

The role of stock exchanges in shaping more sustainable company and market practices

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Abstract

Recent years have seen the emergence of stock exchange led initiatives which in various ways aim to enhance awareness and performance by listed companies and investors regarding environmental, social and governance (ESG) issues. This thesis explores issues of importance to understand the role of stock exchanges in promoting more sustainable company and market practices. First, the thesis establishes rationales for increased efforts by stock exchanges in this area by investigating the agenda of responsible investment and the debate about market dysfunctions which has intensified after the financial crisis. Second, the role, functions and institutional characteristics of stock exchanges are researched. The insights from these investigations are fed into a new framework designed to assess the *potential* stock exchanges have to contribute to more sustainable company and market practices, as well as *impediments* and *enablers* for this to happen. The findings suggest that stock exchanges have potential to make a positive impact on sustainability related matters, but are likely to face constraints. Realizing this, the thesis concludes that a case can be argued for including to a larger extent sustainability related issues in conventional financial market regulation to ensure long-term financial stability and well-functioning financial markets. However, this raises new questions. Different issues may hamper the effectiveness of such regulation, among others competition between financial centres and jurisdictional limitations of national regulation. This suggests that international standard setting bodies may have an important role to play.

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1. Introduction

1.1 Overview and background

Questions about how financial market activities can influence prospects for sustainable development are receiving increasing attention among academics and practitioners. Much of this debate has taken place within the relatively new agenda of Responsible Investment. Discussions have especially focused on the role of the investor segment, but also other parts of the financial system have come under scrutiny. One of the later additions to the area of interest is the questions about if and how stock exchanges can play a role in promoting more sustainable corporate and market practices within sustainability related issues. The topic has been put on the agenda by the emergence of stock exchange led initiatives which in various ways may be seen to promote greater awareness and performance by listed companies and investors regarding environmental, social and governance issues (ESG-issues). The question has also caught the interest of organizations working in different areas like responsible investment, stock exchange business and economic policy. This has resulted in projects and reports, exploring different aspects of stock exchanges' potential to contribute towards sustainability. The most notable of these projects is the Sustainable Stock Exchanges project, established in collaboration between UN Global Compact, UNEP FI, UNCTAD and PRI (Principles for responsible investment).

The reasons for looking at stock exchanges in a sustainability context may not be self evident. As is the case with many financial sector institutions, the stock exchanges' own direct impact on the environment through emissions and pollution is limited. Nor is it among stock exchanges' employees one would expect to find many complaints about abuse of labour or harmful working conditions. What makes stock exchanges interesting to explore in a sustainability perspective is the role they play in the financial markets. As facilitators of market places for financial instruments like stocks and bonds, the stock exchanges contribute to the *allocation* of capital to corporate activity, and can also *exert influence* on listed companies' behaviour, directly or indirectly. Many of the worlds' largest companies, who are responsible for significant positive and negative impacts on their surroundings, are listed on stock exchanges. It is therefore important to understand stock exchanges' potential to affect the listed companies' operations. And similarly, it is important to explore if stock exchanges can aid the investors, for example by enhancing the level of sustainability related information as input to investment decisions or by facilitating responsible investment strategies.

Sustainability initiatives adopted by stock exchanges differ, both with regards to approach and scope. A 2012 report prepared for the Sustainable Stock Exchanges Initiative (Responsible Research 2012) asserts that though progress has been made by stock exchanges within this area, there are natural limits to what exchanges can do, given their relationship with their regulators. The report goes on saying: "Investors and policy makers now need to understand these limits better so their dialogue with exchanges and regulators will be more targeted and effective."

This thesis attempts to shed light on issues of importance to understand which *potential* stock exchanges have to contribute to more sustainable company and market practices, as well as *impediments* and *enablers* for this to happen. The purpose of this study is to make a contribution to the ongoing debate about stock exchanges' role in a sustainability context. A further development in this area would benefit from better understanding and increased efforts from several groups and stakeholders, and the study is aimed at informing among others investors, stock exchanges, regulators and academics.

The research question is complex in the sense that it rests on several underlying assumptions. First of all, it rests on a premise that risks threatening a sustainable development arising from the corporate sector will not be sufficiently alleviated by ordinary regulatory tools aimed at correcting company behaviour, or, by the mechanisms of the capital markets. A second assumption is that unmitigated sustainability risks will be relevant for the financial markets and its actors. A third assumption is that it indeed falls within the role and powers of stock exchanges to influence company practices and investor behaviour in this field. All these assumptions merit closer attention and will be explored.

Sustainable development is a societal goal in which there is a large public interest. But, as the thesis will show, also financial market participants may have an independent interest in sustainability related issues. The interests of the actors in financial markets may coincide with the societal interest, but not necessarily. One important aspect of this thesis is to attempt to sort out and contrast the interests of the society (the public interest) with those of the actors in the financial markets.

The results of this will help understand both how far one can expect to reach by voluntary measures adopted in “enlightened self-interest”, and where different regulatory measures will be necessary to bring about change. Seen from a regulatory perspective, understanding whose interests one is trying to protect and to further, is important both to assess the type of regulatory tools that should be applied and by which type of regulator.

Research design and main findings

The thesis starts out with two theoretical chapters that explore the relationship between financial markets and sustainable development.

As mentioned, the sustainability related risks relevant in this context mainly arise from the corporate sectors’ activities. Chapter 2 first gives a description of effects stemming from the company sector which can affect a sustainable development. The chapter then proceeds to look at the regulatory context. The traditional first line of defence against adverse societal effects of corporate activity is regulatory measures imposed by governments, like taxes and legal requirements. Expectations towards, and possible impact of, stock exchanges efforts must be seen against this background.

The latter part of Chapter 2 conducts a thorough examination of the concept of *responsible investment*. This agenda has developed rapidly over last decennia, advocating the view that the financial markets, its players and infrastructure have a larger role to play regarding sustainability related matters than has been the

prevailing view. The starting point of this agenda was concerns coming from the investor segment, especially asset owners. It has gradually expanded to encompass also other participants in the financial markets, like managers and service providers. The ambitions articulated within the responsible investment movement will often coincide with societal goals. This is expressed by the principle of integrating *ESG-issues* in financial decision making. *ESG* stands for environmental, social and governance issues, something which in many ways will cover the main strands of the definition of “Sustainable development” (Lewis & Juravle 2010, (which also includes ethics.)) The investigation into the responsible investment agenda will have special emphasis on the motivating rationales. A clear view of the desired outcomes, and in whose interest one acts, is important to assess what kind of means and measures that will be effective to bring about results. This will contribute to the subsequent discussion about the potential stock exchanges may have in this regard.

In the wake of the financial crisis in 2007 – 2009, an already existing debate about possible market dysfunctionalities has intensified. This debate is not confined to the field of Responsible Investment, but includes also a wider audience among i.a. mainstream economists, regulators, market participants and academics. On several points this discussion constitutes a breach with views about the markets’ self correcting abilities commonly held in the years before the financial crisis. Chapter 3 examines this debate, with particular emphasis on issues that can have a bearing on sustainable development. The chapter starts out by giving an account of important functions of the financial system and financial markets. The allocative

function of the financial markets is discussed in particular. Can financial markets be expected to bring about an allocation of capital that is efficient in a societal sense, in this regard understood as being sustainable over time? This leads to an investigation into the public interest in financial markets and the concepts of market efficiency and markets failures. The chapter discusses possible explanatory factors that have been argued to exacerbate sustainability related problems arising from the activity of listed companies, with particular weight on externalities, short-termism and lack of methodology. The findings of Chapter 3 are contrasted with those of Chapter 2. Though not identical, convergence may be observed on certain issues brought forward in this discussion and within the concept of responsible investment.

Chapter 4 is in its entirety devoted to an investigation of stock exchanges. The chapter starts with a theoretical part, describing stock exchanges' role in the financial system. Stock exchanges traditionally play an important part in the financial markets by performing various functions enhancing the market conditions. Exchanges provide the platform for trading, assess companies as part of the listing process, require and disseminate information, monitor trade and provide tools for corporate governance. A well functioning stock exchange is to the benefit of the participants in the financial markets and there is also a considerable public interest tied to stock exchanges' operations. The last twenty some years has seen a profound shift in stock exchanges' business models and operating environments. Coming from a situation where most stock exchanges were mutually owned institutions operating in a monopoly situation many significant exchanges have

now been turned into companies with for profit motive operating in competition with both other exchanges and alternative trading venues. The developments have weakened the public utility aspect that has been associated with stock exchanges.

Chapter 4 proceeds to give an account of the results of an investigation into sustainability related initiatives currently being undertaken by stock exchanges in different parts of the world and into work done by international organizations occupied with these issues. The initiatives seem to naturally divide into three main groups. The prevalent course of action so far seems to be the construction of indices focusing on ESG-issues or other information products in this vein. The establishment of innovative markets or market segments for sustainability related products is another, for instance for carbon derivatives. Thirdly, measures aimed at the listed companies, especially in the form of sustainability related disclosure, are increasingly in focus. Geographical factors seem to have a bearing on some aspects of exchanges' activities in this field. Possible explanatory factors for this are discussed.

The main discussion in Chapter 5 uses the findings from the previous chapters to make assessments about stock exchanges' possible contribution to enhancement of the understanding and management of sustainability related issues in the financial markets. A framework is designed to support the analyses. By using the framework on the three main approaches stock exchanges have adopted, the *potential* for impact of each approach is explored, then moving on to examine *impediments* and *enablers* for each of them. Noting that stock exchanges' actions presumably will be restricted by various factors like competition, organisational issues, lack of demand

from investors, expertise and division of labour with regulators, the latter part of Chapter 5 discusses if there is a case for larger regulatory intervention, either by national or supranational bodies responsible for financial market regulation.

Chapter 6 concludes. The main findings of the study suggest that there is a need in the financial markets to better understand and manage sustainability related issues, seen both from an investor point of view and from a public interest point of view. There seems to be a potential for stock exchanges to make a contribution in this respect, but they will face constraints of various kinds. This opens up to new questions about how to address sustainability related issues in a financial market context. This is a wide question requiring comprehensive research. The scope of the thesis does not allow for further discussion into this field. It seems fair to assume that the answers can be found both within a reconceptualisation of investors' role and influence in the financial markets as well as in the regulatory territory.

Methodology and approach

The two theoretical chapters intended to inform questions about the relationship between financial markets and sustainability related issues was researched by consulting literature on responsible investment and literature on the functions and failures of financial markets in a wider sense. The general description of stock exchanges was researched by examining literature on stock exchanges' roles, functions and institutional characteristics. The research into stock exchanges'

sustainability practices was conducted by a review of publicly available information in different sources like web pages of stock exchanges, reports issued by organisations and others having this as an area of interest and press coverage of the latest developments.

The final analysis was performed through the construction of a new framework, designed to bring together the relevant insights derived from the theoretical chapters and the empirical findings.

Many of the discussion points in the thesis benefit from being looked at from a regulatory perspective. To inform the analysis, a legal approach has been used to describe the regulatory context of the research issue. This is important as a background to identify both possible regulatory deficiencies and assess what would be adequate remedies. In Chapter 2, a legal method has been employed to describe the regulatory environments for company activity, in Chapter 4 to describe the regulatory role of stock exchanges and again in Chapter 5 when using the framework to make assessments on how stock exchanges can use their own regulatory power to bring about change, or, alternatively, be enrolled in other regulatory regimes to achieve certain outcomes. In Chapter 3, knowledge of financial market regulation is used to describe the rationales, goals and typical techniques of this regulatory area, in particular as a means to correct market failure. This can bring insight to ways to tackle sustainability related issues which may cause the markets to function in a suboptimal way. At the same time, it can reveal areas where change would be difficult to achieve within a short time horizon, for instance because the regulatory objectives do not lie within the traditional scope of

financial market regulation or where boundaries for national jurisdiction may lead to regulatory arbitrage.

1.2 Literature review

The topic for this thesis finds itself in a crossroad between different disciplines and therefore several sets of literature have been relevant to examine. The point of departure of the thesis is the development of the relatively new field of responsible investment. This field has a growing body of literature, which is reviewed in Chapter 2. A large part of what has been written in this field can be described as practitioners' literature, but there is also a substantial contribution within academic literature. A more recent addition to this literature is reports from organisations which roles are tied to the functions of the economy or financial markets, for instance UNEP FI, PRI, OECD and WEF. The field has a strong link to the literature on Corporate Governance, and literature on CSR can also shed light on the subject.

The concept of responsible investment is relatively new, something which is reflected in the wide array of approaches to the theme in the literature. It spans from moral and philosophical questions, via legal questions, for instance about fiduciary duty to institutional and organisational issues, to a financial approach and raises questions about political economy, tools and environmental and social impact.

The second main set of literature that has been researched focuses on market functions and dysfunctionalities in various forms. This is examined in Chapter 3. The research question, whether stock exchanges could and should play a greater role to promote sustainable company and market practices rests on an underlying assumption that financial markets as they function per today will not contribute substantially to a sustainable outcome. Literature on important functions of financial markets and how different factors can impede the efficiency of financial markets provide an important background for the issue at hand. Merton and Bodie (2005) and Mishkin (2012) describe the functions of the market. The literature on the Efficient Market Hypothesis is contrasted with that of its critics. The literature on market failures helps understand the limitations of the markets in providing an efficient resource allocation in a societal sense. The large body of literature emerging after the financial crisis offers explanations for the failures that led up to the crises. This literature which deals with the deficiencies that led to the financial crises could also shed light on inefficiencies in matters of relevance to sustainable development. This could help understand if and how these matters could be related.

A third set of literature that has been examined relates to the functions, institutional aspects and practices of stock exchanges. This is covered in Chapter 4.

2. A conceptual point of departure – the discourse of responsible investment

2.1 Overview

Economic factors play a pivotal role as impediments or enablers for a sustainable development. In the Brundtland Commissions'¹ report (1987), the role of international economy was discussed in length asserting the importance of issues like flows of finance, levels of debt, commodity prices and the role of multinational companies for a sustainable development. Different economic disciplines and several international organisations are occupied with these issues.

The economic aspects particularly important for the topic for this thesis - the relationship between sustainable development and the activity that takes place in the financial markets - have been much discussed within the discourse of *responsible investment (RI)*. Responsible investment is a term commonly used to describe investor strategies for integrating environmental, social and governance issues (ESG issues) into analysis and decision making processes. This chapter examines the agenda of responsible investment with the purpose of identifying possible actions that can be taken by stock exchanges to contribute towards realizing the objectives of responsible investors.

The RI-agenda stems from the role investors have as assets owners and shareholders² in companies. The focus is therefore to a large extent related to the

¹ World Commission on Environment and Development

² And owners of company debt.

conduct and behaviour of companies, with special emphasis on issues of either environmental or social character. It is therefore useful to start this chapter by giving a brief description of types of company induced ESG risks and of different regulatory and other measures designed to shape company behaviour and control such risks. In spite of direct regulation of company behaviour, there are many occurrences and reports about questionable company practices within environmental and social area. The movement of responsible investment can be seen as a response from the investor segment on how to respond to such challenges.

The field of responsible investment is relatively new, both seen from a practitioners and an academic point of view. There is still much ambiguity with regards to definitions, objectives and what constitutes good practices (Sandberg et al 2009). As will be explained below, responsible investment is often used interchangeably with other terms like socially responsible investment, sustainable investment or ethical investment.

This chapter looks at the historical origins and developments and examines the terminology, underlying rationales and aims of responsible investors and the tools which are commonly employed in this context. At the end of the chapter some conclusions are drawn about possible actions on the part of stock exchanges to help responsible investors realize their strategies.

2.2 Company induced risks and their relevance for the financial markets

On national and global levels, company activity has a large impact on the surrounding environment, both in an environmental and social sense. The impacts are both positive and negative – the positive effects coming from creation of jobs, increase in wealth and living standards and revenue for the states. Adverse side effects on environment and people arise in different ways and stems among other from pollution, emission of climate gasses, exploitation of natural resources and use of land, and through social policies towards employees and other stakeholder groups that are affected by business operations.

Company activity creates both short-term and long-term risks and opportunities linked to environmental and social matters. The specific types of environmental and social issues that are relevant will vary greatly among companies, and depend on factors like line of business, operating environment and geographical place. Depending on which product range and customer base the company in question has, environmental and social issues may pose risks to both tangible assets (i.a. environmental liabilities) and intangible assets (i.a. reputational risk) of the company (Clark and Salo 2008). It is for instance reason to believe that use of child labour or forced labour will have worse impact on the brand value of a company manufacturing retail fashion articles, than if the same was the case for a company not related to consumer sales (Norwegian Ministry of Finance 2009).

Harmful effects of company behaviour are often described in terms of *externalities*. Externalities are effects (benefits or costs) from a decision or action which affect

other parties without this being reflected in the market price. As such, they are spill over effects which the decision maker has no incentive to take into consideration. Externalities can be positive or negative. A typical example of a negative externality is pollution where the polluter does not have to pay the cleanup cost – the detrimental effects (and possibly costs) are borne by others than the polluter. Externalities can lead to *market failure* something which according to standard economic theory can be corrected by government intervention.³

Some environmental and social concerns are only relevant on an individual basis for a specific company who manages its operations in an unsatisfactory way. Other issues may be linked to a whole sector, segment or geographical region, for example harmful use of child labour in the manufacturing of certain goods or overly polluting methods for depositing tailings from extractive industries in some regions (riverine deposits). But risks may also arise in cases where the companies in question are little to blame in terms of conduct or production methods. This can happen where it is the sum of all the companies' actions that on accumulated basis poses a threat to environmental or societal goods, even if the companies on an individual basis operate within the rules and expectations that are relevant for their line of business. Examples of this may be company activity aimed at increasing agricultural productivity which at the same time leads to loss of biodiversity, legal use of chemical components that on an accumulated basis leads to unintended harmful effects on people or environment or climate gas emissions.

³ Also other measures can be used to correct market failure, among others by contracting.

The environmental and social risks and opportunities encountered by the business sector become relevant to the financial markets through ownership in the companies. The investors, for instance financial institutions and institutional investors will usually produce little of these effects directly but get exposed to them through their investments and holdings in companies. Thus, environmental and social concerns will for the participants in the financial markets largely be derived from companies' behaviour and can, through ownership, be translated into financial and, in some cases, reputation risk.⁴

Seen from an investor point of view, company induced risks can be divided in systematic and idiosyncratic ("non-systematic") risks. Idiosyncratic risk will typically relate to individual companies and are, in principle, possible to manage by diversification. A recent example of this kind of risk is the BP oil spill in 2010 (Thamotheram and Le Floch 2012). Systematic risk is risk which cannot be eliminated by diversification, because the risk is relevant for the investee companies on a general basis (though it can be in varying degree). Climate change has been mentioned as an example of systematic risks (Mercer 2011).

⁴ See Clark, Dixon and Monk (eds) (2009) *Managing Financial Risks* for descriptions of different kinds of risks relevant to the financial markets.

2.3 Regulatory context

The concept of responsible investment does not exist in a regulatory vacuum. Seen from a legal point of view, the concept of responsible investment is found in a crossroad of different regulatory disciplines and realms. Relevant areas are in particular the regulation applying to the investors themselves, the general regulation of the financial markets and the regulation governing different aspects of company activity. The legal environment varies between different jurisdictions both when it comes to contents and design. Among others will there be differences between civil law countries and common law countries when it comes to the legal approach. It is none the less possible to give some general indications typical of the regulatory landscape.

Investor is an ambiguous term, as it may cover both the asset manager level and the principals or asset owners, like pension funds or insurance companies (Clark 2010). Both categories are as a rule governed by specific legislation giving provisions on among others their organisation and set up, business conduct, rules aimed to control and communicate risk, restrictions on their possibility to do other kinds of business and rules on reporting. Depending on the type of investor in question, such regulation may be found in laws on pension schemes (for example the UK Pension Act or ERISA in the US), laws on insurance companies or laws regulating fund managers.

An important part of the legal surroundings of investors is *fiduciary duty*. Fiduciary duty is a common law concept, imposing the duty of loyalty and care on subjects

that act on others' behalf. Civil law countries may have similar provisions enshrined in formal law. In the RI-context, much attention has been given to explore and discuss the reach of fiduciary duty because of claims that it may actually restrict to what extent ESG issues can be taken into consideration in investment processes.

Sovereign debt funds will usually not be subject to the ordinary legislation on investors as they often are set up and governed by special legislation adopted for the purpose. The level of detail in such legislation varies.

Companies are subject to different kinds of regulation that guide and restrict their behaviour. The core legislation is company legislation, combined with rules on accounting and auditing. Rules on corporate governance and company reporting follow from these areas of law. Relevant for the subject at hand is legislation on social and environmental matters. Across the world, states will invariably have put in place environmental and labour legislation and also other legal measures to alleviate detrimental effects of company activities, for example tort law. This is not always sufficient to bring about responsible company practice and reduce the risks that accompany their operations. This can have different reasons, for instance weak regulation, lack in enforcement, operations in conflict zones, corruption or emergence of new types of risk which have not yet been recognised and acted upon. Also, the business sectors' strong bargaining power towards certain states can lead to granting of operating conditions that are unfair for the host country (Brundtland Commission 1987). The view that companies need to take on a larger responsibility than what follows from their statutory obligations is reflected in the

concept of Corporate Social Responsibility (CSR). There are also different sets of multinational non-binding guidelines that give guidance for companies' practices and operations. Important here is the OECD Guidelines for Multinational Companies and UN Global Compact's Principles in the areas of human rights, labour, the environment and anti-corruption.

Financial market regulation is an extensive area of law governing many different aspects of the activities taking place in financial markets. In this context it is important because the regulation of stock markets, listed companies and trade in listed assets belong in this legal area. Among others, listed companies are usually subject to an extra layer of disclosure and reporting rules, designated to ensure that any information that is material for the investors' assessment of the company value is given to the market immediately on a non discriminatory basis. Also, listing rules determines which companies are eligible for listing on a stock exchange. Often, additional rules on corporate governance will apply to listed companies.

The subjects of financial market regulation are the entities acting in the financial markets. It is however important to understand that the overarching objective of most financial market regulation is to ensure the *public interest* in well functioning and stable financial markets. For example, when financial market regulation offers investor protection, it is not only to the benefit of the investors as such, but also in order to instil trust and confidence in the market place so investors will want to channel their surplus funds through the markets. The large amount of financial market regulation underlines the societal interest in well functioning financial markets.

Innovative regulatory measures relevant to RI

In the UK, pension funds must disclose to what extent they use ESG criteria in their investment strategies. This requirement, adopted in 1999, has been a driver for adopting such strategies (Clark and Hebb 2004).

The British Financial Reporting Committee published the Stewardship Code in 2010. The code aims to enhance the quality of engagement between institutional investors and companies to help improve long-term returns to shareholders and the efficient exercise of governance responsibilities by setting out good practice on engagement with investee companies to which the FRC believes institutional investors should aspire (Financial Reporting Council 2010a).

Corporate Governance codes have emerged in several jurisdictions. An example is the UK Corporate Governance Code (Financial Reporting Council 2010b). Listed companies in Britain need to report on annual basis on how they have applied the code. EU has put forward a green paper on different issues within corporate governance (European Commission 2011). Depending on the outcome of the process, this can be seen as an example of how voluntary measures evolve into soft law and then gradually start to move into ordinary regulatory measures.

2.4 The investor response – shareholder activism and the rise of responsible investment

2.4.1 Historic development and terminology

Companies' environmental and social performance has been an area of interest and concern for investors. The investors play a particularly important role with respect to the environmental and social concerns relating to financial markets. Through their investment decisions they direct flows of capital towards companies and projects and thereby take part in allocating resources to business projects which can be more or less desirable seen from a sustainability point of view. The investors also carry the ultimate risks arising in this respect and gets returns from the opportunities. From this it follows that investors should have strong incentives to understand and manage sustainability related risks and opportunities equally well as other risks and opportunities. How the investor level has responded to such challenges and concerns will be described in the following section.

The origin and historical context of responsible investment has been described by a number of writers. Many count religious groups' stand against investing their money in slave trade in the 16th century as a starting point (Sparkes and Cowton 2004, Gifford 2009). Over the years, ethical standpoints continued to influence certain groups of investors, making them avoid investments in industries like tobacco, weaponry, pornography and alcohol. In the 1970s, in a movement against the Apartheid politics in South Africa, many ethically and socially aware investors pulled back their investments from companies with activities in South Africa. The

most commonly used measures in this phase were negative screening and exclusion to avoid investments in companies associated with the businesses which the investor deemed to be unethical. Positive screening was used to tailor portfolios of companies with products or conduct which was found acceptable. This resulted in new products like *ethical indices* and *ethical funds*.

The notion of *Socially Responsible Investment* (SRI) came gradually into use. At this point, the agenda was still for a great part aimed at incorporating different value based considerations in investment practices, but more emphasis was put on the possibilities for influencing company behaviour in a positive direction. Engagement with companies became one of the preferred tools. During the 1990s, *Responsible Investment* (RI) became a more commonly used term, bringing more facets into practices and policies of investors who labelled themselves as responsible. Though investors had (and still have) different rationale for declaring themselves as *responsible investors*, the trend was a shift from a purely ethically or value based agenda towards a stated belief that being a responsible investor could contribute to better risk-adjusted returns for the investors themselves. Engagement with companies, and for some investors also screening and divestment, continued to be the most commonly used tools but the range of measures were gradually developed and more advanced.

As pointed out by Gifford (2009), the rise of responsible investment is paralleled by the movement of *active ownership* which had as its starting point the shift in patterns of ownership in companies from early 20th century and onwards. From being predominantly owned by wealthy individuals, ownership in companies was

diffused by increasing degrees of diversification and dispersion, leaving more power and influence to the managers of the company (Clark and Hebb 2004). This development increased the risk of agency problems (Berle and Means 1932). As a reaction to this, and also to flawed corporate governance practices, shareholders began a movement to reassert their influence in the companies, developing collaborative organisations and increasing the level of shareholder dialogue and engagement (Fox 2009, Monks and Sykes 2006). Today, the notion of good corporate governance is inextricably intertwined with responsible investment. Good governance practices within companies and a regulatory environment which supports the investors' position is necessary for the investors to be able to exercise their role as owners, both in general and in the context of responsible investment.

The agenda of Corporate Social Responsibility (CSR) should also be mentioned in context with responsible investment. The definitions of CSR vary (R.P. Hill et al. 2007) but at its core is the focus on improving company behaviour and make companies take on a larger responsibility for meeting societal goals. The voluntary aspect has been emphasised by some. Heal (2004) has another take on it, defining CSR as taking action which reduce the extent of externalised costs or avoid distributional conflicts. There are similarities between the CSR and the RI agenda, but also differences. For instance, the investors will not lose the aim of financial return from sight, while the interest of many stakeholders in the CSR landscape, often represented by NGOs and other activist groups will often be narrowly defined to specific areas of concern. Sparkes and Cowton (2004) points out that even if single issue advocacy campaigns at first sight may seem similar to SRI investors'

work towards a company, their aims and objectives are in principle quite different. Because investors want a financial return for their investments, and their objective is to improve company behaviour. Campaigning NGOs on the other hand have no interest in financial returns and will not have any scruples of causing a company financial harm or even seek to close down a particular company. As noted by Sparkes and Cowton (2004), it is probably more appropriate to draw the parallel between investors' SRI activism and shareholder activism as a tool for overtly increasing shareholder value. On the other hand, stakeholders and the general public may have expectations towards the aims and goals of RI which do not take the financial aspect into account.

The creation of the PRI, an offspring of the UNEP FI and UN Global Compact, in 2005, has had a profound impact of the development of the concept of responsible investment. PRI established 6 aspirational principles⁵ as guidelines for the signatories and is gaining ground by rapidly attracting a growing number of signatories. By 2012, there are over 100 investment institutions that are signatories to the PRI, representing approximately 30 trillion USD under management. The principles are broad enough to attract signatories with different rationale, both fitting with a value based or SRI agenda, and with those who profess to a mainstream approach.

PRI has built on a new terminology as a staple for its ideas; the notion of *ESG-issues*. ESG stands for Environmental, Social and Governance. The inclusion of governance issues points to the influence of the movement of active ownership

⁵ <http://www.unpri.org/principles/>

described above. The first three of the six PRI principles all relate to the acceptance of ESG-issues as relevant for the signatory parties, namely by taking on a pledge to incorporate ESG-issues into investment analysis and decision-making processes, by being active owners and incorporate ESG issues into ownership policies and practices and further, to seek appropriate disclosure on ESG issues by the entities in which they are invested. Adherence to the principles is thus more process oriented than outcomes oriented.

ESG-issues are not defined in more detail by PRI. It is a qualitative term, which encompasses a range of different issues that can be tied to a company's performance within environmental, social and governance issues. The need for PRI signatories to explicitly declare themselves willing to take such issues into consideration points to an assumption that ESG factors otherwise might not come into consideration in the decision making processes. ESG factors are often referred to as *extra financial* or *non financial factors*. Lewis and Juravle (2010) introduce the term traditional and non-traditional factors.

Reasons that can explain why ESG factors will not necessarily be taken into account in financial decision making could be that they are not seen to be financially relevant by the decision makers. Suggested reasons include lack of relevant and comparable disclosure on ESG issues (Responsible Research 2010, IIRC 2011), insufficient measurement and valuation methods that both are too narrow in scope and too short in time horizon (Della Croce et al 2011, WEF 2011b), agency problems with managers due to several factors like design of remuneration systems and investments mandates and lack of oversight (WEF

2010a). Others possible explanations comprise that ESG related costs will be externalized and cultural explanations (Richardson 2010, Sullivan and Mackenzie 2006). Also, possible effects on intangible values can be harder to predict (Juravle and Lewis 2008).

In recent time, the term *sustainable investment* has come in to use (Robins 2006, Woods and Urwin 2010, Sandberg et al 2008). The Brundtland Commission (1987) introduced the term “Sustainable development” to describe a situation where the needs of the present is met without compromising the ability of future generations to meet their own needs. The notion of sustainability has both an environmental and a social dimension, incorporating notions of equity. It relates to the use and distribution of resources and includes a temporal element as it takes into account the well being also of generations to come. Thematically, the concept of sustainable investment is seen to encompass basically the same issues as the responsible investment terminology. Lewis and Juravle (2010) use the words social, environmental and ethical, while Urwin (2011) refers to ESG issues in this context. Discussing the ethical challenges of SRI, Richardson (2010) uses the characterisation achieving “sustainability”. Some proponents of the concept of sustainable investment emphasise the dimension of long-term and intergenerational equity as an extra layer which is embedded in this term: “In our view, a sustainable investing approach requires RI’s ESG inclusiveness and active ownership, but also emphasises the importance of longterm, intergenerational awareness” (Woods and Urwin 2010).

Some highlight that the term sustainable investment is more distinguishable from the connotation of ethical investment, something which they see as desirable in relation to ongoing discussions about the role of fiduciary duty of investment organisations (see Section 2.3 above). In a 2011 report by World Economic Forum on how to accelerate sustainable investing (WEF 2011b), the term “sustainable investing” is being used, explained as being essentially the same concept as “responsible investing” as used in PRI principles. However, the WEF-report states that the term sustainable investing was chosen for the report “because it seemed to resonate better within the mainstream investment community”. Like Woods and Urwin (2010), the WEF report also points to the absence of association from the concept of ethical investment.

Even though it is difficult to find an unambiguous terminology in this field, Sandberg et al (2008) argues that there is, at least on a general level, a good deal of agreement when it comes to *the definitions* of the terms ethically or social responsible investment as it is often defined as *integration of certain non-financial concerns*. It is noted however that this can be attributed to the fact that signatories may be trying to be in line with the definition provided by PRI.

For the sake of this thesis it is not important to make any sharp distinction between the terms of responsible and sustainable investing, as for many practical purposes they will cover the same aspects.

2.4.2 Rationale, aims and tools

Rationale. The ambiguity in the terminology and definition of responsible investment is reflected in differences in *rationales* that can be found among proponents of RI. Understanding the underlying rationales in the RI-movement is important because they are significant determinants both when it comes to the goals and aims for RI policies and also for the choice of tools to achieve the objectives.

Several writers have described the various rationales that exist within the RI movement. Gifford (2009) points out that SRI has a number of objectives and he lists the following: to provide vehicles for people to invest in a way that is consistent with their values, to make a difference (deliver social and environmental returns) and to make a profit (deliver financial returns).

A recurring discussion in the debate of responsible investment revolves around the weighting of financial returns. (Robins 2006, Sandberg et al 2008). This is often phrased as a question of *materiality* and has its counterparty in the expression *business case* RI. By materiality is meant the potential of environmental and social issues to affect the investors' portfolios financially. Some criticize that investors only target ESG issues to the extent that they are financially material, something that among others can be grounded on a conventional interpretation of the concept of fiduciary duty (Richardson 2010). Richardson, who emphasizes the ethical dimension of RI, holds that business case SRI is problematic. He points out that externalities are not captured with relevance to investment decisions because of

market failures, and even if they were found to be relevant, there are problems with quantifying such concerns and they may be ignored because of the long term verification horizon. On the other hand, business case SRI has attracted support from mainstream investors because of being more compatible with their business models, investment beliefs and interpretation of fiduciary duty.

When examining explanations for the heterogeneity of SRI, Sandberg et al (2008) points to differences in cultural and ideological differences between different regions and countries, differences in values, norms and ideology between SRI stakeholders and differences in market settings in which the SRI actors operate. Differences in rationales can also be explained by historical factors as the emergence of RI has its roots in separate movements with different aims. Some see to the existence of two separate paradigms “shareholder view” and “stakeholder view” as an explanatory factor (Gifford 2009). The shareholder view is seen to justify considerations of issues that are financially material to the portfolio. The stakeholder view contends that social and environmental issues should be considered because the views of groups and individuals that are affected by the investor organisations’ objective are relevant.

A view brought forward more recently, among others by initiatives like Enhanced Analytics Initiative, is building on the concept that the mainstream investment profession is not looking carefully enough at ESG-issues as long-term drivers of the value of companies and sectors. This view is supportive of the idea of *mainstreaming* responsible investment. By this is meant to bring integration of ESG-issues into the policies and practices also of investors that have not

specifically professed to be responsible investors like for instance ethical funds. Sparkes and Cowton (2004) mention the entry of institutional investors on the arena of responsible investment as a turning point for mainstreaming. The idea of mainstreaming makes sense. If RI-practices are embedded in the day to day “business as usual” workings of a majority of investors it will be far more effective than practices upheld only by investors with a specific RI-interest.

The PRI brings forward a similar view, resting on the notion that ESG issues can affect the performance of investment portfolios. This is stated in the preamble of the PRI’s six principles, together with a statement that links institutional investors’ fiduciary duty to that of the best *long-term interests* of their beneficiaries. The preamble also makes reference to the *broader objectives of society*, and holds that applying the PRI principles may align investors better with these objectives.

An interesting rationale brought forward in the context of responsible investment follows from the *Universal Owner Hypothesis*. The Universal Owner Hypothesis was first brought forward by Robert A. Monks and Neil Minnow in the 1990s, and then further developed by professors Hawley and Williams (2000). The hypothesis states that universal owners, understood as large and widely diversified investors with a long term horizon are exposed to the economy as a whole. Thus, the overall market return and market volatility is of more importance to a universal owner than the value of single securities or segments. Because of their reliance on overall market returns, it will be in the interest of universal owners if negative externalities are reduced and positive externalities are increased. (Thamotheram and Wildsmith 2007). In this respect, the Universal Owners can be seen to have a converging

interest with the society at large which is stronger than that of the average investor. As pointed out by Urwin (2011), this suggests that Universal Owners will support the goals of sustainable growth and well-functioning financial markets. Even though many large institutional investors fit the description of universal owners there is a limited number that have declared them to this position. Direct reference may be found in communications and policy documents from for instance the Norwegian Government Pension Fund⁶, CalPERS, CPP Investment Board and PGGM. It has been suggested that the limited progress of the concept of universal ownership can be explained by focus on short-term targets reflecting endemic short-term pressure and that the philosophy has been considered too academic and impractical, and the financial case hard to express and validate (Urwin 2011).

The term *ESG beta* can be used to describe investors' exposure to environmental and social factors on market level. See for instance interview with Roger Urwin in the Guardian 15 October 2010. Such a view suggests that it will make sense financially to try to increase factors that have positive influence on a market wide level, and as such can raise the performance level without anyone being worse off (not a null-sum game in other words). The same aspect is emphasised by Thamotheram and Le Floch (2012), who also raise the point that relative performance measures for investment managers make these aspects of little interest to them (see discussion below in 3.4.3.)

Another interesting view which can support adoption of responsible investment practices emphasises the need for markets to maintain trust and legitimacy in the

⁶ See also discussion in Syse and Gjessing (2007)

society. Gifford (2009) refers to the following point made by Waygood (2004): “...because companies benefit from the existence of the capital markets, and those markets depend on society’s trust, then companies need to be made to act in a responsible manner in order to maintain the legitimacy of the system as a whole.” The point is made by Waygood in a discussion about the justifications of NGO intervention in capital markets, but Gifford finds it equally applicable to investor intervention to maintain the legitimacy of the system. In a similar vein is the mandate for the management of the Norwegian Government Pension Fund Global which in *Chapter 2. Responsible Investment* section 2-1 states: “(...) A good return in the long term is regarded as being dependent upon sustainable development in economic, environmental and social terms, as well as well-functioning, legitimate and effective markets.” Here one can clearly see the connection that has been made, not only between ESG-issues and good, long-term returns, but also with the well-functioning and legitimacy of the markets. A different view on legitimacy is brought forward by Haigh and Hazelton (2004) who argue that the SRI movement is motivated by legitimising the activities taking place in financial market so as to avoid further regulation and government regulation.

This review shows that the rationales that can be found within the concept of responsible investment vary significantly. Woods and Urwin (2010) makes the following observation: “...business case RI and ethics-based ethical investing cannot be said to have derived from the same exemplar: the two appear to have contradictory cores, with the former having at its heart improved financial return for beneficiaries through the exploitation of ESG-related market inefficiencies, and

the latter focusing on the promotion of ethically sound company behaviour through techniques such as negative screening and engaged ownership.” Woods and Urwing draw from this: “ ...different species of SRI (for example, RI and ethical investing) would perhaps be more successfully advanced once distinguished from one another, so that their separate goals may be pursued with greater transparency and clarity of aim.”

A long-term view as a common factor. In spite of the differences, an emphasis on a long-term time horizon seems to be a common denominator which can be identified throughout the ideas and rationales that underpin the RI-movement (with a possible exemption of the purely ethically grounded investment strategies). As seen above, long-term time horizon is a part of the definition of universal owners and is even more emphasized in the notion of sustainable investment as brought forward by Woods and Urwin. Thamotheram (2006) advocates the idea of optimising long-term value rather than maximising short term returns. In a recent study of the role of human agency in the institutionalisation of sustainable investment, Lewis and Juravle (2010) finds that one of the three main discourses among the participants relates to the benefits of sustainable investment to overcome short-termism in the financial markets. Financial markets related initiatives like Enhanced Analytics and the Marathon club have been formed, embedding long-termism as part of their agenda.

A long-term view also forms part of the agenda of PRI. The concept of ESG-issues itself does not contain any references to time horizon. Both short-term and long-term issues are in principle relevant. However, references to a long-term view are included in the introductory part of the PRI Principles:⁷ “As institutional investors, we have a duty to act in the best long-term interests of our beneficiaries”, and is also a recurring theme in several of the principles and also in other publications from PRI. For instance, in conjunction with principle number 4 about promoting the principles in the investment industry, a possible action is described by PRI as “Align investment mandates, monitoring procedures, performance indicators and incentive structures accordingly (for example, ensure investment management processes reflect long-term time horizons when appropriate).”

Also other institutions and organisations which themselves apply or work within promoting policies on responsible and sustainable investment, will often incorporate a long-term view in their beliefs and policies. This is the case with for instance APG, the Norwegian Government Pension Fund and the Swedish AP Fund’s Council on Ethics.

The long term focus does implicitly recognize a view that short-term gains often may be won on the expense of long-term value. It has been argued that the short term is detrimental to both the end beneficiaries (Monks and Sykes 2006) and to long term sustainability (Sullivan and Mackenzie 2006). At the moment there seems to be an increasing interest also from academics and practitioners outside the RI-movement in questions relating to detrimental effects of short-termism in

⁷ <http://www.unpri.org/principles/>

financial markets. This will be described in Chapter 3 below, among others with an aim to see if any convergence can be found between views held by the RI community and in conventional economic thinking in this respect.

Goals. The differences in rationale play over on what goals and aims responsible investors set for their policies. For investors with an ethical/value based rationale, the goal can be expressed as not taking part in or being willing to make a profit from unethical activities. Investors with a business case take on SRI would try to increase their risk adjusted returns by exploiting market inefficiencies arising from ESG-issues. To change company behaviour can be seen as a goal for a broad range of investors with different rationale.

The types of change that are expected or desired will vary according to the investors' preferences. Some investors see it as a goal to increase the allocation of capital to sustainable lines of business, like clean tech or renewable energy.

Changing systemic issues and regulation in a way that alleviates sustainability related problems may also be an aim, maybe particularly for investors that are large and diversified enough to be labelled as universal owners. Proponents of the Universal Owner Hypothesis advocate the merits of raising the level of ESG performance in the investment universe, increasing positive and reducing negative externalities.

The different goals can be shared by investors with different rationales, but not necessarily. Investors with an ethical view point may for example be willing to forego financial returns in order to adhere to their ethical standards while this is a

view unlikely to be shared by a strictly business case based responsible investor. The goals of RI investors may therefore have very different characteristics; to avoid unethical behaviour, to exploit market inefficiencies (front runners), to reduce risk (protect values by better ESG risk management) and improve ESG beta (enhance absolute returns in the market).

Tools. Investors apply a wide range of tools to implement their RI-policies.

Negative screening and exclusion of shareholdings to avoid companies that are judged to be unethical was the first method first applied by ethical investors.

Sparkes and Cowton (2004) point out that integrity or “moral purity” seems to be the priority of avoidance strategies. The goal of moral purity has been criticised for being naïve and has also received criticism for ignoring the opportunity to encourage companies to better practices. Many institutional investors will avoid using exclusion as part of their strategy. This can be explained by its potential to reduce the investment universe and level of diversification, thus implying accept of financial penalty and a risk to be perceived to be in breach of fiduciary duty.

The negative and passive approach inherent in avoidance strategies has to a large degree been overtaken by methods that actively aim to influence and change company behaviour. Using shareholder rights like voting and filing shareholder resolutions on AGMs to express ones views are methods following directly from the investors’ role as owners in the companies. Many investors with an RI agenda also try to influence companies more directly by engaging with companies on ESG issues. Engagement processes vary in intensity and can comprise measures like writing letters on issues of concern or engaging the company in direct dialogue.

Engagement with companies will often be conducted in closed processes. This has received criticism because of lack of transparency and problems for others to observe the success of engagement (Sparkes and Cowton 2004).

Collaborative engagement is a term used when several investors gather their efforts to engage the companies collectively on issues of mutual concern. PRI offers a vehicle for collaborative engagement called the PRI Clearing House where the secretariat help structure and facilitate engagement processes for its members. Collaborative engagement can bring several advantages, among others by adding strength in numbers, avoiding mixed messages and being cost effective (Thamotheram 2006). For a thorough account of collaborative engagement, see Gifford (2009). Collaborative engagement can be performed on ad hoc basis on specific issues. There are also investor lead organisations that are set up to work on specific themes over time, for instance the Carbon Disclosure Project⁸, and International Corporate Governance Network.⁹

Some investors let their RI strategies influence the composition of the portfolio. An obvious example of this is so called ethical funds, where the companies are screened according to certain criteria before they are included in the portfolio. The same goes for portfolios which are built according to an ethical index or SRI index. Making specific allocation to certain areas like clean tech and renewable energy is favoured by some investors.

⁸ <https://www.cdproject.net/en-US/Pages/HomePage.aspx>

⁹ <https://www.icgn.org/>

While the main focus for investors' RI strategies traditionally has been the company level, an interesting and more recent development is the broadening of the repertoire to encompass public policy engagement. Noteworthy is the latest strategy decision within the PRI to develop a programme of strategic research and public policy on issues related to the creation of sustainable financial markets. The interest in targeting public policy issues arises among others from an acknowledgement that larger and more systemic issues which pose a threat to sustainable development will be insufficiently tackled at a micro level by engagements with companies. Robins (2006) points out: "...even if all investors were to adopt screening and activist strategies (...) this would be insufficient to address some of the structural problems raised by sustainable development. Public and private interests do not always coincide. Simply put, voluntary action cannot be relied on to internalise externalities or to universalise best practice."

The interest in public policy initiatives should be seen in connection with the emphasis put by different writers on the role government intervention. In Lewis and Juravle's study of human agency in development of RI, a popular view among the participants was that government intervention is required, for example by putting a price (through taxes or trading schemes) on externalities (Lewis and Juravle 2010). Others point to regulatory measures as a necessary condition to achieve more responsible investment practices. Richardson (2010) argues for the necessity to reform fiduciary duties to encourage investment guided by ethical values and principles. A concrete example of effort from investors to influence

public policy measures is the NGPF manager NBIM's dialogue with SEC about the US proxy voting system.

Regulation and other binding measures have the potential to alter company behaviour on larger scale and can thus be far more effective than individual engagement. The increased demand points to view that there exists a collective action problem which needs to be addressed at a public policy level. Regulation can also have other advantages, for instance by creating a level playing field for companies in the same line of business. On the investor level, regulation can neutralise concerns relating to fiduciary duty because acts motivated by adherence to government regulation cannot be seen to be in breach of fiduciary duty. On the other hand can the effectiveness of regulation and other government measures be restricted in several ways traditionally connected to government failure, for example regulatory capture, skewed incentives etc.

The Sustainable Stock Exchanges Initiative already mentioned must be seen in connection with the focus on public policy. Both the specific initiative and questions about the merits of public policy engagement and involvement with standard setting bodies will be discussed further in Chapter 4 and 5 of the thesis.

2.4.3 Impediments to responsible investment

In spite of the growth in number of signatories to PRI and the efforts to mainstream responsible investment, the majority of the world's investors do not adhere to any form of environmental or social investment policies that make it natural to label

them as responsible or sustainable investors. Reasons for this can be found on individual, organisational and institutional levels.

Lewis and Juravle (2008) find that impediments on the individual level relate to beliefs in the markets' self correcting abilities, cognitive biases and belief systems. On organisational level they point to organisational structures, processes and cultures unsympathetic towards sustainable investment. They also identify institutional impediments related to the structure of the investment value chain, regulatory and mimetic pressures on trustees and fund managers and financial market inefficiencies that incite free-riding.

In World Economic Forum's report from 2011 *Accelerating the transition towards sustainable investing* a number of barriers are identified (World Economic Forum 2011b). On *investor level*, the report places highest importance on restrictions in conventional valuation models, followed by lack of ESG expertise and lack of awareness and/or scepticism regarding the investment case. Of medium importance the report finds herding behaviour due to benchmark focus. Lack of common definitions leading to confusion between sustainable investing and ethical investing is seen to have low to medium importance together with ambiguity about fiduciary responsibilities and weaknesses in fund governance and transparency. At *system-wide* level the report finds disproportionate focus on short-term performance and issues with a near-term impact as the barrier of highest importance, followed by markets failures (e.g externalities are not priced). Overconfidence in Efficient Market Hypothesis and Modern Portfolio Theory is seen to be a barrier of medium importance.

Guyatt (2006) shows how mimicking is an important guide to actual behaviour, especially in complex environments with high degrees of insecurity.

2.5 Summary

This chapter has given an overview of company induced risks and their relevance for financial markets, and placed the subject in a regulatory context. The chapter has given an account of some main features of the concept of responsible investment. The development has been traced from its early origins in the fields of ethical investment and SRI and to the term responsible investment preferred by many today. The phrase “sustainable investment” has been introduced, characterised by its emphasis on long-term, intergenerational equity. Though a certain standardisation has been achieved, there still is ambiguity as to how the different concepts within this area shall be understood. Different interpretations can be explained by historic factors, cultural and ideological differences, market settings etc (Sandberg et al 2008). At the moment it seems like several agendas which differ quite substantially both with regards to objectives and implementation, are possible to fit under the umbrella of “responsible investment”. The extremes are on the one side investors having a fully value based or “ethical” rationale behind their actions, and on the other hand, investors who aim to capture “green alpha” by exploiting market inefficiencies within certain sectors like for instance clean tech or other environmental friendly areas. In the middle ground one can find investors who believe that better understanding and management of ESG issues may deliver a better risk adjusted return on portfolio level. Investors may also want to influence the investee companies’ operations in order to increase

positive externalities and reduce negative externalities. Attempts in this way to enhance the overall ESG performance on market level is well in line with the thoughts behind the Universal Owner hypothesis, and thinking about this as an aim to raise “ESG-beta” may be useful. Lastly, the responsible investment agenda also encompass views that the markets suffer from dysfunctions which lead to inefficient allocation of capital, to the possible detriment of both investors and society.

The agenda is still at an early stage and it seems fair to assume that it will continue to evolve in the future. Increased clarity about the rationale will probably be important in order to establish clearer strategic goals and responses. In particular, it seems to be useful to raise awareness about the distinction between what lies within the role of the investors and what first and foremost lies within the role for regulators and government. The debate can become blurred if there are expectations directed towards investors within areas where the real influence de facto lies with governments and regulators. The discussion about “materiality” can be seen on this background, as a qualifying factor for an issue to be relevant for investors.

No matter which of the different interpretations of RI an investor adheres to, it seems like stock exchanges can help paving the ground to implement RI-strategies. This will be further discussed in Chapter 5 below. Key factors in such a discussion will be enhanced reporting and disclosure of ESG-relevant information, alleviation of collective action problems by coordinating investors’ interests and assessing and monitoring of the listed companies ESG performance.

3. Functions and dysfunctions of financial markets – the implications for sustainable development.

3.1 Overview

Financial markets form part of the world's financial systems and are one of many types of infrastructures necessary to make modern societies function. As such, they are expected to deliver outcomes both to the markets participants, but also to the society at large. As put by Quigstad (2011), a well functioning financial markets is not a goal in its own right. Financial markets are means to achieve larger economical and societal benefits. Thus, there is a large *public interest* tied to the functions of the financial markets. This is reflected among others in the large amount of regulation, control systems and supervisory bodies surrounding them. The purpose of this chapter is to explore how the functions and dysfunctions of financial markets can affect the prospects of a sustainable development. This will inform a subsequent discussion about the need for corrective measures to be taken, and to what extent stock exchanges can contribute in this regard.

The chapter commences with a functional overview of the financial markets, with emphasis on functions which make them important to explore in a sustainable development context. It proceeds to look into an influential market belief, the efficient market hypothesis (EMH), together with an account for the criticism of it. EMH did not only have deep influence on financial economics, but also more widely on perceptions about the market mechanism as the most efficient vehicle for

allocation of resources. This had regulatory and policy implications.¹⁰ This view has been subject to criticism which has intensified after the financial crises. The discussion of EMH and its limitations is interesting for the matter at hand because the outcome of it will indicate to which extent markets can be relied on, on their own, to provide sustainable outcomes in a societal sense. The chapter then looks into a variety of specific market related factors and market failures that can be detrimental to a sustainable development. First, the focus will be on *externalities*, as externalities are at the origin of many of the sustainability related risks deriving from company activity. Second, the role of *short-termism* in financial markets will be looked into; especially whether short-termism is a factor that can exacerbate various detrimental effects, among others of externalities. In this respect, the discussion will deal with conditions that can cause misalignment of interest between the investors and the investee companies and pose obstacles for control over companies, focusing specifically on *agency problems* and *corporate governance* issues. Lastly *methodological aspects* are examined, as deficits in this respect may impede the ability to measure and calculate the problem at hand.

3.2 Important functions of financial markets in a sustainability context – allocation of resources and control over companies

This section starts by looking at the question of *how* the activities and functions of the financial markets have relevance for sustainable development. As mentioned in

¹⁰ Thoroughly discussed in the Turner Review (2009)

Chapter 2 there are at least two main features which make the financial markets interesting to explore in a sustainability context. One is the *allocative function* of the financial markets. The other is the mechanisms for *exerting control* over the companies and projects provided by ownership in companies whose securities are listed the financial markets.

Allocation of resources. The main role of the financial system is to allocate funds to projects with presumed better investment alternatives than the capital owner himself. This happens through two main channels; financial intermediaries and financial markets. I will here concentrate on the financial markets. The financial markets contribute to the distribution of capital in several ways; by offering places of exchange where companies can raise new capital and buyers and sellers can meet, by establishing prices and liquidity and means for managing risk.¹¹ Well functioning financial markets reduce transactions costs and are generally seen to enhance the process of providing capital to investments. Through the investment process investors make use of the functions of the markets to determine which companies and projects to invest in. Thus, it is generally assumed that the financial markets allocate capital optimally between projects. Likewise, it is often assumed that these allocative functions of the markets contribute to an allocation of capital that is beneficial both for the investors and the society at large.

The allocative properties of financial markets are important when looking at it from a sustainability point of view. As has already been described, the company sector has great impact on environmental and social issues through its use of natural and

¹¹ See a more comprehensive discussion below in Section 4.2

human resources and emissions and pollution of different kinds. How the companies who are able to attract financing to their projects handle such issues will have bearing on environmental and social development.

The question is – will the markets provide an allocation of capital to companies and projects that take into account also environmentally and socially important factors that influence the potential for achieving a sustainable development? I will here look into two important concepts from economic and financial theory to try to shed light on the question: the Efficient Markets Hypothesis and the notion of market failures. The reason for looking at the Efficient Market Hypothesis is the claim that market prices capture all relevant information about an asset. If this is the case, one implication should be that market prices would give important signals for determining appropriate use of resources, also seen from a societal point of view. It is noteworthy that World Economic Forum in a 2011 report (WEF 2011b) contends that exaggerated belief in EMH is an important impediment to a transition towards more sustainable investment.

Control over companies.

Shareholders (investors) are the owners of the companies, and as such have formal and informal ways to influence the companies' policies, strategies and decisions. Because the topic for this thesis is the role of stock exchanges, the main focus of the discussions in the sections to follow will be on listed companies. A large part of the world's biggest companies are listed. From this follows that their ownership is dispersed and their equity and bonds are traded on exchanges or other organised market places. The securities issued by quoted companies are as a rule highly

liquid. Listed equity is often an important element in portfolios held by financial investors, who will often regard them as financial assets rather than having strategic interest in the shareholding.

Seen from the perspective of agency theory, companies' management are agents that act on behalf of their principals; the shareholders. In principle the interests of the companies should be aligned with the interest of the investors. As already have been mentioned in Chapter 2, changes in ownership structures have shifted the balance of power from the shareholders towards the company managers because of increasing dispersion of ownership and smaller holdings in each company. This development has been seen to lead to an *ownership vacuum*, resulting in abuse of managerial powers, short-termism and flawed corporate practices. Monks and Sykes (2006) contend that companies that are run in the long-term interest of shareholders also will meet society's reasonable long-term goals and thus the reasonable aims of CSR. Agency problems will be discussed further in section 3.4.2.

3.3 Drawing up the background – market efficiency or market failures?

A central paradigm in financial economics the last decades has been the Efficient Markets Hypothesis (EMH). The term Efficient Market Hypothesis was first coined by Eugene Fama in 1970, though some of the central ideas were put forward earlier, among others by the French statistician Bachelier. The key argument of the hypothesis is that information is immediately absorbed by the

market with effect to the market prices. From this it follows that it will not be possible to engage successfully in price arbitrage and hence, no one will be able to outperform the market consistently over time. The hypothesis has three forms, weak, semi-strong and strong. The weak form asserts that prices reflect all information publicly available at the time of the transaction. Semi-strong form means that prices also immediately change in response to new publicly available information. The hypothesis' strong form implies that also not publicly available information is reflected, e.g. insider information.

EMH has since the early days been contested by many academics. For instance, Stiglitz and Grossman (1980) pointed out that if markets were informationally efficient in the sense that all relevant information is reflected in market price, then, as information is costly, no one would have sufficient incentive to seek out the information on which the prices are based. This is known as the Grossman-Stiglitz Paradox.¹² Shiller (1981) expressed that markets were too volatile for the EMH to be correct, in other words did markets display *excess volatility*. He showed this by comparing stock prices and dividend present value over a period of more than 100 years and finding that stock prices had moved more than changes in dividend present value should indicate. Paul Samuelson argued that even if financial markets were efficient in a micro economical sense, this would not necessarily imply that they were macro economically efficient, something which could explain the occurrence of bubbles and busts.

¹² On the other hand, Rappaport (2005) points out that there is no contradiction in this. Incurring costs makes sense for the managers, as it is anyway paid for by the principals.

Regardless of the critique, EHM became an important building block in economic theory and formed basis for many policy decision.¹³ An interpretation of EHM adopted by many was that not only would the markets give the best estimate of an asset's value relative to comparable assets, but it would also give an estimate of the asset's value that was *right*. Under this premise, the hypothesis would imply that the market prices would also be a correct measuring rod for the question of use of resources.

The strong adherence to EMH had implications in several respect. For *financial regulators* it meant that the weight shifted from regulatory approaches depending on restrictive and interventionist measures in the direction of more market conformist regulation (Turner Review 2009). This was among others expressed by increase in regulatory measures focusing on disclosure (Moloney 2011) which had the aim to enhance the information level in the markets and thereby enabling the market to make a better collective judgement of the value of the assets. For *investors* it led to the adoption of investment beliefs underpinning their investment strategies which for many resulted in choosing passive investment as their main strategy (Fox 2009). Commentators have also pointed out that EMH was adopted as a premise in *macroeconomic thinking* with consequences for how macroeconomic variables were perceived and responded to in terms of policy making (Krugman 2009).

¹³ See for instance Fox (2009) for an historic account of the development of EMH and its different interpretations

The recent financial crisis spurred a large debate on the merits of EMH. In the opinion of many, the developments leading up to the crisis and the crisis itself proved that the critics had been right all along. There are many claims that the mere occurrence of the American housing bubble suggests that the belief in EMH and the market's ability to set a "right" price must be wrong. The same goes for the mispricing that occurred in new and complicated financial instruments derived through securitisation and repacking and selling of sub prime loan. The debate goes along several lines, where aspects from behavioural finance are represented by contesting the assumption about rationality of investors and explaining herding mentality and hyperbolic discounting (Akerlof and Shiller 2009, Clark 2010).

However, a nuance that sometimes seems to get lost in parts of the public discussion is *which interpretation* of the hypothesis that is the centre for the debate. As described by Rappaport (2005) theorists discern between informational, fundamental and allocative efficiency. Informational efficiency refers to prices that fully reflect all relevant information; fundamental efficiency refers to prices that correctly reflect fundamental value ("a right price"); allocative efficiency refers to with which degree market prices allocate scarce resources to businesses with the most promising prospects. According to Rappaport, limitations in the models managers use can lead to informationally efficient markets without necessarily making it highly allocatively efficient.

Also Posner distinguishes between different forms of efficiency in his 2010 book *The Crisis of Capitalist Democracy*:

“(...) But my understanding of the theory is not that the stock market consistently discounts corporate earnings accurately. Just the fact that stock prices gyrate much more than the value of the companies whose stock is traded refutes the notion that the stock market is “efficient” in a strong sense. As a matter of theory, moreover, as Grossman and Stiglitz explained long ago, ‘because information is costly, prices cannot perfectly reflect the information which is available, since if it did, those who spent resources to obtain it would receive no compensation.’

The weaker notion of efficient markets – that the market is hard to beat – is consistent with the existence of bubbles and of the ‘momentum’ trading that underlies them....”

Also Samuelson suggests that markets can be efficient on a microeconomic level without necessarily being efficient on a macroeconomic level. These different views indicate that efficiency is a manifold concept.

After the financial crisis, EMH in its weak form (the market price reflecting all available information at the time of the transaction) seems to be fairly well established also among the critics. Quiggin (2010), for instance, states: “Even the sceptics agree that any violations of the weak form of the hypothesis are subtle and hard to exploit.” On the other hand, the weak form of the hypothesis may not be the most crucial point of the discussion about EMH. If the EMH in its weak form is true, its main implication would be that markets are hard to beat over time (a question about relative performance within a certain time unit), something which

should impact for instance the choice between active and passive management of a portfolio.

The more interesting question in *this* context is the interpretations of the hypothesis that states that the markets are fundamentally, or even allocatively, efficient. Many see these interpretation as seriously challenged by the financial crisis where assets proved to be seriously mispriced. This can be illustrated by policy makers' new approach to regulatory questions recommended among others by the Turner review in 2009. It would anyhow seem important to ask *right for whom* and *in which context*. A price that may be "right" in the sense that it gives a good indication for a financial investor to make an investment decision within his or her specific time horizon¹⁴ might not be the same as giving a good signal for what would be an appropriate allocation of resources in a societal sense and over time.

The question this section started out with was if financial markets will provide an allocation of capital to companies and projects that take into account also environmentally and socially important factors that influence the potential for a sustainable development. So far, the discussion of EMH indicates that both investors and society should expect that financial markets can go through bouts of mispricing with bubbles and bursts as results. The markets' ability to deliver a "right" price should therefore be looked upon with a fair amount of scepticism. It would then seem to be all the more reason to be hesitant to rely solely on the markets to provide for a resource allocation that is beneficial in a societal sense (Dasgupta 2007). In any case, one cannot discuss the allocative properties of

¹⁴ Especially an investor with a relative performance target.

financial markets without taking into account that there may be factors present that have the potential to distort the allocative functions of the markets and which the markets cannot be expected to correct on their own.

Standard economic theory recognises the existence of *market failures*. The text book definition of market failures are *situations where the market is prevented from performing its functions in the intended way and thereby the efficient allocation of resources is impeded* (Mishkin 2010).

Correction of market failure is the traditional rationale behind regulation of financial markets (Moloney 2011). To set the scene for the later discussions I will first give a brief description of some types of market failures that are commonly associated with financial markets, namely informational asymmetry, externalities and principal agent problems.

By *asymmetric information* is meant a situation where one party to a transaction has more information than the other party and can exploit this advantage to his own benefit. This can lead to various undesirable results for the functioning of the market. Akerlof explores this in the famous paper on the “Lemon problem” (1970), and shows that rather than taking part in the market a party that suspects that others have better information about circumstances of importance for the transaction will refrain from participating. As it is considered advantageous that people take part in exchanges in the market, problems arising from asymmetric information are sought tackled by market regulators. Examples of this are various kinds of disclosure rules, and rules prohibiting insider trading.

As explained in Chapter 2 externalities are effects (benefits or costs) from an exchange that spill over on parties that are not part of the exchange. An important negative externality in financial market context is *systemic risk* which can threaten the financial stability. Systemic risk is regarded as intrinsic in the financial system, and was clearly illustrated, together with its harmful consequences, by the recent financial crisis. Systemic risk is regarded as an externality because the risks which each individual actor's decisions inflict on the system will usually not be taken into consideration in the actor's decision making process. Another side to this is that financial stability can be seen as a *public good* which is contingent of the regulators stepping in and provide stabilising mechanisms. Examples of such regulations are capital adequacy rules, rules on prudential supervision and deposit insurance schemes.

Acknowledging that market failures distort market functions, the next step is to look at specific market failures and other factors relating to financial markets that could prove to be relevant from a sustainability point of view. At this point some will argue that sustainable development as a goal falls outside of the role which the financial markets play in the society, and thus is irrelevant in a financial market context. The answer to this is twofold: firstly, if there are threats to sustainable development that arise from the way financial markets are functioning this should be known to regulators in order to enable them to make informed decisions in the question if these are risks that should be attempted regulated. This would in principal not be different than regulation of any other sector that produces harmful externalities. Secondly, and as I will come back to, there may be more links

between sustainable development and the performance of financial markets than is currently the conventional perception, which could make sustainability issues directly relevant for the financial markets, especially if seen in a longer view. A representation of this view is the guidelines for managing the Norwegian Government Pension Fund, laid down by the Norwegian Ministry of Finance. In section 2-1, the guidelines state: “A good return in the long term is regarded as being dependent upon sustainable development in economic, environmental and social terms, as well as well-functioning, legitimate and effective markets.”

Thus, there could be at least two different rationales behind by looking more closely into the relationship between financial markets and sustainable development; on the one side the general public interest in sustainable development and on the other side, the more specific interests of the financial markets and its actors.

3.4 Financial market related factors that could be detrimental to a sustainable development

The discussion under this headline focuses on financial market related factors which in the recent debate have been highlighted as having a potential to adversely affect sustainable development. These issues are separated and discussed under the following headings: externalities, short-termism and lack of relevant methodology (i.a. valuation methods, measurement methods, access to information).

3.4.1 Externalities

On a general basis, it is not contested that negative externalities can have detrimental economic effects. Taxes, quotas and other forms of government intervention are aimed at reducing externalities. From a sustainability point of view, externalities can lead to a consumption of resources that is higher than it should have been if the environmental and social costs were properly priced (Dasgupta 2007). But what are the consequences of externalities seen from a financial market point of view?

As described in Chapter 2, the environmental and social risks that are relevant in a financial market context mainly derive from companies' business activities. A paradox in this respect is that companies that are externalising costs could in fact be argued to act in its shareholders' interest. The companies are in position to gain from the lower production costs following from transferring these to others, something that also can affect their share prices in a positive way (Mackenzie 2006). On the other hand, the Universal Owner hypothesis described in Chapter 2 provides a rationale for why externalities may have a detrimental effect on investors, especially those with broad investments and a long time horizon.

Recent research has set out to examine effects of externalities on financial markets both from the perspective of individual investors and the market as a whole.

The PRI Universal Owner report (PRI 2010) aims to measure the unaccounted costs of business activities by putting a price on natural resources that are used as input by business but does not show up on corporate balance sheets. In the report

the consultancy firm Trucost estimates that the cost of environmental damage caused by human activity amounted to 6.6 trillion in 2008. The report underlines that actual values are likely to be higher, since the study builds on a view that simplifies many economic and environmental complexities. Due to lack of data, the analyses exclude most natural resources used, and externalities would also be higher if degradation of environmental services such as watershed protection and climate regulation could be accounted for. The report further points out that the estimates exclude scarcity costs that would result from potential high-impact events such as fishery or ecosystem collapse. The study only measured the flow or loss in annual income from environmental damages, and it is pointed out that these losses will accumulate and contribute to a mounting depletion of stocks, undermining sectors that depend on them as resource inputs.

The listed companies stand for a large part of negative environmental externalities. The report estimates that externalities caused by the 3000 largest listed companies in the world in 2008 amounted to 2.15 trillion USD.¹⁵ As such, the financial markets facilitate the exchange and trade in assets issued by companies to which externalities are a by-product to their output.

The report does not cover other externalised social costs than environmental. However, even if these may be harder to quantify, it is possible to identify types of negative externalities that could be assumed to have a detrimental effect on economy over time in addition to the loss of welfare imposed by such externalities

¹⁵ Small and private companies stand for a non-specified part of the remaining 4.45 trillion of external costs shared with governments, other organisations and individuals.

on those who are afflicted. Examples of this are child labour, forced labour and displacement of individuals due to company operations. It is interesting to note that several large pension funds and sovereign wealth funds address social issues in their investment policies. Also PRI engages in social issues, for instance by organising a project on responsible business in conflict-affected and high risk areas.

On company level, the PRI Universal Owner report estimates that in a hypothetical fund invested in the MSCI All Country World Index (ACWI), the scale of externalities caused by portfolio companies annually would equate to over 50 % of their combined earnings, weighted according to index constituents.¹⁶ However, to what extent and in what proportions it would affect the companies in question if those costs were to be internalised would vary a lot between companies and sectors. The direct impact on share price will anyhow be contingent on how likely it is that the companies will have to internalize the costs, something which to a large extent will depend on government policies and regulation. The direct impact on portfolios thus seems hard to judge on this basis. The illustration of the magnitude of externalised costs does never the less seem important given for instance the impact that may follow from changes in regulatory environment.

The Universal Owner report offers different ways to look at the risk associated with environmental and social costs at a *qualitative* level. PRI states that the study provides an important rationale for action by large institutional investors that have a financial interest in the wellbeing of the economy as a whole. The report

¹⁶ ACWI comprised of 2439 companies in 2008.

concludes that externalities pose risks to portfolios in several ways. Environmental externalities can reduce future cash flows for companies held in portfolios and lower future dividends. In a large portfolio, some environmental costs externalised by companies will affect other companies in the portfolio. They can incur costs through decreases in productivity and increased input costs, including higher taxes, levies and insurance premiums. Falling revenues, unplanned capital investments and increased costs of capital driven by lower risk-weighted projected returns could increase operational costs.

In a related, but different vein is the research the consultancy firm Mercer in cooperation with 14 large institutional investors has conducted on the impact of climate change on financial markets (Mercer 2011). The study concludes that climate change must be regarded as a systemic risk with the potential to lead to detrimental effects on both market wide and on portfolio level.

After this discussion it seems fair to conclude that negative environmental and social externalities caused by companies can have detrimental effects not only on the society at large but also pose risks for the financial markets. The presence of negative externalities means that the private cost of using natural resources is less than the social cost. This can lead to unsustainable overexploitation of natural resources. Macro figures may show growth in GDP but does not account for the decline in productive base (Dasgupta 2007). As suggested by the PRI Universal Owner report this can in different ways play back on the performance in financial markets and portfolios held by financial investors. These problems may be

exacerbated by short-termism in financial markets, something that will be discussed below.

3.4.2 Short-termism in financial markets

As noted in Chapter 2, concerns about detrimental effects caused by short-termism in financial markets are a common denominator in the various conceptual rationales in the responsible investment movement. Concerns relating to short-termism are increasingly being discussed within conventional mainstream economics related to the wider debate about dysfunctions of financial markets which has intensified after the recent financial crises. There is also an interest from public policy makers to look more closely at these questions. An important initiative in this respect is the Kay Review commissioned by the British Secretary of State for Business, looking into questions about long-term performance of the British Equity Markets.¹⁷

It is important to notice that short-termism is not necessarily a problem in and by itself. Short term traders provide liquidity and make it possible to hold company management accountable. But if financial markets conditions are such that short term issues receive priority over long term factors, both long-term investment objectives and public interest can be worse off. For the long-term investors, it could be difficult to enact investment strategies that are in line with their time horizon.

¹⁷ Se Kay Review's final report was launched when the work on this thesis was in its final stages, preparing for submission. The content is therefore not reflected in the thesis.

To examine issue of short-termism more closely it is relevant to look at *empirical findings* that can support the claim that the degree of short-termism is indeed rising, *causes* that can explain the prevalence (if any) of short-termism and *detrimental effects* that may arise.

There is no single definition of either long-termism or short-termism. It is useful to include some understandings of the concepts to illustrate how they are perceived by different players. WEF (2011a) defines long-term investing as investing with the expectation of holding an asset for an indefinite period of time by an investor with the capability to do so. Lydenberg (2007) proposes the following definition: “Long-term investors speculate on the value of corporations to society and the environment, while simultaneously seeking to enhance that value at the company, industry and societal level.” The consultative report “A long term focus for corporate Britain” (BIS 2010) defines short-termism as “the focus of investors and managers on short-term returns at the expense of those of the longer term.”

Empirical findings. In a 2011 paper, Haldane and Davies present empirical evidence for short-termism in the pricing of companies’ equities and that short-termism has increased in the recent past (Bank of England 2011). Short-termism is found to be economically as well as statistically significant, and the evidence points to excess discounting of between 5 % and 10 % per year. Haldane (2007) found that holding periods for investors have been shortened; the average holding period for a US share was seven years in 1940; by 2007, it was seven months. The pattern is the same across different markets. For the Shanghai stock index, the average holding period is six months according to Haldane. Shorter holding periods

are also emphasised by Rappaport (2005) who points to average holding periods in the mid-1960s on about seven years, compared to today's average in professionally managed funds on less than a year. Mercer and IIRC (Gyuatt and Lukomnik 2010) conducted research on portfolio managers' turnover rate and found that many active managers in their sample had a higher portfolio turnover rate than what they claim. According to the report, 65 % of investment strategies had a shorter investment horizon than intended.

In 2011, both WEF and OECD have released reports examining aspects of long-term investing, both arguing that the financial markets have become increasingly short-term in the later years and that there has been a decline in long-term investing. OECD (2011) shows that the average holding period on six selected OECD stock exchanges has fallen between one and three years over the last twenty years. If looking back to the 1980s, the average holding period on New York stock exchange was over 5 years, compared to 5 months today.

Explanatory factors: Different causes have been pointed out to explain the apparent increase in short-termism in financial markets. Factors that have been much emphasised can be discussed under the following headlines; increase of institutional shareholders, agency problems, behavioural biases and new trading models.

Several commentators point to the expansion of institutional investors as part of the reason for increasing short-termism. (OECD 2011, WEF 2011a, Monks and Sykes (2006)) This would seem to be in contradiction with the fact that institutional

investor often represent capital with long-term investment objectives (for instance long-term pension or insurance liabilities) and therefore should be well placed to provide long-term capital to the market. An explanation that has been offered for this paradox relates to a key feature of institutional investors; especially the smaller ones rely heavily on asset management firms for a large part of their investments (OECD 2011). This give rise to *agency problems* that may act as impediments for the true long-term objectives of the ultimate owners to be reflected in the actual investment strategies.

Agency problems are problems that occur in relationships between principals and agents (who act on the principals' behalf) when the interest of the principal and the interest of the agent are not properly aligned. According to economic theory, the agent will rationally follow own self-interest (Berle and Means 1932). Within investment activities, agency problems can arise between the end owners of the capital and the investment managers to whom the investment decisions are delegated.

It has been pointed out that long-term investors face a particularly strong principal/agent concern in relation to their managers because of the length of their investments time horizon. Investment managers and other agents are likely to wish to optimize returns over a much shorter term than the end owners (WEF 2011a).

An important factor to explain this misalignment of interests is the remuneration models, which often determine compensation and bonuses frequently and on the basis of performance over a time horizon that is short compared to the time horizon of the beneficiaries. Methods for measuring performance can have the same effect,

often built to measure relative performance compared to a benchmark over a short time horizon (Generation Investment Management 2012). As put in the OECD 2011 report: “Control over external managers is often focused on short term performance monitoring, leaving day-to-day investment decisions in the hands of professionals who may not always have the best interest of the ultimate assets owners in mind.” It has been argued that for a long-term investor absolute return in the long run should be the priority (Mackenzie 2006).

A complicating factor is that agency problems also are present in the relationship with the companies in the portfolio. In cases where an end owner invests through an investment manager, the chain of control and accountability between the end owner and the companies in the portfolio can thus be “broken” in two places. This phenomenon has been referred to as the “double deficit” problem (Monks and Sykes 2006). The corporate governance movement is to a large degree a result of the shareholders’ attempts to reassert their influence in the companies and check the powers of company managers.

Other explanations for short-termism relates to *behavioural factors* (Clark 2010, WEF 2011a, Froot et al 1992). The financial crisis 2007-2009 was by many seen as a confirmation of viewpoints that for several decades has been argued from behavioural economists. This field shows how human traits can explain behaviour that contradicts the belief in markets actors’ rationality and decision patterns and how this can lead to outcomes that diverge from predictions about how the markets should behave under certain circumstances. Factors that are much highlighted within this debate relate among others to myopia and steep discount functions

which result in short-term biases in decision making. Also, decision makers are prone to make use of thumb rules, or heuristics, when making decisions. As result, recent experience and intuition may weigh more heavily in on the result than analyses of longer-term outcomes. Herding by investors is among other explained by a preference for making decisions that are possible to defend, that is, give priority to decisions that adhere to dominant internal and external conventions. This may exacerbate other behavioural impediments (Guyatt 2006).

Yet another set of factors that has been brought forward to explain increasing short-termism are changes in *trading models* and other more technical and regulatory explanations. Lydenberg (2007) points to the increase in liquidity and trading opportunities in the markets: “In particular, the liquidity, or ease of trading, in today’s stock markets contributes to the short-term perspective. Stock market prices are measured daily, hourly and by the minute. A market that offers participants instantaneous opportunities to measure and act on their price-base worth – that allows them to jump in and out of stocks at little cost on the slightest bit of news or slimmest of rumours – deprives them of a perspective from which to measure the value of the companies over years or decades.”

Others have pointed to the increase in high frequency trading, leading to an increase of short term pricing signals in the market prices (PRI Webinar Sustainable Stock Exchanges 2010). Zhang (2010) finds that high frequency trading is negatively related to the market’s ability to incorporate information about firm fundamentals into asset prices. Also factors like increased use of securities lending, regulatory measures focused on market prices for calculating pension

assets and liabilities and the effects of Solvency II on insurers' portfolios can exacerbate short-termism (OECD 2011).

Possible consequences arising from short-termism in financial markets. Several commentators have raised concern that the prevailing short-term time horizon may lead to adverse effects, for the end owners of the capital, the investee companies and the society at large.

For the end owners of the capital, agency problems with managers are highlighted, suggesting that incentive structures and insufficient monitoring of managers create too short investment horizons at the expense of the long-term interests of the beneficiaries. This can for instance lead to asset allocation which is not in the investor's best interest, high turnover and too high management and transaction costs.

For the companies, it has been noted that detrimental effects of short-termism include pressure to fulfil short-term goals that sometimes come at the expense of long-term value creation. Boosting the short-term value may be to the detriment of the firm's longer-term prospects if the focus leads to underinvestment in for instance maintenance of operating assets or training of employees (WEF 2011a).

Interestingly, many commentators raise severe concerns that short-termism may have detrimental effects on societal interests. Various beneficial effects of long-term investing can be lost with an overly short-term view, for instance the ability for more patient capital to act in a counter-cyclical manner, bringing benefits like promoting financial stability, correct speculative excesses and provide a buffer

during a financial crisis (OECD 2011). Further, it is noted that short-termism can impede secure funding of important long-term projects such as infrastructure projects and the development of a low-carbon economy as well as sustainable global economic growth via social benefits generated by the investment itself (WEF 2011a).

Haldane and Davies (2011) characterise the degree of short-termism as follows:

“This is a market failure. It would tend to result in investment being too low and in long-duration project suffering disproportionately. This might include projects with high build or sunk costs, including infrastructure and high-tech investments. These projects are often felt to yield the highest long-term (private and social) returns and hence offer the biggest boost to future growth. That makes short-termism a public policy issue.”

3.4.3 Lack of good methodology:

Lack of methodology that can aid investors to successfully integrate ESG-issues in their decision making processes is often mentioned as an impediment to realising more sustainable financial market. Particular emphasis has been put on asset valuation methods, the level and type of information and disclosure that is available and performance metrics.¹⁸

¹⁸ There is also a discussion on a larger scale about the possibility for measuring sustainability at all (World Bank 2006, Stiglitz, Sen and Fitoussi 2009). This debate emphasises that core economic concepts does not take into consideration the state of natural capital, for example does GDP not take

Concern has been raised that the high frequency of corporate reporting leads to a focus on short-term factors that are detrimental to the longer-term objectives. Rajgopal et al (2005) shows how quarterly reporting can motivate company management to forego longer-term gains to meet shorter term earnings targets. Lack of comparable ESG disclosure and lack of metrics to measure ESG performance make it difficult for investors to incorporate this type of information effectively in their analyses (Generation Investment Management 2012). There is a movement in the direction of requiring more relevant information on ESG-issues available to the financial markets, accentuated by initiatives like the GRI and International Integrated Reporting Council (IIRC). These initiatives seem important. However, one should be careful to rely too heavily on enhanced reporting in and by itself. There must also be some incentive on the side of the investors to actually make use of the information provided; otherwise more reporting may just add to the reporting overload already criticized by some (Kay interim report 2012). This leads to questions about the models investors use for valuation and decision making. Rappaport (2005) points out stock prices reflect information relevant to *the models* investors use. Investment managers have little incentive to pursue private information that contributes to more allocatively efficient prices unless such information is relevant to their decision models. According to Rappaport, active managers can produce an informationally efficient market without necessarily making it highly allocatively efficient. Froot et al

into account decline of natural capital. Neither data nor measurement systems gives a good tool to tell if we are sustainable. An account of the literature in this area is given by Heal (2012).

(1992) points out that speculators with short time horizons can lead to herding on the same information.

There is also a criticism of the emphasis of relative performance metrics for financial managers (Mackenzie 2006). The focus on relative performance leads to focus on capturing alpha and takes away the incentive to analyse “ESG-beta”. Negative externalities do not in general affect relative performance and are therefore of little interest to the intermediaries (Thamotheram and Le Floc’h 2012). Although not directly focusing on sustainability related issues, the Kay interim report (2012) seem to support this view by pointing out some of the same concerns: “While returns to beneficial owners taken as a whole can be enhanced only by improving the performance of the company sector as a whole, returns to any subset of beneficial owners can be enhanced, at the expense of other investors, by the superior relative performance. The search for superior relative performance drives the business models of asset managers and is reinforced by regulation and the widespread practice of benchmarking.”

Regulatory measures may have unintended detrimental effects, for example if they lead to more short-term behaviour in the market. Mark to market accounting and Solvency II are mentioned as examples of regulatory intervention that lead to increased focus on short term measurement metrics (Kay interim report 2012). This shorter time horizon could implicitly affect the ability to take longer-term sustainability factors in to account negatively.

3.5 Summary

The discussion in this chapter has identified factors and characteristics present in the financial markets which have been argued to have a detrimental effect on issues important for achieving sustainable development. It can be argued that the financial markets today do not offer good tools either for investors or for the society at large to factor in environmental and social issues that can affect the economic development and also the financial markets, especially in the longer term. The findings are supported by a plethora of market led initiatives and ideas emerging from different market actors, whose existence support the hypotheses that there are shortcomings in today's financial markets to understand and factor in ESG-issues both when it comes to conceptual frameworks and tools to manage such factors in practice.

Various means have been suggested to enhance the market environment for long-term sustainable investment. Among these are:

- Enhanced disclosure from companies of environmental and social issues.
- better governance of the financial managers to reduce agency problems and align interests between managers and owners
- active ownership and improved corporate governance towards the companies
- development of improved measurement and valuation methods
- improved methods for asset allocation

- dialogue with regulators, i.a. on common minimum standards for company behaviour
- support of new market mechanisms to capture externalities (i.a. reductions through proper pricing)

With this in mind, it is time to turn the attention to the role of the stock exchanges.

Stock exchanges have long traditions in shaping well governed and well functioning trading venues to the benefit of investors, companies and public interest. As such, the stock markets should possess both means and opportunity to help facilitating a better understanding of the role of sustainable development in financial markets. This will be explored in the following chapter.

4. The roles and functions of stock exchanges

4.1 Overview

This chapter focuses on the role of stock exchanges. Stock exchanges around the world play an important role as part of the financial infrastructure and have long traditions in shaping the financial markets and exerting influence on market conditions. Here, the functions, characteristics and means of stock exchanges will be explored with the purpose to form a basis for discussion in Chapter 5 about the potential on the side of stock exchanges to enhance the way the financial markets functions with respect to managing sustainability related factors.

The chapter is divided in two main sections. The first section is devoted to a description of stock exchanges, where important functions of stock exchanges are explored and put into the context of the overall functioning of the financial system. Stock exchanges' regulatory role and regulatory environment will be discussed in particular. It then proceeds to discuss institutional and organisational characteristics of stock exchanges and in particular how organisational changes and changes in business environment in the recent past may influence the traditional role and functions of the stock exchanges.

In the second section focus is turned to stock exchanges' role in promoting sustainable company and market practices. As earlier mentioned, several sustainability related initiatives from stock exchanges in different parts of the world have occurred in the later years. Also international organisations like PRI

and the World Federation of Exchanges have launched projects working within the area of stock exchanges and sustainability. The second section will give an overview of different types of sustainability related initiatives and how they have been implemented by stock exchanges.

4.2 A functional and institutional perspective on stock exchanges

Terminology

It seems useful to start this chapter with making some terminological clarifications. As will be discussed in more depth below, stock exchanges have in recent decades been subject to significant changes that have affected their traditional organisational structure and their business models. New trading facilities have emerged taking over functions that were previously the stock exchanges' sole domain. The landscape for marketplaces for financial instruments has thus become much more multifaceted, and in line with this new terminology has evolved. In EU legislation for instance, the term “stock exchange” has been substituted with “regulated market”. New and less rigorously regulated trading systems that have emerged are referred to as for instance ATS (Alternative Trading Systems) or MTF (Multilateral Trading Facilities).

Institutions that in everyday speech are referred to as stock exchanges may have different legal and actual characteristics in different jurisdictions. The scope of this thesis does not allow for detailed discussions or comparisons in this regard. For the sake of this thesis an adequate working definition of a stock exchange will be an *organised, regulated and multilateral market place* where corporate stock is traded.

When the term stock exchange is used it will thus mainly be in the meaning of a market place that retains many of the stock exchanges' traditional functions. In many markets this will probably in practice mean the incumbent stock exchange.

Why are stock exchanges interesting to explore in a sustainability context?

There are several reasons why stock exchanges are particularly interesting to explore in the context of financial markets and sustainability. On a global basis stock exchanges are the central market places for the trade in equity securities. They have a long tradition for enhancing the market functions to the benefit of those trading in it. A well functioning market place is also seen to benefit the society in a wider sense. The stock exchanges possess ability to *shape the markets, the market conditions and the behaviour of issuers and market participants*. An important part of this is the exchanges' regulatory capacities. To the extent sustainability is threatened because of the behaviour of listed companies or market failures in the financial markets, the stock exchanges may therefore be in position to contribute to correcting the faults.

In the following sections stock exchanges will be explored from several angles to inform a subsequent discussion in Chapter 5 on which role stock exchanges can play in the growing sustainability landscape. It starts out with a functional perspective, highlighting the functions that seem most significant in relationship to factors that matter for sustainable development. Then the attention is turned to institutional and organisational issues. The institutional and organisational characteristics of stock exchanges are important factors when assessing which

actual and legal room for manoeuvre the exchanges have for contributing to solutions to sustainability related problems arising in a financial market context.

Important functions of stock exchanges

When describing the functions of stock exchanges it can be useful to start by taking one step back and look at the functions of the financial system as a whole. The main function of the financial system on an aggregate level is *resource allocation*. As put by Merton and Bodie (1995) “The primary function of the financial system is to facilitate the allocation and deployment of economic resources, both across borders and across time, in an uncertain environment.”

The process of allocating resources is facilitated by the financial systems’ ability to perform certain basic functions. Merton and Bodie (2005) describe the six core functions of the financial system:

- to provide clearing and settling payments to facilitate trade,
- to provide mechanisms for pooling resources and subdividing of shares in various enterprises
- to provide ways to transfer economic resources through time, across borders, and among industries
- to provide ways of managing risk
- to provide price information to help coordinate decentralized decision making in various sectors of the economy
- to provide ways of dealing with incentive problems created by asymmetric information or principal agency issues.

The financial system allocates resources via two main channels, indirect and direct financing (Mishkin 2010). The *indirect financing* is the business of banks and other financial intermediaries who engage in lending activities. *Direct financing* is the term used when companies collect capital directly from investors by issuing equity securities and other financial instruments and offer them for sale in the financial markets. In developed economies both direct and indirect financing are important as sources for capital and for the well being of the financial system as a whole.¹⁹

The stock exchanges' main functions and importance lay within the channel of direct financing, that is, the financing that take place through the *financial markets*.²⁰ To comprehend the importance of the stock exchange it is crucial to understand which functions and services they perform for the market participants. This can be done by contrasting the process of direct financing with the process of indirect financing. In the markets for direct financing the financial institutions will stand as intermediaries between the savers and the lenders. In this position financial institutions will perform a number of functions that facilitate the processes of financing. They will provide a *price* for the capital (interest rate), they will reduce *risk* (by taking on the credit risk and provide legal certainty by contracts and collateral) and they will *reduce incentive and agency problems* (by assessing different investment alternatives before investing and monitoring the

¹⁹ The distribution and relative importance of direct and indirect finance varies between economies. In some countries (USA, Canada) does direct financing play a larger role than in other markets (i.a. Germany).

²⁰ According to the Kay review Interim report (2012), equity markets are a relatively minor source of new finance for business investment. The major function of modern equity markets in relation to capital allocation is their oversight over the process.

investment once it is done).²¹ Proper executions of these functions enhance the trust and confidence among the savers, something which is a prerequisite for their participation in the market and thereby making their surplus capital available for investment purposes.

In the markets for direct finance the important functions of pricing, risk management and reducing agency problems must be dealt with by other means than by banks or other financial institutions. There is also a need for ensuring clearing and settlement of trades between market participants. In this regard, the stock exchanges play an important role in the financial infrastructure and provide the investors with tools for their investment activities.

The significance of the stock exchanges derives from specific properties of the exchanges by which they can improve the market functions in several respects. Besides providing the actual market facility (most commonly an electronic trading system), the stock exchanges contribute to the quality of the market place by i.a.:

- Assuring the *quality of the issuers and members* allowed taking part in the trade by placing restrictions on the entry to the market for both. Only issuers and members that meet the requirements of the exchange may participate in the market.

²¹ In economic theory the terms adverse selection and moral hazard are used to describe problems arising from asymmetric information and principal agent problems between participants in financial transactions. (See Akerlofs famous article on the Lemon problem (1970))

- *Enhancing the level of information* available by laying down requirements on disclosure from issuers and of information about orders and trades, and diffusing the information to the market.
- Laying down *rules on the trading process* itself,
- Provide *guidelines for conduct* by members and issuers, for instance rules on corporate governance.
- *Monitoring* of trade and the conduct of issuers and market participants to ensure that obligations are fulfilled and to counteract insider trading and market abuse

When executing these functions in a proper manner the stock exchanges play an important role for both investors and issuers, among others by providing liquidity and a venue for price discovery. For the *investors*, an efficient pricing mechanism and enhanced levels of information will contribute to better basis for investment decisions and risk management. Monitoring, regulation and enforcement procedures will safeguard the investments and reduce operational and reputation risk. Investor confidence and trust in the market place increase market participation and facilitate the process of allocation of resources. For the *issuing companies* the advantages will consist of exposure to a broader set of potential investors something which enhances the ability to attract capital. In addition to this come positive effects on reputation and brand deriving from meeting an exchange's listing requirements. Listing can have a positive effect on the process of attracting capital from other sources, for instance bank loans. Finally, reduced transaction costs will benefit both parties.

There is also a considerable *public interest* tied to the stock exchanges. This is due to the wider economic and societal benefits that can be gained from a well functioning stock exchange, just as stock exchanges under other and less fortunate circumstances can impose a risk to the economy at large (ref what is said in Chapter 3 regarding intrinsic systemic risk). IOSCO (2001) has described the public interest in this way:

“The fair and efficient functioning of an exchange is of significant benefit to the public. The efficiency of the secondary market in providing liquidity and accurate price discovery facilitates the efficient raising of capital for commercial enterprises, benefiting both the wider corporate sector and the economy as a whole.”

The described functions of stock exchanges are important also seen in context of the subject matter of this thesis and the issues described in Chapter 2 and 3. For instance will the price discovery process and the distribution of information by the exchange be a significant input to investment decisions and thus for the allocation of resources to different investment alternatives. If short-term or long-term environmental and social implications of investments are not properly understood and valued by the market, detrimental effects can arise because capital may be allocated to unsustainable purposes. In turn, this can have negative effects also on asset allocation or risk management on portfolio level, to the detriment of investors.

Some regulatory aspects of stock exchanges

One important feature of stock exchanges is their ability to lay down rules governing the activity on their market place with the aim to ensure orderly, fair and transparent trading conditions. The regulatory capacity is often highlighted when stock exchanges are discussed in a sustainability perspective because of the potential to influence company behaviour via listing requirements or disclosure rules (Responsible Research 2010, EIRIS 2010).

Because of the public interest in well functioning financial markets and stock exchanges, the stock exchanges will, as a rule, be subject to government regulation. The regulatory environment of a stock exchange will thus consist of several “layers” where some are laid down by government and regulators and some are laid down by the exchange itself either by delegated powers or in the capacity of a self regulating organisation (SRO) (IOSCO 2009).

It falls outside the scope of this thesis to give a comprehensive account of how stock exchanges are regulated in different jurisdictions. On a general basis, and among others by looking to the EU regulation (MiFID), one can see that a common approach is to include requirements on stock exchanges to obtain a license to operate, provisions on the composition of the board and other governing bodies, and requirements on technical systems and business conduct. Governments can also enrol exchanges in regulatory activities by delegating regulatory tasks. Stock exchanges can be used to enact governmental regulation (for instance to enforce disclosure and accounting rules laid down in law) or they can be mandated or required by law to produce regulation themselves. An example of this is the MiFID

directive where after the member states shall see to that regulated markets adopt fair and objective rules governing the trade.

Finally, exchanges have regulatory powers which derive from their position as the owner of the market and the systems. In this capacity they can lay down “private”, in the meaning contractually based, rules, which often will have the form of standardised conditions for listing, membership and trading. The subjects covered by this type of regulation will typically encompass issuers and members as well as investors taking part in the trading activities. When exchanges make and enact rules in this category, they can be referred to as NSRs (Non State Regulators) or SROs (Self Regulating Organisations).

If one look at rules by categorisation in different *types* (regardless of whom has adopted them – government, regulator or stock exchange), the following categories can be assumed to be of particular interest in relation to the issues that have been identified in the previous chapters as threats to a sustainable development; listing rules, disclosure rules and corporate governance codes. *Listing rules* impose requirements on companies that have to be fulfilled in order to be admitted as an issuer. This type of rules thereby has the potential to influence company behaviour. *Disclosure rules* determines what information the listed companies must make available for the market. This type of rules can influence the level of ESG disclosure available for the investors. Enhanced levels of ESG disclosure can make investment analyses more robust and thereby affect both pricing and risk management in a positive way. Demands on ESG-reporting can potentially also change company behaviour, because companies may wish to report good results.

Corporate governance codes can contribute to reduce agency problems in the relationship with company managements or financial managers. Shifting the balance of power from managers towards shareholders can help reduce incentive conflicts, for instance by better aligning the investors' and managers' time horizons. Longer time-horizons can arguably be beneficial from a sustainability point of view.

Stock exchanges' regulatory environment can improve the market functions in various ways. However, stock exchanges can face constraints when contemplating regulatory action. The next section will deal with institutional and organisational aspects of stock exchanges that can be relevant for their strategic choices when assessing if and how to adopt approaches to sustainability related issues.

Institutional and organisational characteristics of stock exchanges

The description above of stock exchanges' functions gives a stylized account of traditionally important functions of the stock exchanges. The extent to which stock exchanges perform and will continue to perform the functions that traditionally have been within their realms may be influenced by changes in the landscape of stock exchanges that has been taking place in the recent decades. These changes have gradually transformed important institutional and organisational features of both the stock exchanges themselves and their operating environment.

The evolvement from national monopoly to competitive service providers

Up until about two decades ago the typical stock exchange would be a national entity with a monopoly position in its home market. It would be a not for profit

organisations, usually incorporated as a mutual entity, often with representation from the public and the government in its governing structures. The national government would regularly have charged it with public tasks and authority relating to the supervision of the activities taking place in the financial markets. This could typically include market surveillance functions and the enactment and enforcement of public regulations in accordance with delegated powers. Stock exchanges would also have regulatory powers themselves, enabling them to influence the trade, the members and the issuers.

By the 1980s and early 1990s, a combination of several powerful drivers led to major changes. Comprehensive accounts of these developments have been given elsewhere (Wójcik 2011, Michie 2010, Rydén 2010) and only a short overview is provided here. A rapid development in technological innovation facilitated new trading methods and new products to be traded in the marketplaces. The physical trading floors were gradually replaced by electronic trading systems. Stock exchanges started to face competition from new and alternative market places, especially in the US. These new trends had implications on the traditional organisation model of stock exchanges. Starting with Stockholm Stock Exchange in 1993, a trend of demutualisation spread internationally. Many exchanges were turned into joint stock companies. After an initial phase where the stock exchanges' largest shareholders often would be their members, many stock exchanges have become listed companies with dispersed ownership. They have changed from not for-profit into profit maximising entities, competing with each other for trade and listed companies. The emergence of new trading venues like

multilateral trading facilities and other alternative trading systems has spread internationally and has given the exchanges competition when it comes to traded volumes, as have other trading arrangements like systematic internalisation which is matching of buying and selling interests which takes place within the broker firms' own electronic systems.

Developments in governing regulation have also affected the stock exchanges' activities. In EU, the Investment Service Directive (ISD) from 1996 opened for remote membership from broker firms across borders (but still allowing the member states to continue to keep concentration rules). The MiFID 2007 harmonized the rules on stock exchanges across the member states, abandoned the concentration rules and introduced regulation on the new trading systems, something which has led to a much fiercer competition between the market places (Cinquegrana and Lannoo 2010).

Consequences of the developments

The elements described above have had a profound impact on the stock exchanges' activities and business models, and have over the years turned them from the public utility institutions they once were perceived as into highly competitive service providers. Exchanges have responded to the changing environment and increased competition by consolidating and forming groups and conglomerates with other exchanges, MTFs or financial service providers (Wójcik 2011, Coffee 2002). This

trend seems to continue though some recent merger initiatives have been stopped by relevant authorities.²²

Increasingly, stock exchange earnings come from traded volumes. Whereas in 1995, just over 30 percent of the income related to trading and just below 20 percent related to listing, in 2010 the distribution was more than 50 percent from trading and less than 10 percent from listing (World Federation of Exchanges 2010).

The effects of the developments in the stock exchange business have been described by several commentators, both academics and by international organisations like IOSCO (2006) and OECD (Christiansen and Koldertsova 2008). On the positive side, it is pointed out that competition has lead to improvements in various domains such as development of trading systems and decrease of transaction costs (Ramos 2003, Mahoney 1997.) Changes in ownership and governance structures have also been perceived as beneficial in terms of loosening the ties between the stock exchanges and their dominant users, which often would be heavily represented in the governing bodies of the mutual exchanges. This has contributed to making the stock exchanges practices fairer and less biased in the favour of the members (IOSCO 2001).

However, also less beneficial consequences have been brought forward. Concerns have been raised that increasing fragmentation of trade can have negative effects on *price discovery* and *liquidity*. Less regulated markets offering more anonymity

²² For instance was a proposed merger between Deutsche Boerse and NYSE Euronext blocked by the European Commission in early 2012

can impair the overall transparency and the oversight in market surveillance, and possibly enable more insider trading (Christiansen and Koldertsova 2009).

Possible negative effects on stock exchanges' *regulatory functions* have also received attention. IOSCO (2006) points to the challenges of maintaining a proper balance between an exchange's public interest obligations and its commercial interests. Commercial pressures to maximise profits can lead to a "*race to the bottom*" in exchanges' regulatory standards. For instance, exchanges could lower their standards in listing requirements in order to generate higher income by attracting more issuers. Others causes for concern could be if *less resources* are being dedicated to regulation because the management and shareholder base are less interested in broader market interests, thus failing to make adequate recognition and provisions for such interests in decision making processes. It is also pointed out that there exists a *free-rider problem* because alternative trading systems are able to free-ride on the regulatory and supervisory functions of stock exchanges by offering trade in listed securities without sharing into the associated costs related to listing and oversight (Rydén 2010). Kahan (1997) argues that competitive stock exchanges are subject to incentive problems and lack of enforcement mechanisms in their regulatory activities.

On the other hand it is pointed out that for-profit exchanges may have even higher incentives to provide high regulatory standards, as they have more to lose if the participants lose confidence in the protections they expect from exchange trading (IOSCO 2006).

The move towards competition and profit maximisation may also affect the role of stock exchanges as promoters of corporate governance codes.²³ This area has been examined in an OECD paper by Christiansen and Koldertsova 2009 who mentions several examples where stringent regulation in the past may have lead to loss of business, for instance the Sarbanes-Oxley legislation which seemingly has had a negative impact on the competitiveness of the American capital markets. Karmel (2001) contends that it is difficult to predict whether listing standards pertaining to corporate governance will be used as a differentiating marketing device for selling higher quality trading products or whether listing standards will be abandoned in a competitive race to list issuers. She concludes that it is likely that the ability of exchanges to adhere to and enforce listing standards that become unpopular with listed companies will be more difficult for exchanges when they are themselves listed companies.

There are diverging views as to how the new institutional characteristics may play in and alter the stock exchanges' willingness to regulate the markets and continue to raise corporate governance standards. How the stock exchanges choose to form their regulations and policies can be influenced by different concrete factors like the responsiveness of their investor constituency, level of competition, the quality of the statutory securities legislation in the actual market and the traditions and

23 Corporate Governance codes pertaining to listed companies have been adopted in many jurisdictions. An example is the UK Corporate Governance Code (formerly the Combined Code). UK listing rules require companies with a Premium Listing of equity shares to report on how they have applied the Combined Code in their annual report and accounts.

path dependency of the exchange in question. There are examples that regulatory powers which traditionally have been placed on the exchanges have been relocated to other actors. An example to this effect is control of prospectuses and the overseeing of financial reporting which in EU have been transferred to the regulators. In some jurisdictions, the listing authority is performed by other bodies than exchanges.

These issues raised in this section will form basis for further discussions below in Chapter 5 where a framework for assessing possible actions regarding stock exchanges sustainability related efforts will be developed.

4.3 Recent developments in stock exchanges' approach to sustainability issues

The later years have seen a development where stock exchanges increasingly include social and environmental issues in their regulations and in products offered to the investors. The first steps in this direction were the creation of indices which focused on certain social or environmental issues. The first indices of this kind were not established by exchanges themselves, but by index providers like Domini (1990), FTSE and Dow Jones (Fowler and Hope 2007). The establishment of SRI indices answered to a growing demand for products that could be used by investors who had SRI requirements on their investments to create portfolios that were in line with their values and policies. In the later years other methods, among others

creation of specialist markets and incorporation of social and environmental issues into reporting and listing requirements, have been brought into the discussion.

There is a growing awareness about the exchanges' role within the ESG and sustainability landscape. Several recent initiatives have this as a focus area. The PRI has together with UN Global Compact, UNCTAD and UNEP launched a project relating directly to this subject, the Sustainable Stock Exchange Initiative. The World Federation of Exchanges (WFE) created a group for sustainable investment in late 2009. UNs Special Representative for Business and Human Rights, John Ruggie, has examined the role of company and financial market law for companies' human rights policies, also looking into the role of stock exchanges (United Nations 2010). In 2012, five stock exchanges²⁴ announced a commitment to promote long-term, sustainable investment in their markets.²⁵ In the Nordic countries, an investor coalition has created an initiative aimed at enhancing ESG awareness among the companies listed on Oslo and Stockholm stock exchanges.²⁶

This section will give an overview of some of the most significant methods used by stock exchanges to include ESG-issues and sustainability related themes in their operations. The field shows great variation in approach. One should note that the terminology in this field is not consistent, and the same words can be used to cover different issues. In this overview, the focus is on measures and rules referring

²⁴ NASDAQ OMX, BM&FBOVESPA, Johannesburg Stock Exchange (JSE), the Istanbul Stock Exchange (ISE) and the Egyptian Stock Exchange (EGX).

²⁵ *Sustainable Stock Exchanges Initiative: Exchanges Listing over 4,600 companies commit to promoting sustainability*, Thomson Reuters One, JUNE 18, 2012

²⁶ <http://www.svcinitiative.com/>

directly to *sustainable* and *sustainability*, or using the ESG-terminology as brought forward by PRI, encompassing environmental and social issues.

The descriptions in this section build in part on surveys of practices that have been undertaken on behalf of the Sustainable Stock Exchanges Initiative. The findings are presented in two reports; Sustainable Stock Exchanges: Real Obstacles, Real Opportunities (Responsible Research 2010) and Sustainable Stock Exchanges: A report on progress (Responsible Research 2012). In addition, some exchanges' practices are examined in more detail to give a clearer view on how ESG/sustainability issues are dealt with in policies and practice.

Main approaches

Building on the findings in the above mentioned reports, stock exchanges' course of action in the sustainability field seems to divide into three main categories:

- Indices which capture ESG relevant issues in different ways, and other information products
- Measures and requirements directed towards the listed companies, like reporting or listing requirements
- Provide specialized markets, either for certain kinds of investments, for instance clean tech or carbon markets, or for companies complying with higher standards, for instance within corporate governance

Seen from the functional perspective on stock exchanges, these approaches seem to develop from core functions within stock exchanges' role; facilitating markets, enhancing levels of information and laying down requirements on companies with

the aim to improve the quality of the market. In addition, stock exchanges also stand behind efforts aimed at raising ESG awareness, like guidance and education, and the stock exchanges' own CSR-policies and initiatives towards community development.

Indices

It seems that the most widespread measure at this point in time is various kinds of sustainability related indices. Eleven out of twenty one responding exchanges in the Sustainable Stock Exchanges survey (Responsible Research 2012) have launched such indices and seven more are planning to do so.

Indices are constructed portfolios or benchmarks of financial instruments with designated features. Indices are commercial products which are used for several purposes by investors, for example to determine the composition of a passively managed portfolio or as a benchmark against which active managers are measured. Index managers can be stock exchanges, affiliates of stock exchanges or individual companies.

Within the sustainability field, there are several different techniques in use.

Responsible research (2010) describes four categories:

- Broad based: constituents from all sectors, that meet certain ESG criteria
- Sector-based: constituents from one sector, that meet certain ESG criteria (e.g. sustainable real estate or finance)

- Sustainable sector-based: constituents from a sustainable sector, do not necessarily meet minimum ESG criteria (e.g. “green”, clean tech, renewable)
- Sustainable Issue-based: non-sector specific firms that focus on a sustainability theme (e.g. water scarcity, diversity, good governance)

The number of sustainability indices has grown rapidly. Among the WFE member exchanges, the number of indices offered directly or indirectly by exchanges has increased from one in 1999 up to nearly fifty in 2009 (Siddy 2009). Especially the large exchanges in developed markets, like NYSE Euronext, Nasdaq OMX, London Stock Exchange (through FTSE) and Deutsche Börse offer a large number of indices with varying focus.²⁷

Among the newer providers of sustainability indices are stock exchanges in emerging markets like Bombay Stock Exchange, Indonesia Stock Exchange, Korea Exchange and Bolsa Mexicana de Valores. Others, like Bursa Malaysia, Istanbul Stock Exchange, the Philippine Stock Exchange and Singapore Exchange are planning to launch such indices. When it comes to the different indices’ focus areas, Siddy (2009) notes that in general terms developed market exchanges are focusing primarily on investable indices which can be licensed to tracker funds or customized to client’s specific needs. In emerging markets however, the agenda has usually begun with profile raising, investor confidence and changing corporate behaviour.

²⁷ See Table 2 in Responsible Research 2010 report.

Specialised markets

There are two main forms of specialised markets that are interesting to look at from a sustainability point of view. One of them is market places especially designated for trading sustainability themed assets like for instance carbon emissions or water rights. Such market places can help strengthening regimes put in place to reduce emissions or manage use of scarce resources. Because they help create a price and facilitate liquidity and trade they can contribute in an important way in the creation of well functioning market for such assets. Examples of such market places are TMX Climate Exchange, the Australian Securities Exchange and Nasdaq OMX Oslo (formerly named Nord Pool).

A different but rare form of specialised markets operates with enhanced corporate governance criteria. This is the case in Brazil, with the BM&FBOVESPA Novo Mercado. Also the Philippine Stock Exchange has been working on plans for a separate board for companies that comply with higher corporate governance standards.

Measures directed towards the listed companies

Into this main category fall different measures aimed at influencing the behaviour of listed companies. Such measures can consist of i.a. listing and reporting requirements. One can also add other measures, like education and guidance on sustainability related matters which is provided to the companies by stock exchanges. Bursa Malaysia for instance has since 2006 published CSR guidance for listed companies, and has also been monitoring and publishing reports on progress on the quality of CRS reporting. Several ESG guidelines have developed

from earlier efforts by stock exchanges to improve companies' CSR practices through CSR guidelines (Responsible Research 2010). Also, already existing Corporate Governance codes have served as a basis for introducing ESG related issues by the way of exchanges widening the scope of already existing frameworks, for instance in the case of the Australian Securities Exchange.²⁸

Reporting and disclosure of companies' Corporate Governance and CSR policies are high on the agenda for the stock exchanges' sustainability initiatives. *Singapore Stock Exchange* has issued a policy note that encourages all listed companies to start sustainability reporting on a voluntary basis. Sustainability reporting is described as the consideration and integration of environmental and social dimensions into traditional financial reporting to develop a holistic approach towards corporate disclosure. The Stock Exchange of *Hong Kong* published in 2011 a consultation paper proposing that issuers should be encouraged to disclose information about environmental and social matters in annual reports according to an Environmental, Social and Governance Reporting Guide.²⁹

Some exchanges have included adherence to Corporate Governance codes and disclosure in this respect in their *listing requirements*. The *Australian Securities Exchange* does for instance require, on comply or explain basis, listed companies to disclose the extent to which the company has followed the exchange's Corporate Governance Principles and Recommendations. The code requires companies to

²⁸ The Revised Corporate Governance Principles and Recommendations (published by the ASX Corporate Governance Council in August 2007, with amendments in 2010)

²⁹ Consultation paper available at <http://www.hkex.com.hk/eng/newsconsul/hkexnews/2011/111209news.htm>

establish policies for the oversight and management of material business risks and disclose a summary of those policies. It is highlighted that such risks may include among others environmental, sustainability and ethical risk. Compliance with the corporate governance requirements are monitored by ASX who each year review annual reports for compliance with the listing rules and publish the results.

In Malaysia, companies are required to include in their annual reports a description of their CSR activities and practices. The requirement is incorporated in the listing rules of *Bursa Malaysia*.

In South Africa, the King Code on Corporate Governance which is now in its third revised version has played an important role for the development of corporate governance. The listing rules of *Johannesburg Stock Exchange* require all listed companies to make disclosure in line with the provisions set forth in the King Code.³⁰ Also in the annual report the company must state its compliance with the King Code. The King III addresses sustainability measures to a large extent and recommends *integrated reporting*, with emphasis on matters relevant to sustainability.

Shanghai Stock Exchange is an interesting example from several perspectives. In contrast to the other exchanges mentioned above which are demutualized and with for profit motive, Shanghai Stock Exchange is organised as a not for profit association with a semi governmental status and is directly administrated by the China Securities Regulatory Commission. The Shanghai Stock Exchange has

³⁰ [http://www.jse.co.za/Libraries/JSE - Listings Requirements - Service Issues/Service Issue_14.Sflb.ashx](http://www.jse.co.za/Libraries/JSE_-_Listings_Requirements_-_Service_Issues/Service_Issue_14.Sflb.ashx)

issued two documents relevant for sustainability issues: “Notice on Strengthening Listed Companies’ Assumption of Social Responsibility” and “Guidelines on Listed Companies’ Environmental Information Disclosure (Shanghai Environmental Disclosure Guidelines)”. Shanghai has developed a concept of Social Contribution Value Per Share (SCVPS), a method of measuring companies value creation. This method incorporates wider social objectives like payment of tax revenues, salaries, loan interests, donations and other value to stakeholders, minus any social costs that arise from environmental pollution and other negative factors (Siddy 2009). Noteworthy is also the Chinese “Green Securities Policy” adopted by the Ministry of Environmental Protection (MEP) and the China Securities Regulatory Commission. The policy aims to make it harder for polluters to raise capital by placing stricter requirements on environmental disclosure. Part of this policy is the “Green IPO”, which requires an assessment of environmental factors for companies in certain sectors by the MEP before an IPO. If permit is not obtained, the IPO cannot proceed as planned (Siddy 2009).

Conclusions

The investigation into exchanges’ practices seems to indicate that the prevalent course of action so far has been to establish various types of indices taking sustainability or ESG issues into account. Also some innovative new markets and market segments have been established.

There are signs that stock exchanges increasingly consider the possibility of going beyond the concept of indices and similar products and that at least some exchanges are moving towards putting clearer requirements and expectations on

the listed companies. This involves measures embedded in corporate governance codes, listing rules or reporting requirements, though these efforts are primarily found to be voluntary or on a comply or explain basis at this stage. The measures seem in general not to be very prescriptive. When it comes to disclosure, much seem to be left to the companies in assessing what is material and important to consider in light of their operations and specific situation, and generally give little guidance on specific issues. In this context it should be remembered that the core and basis in the regulation of listed companies is the public regulation in the jurisdiction in which they are incorporated. If the company's governing law for instance demands reporting on sustainability issues, stock exchanges' regulation of the same issues will be redundant. Another point to be made is that construction of indices or specialist market with sustainability requirements can potentially also influence the behaviour of companies who sees it as advantageous to be part of the index or traded at the marketplace in question (Gifford 2009).

Rules/guidelines which aim directly to changing company behaviour seem to be more prevalent in some emerging markets than in developed markets. This could have to do with weaker regulation of environmental or social effects of company activity, less rigorous security law, need to enhance trust in the market place in order to attract capital, ownership structures, level of competition or market traditions. The consequences of demutualisation and competition which are discussed above can affect stock exchanges' willingness to exert and enforce burdening ESG-measures. These factors will be further discussed under the framework which will be established in Chapter 5.

4.4 Summary

This chapter has explored the role of stock exchanges from a functional as well as an institutional perspective to examine potentials and impediments for stock exchanges to contribute to more sustainable company and market practices. Recent sustainability related initiatives have been examined to further the understanding of available tools and rationales for stock exchanges to act.

The findings lead to the preliminary conclusion that stock exchanges possess means that can be used to improve both market practices and company practices related to sustainability and that this could fit well with the exchanges' traditional role of enhancing market functions to the benefit of both market participants and the public interest. But there are also factors that can pose constraints on the stock exchanges' ability to take on a larger role, in particular relating to their business models and competitive environment.

5. Discussion

5.1 Overview

This chapter consists of two main sections. In the first section, a *framework* is developed and applied to the findings from the previous chapters in order to make some assessments about stock exchanges' potential with regards to take on a more active role in promoting sustainable market and company practices.

It is clear that stock exchanges will not be in position to remedy all faults or meet all needs that were identified in Chapter 2 and Chapter 3. The second section of this chapter discusses what can be done with the “residue”. By this I mean corrective measures which may be necessary and desirable to preserve and enhance the functions of financial markets, but cannot be expected to be undertaken by the stock exchanges. In particular it is asked if financial market regulation on national or supranational level should take on a larger role in this respect. Because of the scope and main topic of the thesis, this part must be limited but some questions for further research are identified.

5.2 A framework for assessing stock exchanges' potential for contributing to sustainable company and market practices

This section builds on the findings from Chapter 2 and 3 which identified factors related to financial markets which could prove to be detrimental from a

sustainability point of view. The key question is; can stock exchanges play a larger role in alleviating the sustainability related concerns described in Chapter 2 and 3 above? The question will be explored by using a framework which brings together factors that can be assumed to influence stock exchanges' potential for action.

The framework is constructed by building on the three main approaches stock exchanges have adopted (1. indices and information products, 2. specialist markets and market segments and 3. requirements on the listed companies or other measures aimed at changing company behaviour). For *each of the approaches* mentioned, different factors will be assessed as part of the framework. First, the *potential* of each approach for contributing towards more sustainable market and company practices will be discussed. Possible effects on company behaviour, on the level of ESG-reporting, price discovery, agency problems and management of ESG-related risks are particularly relevant.

Secondly, the next step of the framework is to look into *impediments and enablers* for each approach. Here, the findings in Chapter 4 are used as background for discussing factors which to a varying degree can influence stock exchanges' policies in these areas. Among the relevant factors are:

- **Organisational issues** like business models and ownership structures (i.a. expectations on earnings, level of government influence)
- **Level of competition** (relevant factors i.a. market structure, geography, time difference, incumbents vs. cross listing – home bias/gravitation toward liquidity)

- Between stock exchanges
- Between stock exchanges and alternative trading systems
- **Demand by investors:**
 - for *safe guards*: relates to quality of the market place and depends on the quality of securities regulation and regulatory environment
 - for *services*: information, trading products, related services (for instance analyses and advice), aid in implementing ESG-strategies
- **Tradition/history** (path dependency, knowledge)
- **Division of responsibility with governments**

For the approach which relates to requirements on companies, particular issues need to be addressed. These issues relate among others to questions concerning regulatory capacity of non-state actors, legitimacy, competition between jurisdictions, relevant expertise and resources.

Indices and information products:

Potential for impact

In chapter 4 it was established that the construction of different kinds of ESG and sustainability indices is a common approach by stock exchanges in both developed and emerging markets. Especially in developed markets this seems to be the prevalent approach.

The sustainability related benefits of indices and other information products may occur in different ways. The index provider has to develop a set of criteria for which companies to be included in the index. The process of setting the criteria can

lead to development of new methods and analytical tools. Transparency about the criteria may aid the investors, as it allows them to choose to replicate an index that builds on characteristics which are in accordance with their preferences.

Companies may see it as a benefit to be included in an index, because it can enhance their reputation and make them more eligible for investors with specific requirements. In turn this can reduce their cost of capital. If companies have an ambition to comply with the criteria in the index, it can change both the companies' production methods and their reporting. ESG-indices can be investable, thus making targeted investments available also for passive investors and investors with little in house capacity for ESG-analyses.

The potential of indices is limited by the non-mandatory characteristics. Adherence and volumes will be determined by other factors, among others by demand from investors. How “sustainable” the index is, will be contingent on the criteria. The criteria may be perceived as subjective and coloured by the interest in selling a product rather than having to demonstrate the suitability of the criteria to influence certain objectives. There is a plethora of different indices – something that makes it difficult to assess the actual sustainability effects. The criteria can be biased or skewed towards certain issues, and leave other important issues out of the equation. There is a risk investors can get “lazy” because of the “blue chip” stamp, and they are left to rely on the methods developed, and the monitoring performed, by the index manager. It has been argued that the deviation from mainstream benchmark composition in practice can prove to be insubstantial.

Enablers and impediments:

Because indices as a general rule are commercial products, the construction and management of an index will often be part of the overall business solution of a stock exchange or an affiliated company. The decision to offer an index to investors will be a result of strategic and commercial considerations. As an index is no more than a service that is offered to investors that are willing to buy, this approach will not bring about problems arising from risk of losing issuers to more laxly regulated exchanges. An index which satisfies the needs of investors can be a product that generates revenue for the owner/manager. The exchange's competitive situation will influence the strategic business decision to create an index, but will not, as with the case of mandatory requirements on companies imply a risk for companies delisting or the exchange to lose trade volumes as result. Once in place, indices will instead have the potential to raise the revenues, depending on how well the index fits with demand from the investors. On the other hand, if there is weak demand from investors for ESG-indices, such products are less likely to evolve. So far observations indicate that ESG-indices have had limited success in attracting investors. It is suggested that investors are more inclined to integrate ESG-analysis into their decision-making rather than passively tracking an index (Responsible Research 2012, IFC 2011).

Much of what is said here will be applicable to other products, like ETFs based on ESG-criteria.

Specialist markets or market segments:

Specialist markets have evolved within different fields such as corporate governance and trading of carbon emissions. In other words, this is a quite heterogeneous group. It can be useful to distinguish between markets facilitating trade in *new types of assets* and markets facilitating trade in *companies that have certain characteristics*.

Potential for impact

In the case where truly new markets are facilitated, for instance for carbon emissions and related derivatives, the contribution toward sustainability is related to making the assets **tradable, liquid and priced** by providing a functioning market for the assets. Secondary markets where such assets can be traded can prove to be important elements in the efforts to make emission regimes work and thereby help fulfilling the aim to lower emissions.

When creating special markets or market segments where entry is restricted to companies conforming to certain requirements, for instance within corporate governance (Bovespa) or ESG-related issues, the benefits for the investors will arise in much the same way as for indices. The investors can experience reduced costs for research and monitoring because the stock exchanges ensure that the entry restrictions are maintained. For companies, such markets or market segments can be beneficial because they facilitate a way for investors to distinguish between companies, thus making it easier for companies with good ESG-performance to profit from such efforts. This can enable them to use good ESG-practices as a competitive advantage, something which can make it more meaningful to focus on

such efforts because of the potential for lowering the cost of capital and enhance their reputation. Companies can thereby be incentivised towards better performance.

Limitations in the potential to influence sustainability can arise if there is little demand by investors to seek out investment in companies fulfilling the requirements, which in turn can lead to a low level of traded volumes and less effect on the cost of capital. If this is the case, the expected impact on company behaviour may be less, unless there are other important reasons, for example management of reputation among customers.

For specialist markets facilitating trade in “externalities” like carbon emissions, their whole existence will depend on public intervention and regulation to place caps on production or trade or in other ways limiting the use of the externality. If this prerequisite fails, it will not be possible to establish a price to trade on. The potential of such markets is therefore dependent on public intervention in the first place. Such intervention can be at a government level, as for instance is the case for carbon caps or trade. But it is also possible to construct markets based on private solutions, for instance for a local water source, if the control of the underlying resource is adequately managed by private mechanisms.

Enablers and impediments:

If designed in a way that meets the demand of investors, specialist market or market segments can lead to increase in incomes from listing and trading fees and constitute an additional source of revenue for the stock exchange. In that case, there

will be no conflict of interest with a profit maximizing objective on the part of the exchange. Accordingly, if there is little demand by investors to buy the special assets that are traded in the market place, or for the service or information provided on the special market segment, new markets or segments are less likely to evolve. Changes in investment beliefs and raised awareness about ESG-issues can on the other hand lead to increased investor interest for assets with specific ESG characteristics.

Particular constraints relate to specialist markets where some kind of intervention is needed to “produce” the tradable assets, for instance assets related to schemes aiming to reduce externalities (climate change). As mentioned above the creation of such markets depends on some kind of public or private intervention to produce tradable assets. Also, their efficiency will depend on governments’ (or private solutions’) ability to design rules that can form basis for predictable market conditions and good pricing mechanisms. Thus, the well-functioning of such markets can be inhibited by political inertia and lack of political stability.

Rules and requirements directed towards the listed companies

The investigation into different stock exchanges’ practices within the ESG-area showed that Corporate Governance codes are quite well established in many parts of the world. When it comes to requirements directly related to ESG, the most common measure applied at the time are guidelines on *disclosure* of ESG-issues. There are also examples of requirements that extend beyond disclosure

requirements and are aimed more directly at changing the listed companies' behaviour. Some exchanges have adopted "soft" measures by the way of CSR-guidelines, teaching etc.

Potential for impact:

Binding requirements on listed companies may change company behaviour in a direct manner, if successfully implemented. It could lead to better management of ESG issues, and could contribute to reduce externalities.

Reporting requirements on ESG-issues are less prescriptive than actual requirements aimed at changing company behaviour. Reporting requirements can encourage companies to change their behaviour and methods in order to be able to report good results. Correspondingly, new reporting requirements may increase the awareness of the listed companies' governing bodies towards these issues. Enhanced flow of information can give important price signals, if the information is understood and used. This may require education on the side of the users (analysts/investors) of the information to enable them to understand and incorporate the information in their decisions making processes. There is a risk that the information will get lost in a constant flow of information and reporting from the companies ("reporting redundancy"). If the time horizon of the investor is short, information about issues with a long-term impact may be overlooked (Froot et al 1992).

Corporate governance codes in their traditional form aim to improve corporate governance in the relationship between the investors and the listed companies.

Corporate governance codes can give the investors better tools to advance their position in relation to company management and reduce principal-agent problems. Depending on what the investors focus on, improved corporate governance can strengthen the management of ESG-issues as well.

There is little evidence of stock exchanges promoting governance codes or similar instruments aimed at improving governance in the relationship between end asset owners and the manager companies who act on their behalf in the capacity as members of stock exchanges. As pointed out in Chapter 3, much consideration has been given lately to agency problems between end owners and managers. Among others has this been named as a possible source of excessive short-termism in financial markets, possibly with detrimental effects on sustainability as a result. Improved tools for governance in the relationship between end owners and managers could reduce agency problem and i.a. help align the time horizon the managers operate under with the end owners' time horizon. An example of an effort in this respect is the ICGN Model Mandate.³¹ It is possible that stock exchanges could play a role as promoters of initiatives like this aimed to empower principals and help them manage their relationship with managers.

ESG-related teaching and guiding initiatives promoted by stock exchanges can help develop the understanding of how ESG related matters can influence on risk and opportunities in a short and long time horizon. Expanding the knowledge in this

³¹ *Model Contract Terms between asset owners and their fund managers*, available at <https://www.icgn.org/best-practice>

area can encourage the development of new methods for measuring and managing ESG related risks and contribute to a common understanding between investors and companies on how to report on these issues in a meaningful way.

Enablers and impediments:

How effective can stock exchanges be expected to be in imposing ESG-related requirements on the listed companies? The answer to this question will depend on several factors, among others how well it fits with their business model and competitive situation on the one hand, and on the other hand, how well stock exchanges are suited and equipped to lay down and enforce such rules. It is also important to consider the interface with other regulatory regimes that affect stock exchanges' operations.

Bearing in mind the changes in stock exchanges' operating environment described in Chapter 4, it seems reasonable to assume that the extent to which a stock exchange will impose new and burdening requirements on the listed companies will be influenced by the impact on the exchange's competitive position. Decline in the number of listed companies and falling trading volumes can be detrimental to the earnings of an exchange. If new requirements can be expected to be perceived as cumbersome by the companies and thus make them seek out other trading venues, it seems less likely that exchanges will adopt such measures. The impact of such obstacles will depend on several variables, among others how strong competition they face. The competitive position of a stock exchange will be influenced by different types of factors. The regulatory environment the exchange operates within is very important in this context. If a stock exchange has a legal

monopoly to organise trade in listed securities or there are concentration rules in place, the situation is very different situation than for exchanges that operate in competition with other exchanges and alternative trading systems (ATS) for listing and traded volumes. Other relevant factors are the strength of the home bias in each market, the level of liquidity and if the exchange is particularly important for a particular niche of companies (for instance oil, electronics, shipping). The geographic element can also be important in this respect. The significance of a stock exchange can be enhanced if it operates in a different time zone than other important exchanges, because it allows the trade to continue in hours where these exchanges are closed for business. An exchange can also gain importance if it is situated in a region where the neighbouring countries have less developed stock markets.

Of course, ownership structures and expectations on earning from the owners will impact how the factors above play out. The competitive situation will maybe be of less importance for exchanges with large governmental influence or ownership and less expectation on earnings.

Competition could also have the opposite effect, if stronger ESG-requirements may attract issuers and investors. This will to a large extent depend on the investors' investments strategies and beliefs when it comes to ESG. If investors have a strong interest in ESG, exchanges that place ESG-requirements on companies should be able to attract more investors and larger trading volumes. The demand side is thus relevant also in this context. Stock exchanges could also try to anticipate regulatory

moves within the ESG field to position themselves to try to gain a first mover advantage.

Aside from the strategic and commercial considerations mentioned also other factors will play a significant role for how successfully exchanges can be expected to adopt effective regulatory measures. This has to do with the nature and status of stock exchanges, mainly being incorporated as private entities. Several issues arise when non-governmental and self regulating entities act in a regulatory role.

The first parameter to consider in this respect is the level of discretion the exchange operates under when it comes to laying down rules. As explained in Chapter 4, exchanges are usually subject to comprehensive regulation. The design and reach of exchange regulation vary between jurisdictions. The potential for stock exchanges to lay down rules will be influenced by the content of the mandatory legislation governing their activities, the scope of delegated powers to lay down rules governing the market participants and activities *and* the scope of rules which they can lay down in the capacity of being a private service provider, on a contractual basis. The room for manoeuvre has to be assessed on a case by case basis. Even with this general point of departure in mind, it is possible to describe some general features that will affect to which extent exchanges successfully can implement ESG-requirements on listed companies. In this discussion the focus is in particular on the situation for stock exchanges that are organised as private companies with for profit motive, and act as such in a regulatory process.³² For stock exchanges that either are owned or controlled by states, or act directly on

³² Often referred to as Non State Regulators (NSR) or Self Regulating Organisations (SRO)

behalf of the government according to legal provision, the situation will be different.

Several factors can act as constraints on the efficiency of stock exchanges as regulators. In a different context, Quinn (2009) criticises self ordering as regulatory principle in financial markets among others for failing to constrain opportunistic behaviour. Kahan (1997) argues that stock exchanges are subject to significant incentive and enforcement problems when it comes to designing and administering securities regulation. Stock exchanges acting as SROs have no democratic mandate to act as legislators, something that can affect the legitimacy of their rule making. Black (2009) points to the importance of “role legitimacy” when considering the legitimacy of non-state regulators in performing a regulatory role. This can suggest that stock exchanges’ legitimacy will be questioned if making rules that are seen to fall outside the scope of stock exchanges’ traditional role of regulating the market. Also, ESG-issues will in most cases fall outside of the expertise stock exchanges possess. As a general view, they can therefore not be expected to enact regulation that targets specific problems very well. This can be overcome by use of specialists, but the focus will probably have to be confined to some certain problem areas.

A different set of problems relate to regulatory arbitrage. The globalisation and possibilities for companies to choose venue for listing to “friendly” listing requirements can make it more difficult for exchanges to implement and enforce rules that are perceived as irrelevant or cumbersome for the companies seeking listing. On the other hand, competition between regulatory regimes can lead to

stricter regulation in cases where this is favoured by the investors. Karmel (2001) points out that it is difficult to predict whether listing standards will be used as a differentiating marketing device for selling higher quality trading products, or whether they will be abandoned in a competitive race to list issuers. However, stricter listing requirements can give issuers a possibility to “opt into” higher standards than their national legislation provides on issues important for the company (La Porta et al (2000), Coffee (2002)).

To conclude this point, it seems fair to suggest that there will be limitations regarding what exchanges can be expected to perform and achieve by their own initiative when it comes to regulatory measures. Expectations regarding exchanges’ willingness and ability to adopt and enforce regulation must be seen in light of their objectives as profit maximizing entities, their status as non-governmental entities and their inherent role as market facilitators.

A special feature that can enhance the impact of ESG-requirements is that the reach of the exchanges’ regulation can be less restricted than national legislation. The scope of an exchange’s regulation is the listed companies that have subjected themselves to it by an implicit consent following from the act of listing.

Requirements imposed by stock exchanges can be made applicable to all issuers and members, and thus reach also companies that are domiciled in other jurisdictions. This can be of particular importance if companies that seek listing are incorporated in countries with low levels of regulation or enforcement regarding ESG-issues.

Overall conclusions

Stock exchanges have potential to contribute to more sustainable company and market practices, but will face constraints. The level of constraints will vary for the different approaches as some will influence the stock exchanges' earnings and competitiveness more than others, and some in a negative manner and some in a positive manner. It can be expected that strategies will gravitate towards approaches that will not impede the exchanges' competitive situation or their incomes, but rather enhance competitiveness and income potential. This suggests that innovation first and foremost will take place where there is a customer/investor demand for new products or services, like new indices and new information products or market places for new types of assets, like carbon trading or special market segments. These conclusions seem to be in good line with the findings in the reports that have looked into the actual developments (Responsible Research 2012). A reciprocal action may be obtained by requiring investors to adopt ESG-policies or report on their strategies, because such measures may increase the demand towards the stock exchanges. The UK requirement on pension funds to report on whether or not they used social, environmental and ethical criteria in their investment process had such an effect (Clark and Hebb 2004).

When it comes to *regulatory measures* it seems that innovation by stock exchanges has the largest potential to take place if there is a demand from investors. Increased demand can arise from responsible investors that need better services to facilitate implementation of their RI-policies, or from mainstream investors that increasingly find companies' strategies and performance on ESG-issues relevant. It can be

expected that voluntary rules and guidelines will prevail over mandatory requirements; less prescriptive rules over rules that can be perceived as interventionist and market conform approaches over non-market conform. The level of exchange regulation will also vary with the quality of the existing government regulation in the relevant areas. This can explain why exchanges in more immature markets seemingly are more active in engaging in ESG-initiatives – it can be in their own interest to enhance the functioning and governance in the market to attract investors.

5.3 A call for action for regulators?

Earlier chapters have contended that there are sustainability related issues that may pose a threat to the functioning of financial markets to the detriment of both the public interest and the market participants.

In the previous section it has been argued that there is some potential on the stock exchanges' side to alleviate such problems. This is interesting in and by itself, but stock exchanges can anyhow only play a partial role in tackling such problems.

This section looks into the question if there is a case for incorporating sustainability related concerns in the scope of conventional financial market regulation to a larger extent than is the situation today.

Financial markets are surrounded by more regulation than most other markets. In fact, a common view is that the regulation and the regulatory agencies form an

integral part of the financial system (Mishkin 2011, Knudsen 2009). Financial market regulation rests on conceptual foundations largely stemming from economics. This means that the basic premises for the contents of the regulation are to be found in economic theory and in beliefs about how markets function (market beliefs). The overriding rationale behind financial market regulation is to correct *market failure*, thereby allowing the market to perform its main function – the allocation of scarce resources between parties and over time – as efficiently as possible. Thus, there is an important *public interest* objective embedded in financial market regulation, acknowledging the notion that well functioning financial markets are not an end goal in itself, but a means to achieve larger economical and societal benefits.

Financial market regulation is not static; as economic theory develops through research and experience and views and beliefs change, this can be expected to feed into the regulation. An example of this is the recent financial crisis which has prompted substantial changes in many parts of the regulatory environment.

When discussing the role of financial market regulation, it is important to see this in relation to other regulatory areas. Above, it has been pointed out that much of the relevant risks originate from environmental or social externalities that are a by-product of companies' production. The sources of the environmental and social risks which can prove to be relevant also in financial market context thereby lie within the realms of other regulatory areas like for instance environmental law and laws protecting civil and social rights. There are also many different conventions and international agreements that have regulation of environmental and social

issues as their objective. However, the efficiency of these areas of law and relevant conventions can be constrained by different factors like lack of political will to lay down restrictive regulation, lack of efficient regulatory tools, weak enforcement, and regulatory arbitrage between jurisdictions, strong lobbying groups and resource limitations on the hands of the regulators.

Other relevant areas of law in this context are company law and rules on accounting and auditing. Company law forms the basis for decision making processes and requirements on governing bodies in companies and can thereby influence the level of agency problems. Company law, accounting and auditing law can also impose obligations on companies to report on their management of sustainability related risks.

Financial market regulation cannot take over the role and intentions of these areas of legislation. But to the extent the efficiency of such legislation is limited and sustainability related problems persist, it can be argued that the detrimental consequences for financial markets should be understood and, if necessary, addressed by financial market regulators, within their context.

Trust and confidence in the financial market and in its ability to perform its functions is a necessary prerequisite for the markets to fulfil the desired societal functions described above. Financial market regulation does therefore focus on protecting the functions of financial markets that are important for the confidence of market participants, particularly the pricing mechanism, liquidity and management of risks. It is also an important objective of financial market

regulation to reduce the systemic risk inherent in financial markets to avoid the development of financial crises. The main objectives of financial market regulation can be summed up in the notions of *well functioning markets* and *financial stability*.

The interesting point in this context would therefore be to look into if the risks identified in Chapter 2 and 3 can be regarded as representing risks and market failure which traditionally lay within the scope and regulatory objectives of financial regulation to deal with. If sustainability related issues can threaten factors which traditionally are protected by financial market regulation, it could be argued that these should be dealt with by financial market regulation and regulators.

An interesting example of this approach is a letter recently sent to Bank of England where several practitioners; NGOs and academics argue that climate change may constitute a systemic risk relevant for financial stability. In its reply, Bank of England does not dismiss the idea and states that it will look at the question in light of BoE's criteria for assessing financial stability. It can also be argued that if ESG-related externalities, short-termism and lack of tools can threaten market efficiency, lead to increased systemic risks or act as obstacles for legitimate and well functioning markets, it should be relevant for financial market regulators.

Factors that can impede a widening of the scope of financial markets regulation:

It seems that a case can be argued for bringing ESG-issues higher on the agenda in conventional financial market regulation. To what extent this will be realised will

be determined by political considerations and decisions (Karmel 2001). Relevant elements in such considerations may be:

- The regulators' perception of the problem, which may depend on the strength of market liberalistic paradigm for the beliefs about the markets' ability to correct itself and make socially beneficial allocations. Regulators may also feel that other solutions are first best, for instance tackling externalities by government intervention.
- Regulators' path dependency, knowledge and resources (not trained in assessing ESG issues)
- Competition between financial centres. Because of regulatory competition also among states and the state's desire to promote their own national financial centres, government regulation may face constraints. Even within EU, where most of the securities law is harmonized, member states may try to maintain their competitive regulatory advantages when implementing new EU-legislation. An example of this is the reluctance in UK against a strict implementation of the EU-rules about remuneration systems in the financial sector.

A case for regulation on a supranational level?

The question arising from this will be who else can take on a larger responsibility towards ensuring more sustainable solutions in the financial markets and discuss this with regards to international organisations who's recommendations and guidelines potentially can cover several markets and thereby provide more uniform rules and a more level playing field.

The problems of striking the right level of regulation can possibly be aided by international standard setters and voluntary codes (for example corporate governance codes). Examples of institutions and organisations already active within the field and who potentially can expand their engagement count IOSCO, IASB, EU (and sub committees), OECD, GRI, IIRC (International Integrated Reporting Council), PRI and CDP. Findings in the Responsible Research report (2012) suggest that stock exchanges taking part in the study would be positive to an international approach.

The strong interconnectedness of financial markets because of globalisation leads to systemic risks across borders well illustrated by the recent financial crisis and debt crisis. If one accepts the proposition that at least some ESG-related factors in the long run can pose a systemic financial risk, this should be a consideration for regulators. The discussion above shows that efficient regulation may be enhanced by new approaches and regulatory innovation that takes place on a supranational level.

6. Conclusion

This thesis has explored the potential for stock exchanges to take on a larger role with regards to promote more sustainable company and market practices. The following summarises the discussions and presents the insights gained from the theoretical analyses and the investigation into the workings of stock exchanges, and sustainability related initiatives already undertaken by stock exchanges.

The two theoretical chapters, Chapter 2 and 3, explored two different sets of rationales for a larger involvement by stock exchanges in enhancing sustainability related issues in financial markets. It was noted that the main part of environmental and social issues relevant in the context of listed markets stem from the activities of companies. Companies' activities are first and foremost governed by government regulation covering either general aspects (like company law and accounting law) or targeting specific adverse effects of their operations (for example environmental law or labour law). However, regulatory efforts to restrict negative outcomes of company activity can be constrained by different factors like weak regulatory tools or weak enforcement, corruption or conflicting interests within the national state issuing the regulation. The agenda of responsible investment has arisen in part as the investors' response to unchecked ESG-issues stemming from the company sector.

A closer investigation revealed that there are several agendas which differ quite substantially both with regards to objectives and implementation, existing side by side under the overarching concept of responsible investment. At the extremes are

on the one side investors having a fully value based or “ethical” rationale behind their actions, and on the other side, investors who aim to capture “green alpha” by exploiting market inefficiencies within certain sectors like for instance clean tech or other environmental friendly areas. In between these, there are investors who believe that better understanding and management of ESG issues may deliver a better risk adjusted return on portfolio level or who want to influence the investee companies’ operations in order to increase positive externalities and reduce negative externalities (raise “ESG beta”). The responsible investment agenda also encompass views that the markets suffer from dysfunctions which lead to inefficient allocation of capital, to the possible detriment of both investors and society.

A lesson learned is that the RI agenda could benefit from being clearer about its objectives. In particular, it seems to be useful to be more aware about the distinction between the investors’ interest in sustainable financial markets and the general public interest in a sustainable development. The interests of the actors in financial markets may coincide with the societal interest, but not necessarily. Dividing more clearly between what lies within the role of the investors and what first and foremost lies within the role for regulators and government could help designing better tools to tackle the issues. The debate can become unfocused if there are expectations directed towards investors within areas where the real influence de facto lies with governments and regulators.

No matter which of the different interpretations of RI an investor adheres to, it seems like stock exchanges can offer important support in implementing their

strategies. Stock exchanges' contribution towards enhanced ESG reporting and disclosure will be useful, and so would helping investors by delivering analytical tools and standardized metrics. In line with stock exchanges' traditional role, they can help alleviating collective action problems by coordinating investors' interests and assessing and monitoring of the listed companies' ESG performance.

The second theoretical chapter (Chapter 3) explored market functions and dysfunctions, and looked into the relationship between the activities taking place in the financial markets and the prospects for sustainable development. The centre of the discussion was still company induced risks and opportunities within the ESG area, but now from a slightly different angle. The chapter took as point of departure the function of financial markets to allocate resources to companies and projects. Paired with shareholders' powers to influence company behaviour it is suggested that the financial market is an important venue for influencing matters of importance in a sustainability context.

An investigation into the Efficient Market Hypothesis and criticism of it, especially in light of the recent financial crisis, showed that the belief in the markets' own ability to contribute substantially to an allocation of capital that is efficient seen from a societal point of view seems to have been exaggerated. Market failures like externalities and other factors like short-termism and lack of good methodology can explain why sustainability related issues not necessarily are well reflected in the markets.

If the process of resource allocation through the financial markets does not factor in sustainability related effects, this can be to the detriment of both the society at large, but also the longer term interest of investors. Especially for large and long-term investors, such issues may become relevant if they negatively affect the overall return in a market or segment. Externalities can prove relevant also in other ways, for example by creating systematic risks that the investor in principle not can diversify away from. Lack of focus on ESG-issues can also lead to over- or underinvestment in assets which may not prove to be neither environmentally nor financially sustainable, for instance because of shifts in regulatory environments. Such misallocation of capital may also be detrimental in a larger societal sense, apart for the obvious detrimental effects of the environmental damage in itself. Further, if serious detrimental social and environmental effects arising from company activity are allowed to develop unchecked it could also be hypothesised that the legitimacy of whole segments or markets would be challenged. This could adversely affect future investment opportunities.

Chapter 3 leaves a question if sustainability related risks and opportunities in financial markets are sufficiently understood, seen both from an investor perspective but also from a regulatory perspective. Seen from a regulatory perspective one should remember that the first best measures would be those which tackle the problem at the source, i.a. effective environmental or social regulation control the adverse effects. But, as such legal measures are not always effective the next question is to see if the regulation pertaining to the financial markets should embed these issues to a larger extent.

Important insights from the investigation into functions of stock exchanges in chapter 4 were that the traditional role of stock exchanges indeed puts them in position to enhance company and market practices with regards to sustainability issues. Stock exchanges traditionally play an important part in the financial markets by performing various functions which enhances the market conditions. Exchanges provide the platform for trading, assess companies as part of the listing process, require and disseminate information, monitor trade and provide tools for corporate governance. A well functioning stock exchange is to the benefit of the participants in the financial markets and there is also a considerable public interest tied to stock exchanges' operations. Profound changes in stock exchanges' business models and operating environments the last decades have weakened the public utility aspect that has been associated with stock exchanges. Many significant exchanges have now been turned into companies with for profit motive operating in competition with both other exchanges and alternative trading venues. This has affected many aspects of the stock exchanges operations. The regulatory role has in several instances become less prominent, as legislators has removed powers and placed them with government regulatory agencies or supervisory bodies instead.

Stock exchanges in different parts of the world have adopted various sustainability related initiatives. The initiatives seem to naturally divide into three main groups. The prevalent course of action so far seems to be the construction of indices focusing on ESG-issues or other information products, like for instance ETFs. The establishment of innovative markets or market segments for sustainability related products is another, for instance for carbon derivatives. Requirements on

companies, especially in the form of sustainability related reporting on comply or explain basis is to be seen.

By using a framework established for analysing the different type of initiatives adopted by stock exchange, it possible to make some assessments of what may be the future development. The framework discusses if and how each different approach can influence sustainability related factors which in previous chapters have been identified as relevant in a financial market context (i.a. company induced externalities, reporting of ESG-issues, pricing and risk management). Second, impediments and enablers for each approach are assessed. This involves discussion of organisational and institutional factors, level of competition, demand by investors, tradition and history (path dependency) and division of responsibility with governments and regulators.

The analysis indicates that stock exchanges have potential to make a positive impact on sustainability related matters, but are likely to face constraints.

Constraints may arise from the exchanges' business model with requirement on earnings from owners and from competition from other exchanges and alternative trading venues. This suggests that initiatives are most likely to develop as voluntary measures, and be driven by demand from the market participants.

An important insight from the thesis may be that what one seeks to obtain from the stock exchanges are measures that one should rightly ask the regulators to provide. The question is then, which regulator? With this in mind, the thesis proceeded to examine whether sustainability related issues should inform financial market

regulation to a greater extent than seems to be the situation today. The thesis has contended that lack of attention towards ESG-factors can pose a threat to the financial system's ability to perform its main function - the allocation of resources between parties and over time - in a good manner. Looking at this through the lens of the traditional objectives behind financial market regulation; ensuring financial stability, and efficient and well-functioning financial markets, it is argued that this may indeed be the case. Malfunctions of the financial markets could lead to negative effects like systemic risks and misallocation of capital, something that would be to the detriment of the market participants, as well as to the public interest.

Even though this can make a good case for regulatory intervention, there are factors that could hinder developments in this direction. Such factors may include path dependency, a perception that sustainability related issues fall outside the scope of the objectives of financial markets regulation, and competition between financial centres. This leads to a proposition that international standard setting entities have a role to play to overcome some of the impediments, especially those relating to cross jurisdictional limitations of national legislation. If international standard setting entities took on a greater responsibility in this respect, certain impediments must be expected to decrease, among others because it would better accommodate the need for a "level playing field."

What would constitute an optimal division of labour between national and international regulatory regimes is a comprehensive question and will fall outside the scope of this thesis. The field would benefit from further research, for example

empirical research on possible effects of social and environmental externalities on systemic risks and financial stability. It could also be interesting to look into questions relating to how trust and legitimacy of the financial markets may be affected by how externalities are dealt with in a financial market context.

List of abbreviations

ATS: Alternative Trading Systems
CDP: Carbon Disclosure Project
CSR: Corporate Social Responsibility
EMH: Efficient Market Hypothesis
ESG: Environmental, Social and Governance Issues
ETF: Exchange Traded Funds
GRI: Global Reporting Initiative
IASB: International Accounting Standards Board
ICGN: International Corporate Governance Network
IFC: International Finance Corporation
IIRC: International Integrated Reporting Council
IOSCO: The International Organization of Securities Commissions
IPO: Initial Public Offering
ISD: Investment Services Directive (93/22/EC - no longer in force)
MiFID: Markets in Financial Instruments Directive (2004/39/EC)
MTF: Multilateral Trading Facility
NSR: Non-State Regulator
OECD: Organisation for Economic Co-operation and Development
PRI: Principles for Responsible Investment
RI: Responsible Investment
SRI: Socially Responsible Investment
SRO: Self Regulated Organization
UNGC: United Nations Global Compact
UNEP FI: United Nations Environment Program - Finance Initiative
UNCTAD: United Nations Conference on Trade and Development
WEF: World Economic Forum
WFE: World Federation of Exchanges

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