delphi framework and Bloomberg data as my starting point, and combine it with a critical review of literature. The data confirms that there is a link between ESG factors and risk, although there is no information regarding causality and no predictive power in the models. An industry approach is most appropriate, and disaggregating ESG metrics makes sense. In addition, my analysis shows the limits of a quantitative approach. This leads me to a proposition for a new theoretical perspective on ESG, as an antidote to theoretical stagnation in ESG-performance research.

5.2 Introduction

While the link between ESG factors and financial return has been abundantly demonstrated in literature -- though with conflicting evidence -- the link between ESG factors and market risk is still unknown. The focus on return (or cost of capital) rather than risk (or market price volatility) is understandable as historically, ESG value has been studied from a corporate perspective. In addition, most studies adopting a shareholder perspective also have a

neo-classical perspective, meaning they focus only on systematic risk, measured by Beta. In this research, however, we consider markets to be inefficient, information to be incomplete, and risk as not fully diversified. This is why we choose to rely on standard deviation, or better still, downward deviation, as a measure of financial risk to complete existing research. We investigate how ESG factors are linked to market risk, which we measure by the downside deviation of a company's share price on the market. We argue that investors and stakeholder perspectives are also relevant. So this study contributes to the discussion between sustainability and financial performance with an investor focus and an empirical drive. To do so, we analyze data constructed by and used by institutional investors.

A group of institutional investors has gathered together over the course of two years to build a framework of environmental, social and governance (ESG) factors that matter for sustainable investment. Their initiative contributes to the debate highlighted above because "what matters" is, among other things, which ESG factors reduce market risk affecting a company's share price. The Delphi group (see Appendix for a description of the Delphi project), as these investors named themselves in reference to the consensus-based process they wished to follow, adopted a dialectic process consisting of knowledge sharing and discussions over time, to determine which factors belonged in the framework -- which factors were most "material". The materiality of a factor reflects the discussions and judgment of the members of the Delphi group on the merits of each factor in terms of strategic and operational impact for a company, but above all in terms of financial performance, rather than ESG performance. More specifically, financial performance is understood by the group as a company's market return, but also very importantly in terms of risk: strategic risk, operational risk and last but not least, financial market risk, measured by the volatility of share price.

The key findings of our study relate to ESG data availability and quality, which remain poor; to the relevance and limits of a framework such as the one built by Delphi,

which resides in the role such a tool plays in shaping a practice and a field; and to the relevance of measuring financial performance through historical volatility.

5.3 Literature review

A voluminous though inconclusive debate has been going on in literature on the link between financial performance and ESG factors (Margolis, 2009), with more than 200 academic articles adopting different angles to search for this link (e.g., Derwall, Guenster, Bauer, & Koedijk, 2005; Bauer, Derwall, & Otten, 2007), including several meta-analyses (Allouche & Laroche, 2005; Orlitzky, Schmidt & Rynes, 2003; Wu, 2006). Some studies adopt accounting measures to value sustainability, while others adopt market-based measures to value sustainability. Some focus on CSP (corporate social performance), while others focus on institutional investors' sustainable or unsustainable funds. Some samples include all companies, while other samples are limited to sustainable companies, identified for example based on the composition of a sustainability index such as the FTSE4Good or the Dow Jones Sustainability Index Stoxx. Although this literature is often regarded as one field of research, it has been addressed from a variety of perspectives that provide very different insights. For the purpose of this study, we focus on the literature that looks at the link between ESG factors and financial performance from a market perspective: i.e. how do financial markets value a company's reporting and performance on ESG factors.

5.3.1 The ESG and financial return relationship for company shares

A categorization of literature on the link between social and financial performance in the past 10 years can be done according to several dimensions. A first categorization serves to distinguish studies adopting a shareholder perspective (such as Bauer et al., 2005; Derwal et al., 2005; Renneboog et al., 2008) from studies with a stakeholder perspective (such as Barnett & Solomon, 2006; Capelle Blancart & Monjon, 2012; Cox, 2007; Edmans, 2011). The former was the most common approach in earlier studies, and explains the many studies

trying to make “the business case for socially responsible investment”. This perspective, based on the shareholder maximization principle, makes an attempt to demonstrate that investing according to ESG criteria brings higher financial returns. It is only recently that some authors started to depart from this first perspective. Stakeholder perspective studies on the link between ESG factors and financial performance recognize that a firm’s economic activities may have positive or negative externalities that affect the welfare of third parties. These studies view ESG as creating value for stakeholders and as a proxy for good management. The better a firm manages its relationships with its stakeholders, the better its financial performance over time (Donaldson and Preston, 1995; Freeman, 1999). As an illustration, Barnett et al. (2006) explain that “a firm with a favourable work environment can decrease its hiring costs and increase its employee retention rate, decrease community opposition and legal costs when opening a new factory, and more easily lobby for tax breaks from local governments” (p. 1105).

A second categorization serves to distinguish studies that are theory-driven from those that are data-driven. The earlier studies on ESG performance and financial performance are mostly theory driven (Bauer et al., 2005; Derwal et al., 2005; Renneboog et al., 2008). These authors use data to test theories -- for example the market efficiency hypotheses that suppose share prices reflect all available information and adapt to new information. So if ESG has any value, it should be reflected in the share price. Or traditional portfolio theory, which predicts that any screen increases idiosyncratic risk⁸ by restricting diversification. As a result, ESG investments using exclusionary screens should lead to lower returns in theory. In the same

⁸ As Oikonomou et al. (2012) note, under traditional portfolio theory (Markowitz, 1991), the total risk that a security bears can be divided into systematic risk arising from broad factors that affect the entire universe of securities and idiosyncratic risk which arises from industry/firm-specific factors. Through diversification, portfolios bearing no idiosyncratic risk can be constructed so that the investor is only compensated for the market risk of his investments. That means research adopting a neo-classical perspective should focus only on systematic risk, measured by Beta. In this research, however, we consider markets to be inefficient and risk as not fully diversified. This is why we can rely on standard deviation, or better still, downward deviation, as a measure of financial risk.

vein, authors following Freidman's (1970) neo-classical arguments will expect a negative link between ESG performance and financial performance, and a positive link between ESG performance and idiosyncratic risk (more sustainability leads to more volatility). They see ESG investments as a misappropriation of company resources, reducing shareholder value, as illustrated by Brammer, Brooks and Pavelin's (2006) results. Furthermore, there is little need for studies focusing on risk in this perspective, because of the automatic risk-return trade-off.

The more recent studies, on the other hand, tend to be data driven, perhaps in reaction to the inability of theory driven studies to confirm their hypotheses with the available data (Hoepner & Ferguson, 2010; Kempf & Osthoff, 2008). These empirical approaches allow for more nuance. They do not presuppose a link between sustainability and financial performance, but look for patterns in the historical data, which is now becoming available, and look at different dimensions separately. As a result, Bouslah, Kryzanowski and M'Zali (2013) for example observe that the direction of causation between firm risk and sustainability performance depends on the ESG dimension examined. Similarly, Hoepner and Ferguson (2010)'s results give different relationships for financial performance and ESG performance per industry. These approaches leave room for market inefficiencies and justify a specific focus on market risk (both systematic and idiosyncratic) in addition to market return.

The ESG and market risk relationship

Recent research calls for more attention to financial risk (accounting based or market based). Several scholars argue that it is an aspect to be taken into account specifically when assessing the link between sustainability and financial performance in a more comprehensive manner (Kempf & Osthoff, 2008; Salama, Andersen & Toms, 2011; Oikonomou, Brooks, Pavelin, 2012; Wagner, 2010). Neo-classical theory driven studies predict a risk-return trade-off: high risks [low-risk] are associated with high [low] expected returns. In theory, if RI has superior expected return, it is to compensate for higher volatility. If RI reduces risk, it leads to

lower expected returns. However, the results do not always confirm theoretical expectations. When Bauer et al. (2005) look at idiosyncratic risk (measured by the residuals volatility of the CAPM), they find no relationship with ESG performance. And Renneboog et al. (2008), conclude that they “cannot unequivocally demonstrate” (p. 1732) a link between ESG performance and financial return (and therefore risk) with their meta-analysis.

The rationale for using market risk as a dependent variable is pluralistic, and varies with the theoretical perspective on market efficiency, agency, or stakeholder versus shareholder perspective, among others, which authors rarely position themselves on explicitly. When they do take market risk into account, most studies adopt financial return as a dependent variable, with mitigated results. There is no regression-based study that simultaneously uses stock-market based return measures and measures of financial risk as dependent variables. A few studies focus exclusively on financial risk as a dependent variable (Oikonomou et al., 2012), while others use a multivariate regression error term as a measure of financial risk (Bousslah et al., 2013).

What is still missing from research on ESG and market risk?

The idea of studying ESG performance and market risk is not exactly new. In 1978, Spicer already adopted this perspective by studying the link between ESG (looking at different aspects of pollution) and idiosyncratic risk (as measured by total market risk) as well as systematic risk (beta). After him, several authors adopted this approach, mostly using subjective measures of ESG constructed by third parties: Aupperle et al. look at 5-year total risk and long-term beta in 2005, using a subjective index for ESG. Fortune's community and employee responsibility (CER) indicator is used by Salama et al. (2009) to compare and investigate systematic risk. In these studies, there is a generalized use of second hand, composite ESG measures, leading to the empirical and conceptual limits discussed in the next section.

Furthermore, few studies acknowledge the current context of ESG reporting, characterized by demand differences for different types of shares and by incomplete information, which can lead to discrepancies in prices. Galema et al. (2008) argue that investors do not include securities in their portfolio for which they lack such information as expected return, variance, and covariance with other securities. If shares with good ESG performance are in excess demand compared to “sin stocks”, they will be overpriced and therefore give a lower return. But this does not automatically lead to higher risk, as suggested by Merton (1987), who shows that in the presence of this type of incomplete information, firm size, firm-specific return variance and the fraction of investors that know about a security all impact on risk-adjusted returns. Thus, in the context of RI, the increased (or decreased) risk of a firm acting in a socially responsible manner could increase (or decrease) its expected return. This requires an explicit focus on systematic and idiosyncratic risk to explain the link with ESG performance.

5.3.2 Disaggregating KPIs for ESG

One of the limits encountered when studying the link between ESG and market risk (but also more generally financial performance) is the multiplicity of factors used in different studies. In practice, this results in numerous lists and matrices of sustainability indicators that raise at least two problems: whether to favor disaggregation or integration between indicators (Morse, McNamara, Moses & Okwoli, 2001), and how to integrate the conceptually different ESG factors in a legitimate way.

Some studies note the importance of distinguishing the impact of the different ESG dimensions, but few do so empirically (Bouslah, Kryzanowski & M'Zali, 2013). Edmans (2011) shows superior long term share returns measured by four-factor alpha, for investments using an employee relations screen. However, this result is based on the “100 Best Companies to Work for in America” as its ESG metric, a measure subject to criticism like any study

relying on third-party surveys, which add a level of interpretation. Apart from this study, it is not clear whether any ESG factor influences financial performance more than any other (Capelle-Blanchard & Monjon, 2014).

The aggregation over different dimensions that have confounding effects is pointed out as one of the reasons why the empirical literature yields few significant relations between RI and expected returns. First, aggregation may hide the effect of dimensions which are not that important or relevant. Bouslah et al. (2013) show that not all ESG dimensions are relevant for firm risk, and that the relationship will be positive or negative depending on the ESG dimension. For example, it is possible that positive news on environmental friendly production is positively related to expected returns, whereas news pertaining to good employee relations is negatively related (see Scholtens and Zhou, 2008). Second, the strengths and weaknesses in the KLD model, which most academic studies use, are different conceptually and should not be combined. Finally, these studies make investors dependent on the agencies that conceived the ratings, with all the shortcomings that have been discussed in literature (Entine, 2009) in terms of conflicts of interest, legitimacy and rating methodology. Indeed, the composite (or aggregate) measure of ESG adds a level of interpretation by third parties other than the company and the investor (Galema, Platinga & Scholtens, 2008).

Summarizing the literature review

In summary, the empirical literature on RI does not conclude that sustainability is significantly priced by the capital markets. A number of prior studies have attempted to quantify the empirical relationship between ESG and risk. These are summarized in Orlitzky & Benjamin's (2001) meta-analysis, which finds an overall negative correlation. A review of prior research highlights the need for data driven research on the link between ESG performance and financial risk, on departing from a shareholder perspective, and on

distinguishing individual ESG dimensions. In addition, there is a need to acknowledge the incomplete information characterizing ESG reporting.

The objective of this study is to explore the relationship between ESG factors and financial risk. To do so, we use the Delphi framework which allows us to have a data driven approach and a stakeholder perspective. The framework will also help us to establish the level of ESG reporting available to institutional investors.

5.4 Methodology

We do not rely on social performance rating like previous studies do, since our departure point is the Delphi framework. Being built by investment practitioners, the Delphi framework can be regarded as covering the most relevant ESG factors considered for practitioners. The fact that this framework has not yet been explored by academics to our knowledge, is not a concern in terms of validity, but rather an opportunity to explore it ourselves and discuss the Delphi motivations which led to this framework. We are exploring a framework and database, which can be assimilated to grounded methods.

5.4.1 Data sample and selection

To conduct the research developed in the previous section at the company level, we use panel data for a set of US firms. The set of firms is derived from the Standard & Poor's 500 index composition from 2007 to 2013. This sample of large US companies varies from year to year, with the inclusion or exclusion of companies. 565 distinct company names compose the sample at some point in time. 341 companies have observations for all 7 years and 61 companies have data for the last 6 years. If we consider the time bracket 2008-2013 we could work with a constant company sub-sample of 402 companies. However, this leads to a survivorship bias, as only the performance of companies that were most resistant and that lasted throughout these years would be considered. We first work with this unbalanced data and consider it to be panel data, applying panel regression models to control for the repetition

of companies from one year to another in the sample. This approach is recommended by Wagner (2010) to account for unobserved heterogeneity, since panel estimation techniques largely capture its effects. When performing industry specific analysis, we exclude the telecom industry due to its small sample size in the S&P 500 (from n=8 in 2013 to n=5 in 2013). Following the poor results of the co-integration analysis with the panel data, with persistent volatility which gets worse when the analysis is performed per industry, we then test other relationships in the data by performing ordinary least square regressions per industry and per year, by filling in missing data (see Appendix), and by checking for non-linear relationships.

We restricted the sample to the United States for two reasons. One was that this automatically controls for the market effect, the biggest common factor in share returns, and secondly ESG standards and the market perception of the importance of these factors differ widely across countries.

The final sample is an unbalanced panel of 3244 firm-year observations for the period 2007-2013 for all S&P companies covered by Bloomberg's ESG data. Companies are organized in 10 industries using the first digit of their ICB sector code.

We use the list of factors identified in Delphi's framework after following the construction of this framework by the group for two years. During our observation, we noticed how Delphi's participants deliberately searched for complexity and consensus instead of quantitative tests, as a validation of their legitimacy. The group's belief throughout the process was that markets do not value ESG properly in share prices, and that testing for a link between ESG performance and financial return would not be a favorable approach for their framework. Legitimacy therefore had to come from elsewhere than quantitative backtesting of metrics. The group followed a circular process to develop the framework, constantly going

back and forth between different positions. Delphi’s process took 2 years to reach a consensus on a framework of KPIs for ESG. And the current version of the framework is not meant to be definitive: it is meant to evolve, along with the evolution of ESG investing. The materiality of each factor had to be discussed and reviewed until each member of the group was comfortable to put their name on the framework (see Appendix for a description of the Delphi initiative). This process created dialogue, which stimulated learning for the group and for the expert individuals. The process led to combining judgment and metrics, leading to a framework which departs from a pure financial logic. The result is a framework organized around 3 “value levers”. These are not the usual E(nvironment), S(ocial), G(overnance) but rather Growth, Returns on Capital, and Governance & Risk Management, which are meant to be much closer to mainstream asset managers’ categorizations when thinking about the value of their investments. These 3 value levers are broken down in 11 “value drivers”, 29 “key ESG factors”, and finally 98 “metrics” at the time of our analysis. Not all factors apply to all sectors. In our study, we use the suggested metric as independent variables when available, or the most similar available metric. So our analysis focuses on the lowest level (the “metrics”), to operationalize the factors, thus matching the Delphi approach. This is rare in ESG reporting literature. Studies are most often conducted at the more global level, which is usually defined as E, S and/or G, due to the way sustainability ratings are constructed (Barnett & Solomon, 2012).

Figure 11: Structure of the Delphi Framework (the full framework is currently confidential)

Value lever 1	Value driver 1	ESG Factor 1 ESG factor 2	Metric 1 Metric 2 Metric 3 Metric 4 Metric 5
	Value driver 2	ESG Factor 3 ESG factor 4 ESG Factor 5	
	Value driver 3		
Value lever 2	Value driver 4		
	...		
Value lever 3
	Value driver 10		.
	Value driver 11	ESG factor 29	

			Metric 99
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In addition to being large enough for subsamples, the database must be a recent one, because the Delphi project is recent and ESG factors evolve. We therefore obtain the ESG metrics to populate these factors from Bloomberg’s database, with the purpose of using the same tools an asset manager would turn to. The data-set available from Bloomberg has annual data files from 2007 through 2013 for 62 metrics of the 98 metrics proposed by Delphi, distributed across all 29 ESG factors. The aspirational nature and qualitative nature of some of the Delphi metrics explains their lack of availability in a conventional financial database at this stage. Although the data has its limits in terms of completeness, it has the advantage of being self-reported data and of being recent. The Bloomberg ESG data is available since 2007, which gives a time horizon of 7 years.

5.4.2 Measuring market risk

As one financial analyst in Delphi stated: “We need to understand what drives profit but also what risk was taken to reach this profit. We are very good at highlighting returns but very poor at highlighting risks. This is where Delphi can help, with its value drivers. This framework needs to tell you more about the risk profile of a company.” (Delphi meeting, 18 March 2014). We therefore now clarify what risk we are studying, and how.

In this research, we measure total market risk of a firm by the annualized standard deviation from average daily share return. It is helpful at this stage to define the average daily return of a share:

$$(1) \quad \bar{r} = \sum_{t=1}^T \frac{R_t}{T-1} \quad \text{with} \quad 1 + R_t = \left(\frac{P_t - P_{t-1}}{P_{t-1}} \right), \text{ the change in price.}$$

$$(2) \quad r_t = \ln \left(\frac{P_t}{P_{t-1}} \right), \text{ log returns which can be interpreted as continuously compounding}$$

and have additive properties

R_t denotes the simple return at time t and r_t denotes the continuously compounded return at time t . \bar{r} is the mean share return for T historical observations over a year.

We use two financial risk measures, both constructed based on market price volatility.

We use the yearly standard deviation of return as a first financial risk measure,

calculated for year Y as:

$$(3) \quad \sigma(Y) = \sqrt{\frac{1}{N-1} \sum_{t=1}^N (r_t - \bar{r})^2}$$

Then, we adopt a downside-risk approach using the yearly semideviation, or semi-variance, of return. Semi-variance only considers downside risk (returns below \bar{r}) and is defined by :

$$(4) \quad \text{semideviation}(Y) = \sqrt{\frac{1}{N-1} \sum_{t \text{ with } r_t < \bar{r}} (r_t - \bar{r})^2}$$

With N = total number of observations in a given year Y .

In other words, with this measure, financial risk is no longer symmetric, and we are not concerned with time periods in which $r_t \geq \bar{r}$ (a share's return exceeds its average daily return). This approach is closer to investors' preoccupations. Further discussion of downside risk can be found in Sortino and Forsey (1996).

In addition to the theoretical rationale we developed earlier for studying financial risk as a dependent variable, there is a methodological justification. By focusing on risk, we align ourselves with the perspective of the Delphi group that created the framework, adding coherence between method and data. The group considered its framework for ESG investing

as having both an opportunity-based value (or value creation, reflected in return) as well as value destruction or risk-based value (reflected in risk). To quote one of the Delphi members: “[With the framework] we are adding value. With excess return or lower risk or perhaps another form of measurement for adding value. Beyond that there is not much agreement.” (Asset manager interview, 6 November 2013). The question was raised which was the best approach for judging value drivers, to which the group responded that both approaches were in the scope of the framework and could be reflected at the Factor or Metric level. In fact, the term risk was used loosely by the group to cover governance risk, operational risk, water risk, reputation risk, market risk,... with a lack of clarity characteristic of research so far. But in their discussions, the Delphi members were adamant not to focus on return, as they believed it would not reflect the value added by using their framework. Moreover, the group suspected that most of these risk were not reflected in a company’s share price. As a result, a group member stated: “We focus less on growth and more on downside risk. If ESG is a tail risk then we would focus on that in our modeling” (Asset manager call, 31 October 2012).

The next part presents the empirical results. It summarizes and analyzes the observations made during our exploration. We calculate correlations between metrics and risk, then run regressions, looking to confirm which ESG metrics are linked to risk and whether they have any predictive power. With the OLS (ordinary least squared) regression analysis performed after having verified the poor results of panel regressions, we look at “without-study” variation, i.e. variations across subjects, in line with our research question. We do not look at “within-study” variation, i.e. variations across years as a fixed effects panel regression would do, because there is no significant variation in the year-to-year ESG performance of a company.

5.6 Findings

5.5.1 Descriptive statistics

Table 19 reports the sample distribution by year for the whole sample of 3244 yearly observations based on S&P500 membership, grouped in 10 industry subsamples based on the ICB industry codes⁹.

Table 19 Sample size, per year and per sector

Industry	Year							Total
	2007	2008	2009	2010	2011	2012	2013	
Oil & Gas	27	35	37	30	36	38	36	239
Basic Materials	23	24	26	22	24	24	24	167
Industrials	59	68	68	62	70	71	70	468
Consumer Goods	56	59	61	56	53	60	53	398
Health Care	41	48	45	44	44	46	44	312
Consumer Services	59	64	67	61	67	71	67	456
Telecommunications	8	8	7	7	5	5	5	45
Utilities	25	29	31	28	31	32	32	208
Financials	76	85	84	81	81	84	82	573
Technology	54	61	61	57	45	55	45	378
Total yearly observations	428	481	487	448	456	486	458	3244

⁹ "The Industry Classification Benchmark (ICB) is a definitive system categorizing over 70,000 companies and 75,000 securities worldwide, enabling the comparison of companies across four levels of classification and national boundaries. The ICB system is supported by the ICB Database, an unrivalled data source for global sector analysis, which is maintained by FTSE International Limited." Retrieved from <http://www.icbenchmark.com/> on 31 March 2015.

Table 20 shows the level of reporting per year, for each independent variable (see Appendix for a description of each variable). Full reporting is only available for financial data, not for ESG data. While this gap between financial and non-financial data was to be expected, we also note that it is not reducing over time for US companies despite calls for better and more standardized reporting. Most of the data available based on Delphi's categorization is "Governance & Risk Management" data, rather than "Growth" data or "Operational & Value Chain Risk" data. If we use the usual ESG classification, we note that social data is the least reported, followed by environmental data and corporate governance data. Only 7 of the ESG metrics are reported by more than half of the companies, as well in 2007 as in 2013. In fact, while reporting did improve by an average 6% per year between 2007 and 2011 in terms of data points available, the availability of ESG information for S&P 500 companies in Bloomberg dropped after 2011 (the CDP reporting data was not available at the time of our data collection). In our study, we did not consider any of the metrics for which less than 15% of the data was available for all years (grey area in table 20). We took into account metrics with at least 15% of data points reported overall, in years and industries where reporting was sufficiently high, because a stricter threshold would have resulted in ignoring most of the metrics.

Table 20: Level of reporting evolving over time

Variable	Missing	Total	Percent Missing	2007	2008	2009	2010	2011	2012	2013
COMPANY	0,00	3,244	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
(mean) DAILY_RETURN	0,00	3,244	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
(sd) DAILY_RETURN	0,00	3,244	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
CF_FREE_CASH_FLOW	311,00	3,244	9,59	19,86	17,05	13,96	10,94	1,10	4,12	0,44
CEO_DUALITY	339,00	3,244	10,45	21,73	16,01	12,94	10,49	1,54	3,70	7,42
HEALTH_SAFETY_POLICY	451,00	3,244	13,90	21,50	16,42	13,14	10,71	1,54	5,97	28,82
ENVIRON_SUPPLY_MGT	451,00	3,244	13,90	21,73	16,22	13,14	10,71	1,75	5,76	28,82
CLIMATE_CHG_PRODS	455,00	3,244	14,03	21,73	16,22	13,55	10,94	1,75	5,76	29,04
#_OF_NON_EXECUTIVE_DIR_ON_B	1,244	3,244	38,35	93,22	84,82	66,74	11,38	1,75	3,70	7,64
IS_RD_EXPEND	1,548	3,244	47,72	56,31	54,05	53,18	49,33	40,35	41,56	39,52
RD_EXPENDITURES_PER_CASH_FLO	1,550	3,244	47,78	56,54	54,05	53,18	49,33	40,35	41,77	39,52
CDP_REGULATORY_RISK_EXP	2,048	3,244	63,13	93,69	56,55	50,92	53,79	46,93	44,03	100,00
CDP_PHYSICAL_RISK_EXP	2,048	3,244	63,13	93,69	56,55	50,92	53,79	46,93	44,03	100,00
CDP_OTHER_RISK_EXP	2,052	3,244	63,26	93,69	57,17	51,13	53,79	46,93	44,03	100,00
TOTAL_GHG_EMISSIONS	2,113	3,244	65,14	66,82	63,41	67,15	62,28	58,55	64,20	73,58
BEST_SALES	2,269	3,244	69,94	100,00	100,00	98,15	75,00	92,11	25,10	0,87
ENERGY_INTENSITY_PER_SALES	2,441	3,244	75,25	81,07	80,25	76,39	70,98	67,76	71,60	78,82
WATER_INTENSITY_PER_SALES	2,548	3,244	78,55	83,88	82,74	80,08	74,78	73,68	74,28	80,57
WASTE_GENERATED_PER_SALES	2,599	3,244	80,12	86,45	83,99	80,08	77,23	74,34	76,13	82,97
PCT_WOMEN_EMPLOYEES	2,619	3,244	80,73	87,62	84,20	81,72	78,57	75,00	76,54	81,88
WASTE_RECYCLED	2,679	3,244	82,58	88,32	87,53	83,37	80,58	76,97	77,78	83,84
BEST_CAPEX	2,692	3,244	82,98	100,00	100,00	98,56	83,26	96,93	67,49	34,93
HAZARDOUS_WASTE	2,730	3,244	84,16	86,45	86,07	84,19	82,59	80,48	81,89	87,55
LOST_TIME_INCIDENT_RATE	2,738	3,244	84,40	87,85	87,11	85,01	82,59	80,92	81,48	86,03
ENVIRON_FINES_AMT	2,765	3,244	85,23	87,15	86,07	85,83	84,60	82,24	83,54	87,34
PCT_WOMEN_MGT	2,775	3,244	85,54	89,95	87,32	86,24	83,26	82,89	82,10	87,34
FATALITIES_TOTAL	2,803	3,244	86,41	88,32	88,57	85,63	82,59	82,89	86,01	90,83
POLITICAL_DONATIONS	2,875	3,244	88,63	89,95	89,19	87,89	86,16	86,18	88,27	92,79
FATALITIES_EMPLOYEES	2,880	3,244	88,78	90,42	89,60	88,30	86,83	85,96	87,86	92,58
NOX_EMISSIONS	2,884	3,244	88,90	88,79	89,40	89,73	89,06	86,40	87,65	91,27
WASTE_SENT_TO_LANDFILLS	2,914	3,244	89,83	95,79	94,80	91,58	87,05	85,53	85,39	88,86
PCT_MINORITY_EMPLOYEES	2,921	3,244	90,04	92,52	90,85	90,55	88,84	87,72	87,45	92,58
NUMBER_SPILLS	2,922	3,244	90,07	93,69	93,14	91,17	88,17	86,62	87,24	90,61
VOC_EMISSIONS	2,957	3,244	91,15	90,89	91,06	90,76	91,29	89,04	91,36	93,67
FATALITIES_CONTRACTORS	2,976	3,244	91,74	92,76	92,31	91,17	89,96	91,01	90,74	94,32
PCT_MINORITY_MGT	3,013	3,244	92,88	93,69	93,14	92,81	91,96	92,11	91,36	95,20
NET_REV	3,015	3,244	92,94	93,22	93,14	93,22	92,63	92,76	93,00	92,58
EMPLOYEE_TURNOVER_PCT	3,015	3,244	92,94	95,09	93,76	93,43	92,19	90,13	91,56	94,54
INVESTMENTS_IN_SUSTAINABILITY	3,049	3,244	93,99	94,63	94,18	93,22	93,30	93,42	93,83	95,41
SUSTAIN_INV_TO_CAPEX	3,053	3,244	94,11	94,63	94,39	93,43	93,53	93,42	94,03	95,41
SO2_EMISSIONS	3,063	3,244	94,42	93,93	94,59	94,46	94,20	93,86	93,83	96,07
CO2_INTENSITY	3,076	3,244	94,82	96,03	95,63	94,87	93,53	93,64	94,24	95,85
ENVIRONMENTAL_ACCTG_COST	3,093	3,244	95,35	96,26	96,05	95,48	95,31	93,64	94,44	96,29
PCT_WATER_RECYCLED	3,125	3,244	96,33	98,83	98,34	97,33	95,76	94,30	94,24	95,63
LOST_TIME_ACCIDENTS	3,127	3,244	96,39	96,50	96,26	96,51	95,98	95,83	95,88	97,82
LOST_TIME_PER_EMPLOYEE	3,127	3,244	96,39	96,50	96,26	96,51	95,98	95,83	95,88	97,82
TRAINING_SPEND_PER_EMPLOYEE	3,135	3,244	96,64	98,36	98,13	96,71	95,76	95,18	95,68	96,72
EMPLOYEE_TRAINING_COST	3,135	3,244	96,64	98,36	98,13	96,71	95,76	95,18	95,68	96,72
WATER_PER_UNIT_OF_PROD	3,144	3,244	96,92	98,13	98,13	97,13	95,76	95,83	96,30	97,16
ARD_PATENTS_TRADEMRK_COPYRI	3,172	3,244	97,78	97,20	97,51	97,74	97,99	98,03	98,15	97,82
PERCENT_OF_DISCLOSURE	3,173	3,244	97,81	97,90	97,51	96,51	97,54	97,59	98,97	98,69
BS_ASSET_DURATION	3,188	3,244	98,27	98,13	98,34	98,15	98,21	98,25	98,56	98,25
SUPPLIERS_AUDITED	3,207	3,244	98,86	99,53	99,58	99,59	98,88	98,03	98,35	98,03
PCT_RECYCLED_MATERIALS	3,213	3,244	99,04	99,30	99,38	98,77	99,11	98,46	98,97	99,34
SRI_AUM	3,218	3,244	99,20	99,77	99,58	98,97	98,88	98,90	99,18	99,13
SRI_PCT_TOTAL_AUM	3,220	3,244	99,26	99,77	99,79	99,18	98,88	98,90	99,18	99,13

Table 21 reports the descriptive statistics of the risk measures and of the Delphi metrics as explanatory variables, as well as some financial metrics for the whole sample. It shows that the mean (median) annualized total risk ((sd) DAILY_RETURN)) is 0.0327 (0.0233). The mean (median) downside risk (AVG_DOWNSIDE_DEVIATION) is 0.0015 (0.0066). Panel B of Table 21 shows a mix of binary and numerical values for the ESG metrics called for in the Delphi framework. The metrics illustrate 9 different ESG factors, with each factor represented by one (Research & Development) to 13 metrics (Resource efficiency). As expected, each industry subsample based on ICB categories has different risk profiles, different key ESG metrics, and different financial characteristics (the descriptive statistics for each subsample or per year are not reported for brevity's sake but are available upon request). Specifically, 2007 risk measures are high in all industries, confirming high volatility and downside deviation during the crisis. After 2007, risk measures drop until 2013, when total risk increases overall although downside deviation only peaked in the consumer goods industry. Furthermore, the risk profile of industrials is characterized by a slower decrease of volatility after 2007, and an increase in downside risk in 2013, although to a lesser extent than in consumer goods.

Overall, the mean (median) values of binary ESG metrics linked to reporting are greater than 50% (equal to 1) suggesting that the typical firm-year observation is characterized by good reporting practices on disclosure issues such as health and safety risks or climate change regulatory or physical risks. On the other hand, the mean (median) values of binary ESG metrics linked to performance are smaller than 50% (equal to 0) suggesting limited results when it comes to practicing ESG metrics, through recent efforts in environmental supply management or developing or launching climate change products for example.

Table 21: Descriptive statistics of factors in the framework for which data is available in Bloomberg

variable	mean	median	sd	min	max	skewness	kurtosis	N
<i>Panel A: financial measures</i>								
(mean) DAILY_RETURN	0.0013	0.0004	0.0197	-0.0127	0.8950	20.14	619.24	3244
(sd) DAILY_RETURN	0.0327	0.0233	0.0693	0.0043	1.8367	19.05	505.73	3244
AVG_DOWNSIDE_DEVIATION	0.0015	0.0066	0.0066	0.0000	0.3351	40.64	2041.72	3244
<i>Panel B: Delphi Factors</i>								
Access to resources								
ENVIRON_SUPPLY_MGT	0.32	0.00	0.47	0.00	1.00	0.77	1.60	2833
EMPLOYEE_TURNOVER_PCT	11.57	10.00	7.00	2.80	55.00	2.26	11.30	230
Human capital management								
TRAINING_SPEND_PER_EMPLOY	1199.16	993.19	901.83	0.00	3756.88	1.28	3.96	109
EMPLOYEE_TRAINING_COST	161.61	23.00	220.94	0.00	1000.00	1.68	5.57	109
Innovation								
SUSTAIN_INV_TO_CAPEX	0.21	0.05	0.72	0.00	5.70	6.38	45.75	192
ARD_PATENTS_TRADEMRK_COPY	4273.62	556.50	9222.87	95.31	34233.00	2.61	8.12	74
IS_RD_EXPEND	711.12	178.99	1491.05	0.00	11381.00	3.69	18.30	1726
Licence to operate								
POLITICAL_DONATIONS	0.55	0.16	1.27	0.00	12.85	6.12	50.46	371
CDP_REGULATORY_RISK_EXP	0.78	1.00	0.42	0.00	2.00	-1.32	2.86	1213
Resources efficiency								
CO2_INTENSITY	1.86	0.37	12.00	0.03	112.05	8.90	80.91	169
WATER_INTENSITY_PER_SALES	56916.73	380.60	506470.94	0.00	10993321.00	16.41	325.00	700
NOX_EMISSIONS	28.27	6.12	48.68	0.00	241.00	2.28	7.86	362
SO2_EMISSIONS	74.02	10.45	147.57	0.00	1017.00	3.55	17.93	182
VOC_EMISSIONS	17.16	0.53	53.93	0.00	310.00	3.65	15.32	289
ENERGY_INTENSITY_PER_SALES	851.68	124.85	3262.80	2.31	50934.14	9.30	109.40	807
WASTE_GENERATED_PER_SALES	1058.07	3.33	9092.47	0.00	124993.02	9.95	109.83	648
HAZARDOUS_WASTE	43.20	2.04	174.56	0.00	2000.00	7.46	68.94	516
WASTE_SENT_TO_LANDFILLS	94.36	11.76	509.46	0.00	8886.04	15.55	266.59	335
WASTE_RECYCLED	202.71	23.61	664.75	0.00	6601.42	6.55	53.80	569
WATER_PER_UNIT_OF_PROD	7088.99	152.00	15377.24	0.00	52900.00	2.06	5.45	101
PCT_WATER_RECYCLED	30.74	20.71	34.98	0.00	252.00	2.69	14.97	120
TOTAL_GHG_EMISSIONS	5817.15	862.91	15710.08	4.45	150000.00	6.02	47.68	1139
PCT_RECYCLED_MATERIALS	32.15	17.90	34.54	0.00	95.00	0.77	1.98	31
Operational & Value Chain Risk								
LOST_TIME_ACCIDENTS	42264.64	13940.00	65092.99	0.00	280512.00	1.96	6.04	118
LOST_TIME_INCIDENT_RATE	0.50	0.31	0.63	0.00	4.20	3.27	16.13	512
LOST_TIME_PER_EMPLOYEE	1142.41	291.74	2525.49	0.00	14025.60	3.70	16.30	118
CDP_PHYSICAL_RISK_EXP	0.74	1.00	0.45	0.00	2.00	-0.91	2.27	1213
CDP_OTHER_RISK_EXP	0.68	1.00	0.47	0.00	2.00	-0.68	1.72	1209
SUPPLIERS_AUDITED	185.49	70.00	234.62	0.00	917.00	1.41	4.10	37
ENVIRON_FINES_AMT	1.23	0.01	9.25	0.00	119.00	10.20	111.49	482
FATALITIES_CONTRACTORS	1.11	0.00	2.23	0.00	14.00	3.13	14.48	270
HEALTH_SAFETY_POLICY	0.59	1.00	0.49	0.00	1.00	-0.36	1.13	2833
NUMBER_SPILLS	108.50	14.00	248.44	0.00	2080.00	4.39	27.33	325
Research & development								
RD_EXPENDITURES_PER_CASH_F	0.39	0.16	2.86	-9.40	113.25	35.80	1402.84	1724
Product quality								
FATALITIES_EMPLOYEES	0.97	0.00	1.88	0.00	16.00	3.57	20.64	368
FATALITIES_TOTAL	1.88	1.00	3.42	0.00	35.00	4.14	29.16	444
SRI_AUM	59921.69	16300.00	92323.42	0.00	285000.00	1.56	4.00	26
SRI_PCT_TOTAL_AUM	3.90	2.51	5.19	0.08	19.74	1.77	5.34	24
CLIMATE_CHG_PRODS	0.02	0.00	0.15	0.00	1.00	6.59	44.40	2829
Availability of COGO kpis								
CEO_DUALITY	0.60	1.00	0.49	0.00	1.00	-0.41	1.17	2946
PCT_WOMEN_MGT	26.11	24.80	11.36	1.00	71.00	0.54	2.95	472
PCT_WOMEN_EMPLOYEES	35.19	31.00	15.78	5.00	80.00	0.51	2.68	628
PCT_MINORITY_MGT	18.95	16.26	10.04	0.50	55.00	0.94	3.64	234
PCT_MINORITY_EMPLOYEES	30.96	31.05	11.54	5.20	72.00	0.15	2.55	324
CF_FREE_CASH_FLOW	1918.47	675.01	7548.81	-110560.00	127491.00	5.55	121.94	2979
ARDR_DIRECTORS_REMUNERATI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
_OF_NON_EXECUTIVE_DIR_ON	9.63	10.00	2.33	4.00	31.00	1.67	15.61	2040
<i>Panel C: independent variables</i>								
BEST_CAPEX	-342.29	-110.00	837.83	-9850.00	0.00	-7.15	67.38	564
BEST_SALES	5608.39	2555.50	9778.75	134.50	121826.00	6.01	58.40	990
BS_ASSET_DURATION	4.58	4.50	1.65	0.00	7.87	0.04	3.17	57
NET_REV	17778.78	6716.61	26184.21	30.98	119643.00	2.14	6.52	230

5.5.2 Exploration of the data

Table 22 reports the factors that are most correlated to the downside risk measures. Four metrics have significant correlations, while most of the other results are statistically insignificant. We report only the most correlated metrics due to the large size of the full correlation table (empty cells are non-significant). The pairwise correlation matrix, all years combined, shows that four metrics have a high enough value (though less or equal to 20%) and significant correlation to financial risk measures. The result is similar for both financial risk measures, but stronger for the semideviation risk measure. We therefore focus on the downside risk measure. The fact that both conventional and downside risk measures lead to similar conclusions, although both risk measures are not significantly correlated, adds convergent validity to the analysis. The four significant metrics are the **existence of a health and safety policy**¹⁰ (binary variable; negative correlation), **of environmental supply management**¹¹ (binary variable; positive correlation), the **number of non-executive directors on board**¹² (numerical variable; negative correlation) and **CDP regulatory risk exposure**¹³ (binary variable, negative correlation). The four metrics have enough observations to be considered in a model. The result is the same if we look at data for year 2013 only, the year with most companies reporting and with high market volatility. Half of the significant metrics are disclosure metrics (health and safety, environmental policy), confirming Crifo,

¹⁰ Indicates whether the company has recognized its health and safety risks and responsibilities and is making any effort to improve the management of employee health and/or employee safety. "0" indicates that the company has not explicitly disclosed any such efforts in its most recent Annual or Company Responsibility reports.

¹¹ Indicates whether the company has implemented any initiatives to reduce the environmental footprint of its supply chain. Environmental footprint reductions could be achieved by reducing waste, by reducing resource use, by reducing environmental emissions, by insisting on the introduction of environmental management systems etc. in the supply chain. "0" indicates that the company has not explicitly disclosed any such efforts in its most recent Annual or Company Responsibility reports.

¹² Number of non-executive Directors on the company's board, as reported by the company.

¹³ Further information explaining why the company does or does not believe to be exposed to climate change regulatory risk. The response is directly from the company's response to the Carbon Disclosure Project (CDP) questionnaire

Forget & Teyssier’s (2015) observation that “soft” information such as good environmental ESG policies matter when it comes to investment decisions.

Table 22: Correlation matrix between metrics and downside deviation risk measure, reported for significant values.

	SD_DAILY_RETURN	AVG_DOWNSIDE_DEVIATION	OVCR_HEALTH_SAFETY_POLICY	RESS_ENVIRON_SUPPLY_MGT	#_OF_NON_EXECUTIVE_DIRECTORS_ON_BOARD	CDP_REGULATORY_RISK_EXP
SD_DAILY_RETURN	1	<i>correlation</i>				
		<i>p-value</i>				
	3244	<i>nb observations</i>				
AVG_DOWNSIDE_DEVIATION	0.034*	1	<i>correlation</i>			
	0.0526		<i>p-value</i>			
	3244	3244	<i>nb observations</i>			
HEALTH_SAFETY_POLICY	-0.0549**	-0.1813***	1	<i>correlation</i>		
	0.0037	0		<i>p-value</i>		
	2793	2793	2793	<i>nb observations</i>		
ENVIRON_SUPPLY_MGT	-0.0605**	-0.1086***	0.434***	1	<i>correlation</i>	
	0.0014	0	0		<i>p-value</i>	
	2793	2793	2791	2793	<i>nb observations</i>	
#_OF_NON_EXECUTIVE_DIRECTORS_ON_BOARD	-0.0302	-0.0546**	0.1169***	0.1299***	1	<i>correlation</i>
	0.1768	0.0147	0	0		<i>p-value</i>
	2000	2000	1889	1889	2000	<i>nb observations</i>
CDP_REGULATORY_RISK_EXP	-0.0201	-0.0786***	0.2012***	0.0740**	0.0656*	1
	0.4877	0.0065	0	0.0106	0.0549	
	1196	1196	1192	1192	856	1196

Note: *p <.10; **p < .05; *** p< .01

But the significant correlation between the metrics and the risk measures are also industry dependent, as illustrated in Table 23. We compare data availability for each factor per sector in the Appendix, to make sure the data availability has not biased our results. In the **oil and gas** industry, two factors are significant among the four significant factors for the full sample: a higher number of non-executive directors is negatively correlated to a higher market risk and the existence of a health and safety policy is negatively correlated to a higher market risk (we focus here on significant correlations with large enough samples). In **industrial** companies, only one factor is significant among the four significant factors for the full sample, although data was available on all of those factors: acknowledging that the company is exposed to climate change physical risk reduces the financial risk. In the **consumer goods** industry, managing the environmental supply is negatively correlated to downside market risk, as with the full sample. But having women on board (negatively correlated to downside market risk) and lost time incidents (positively correlated to downside market risk) are also

significant factors. About 75% of data points are missing for the two latter factors, which shows a lack of reporting on significant factors in the industry. In the **health care** industry, the number of non-executive directors on board is negatively correlated to market risk, while high water intensity is positively correlated. These factors came out as significant only in the health care industry, where it is reported more than in most industries (58% data points missing, compared to an average of 70% across all industries). The market risk in **consumer services** companies is correlated with the highest number of metrics (8), although it is the industry with the least reporting (80% data points missing, compared to an average 73.25% across all industries): the number of non-executive directors on board, the percentage of women on board, the existence of a health and safety policy, the existence of environmental supply management, developing climate change products, NOX emissions and energy intensity are all negatively correlated with market risk, while the number of minorities on board is positively correlated with risk. The large proportion of missing data encourages us to disregard this strange result (94.37% missing data for this factor in consumer goods, compared to an average 89.45% missing data points for this factor across all industries). In **utilities** companies, the existence of a health and safety policy is negatively correlated with market risk, while NOX emissions (46% of missing data points in utilities, most reported in this industry with the average 81.90% missing data points across industries) and energy intensity (93.75% of missing data points in utilities, least reported with an average 69.50% missing data points across industries) are positively correlated with market risk. In **financials** and in **technology** companies, the existence of a health and safety policy and the existence of environmental supply management matter and are negatively correlated with market risk. Furthermore, the number of women on board is positively correlated with risk in the financial industry. The large number of missing data encourages us to disregard this result (90.48% missing data for this factor in financials, compared to an average 79.83% missing data points

for this factor across all industries). These two industries have the lowest levels of reporting, after consumer services. While other factors may be significant here, the low levels of reporting do not allow us to identify them. So far we can note that in both industries it is the soft, reporting KPIs that are the most correlated with financial risk; these soft KPIs are also the most available ones.

The basic materials industry does not have any metrics correlated to risk measures, despite having the best level of reporting (65.14% average missing data, compared to a 73.25% sample average). Finally the telecommunications industry is too small a sample.

Table 23: Correlation matrix between metrics and downside deviation risk measure, per industry.

	INDUSTRY 0: Oil & Gas			INDUSTRY 1 : basic materials.			INDUSTRY 2 : industrials			INDUSTRY 3 : consumer goods.			INDUSTRY 4 : health care		
	corr	p value	N	corr	p value	N	corr	p value	N	corr	p value	N	corr	p value	N
HAZARDOUS WASTE	-0.4111**	0.0103	38	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant
# OF NEDS ON BOARD	-0.1914**	0.0186	151	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	-0.2142***	0.0032	187
HEALTH_SAFETY_POLICY	-0.2834***	0	213	-0.0549***	0.0023	147	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant
CDP regula	-0.2804**	0.0123	79	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant
BEST CAPEX	0.2318*	0.0747	60	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant
TOTAL GHG EMISSION	non significant	non significant	non significant	-0.2319*	0.077	86	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant
ENV SUPPLY MNGT	non significant	non significant	non significant	-0.2295***	0.0052	147	-0.0889*	0.0657	430	-0.1180***	0.0002	327	non significant	non significant	non significant
CDP_PHYSICAL_RISK_EXP	non significant	non significant	non significant	non significant	non significant	non significant	-0.1579**	0.03	189	non significant	non significant	non significant	non significant	non significant	non significant
PCT WOMEN	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	-0.2162***	0	85	non significant	non significant	non significant
LOST TIME	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	0.3170***	0.0018	95	non significant	non significant	non significant
CEO DUALITY	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	-0.1032*	0.0556	345	non significant	non significant	non significant
WATER INTENSITY	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	0.2956**	0.0028	100
PCT MINORITY	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant
CLIMATE_CHG_PRODS	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant
NOX EMISSIONS	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant
ENERGY INTENSITY	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant

	INDUSTRY 5 : Consumer Services			INDUSTRY 7 : utilities.			INDUSTRY 8 : financials			INDUSTRY 9 : technology		
	corr	p value	N	corr	p value	N	corr	p value	N	corr	p value	N
HAZARDOUS WASTE	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant
# OF NEDS ON BOARD	-0.155***	0.0009	299	-0.1549*	0.0784	130	non significant	non significant	non significant	non significant	non significant	non significant
HEALTH_SAFETY_POLICY	-0.1256**	0.0454	391	-0.2333***	0.0012	191	-0.1937***	0	506	-0.2671***	0	279
CDP regula	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant
BEST CAPEX	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant
TOTAL GHG EMISSION	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant
ENV SUPPLY MNGT	-0.1118**	0.027	391	-0.133*	0.0673	190	-0.1541***	0.0005	506	-0.1686***	0.0048	279
CDP Physi	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant
PCT WOMEN	-0.3278***	0.0082	64	non significant	non significant	non significant	0.2353**	0.0407	76	non significant	non significant	non significant
LOST TIME	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant
CEO DUALITY	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant
WATER INTENSITY	-0.332**	0.0124	56	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant
PCT MINORITY	0.3879* *	0.0257	33	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant
CLIMATE CHANGE	-0.1335***	0.0082	391	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant	non significant
NOX EMISSIONS	non significant	non significant	non significant	0.2538**	0.0158	90	non significant	non significant	non significant	non significant	non significant	non significant
ENERGY INTENSITY	non significant	non significant	non significant	0.6033***	0.003	22	non significant	non significant	non significant	non significant	non significant	non significant

The signs of these correlations with ESG metrics suggest that ESG compliance or good ESG performance reduces risk, similar to prior literature showing superior financial performance for ESG investments (with the exception of our results for minorities and women on boards, but with too small a sample). They also confirm the Delphi group's intuition regarding soft (exposure or compliance) metrics. One of Delphi's concerns was how to reconcile exposure metrics (what are the risks that companies are exposed to?) with performance metrics (how are companies managing this risk?) and whether exposure metrics belonged in a framework at all. The consensus in the Delphi group was to mix both types of metrics. The data shows that exposure metrics do matter for total and downside financial risk, and that they should be taken into account.

We performed fixed effect panel regressions in the hope of identifying within panel variation, with poor results not only for the full sample (Table 24), but also for industry samples (Table 25).

Table 24: Fixed effect panel regression analysis between ESG metrics and downside risk measures compared to total market risk, full sample.

Number of obs = 867
 Number of groups = 334

R-sq: within = 0.0338 Obs per group: min = 1
 between = 0.0029 avg = 2.6
 overall = 0.0106 max = 5

F(4,529) = 4.63
 corr(u_i, Xb) = -0.4310 Prob > F = 0.0011

Downside Deviation	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
HEALTH_SAFETY_POLICY	-0.0002126	.000236	-0.90	0.368	-0.0006762	.0002509
ENVIRON_SUPPLY_MGT	-0.0008156	.0002361	-3.46	0.001	-0.0012793	-.0003519
CDP_REGULATORY_RISK_EXP	-0.0002007	.0002106	-0.95	0.341	-0.0006143	.000213
#_OF_NON_EXECUTIVE_DIR_ON_BRD	.0000646	.0000575	1.12	0.262	-0.0000483	.0001775
_cons	.0006219	.0006267	0.99	0.322	-0.0006093	.001853
sigma_u	.00076395					
sigma_e	.00126887					
rho	.26605018				(fraction of variance due to u_i)	

Table 25: Panel regression analysis between ESG metrics and downside risk measures compared to total market risk, full sample.

Dependent variable: downside risk	Oil & Gas		Basic materials		Industrials		Consumer goods		Health care		Consumer Services		Utilities		Financials		Technology	
Variable	Standard Coefficient	t	Standard Coefficient	t	Standard Coefficient	t	Standard Coefficient	t	Standard Coefficient	t	Standard Coefficient	t	Standard Coefficient	t	Standard Coefficient	t	Standard Coefficient	t
# OF NEDS ON BOARD	-0,0000182	-0,41	0,0001949	3,15**	-0,0000758	-2,06**	-0,0001456	-3,15***	0	0,07	0,0001867	0,41	-0,000017	-1,23	0,0000399	0,31	0,0004714	1,53
HEALTH_SAFETY_POLICY	0,0000927	0,23	0,0008814	0,3	-0,0002124	-1,76*	-0,0000995	-0,57	-0,0001097	-0,65	0,0000874	0,06	-0,00001029	-1,37	-0,0006811	-1,75*	0,0007761	0,59
CDP_REGULATORY_RISK_EXP	-0,0003851	-0,84	0,0005403	-0,09	-0,0000575	-0,62	0,0000319	0,19	-0,0001714	-1,86*	-0,0002243	-0,21	0 (omitted)		-0,0005499	-1,41	-0,0006406	-0,49
ENVIRON_SUPPLY_MGT	0		0,0003114	-1,77*	-0,0001217	-1,15	-0,0002774	-1,60	-0,0002693	-0,92*	-0,0012343	-0,81	0,0000619	1,06	-0,0004901	-1,04	-0,0044213	-3,34***
CDP_PHYSICAL_RISK_EXP	0 (omitted)		0 (omitted)		0 (omitted)		0 (omitted)		0 (omitted)		0 (omitted)		0 (omitted)		0 (omitted)		0 (omitted)	
F	F(3,32) = 0.32		F(4,39) = 4.38*		F(4,75) = 3.60**		F(1, 49) = 13.34***		F(4,44) = 2.08*		F(4,46) = 0.26	3,42) = 2.00		F(4,88) = 1.94		F(4,63) = 3.35		
Nb of observations	53		60		132		112		81		93		70		151		108	
Nb of groups	18		17		53		42		33		43		25		59		41	
R ² -squared within	0,0289		0,3098		0,1612		0,1631		0,1593		0,0225		0,1252		0,0809		0,1753	
R ² -squared between	0,0668		0,1631		0,0221		0,0259		0,1211		0,0036		0,0025		0,0295		0,0133	
R ² -squared overall	0,0497		0,2426		0,077		0,0222		0,1166		0,0185		0,0557		0,0485		0,01	

Note: *p < .10; **p < .05; ***p < .01. Entries of the last row are adjusted R-squared values for each regression.

We analyze the relationship further with a series of OLS (ordinary least square) regressions on the full data confirming the absence of parsimonious, easily described mean relationship between ESG and financial risk measures. A first regression with the four financial risk-correlated factors and semideviation shows that all variables correlated to financial risk have explanatory power. The link between the metrics and risk is established, but the predictive power of these metrics is limited: high R-squared suggests that the estimation of future risk is inaccurate. In addition, the residuals deviated substantially from normality, although they did not display volatility. The same analysis with our total market risk measure, on the other hand, leads to no significant model. ESG is not linked to volatility, it is linked to downside volatility. This confirms the interest of using the downside deviation as a risk measure. This result is an incentive for managers to report ESG, as it implies that good ESG reporting (exposure and performance) limits bad surprises in terms of share price.

The same OLS regressions performed for the logged semideviations with the four risk-correlated factors confirms the explanatory power of all variables, but still leads to high R-squared. While those residuals were normally distributed, they displayed heteroscedasticity. Further analysis shows that the volatility of residuals is not due to extreme occurrences in a specific year (such as linked to the 2007 crisis) or due to a few companies with extreme behavior. However, all of these regressions ignores the panel nature of our data. We therefore perform next OLS regressions per year.

Table 26 displays the OLS regression analyses for specific year samples. The model generally predicts a negative relationship between good ESG metrics and market risk measured by downside deviation. Looking beyond the sign of the relationship, the coefficients are very small, albeit significant. Still, the large majority of metrics did not reach a level of significance to be included in any of the industry models, thus providing no quantitative support for their inclusion in the framework.

We note particularly unsatisfactory results in the financial industry. In this sector, it is harder to assess what the investor community is sensitive to in terms of sustainability. There may be a conflict of interest issue in this sector, as institutional investors are themselves part of the financial industry. It may also be that material sustainability metrics are different than the ones we had access to through the Bloomberg database. Indeed, focusing on a metrics such as lost time due to incidents in financial institutions, just because it is available, would not add credibility to sustainable investment. However, the metrics identified by Delphi as material in the financial sector, such as employee training and qualification, customer retention, or regulatory compliance, were not available.

Overall, there appears to be a slightly negative but insignificant relationship between the various ESG metrics and downside financial risk. In our industry regressions, not a single slope coefficient between any of the risk measures and any of the metrics has a t-statistic with an absolute value greater than 1.6449 (the approximate critical value at the 10% level of significance for a two-tailed test) (Oikonomou et al. 2012). The results confirm that the materiality of ESG metrics is industry dependent, as the standard coefficients of metrics are different in each industries. Given the coefficients close to zero and the low t-stats, it seems reasonable not to draw further conclusions based on these models.

Table 26: OLS Regression analysis between ESG metrics and downside risk measures compared to total market risk, full sample per year, completed for missing data.

Dependent variable: downside risk	2007		2008		2009		2010		2011		2012		2013		2014	
	Standard Coefficient	t	Standard Coefficient	t	Standard Coefficient	t	Standard Coefficient	t	Standard Coefficient	t	Standard Coefficient	t	Standard Coefficient	t	Standard Coefficient	t
# OF NEDS ON BOARD	-0,0002504	-0,66	-0,0000166	-0,42	0,0000543	1,9**	0	9,96***	-0,0010403	6,34***	-0,0000234	-2,39**	-0,0000447	-2,30**	0,0000399	0,31
HEALTH_SAFETY_POLICY	-0,0007864	-0,37	-0,0006512	-3,05***	-0,0004223	-2,83***	-0,0000381	-1,46	-0,0001394	-1,70*	-0,0000509	-0,95	0,0001183	1,05	-0,0006811	-1,75*
CDP_REGULATORY_RISK_EXP	-0,0012514	-0,57	0,0002175	0,98	0,0000449	0,3	-0,0000238	-0,79	0,0000105	0,11*	0,0000282	0,5	0	0,05	-0,0005499	-1,41
ENVIRON_SUPPLY_MGT	0,0038252	1,39	-0,0008251	-3,22***	-0,0002549	-1,58	-0,0000425	-1,61	-0,0001134	-1,44	-0,0000178	-0,38	-0,0001108	-1,24	-0,0004901	-1,04
F	F(4, 423) = 0.66		F(4, 476) = 9.17***		F(4, 482) = 5.15***		F(4, 443) = 3.71***		F(4, 451) = 3.57		F(4, 481) = 2.02		F(4, 453) = 1.91		F(4,88) = 1.94	
Nb of observations	428		481		487		448		456		486		458		151	
adjusted R ²	-0,0032		0,0637		0,041		0,0324		0,221		0,0165		0,0079		59	

5.5.3 In summary

Our data show that there is little improvement in the availability of data points over time. There is a problem with the data available -- in terms of number of years and in terms of normality of residuals -- limiting the possibilities of econometric analysis. Throughout our exploration, we showed that data availability is an important issue: if we look at the financial sector, the material KPIs have been identified in the Delphi framework, but there is no information available in Bloomberg for these KPIs. The right data is not available. Either Bloomberg is not copying the right data, or companies are not reporting it.

Risk measures and ESG metrics are linked, as demonstrated by their correlations. Most of the individual metrics that matter are negatively but insignificantly associated with total market firm risk, and with downside risk. This is a confirmation that good ESG matters to limit bad surprises in terms of downside volatility: a company's share will less often perform far below its average market return. We can distinguish ESG exposure metrics from ESG performance metrics. At this stage, exposure metrics seem to matter most, perhaps because they are simpler to collect and imply less interpretation in terms of calculation by companies and third parties.

The material ESG metrics are industry dependent. While the reporting of some metrics is also industry dependent, there is no direct link between materiality and reporting. For example, the percentage of employee turnover is material for industrials and consumer goods, although there is less reporting in this metric than in other industries, where it is not material. As another example, the R&D expenditure is material for industrials but not for consumer goods, despite the above average reporting on this metric in both industries.

We identified market volatility conditions as a possible moderator in the ESG-financial risk link. When the market is volatile, like in 2007 and 2013, it is important to perform well on

ESG metrics, for a limited financial volatility of a company's annualized returns. When market volatility is low, as in 2008 to 2012, good ESG indicators make little difference on a company's market risk.

Finally, while we have evidence of the link between ESG-financial risk, our models have no predictive power.

5.7 Discussion and limits

This study contributes to an ongoing research stream on the link between sustainability and financial performance. We investigate this link using ESG factors to assess the sustainability of a firm; and using the volatility of share prices to assess the financial risk of an investment in company shares. Our results raise questions and highlight limits in terms of data availability, relevance of a framework for ESG investing, and measures of financial risk using downside deviation, which we discuss below.

5.6.1 Data availability and quality

This study highlights that we need more data and better quality data for this type of econometric analysis. This is in line with ESG accounting research, where much of the literature concerns the incompleteness of ESG reporting (Adams, 2004). This was also a conclusion of an ESG-risk study in 2011 (Salama et al., 2011), where the authors noted they were constrained by the limited amount of data yet available, despite their large UK dataset across all industries. Four years later, this conclusion has not changed for our sample of large US companies.

Because the data reported does not currently correspond to our needs, we would advise further research to use different metrics. Indeed, further econometric analysis on this data would have to disregard the underlying hypothesis of models in terms of normality of residuals, which is unorthodox. One path for further research could be to consider alternatives to econometric

analysis. Another path for further research, well aligned with the perspective of this data driven research, is to consider other metrics for the factors identified by Delphi. One striking example is the financial sector, for which no metric was available in the Bloomberg database, although Delphi did identify important risk factors specific to this sector. A next step would be to gather the missing data elsewhere.

We looked at each metric in isolation, but it would be interesting to look at results for aggregate metrics. The framework is meant to help focus on the most material metrics, but with a global view on the firm. The intention is not to work with a given composite measure, which has been criticized in previous studies, but rather to build clusters of metrics based on our analysis of the data. It is likely that results would be more pronounced for clusters of metrics (Oikonomou et al., 2012). To quote a Delphi participant:

"I am concerned by the idea that we can use these metrics as replacement for financial metrics. They are an additive, not a replacement for financial metrics. We want the story of how energy efficiency relates to Siemens' profitability, we don't want another metric of CO2 emission."

We highlighted the distinction between firm risk and exposure KPIs versus relation between firm risk and performance KPIs. This distinction is important as it cover two different data reporting and data collection realities. Exposure KPIs will de facto have better reporting levels because of Bloomberg's data collection process: if a company indicates that it recognizes its health and safety risks and responsibilities, for example, the analyst collecting data will indicate "1". However, if the analyst finds no such information, he will add "0" in the database to indicate that the company has not explicitly disclosed any such efforts in its most recent Annual or Company Responsibility reports. The analyst either finds or does not find the information; in both cases the database can be populated. In other words, whether this field is populated or not

does not depend on an action of the company, but of the Bloomberg analyst. On the contrary, a performance KPI will remain blank if the company has not disclosed anything for the metric. The level of reporting of performance metrics therefore holds additional information regarding actions taken by the company in terms of reporting. This distinction between reporting and performance metrics needs to be considered when reflecting on the results. Indeed, more exposure metrics than performance metrics are significant. This may be due to the data collection process, rather than to the metrics themselves.

5.6.2 Relevance and limits of a framework for ESG investment

Concluding that not many Delphi factors matter does not mean that Delphi's initiative does not matter. On the contrary, Delphi's framework can play an important role in the mainstreaming of ESG investing despite our weak econometric results. This role is linked to the role of tools in defining an emerging field, which is not captured in our study.

Our findings suggest that the unsatisfying data should not hinder the practice of ESG investing, because a link is observed. This approach is supported by a Delphi participant, who stated:

"No need for more data, no need for more stories, it's about a new process to invest capital. Our industry doesn't want to know how to link the metrics of ESG to P&L. What they want is a different model, of how to think about investing capital. Not just looking at how much capital a company makes, but also looking how a company makes capital. This is what sustainability is about. It's not always called ESG data, but that's what it's about. And Delphi is a framework for investing capital in a more long term way."

Beyond this discussion, the true relevance of a framework like Delphi's is its role in shaping the growing field of ESG investing. Institutionalization requires a certain level of

standardization. A framework can provide this if it is considered as legitimate, for example because it emerged from a consensus between reputable institutional investors. As a result, we recommend a complementary research approach that considers beliefs, justifications, tensions,... all dimensions that played an important role in the Delphi process, beyond the final result of a list of metrics in a framework. These approaches would allow to take into account the other dimensions of value: those that are not included in a price constructed by financial markets, or in a metric constructed by financial service providers.

5.6.3 Measuring performance with historical volatility

Regarding the link between ESG factors and financial risk or return, our results are not very different from the many existing studies. What is interesting is that we reached similar results using a different approach: through a market risk lens, measured by (downside) volatility of share returns. The rationale for this approach was that we did not want to presuppose a direct relationship between risk and return. The need for a better understanding of the risk side of the story is raised by a Delphi participant in the following words:

“We have to stop understating the issue. Changing the WACC is not the solution. Neither is changing the Beta; this is not a way to include ESG because it’s arbitrary. Risk is just too misunderstood. We need to clarify what risk we are talking about and what uncertainty of what could happen in what time frame.” (Delphi meeting, 18 March 2014).

To improve our understanding of risk and sustainability, further research could consider other models of volatility. These other models could put more focus on the long term, to correspond to ESG investment’s time horizon. A long term variance could be one such measure.

5.8 Conclusion

We study whether the Delphi framework does what its conceivers expect it to do: reduce market risk for ESG investments, which we measure with the volatility of share return. The asset managers who devised the framework debated the value of judgment versus metrics, and cast

doubts on the market's ability to translate ESG factors into market value and on the usefulness of econometric tools to capture ESG value. We explored their framework with a quantitative approach, to determine what information can come out of such an approach. We analyzed the financial risk of a company in relation to its environmental, social and governance metrics which the Delphi group deemed material after two years of discussions. We used the annualized standard deviation from average daily share return and the downside deviation as our two financial risk measures. Our sample consists of US equity funds which we analyze for the time period from 2007 to 2013. Our exploration leads us to the following findings:

(i) The quantity and quality of ESG data currently available is insufficient, making ESG data availability a significant issue for studying the link between sustainability and financial performance. Data availability is industry dependent, with the financial industry and consumer services industry displaying the poorest transparency. While ESG compliance data is increasingly available in some industries, ESG performance measures are lacking everywhere. For regulators, this result implies that there is still a need to improve ESG disclosure by companies.

(ii) ESG metrics matter for market risk, particularly when measured by semi-deviation, but without any predictive power on the magnitude of future risk's reduction. This has managerial implications, as it means that reporting good ESG limits bad surprises. It also has implications for further research, which may want to consider downside deviation as a useful measure of volatility.

(iii) The materiality of ESG metrics varies from one industry to another. This justifies the industry approach adopted in the Delphi framework. Furthermore, the ESG metrics are constructed and need to evolve with ESG practice. Many of the metrics currently available are not material, although they may be reported. This means that it is advisable for regulation not to

impose a standard list of ESG metrics to be disclosed, in which the material KPIs for investors would be lost. It would be better to consider at what level and at what cost disclosure should be imposed. We would suggest that the appropriate level of granularity is not the detailed metric level but rather the more general ESG factor level. It also has implications for managers and trade unions who are interested in stability and standardization.

(iv) ESG exposure metrics matter, and not only ESG performance metrics, when it comes to reducing financial risk. The fact that more exposure metrics than performance metrics are significant may result from the data collection process, which leads to higher levels of data availability for exposure metrics. However, the current limits on data reporting do not preclude a link between ESG exposure metrics and downside deviation.

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5.10 Appendix

Additional figures

Average yearly percent of missing data, per industry.

Percent Missing	Oil & Gas	Basic materials	Industrials	Consumer goods	Health care	Consumer Services	Telecommunications	Utilities	Financials	Technology	Average % Missing
Average % Missing	73.60	65.14	73.01	72.93	72.90	80.96	69.18	70.89	79.42	74.51	73.25
CEO_DUALITY	0.00	4.17	0	6.67	2.17	2.82	0.00	0.00	3.57	12.73	3.21
ENVIRON_SUPPLY_MGT	0.00	4.17	2.82	11.67	4.35	5.63	0.00	0.00	4.76	14.55	4.80
CLIMATE_CHG_PRODS	0.00	4.17	2.82	11.67	4.35	5.63	0.00	0.00	4.76	14.55	4.80
HEALTH_SAFETY_POLICY	2.63	4.17	2.82	11.67	4.35	5.63	0.00	0.00	4.76	14.55	5.06
IS_RD_EXPEND	36.84	29.17	18.31	18.33	17.39	49.30	20.00	81.25	92.86	16.36	37.98
RD_EXPENDITURES_PER_CASH_FLOW	36.84	29.17	18.31	18.33	19.57	49.30	20.00	81.25	92.86	16.36	38.20
#_OF_NON_EXECUTIVE_DIR_ON_BRD	37.60	33.93	37.13	39.70	40.82	35.00	55.56	37.50	38.61	45.26	40.11
CDP_OTHER_RISK_EXP	60.53	29.17	30.99	48.33	36.96	64.79	20.00	31.25	34.52	54.55	41.11
CDP_PHYSICAL_RISK_EXP	60.53	29.17	30.99	48.33	36.96	64.79	20.00	31.25	34.52	54.55	41.11
CDP_REGULATORY_RISK_EXP	60.53	29.17	30.99	48.33	36.96	64.79	20.00	31.25	34.52	54.55	41.11
TOTAL_GHG_EMISSIONS	73.68	29.17	57.75	65.00	63.04	76.06	60.00	62.50	73.81	52.73	61.37
ENERGY_INTENSITY_PER_SALES	76.32	45.83	67.61	66.67	60.87	85.92	60.00	93.75	76.19	61.82	69.50
WATER_INTENSITY_PER_SALES	81.58	50	71.83	66.67	58.70	90.14	60.00	75.00	84.52	69.09	70.75
PCT_WOMEN_EMPLOYEES	81.58	58.33	77.46	78.33	76.09	80.28	60.00	56.25	85.71	72.73	72.68
WASTE_GENERATED_PER_SALES	89.47	54.17	69.01	71.67	63.04	94.37	80.00	71.88	86.90	63.64	74.42
WASTE_RECYCLED	92.11	58.33	76.06	76.67	65.22	91.55	80.00	62.50	82.14	74.55	75.91
LOST_TIME_INCIDENT_RATE	63.16	62.5	70.42	73.33	73.91	98.59	80.00	71.88	97.62	90.91	78.23
PCT_WOMEN_MGT	84.21	66.67	80.28	76.67	84.78	88.73	80.00	65.63	90.48	81.82	79.93
HAZARDOUS_WASTE	84.21	62.5	78.87	83.33	71.74	94.37	100.00	53.13	97.62	74.55	80.03
ENVIRON_FINES_AMT	86.84	62.5	80.28	75.00	78.26	95.77	80.00	68.75	96.43	81.82	80.57
NOX_EMISSIONS	81.58	50	95.77	93.33	89.13	98.59	80.00	46.88	96.43	87.27	81.90
FATALITIES_TOTAL	71.05	62.5	87.32	78.33	86.96	97.18	100.00	68.75	96.43	90.91	83.94
FATALITIES_EMPLOYEES	68.42	70.83	88.73	80.00	86.96	95.77	80.00	78.13	97.62	98.18	84.46
WASTE_SENT_TO_LANDFILLS	97.37	58.33	81.69	76.67	86.96	98.59	100.00	84.38	90.48	76.36	85.08
NUMBER_SPILLS	68.42	66.67	85.92	85.00	84.78	97.18	100.00	78.13	98.81	89.09	85.40
POLITICAL_DONATIONS	84.21	70.83	88.73	88.33	86.96	92.96	80.00	87.50	91.67	89.09	86.03
PCT_MINORITY_EMPLOYEES	86.84	100	90.14	81.67	86.96	87.32	80.00	62.50	92.86	92.73	86.10
VOC_EMISSIONS	81.58	62.5	94.37	95.00	84.78	100.00	80.00	87.50	97.62	90.91	87.43
EMPLOYEE_TURNOVER_PCT	89.47	79.17	91.55	93.33	89.13	98.59	80.00	84.38	94.05	90.91	89.06
FATALITIES_CONTRACTORS	68.42	79.17	94.37	85.00	89.13	98.59	100.00	81.25	97.62	98.18	89.17
PCT_MINORITY_MGT	89.47	95.83	91.55	86.67	91.30	94.37	80.00	71.88	95.24	98.18	89.45
SO2_EMISSIONS	97.37	83.33	97.18	96.67	95.65	100.00	80.00	50.00	98.81	98.18	89.72
CO2_INTENSITY	92.11	95.83	92.96	93.33	91.30	97.18	60.00	96.88	96.43	94.55	91.06
SUSTAIN_INV_TO_CAPEX	86.84	79.17	94.37	91.67	95.65	98.59	80.00	90.63	98.81	96.36	91.21
EMPLOYEE_TRAINING_COST	94.74	95.83	95.77	95.00	97.83	98.59	60.00	96.88	97.62	90.91	92.32
TRAINING_SPEND_PER_EMPLOYEE	94.74	95.83	95.77	95.00	97.83	98.59	60.00	96.88	97.62	90.91	92.32
REG_ENVIRO~T	84.21	75	94.37	96.67	95.65	100.00	100.00	90.63	97.62	96.36	93.05
PCT_WATER_RECYCLED	84.21	79.17	95.77	95.00	91.30	98.59	100.00	100.00	98.81	90.91	93.38
LOST_TIME_ACCIDENTS	94.74	95.83	92.96	98.33	95.65	100.00	80.00	90.63	98.81	92.73	93.97
LOST_TIME_PER_EMPLOYEE	94.74	95.83	92.96	98.33	95.65	100.00	80.00	90.63	98.81	92.73	93.97
WATER_PER_UNIT_OF_PROD	100.00	87.5	100	83.33	97.83	100.00	100.00	93.75	98.81	98.18	95.94
SUPPLIERS_AUDITED	97.37	100	100	96.67	95.65	98.59	100.00	96.88	100.00	98.18	98.33
ARD_PATENTS_TRADEMRK_COPYRIGHT	100.00	100	100	93.33	97.83	94.37	100.00	100.00	100.00	100	98.55
PCT_RECYCLED_MATERIALS	100.00	91.67	100	96.67	100.00	100.00	100.00	100.00	100.00	98.18	98.65
PERCENT_OF~E	100.00	100	100	96.67	97.83	98.59	100.00	100.00	98.81	100	99.19
SRI_AUM	100.00	100	100	100.00	100.00	100.00	100.00	100.00	95.24	100	99.52
SRI_PCT_TOTAL_AUM	100.00	100	100	100.00	100.00	100.00	100.00	100.00	95.24	100	99.52

Note: Grey rows are significant factors for the full sample, all industries and years combined.

Boxes indicate significant factors in the industry, all year combined.

Step-wise regression in Technology industry for 2012 data, performed on raw data.

Source	SS	df	MS	Number of obs = 80			
Model	2.5737e-08	2	1.2869e-08	F(2, 77) =	0.40		
Residual	2.4702e-06	77	3.2081e-08	Prob > F =	0.6710		
Total	2.4960e-06	79	3.1595e-08	R-squared =	0.0103		
				Adj R-squared =	-0.0154		
				Root MSE =	.00018		

AVG_DOWNSIDE_DEVIATION	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
OVCR_HEALTH_SAFETY_POLICY	.0000292	.0000417	0.70	0.486	-.0000538	.0001121
RESS_ENVIRON_SUPPLY_MGT	.0000166	.0000451	0.37	0.714	-.0000732	.0001064
_cons	.0002159	.0000282	7.66	0.000	.0001598	.0002721

Step-wise regression in Technology industry for 2012 data, with missing values filled in with company's last performance, leads to no significant improvement of model.

Source	SS	df	MS	Number of obs = 81			
Model	1.1637e-08	2	5.8183e-09	F(2, 78) =	0.17		
Residual	2.7077e-06	78	3.4714e-08	Prob > F =	0.8460		
Total	2.7193e-06	80	3.3991e-08	R-squared =	0.0043		
				Adj R-squared =	-0.0213		
				Root MSE =	.00019		

AVG_DOWNSIDE_DEVIATION	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
OVCR_HEALTH_SAFETY_POLICY	.0000199	.0000432	0.46	0.647	-.0000661	.0001059
RESS_ENVIRON_SUPPLY_MGT	.0000105	.0000469	0.22	0.823	-.0000828	.0001038
_cons	.0002279	.000029	7.87	0.000	.0001702	.0002855

Step-wise regression in Technology industry for 2012 data, with missing values filled in with company's last performance and with industry average if not available, leads to no significant improvement of model.

Source	SS	df	MS	Number of obs = 84			
Model	1.1637e-08	2	5.8183e-09	F(2, 81) =	0.17		
Residual	2.7701e-06	81	3.4198e-08	Prob > F =	0.8439		
Total	2.7817e-06	83	3.3515e-08	R-squared =	0.0042		
				Adj R-squared =	-0.0204		
				Root MSE =	.00018		

AVG_DOWNSIDE_DEVIATION	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
OVCR_HEALTH_SAFETY_POLICY	.0000199	.0000429	0.46	0.644	-.0000654	.0001052
RESS_ENVIRON_SUPPLY_MGT	.0000105	.0000465	0.23	0.822	-.000082	.000103
_cons	.0002318	.0000285	8.14	0.000	.0001751	.0002884

Description of Delphi project

The world of reporting indicators is not standardized. This is a problem in the context of the European Commission's 4.7 accounting directive on transparency. For the reporting directive to be effective, companies would need a standardized framework of indicators to report on, and metrics to measure these. It is in this context that Delphi's initiative appeared, encouraged by EABIS's first research on the topic of non-financial metrics. This does not mean that Delphi has an exclusively European focus, as evidenced by its members that represent US institutional investors as well as European ones.

A second context is that of responsible investment's mainstreaming, which has not progressed much since its announcement, but which could make a jump ahead in the aftermath of the 2008 financial crisis, if such a crisis can lead to change. The Delphi participants note this favorable context, along with a move away from "quarterly capitalism" towards a stakeholder perspective. They consider this the time right to provide pointers to investors in terms of good processes and risk management practices, as EFFAS did previously with a first framework, but guard themselves from promising to identify excess return (ESG factors as "alpha generators").

These are the two origins of the project, one stemming from a company focus, following up on the EABIS "Valuing non-financial performance" initiative; the other having an institutional investor perspective, building upon the EFFAS "KPIs for ESG".

In the documents that described Delphi when the project was launched, it is written:

"Project Delphi seeks convergence around the materiality and impact of ESG factors on investment and asset allocation decisions. There has been a great deal of research carried out into the financial impact of ESG factors, which has produced a large number of ESG factors that are deemed to be "material". Project Delphi intends to bring these strands of research together to

produce a short-list of the most important factors which impact investment value and how to measure them.”

Throughout the two years that I followed Delphi’s process, the initiative evolved. Each of its members also came with different perceptions of the group’s goal, which I documented during interviews, using an adapted version of Osterwald’s 2008 business model canvas as a data collection tool. Some of the Delphi participants referred to the Delphi framework metaphorically as a “roadmap”, others as a “list of ingredients”, others still as a “list of recipes”. I summarize the Delphi initiative, in its many dimensions, below and in figure 12.

Delphi’s objective

A key aspect for all members from the start is that the framework must derive from a consensus. This consensus resulting from members’ representations of ESG is what would give the framework its strength and legitimacy. So the main, declared objective is to seek consensus between the Delphi parties on a short-list of the most significant ESG factors per industry, and the appropriate metrics for these factors. Delphi seeks to bring together the strands of research carried out by the various participants and to converge on a framework which all parties agree would be most likely to capture the value residing in ESG factors -- to help them understand ESG.

In addition to this main objective, some parallel objectives are pursued by each member, depending on their affiliation and approach to ESG investing. Some members want to enhance their own understanding of the impact of the most important ESG factors, by learning from the group. Some hope the Delphi framework will provide grounds for the creation of collective investment vehicles and/or the integration into investment decision making that would be approved by many asset owners. This would simplify the current ESG offer where each asset owner requires their own investment vehicle to be constructed based on their own (often unsure)

criteria. Delphi members who regularly meet with companies hope the framework will provide a common ground for discussion with companies around investor benchmarks, for companies to be able to assess the financial impact of their ESG activities. This reporting is the raw material that many of the Delphi participants use in their day-to-day job. Their work is affected by the quality of reporting, and could benefit from reporting on metrics which are agreed to be material. A final objective is to promote a common language for dialogue between companies and investment professionals, recognizing that both parties need information from each other, which makes this experience a case of mainstreaming responsible investing in action.

Delphi's resources

The main resource, according to Delphi's participants, was the intellectual capital brought by the group members. More specifically, it is the knowledge and content that these practitioners brought together that was most valued, in order to conceive the tool from an operational view point. As there were no financial or time resources allocated to the project, it was a constant challenge to gather these people together for discussions.

In addition, as a collaborative initiative, Delphi had to resort to collaborative tools: meetings, conference calls, online chat rooms, etc.

Activities required

The activities performed over time by the Delphi group are characterized by their circularity: this was not a linear process, despite the sequential presentation below. It was in fact a process of constant back and forth between opposite perspectives on each issue.

The variety of tasks Delphi undertook included **structuring** the information, with a structure inspired by existing frameworks, and adapted to the needs of the group. A "metrics team" provided a first framework of "value drivers", "factors" and "metrics" by industry, based on participants' individual expertise, probably with a strong EFFAS influence. The asset

managers work stream then provided a second framework of value drivers and factors, inspired by a McKinsey framework.

Determining parameters that fit in the structure, and giving boundaries by excluding items were additional steps that led to the creation of a framework. In parallel, the group **produced a taxonomy** which facilitated common language, and **defined concepts** that were used to build the framework, such as the concept of ESG, or materiality. These definitions were written down and approved by the group, building up documentation for the project. Once the structure was in place, the group had to **determine the materiality** of each factor, per sector, drilling down into the framework with a top down approach, from the more general factors to the specific metrics. This also required **reducing** the number of factors and **clustering** factors together, parsimony being a key word for the group throughout the process. **Project management** was a key and challenging task throughout the process. Delphi was first organized in three workstreams: the metrics group, the asset managers, and the asset owners, plus a steering committee overseeing the project. After a while, a Technical Group was set up to speed up the process. It was supposed to consist of individual members of the three workstreams having some technical expertise in either standard-setting or ESG valuation. But as a result, only the asset managers were represented in this group.

Finally the group activities required **seeking validation** internally, for example by developing a narrative to justify each metric, or externally by presenting the framework to colleagues and potential partners.

Delphi's beneficiaries

Unlike other multi-stakeholder initiatives, Delphi is an initiative by investors and for investors. The asset owners should theoretically be the first beneficiaries as providers of capital, because they would be able to produce a set of guidelines which would help them structure their

ESG investments, along with the asset managers, who would have a common reference to communicate with clients and companies. A second type of beneficiary is companies, because they could use the framework to justify their ESG activities, and to report on a standardized set of metrics. Furthermore, the ESG industry as a whole can also be considered as a beneficiary of the Delphi project. Indeed, although not explicitly stated by the group, the Delphi framework is a tool that contributes to legitimizing the field of ESG investing.

Delphi's partners

The sponsors of the project are, on the one hand State Street and on the other hand, CSR Europe and EABIS who initiated the “Valuing Non-Financial Performance” project. The latter are Delphi’s loose connection to the European Commission. When thinking about partnership, Delphi wanted to focus on institutions that were interested in a collaborative approach. For example, Delphi did not want organizations that had a vested interest in a particular ESG framework, such as consultants or service providers that had developed their own framework or index, to be part of the initiative.

As mentioned earlier, Delphi is not a multi-stakeholder initiative. Companies are not part of the initiative, but should be partners at a later stage as they were supposed to develop their own framework in parallel. Many members of the financial system are not represented in Delphi, although they may be considered as partners eventually. Data providers for example are not represented, but may come into the picture later on in the process.

External communication by Delphi

While communication with the outside world was not Delphi’s preoccupation in the earlier phases of the project, external communication became a pressing issue in the last months and has not been resolved at the time of this study. A first level of communication is among institutions

represented in the Delphi group, which are referred to as “family”, and to selected beneficiaries, referred to as “friends”, before a broader socialization phase. At this stage, there is a consensus that the project needs a communication strategy, telling each type of investor how the Delphi framework could be useful to them. But there is no consensus beyond that, on what type of communication strategy would be desirable, or who should be in charge of it.

Figure 12: The Delphi initiative, adapted from the business model canvas (Osterwal, 2008)

<p>Activities What are the key activities?</p> <ul style="list-style-type: none"> • Structure information • Determine parameter • Produce taxonomy • Define concepts • Determine materiality • Reduce number of factors • Cluster factors • Project management • Seek validation 	<p>Value proposition What need is the Delphi project answering? What problem are you solving?</p> <p>Seek consensus on a short-list of the most significant ESG factors per industry, and the appropriate metrics for these factors. But also...</p> <p>Enhance own understanding of ESG</p> <p>Grounds for the creation of collective investment vehicles</p>	<p>Partners Who are your partners? What do they bring to you? What type of relationship do you need with them?</p> <ul style="list-style-type: none"> • CSR Europe and EABIS • European Commission • Data providers • ESG consultants
<p>Resources What resources are needed for these activities?</p> <p>Intellectual capital brought by the group members</p> <p>Collaborative tools</p> <p>Lack of financial and time resources.</p>	<p>Common ground for discussion with companies</p> <p>Guidelines for ESG reporting by companies</p> <p>Promote a common language for ESG industry</p>	<p>Beneficiaries Who will benefit from the Delphi project? Who will the output serve? Who are you creating value for?</p> <ol style="list-style-type: none"> 1, asset owners 2, asset managers 3, companies 4, ESG industry
<p>Communication How will you raise awareness among beneficiaries? How will you help them evaluate the value of your output?</p> <p>First round of presentations to « family and friends » Next phase of « broader socialization » still to be determined</p>		

Description of Bloomberg data use to populate Delphi metrics.

Bloomberg Field Mnemonic	Bloomberg Definition
ENVIRON_SUPPLY_MGT	Indicates whether the company has implemented any initiatives to reduce the environmental footprint of its supply chain. Environmental footprint reductions could be achieved by reducing waste, by reducing resource use, by reducing environmental emissions, by insisting on the introduction of environmental management systems etc. in the supply chain. "N" indicates that the company has not explicitly disclosed any such efforts in its most recent Annual or Company Responsibility reports. Field is part of the Environmental, Social and Governance (ESG) group of fields.
EMPLOYEE_TURNOVER_PCT	Number of employees that left the company within the past year expressed as a percentage of the average total number of employees. High employee turnover may indicate that employees are unsatisfied with their work at the company or their compensation, or that conditions at the company are unsafe or unhealthy. Field part of Environmental, Social or Governance (ESG) group of fields.
PCT_WOMEN_MGT	Percentage of women employed in management positions at the company. Field part of Environmental, Social or Governance (ESG) group of fields.
PCT_WOMEN_EMPLOYEES	Number of women employed at the company expressed as a percentage of the total number of company employees. Field is part of the Environmental, Social or Governance (ESG) group of fields. Japan: Data may be provided by CanPan.
PCT_MINORITY_MGT	Number of minorities employed in management positions at the company expressed as a percentage of the total group number of employees in management positions. Minorities should be expressed as such by the company. Field is part of the Environmental, Social and Governance (ESG) group of fields.
PCT_MINORITY_EMPLOYEES	Number of minorities employed at the company expressed as a percentage of the total group number of employees. Minorities should be expressed as such by the company. Field is part of the Environmental, Social and Governance (ESG) group of fields.
#_OF_NON_EXECUTIVE_DIR_ON_BRD	Number of non-executive Directors on the company's board, as reported by the company.
CEO_DUALITY	Indicates whether the company's Chief Executive Officer is also Chairman of the Board, as reported by the company. "N" indicates the two roles are separate. Field is part of the Environmental, Social and Governance (ESG) group of fields.
EMPLOYEE_TRAINING_COST	Amount the company spent on employee training during the reporting period. Field part of Environmental, Social or Governance (ESG) group of fields.
TRAINING_SPEND_PER_EMPLOYEE	Training spending per capita calculated as dollars spent on training per company employee. To compare companies around the world, this ratio should be converted to a common currency. Ratio is calculated based on data items disclosed in company filings. Calculated as: $\frac{\text{Employee Training Cost}}{\text{Number of Employees}}$ Where: Employee Training Cost is ES094, EMPLOYEE_TRAINING_COST Number of Employees is ES043, NUMBER_EMPLOYEES_CSR This field is part of the Environmental, Social or Governance (ESG) group of fields.

SUSTAIN_INV_TO_CAPEX	Amount of money spent by the company on environmental and social projects as a multiple of capital expenditures for the reporting period. Ratio is calculated based on data items disclosed in company filings. Calculated as: Investments in Sustainability / Capital Expenditures Where: Investments in Sustainability is ES056, INVESTMENTS_IN_SUSTAINABILITY Capital Expenditures is CF017, CF_CAP_EXPEND_PRPTY_ADD This field is part of the Environmental, Social and Governance (ESG) group of fields.
POLITICAL_DONATIONS	Amount of corporate donations to political groups, parties, or individuals, in millions. Field part of Environmental, Social or Governance (ESG) group of fields.
CDP_REGULATORY_RISK_EXP	CDP_PHYSICAL_RISK_EXP
NUMBER_SPILLS	Actual number of spills of hazardous materials by the company in the period. Field part of Environmental, Social or Governance (ESG) group of fields.
ENVIRON_FINES_AMT	Total amount of environmental fines paid by the company in the period, in millions. Field part of Environmental, Social or Governance (ESG) group of fields.
LOST_TIME_ACCIDENTS	Total number of hours out of work by employees who suffered accidents. Accident days are converted to hours (A day equals 8 hours). Field part of Environmental, Social or Governance (ESG) group of fields.
FATALITIES_CONTRACTORS	Number of contractors who have died on a company site or on a company facility or as a result of a company's operations. Field part of Environmental, Social or Governance (ESG) group of fields.
HEALTH_SAFETY_POLICY	Indicates whether the company has recognized its health and safety risks and responsibilities and is making any effort to improve the management of employee health and/or employee safety. "N" indicates that the company has not explicitly disclosed any such efforts in its most recent Annual or Company Responsibility reports. Field is part of the Environmental, Social and Governance (ESG) group of fields.
LOST_TIME_INCIDENT_RATE	Total number of incidents resulting in lost time from work, per 200,000 hours worked. Field part of Environmental, Social or Governance (ESG) group of fields.
CDP_PHYSICAL_RISK_EXP	Indicates if the company considers itself exposed to climate change physical risk. The response is directly from the company's response to the Carbon Disclosure Project (CDP) questionnaire.
CDP_OTHER_RISK_EXP	Indicates if the company considers itself exposed to any other risk associated with climate change. The response is directly from the company's response to the Carbon Disclosure Project (CDP) questionnaire.
LOST_TIME_PER_EMPLOYEE	Number of employee hours out of work due to accidents, per thousand employees. Ratio is calculated based on data items disclosed in company filings. Calculated as: Lost Time from Accidents / Number of Employees Where: Lost Time from Accidents is ES051, LOST_TIME_ACCIDENTS Number of Employees is ES043, NUMBER_EMPLOYEES_CSR This field is part of the Environmental, Social and Governance (ESG) group of fields.
CLIMATE_CHG_PRODS	Indicates whether the company has developed and/or launched products during the current period only which address future impacts of climate change and/or which mitigate customers' contributions to climate change by reduced Green House Gas (GHG) emissions. The products may or may not be new to the market. Field part of Environmental, Social or Governance (ESG) group of fields.
FATALITIES_EMPLOYEES	Number of employees who have died on a company site or on a company facility or as a result of a company's operations. Field part of Environmental, Social or Governance (ESG) group of fields.
FATALITIES_TOTAL	Total number of employees and contractors who have died on a company site, at a company facility, or as a result of a company's operations. Field part of Environmental, Social or Governance (ESG) group of fields.

RD_EXPENDITURES_PER_CASH_FLOW	Research and development (R&D) expenses divided by cash flow from operations. Calculated as: $\text{R\&D Expenses} / \text{Cash Flow from Operations}$ Where: R&D Expenditures is IS072, IS_RD_EXPEND Cash from Operations is CF015, CF_CASH_FROM_OPER
CO2_INTENSITY	Tonnes of carbon dioxide emitted by the company per megawatt-hour of energy consumed. Field part of Environmental, Social or Governance (ESG) group of fields.
TOTAL_GHG_EMISSIONS	Total Greenhouse Gas (GHG) Emissions of the company, in thousands of metric tons. Greenhouse Gases are defined as those gases which contribute to the trapping of heat in the Earth's atmosphere and they include Carbon Dioxide (CO2), Methane, and Nitrous Oxide. Total GHG Emissions as defined in this field, equals the total of company Scope 1 and Scope 2 emissions. It does not include Scope 3 emissions. Definition of Scope 3 emissions remains subject to much interpretation and therefore there is significant variability in company reported data - this could cause undue variation in company Total GHG emissions figure. Emissions reported as CO2 only will NOT be captured in this field. Emissions reported as generic GHG emissions or CO2 equivalents (CO2e) will be captured in this field. Field is part of the Environmental, Social and Governance (ESG) group of fields. Japan: Data may be provided by CanPan.
NOX_EMISSIONS	Total amount of nitrogen oxide (NOx) emitted by the company, in thousands of metric tons. Field is part of the Environmental, Social or Governance (ESG) group of fields. Japan: Data may be provided by CanPan.
SO2_EMISSIONS	For index tickers, total amount of NOx emitted by a power plant (in metric tons). Total amount of sulfur dioxide (SO2) emitted by the company, in thousands of metric tons. Field part of Environmental, Social or Governance (ESG) group of fields.
VOC_EMISSIONS	Total amount of volatile organic compounds (VOCs) emitted by the company, in thousands of metric tons. Field part of Environmental, Social or Governance (ESG) group of fields.
PCT_WATER_RECYCLED	Percentage of water usage from recycled sources. Field is part of the Environmental, Social or Governance (ESG) group of fields. Japan: Data may be provided by CanPan.
HAZARDOUS_WASTE	Amount of hazardous waste the company discards, in thousands of metric tons. Field is part of the Environmental, Social or Governance (ESG) group of fields. Japan: Data may be provided by CanPan.
WASTE_RECYCLED	Total amount of waste the company recycles, in thousands of metric tons. Field part of Environmental, Social or Governance (ESG) group of fields.
PCT_RECYCLED_MATERIALS	Percentage of raw materials used from recycled sources. Field part of Environmental, Social or Governance (ESG) group of fields.
WATER_PER_UNIT_OF_PROD	Water consumed by the company per unit of production. The unit of production depends on the company's activity. For oil companies, this field reflects water consumption per barrel of oil, etc. In liters. Field part of Environmental, Social or Governance (ESG) group of fields.
WASTE_SENT_TO_LANDFILLS	Amount of company waste sent to landfills, in thousands of metric tons. This field is part of the Environmental, Social and Governance (ESG) group of fields.
ENERGY_INTENSITY_PER_SALES	Energy intensity calculated as megawatt hours of energy consumed per million of sales revenue in the company's reporting currency. To compare companies around the world, this ratio should be converted to a common currency. Ratio is calculated based on data items disclosed in company filings. Calculated as: $\text{Energy Consumption} / \text{Sales}$ Where: Energy Consumption is ES014, ENERGY_CONSUMPTION Sales is IS010, SALES_REV_TURN Field part of Environmental, Social or Governance (ESG) group of fields.

WATER_INTENSITY_PER_SALES	<p>Water intensity calculated as cubic meters of water consumed per million of sales revenue in the company's reporting currency. To compare companies around the world, this ratio should be converted to a common currency. Ratio is calculated based on data items disclosed in company filings. Calculated as: Water Consumption / Sales Where: Water Consumption is ES016, WATER_CONSUMPTION Sales is IS010, SALES_REV_TURN Field part of Environmental, Social or Governance (ESG) group of fields.</p>
WASTE_GENERATED_PER_SALES	<p>Waste generated per sales calculated as metric tons of waste, both hazardous and non-hazardous, per million of sales revenue in the company's reporting currency. To compare companies around the world, this ratio should be converted to a common currency. Ratio is calculated based on data items disclosed in company filings. Calculated as: Total Waste / Sales Where: Total Waste is ES020, TOTAL_WASTE Sales is IS010, SALES_REV_TURN This field is part of the Environmental, Social and Governance (ESG) group of fields.</p>
INVESTMENTS_IN_SUSTAINABILITY	<p>Amount of money spent by the company, in millions, on environmental and social compliance and other company environmental and social initiatives, as defined by the company. Examples might include the amount invested in environmental remediation, pollution prevention, recycling, employee training, safety initiatives etc. Field is part of the Environmental, Social and Governance (ESG) group of fields.</p>
PERCENT_OF_DISCLOSURE	<p>Percentage of the company's operations that are covered in its disclosures on emissions. A blank in this field indicates 100% of operations are covered. Field part of Environmental, Social or Governance (ESG) group of fields.</p>
ENVIRONMENTAL_ACCTG_COST	<p>Cost of environmental conservation and other environmental initiatives undertaken during the normal course of business as defined by the company. Examples might include the cost of environmental remediation, the cost of pollution prevention, the cost of R&D investment in solutions to environmental challenges/environmental product development, the cost of recycling, the cost of implementing an Environmental Management System etc. Field is part of the Environmental, Social and Governance (ESG) group of fields.</p>
SRI_ASSETS_UNDER_MANAGEMENT	<p>Assets managed by the institution according to Socially Responsible Investing (SRI) standards. Field part of Environmental, Social or Governance (ESG) group of fields.</p>
CDP_REGULATORY_RISK_EXP_DES	<p>Further information explaining why the company does or does not believe to be exposed to climate change regulatory risk. The response is directly from the company's response to the Carbon Disclosure Project (CDP) questionnaire.</p>
CDP_PHYSICAL_RISK_EXP_DES	<p>Further information explaining why the company does or does not believe to be exposed to climate change physical risk. The response is directly from the company's response to the Carbon Disclosure Project (CDP) questionnaire.</p>
CDP_OTHER_RISK_EXP_DES	<p>Further information explaining why the company does or does not believe to be exposed to any other risk associated with climate change. The response is directly from the company's response to the Carbon Disclosure Project (CDP) questionnaire.</p>
EM_ENERGY_REDUCTION_TARGET	<p>Indicates if the company has a specific emissions and or energy reduction target in place. The response is directly from the company's response to the Carbon Disclosure Project (CDP) questionnaire.</p>
EM_ENERGY_REDUCTION_BENCHMARK	<p>Benchmark or key performance indicator that the company uses to assess progress against the emissions/energy reduction goals it has set. The response is directly from the company's response to the Carbon Disclosure Project (CDP) questionnaire.</p>
EM_ENERGY_REDUCTION_COST_SAVINGS	<p>Amount of emissions reductions, energy savings, and associated cost savings that have been achieved to date as a result of the reduction plan. The response is directly from the company's response to the Carbon Disclosure Project (CDP) questionnaire.</p>

SRI_ASSETS_%_TOTAL_AUM

Percentage of firm's assets under management that are invested according to socially responsible (SRI) criteria. Ratio is calculated based on data items disclosed in company filings. Calculated as: $(\text{SRI Assets Under Management} / \text{Total Assets Under Management}) * 100$ Where: SRI Assets Under Management is ES087, SRI_ASSETS_UNDER_MANAGEMENT Total Assets Under Management is BS100, BS_ASSETS_UNDER_MGMT This field is part of the Environmental, Social or Governance (ESG) group of fields.

Part 3

Epilogue

By the end of this research, RI mainstreaming is ongoing, and so is the Delphi project. This epilogue aims to give a glimpse at three further developments in the project.

After two years of deliberation, the time had come for Delphi to communicate its framework to the outside world. While the group was still debating the paradoxes inherent to its framework, it recognized the need to bring the framework out into the “public” -- which can be understood as other institutional investors, but also other people from within the organizations that the Delphi members belong to. This is perceived as a perilous exercise by the group, as it will be a public test of its legitimacy and validity, the outcome of which is unknown. We are typically in a situation of “dispute” as defined by Boltanski & Thévenot (2006), but with an added dimension of power games which exist between competitors as well as between departments in an organization. Starting in September, Delphi held a series of conference calls with “friends” of the project, to present the process and some parts of the framework. As for me, I presented the results of chapter 5 at conferences attended by academics and institutional investors alike. However, the framework itself, which was intended to be open-source, has not been put out in the public yet, creating anticipation as well as a bit of suspicion from potential users. It will be interesting to investigate the way in which the framework is adopted by practitioners once it is made public, and how the adoption of this tool, its evolution and its diffusion contribute to RI mainstreaming.

A second development is that, after having rejected quantitative testing of its framework for a long time, Delphi decided that it was a desirable exercise after all. When the group received chapter 5’s quantitative study testing the framework, its members said they were not surprised. They said that the results were as they expected. In other words, the limited data availability, the

material metrics per sector and the lack of predictive power in the relationship corresponded to the collective beliefs. This development mirrors chapter 2's results regarding the co-existence of logics of justification (referring to Boltanski and Thévenot's principles of justification [1999]) and logics of action (defined as set of shared and regular ways of thinking and acting) which both influence our thoughts and behavior. With the framework, Delphi is re-inventing the objects and units of measurement according to which RI will be justified. With the quantitative testing, Delphi is justifying its tool in a way that is understood and accepted by the actors in the field, and by its members themselves. This illustrates interaction between justifying and practicing which plays a role in legitimizing RI. Further analysis should tell us more about this process.

The third development is that Delphi started discussing possible collaborations with data providers. I attended calls between the Delphi project and Bloomberg during which each party explained their needs and constraints in terms of data. There was an opening towards potential collaborations regarding the selection of metrics, and the hosting of data. Data availability and data ownership are key issues in the financial field, as well as in RI. The major data players are large companies which Delphi, with its voluntary participation and absence of budget, can hardly compare to.

These three developments confirm that the four different studies of this dissertation are intertwined, as the discourse, the tools and the practices all combine to support the aspiration of RI mainstreaming. The pluralistic methodology was needed to fully account for ongoing processes in the empirical context of RI mainstreaming. Furthermore, all three of these developments reintroduce power issues in the story of RI mainstreaming, which were ignored so far because of the "bubble of justice" that was created during the project, through mechanisms such as a Memorandums of Understanding. As a result, these developments are a welcome

opportunity to observe and study new dynamics in the challenges of responsible investment mainstreaming.

6 Conclusion and discussion

6.1 Introduction

This thesis set out to explore the challenges of responsible investment mainstreaming. Analyzing discourse as well as practice, I have identified the beliefs, tensions and paradoxes inherent to this process, as well as the different periods RI went through, the coping mechanisms adopted by individuals and groups to address the tensions in RI, and the role of institutional investors and frameworks to practice RI. Most literature on RI and on the value of sustainability in general, adopts a neoclassical approach, with inconclusive results. By adopting a new theoretical perspective on ESG, including convention theory and paradox theory, this thesis sought to develop a nuanced, critical understanding of RI. Specifically, it sought to answer four questions:

- (1) “What are the collective beliefs for responsible investment and how have they evolved over time?”
- (2) “What are the disputes and resolutions around responsible investment’s mainstreaming?”
- (3) “What tensions are embedded in RI mainstreaming and through which arrangements are they coped with?”, and
- (4) “What are the ESG factors most relevant for a company’s market risk, depending on its sector?”

6.3 Synthesis and findings

The main findings are chapter specific and were summarized within the respective chapters: collective beliefs on responsible investment in chapter 2; disputes and resolutions around responsible investment in chapter 3, a paradox perspective on responsible investment in chapter 4 and what factors matter most for market risk in chapter 5. This section will synthesize the findings to answer the study's four research questions.

In my first study, I focused on the content of collective beliefs through five periods of RI. The data revealed the existence of RI's "civil rights" years (1982-1991), "green niche" years (1992-1997), "professionalization" years (1998-2000), "SRI" years (2001-2004) and "ESG" years (2005-ongoing). This study followed the evolution of multiple collective beliefs over time to identify two distinct categories of collective beliefs – justifying RI and practicing RI—that characterize how mainstream actors collectively make sense of RI. My analysis revealed that the RI collective beliefs currently (1) do not provide a favorable environment for RI mainstreaming and (2) need to be taken into account when discussing the value of sustainability.

In my second study, I contributed to research on processes of legitimacy, using convention theory to understand ESG challenges. I showed that RI focuses on appealing to conventional finance with a market logic, resulting in very few challenges of the legitimacy of the existing institutional order. Indeed, by referring to the dominant worlds of worth, RI validates them and strengthens the existing compromise. This positions RI as the solution offered by financial markets to appease the critique, rather than as a critique of financial markets. However, RI does challenge the market logic from the inside, by questioning the common good within that world. As a result, it "purifies" finance, bringing it back to its foundations. It is in this way that RI might be making a difference and could contribute to society. The data also show the impact

of growing certification requirements which transform ESG investing, the mainstreamed version of RI, moving it away from an ecological product and from ecological discourse. In a few cases, RI seeks a resolution based on competing principles resulting in hybrid constructions of compromises, which could be consolidated by RI models and tools.

My third study used RI as an empirical context and focused on processes to determine why RI is not yet mainstream. In it, I provided evidence of the variety of tensions present in the process of RI mainstreaming: multiple conventions, stability or transformation, judgment or metric, short or long term time horizon. I also provided evidence of the arrangements used to cope with the tensions in practice, both by the individuals and by the Delphi group, namely framing, shifting, transcending and defending the arrangement. I showed that while tensions are inherent in organizational systems, they are constructed as paradoxes by the actors involved with them. A duality of “contradictory, yet interrelated elements” (Smith & Lewis, 2011) is not a paradox if it is not acknowledged and treated as such by those subject to it. The logic in which the tension is approached (either/or, and/or, either/and) determines the nature of the tension.

I completed my investigation with an empirical, data driven and investor-oriented chapter which focused on the link between sustainability and risk, measured by downside deviation. This chapter participates in the dominant academic discussion regarding responsible investment, namely does it add value. I focused on the link between ESG and risk, which is a recent addition to this discussion. I used a new ESG framework built by the investors I observed, to question what can be said about this link. A main finding is the difficult access to ESG data for institutional investors. ESG data is selectively available in a subjective way – which may be similar to the availability of financial data in the past, but does not correspond to data requirements of finance professionals today. The data suggests that ESG metrics matter for

market risk, particularly when measured by semi-deviation, but without any predictive power on the magnitude of future risk's reduction. When it comes to reducing financial risk, ESG exposure metrics (such as the existence of a health and safety policy, the existence of procedures to manage environmental footprint, or the exposure to climate change regulatory risks) matter, and not only ESG performance metrics. The most relevant factors to reduce a company's market volatility vary from one industry to another.

Together, these studies addressed the problems sketched in the introduction around the phenomenon of "RI mainstreaming". Bringing the three conceptual pillars of beliefs, tensions and paradoxes together allows us to reconsider RI mainstreaming and suggest different qualities that could conceptualize this practitioner's aspiration. Mainstreaming is to be understood as shared collective beliefs which enable effective coordination when assessing value. So one quality of mainstreaming is **shared interpretation** by the new actors of RI. Another quality of mainstreaming is **stability**, if, in mainstreaming, disputes are resolved by compromises which are stabilized in tools. Finally, another quality of mainstreaming could be **plasticity**, if the paradoxes are managed in an acceptable way, fluidly enough to adapt and evolve. These are some underlying ideals that investors hope to achieve behind their aspiration of RI mainstreaming. The shared interpretation, existence of tools and fluidity are not fully observed in practice, but are well under way. Interestingly, the last characteristic of plasticity means that solving the challenges of responsible investment is not an absolute condition for its mainstreaming. Indeed, the challenges identified are part of RI's nature.

6.4 Theoretical contribution

The theoretical approaches for the value of sustainability, and in particular for responsible investment, need to be revisited in order to further understand the challenges of

responsible investment's mainstreaming. As a step in that direction, this thesis has contributed to the existing understanding of some concepts investigated by the project.

Throughout the four studies, I contributed to the understanding of **responsible investment mainstreaming**, as a concept. We saw that the number of collective beliefs around RI increased over time, meaning that constituents increasingly share common beliefs around this activity. The results also showed that the debate around RI has shifted from "What is RI" to "How to do RI", highlighting the professionalization of the field. Indeed the questions of definition and justification disappear from the debate. But mainstreaming does not mean reducing ESG to a single number, the way accounting produces a single number with its ratios, and financial valuation produces a single price. And it doesn't require every actor to use the same tools, but tools have to exist and be used by groups of actors who coordinate around them. The new focus on tools and processes is accompanied by an increasing number of forms of value co-existing in RI. A consequence of this multiplicity is that RI is viewed as a fragmented and possibly radically confused concept (Okoye, 2009).

When it comes to RI mainstreaming, there is not much creation of novelty. For example, mainstreaming could still mean ESG comes as an afterthought, once financial analysis has been performed. RI mainstreaming is not a new paradigm for finance, but rather a shifting between different approaches to reconcile opposing objectives. Despite the absence of radical novelty, mainstreaming can have as a consequence bringing finance back to its fundamentals. Building on the findings of chapter 4, we may wonder if perhaps it is the lack of "shifting" -- meaning a constant bringing forth of first one and then the other side of the paradox at the right time and the right place -- which hinders the concept of RI.

In chapters 2, 3 and 5, I contribute to the **concept of value**, by demonstrating in each study that value is constructed, and that discourse plays an important role in how the property of value is designed into tools and processes. I apply the concept of convention to study the value attributed through price by a financial community, to contribute to the debate on how value is constructed. The market price doesn't freely invent itself through disembodied negotiation between offer and demand as conventional economic theory would have us believe it. It is constructed by conventions, meaning there are additional variables for adjustment than just risk and return.

A contribution of chapters 2 to 4 is that they **shift attention back to dynamics** of how multiple forms of value co-exist in the design of tools and processes. Convention theory has put a strong focus on multiple equilibriums, such as arrangements and compromises, whereas my studies indicate a constant, circular process allowing multiple dualities to coexist as valuable. My results add a dynamic perspective to convention theory's framework by highlighting a possible shift back and forth between different equilibrium situations. Mainstreaming frames and reframes the ambiguous and polymorph concept of RI over time to avoid 'conceptual closure', on the one hand, and fragmentation, on the other (Christensen, Morsing, & Thyssen, 2013). This switching of equilibriums is an interesting characteristic of RI, rendering it similar to mainstream finance. Indeed: the financial sphere, much like capitalism, has the quality of adapting constantly to critique, allowing it to survive through the tests it is subject to. The switching of equilibriums observed in the RI mainstreaming process point to a similar capacity to survive legitimacy tests by adapting to address the critiques.

In my third study, I clarified the **resolution of paradoxes**. Most studies from a paradox perspective focus on outcomes. I put forth the view that paradox theory is in fact also a theory

about processes. The focus on typologies of paradoxes done in prior research (Smith & Lewis, 2011) was a necessary first stage, but I suggest that the untapped essence of paradox theory lies in the dynamics of a paradoxical process. This study provided an additional argument to shift away from the debate on the financial contribution of RI, in order to focus on the nature and management of RI's tensions.

Finally, my different findings helped me support the proposition that the **meso-level** is the missing piece of the theoretical puzzle of RI. My research emphasized this meso-level, considering that value is created at the collective level, through coordination processes and collective beliefs.

6.5 Managerial and policy implications

This research has implications for ESG investors and other institutional investors, who will be interested in the slow legitimation and diffusion process of RI. I provide a longitudinal study of RI supported with empirical data, and distinguish five periods in the history of RI. I show how each of the five periods is characterized by its own terminology for RI, particularly the later two in which the terms SRI and ESG were coined. With these results, I provide insight into the direction in which RI is evolving: towards a dominant market logic, with some influence of the industrial logic (labels and certifications are important) and of a civic logic (regulation is an important driver).

Another implication for practitioners concerns how to change RI, how to advance its mainstreaming and legitimize it towards financial markets. Convention theorists put forward a taxonomy of four types of changes in conventions, from one equilibrium to another: general collapse, external invasion, translation and collective agreement (Boyer and Orléan, 1992). The last three are of particular interest for considering the adaptation of conventions that investment

professionals and their agents adhere to, since the industry is by nature conservative and mindful of fiduciary obligations to beneficiaries, making a slow process of change more likely than an abrupt abandonment or collapse of existing practices. The importance of legitimacy within the conventions framework also makes collective agreement, or collaboration, preferable to going alone. Our data show that these processes are taking place in the RI industry, embodied by tools for practicing RI. Accounting standard setters for nonfinancial information can deduct from my results the importance of their efforts to identify material indicators and metrics, to help investors focus on these rather than the plethora of less material or non-material information for ESG investments. Nonetheless, simplifying indicators and reducing their number does not mean that they can be aggregated in a way that is meaningful, let alone reduced to a single number. It may be interesting to ask what the conditions would be to reach one aggregate metric, a holy grail pursued by many practitioners (Young & Roberts, 2015). We observed the limited improvement in the availability of ESG data points over time. Paradoxes and multiple collective beliefs could account for this: leaving issues unclear and open can be helpful when many different interests collide. A hypothetical way out, resulting in an aggregate metric, would be to resolve the paradoxes, to address the issue as a dilemma and chose one “leg” of the paradox. If this is done for core characteristics of RI, we could obtain a single metric but at the cost of losing the essence of RI.

For legislators, the lack of standardized data I highlighted is an issue to take into consideration. There is not much control on data availability for the moment. And it seems too early to impose specific metrics to report on, because these metrics have not been clearly identified yet, and their impact on risk and return has not been convincingly proven yet. In my analysis, I show that RI is a moving target. Which means that metrics and key performance

indicators for RI are also a moving target. In addition, the idea that objective metrics can be selected is utopic, from this thesis' viewpoints. Indeed, RI is constructed and so are its KPIs. The role of legitimate actors who build frameworks is therefore crucial for legislators looking for KPIs. So is the level on which regulation takes place: a higher ESG factor level would be preferable, rather than a granular metric level.

Finally, this research also has implications for each of us as citizens of a financialized society. It can help us clarify our expectations towards RI, by showing that it is investor-centric and not radically different from mainstream finance. However, RI in its current version does challenge financial markets from the inside, by questioning the principles they are based on.

6.6 Further research avenues

The results put forth above lead to new routes of research, beyond the initial research questions, but still aligned with the objective of developing a nuanced, critical understanding of RI. I discuss below three avenues for further exploration that can advance the attainment of this goal.

A first avenue is research on the impact of responsible investment. The definition of responsible investment evolved over time, from a variety of definitions focused on the means, like Kurtz¹⁴ in 2008 - to definitions of RI in terms of its contribution or impact, like Paetzold and Busch¹⁵ in 2014.

This shift towards impact of RI resonates with the recent rise of impact investment, but also with the European Commission's concern for impact assessment of investments, evidencing

¹⁴ "Socially responsible investment is the integration of environmental, social and governance (ESG) issues into mainstream finance." (Kurtz, 2008)

¹⁵ "[RI is] variants of investment approaches that seek to contribute towards sustainable development, ethics and/or financial performance, and that do so through a focus on certain industries (e.g. renewable energy), the exclusion of specific activities (e.g. production of tobacco), or by considering environmental, social, and corporate governance (ESG) criteria." (Paetzold & Busch, 2014)

the financialization of the European Commission's approach. An avenue for further research is to study these impacts of RI using constructivist theoretical frameworks rather than the dominant positivist approach. It requires focusing more on the empirics, understanding the work of actors and how an ESG approach can change financial tools.

A second avenue is research on the value of RI. I showed that even when studying sustainability, a topic linked to ethics and values, it is as if the debates are circumscribed within a single logic, the market one. Yet there is much ambivalence about turning unique qualities such as environmental friendliness, engagement, creativity, singularity, or mobility into one single-minded metric of worth (Foucarde, 2011). Literature is moving from generic themes of return in the equity market to more specific themes such as sustainability in the real estate market or in mergers and acquisitions. One of the limits of these studies is determining what performance is being evaluated. Practitioners and academics alike talk about all sorts of value metrics. The majority of researchers analyze accounting return or equity market performance in terms of return at the firm level, using more rarely risk-adjusted return, or alpha estimates, or return at the portfolio level. Another limit is that they fail to consider important dimensions of value. The world is not limited to one form of value -- financial return -- and one form of metric -- market price -- as standard economic theory would have it (Vatin, 2013). In chapters 4 to 7, I gave evidence of the other important dimensions of value that co-exist. More work needs to be done to theorize how this co-existence occurs. A further question that could be addressed to research this issue is "How do multiple forms of value co-exist in the design of tools and processes?"

A third focus of future research is on the important role of actors. With RI mainstreaming, two worlds are colliding. There may be two different types of asset managers: those who try to keep the opposing dimensions together, maintaining the paradox, and those who

try to keep them separate, resolving the paradox. A limit of this research is that it understudies the role of actors, due to the theoretical frameworks adopted. Indeed, the convention theory framework I adopted does not give explanatory power to the role of actors. To better understand RI mainstreaming, we should adopt a conceptual lens to focus on these different types of asset managers and how they understand financial valuation philosophically differently. In my case study, I was observing a group who wanted to make multiple forms of value co-exist. Focusing on actors also raises the question of who are the new actors who will shape the future of RI valuation. I hint at the role of individuals and interested parties such as asset managers and asset owners in shaping current conventions around the valuation of sustainability. In the history of RI, the arrival of a new dominant group of actors brought about new conventions. Religious actors once set the conventions for RI. And while religious norms are still important today, for example with Islamic finance, religious actors are no longer the dominant group of actors. They were replaced over time by institutional asset owners and asset managers who are now shaping new conventions, embodied by tools for RI. More data and research are needed to determine who are the new actors who will shape the future of RI with new collective beliefs. This focus on future actors naturally also leads to the issue of how we train future market participants, another key area for future research.

6.7 Conclusion

The significance of this thesis resides in the nuanced, critical approach it adopted to contribute to the body of knowledge on responsible investment. I showed how bringing beliefs, tensions and paradoxes into the discussion on the value of sustainability can advance research in that area. Indeed, what we have learned from the challenging process of RI mainstreaming goes beyond what financial return figures could tell us, and not just because of the added focus on

risk. We saw how RI evolved, to become today's ESG investing, illustrating the becoming of things and the dominance of a market logic. We saw how RI is not a radical alternative to conventional finance – it is in fact very similar to the market logic and strengthens its principles by limiting some of its most damaging consequences. We also saw how RI allows the coexistence of multiple forms of value. The lessons learned on how to manage this paradoxical situation are all the more relevant because of the many other paradoxical discourses and practices that characterize business and society.

6.8 References

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