Corporate Disclosures Regulations

Social Solution or a Problem?

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Abstract


Regulations are argued to have the answer to solving various social and economic problems that society faces today (e.g., climate change, tax evasion, etc.). However, regulations may instead become the problem (e.g., overregulation). The central research question of this doctoral thesis is “are corporate disclosures regulations a social solution or a problem?”

To answer the central research question, Papers I and II examine the economic effects of an EU-wide audit reform, the Annual Accounts Directive: 2013/34/EU, on firms and the society. Papers III, IV, and V examine firm behavior to assess the need for public regulation of nonfinancial reporting in the light of an EU-wide reform, the Nonfinancial Reporting Directive: 2014/95/EU, commonly known as the NFRD.

The thesis posits that the current implementations of these reforms in some settings are imperfect and thus costly for the firms and society. It recommends deregulation of the monitoring of financial disclosure, i.e., to allow more small firms the option of deciding if an audit is beneficial for them or not. On the other hand, recommends a different approach for regulating nonfinancial reporting, e.g., sustainability reporting. For instance, regulations that can influence firms’ governance structure, e.g., board diversity. A firm with a diverse board is more likely to adopt a sustainability agenda which is better aligned with the expectations of the EU regulators.

Stakeholders use firms’ disclosures to evaluate its performance and behavior for various decision making. For example, shareholders, in their investing or divesting decisions; analysts, in making various forecasts and recommendations; or governments, in assessing the need for reforms. Historically, stakeholders commonly used financial information for these types of decision making. Hence, there are well established generic measures to evaluate firms’ financial information (e.g., earnings quality measures and financial-statement ratios). Nowadays, stakeholders are increasingly using firms’ sustainability related information in their decision-making process as well. However, replicable and scalable generic measures to evaluate such information are missing. This thesis develops objective approaches and a generic measure, to evaluate firms’ sustainability related disclosures. The developed approaches for analyzing unstructured text data may be applied to other fields that can benefit from the use of natural language processing tools.

Keywords: audit choice, audit regulations, corporate governance, corporate sustainability, EU-wide accounting reforms, firm growth, greenhouse gas emissions, machine learning, microdata analysis, natural learning processing, new institutional economics, nonfinancial reporting, survey

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Gävle, September 2021
Asif M Huq
List of Papers

This thesis is based on the following papers, which are referred to in the text by their Roman numerals.


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PART I
Background

The beginning of the 21st century was marked by some of the most infamous accounting scandals\(^1\) that led to comprehensive modifications of accounting and auditing regulations\(^2\). An example of this is seen in the United States of America (USA) through the Sarbanes-Oxley Act of 2002 (SOX). This time-period also marked a major step towards the harmonization of global accounting practices through the adoption of a common worldwide reporting system, the International Financial Reporting System (IFRS). Even though there are advantages to such regulations, for example, the SOX, that aimed to strengthen the accountability of firms and their auditors; or the IFRS, which aims to promote comparability and consistency the way firms around the globe disclose financial information; or the various carbon pricing mechanisms (emissions trading system or carbon tax), which are aimed at curbing emissions of greenhouse gases (GHG), there are also disadvantages to many of these regulations. A good example of this is the decline in stock prices of certain firms after the adoption of the SOX (Litvak, 2007), or the high switching cost to IFRS from national GAAP (generally accepted accounting principles) for certain firms (Kaya & Koch, 2015). Thus, these regulations may have many unintended positive or negative consequences as well.

Regulations also increase the administrative burden for many firms (Federation of European Accountants, 2016). They suppress corporate freedom and information that many firms would have otherwise disclosed voluntarily (Dye, 1986). Moreover, these regulations also increase the cost of doing business for firms. For example, due to increased regulations many firms are forced to consider and disclose additional information that may require additional resource allocation (e.g., staff time, monetary funds, etc.). Paradoxically, various governments and supranational organizations (e.g., European Union [EU]) are vocal in that they are committed to reducing the administrative burden and cost of doing business for firms (e.g., EU proposal

\(^1\) See Green (2004) for an overview of these accounting scandals.
\(^2\) In this thesis, the term “corporate disclosure regulation” is used to denote both accounting and auditing regulations, since these regulations essentially concern firm disclosures for the purpose of this thesis. Accounting regulations primarily deal with disclosures of financial and nonfinancial information while auditing regulations primarily deal with monitoring of these disclosures. Government enacts public regulations while non-governmental organizations and industry bodies issues private regulations. Public regulations are legally sanctioned while private regulations are voluntary.
COM/2009/0083 final), while simultaneously coming up with new regulations for the private sector (e.g., the Non-Financial Reporting Directive: 2014/95/EU – also called the *NFRD*). Indirectly, these regulations may also affect other members of society since firms may eventually have to pass down the costs arising from the imposed regulations to other members of the society, for example, to customers – by increasing the selling price of goods and services; to employees – by lowering or not increasing wages to levels the firm would have otherwise had; or to the state – by engaging in aggressive tax management behavior to pay lower taxes. Thus, regulations that are geared toward various firm outcomes and behaviors may also affect society at large.

As such, regulations that are intended to be solutions for various social and economic problems can often become the problem itself (Coase, 1960; Pfef- fer, 1974; Stigler, 1971). Even though many of these regulations go through rigorous empirical investigation, evidence of casual effects, real effects, and holistic evaluation of corporate disclosure regulations is rather limited (Fontes, et al., 2005; Healy & Palpeu, 2001; Leuz & Wysock, 2016). This thesis poses the question “are corporate disclosure regulations a social solution or a problem?” and evaluates some contemporary corporate disclosure regulations. To answer the central research question, the thesis investigates how these regulations affect firms’ outcomes and behaviors, as well as society at large (e.g., the wider economy in which a firm operates).

While proponents of the free-market ideology argue that *market* is the best governance mechanism, *regulations* are often used to govern firm behavior. These regulations are geared towards a myriad of issues, including financial management, auditing, internal controls, labor practices, environmental performance, and human rights policies. Arguably, some of the most complex types of regulations are those related to firm disclosures (both financial and nonfinancial), because these regulations are not only targeted at the type of information that firms should disclose, but also towards assuring or verifying such disclosures (e.g., audit by third parties). These regulations are thus also extended to third parties (e.g., auditors), who provide such verifications or assurance services of firm disclosures. Previously, such regulations were limited to reporting and auditing of financial reporting only. However, more recently, these types of regulations are also extended to nonfinancial reporting. What started off, purely, as firms voluntarily disclosing information related to their work with society and the environment, was quickly picked up by private regulators, e.g., Global Reporting Initiative (GRI) and Sustainability Accounting Standards Board (SASB), and now, is developing into widespread government regulation (e.g., implementation of the EU’s NFRD by its member states). Indeed, the more firms disclose information voluntarily, the more governments mandate such information through regulations in later periods (Dye, 1986).
Firms often sought these regulations themselves, and actively influence the designing process of such regulations (Stigler, 1971; Zeff, 1978). Thus, it is questionable if the state uses these regulations to govern or to favor the firms. Nonetheless, in recent times, many scholars have called for increased governmental interventions (e.g., Deegan, 2019; Hörisch, et al., 2020; Peters & Romi, 2013; Prado-Lorenzo, et al., 2009), especially to regulate firms’ nonfinancial reporting related to the various externalities they cause. Public regulations have long been used by the state to govern the private sector (Stigler, 1971). On the other hand, private regulations became more prevalent by the turn of the 21st century, and, unlike public regulations, private regulations are largely voluntary and are not legally sanctioned (Vogel, 2010).

To answer the central question, the thesis examined firm behavior and outcomes in the light of two contemporary corporate disclosure regulations. First, an EU-wide audit reform (Annual accounts Directive: 2013/34/EU) was exploited to investigate the effects of regulations on firms and the wider economy. Next, the need for reforms related to firms’ nonfinancial reporting (e.g., Non-Financial Reporting Directive: 2014/95/EU) was assessed by investigating firm behavior in the pre- and post-intervention periods.

The thesis is organized in three parts. Part I includes the sections Background, and Research Design. The research questions are developed in the following two subsequent sub-sections, namely: Audit Deregulation, and Nonfinancial Reporting Regulations. The research design section has three sub-sections, namely: Analytical Framework, Methodology, and Data. Part II includes the five papers compiled in this thesis to answer the central research question. Finally, Part III begins with the section Conclusions, which discusses the overall conclusions and contribution of the thesis. This is followed by two sub-sections, namely: Mandatory Audit Reform and Future Research, and Nonfinancial Reporting and Future Research.

Audit Deregulation

In 2007, the EU promised to reduce the administrative burden for Small and Medium Sized Enterprises (SME) by 25 per cent by 2012, and followed up with a written declaration (2010/88), in 2010 (European Small Business Alliance, 2018). Furthermore, in 2009, a proposal (COM/2009/0083 final) was made to simplify the accounting and auditing requirements of micro firms which was mandated along with other updates in the Company Directives in 2013, through the enactment of a new Accounting Directive (2013/34/EU).³

³ According to the definition of the European Commission (2011), SMEs are individual firms with a staff head count of less than 250, and an annual turnover of less than, or equal to, 50
For firms to qualify for voluntary audit, the EU maxima for the average number of employees remains unchanged at 50, while the turnover ceiling was increased from 5 million EUR, in 1999, to 7.3 million EUR, in 2003, and further to 8.8 million EUR, in 2008. The ceiling for balance sheet total was also increased on the two occasions from 2.5 million EUR, in 1999, to 3.65 million EUR, in 2003, and further to 4.4 million EUR, in 2008. The latest EU maxima as per the Accounting Directive (2013/34/EU) are 50 for average number of employees during the year, and 8 million EUR for annual turnover, but not exceeding 12 million EUR, or 4 million EUR in balance sheet total, but not exceeding 6 million EUR. Furthermore, member states are allowed to make a 5% adjustment in either direction due to conversion to local currency, or rounding off effect. While most member states have adopted thresholds that are more in line with the EU’s recommended maxima, some have not (e.g., Malta, Finland, and Sweden). For example, the threshold level for the number of employees in Malta is 2, and in Finland and Sweden the number is 3. Adoption of the reform at such low threshold levels means that most SMEs are not given the choice to decide what is best for them.

Papers I and II of the thesis evaluate the economic effects of low threshold levels for mandatory audit for the firm and the wider economy. To answer the central research question, Papers I and II investigate if more firms should be given the choice to decide whether to audit or not – i.e., should there be further deregulation of audit in countries that require mandatory audit at very low threshold levels (e.g., only allowing micro firms to qualify for voluntary audit). It does so by evaluating the Swedish implementation of this EU-wide audit reform (Annual Accounts Directive: 2013/34/EU), given it has one of the lowest threshold levels among the EU member states. The two research questions (RQ) posed are as follows:

RQ 1: Does an audit add value for small firms?

RQ 2: Does small firms’ audit choice impact the wider economy?

To answer the first research question, Paper I investigates if an audit of financial statements adds value for small firms in terms of reduced cost of debt. The Swedish setting was interesting for evaluating the value of audit for small firms since most firms are still required to audit their financial statements, and only micro firms are exempted from audit. The value of an audit in terms of

million EUR, or a balance sheet total of less than, or equal to, 43 million EUR. Micro firms are individual firms with a staff head count of less than 10, and an annual turnover of less than, or equal to, two million EUR, or a balance sheet total of less than, or equal to, two million EUR.

4 The latest threshold levels for the different EU member states are reported in Table A1 of Paper I of this thesis, and in Table 1, in the Appendix of Paper II of the thesis.
reduced cost of debt is a good proxy in this setting because, even though Sweden has a well-developed capital market (Bruns & Fletcher, 2008), the primary source of external financing for micro firms and SMEs comes from banks (Winborg & Landström, 2000). Secondly, in Sweden, there is an alternative source of financial statement verification. For instance, all Swedish limited firms are required to produce and submit financial statements to the Swedish Companies Registration Office (Bolagsverket) (Sveriges Riksdag, 1995; 1999). The submitted financial statements form the basis of taxation and are also made available to the public. Failure to comply is penalized with fines and may also result in prosecution, where a violation can lead to a prison sentence for a maximum of two years. Altogether, the setting is more appropriate than that of most past studies for evaluating the value of an audit, due to the presence of strict alternative governance mechanisms.

To answer the second research question, Paper II investigates the effect of the reform on growth. In a favorable institutional setting (Davis & Henrekson, 1999), the SMEs, the target group of the audit reform, are important job creators (Birch, 1979). SMEs thus attract a lot of attention from policymakers, and several policies are targeted towards SMEs to induce growth (Nightingale & Coad, 2014). The EU-wide audit reform may be viewed as one such reform, since it aims at reducing the administrative burden for firms and results in cost savings. However, there is a knowledge gap if audit reforms can affect firm growth, since past studies evaluating corporate disclosure regulations do not investigate their effect on firm growth (Akisik, 2013). One of the reasons could be that “growth” is an economic variable that primarily interests economists more than accountants, thereby studies contemplating corporate disclosure regulations and firm growth often do not materialize due to disciplinary silos. Moreover, past studies evaluating such reforms (i.e., deregulation of audit) in various settings instead investigate the determinants and consequences for firms choosing to audit voluntarily after an audit deregulation (e.g., Collis, 2010; Collis, 2012; Collis, et al., 2004; Dedman & Kausar, 2012; Dedman, et al., 2014; Lennox & Pittman, 2011; Ojala, et al., 2016; Rennie, et al., 2003; Seow, 2001). As such, Paper II takes a non-conventional approach and evaluates the impact of audit deregulation on the wider economy by investigating its effects on firms’ employment growth.

5 These financial statements should include balance sheet, income statement, management report, notes to financial statements accounting, and the valuation methods used.
6 Some commonly investigated determinants of voluntary auditing include firm size, ownership concentration, financial leverage, significant agency problems, high dependence on auditors for non-audit services, and director’s perception of the value of voluntary audit. While consequences of voluntary auditing include better access to outside capital and sometimes at a lower cost, and better credit rating.
Nonfinancial Reporting Regulations

Philanthropic activities are not a new phenomenon, but the means, medium and method have evolved since their inception. What started as an act of kindness from monarchs and states has now evolved into business practices by firms. The initial philanthropic activities were local in scope and all these efforts were targeted towards groups or individuals closer to the philanthropist, and most likely were not a coordinated effort. These activities included, but were not limited to, support for art, education, war veterans, and food for the needy. With time, the efforts, and various endowments (e.g., Harvard) and societies (e.g., Young Men’s Christian Association), evolved. As the literature suggests, the modern-day corporate philanthropic efforts, most commonly known as the corporate social responsibility, may have started to take shape in the developed economies (such as the USA and the United Kingdom and Great Britain [UK]). Historians claim that during the industrial revolution in the USA and the UK, firms gradually started to incorporate good-working-environment factors, profit-sharing options, and health-care facilities in firm decisions amid a push from reformers, and due to labor rights movements. It is, however, contended whether those were business decisions or social decisions (Carroll, 2008). What started off as a purely voluntary act by firms was soon regulated privately (e.g., GRI and SASB), and is increasingly being regulated by governments around the world (e.g., in India from 2014, through the modification of Section 135 of the India’s Companies Act, and in EU through the implementations of the Directive 2014/95/EU among member states).

The EU-wide Non-financial Reporting Directive (2014/95/EU) – NFRD came into effect by amending the Annual Accounts Directive 2013/34/EU on October 22, 2014. The NFRD requires certain large firms and groups to disclose information on environmental matters, social matters and treatment of employees, respect for human rights, anti-corruption and bribery, and diversity on company boards – in terms of age, gender, educational and professional background. Most of the EU member states started implementing the NFRD from the financial year starting 2016. Even though major public regulations

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7 The terms corporate social responsibility, corporate sustainability, and corporate citizenship are often used inter-changeably to discuss similar constructs, even though they encompass slightly different things (Dahlsrud, 2008; Garriga & Melé, 2004; Meuer, et al., 2020). Most commonly, these terms are used in the literature to refer to environmental-, social-, and governance-related issues that firms largely include voluntarily in their business operations. The most frequently used acronym for these nonfinancial issues is CSR (Fifka 2013; Hahn and Kühnen 2013; Huang and Watson 2015), first coined by Bowen (1953). Reporting of firms’ views and works on these issues is considered nonfinancial disclosures, as compared to financial disclosures, which comprise firms’ financial statements. More recently, the term corporate sustainability is gaining traction, e.g., the European Commission has proposed to replace the Nonfinancial Reporting Directive (NFRD), which concerns firms’ nonfinancial disclosures, with the Corporate Sustainability Reporting Directive (CSRD) (European Commission, 2021).
regarding nonfinancial reporting, i.e., CS reporting, are more recent, private regulations were rather prevalent, for example, the GRI framework.

GRI frameworks are one of the most widely used reporting formats for CS worldwide and have been issuing its frameworks since 2000 (Ernst & Young, 2016). Though firms vary to a great degree in their CS reporting (Gill, et al., 2008), the GRI framework has somewhat harmonized the CS reporting of multinational firms across the globe (Fortanier, et al., 2011). On the other hand, a rather contemporary institution is the SASB that published its first set of standards during 2018. One of the primary differences between the reporting frameworks of GRI and SASB is the intended users of firms' CS reporting adopted by these private regulators. There are two ways to define the users of firm disclosure from a materiality perspective, i.e., whose decision-making is likely to be influenced by the omission or inclusion of such information. The “reasonable investor approach”, which is also known as the shareholder approach, or the “stakeholder approach” (Bernstein, 1967; Frishkoff, 1970; Hicks, 1964). For financial disclosures, the shareholder approach is predominantly used to decide what to disclose (Zeff, 1978). For CS reporting, some standard setters adopted the “shareholder approach” (e.g., SASB), while others adopted the “stakeholder approach” (e.g., GRI).

The EU, however, does not stipulate in the NFRD what materiality perspective (i.e., shareholder- vs stakeholder-orientation) firms should adopt to disclose the required CS information. Materiality, despite being one of the central guiding concepts of firm disclosure (Bernstein, 1967; Frishkoff, 1970; Hicks, 1964), is not mentioned even once in the NFRD, let alone defining it

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8 This thesis uses the acronym “CS” to refer to notions, activities, policies, and intentions that firms undertake for their impact on the society and the environment. The term “CS reporting” is used to refer to firm disclosures related to CS.
9 GRI was founded in Boston, USA in 1997 with the involvement of the United Nations Environment Programme. It was a spin-off from the USA-based non-profit organizations the Coalition for Environmentally Responsible Economies, and the Tellus Institute. GRI issued its first reporting guidelines in 2000, while subsequent major updates were made in 2002 (G2), 2006 (G3), 2011 (G3.1), and 2014 (G4). The GRI has eleven sector-wise guidelines. The first guidelines were issued in 2008 (for financial service sector), followed by electric utilities, in 2009; food processing and NGO, in 2010; mining and metals, airport operators, construction, and real estate, in 2011; and oil and gas, media, and event organizers, in 2012. GRI standards include three layers of reporting: requirements, recommendations, and guidance. Requirements being the mandatory instructions for whoever uses the framework voluntarily. While recommendations and guidance are for a more relaxed adoption of the framework.
10 SASB was founded in 2011 and is an independent 501(c)3 institution accredited by the American National Standards Institute and established to develop and disseminate sustainability accounting standards. The aim of the SASB is to provide standards which have decision usefulness, capture material aspects, and are cost effective. The SASB has issued 77 industry-specific standards as of November, 2018. Initially, provisional standards for 10 sectors (79 industries) were published between July 2013 – March 2016, to seek feedback on the decision-usefulness and cost-effectiveness of the implementations of these standards from various stakeholders. Following a systemic process of reviews and consultations between April 2016 – January 2018, codified SASB standards for 11 sectors (77 industries) were published during 2018.
for firms. It is, however, mentioned in a separate report that “Although materiality is not referred to as such in the Directive, it is a concept that underpins the Directive, and this is reinforced in the European Commission Guidelines.” (CSR Europe and GRI, 2017, p 8). Nonetheless, we lack empirical evidence regarding if firms take a narrower shareholders’ stance, or a wider stakeholders’ stance in disclosing CS information (Clarkson, et al., 2008; El-Bassiouny, et al., 2018; Fasan & Mio, 2017; Fifka, 2013; Wanderley, et al., 2008). Paper III investigates this issue and poses the following research question:

RQ 3: Do firms adopt a shareholders’ or stakeholders’ perspective in CS reporting?

The EU is presently in the process of revising the NFRD and is likely to replace it by the so-called Corporate Sustainability Reporting Directive (CSRD). The CSRD is proposed to: extend to all large and listed firms (except listed micro firms)\(^{11}\), require audit or assurance of the CS related information to be disclosed, introduce more detailed reporting requirements, which are likely to be according to EU prescribed standards, and would require firms to digitally ‘tag’ their reports so that they can be read by machines and centrally feed into a envisaged common EU database (European Commission, 2021). These future envisioned steps are aimed towards improving transparency and accountability of CS reporting. Indeed, one of the reasons for regulating firm disclosures by governments is to improve transparency and accountability (Tarca, 2020), which were also some of the reasons to regulate CS reporting through NFRD (European Commission, 2021).

Nonetheless, these proposed revisions are likely to come with additional costs for firms. For instance, firms are already required to share additional information due to NFRD, which increases the administrative burden and associated costs (e.g., cost of preparing the reports). If the CSRD will require firms to assure or audit firms’ CS reporting, additional cost will be incurred (e.g., assurance or auditing related costs). However, if firms already disclose substantive information, i.e., hard information that can be used to hold firms accountable, regulation of such extent, i.e., requiring assuring and auditing of CS reporting by third parties, is not economically desirable. Even though there are allegations that firms often resort to greenwashing in CS reporting (Kim & Lyon, 2015; Kolk, 2003; Wu, et al., 2020), largely, we have rather limited evidence if firms already disclose accountable information in the voluntary regime or not. Paper IV investigates this issue and poses the following research question:

RQ 4: Does voluntary CS reporting exhibit accountability?

\(^{11}\) The CSRD is expected to affect about 50 000 firms, as opposed to 11 000 firms affected by the NFRD (European Commission, 2021).
Together, Papers III and IV assess the need for the extension of public regulation of CS reporting and effectiveness of private regulation of CS reporting. For example, one of the arguments for a more comprehensive regulation, such as the CSRD, is to make firms disclose CS information that is relevant for a wider set of stakeholders and not just the shareholders (European Commission, 2021). It is a natural expectation from firms operating in the EU, given the business environment in most EU member states is relatively more stakeholder-oriented, as opposed to shareholder-orientation in North America, or the UK (Ball, et al., 2000; La Porta, et al., 1997). As such, if firms are already stakeholder-focused in their CS reporting and exhibit accountability in these disclosures during the voluntary regime, then further regulating CS reporting with public regulation will result in overregulation. Overregulation is costly for firms and the society (Coase, 1960; Pfeffer, 1974; Stigler, 1971).

Despite the recent developments of CS in both practice and theory, firms’ commitment to CS and their disclosures are still a debated topic. Free marketers argue that firms’ commitment to spending shareholders’ money in CS is against the very notion of a firm (Friedman, 1970), while a prominent group of management theorists argue that CS should be the central element for firms, along with profit maximization (Carroll, 1979; Carroll, 1991; Freeman, 1984). As a matter of fact, most large firms around the globe disclose some form of CS related information today. It has become more of a norm to do this, and may be considered a taboo if firms otherwise opt for not doing so. In recent years, there has been a widespread diffusion of CS efforts and reporting worldwide (Cho, et al., 2015; Sethi, et al., 2017), and private regulations, such as the GRI, has largely harmonized the content of CS reporting (Fortanier, et al., 2011). Despite that, EU member states adopted the NFRD to infuse more CS reporting and to improve comparability in these reports. If anything, Venturelli, et al. (2020) found that the NFRD did not improve comparability in CS reporting. Thus, the NFRD failed to attain one of its core goals. Research questions three and four investigated in Papers III and IV will provide additional information to assess the need for public regulations to govern CS reporting of private firms.

Besides promoting and harmonizing CS reporting, an overarching goal of the EU is to promote sustainable economies through interventions, such as the NFRD and the prospective CSRD (European Commission, 2021). It is contended here that one of the most important factors in achieving such a goal is contingent upon the individual firm’s goal with their CS, i.e., what do firms envision their CS agenda as, or what ambition firms have regarding their CS. We have rather limited knowledge about firms’ CS agenda and if regulations, such as the NFRD, influence a firm’s CS agenda (Aguinis & Glavas, 2012; Williams, et al., 2021). Paper V investigates this issue and poses the following research question:

RQ 5: Does forceful reporting affect firms’ CS agenda?
Given that the NFRD was an EU-wide reform, a member state of the EU was chosen to operationalize Paper V. In this case, the Swedish setting was explored, primarily because Sweden has adopted one of the broadest threshold brackets for the NFRD implementation compared to other member states. This gives a greater firm size variation in the sample, which includes both SMEs and large firms, listed and non-listed firms. Past studies usually draw inference on a firm’s CS agenda from archival data, e.g., CS reporting or various proprietary CS indices/matrices/rankings. However, these measures do not fully reflect the CS agenda of firms (Aguinis & Glavas, 2012; Williams, et al., 2021). Furthermore, these studies usually investigate special types of firms (e.g., Top N global firms, or top N firms within an economy, or those on a particular list, such as Forbes, or Russell N firms, or S&P 500, etc.) (Fifka, 2013; Hahn & Kühnen, 2013; Huang & Watson, 2015). However, the Swedish setting will allow us to draw inference on a wider variety of firms.

Note that, to investigate if public regulations are needed to have a stakeholder-orientation in CS reporting, as the EU wants through the NFRD or the CSRD, Paper III investigates the reporting behavior of firms worldwide in a largely voluntary reporting regime. Likewise, Paper IV also evaluates if firms disclose accountable information in these disclosures in a setting where public regulations regarding CS reporting are almost non-existent. On the other hand, Paper V investigates if forceful reporting (e.g., NFRD) influences a firm’s CS agenda, a fundamental factor that likely drives firms’ CS activities (Kiron, et al., 2017; Lacy, et al., 2010). Together, Papers III, IV, and V assess the need for public regulation of CS reporting and answer the central research question.12

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12 Other factors that drive a firm’s CS activities and reporting are investigated elsewhere (see Aguinis & Glavas, 2012; Clarkson, et al., 2008; Deegan, et al., 2002; Fifka, 2013; Hahn & Kühnen, 2013; Kolk, 2003; Shabana, et al., 2017).
Research Design

Analytical Framework

Societies are bounded by formal and informal practices often infused and preserved by “institutions.” According to North (1991, p. 97), institutions are “the humanly devised constraints that structure political, economic, and social interactions. Informal practices or constraints come from informal institutions while formal practices or rules come from formal institutions. Informal institutions include tribes, clans, sects, etc., and informal constraints include taboos, customs, traditions, codes of conduct, etc. On the other hand, formal institutions include states, monarchs, governments, markets, NGOs, etc., and formal rules include constitutions, laws, property rights, etc. Informal institutions generally do not legally sanction laws in most parts of the world, unless such informal institutions constitute the law of the land (e.g., tribal laws of hundreds of uncontacted tribes in the Amazon rainforest and elsewhere). On the other hand, some formal institutions sanction law (e.g., monarchs, governments) while others do not (e.g., markets, NGOs). Many of the political and economic institutions emerged, or were formed, primarily with the view to minimizing the cost of exchange, production costs, and to make trade more efficient. However, institutions can often act as a barrier against such outlooks when some institutions evolve slower than the other actors in a society. Some of the modern-day institutions and instruments, such as the capital market, bills of exchange, insurance, and the current accounting and auditing practices have evolved from the blending between informal and formal institutions over centuries (North, 1991). Like institutions, firms are just another element within a society, often multiple societies simultaneously, in this era of globalization. Institutions are argued to set the “rules of the game” while firms “play the game” (Williamson, 1998).

Firms are a form of organization that exists because the direction of resources not only depends on the price mechanism but also on the entrepreneur or the coordinator (Coase, 1937). Furthermore, in the absence of firms, large-scale and high-volume trade would most likely be inefficient and costly. The existence of firms does not completely eliminate the need for contracts but greatly reduces the need for a greater number of such contracts, since many short-term contracts are often taken over by fewer long-term contracts to carry out the different activities (Coase, 1937). Thus, firms are a “nexus of contracts” (Jensen & Meckling, 1976) that are “unavoidably incomplete”
(Williamson, 1998) and a “moving equilibrium” (Coase, 1937). As institutions evolve, firms need to adapt as well to at least sustain or to improve their economic performance (Ashforth & Gibbs, 1990; DiMaggio & Powell, 1983; Meyer & Rowan, 1977; Suchman, 1995).

New institutional economics (NIE) views firms as a governance structure, which is an organizational construction, as opposed to the neoclassical economics’ view of firms as a production function, which is a technological construction (Williamson, 1998). In other words, firms are examined as a “science of contracts” instead of “science of choices”, and thereby take the internal structure of the organization for economic activity (i.e., in this case firms) into consideration in the analysis (for a detailed discussion, see Williamson [2002] and Williamson [2005]). The phrase “new institutional economics” was coined by Oliver Williamson to differentiate the transition from “old institutional economics” (Coase, 1984). Both “old” and “new” institutional economics recognize that institutions matter in economic analyses, in contrast to (neo)classical economics, where the economic analysis is primarily focused on prices and output, and supply and demand, while institutions are ignored (see Spithoven [2019] for a summary of the similarities and differences between “old” and “new” institutional economics). Indeed, “… the costs of exchange depend on the institutions of a country: its legal system, its political system, its social system, its educational system, its culture, and so on” (Coase, 1984, p. 73).

Williamson (1998) posited that social analysis may be employed at four different levels to understand firm behavior and the influence of institutions on firm behavior. Figure 1, adopted from Williamson (1998), illustrates that idea. In Figure 1, the higher levels generally impose constraints on the lower levels (e.g., Level 1 on Level 2, Level 2 on Level 3, and so on) while lower levels send feedback to the higher levels (e.g., Level 2 to Level 1, Level 3 to Level 2, and so on) (Williamson, 1998). Level 1, the social embeddedness level, infuses informal constraints, i.e., informal rules of the game – socially acceptable ways of doing things. While Level 2, the institutional environment level, infuses formal constraints, i.e., formal rules of the game. Level 3 is where the “institutions of governance” operate, including firms and markets (i.e., play of the game). Finally, Level 4 deals with marginal analysis, which is a shift from discrete structural analysis that generally takes place at the first three levels. Level 4 is where neo-classical economics and agency theorists focus, while NIE primarily focuses on Levels 2 and 3, and historians and other social scientists generally focus on Level 1 analysis (Williamson, 1998).

This framework is particularly useful in the context of this thesis, as the five research questions posed in the thesis evaluate the effects of, or the effects of changes in, the institutional environment (i.e., at Level 2), on firm behavior and outcomes (i.e., at Level 3) to assess if regulatory interventions are a social solution or a problem. To evaluate if these regulations are a social solution or a problem, the thesis examines various firm behavior and outcomes. That is,
how the “play of the game” is affected by the “rules of the game” or a change in the “rules of the game.” Therefore, it was first necessary to clarify, at a very high level, how firms (those who play the game) and institutions (those who set the rules of the game) fit into the bigger universe. It may be contended here that to evaluate how the game is played at Level 3, a marginal analysis at Level 4 is often required.

![Figure 1. Four levels of social analysis adopted from Williamson (1998)](image)

More specifically, to answer Research Questions One and Two, Papers I and II, respectively, carry out a Level 4 analysis to evaluate the marginal effects on firms and the wider economy, after a change in the institutional environment. The change in the institutional environment, i.e., a change in the rules of the game, studied in Papers I and II, is the EU-wide audit reform that made audit optional for some firms in the economy. The marginal effects studied are the economic effects, e.g., value of audit in Paper I, and firm growth in Paper II. Papers III and IV investigate the play of the game in an institutional environment where the rules of the game, i.e., CS reporting regulations, are primarily guided by private regulators. The play of the game studied in Papers III and IV are firms’ disclosure behavior in CS reporting. For example, Paper III investigates if firms adopt a shareholder- or stakeholder-oriented approach in CS reporting, and Paper IV investigates if firms exhibit accountability in these largely voluntary disclosures. Paper V also investigates the play of the game, but after a change in the institutional environment, i.e., after a change in the rules of the game through a regulatory intervention (the NFRD) by the
state. This public regulation (the NFRD) made reporting of some of the CS related information mandatory for firms which were foremost voluntary when the rules of the game were primarily guided by private regulations and norms. The play of the game analyzed in Paper V is the firms’ CS agenda.

Selected relevant complementary theories in the context of this thesis include agency theory, legitimacy theory, stakeholder theory, and basic economic theories. These complementary theories seek to explain or posit a firm’s behavior, i.e., the play of the game (Branco & Rodrigues, 2006). For example, legitimacy theory can explain if the way firms are playing the game (e.g., CS reporting behavior) are efforts to legitimize its position in the society or serious attempts to, for example, correct past errors, or proactively deal with externalities caused by the firms (Deegan, 2019). Stakeholder theory can explain if firms take a stakeholder approach, or not, while playing the game (e.g., CS reporting behavior and CS agenda) (Donaldson & Preston, 1995). For instance, a stakeholder approach to CS would be to incorporate firms’ non-shareholding stakeholders’ concerns for value maximization, as opposed to mono-focus on shareholders’ wealth maximization (Freeman, 1984). Firms’ disclosure and opting for assurance from third parties for such disclosures (e.g., audit) is primarily driven by various information asymmetry and associated agency costs. Therefore, agency theory along with basic economic theories are good complementary theories for the marginal analysis to evaluate the value of audit for firms and the greater economy.

Methodology

A firm’s behavior and outcomes may be investigated from different perspectives, largely depending on one’s disciplinary background (Argote & Greve, 2007). Therefore, it is often difficult to holistically evaluate the effects of corporate disclosures regulations on firm behavior and outcome from a single disciplinary or methodological standpoint (Libby, et al., 2015). From a purely instrumental perspective (e.g., measuring, record-keeping, and communicating), firm disclosures may be an accounting matter, but firms carefully and strategically craft these various instrumental elements (Cho, et al., 2012). This is primarily because the greater society, including employees, customers, suppliers, shareholders, and the state have a vested interest in firm disclosures (Aguinis & Glavas, 2012; Healy & Palpeu, 2001; Zeff, 1978). The inherent attribute of multidisciplinary and multi-stakeholder involvement in the issue calls for a multidisciplinary approach to the problem (Wickson, et al., 2006). Thus, it requires tools and insights from multiple academic disciplines, other than accounting, e.g., data science, economics, finance, management, and political science (Dyckman & Zeff, 2015; Leuz & Wysock, 2016; Pfeffer, 1974). Formally, such a multidisciplinary research approach (Dalarna University,
2018), or a more recently purported, transdisciplinary research approach (Carling, 2021) may be termed as a Microdata approach (MDA).

MDA and NIE are a natural complementary framework, since NIE also builds on multidisciplinarity by “combining economics, law, organization theory, political science, sociology, and anthropology to understand the institutions of social, political, and commercial life” (Klein, 1998, p 2) and encourages a microanalytic approach in analyzing the issue at hand (Williamson, 1998). Lending to the NIE and MDA, this thesis takes a pluralist approach in examining the central research question posed, i.e., if corporate disclosure regulations are a social solution or a problem (Williamson, 1998; 2008). Figure 2 depicts the taxonomy of the five papers investigating the five research questions to answer the central question of this thesis and illustrates the research approaches undertaken and the research tools applied.

![Figure 2. Taxonomy of the papers included in this thesis and the research approaches and tools.](image)

Research Questions One and Two investigate the effect of an EU-wide audit reform (Annual Accounts Directive: 2013/34/EU) in Papers I and II, respectively. To evaluate the effect of the audit reform, Research Questions One and Two pose economic questions that seek to ascertain the economic outcomes for firms and its wider economy after the reform. Paper I utilizes the EU-wide audit reform as an exogenous change and uses endogenous switching models and an instrumental variable approach to evaluate the value of an audit, in terms of reduced cost of debt (Greene, 2012). Additional robustness tests were done using propensity score matching (Rosenbaum & Rubin, 1983). Paper II employs the natural experiment setup of the EU-wide audit reform and uses a difference-in-difference estimator to investigate the effect of the reform on employment growth (Pischke & Angrist, 2009). Papers I and II take a “deductive approach” to investigate the central research question (Beins, 2017). The
data used in Papers I and II are from a secondary source, the Retriever database.

Research Questions Three, Four, and Five evaluate the need for reforms related to firms’ CS reporting in Papers III, IV, and V, respectively. These later three research questions investigate various behavior patterns of firms in the pre- and post-intervention periods of an EU-wide nonfinancial reporting reform (the Non-financial Reporting Directive: 2014/95/EU). Since Research Questions One and Two seek to measure the economic effect, Papers I and II, respectively, use agency theory and basic economic theory as base theories to motivate the hypothesis tested in those papers. On the other hand, Research Questions Three and Four investigate firms’ behavior in CS reporting, and Research Question Five investigates firms’ CS agenda. Thus, Papers III, IV, and V, respectively, use management theories as complementary theories to explain firm behavior.

To investigate firms’ behavior in CS reporting before the EU-wide reform, CS reports of firms around the globe before the reform were collected from world wide web through web-scraping. The large volume of unstructured text data was then analyzed using carefully chosen natural language processing (NLP) tools. Given that there was no widely accepted objective approach to classify large volume of firms’ CS disclosure and to evaluate if they are shareholder- or stakeholder-oriented. Paper III took an “inference for best explanation” approach (Harman, 1965) and used a data-driven unsupervised machine learning tool (Hastie, et al., 2001), the latent dirichlet allocation (LDA) method, developed by Blei, et al. (2003), to estimate firm disclosures. It develops a more objective approach to quantify firms’ CS reporting which is typically qualitative in nature (Hofmann, 1999; Lane, et al., 2019). The various prepositions articulated in the paper, to classify firms’ intended user of CS reporting, were tested. First, utilizing the differences in institutional environment in which firms operate. Second, using firms’ voluntary choice of adhering to voluntary reporting guidelines (e.g., the GRI framework). Permutation tests were carried out to statistically test the inference for the best explanation posed in the paper (Good, 2000).

Paper IV, in the first part, designs an objective operationalization of a text-based measure to evaluate accountability in environmental disclosures of firms’ CS reporting (Hastie, et al., 2001; Lane, et al., 2019). Such measures that can be replicated and applied to a large volume of unstructured text data are non-existent (Bellstam, et al., 2020; Park & Patterson, 2021). As such, an “inductive approach” was adopted to construct the generic measure to classify accountable information in environmental disclosures of firms’ CS reporting (Beins, 2017). NLP tools, such as collocation analysis and text mining, were used to identify patterns in environmental disclosures of CS reporting (Lane, et al., 2019). A supervised machine learning approach using the NLP tool regular expressions, commonly known as the regex, was then used to develop an
algorithm to classify if firms’ environmental disclosures exhibit accountability or not (Hastie, et al., 2001; Lane, et al., 2019). The classifications from the machine-run algorithm were corroborated through human investigation of random samples. In the next part, Paper IV uses econometric models to investigate if firm-level accountability in environmental disclosures correlates to country-level real changes (e.g., reduction of emissions of GHG). In this part, Paper IV also estimates the effect of the institutional environment, including private regulations (e.g., GRI) on disclosure of accountable information in CS reporting. Main estimations were run using ordinary least squares (OLS) method while robustness tests were run using random-effects models and mixed-effects models (Greene, 2012; Rönnegård, et al., 2010). Accountable information was classified using the measure constructed in the first part of the paper. A “deductive approach” was adopted in this section of the paper (Beins, 2017).

Firms’ CS agenda is fundamental to advance EU’s overarching goal to promote sustainable economies. To investigate if reforms such as the NFRD can affect, data on firms’ CS agenda were collected from a time period after the implementation of the reform. A survey was sent to key officers (e.g., chief executive officer, chief financial officer, and environmental manager) of Swedish firms affected by the NFRD to find out their views on their firms’ CS agenda. First, Paper V employs a qualitative analysis on firms’ key officers’ view on CS to classify firms’ CS agenda (Beins, 2017). The six-transcending ambition levels of CS proposed in van Marrewijk & Werre (2003) were used for this classification. In the next step, various OLS based econometric models are used to investigate if regulatory interventions, such as the NFRD, affects the CS ambition level of the firms. These econometric models are also used to estimate how various other firm- and institution-level factors affect the CS ambition level of the firms studied. To estimate the influence of selection bias on the results due to survey nonresponse (Suchman, 1962), sensitivity tests were run using models motivated from Drew & Fuller (1980; 1981).
Data

The papers compiled in this thesis used multiple data sources and employed multiple data collection processes, which are outlined in Table 1.

Table 1. Summary information of data used in the papers appended to the thesis

<table>
<thead>
<tr>
<th>Data source</th>
<th>Data type</th>
<th>Data description</th>
<th>Papers</th>
<th>Other details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retriever</td>
<td>Secondary data</td>
<td>Financial data of Swedish firms</td>
<td>I, II &amp; V</td>
<td>Information on firm year observations included in the analyses is outlined in Sections 4.1, 3.1, and 3.2 of Papers I, II, and V, respectively.</td>
</tr>
<tr>
<td>GRI</td>
<td>Secondary data</td>
<td>Firm data: legal name, size, sector affiliation, html links to CS related reports</td>
<td>III &amp; IV</td>
<td>The data file was obtained from GRI for about 20 000 firms.</td>
</tr>
<tr>
<td>Firm Websites</td>
<td>Primary data</td>
<td>CS related reports collected through web scraping from firm specific websites.</td>
<td>III &amp; IV</td>
<td>Data collection process and data used in the analyses are outlined in Appendix A and Section 3.1 of Paper III; and Appendix A, and Sections 3.1 and 3.2 of Paper IV.</td>
</tr>
<tr>
<td>World Bank Group</td>
<td>Secondary data</td>
<td>Data on carbon pricing mechanism and Rule of Law at country level.</td>
<td>IV</td>
<td>Data used in the analyses is outlined in Notes 13, 18, and 22, and Appendix A of Paper IV.</td>
</tr>
<tr>
<td>Organization for Economic Co-operation and Development</td>
<td>Secondary data</td>
<td>Data on carbon emissions at sector level and number of large firms in a country.</td>
<td>IV</td>
<td>Data used in the analyses is outlined in Note 13 and Appendix A of Paper IV.</td>
</tr>
<tr>
<td>Survey Questionnaire</td>
<td>Primary data</td>
<td>Survey responses from key officers of Swedish firms</td>
<td>V</td>
<td>Information on data and the collection process is outlined in Sections 3.1 and 3.2 of Paper V.</td>
</tr>
</tbody>
</table>
PART II
Paper II
Paper IV
PART III
Conclusions

The **Conclusions** section starts with the overall conclusions and contributions of the thesis. The conclusions of the thesis are based on the observed data in the various settings at the time of the analysis. Thus, the conclusions may vary if a different pattern emerges in the data when collected from other settings and at other time points. In the two subsequent sub-sections, suggestions for future research are discussed based on the learning from the evaluation of the firm disclosures and the regulations around firm disclosures in this thesis. Note that the summary in this section is not exhaustive, and it is assumed that the reader reads the five papers compiled for the thesis in Part II before proceeding to Part III.

Corporate disclosure regulations are complex, thus it is often difficult to evaluate the consequences of such regulations, hence empirical evidence is scarce (Healy & Palpeu, 2001; Leuz & Wysock, 2016). Nonetheless, empirical investigation of these regulations is fundamental for designing evidence-based regulations. After all, these regulations have both intended and untended impacts, as well as positive and negative impacts on firms and the wider economy. Evidence-based design of regulations is more likely to attain the state’s goals and objectives for these regulations without negatively affecting the firms and the society (e.g., the wider economy in which firms operate). Hence, ongoing investigation of corporate disclosure regulations is crucial for firms, policy makers, regulators, and standard setters alike. This can lead to a holistic evaluation of the costs and benefits that these various regulations entail for society. It can also help in a better understanding of the fast-changing elements of the institutional environment, and evaluate how the institutional forces at play evolve, and, most importantly, it can help to design evidence-based regulations (Leuz & Wysock, 2016; Pfeffer, 1974; Shabana, et al., 2017).

The contribution of this thesis is manifold. Firstly, the thesis provides empirical evidence on how some of the contemporary corporate disclosure regulations affect firm behavior and the wider economy. This empirical evidence supports the proposition from the NIE school that, given that institutions evolve slowly (North, 1991; Williamson, 1998), and that laws and regulations, in general, penalize the one generating the harmful effects, without employing a holistic evaluation of how all players could be rearranged for an optimal economic solution (Coase, 1960), firms often operate at sub-optimal levels.
For example, Papers I and II have shown that the EU-wide audit reform is implemented at a sub-optimal level in Sweden for firms and the wider economy, since the choice of voluntary financial statement audit is available to micro firms only. However, if the ceiling of the audit choice is increased, more firms could decide what is optimal for them. For instance, firms that want to grow in capital could choose to audit their financial statements as audit helps to reduce the cost of debt (as shown in Paper I). While firms that want to grow in employment (as shown in Paper II) or use the cost savings from audit for any other purpose may choose to opt out of audit. The reform was implemented at such a low threshold level in 2011 when most other member states, demographically similar to Sweden, had already adopted higher threshold levels. Furthermore, the results from Papers I and II were available and were used in national debates in 2016. However, it has been ten years since the implementation of the reform, and five years since any active debate or consultation has taken place on the issue. This shows that institutions indeed evolve slowly and the results from Papers I and II show that firms and the wider economy operate at a sub-optimal level during these phases, thus the implementation is imperfect (Brousseau & Glachant, 2002; Meijerink, 2011).

For the EU-wide nonfinancial reporting reform, Papers III, IV, and V together also draw similar conclusions. For example, an overarching goal of the EU with reforms such as the NFRD is to promote sustainable economies. However, these regulations are primarily directed towards CS reporting and not firms’ CS agenda. A Firm’s CS agenda determines what types of CS activities a firm will undertake and how (Clarkson, et al., 2008; Deegan, et al., 2002; Kiron, et al., 2017; Lacy, et al., 2010; van Marrewijk & Werre, 2003; Naciti, et al., 2021). As such, a firm’s CS agenda is fundamental in building sustainable economies, provided it coincides with the regulators’ agenda. That is, when firms adopt a holistic approach to CS, i.e., a wider stakeholder orientation in selecting, designing, and implementing CS activities (Branco & Rodrigues, 2006; European Commission, 2021; Freeman, 1984; van Marrewijk & Werre, 2003). Nonetheless, this is not the case, since a typical firm’s CS agenda (as shown in Paper V) and disclosures (as shown in Paper III) are generally driven by shareholders’ value maximization, as opposed to stakeholders’ value maximization. This is observed even in institutional environments that are argued to be stakeholder-oriented. Furthermore, reforms, such as the NFRD, do not influence firms’ CS agenda. Thus, reforms like the NFRD are an empty exercise, lack rigor and clear guidelines, and are costly.

13 The results from Papers I and II formed the basis for a debate when one of the co-authors of Paper I participated in debates on the regulation in various Swedish national TV and radio channels. While the government representative(s) maintained that the mandatory audit should be reinstated (Swedish Government, 2018), the firm owners disagreed (SRF Konsulterna, 2018; Svenskt Näringsliv, 2018). That is also supported by the evidence presented in Papers I and II, and the findings from Patel & Dahlin (2021) investigating the benefits of the audit reform for Swedish ventures.
for the society. These reforms are costly because they not only increase firms’ reporting costs, but regulators also invest a significant amount of resources behind the design and implementation of such reforms. These forgone resources could be diverted to other productive uses.

On the other hand, proposed modifications, such as the CSRD, are far too strict and likely lead to overregulation, which is also costly (Coase, 1960; Pfeffer, 1974). For example, the CSRD is proposed to require firms to audit their CS reporting. Audit not only comes with an additional administrative burden but also additional costs. Papers I and II serve as testament to that. From the survey conducted to investigate Research Question Five, it was found that 97% of the respondents do not use any assurance services for CS reporting, and only 22% of the firms’ auditors are as engaged in verifying CS disclosures compared to financial disclosures. As such, the proposed requirement for audit of CS reporting will inflict additional costs for most firms in the economy.

Next, the CSRD aims at improving transparency and accountability in reporting and promoting stakeholder orientation in the reporting. However, firms already disclose transparent and accountable information in environmental disclosures of CS reporting, especially in code-law countries – which includes most of the EU member states (as shown in Paper IV). On the other hand, a typical firms’ CS agenda is generally driven by shareholders’ value maximization orientation and is not affected by regulations such as the NFRD (as shown in Paper V). So too are firms’ CS reporting, as they are generally targeted at shareholders (as shown in Paper III). Given that firms adapt their behavior to institutional demands (Ashforth & Gibbs, 1990; DiMaggio & Powell, 1983; Meyer & Rowan, 1977; Suchman, 1995), perhaps this is what the forces of informal institutions expect from firms (Branco & Rodrigues, 2006). Indeed, informal institutions have “pervasive influence upon the long-run character of economies” (North, 1991, p 111). It is not likely to change spontaneously through regulatory interventions (i.e., changes in formal institutional environment), since it takes thousands of years for informal institutions to evolve (North, 1991; Williamson, 1998). On the other hand, the prospect of the EU retracting from regulatory interventions is not likely either. Indeed, formal institutions take decades to evolve (Williamson, 1998).

Thus, lending to the insights from the NIE and the empirical evidence of the five papers, this thesis posits that the current implementation of the two EU-wide reforms in some settings are costly for the firms and society. The thesis recommends further deregulation of the monitoring of financial reporting, i.e., allow more small firms the option of deciding if an audit is beneficial for them or not. On the other hand, the thesis recommends different types of regulation for nonfinancial reporting, i.e., CS reporting. Regulations, that may lead firms to adopt a stakeholder-orientation in corporate sustainability as opposed to the prevalent shareholder-orientation, if regulations are at all recommended. For example, in institutional environments, such as North America,
which are primarily shareholder-oriented, a large scale adoption of something like NFRD is perhaps not desirable. Since firms already disclose materially relevant information for shareholders, and firms tend to have a profit-driven CS agenda. While in institutional environments, such as the EU, which typically favors stakeholders, regulations should be geared towards promoting diversity among firms’ board members and top-executives. As shown in Paper V, firms with a diverse board and female top-executives are more likely to adopt a CS agenda which is stakeholder-oriented.

Secondly, the methodological contribution of the thesis includes the development of more objective approaches and a generic text-based measure to estimate and evaluate CS reporting and regulations of CS reporting. Stakeholders, including regulators, can use these tools to evaluate firms’ CS disclosures, and firms can use these tools to better align their CS disclosures for their intended target audience. Regulators can also use these tools to evaluate the effectiveness of their reporting framework. The approaches operationalized in the thesis to evaluate unstructured text data may be used in other fields too, e.g., in the medical sciences to evaluate patient reports more efficiently, or build various types of predictive models (Alapetite, et al., 2009). It may be also noted here that the text-based measure developed using the 3-word regex in Paper IV takes into consideration the context of the sentence. Most past studies in the business administration domain rely on the “bag of words” approach, that largely ignores the context and are primarily based on word counts (Lewis & Young, 2019).

Finally, the empirical findings from the thesis can aid in developing evidence-based regulations for monitoring firms’ financial reporting and influencing firms’ CS activities and reporting; guide to constitute more optimal governance structure for firms; and aid the decision-making process of managers, stakeholders, and other interested parties in firm disclosures. For example, managers can use the results presented in Paper I to evaluate if a voluntary audit is beneficial, given the likelihood of the cost of debt reductions the firm may obtain. Or use can be made of the approaches and tools developed in Papers III and IV to evaluate if their firms’ CS reporting are geared towards their target audience. Various stakeholders, including prospective investors and analysts, can efficiently evaluate firms’ CS reporting (i.e., large quantities of firm disclosures in less time-consuming and inexpensive manner), by using the approaches and tools developed in Papers III and IV.
Mandatory Audit Reform and Future Research

A potential cost associated with audit deregulation is the risk of tax evasion and other forms of economic crimes. However, according to the Swedish National Council for Crime Prevention (Brottsförebyggande Rådet) (2021) the number of violations regarding the Revenue Offences Act (1971:69) decreased from 21,572 in 2009, to 17,808 in 2011, while for the Accounting Act (1999:1078), the number of violations increased from 11,044 in 2009, to 12,260 in 2011. The number of violations reported against the Revenue Offences Act, and the Accounting Act in 2016 were 15,827 and 12,499, respectively. The statistics do not seem to show any significant increases in economic crime, neither in the short-term nor in the long-term, following the implementation of the audit reform in Sweden. Moreover, the thresholds for voluntary audit are already much higher in most other EU member states compared to Sweden. This indicates that other EU legislators have concluded that the benefits of voluntary audit outweigh the costs, including those associated with possible tax evasion and other forms of economic crime. Thus, a higher threshold will give more firms the possibility of adopting the auditing practices that they find most suitable for their firms, while auditors can improve their efficiency by concentrating on larger firms to a higher extent (Chung & Narasimhan, 2001). Nonetheless, a systematic cost-benefit analysis of the costs arising from various economic crimes and the benefits arising from more firms with the option of auditing constitute an interesting and important area of future research.

Presently, systematic information on the auditing costs for firms across different industries is not readily available, but such information could provide the opportunity for several interesting avenues of future research. First, do industries that experienced a positive effect on firm employment growth and higher reductions of cost of debt due to the audit reform have a high auditing cost also? If so, this would strengthen the argument that the positive impact of audit reform on firm growth is a causal effect of the reform. It will also help to cross validate if industries with a complex information structure have high auditing costs, and thus further strengthen the argument that firms opting to audit in industries with a complex information structure save more from auditing in terms of reduced cost of debt. There is also a lack of comprehensive knowledge about the net benefit of audit, i.e., the benefits after deducting the direct and indirect costs of auditing. The focus of Paper II has been on the employment effects of voluntary audits, since reforms that reduce the regulatory burden on firms are most often implemented to create more jobs in the economy. However, such reforms could have other effects too. For instance, the additional resources that are made available due to the reform could be used for capital investments or for building up internal capital. This also constitutes an interesting area for further research.
Lastly, the Swedish National Audit Office (Riksrevisionen) reported that firms that chose to audit had a higher growth than similar firms which did not audit. This could likely be due to the fact that firms choosing to audit have higher growth ambitions than their non-audited counterparts, and previous studies (Dedman et al., 2014; Ojala et al., 2016) found that choosing to audit voluntarily is a strong indication of the firm having growth ambitions. As such, firms that choose to audit voluntarily are likely to exceed the threshold levels in the coming periods, and it can be investigated if that is the case; this may also be explored in future research.

Nonfinancial Reporting and Future Research

In an attempt to estimate the intended users of firms’ CS reporting, it was learned that there was not an established data-driven approach to do so. Paper III developed such an approach to estimate firms’ CS reporting using a data-driven method. Paper IV also develops an objective approach and a generic measure to evaluate accountable information in environmental disclosures of CS reporting. These types of tools are useful for tackling the complexity of estimating voluminous CS disclosures and allow the evaluation of the utility of various reporting guidelines (e.g., from GRI and SASB) more objectively and in an efficient manner. However, this is only one of the first attempts to develop text-based measures that are automated, replicable, and scalable. As such, the measures are far from perfect and will benefit from further refinement. For example, the accountability measure of environmental disclosure developed in Paper IV can be further refined to classify the direction of the effects (e.g., if firms increased or decreased their carbon footprints). The measure can be also refined to help quantify the various environmental performance measures firms disclose in their CS reporting. Being able to accurately extract that information can help strengthen the overall accountability framework, besides improving efficiency and objectivity in evaluating firms’ CS disclosures.

Future work may develop more generic measures for estimating and evaluating the quality of CS disclosures in other dimensions (e.g., social capital, human capital, leadership and governance or other sub-dimensions of environment – management of waste and hazardous material or energy management). Separate generic measures for each dimension are required because the various dimensions are qualitatively different and firm disclosure greatly varies between these dimensions (Kim & Lyon, 2015; Wu, et al., 2020). Generic measures that can be automated to evaluate firm disclosures are critical, not least to evaluate governance structures but also to be able to estimate the quality of the disclosures systematically, efficiently, and in a more objective manner. Generic measures are quite commonly applied to evaluate firms’ financial information (e.g., through various earnings quality models, such the Jones
model, or the modified Jones model) and performances (e.g., through financial-statement ratio analysis). Essentially, these generic measures may be applied to any firm around the globe, and it is high time to develop matrices to evaluate firms’ CS disclosures which are accessible, replicable, and scalable. Afterall, commensuration is a fundamental element for evaluation of firm disclosures and regulations related to firm disclosures (Espeland & Stevens, 1998; Fontes, et al., 2005).

Further advancement can be made by including reports in other languages into the analysis. Language is an informal form of institution which has been shown to influence individuals’ behavior as well as firm behavior (Liang, et al., 2018). Moreover, informal institutions have long-lasting effects and also take the longest to evolve (North, 1991; Williamson, 1998), thus it is important to investigate how firms’ CS disclosure behavior is affected by language. Evidence from such investigations can help to improve the optimization of firms’ governance structure.

Given that the CSRD will require the reports to comply with machine readability, demand for such tools may arise in the future. It may require efforts from both demand and supply sides so that machines can process these reports with greater precision and efficiency. From the demand side (e.g., regulators), a clearer guideline on reporting requirements is required, e.g., like the financial reporting frameworks. From the supply side, for example, refraining from the use of boilerplate languages could improve the classification process. Of course, it is a challenge for the MDA community to develop methods and measures that can work with unstructured text data which are imperfect.

The survey of key officers of Swedish firms revealed that, due to the implementation of the NFRD, 54% of the firms allocated additional resources for reporting purposes, and 40% of the firms have increased their spending on real CS activities. Taken at good faith, responses from firms’ key officers suggest there have been some real effects in terms of increased resource allocation for CS activities. Future studies can investigate what type of firms have allocated additional resources for CS activities and what type of initiatives those activities comprise of. Future studies can also investigate how these additional resources may be used so that it maximizes and aligns the values of the firm and its stakeholders. Else, it is a waste of valuable resources which could have been otherwise allocated for other productive ventures that could have positive real effects for firms, their stakeholders, and society.
References


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