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Corporate sustainability standards

- A comparison of two sustainability indices

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- A comparison of two sustainability indices

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Summary

Increased stakeholder pressure on companies to aim for more than profit maximization has resulted in adoption of corporate sustainability practices by companies. In response to the accountability pressures, companies have increased their reporting efforts to communicate financial and non-financial information. Efforts to communicate corporate positions on sustainable development are made in annual reports as well as by external organizations, in ranking systems. While sustainability indices and ratings are gaining increased recognition, neither the scientific community nor the business community have agreed on standards for corporate sustainability or assessment of sustainable development. However, under these conditions of uncertainty and undefined concepts, sustainability indices prosper. They create own methodologies to assess companies performance, present reports emphasizing on accuracy of measurements, earn trust of investors and exercise influence on companies' behavior.

At this point when sustainability indices play such an important role in corporate sustainability assessment, the call for an explanation how corporate sustainability standards are affected by sustainability indices arises. This study addresses this gap by the analysis of two sustainability indices, DJSI and FTSE4Good, and comparison of their methodology on a list of criteria. The criteria that were used for the comparison are *values* of corporate sustainability indices hold, *influence* they cause on different groups of stakeholders, and *indicators* they imply to assess companies. On the next stage comparison was done according to such categories as *objectives* indices have, *techniques* they apply, sources of *information* they use, and *requirements* for inclusion they state.

The analysis and comparison of two sustainability indices in accordance to the chosen criteria reveal that there are more commonalities than differences in indices' corporate sustainability assessment and several additional commonalities arose in the course of the analysis. Both, DJSI and FTSE4Good demonstrate their adherence to similar *values* of sustainable development on a corporate level, have *influence* on the same stakeholders and state almost identical *requirements* for the companies to be considered for the inclusion. The similarity between indices is the adoption of *industry-specific weighting* when a company is compared to its peers within the same industry. Discussing the question of *methodologies* both DJSI and FTSE4Good put effort on regular reviews and improvement of it. Finally, DJSI and FTSE4Good emphasize on the voluntary *adoption* of their corporate sustainability standards. In the questions of *indicators* and *objectives* the indices do not match completely but only at certain points. Differences were found in only two categories such as *techniques* and sources of *information* indices use in the assessment process.

To sum up, two analysed indices have more similar points in assessment of corporate sustainability, than contradictions. This conclusion suggests that analysed indices have a tendency to establish standardization of the certain aspects of corporate sustainability assessment. Potential future analysis of the other influential sustainability indices with the application of the same conceptual framework will help to reveal a broader picture of the situation around corporate sustainability standards.

Sammanfattning

En höjd medvetenhet om hållbar utveckling leder till förhöjda förväntningar på företags arbete med hållbarhetsfrågor. Det innebär att traditionella finansiella rapporter med vinstmaximering som mål inte längre räcker till. Företag förväntas göra en icke-finansiell redovisning av ansvarstagande i bred bemärkelse. Dessa rapporter utgör tillsammans med externt genomförda värderingar, indexeringar och rankingar kanaler för att kommunicera strategiskt hållbarhetsarbete och göra jämförelser.

En mängd olika hållbarhetsvärderingar och index som har utvecklats; var och en representerar de organisationer som tillhandahåller resultaten av sådana mätningar och jämförelser för allmänheten. Medan hållbarhetsindex och värderingar växer i popularitet, har varken forskarsamhället eller affärsvärlden kommit enats om standarder för hållbar utveckling och dess bedömning. Det finns ingen enhetlig definition eller standard för kriterier för bedömning hållbarhet. Under dessa förhållanden blomstrar utvecklingen av hållbarhetsindex. En mångfald av index skapas, där varje index bygger på egna metoder för att bedöma företags prestanda, presentera rapporter, få ett förtroende hos investerare och påverkar företagets beteende.

Givet den viktiga roll som hållbarhetsindex spelar för ett stort antal intressenter som gör både strategiska och operativa beslut är det kritiskt att granska hur de samspelar de index som finns i dag är. Detta projekt är fokuserat på två av de stora erkända hållbarhetsindex som idag vägleder många företag och investerare, DJSI och FTSE4Good. De jämförs med avseende på metod och val av kriterier för hållbar utveckling. Kriterierna är *värdena* av hållbara index, *påverkan* de har på olika grupper av intressenter och *indikatorer* de innebär för att bedöma företag. Jämförelsen inkluderar även kategorier som *mål* index har, *tekniker* de tillämpar, *informationskällor* de använder och en inkludering *krav* jämfördes.

En analys och jämförelse av två hållbara index i överensstämmelse med de valda kriterierna pekar på att det finns fler likheter än skillnader i index hållbarhetsbedömning. Både DJSI och FTSE4Good visa deras tolkning av *värden* för en hållbar utveckling på företagsnivå är relativt samstämmig, har *påverkan* på samma intressenter och har nästan identiska *krav* för företagets inkludering i index. Likheten mellan indexen är i en applikation av *branschspecifika viktning* när ett företag jämfört med sina gelikar inom samma bransch. I en fråga om *metoder* både DJSI och FTSE4Good göra stora ansträngningar för regelbundna revisioner och förbättringar av det. Slutligen, både DJSI och FTSE4Good betonar vikten av frivillig *antagande* av deras företags hållbarhetsnormer. Delvis matchning mellan indexen är i frågan om *indikatorer* och *mål*. Skillnader hittades i endast två kategorier såsom *tekniker* och *informationskällor* indexen använder i bedömningsprocessen.

Sammanfattningsvis, de två analyserade indexen, DJSI och FTSE4Good har mer liknande punkter i bedömningen av företagets hållbarhets än olikheter. Denna slutsats pekar på en standardiseringsprocess i vilken de analyserade indexen går mot likformighet av vissa aspekter av hållbarhetsbedömningar. Potentiella framtida analyser av de andra inflytelserika index och longitudinella data med tillämpning av samma begreppsmässiga struktur kan utröna en bredare bild av utvecklingen av hållbarhetsstandarder.

Abbreviations

CSA – Corporate Sustainability Assessment is the framework applied by the Dow Jones Sustainability Indices family for measuring corporate sustainability performance of the companies.

CSR – Corporate Social Responsibility implies “adopting business strategies and activities that meet the needs of the enterprise and its stakeholders today while protecting, sustaining, and enhancing the human and natural resources that will be needed in the future” (Steurer *et al.*, 2005, p. 274).

DJGI – Dow Jones Global Indices is a family of international equity indices that have geographical division (world, region, country indices) and other types of division (economic sector, market sector, industry-group and subgroup).

DJSI – Dow Jones Sustainability Indices are a collection of indices that measure the performance of the companies in terms of corporate sustainability.

ESG - The Environmental, Social and Governance captures firms’ environmental footprints, the degree to which firms demonstrate a sense of environmental and social responsibility and their corporate governance. The term is employed in various contexts such as risk valuation, socially responsible investment, corporate sustainability, etc., however at present there is no clear general understanding of this concept (Bassen *et al.*, 2008).

FTSE - Financial Times Stock Exchange is a limited liability company registered in the United Kingdom. It produces a set of equity indices for investors.

GRI - Global Reporting Initiative is an international independent standards organization.

ISO - The International Organization for Standardization is an independent, non-governmental international organization that develops voluntary International Standards (www, ISO, 1, n.d.).

MSA – Media and Stakeholder Analysis is one of the instruments employed by RobecoSAM to conduct media monitoring of the companies in DJSI (RobecoSAM, 2016b).

NGO - Non-Governmental Organization is a non-profit voluntary organization. It can exist on a local, national or international level.

SRI – Socially Responsible Investment. Majority of definitions involve “Integrating personal values and societal concerns with investment decisions” (Schueth, 2003, p. 190).

TBL – Triple Bottom Line implies focus of corporations on the environmental and social value in addition to economic value (Elkington, 2001).

TSS – Total Sustainability Score results from the Corporate Sustainability Assessment methodology by RobecoSAM. Companies in DJSI are ranked according to the attached TSS.

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1 Introduction

Standards are omnipresent in every aspect of our life: they are in information, communication and technology, they determine the quality of products and services, and are responsible for the harmonization of international accounting systems and governing social and environmental performance of firms (Brunsson *et al.*, 2012). Despite this ubiquity, exploration of standards in organization studies have only started to emerge in the last fifteen years (*ibid.*) and there are many aspects of standards and standardization yet to be explained. Brunsson *et al.* (2012), discussing the perspectives of standards in organization studies, state that the discussion of standards in such areas as economics, sociology, political science, technology and law presents an opportunity to discover a variety of relevant empirical phenomena and theoretical frameworks, most of which have not been sufficiently studied within organization studies. The same authors suggest that one of the aspects of standards from the perspective of organizational studies is standardization *by* organizations, which concerns the fact that most standards are the product of formal organizations (Brunsson *et al.*, 2012). The formal organizations that presumably establish standards for sustainable development are sustainability raters (or rating agencies) that have a substantial impact on the formation of corporate sustainability standards.

Chapter one contains the background information for the topic of interest. It includes identification of problems in the studied area, statement of the problem of present research, its aim, research questions and definition of the research focus. Chapter one concludes with the research outline.

1.1 Problem background

Increased stakeholder pressure on companies to aim for more than just profit maximization has resulted in a number of responses on behalf of firms (Fortanier *et al.*, 2011). Among them, voluntarily reporting on environmental and social activities, and information on policies, progress and results (Kolk, 2010). These non-financial reports include health and safety reports, corporate responsibility reports and sustainability reports in which companies disclose information on their performance in a variety of ways using different indicators (Fortanier *et al.*, 2011). Extended stakeholder interest in firms' strategies and necessity to highlight corporations that aim to achieve a higher level of sustainability are among reasons that have led to the emergence of ratings and indices that measure corporate sustainability efforts (Sadowski *et al.*, 2010a) and have to serve to systematic, accurate, consistent and transparent assessment of the environmental, social and governance (**ESG**) performance of corporations (Windolph, 2011). It should be noted that this definition is an ideal and the existing sustainability indices struggle to fully meet the requirements of this definition.

One of the reasons for the popularity of sustainability indices is the growing interest of the capital markets where they are used as a tool to estimate the creditworthiness and risk exposure of companies (Finch, 2004; Healy & Palepu, 2001; Schäfer *et al.*, 2006). Another reason is that sustainability indices enable assessment and benchmarking of corporate sustainability, in this way improving accountability (Graafland *et al.*, 2004). However, the main reason why sustainability indices appear and develop is that they are an instrument for investment. The sustainable and (socially) responsible investing industry has made significant advancements over the recent years: a growing number of investors, institutions and financial professionals are managing capital to build a more sustainable and equitable economy (Social Investment Forum, 2014). It is estimated that almost 18 percent of the \$36.8 trillion in total assets under

professional management in the United States are invested with social responsibility in mind (*ibid.*, p.12). As a result, increased interest in sustainable investments has made a substantial contribution to the rapid growth of sustainability ratings and indices. Throughout this paper, terms ‘sustainable investment’ and ‘Socially Responsible Investment’ (**SRI**) are used interchangeably to describe “investment practices that consider environmental, social and corporate governance criteria to generate long-term competitive financial returns and positive societal impact” (*ibid.*, p.5).

An increasing number of investors interested in **SRI** outsource the analytics of the companies’ sustainability to raters of corporate sustainability (Berry *et al.*, 2013). This implies that raters produce a number of sustainability ratings and indices which investors make use of when making an investment decision (Figure 1). Often indices simplify complex systems of corporate sustainability to just one number. This can be helpful in the decision making process, but there is a high risk of losing or improperly representing important information in an index, which can send false signals to decision-makers (Ciegis *et al.*, 2015). In addition, using sustainability indices in investment decisions, investors rely on the raters’ definition of corporate sustainability and consent with the principles raters apply to rate firms, while at present there are no universal corporate sustainability standards and coherence in sustainability assessment (Windolph, 2011). The purpose of sustainability assessment is to give decision-makers an instrument to evaluate social and environmental systems on a global and local levels in the long- and short-term perspective with the objective to judge on the necessity of actions regarding the sustainability of society and business (Devuyst, 2000; Ness *et al.*, 2007). With the lack of consistency and absence of standards in corporate sustainability assessment investors face serious challenges: if raters’ metrics is invalid sustainability indices will not direct capital toward the most sustainable firms, trillions of dollars of capital can potentially be misallocated and sustainable investors might not attain what they aim for in their investment strategy (Chatterji *et al.*, 2015). In contrast, if raters measure the sustainable performance of firms in a transparent way, they can substantially assist stakeholders in rewarding or punishing firms on the basis of their sustainability efforts (Chatterji *et al.*, 2009). Thus it is crucial to gain deeper understanding of how sustainability ratings and indices assess firms’ corporate sustainability.

Figure 1 schematically illustrates the process of how sustainability indices are produced: rating agencies assess companies from different industries applying their own methodological approach to measure their corporate sustainability and then arranging the companies in the indices according to the scores after the assessment procedure. Often an index is derived from the preceding rating, so the rating is a base for the index. Sustainability indices are relatively recent phenomena. With the launch of EIRIS¹ in London in 1983, environmental social governance rating agencies began to appear in the investment arena (Escrig-Olmedo *et al.*, 2013). The Domini 400 Social Index, launched in May 1990 became the first sustainable index (Guerard, 1997a,b). The entry of Dow Jones and The Financial Times Stock Exchange (**FTSE**) into the market is evidence of serious attention that is being paid to sustainability indices. The Dow Jones Sustainability Indices (**DJSI**) became the first global sustainability index and is still highly-valued among the major stock market indices; it tracks the performance of leading companies that are seen to have adopted sustainability practices (Pätäri *et al.*, 2012). According to Global Initiative for Sustainability Ratings in 2016 there are more than 200 different sustainability ratings, rankings and indices (www, GISR, n.d., 1).

¹ EIRIS is a research company that conducts ESG research of firms and provides investors interested in including sustainability issues into their investment strategy with necessary information (www, EIRIS, 1, n.d).

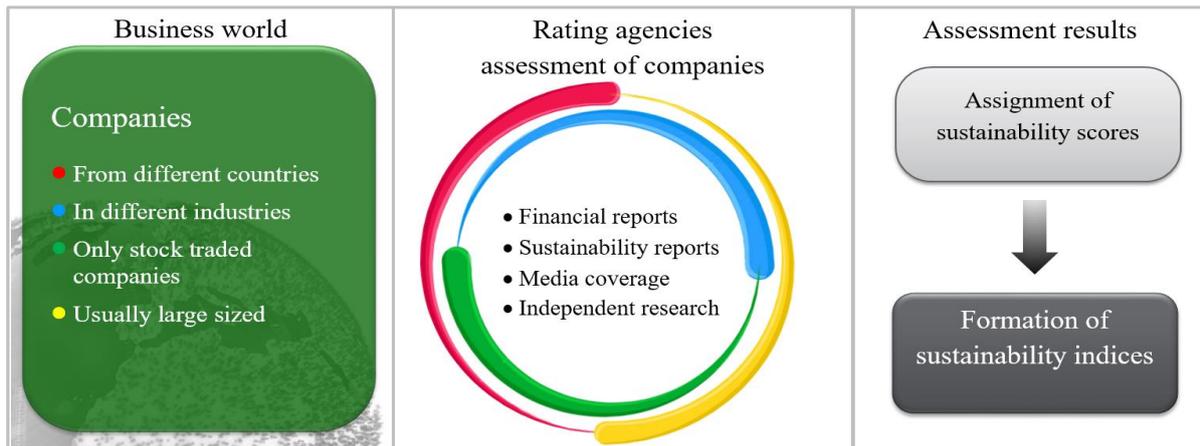


Figure 1. Illustration of the work principles of sustainability indices.

1.2 Problem

Considering the growing number of **SRI** investors and the number of ratings and indices which investors rely on in making sustainable investment decisions (Windolph, 2011), indices' and ratings' methodologies may have considerable impact on the standards and definition of corporate sustainability. At the same time, methodologies used to evaluate firms' sustainability performance are not yet standardized (Delmas & Blass, 2010). While financial performance indicators are well defined and established (e.g. return on assets and return on investment), **ESG** performance indicators are quite heterogeneous (*ibid.*). Indices that employ these indicators are a subject of criticism, especially regarding their transparency, (Delmas & Blass, 2010; Dillenburg *et al.*, 2003; Fowler *et al.*, 2007; Sadowski *et al.*, 2010a,b), their independence (SustainAbility, 2004; Epstein, 2008; Graafland *et al.*, 2004), and their variety (Chatterji & Levine, 2006; Chatterji *et al.*, 2009; Schäfer *et al.*, 2006). In general, little academic research has been carried out on sustainability indices (Fowler & Hope, 2007; Searcy & Elkhawas, 2012) and they have rarely been evaluated (Chatterji *et al.*, 2015). Building on the points raised in Fowler & Hope (2007), few studies have addressed the issue of how sustainability indices are used, what steps are taken by companies to achieve acceptance to the indices or to maintain their inclusion and how sustainability indices influence the understanding of corporate sustainability.

The scientific literature suggests, that the above mentioned problems with sustainability ratings and indices are caused by an absence of a standard definition and the subsequent diverse perception of sustainable development on a corporate level (Linnenluecke *et al.*, 2009; Schaltegger & Burritt, 2005; Seelos, 2004; Marrewijk, 2003). There is no consensus regarding the concept of sustainable development (Camacho, 2015; Imran *et al.*, 2014). The diverse definition of sustainable development gives rise to multiple interpretations of the meaning of corporate sustainability (Tanguay *et al.*, 2010) which results in heterogeneity of corporate sustainability assessment (Delmas & Blass, 2010; Schäfer *et al.*, 2006). Due to the fact that stakeholders have limited access to the information about companies, they cannot verify companies' claims about their sustainability strategies. (Ramus & Montiel, 2005). External organizations that are capable of collecting relevant information become important players and stakeholders became dependent on the assessment of corporate sustainability by this intermediaries (Healy & Palepu, 2001; Lee & Cho 2005; Rischkowsky & Döring, 2008). One important difficulty when externally assessing corporate sustainability through intermediaries

lies in information asymmetries² (Lyon & Maxwell, 2011; Rischkowsky & Döring, 2008). Another complication is the absence of a commonly accepted method of measuring corporate sustainability (López *et al.*, 2007; McWilliams *et al.*, 2006) and, consequently, no standard methodology sustainability indices can adopt for the evaluation of a firm's sustainability.

To sum up, on the one hand there is a growing number of sustainability ratings and indices that conclusively claim to measure corporate sustainability of firms; at the same time neither the academic society nor the business world have agreed upon a unique definition of sustainable development, corporate sustainability and unified set of its measurable indicators. The inconsistency in assessment of corporate sustainability by rating agencies leads to the situation when there exists a great number of sustainability ratings and indices claiming to measure the same aspect of companies performance – their sustainability efforts – applying the same process of assessment (Figure 1), while producing indices and publishing reports where the same companies in the same period of time are ranked differently. This project focuses on sustainability indices trying to understand how they shape corporate sustainability standards and, consequently, what impact these standards have on corporate sustainability. A key question of concern of this paper is how understanding and assessment of corporate sustainability by indices influences the establishment of a standard for corporate sustainability.

1.3 Aim and research questions

The aim of this study is to explain how corporate sustainability standards are affected by sustainability indices.

To achieve the aim, the following research questions are formulated:

1. *How do sustainability indices interpret corporate sustainability?*
2. *What similarities are there in the corporate sustainability assessment between sustainability indices?*
3. *What differences are there in the corporate sustainability assessment of sustainability indices?*

The study is performed on the example of two sustainability indices, DJSI and FTSE4Good.

1.4 Research focus

Corporate sustainability standards play an important role in management as well as in the assessment of corporate performance. Rating agencies that produce sustainability indices usually have established methodological documentation on how they measure sustainability of the firms they assess. This gives a researcher an opportunity to clearly see criteria for assessment. Thus, this study focuses on sustainability indices with the aim to understand their role in setting standards of corporate sustainability.

Corporate sustainability standards cause an impact on different groups of stakeholders including consumers, shareholders, investors, etc. (Windolph, 2011). Sustainability indices also have different target groups, e.g. consumers, companies, investors, etc. Among all groups of stakeholders, investors will mainly be in focus of this study. This choice is made because investors are the key audience and primary clients of sustainability indices. Moreover, they are

²Assuming that market players behave opportunistically, the supplier is tempted to expose only selective information or to even pass on false information to the consumer (Rischkowsky & Döring 2008).

an influential group of stakeholders that represents the interests of institutions, consumers and society to certain extent. In addition, an initial literature review revealed that a prevailing number of research on sustainability indices and ratings is mainly interested in consumers’ or companies’ attitude to them, paying less interest to investors. For example, there are many articles examining the performance of **SRI** funds compared to non-**SRI** funds (see Luther *et al.*, 1992; Mallin *et al.*, 1995; Kreander *et al.*, 2005); several studies analysed how ethical investing might influence companies’ behaviour (see, Michelson *et al.*, 2004; Guay *et al.*, 2004); a number of studies addressed the criteria for companies inclusion/exclusion used by **SRI** funds and indices (see Mackenzie & Lewis, 1999; Friedman & Miles, 2001; Barnett & Salomon, 2003; Jayne & Skerrat, 2003). Investors as a group of stakeholders received considerably less attention in the literature. This paper aims to add to the limited pool of research focusing on investors when studying the issue of corporate sustainability standards.

Finally, of all the variety of sustainability indices that exist now in the world, this study will focus on two of them. These are DJSI and FTSE4Good. They were chosen as the most popular and comprehensive in the field of sustainability indices. Fundamental study “Rate the raters” conducted by SustainAbility between 2010 and 2014 named DJSI and FTSE4Good in the top of the most credible and trustworthy.

1.4 Outline

The rest of the paper is organized as shown in Figure 2. The next section is the Theoretical framework which presents the concepts of standards and standardization, corporate sustainability and its assessment methods in more details. This section concludes with the conceptual framework that is built on the prior knowledge in the field of corporate sustainability. The study then acquaints the reader with the research design in the Method section, where arguments for the choice of case, approach and method of research together with delimitations are stated. The Empirical background chapter contains an overview of sustainability indices and a detailed description of the ones chosen for this study. Furthermore, the Empirics chapter presents insights into corporate sustainability assessment approaches of the DJSI and FTSE4Good indices.

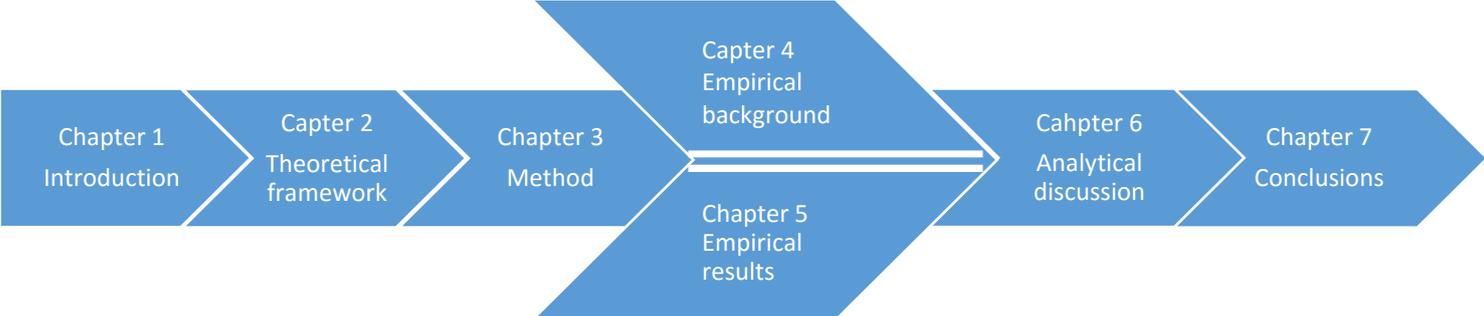


Figure 2. Outline of the study.

The Analytical discussion chapter applies the theoretical framework developed in Chapter 2 to the empirical findings and addresses the research questions. The analysis is conducted with the help of chosen concepts and models. At the same time findings from the literature review are stated in relation to the analytical findings of this research. Research questions are addressed in this chapter with the aim to answer them and offer discussion points that connect the present study with the previous research. Finally, the Conclusion chapter refers to the aim of the study with the intention to analyse the achievement of the aim and give suggestions for future research in the area.

2 Theoretical framework

The following chapter explains and clarifies the key concepts of the field of study and outlines the theoretical framework for the study. It starts with the insights to the study of standards and proceeds to the essential pillars of corporate sustainability. In the section 2.3 Corporate sustainability assessment theoretical aspects of corporate sustainability performance assessment are presented. The section is divided into parts according to the aspects of corporate performance that sustainability raters assess and according to the approaches they apply. Thereafter the theoretical knowledge is summarized and organized to build the conceptual framework for the study.

2.1 Standards

Standards prosper in modern society. They cover the majority of spheres of human life: they refer to the quality and design of products, to companies' financial reports, to states' environmental policies, to children education, etc. (Brunsson & Jacobsson, 2000). Some standards are created by governmental agencies, others, by private businesses and professionals. The engineer, scientist, teacher, doctor or factory worker spends their time either creating standards or complying with the existing ones (Lampland & Star, 2009). Standards can be defined as a pieces of general advice offered to anyone interested (Brunsson & Jacobsson, 2000). Due to the fact that most standardizers are private sector organizations and that the adoption of standards is usually a non-mandatory process, standardizers cannot impose fines for non-adopters. This implies the need for considerable effort to convince people to accept certain standards (Lampland & Star, 2009).

Standardization is a central form of governance, coordination and regulation in societies (Timmermans & Epstein, 2010). This regulation creates similarity and homogeneity throughout organizations and among people that are distant from one another. Another aspect of standards is that they are instruments of control that have rules creation and necessity to follow them as an important consequence (Brunsson & Jacobsson, 2000). These rules can be classified as those:

- about being something – classify things or actors in a standardized way
- about doing something – provide recommendations for individual behaviour, principles for the work of organizations
- about having something – refer to the things individuals or organizations should have like a career plan for the graduate or constitution for the state

Although standards compose a special kind of rule that is not mandatory, such powerful organizations as states or large corporations follow this kind of rule in questions concerning organizational structure, policies, products and services, etc. (*ibid.*). To understand the link between society and standards and to look deeper into the phenomenon of standardization it is crucial to analyse standards' commonalities comprehensibly presented by Lampland & Star (2009) in Table 1.

Table 1. Characteristics of standards (based on Lampland & Star, 2009, pp. 5-8)

Characteristic of standards	Explanation	Empirical example
Fit inside one another	Presence of one standard action requires the fulfilment of another standard action or procedure	In some countries in order to pay taxes a person needs to visit a tax-preparation company. In order to visit this company a person is required to have a telephone. Without a telephone it is impossible to fill-in an electronic calendar to arrange a meeting, therefore impossible to pay taxes.
Are distributed unevenly with respect to impact and obligation	Some may be forced to follow standards, others may escape this obligation; standards may be beneficial for someone or disruptive for another.	Most students must go through standardized examinations at different stages of studying. But some very rich (elite schools outside tests' jurisdictions) may avoid these examinations.
Are integrated one into another across nations and organizations	The same standard can be accepted in different countries or by different technical systems	E-mail requires standards of access to the Internet through service providers, software that enables messages from different sources and in different formats to be read in other formats and more standard protocols.
Prescribe ethics and values	Standards screen out diversity leaving only few options to choose between.	Almost all forms of demographic data have one binary choice, Male/Female.

Standards are produced by organizations and the task of standardizers is to influence others and convince them to adopt standards (Brunsson & Jacobsson, 2000). There are few methods standardizers can succeed in convincing others to follow their standards. The first is to convince third party that possesses power or authority to persuade others to follow the standard. For example a large industrial buyer requires its suppliers to be certified according to a certain quality standard. A second method is aiming to achieve monopoly status. Empirical examples are seen in the International Organization for Standardization (**ISO**) and the European Committee for Standardization. Corporate sustainability as a relatively new concept, is another example of organizational standards. A number of corporate sustainability reporting guidelines have been published to guide corporations in sustainability reporting, and Global Reporting Initiative (**GRI**) is one of the most notable examples (Roca & Searcy, 2012). Yet, in most countries, corporate sustainability reporting remains voluntary and governments generally do not regulate the implementation of sustainability standards at the corporate level (Searcy, 2012). The majority of initiatives in this question are voluntary efforts that represent forms of firm-, or industry-level self-regulation.

2.2 Corporate sustainability

Sustainable development aims to achieve long-lasting satisfaction of human needs and advancements in the quality of life conditional on the fact that ecosystems and/or species are utilized to the level that allow them to renew themselves (Allen, 1980). Allen's definition is one of the earliest that can be found in the literature. It mentions the intergenerational aspect of sustainability and links the security of ecosystems with quality of life. Another definition of sustainability which is now accepted by many is the Brundtland Report definition where sustainable development is understood as the development that strives at enabling future generations to meet their needs, and at the same time allowing satisfaction of the present needs. (WCED, 1987).

The term ‘sustainable development’ is a societal concept that is increasingly applied as a corporate concept under the name of ‘corporate sustainability’ (Steurer *et al.*, 2005) (Figure 3). Several researchers have attempted to investigate whether sustainable development actually applies to the corporate world (Gray, 2010). There are several arguments against the notion of ‘corporate sustainability’ that state that sustainability is a concept that does not coincide with corporate boundaries and that sustainability lacks a defined end-state (*ibid.*). Nonetheless, the increasing popularity of this concept has led to the state where a growing number of corporations attempt to match the standards corporate sustainability imposes (Roca & Searcy, 2012). Firms that adhere to corporate sustainability principles are expected to reap benefits economically and in public relations: consumers will buy products and services of firms that practise Corporate Social Responsibility (CSR), employees will prefer to work for CSR firms, stakeholders will pressure CSR firms to innovate, thus ensuring a competitive advantage over non-CSR firms (Berry & Junkus, 2013). While many authors recognize close associations between corporate sustainability and CSR, it is important to acknowledge that others insist that these concepts remain slightly distinct (Marrewijk, 2003; Steurer *et al.*, 2005). Following the Steurer *et al.* (2005) point of view, sustainable development, corporate sustainability and CSR are concepts on different levels of specification with different conceptual nuances (Figure 3): sustainable development is a normative societal concept, corporate sustainability is a corporate level concept, CSR is the management approach and such practices as ISO certification, GRI reporting, participation in various sustainability ratings, etc. are management systems.



Figure 3. Overview of sustainable development concepts (based on Steurer *et al.*, 2005, p.275).

To explore the notion of corporate sustainability, different theoretical frameworks have been used. One of the most noticeable is stakeholder theory (Freeman, 1984) that asserts that organizations have obligations to individuals and groups and that organizations are both affected and affect the individuals. These individuals include shareholders, employees, customers, etc. In addition to stakeholder theory, a number of other theoretical frameworks have been used to define corporate sustainability such as institutional theory (DiMaggio & Powell, 1983), resource-based theory (Barney, 1991) or legitimacy theory (Suchman, 1995). While all of these theories in many ways complement rather than oppose each other (Adams & Whelan, 2009), this study follows the stakeholder theory perspective.

2.2.1 Values

It is clearly seen how strong stakeholder theory has influenced corporate sustainability when analysing what values are promoted by the definitions of corporate sustainability. One notable definition is “adopting business strategies and activities that meet the needs of the enterprise and its stakeholders today while protecting, sustaining, and enhancing the human and natural resources that will be needed in the future” (IISD Deloitte and Touche (WBCSD), 1992, p. 1). In other words, current activities of a firm should be beneficial for the firm itself and for its stakeholders and should not be harmful for the environment and society in a long-term perspective. One more definition offered by Dyllick and Hockerts (2002, p. 131) is: “meeting the needs of the firm’s direct and indirect stakeholders (such as shareholders, employees, clients, pressure groups, communities, etc.), without compromising its ability to meet future stakeholder needs as well”. Additionally, Marrewijk (2003, p. 102) provides another representative definition where he explains that corporate sustainability refers to “demonstrating the inclusion of social and environmental concerns in business operations and in interactions with stakeholders”.

Corporate sustainability and **CSR** address the economic, environmental, and social levels of corporate performance (Steurer *et al.*, 2005) which are commonly referred to as the ‘triple bottom line’ (**TBL**) illustrated in Figure 4 (Elkington, 2001).

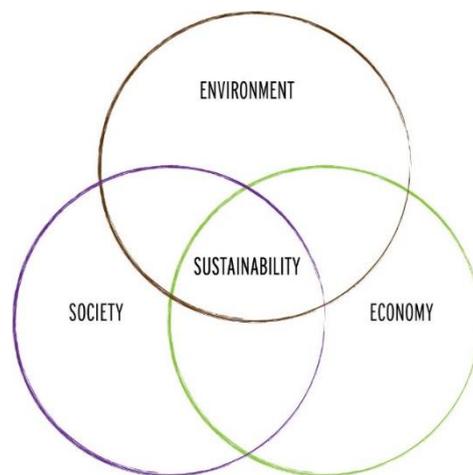


Figure 4. TBL levels of corporate performance (based on Elkington, 2001).

Corporate sustainability standards and principles that are based on **TBL** have been proclaimed by a number of non-governmental organizations (**NGO**) and international organizations. **NGOs** created principles for multinational corporations in the areas of sustainability (**GRI**), discrimination (Sullivan Principles), and moral capitalism (Caux Principles). Most of these initiatives of private organizations tend to focus on societal issues putting less emphasis on economic issues (Berry & Junkus, 2013).

2.2.2 Influence

The concept of corporate sustainability influences different groups of stakeholders through different channels. These might be sustainability reporting of the companies, standards of corporate performance created and imposed by **NGO**'s, and sustainability ratings for **SRI** investors. Investors want to diversify their portfolios by investing in companies committed to the concept of corporate sustainability. Theory suggests that investors are attracted to **SRI** because they want to match their investment policies with their values and because **SRI**

investment promises that the reduction of ESG risks and extension of opportunities create long-term shareholder value (Escrig-Olmedo *et al.*, 2013). One of the ways corporate sustainability cause an impact on investors is through sustainability ratings and indices that aim to meet the needs of their primary users (Windolph, 2011).

In addition to investors companies are another group on which corporate sustainability has a substantial impact. The impact occurs mainly by sustainability reporting and by sustainability ratings. Many corporate managers spend significant time and effort on sustainability activities (Chatterji *et al.*, 2015). It is claimed that nearly every Fortune 500 company publishes some kind of sustainability report (www, Forbes, 1, n.d.). Corporate sustainability reports are defined as “public reports by companies to provide internal and external stakeholders with a picture of the corporate position and activities on economic, environmental and social dimensions” (WBCSD, 2002, p.7). This definition emphasizes the need for corporations to report in accordance to all **TBL** dimensions of sustainability, namely the economic, environmental, and social (Searcy & Elkhawas, 2012). Sustainability ratings and indices affect a companies’ reputation and companies are aware that poor social and environmental ratings can harm their performance (Chatterji *et al.*, 2015). Another influence are the consumers. Independent agencies that assess companies’ sustainability performance can help consumers to overcome incompleteness of information regarding company’s behaviour, products and services (Chatterji & Toffel, 2010).

2.2.3 Indicators

Sustainability indicators have become increasingly recognized as an effective tool for policy making and public communication in transferring information on environmental, economical, societal, or technological development (KEI, 2008). Indicators arise from values - we measure what we care about, and at the same time they create values - we care about what we measure (IISD, 1998). According to Lundin (2003) and Berke and Manta (1999), sustainable development indicators can be used to:

- assess and evaluate the performance of a company
- advise on improvements as well as warn about declining trends for various dimensions of sustainability i.e. economic, environmental and social aspects
- recommend strategies to decision-makers and communicate the achievements to the stakeholders

Sustainability indicators are accepted by countries and companies because of their ability to summarize, focus and simplify the complexity of the dynamic environment to a meaningful amount of information that can be analysed and communicated (Warhurst, 2002). Examples are Azapagic (2004) who developed a framework for sustainability indicators for the mining industry, which is compatible with the **GRI** and Krajnc and Glavic (2005) who developed a standardized set of sustainability indicators for companies covering all main aspects of sustainable development. In many publications the sustainability indicators are organized around the **TBL** dimensions of economic, environmental, and social performance. For example, the 150 indicators included in the **GRI G4** guidelines are based on the **TBL**, with the social dimension sub-divided into labour practices and decent work, human rights, society, and product responsibility indicators (GRI, 2015).

Except for the different dimensions that are applied to classify indicators of sustainable development it is crucial to look at initial measured values that lie behind the indicators. Lancker and Nijkamp (2000) emphasize this necessity and state that, “a given indicator doesn’t

say anything about sustainability, unless a reference value such as thresholds is given to it” (p.114). Moreover, corporations are motivated to define and measure sustainability performance with the help of defined indicators because it creates value (López *et al.*, 2007) and indicators are becoming increasingly important in sustainability reporting (Searcy & Elkhawas, 2012). Due to the number of theoretical and practical challenges sustainability indicators come with, it is not surprising that they are a disputed topic and the literature contains contrasting views on them (Searcy, 2012):

- * sustainability indicators are essential tools for sustainability assessment
- * sustainability indicators try to capture something as delicate as sustainability in simple metrics which is invalid
- * sustainability indicators have a low utility for practical decision making, however being useful for communication
- * sustainability indicators provide extremely simplified version of the world

Parris and Kates (2003) suggest three reasons for vagueness of sustainability indicators: (1) the ambiguity of sustainable development; (2) the variety of purposes when defining and measuring sustainable development; (3) the confusion of terminology, data and methods of measurement. This study does not argue for or against any of these views, but rather accepts the existence of sustainability indicators and focuses on the impact they have on corporate sustainability standards.

2.3 Corporate sustainability assessment

Corporate sustainability assessment measures to what extent a firm incorporates economic, environmental, social, and governance factors into its operations, and above this, the impact these factors exert on the firm and society (Artiach *et al.*, 2010). It is stated that sustainability assessments should: (a) integrate economic, environmental, social and institutional issues at the same time considering their interdependencies; (b) regard the future consequences of present actions; (c) be aware of the existence of uncertainties that might affect the result of present actions; (d) involve the society; (e) include intergenerational equity considerations (Gasparatos *et al.*, 2008).

The broad definition of sustainable development gives rise to multiple interpretations and, consequently, to different assessment approaches (Tanguay *et al.*, 2010). Despite the presence of common features in the definitions of sustainability, there is no assessment approach universally accepted and supported by compelling theory and data collection and analysis (Parris & Kates, 2003). In fact, by 2010 more than 50 distinct methodologies for assessing environmental and social performance have been developed (Sadowski *et al.*, 2010a,b). However several points are common across sustainability assessments: (1) focus on the relationship between people and nature; (2) coordination of a long-term and uncertain future; (3) formal foundation in the idea of justice between present and future generations as well as between humans and nature; (4) concern for economic efficiency (Baumgärtner & Quaas, 2010).

2.3.1 Objectives

The objective of corporate sustainability assessment in general is to evaluate sustainability of individual firms, projects, policies, plans and programs (Gibson, 2006; Pope *et al.*, 2004). The results of the evaluation are then used as an explanatory or planning tool focusing on prospects for long-term benefits and the acceptability of associated trade-offs (Winfield *et al.*, 2010). The

World Business Council for Sustainable Development (www, WBCSD, n.d., 1), the Global Reporting Initiative (GRI, 2015) and development of standards for sustainable development (OECD, 2016) support this major objective by stimulating the adoption of sustainability management practices in industries. Parris and Kates (2003) state that four major objectives in sustainability assessment are the following:

- decision making and management,
- advocacy,
- participation and consensus building
- research and analysis

2.3.2 Techniques

Three basic techniques in corporate sustainability assessment are signalling, engagement and screening. Signalling in the context of corporate sustainability means that companies spread signals to indicate their sustainability orientation. Examples of signalling techniques are the publication of sustainability reports, the establishment and use of sustainability related labels or certification and active participation in sustainability ratings and indices (Boer, 2003; Finch, 2004; Kolk, 2004). However, signalling fulfils its function only if it is perceived as reliable (Rischkowsky & Döring, 2008).

Sustainability ratings and indices play an important role as the providers of external assessment of corporate sustainability and the results of the application of negative screening, positive screening and engagement techniques play an important role for stakeholders (Windolph, 2011). Negative and positive screening implies that rating agencies exclude or include companies or sectors depending whether they meet the negative (positive) criteria adopted by the rating agency (Collison *et al.*, 2009). Screening simplifies the comparison between companies which could be helpful for consumers and investors when deciding on the adherence of a company to the sustainability principles (Windolph, 2011). Engagement is conducted in a number of ways, and engagement policy includes an active dialogue with companies with the aim to improve their sustainability performance or explain criteria a rater uses for inclusion in sustainability rating or index (Collison *et al.*, 2009).

2.3.3 Information

Suitable sources of information are crucial for reliable corporate sustainability assessment. Most common sources of information on company's sustainability efforts are the company's own reports, and information from media and studies performed by independent organizations (Escrig-Olmedo *et al.*, 2014). Due to the low level of public data availability, those interested in the sustainability assessment depend at least partly on self-disclosure of companies (Windolph, 2011). However, information presented by a company and then communicated through media cannot be relied on and its amount is not enough for the reliable analysis (Rischkowsky & Döring, 2008)

Many companies, acknowledging the importance of ratings in sustainability assessment, take part in surveys and questionnaires that raters propose them. Nonetheless, the credibility of information companies disclose through surveys is doubted because a company is not willing to cause a negative effect on its reputation (Healy & Palepu, 2001). For this reason raters refer to governmental agencies, academic reports, industry organizations, NGOs, and other stakeholders in order to access unbiased information on companies' performance (Fowler & Hope 2007). Additional argument in favour of inclusion of third-party reports in the assessment is so called 'questionnaire fatigue' (Windolph, 2011, p.44) which is when companies are required to allocate considerable resources and efforts to participate in intensive surveying and

interact with rating agencies. Reports by governmental agencies, academia, industry organizations and NGOs help to overcome this problem. Still, even when combining information presented by companies with public information, the verification of data is a challenge for organizations that want to evaluate a firm's sustainability efforts (Ramus & Montiel, 2005).

2.3.4 Requirements

A common feature of all sustainability ratings and indices that assess companies' sustainability efforts is that they impose strict requirements upon companies regarding the standards these companies should meet in order to be accounted for inclusion. First and foremost is the requirement regarding company's size. Aim of the majority sustainability ratings and indices is to select sustainability leaders, but most of them focus on larger companies and do not include either small and medium enterprises or companies from emerging countries (SustainAbility, 2004; Fowler & Hope, 2007; Schäfer *et al.*, 2006). As a result, sustainability leaders might not be recognized in such conditions since the rating agencies do not even include them in the sample of eligible companies (Fowler & Hope, 2007).

The second requirement often stated by raters is about the form of ownership of a company. Companies, for the inclusion in a sustainability index, are usually selected from the existing equity index (Windolph, 2011). Only stock traded companies are included in equity indices. Thus, instead of actively searching for sustainability-oriented companies with a form of ownership other than a public joint-stock company, rates limit the sample by using only companies already included in equity indices (*ibid.*).

2.4 Conceptual framework

The literature on evaluation of firms' performance establishes two preconditions for convergence of raters: theorization that makes clear what raters assess and commensurability that makes comparison across raters possible (Chatterji *et al.*, 2015). Theorization is a standard produced by a rater that helps companies to associate their actions with outcomes and expect better rating from changes in behaviour (*ibid.*). When the theorization is clear, firms can expect benefits by adjusting their behaviour. In this study 'theorization' refers to the raters' beliefs and values about corporate sustainability. Three concepts are chosen to cover theorization of corporate sustainability by raters. These are values of corporate sustainability that raters state in their documentation, influence indices cause by corporate sustainability assessment and indicators that are used by raters to measure a firm's sustainability efforts (Figure 5).

Commensurability is the similarity in measurement approach, when different raters measure the same aspect in a similar way (*ibid.*). To test for commensurability of the measurement approaches used by sustainability raters the study assesses objectives rates state, techniques they apply, sources of information they use and requirements for inclusion they apply to rated companies (Figure 5).

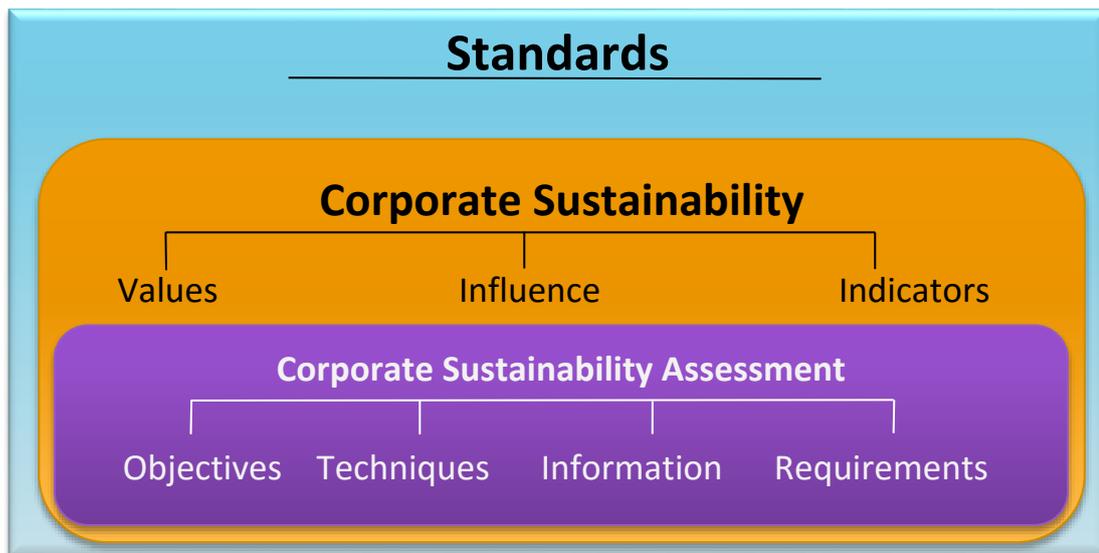


Figure 5. The conceptual framework.

Figure 5 uses the theories presented in previous parts of this chapter as a base. Findings of research in the field of corporate sustainability were analysed and adopted to create the theoretical framework for this study. Applying this theoretical framework in the analysis of the empirical material, the study aspires to achieve the aim of explaining how sustainability indices influence corporate sustainability standards.

3 Method

This chapter presents the methodological approach, strategy and design that was chosen for the study and ensures the relevance of this approach to the research problem. Questions of transparency, quality and consistency are discussed in the chapter.

3.1 Research approach, strategy and design

Often the main difference between quantitative and qualitative analysis is seen in the use of social theory (Bryman, 2008). For quantitative research a deductive process is employed, meaning that theory is a starting point for the hypotheses formulation that will be tested empirically, while in qualitative research inductive thinking prevails, which means that a social phenomenon is studied in order to find empirical patterns that can serve as the beginning of a theory (Hennie, 2010). However, theory testing and theory building are parts of one ongoing process illustrated in Figure 6.

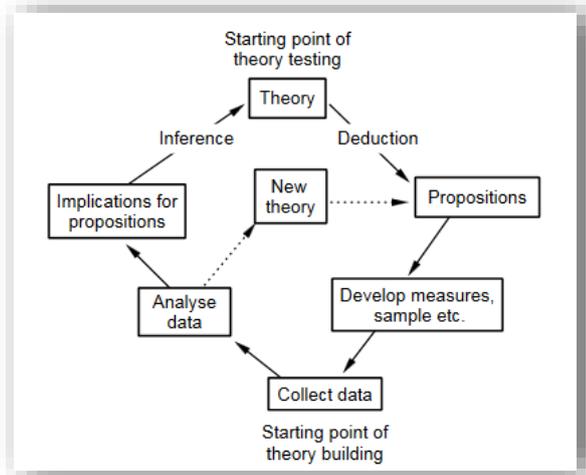


Figure 6. The logic of the research process (Vaus, 2001, p.8).

When building a theory, research begins with observations and derives a theory from these observations. This theory attempts to make sense of observations and is often called post factum theory (Merton, 1968). Such approach is suitable for the new, less explored spheres of knowledge (Robson, 2011). Despite that corporate sustainability is researched, measured and assessed by a number of studies, the influence sustainability indices have on corporate sustainability is barely touched by academics. Considering this, present study does not have an *a priori* hypotheses but rather stays open to new discoveries and potential relations between variables. It is preferable to use an inductive approach based on qualitative research techniques that can be theory building in cases with few prior studies (*ibid.*). This implies labelling this research as inductive, where observations precede theory (Bryman, 2008).

Following Robson’s (2011) classification of research designs this study employs flexible design. The main characteristics of this type of research design is that it naturally uses methods which result in qualitative data (often in the form of words) and it evolves and develops as the research proceeds (*ibid.*). Flexible research design is chosen due to the fact that the variable of interest, corporate sustainability, is not quantitatively measurable but rather can be understood in qualitative categories. Qualitative data analysis produces rich, descriptive data that needs further interpretation and enables contribution to theoretical knowledge and practical use

(Hennie, 2010). This data analysis is chosen to explore the social phenomenon of sustainability indices and their role in the establishment of corporate sustainability standards.

3.2 Case study and comparative case study

Case study is a design of inquiry that gives the researcher an opportunity to develop an in-depth analysis of a case (Stake, 1995). In research, ‘case’ can be a program, event, activity, process, organization, one or more individuals (Bryman, 2008). Researchers collect comprehensive information about the case with the help of a variety of data collection procedures over a sustained period of time (Yin, 2009). According to Yin (2009), case study is preferred to other methods when research questions start with ‘why’ and ‘how’; the researcher mainly does not have control over events and the study is focused on a contemporary phenomenon. This study aims to answer a ‘how’ question, the researcher does not have any control over events and the phenomenon of sustainability indices is a contemporary one. Since all the requirements are fulfilled, it implies appropriateness of a case study as a research method.

A case study may include single or multiple cases. In a study with multiple cases a comparative design can be employed (Figure 7). Comparative design can be applied to both quantitative and qualitative research strategy. When it occurs in qualitative research it takes a form of a case study which in this context becomes a comparative case study (Bryman, 2008). For the purpose of this study a broad field of corporate sustainability standards is narrowed down to two researchable cases of sustainability indices which are subject to detailed analysis.

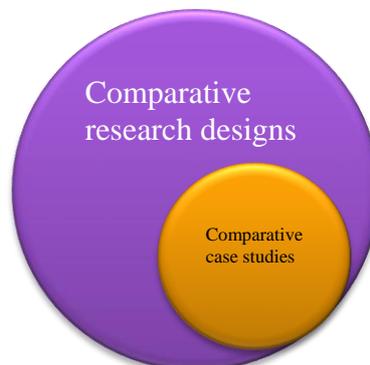


Figure 7. Comparative case studies (based on Bryman, 2008).

Comparative case studies involve the analysis of the similarities, differences and patterns across two or more cases applying identical methods (UNICEF, 2014). The main argument in favour of comparing several cases in the study is that it gives a researcher a better positions to establish the circumstances in which a theory will be build (Eisenhardt, 1989). Sustainability indices chosen for this research are analysed with the help of the same methods and within the same conceptual framework with the aim to find similarities and differences between them.

3.2.1 Choice of cases and units of analysis

A crucial component of a case study is a clear understanding of a unit of analysis in a particular case (Bryman, 2008). In a flexible research terminology ‘sample’ is a case selected from the research population for the further analysis (Boeije, 2009). A choice of a case is commonly referred to as ‘purposive sampling’ or ‘purposeful selection’ (Coyne, 1997). In this study two sustainability indices are the chosen cases; their methodologies are the units of analysis. Sustainability indices were not selected randomly, but rather DJSI and FTSE4Good were chosen because they are recognized as the most credible, oldest and well-known raiters in **SRI**

field among sustainable investors. The ratings survey “Rate the raters” conducted by SustainAbility in 2013 recognises chosen raters among the top in terms of credibility.

The logic of choosing a comparative case study method is that comparison of meaningfully comparable cases gives better understanding of the social phenomenon. “Comparison is a powerful conceptual mechanism, fixing attention upon the few attributes being compared and obscuring other knowledge about the case” (Stake, 1994, p.242). In this study, two sustainability indices are compared with each other in term of methodology in order to find out how they theorize corporate sustainability and how it impacts standards of corporate sustainability. Although indices are not totally equal in all aspects and have distinctions on certain levels, for the need of this study they are assumed to be comparable. To demonstrate the comparability of two indices, the criteria for choosing them is summarized in the Table 2.

Table 2. Criteria for selecting the units of analysis.

	DJSI	FTSE4Good
Deal with for-profit firms	Yes	Yes
Cover firms all over the world	Yes	Yes
Are oriented towards SRI investors	Yes	Yes
Considered to be well-established and trust-worthy among investors	Yes	Yes
Publish publicly available regular reports	Yes	Yes
Weight (compare) companies within certain industry	Yes	Yes

Both raters publicly disclose their methodological documentations on how indices are built which enables the analysis. In addition, publicly available regular reports give an excellent chance to make a historical comparative analysis between two indices. This analysis is a vital part of the study as it gives an opportunity to see whether standards of corporate sustainability employed by different rating agencies have an impact on the positioning of a company in the index. The conceptual framework designed previously in the study is used to discuss the differences or similarities in a company’s placement in the indices.

3.2.2 Data collection

Primary data for this study is corporate documentation. Documentation is one of the commonly used sources of case study evidence (Yin, 2009). This type of source has a high value and plays and explicit role in data collection in a case study (*ibid.*). As this study aims to compare corporate sustainability assessment approaches of two rating agencies, the corporate documentation of these agencies serves as a primary source of data. The main documents are sustainability assessment methodologies written and published by DJSI and by FTSE4Good. Information available in these methodologies allows to understand what values sustainability assessment is based, and what approaches, techniques and requirements are applied by raters to the rated companies. According to Yin (2009) the strengths of documentation as a source of evidence can be proven by its stability (can be reviewed repeatedly), unobtrusiveness (not created by a case study itself), precision (contains exact details), and broad coverage of events. Primary sources of data for this study meet all the mentioned requirements. Bryman (2008) adds that documents from private sources like companies are mostly regarded as authentic, clear and comprehensive to the researcher, however, attention should be put to issues of credibility and representativeness of the analysed documents. This study utilizes all the strengths of documentation and considers its weaknesses.

Rating agencies are concerned with involvement of as many companies as possible to the participation in the assessment procedures. This includes filling-in questionnaires, providing raters with documentation. If companies will not put efforts to these actions, indices will no

longer exist. Thus, rating agencies have a strategy to simplify assess to the information regarding methodology and inclusion rules. This study takes advantage of this situation and uses a variety of raters' documentation available publicly, such as assessment methodologies, brochures assisting on questionnaires, explanation of inclusion criteria and lists of indicators with comments on what is expected from rated companies. By combining these primary documents the study tries to overcome such weaknesses of documentation as lack of access to information, difficulty to find it and incomplete selection.

It is recommended to support data from primary sources with information from *secondary sources* since it can strengthen the results (Bryman, 2008). For the case study using multiple sources of evidence is of a key importance and it serves to the achievement of triangulation³ (Yin, 2009). Case study findings and conclusions are likely to be more convincing when several sources of information are used (*ibid.*). For this study, as secondary data sources, reports from SustainAbility, especially Rate the Raters project (www, Sustainability, 1, n.d.), GRI guidelines (www, GRI, 1, n.d.), United Nations Environment Programme Finance Initiative policies (www, UNEP Finance Initiative, 1, n.d.), Principles for Responsible Investment by United Nations (www, PRI, 1, n.d.), Thompson Reuters and Bloomberg market overviews are utilized. Academic articles from scientific, peer-reviewed journals were studied to identify views of research on sustainability assessment and on sustainability raters. Key words were used for the search. As a result more recent articles give an understanding of current research in the field of corporate sustainability, and highly cited articles help to frame the theoretical base for the research.

3.2.3 Data analysis

Yin (2009) distinguishes four strategies of data analysis in a case study research and emphasizes on the necessity to have an elaborate strategy on a stage of collecting study evidence in order not to be entrapped at the analysis stage. One of the strategies Yin (2009) recommends is a strategy of relying on theoretical propositions that led to the case study. Relying on theory not only helps to formulate research questions and review the literature, but also shapes data collection and its analysis. In order to understand whether sustainability indices create a standard of corporate sustainability it was decided to compare methodological approaches to sustainability assessment by two prominent sustainability indices. To determine the levels and concepts for the comparative analysis, theoretical groundwork in the field of sustainability assessment approaches are utilized. The analysis of theoretical literature in this field leads to the conceptual framework applied to the analysis of corporate documentation. Qualitative content analysis approach (Bryman, 2008) is applied when working with documentation. It implies search of underlining themes in the analysed materials. Themes determined in the conceptual framework were identified in the corporate documentation of two rating agencies and then analysed.

3.3 Literature review

Literature is used to understand what the current situation in the field of interest is and to discover theoretical perspectives and proper concepts to look at the social phenomenon of interest (Creswell, 2013). A literature review not only provides insights into topics in the area of interest, but also allows researcher to identify a gap in the existing knowledge and to

³ Triangulation is used to ensure that the best suitable approach is applied in order to solve a research problem; it is also used as an instrument of validity insurance (Morse, 2003).

formulate own research (Hennie, 2010). One more purpose of conducting a literature review is that it makes the researcher aware of different angles of the study (*ibid.*).

The analytical approach to the research is also derived from literature. It does not dictate a fixed coding scheme that constrains data collection or dictates what variables will be examined because it is not in the nature of qualitative research, but it provides a ‘skeletal framework’ giving the opportunity to keep the literature findings on the level of global notions and ideas, while working with a few narrow concepts (Morse, 2003; Creswell, 2013). To construct a relevant skeletal framework, literature is reviewed on such topics as current views on sustainability standards, **SRI** and sustainability indices, sustainability assessment methodologies and sustainability indicators. Google Scholar, SAGE database, Primo, Uppsala University Library’s search engine and Web of Science serve as main databases. Journal of Business Ethics, Business Strategy and the Environment, The Journal of Investing, Sustainable Development and Ecological Economics journals are looked through as they contain peer-reviewed articles on the relevant topics which helps to ensure trustworthiness of the theoretical framework and incorporate quality control to the study.

Bryman (2008) differentiates between systematic and narrative literature review stating that systematic review adopts explicit procedures to reduce the biases of the researcher. Narrative review, contrary to systematic review, tends to be less focused and more wide-ranging in scope (*ibid.*). It is used by the interpretative researcher with an inductive approach whose purpose is to generate understanding of the subject. It is problematic to set out main theoretical and conceptual terms that define the area of study prior to data collection. However, the present study aims to learn about different theoretical and methodological approaches to sustainability assessment methodologies and corporate sustainability standards with the help of a narrative literature review.

3.4 Quality assurance

There have been discussions regarding the relevance of such concepts as reliability and validity to qualitative research and to case study design in particular. For Stake (1995) these concepts are barely applicable to case study research; however Yin (2009) considers them to be appropriate and suggests methods of how case studies can meet the reliability and validity criteria. In contrast, there are opinions that qualitative research requires different criteria. Guba and Lincoln (1994) propose trustworthiness and authenticity as two primary criteria for assessing qualitative study. While authenticity is not divided into subcategories, trustworthiness consists of credibility, transferability, dependability, confirmability.

To ensure the compliance to the quality standards this research is valuated with the help of the combination of criteria from Bryman (2008) and Yin (2009) presented in Table 3. The research involved utilization of a variety of different sources of data (Yin, 2009) including analysis of raters’ web pages, access to public reports by raters and rated companies, reports by independent organizations such as SustainAbility, Bloomberg, Thomson Reuters, and the additional information gathered through secondary data analysis.

Table 3. Quality assurance in a case study (based on Bryman, 2008, pp.19, 376-379; Yin, 2009, pp.40-45)

Yin (2009) classification	Guba and Lincoln (1994) classification	Meaning	Taken steps
Internal validity	Credibility	Seeks to establish causal relationship	According to Yin (2009) this criteria is not relevant for exploratory study, which is not concerned with causal relationship.
External validity	Transferability	Defines to what extent study's findings can be generalized.	Theory is used for the analysis. The study consists of two cases that are compared.
Reliability	Dependability	Demonstrates that the operations of the study can be repeated	Used theories are stated, matching between research features and research design is stated in Method chapter, case study materials are listed.
	Confirmability	Ensuring that personal values and theoretical inclinations of the researcher do not influence the research and findings	Usage of publicly available documentation as a primary source of data ensures independence of the researcher from the case. Choice of theories for the analyses based on an extensive literature review.
Construct validity		Identifies correct measures for the concepts of research	Several sources of evidence are used, these sources are documented.

3.4.1 Ethical considerations

This study does not reveal any aspects of private life of individuals or confidential information of companies because it uses only those sources of information that are available publicly. No interviews were conducted and no internal documents of any company involved. Thus, this study has not caused any harm to participants. While not having a direct effect on participants in the process of research, this study might have an effect after the publication. To ensure the absence of claims from the side of sustainability indices this study aims to achieve high level of objectivity and trustworthiness. The study utilizes the exact terminology used by sustainability indices. Moreover, in order to avoid bias in data analysis and presentation, efforts were put on assuring that the same amount of information was collected about each sustainability index and in the result presentation both indices received equal attention.

3.5 Research delimitations

When conducting a study, certain delimitations will appear and are necessary in the process. In the following paragraphs delimitations related to the choice of method, theory and empirical material are presented.

3.5.1 Theoretical delimitations

In the social research, theory provides a context and rationale for the conducted research (Bryman, 2008). Social phenomena are understood within the framework provided by the theory, and the findings are interpreted within the same framework (*ibid.*). The theoretical framework of this study rests on stakeholder theory and the corporate sustainability concept within a societal dimension of sustainable development (Steurer *et al.*, 2005). Corporate sustainability focuses on three spheres of **TBL**, namely economic, environmental and social. This study has the aim to explore the role of sustainability indices in a corporate sustainability context. Due to the fact that these indices are oriented mainly towards investors, the study takes an investors point of view when comparing approaches of corporate sustainability assessment

applied by indices to the companies. Nevertheless, a few remarks about the influence of indices not only on investors, but also on the corporate world and on stakeholders are done in the analytical chapter, because sustainability indices are becoming an influential force in the field of corporate sustainability and their measurements of firms' sustainability efforts impact different groups of stakeholders.

3.5.2 Methodological delimitations

This project uses an inductive approach and is designed as a comparative case study. Choice of every method imposes certain delimitations that a researcher cannot control but should be aware of (Robson, 2011). The choice of inductive approach was made because of the limited number of previous research with focus on the link between sustainability indices and standards of corporate sustainability. Data collection on sustainability indices methodology is an essential part of the study. Conclusions about the impact sustainability indices cause on the standards of corporate sustainability are drawn after the sample cases are observed and compared. An inductive approach implies that theory is an outcome of research (Bryman, 2008), however the analysis and comparison of two cases does not give grounds for generalization.

This work is limited to the review of the materials rating agencies produce and the literature review. Only materials in English are included in the study. Official documents from public sources serve as primary data for this research. This source of data has certain delimitations such as, it is complicated to assess a comprehensive set of documents and documents do not provide an objective picture of a state of affairs (Bryman, 2008). In order to at least partly overcome this restraint, companies' documents were complemented by official documents derived from institutions that conduct independent research.

3.5.2 Empirical delimitations

One empirical delimitation is that among a variety of indices only two are chosen. They are the DJSI and FTSE4Good and are considered to be the most widespread, comprehensive and popular among investors (Chatterji *et al.*, 2015). Moreover, it has been claimed that the DJSI employs a best-in-practice assessment process. This claim appeared in a survey of more than 1 000 sustainability professionals conducted by the Rate the Raters project which found that the DJSI had the highest credibility of 16 well-established ratings (Sadowski *et al.*, 2010b, p. 15). Both indices cover companies worldwide and have long a history, considering the fact that sustainability indices are a contemporary phenomenon. Another delimiting factor is that data for the research was the one available during the time of research, while this data may be a subject of changes because rating agencies regularly review their methodological documentations. Thus, the conclusions of this research might lose their validity if sustainability assessment approaches of raters are substantially modified.

Only for-profit companies are considered in the study because of the focus on financial investors. No non-profit or charity organizations are included. This is a restriction imposed by the chosen theoretical perspective. The study is built on the assumption that investors are not limited in their investment opportunities and have the possibility to follow any sustainability index they choose.

4 Empirical background

This chapter contains background information on sustainability indices and presents a detailed overview of the two sustainability indices, DJSI and FTSE4Good, that are used in this study. Attention is put to the values indices employ and to their construction principles.

4.1 Sustainability indices overview

Sustainability indices have appeared as a response to the change in attitudes towards responsible behaviour, finite natural resources, and as a concern for sustainability in society (Finch, 2004). This new type of index looks at corporate performance in relation to the needs of stakeholders. It is possible to see parallels in credit rating agencies' such as Moody's and Standard & Poor's impact on the development of capital markets in the mid-nineteenth century and sustainability rating agencies' impact on **SRI** market in recent years (Escrig-Olmedo *et al.*, 2013). Sustainability rating agencies seek to make corporations' environmental effects more transparent (Chatterji *et al.*, 2009). These rating agencies examine a firm past environmental performance and environmental management activities. In addition, they can also produce a firm future outlook by analysing their environmental management plans and investments that are presumed to enhance future environmental performance. Just as a credit ratings aim is to increase transparency and efficiency in debt capital markets with the help of reducing the information asymmetry between borrowers and lenders, sustainability ratings intend to provide social investors with accurate and transparent information on a firms socially responsibility behaviour (*ibid.*).

Sustainability rating agencies act as a link between firms and stakeholders because they evaluate economic, social and environmental aspects of firm's performance using their own methodologies and present the results to society (Schafer *et al.*, 2005). Evaluation results can be in the form of ratings and indices where a score is assigned to each company. Thanks to such kinds of results, presentation rating agencies allow meaningful comparison of companies between each other (Windolph, 2013).

As Ferri and Liu (2005) highlight, rating agencies that produce sustainability indices have experienced substantial growth in recent decades due to the following reasons:

- * the development of the securities markets (reason for this is the rapid transformation from bank-based to market-based financial systems)
- * obligation to disclose **ESG** aspects performance due to the tightening of regulation regarding sustainability reporting
- * investors recognition of the fact that investing in accordance with sustainability principles can create long-term value
- * investors' and consumers' trust in rating agencies (external sources of information regarding the performance of a company have more trust than a company' own reports)
- * investors' demands for comparisons with recognized benchmarks

In the historical perspective sustainability indices appeared not long ago. Kinder, Lydenberg, Domini, and Co established Domini 400 Social Index, the world's first index that provides exposure to companies **ESG** actions, in May 1990 (MSCI Social Index, 2016). Although the first sustainable investment management company PAX World Fund was opened earlier, it took two decades for the first sustainability index to appear (Guerard, 1997a, b). The growing acceptance of sustainability within the investment community has accelerated the introduction

of a number of other sustainable indices including products from such companies as FTSE, Dow Jones, Calvert, Ethibel, E.Capital, KLD, Humanix, Jantzi and Vigeo (Fowler & Hope, 2007) (more sustainability indices can be seen in Appendix 1). **SRI** indices are maintained by a large number of research firms that specialize in collecting the information on a firm's corporate sustainability. The MSCI KLD 400 Social Index is managed by KLD Analytics; KLD partners with the Financial Times on a range of FTSE Responsible Investment Indexes such as Catholic values, Sustainability, etc. (Berry & Junkus, 2013). Communication between a company and rating agency is usually very specific and transparent: raters require companies to present detailed information (gathered through questionnaires, interviews and supporting documents) related to a number of sustainability activities such as donations to charity, waste reduction and employee relations, etc. (Peloza, *et al.*, 2012).

Most sustainability indices have stock market indices that put no special attention to firms **ESG** as benchmarks (Table 4). Many of the indices benchmark the S&P500⁴ and then adjust a company's weight in the index according to the specific screening criteria (Berry & Junkus, 2013). For example, a benchmark for the DJSI is The Dow Jones Global Indices (DJGI), a family of international equity indices that provide 95 percent market capitalization⁵ coverage of developed markets and emerging markets (www, S&P Dow Jones Indices, 2, n.d.).

Table 4. Benchmark indices and screening approach by sustainability indices (based on Fowler & Hope, 2007, p.246)

Sustainability indices	Index tracked	Screening
<i>Calvert Group:</i>	<i>Benchmark Index:</i>	<i>Negative Screening Criteria:</i>
The Calvert Social Index	None	Excludes companies with bad environmental records and those operating in nuclear power, weapons, tobacco, alcohol, or gambling.
<i>Dow Jones:</i>	<i>Benchmark Index:</i>	<i>Positive Screening Criteria:</i>
Dow Jones Sustainability Index	Dow Jones Global Index	Includes companies that score highest on a comprehensive list of sustainability criteria.
<i>Ethibel:</i>	<i>Benchmark Index:</i>	<i>Positive Screening Criteria:</i>
Ethibel Sustainability Index	S&P Global 1200	Includes companies with high scores on four criteria: internal social policy; environmental policy; external social policy and ethical economic policy.
<i>FTSE:</i>	<i>Benchmark Index:</i>	<i>Mixed Screening Criteria:</i>
FTSE4Good	Fortune 500	Excludes companies operating in: tobacco, nuclear systems, weapons systems, and uranium. Includes companies based on qualitative judgments about environmental sustainability, relations with stakeholders and human rights.
<i>KLD Analytics:</i>	<i>Benchmark Index:</i>	<i>Negative Screening Criteria:</i>
MSCI KLD 400 Social Index by MCSI Inc.	Fortune 500	Excludes companies operating in: weapon, alcohol, tobacco, nuclear power, and gaming. Also excludes companies based on qualitative judgments about the environment, diversity, employee relations, product.
<i>Vigeo:</i>	<i>Benchmark Index:</i>	<i>Positive Screening Criteria:</i>
Advanced Sustainability Performance Indices	DJ EURO STOXXSM	Includes companies for introducing sustainability practices.

⁴ This is an American stock market index based on the market capitalizations of 500 large companies with common stock listed on the NYSE or NASDAQ.

⁵ Market capitalization refers to the value of a firm, which is calculated by multiplying current share price of a firm with a number of outstanding shares.

Various approaches are applied in the construction of indices. Two major distinctions in the assessment approaches are positive and negative screening (Fowler & Hope, 2007). The most basic approach is to simply apply a negative screen that excludes companies operating in certain business areas (these are usually tobacco, alcohol, nuclear energy, gambling, pornography and weapons). This is the primary approach for the indices produced by Calvert Group and MCSI Inc., and partly for the FTSE4Good index. The analysis of DJSI, Ethibel, and Vigeo indices demonstrated focus on positive screening criteria, which means that the support of an investor is intentionally given to the companies that present examples of environmentally friendly strategy, methods of production and CSR business practices (www, Social Funds, 1, n.d.). Table 4 presents an overview of major sustainability indices regarding their screening approach. However, screening is not the only difference between indices approaches, there are many more distinctive features, such as sources of information used for the assessment techniques, requirements, etc. In the next sections two sustainability indices will be closely examined followed by the discussion of their methodological approaches.

4.2 DJSI Family

The DJSI is an index family linked to the financial market. It assesses the stock performance of the leading companies in certain industries and geographical areas and weighs their corporate sustainability efforts tracking economic, environmental and social aspects of their activity (www, S&P Dow Jones Indices, 1, n.d.). Indices are created to be a benchmark for sustainable investors willing to incorporate sustainability issues into their investment strategy. Above this, indices have an ambition to serve as an engagement platform for firms aiming to achieve higher levels of corporate sustainability. (www, RobecoSAM, 1, n.d.). All indices are maintained in collaboration between the RobecoSAM, a Zurich-based fund management and research firm, and S&P Dow Jones Indices, a joint venture that produces stock market indices. RobecoSAM employs the Corporate Sustainability Assessment (CSA) as a framework for the identification of firms with a better reaction to the current sustainability concerns. Annually more than 2 000 companies are analysed with the help of the CSA. The CSA results serve as the basis for the construction of the DJSI family. Initially, the DJSI family was launched in 1999 and since that time it has steadily expanded.

The DJSI is a family of different indices derived from the DJGI. The index family comprises global and regional broad market indices, country benchmarks and global and regional blue-chip indices (Table 5).

Table 5. Index family (Dow Jones Sustainability Indices Methodology, 2016, p.4)

DJSI WORLD	Dow Jones Sustainability World Dow Jones Sustainability World Enlarged Dow Jones Sustainability Emerging Markets
DJSI Regions	Dow Jones Sustainability Asia/Pacific Dow Jones Sustainability Europe Dow Jones Sustainability North America
DJSI Countries	Dow Jones Sustainability Australia Dow Jones Sustainability Canada Select 25 Dow Jones Sustainability Korea Dow Jones Sustainability Korea Capped 30 Dow Jones Sustainability Chile

DJSI implements the approach that focuses on positive rather than negative screens and adopts a policy of including the most successful companies from all industrial sectors. The rating agency emphasizes on the ‘best-in-class’ approach because of industry-specific sustainability

opportunities and risks. Following the best-in-class approach each year more than 3 000 companies that outperform their peers are invited to participate in RobecoSAM’s CSA (www, RobecoSAM, 2, n.d.). Competition among companies for inclusion in the DJSI is promoted through the system of comparison of their scores to the industry peers. RobecoSAM (2016) states that in order to be added and keep the place in the index, companies constantly have to put efforts on the improvement of their sustainability initiatives. According to RobecoSAM, sustainability assessment is an instrument that helps to see the gaps and start improvements in firms’ corporate practices. According to the ideas expressed by index ideologist, RobecoSAM, it is possible to conclude that firms adopt their strategies in order to fit into the standards indices establish. In general, RobecoSAM believes that the best-in-class bring benefits to all stakeholders including investors, company’s staff, customers and, ultimately, society.

The superior performance of responsible firms can be achieved under the condition of a firm’s commitment to the five corporate sustainability principles determined by the rating agency, which are presented below (www, S&P Dow Jones Indices, 1, n.d.):

- 1) application of innovative technology in products and services;
- 2) high standards of corporate governance in management, organizational capability, corporate culture and stakeholder relations;
- 3) building of shareholder relations on sound financial returns and long-term economic growth;
- 4) demonstration commitment to industrial leadership
- 5) determination to social well-being

In September 1999, the global index for tracking the performance of sustainability-driven corporations worldwide, the DJSI World, was launched (RobecoSAM, 2015c). This index is constructed from the universe of firms present in the DJGI assuming that corporate sustainability is to increase long-term value for shareholders. The DJSI World covers 26 developed market and 20 emerging market countries taking sustainability performance into account. The index consists of more than 300 companies that represent the top of the leading sustainability companies among the largest 2 500 companies represented in the DJGI. The results of the annual RobecoSAM CSA form the research backbone for the construction for all DJSI World index.

4.2.2 Dow Jones Sustainability Indices construction principles

The construction of DJSI consists of four stages filtering thousands of companies to several dozens that compose the index (Figure 8).

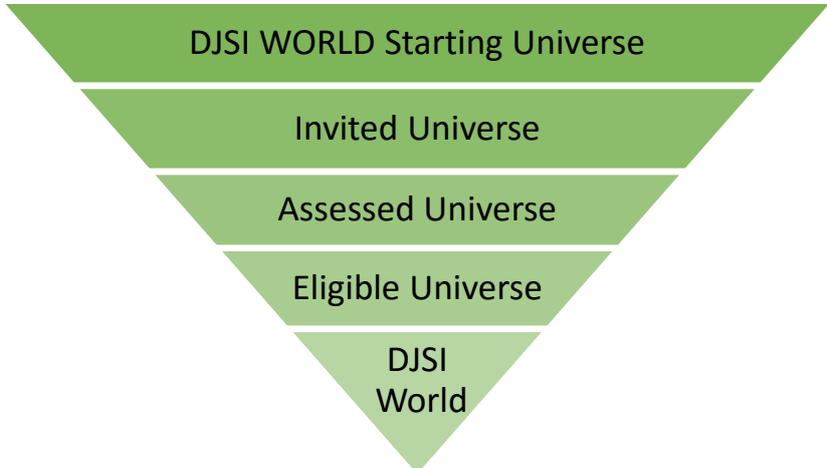


Figure 8. Construction stages of DJSI World (based on RobecoSAM, 2013a, p.4).

The Starting Universe consists of approximately 11 000 companies listed in the S&P Global BMI⁶. The Invited Universe is formed from the Starting Universe and includes 2 500 companies with the largest float adjusted market capitalization that are listed in S&P Global BMI. The Assessed Universe consists of all those companies from the Invited Universe that have been analysed by the **CSA** and obtained a Total Sustainability Score (**TSS**) according to the following steps (RobecoSAM, 2016c):

1. All companies of the Invited Universe who have completed the **CSA** Questionnaire are listed. If a company choose not to complete the **CSA** questionnaire, but meets size criteria of a float-adjusted market capitalization higher than USD 500 million (p.8), the questionnaire is completed by RobecoSAM analysts based on publically available information only and **TSS** score is assigned to each of them.
2. Companies identified in the previous step are classified according to the region and industry and their total market capitalizations are summed up. Industries are derived from the Global Industry Classification System (**GICS**). Companies eligible for the DJSI World are assigned to one of 24 industry groups that further fall into 59 industries as defined by RobecoSAM (see Appendix 2 for the complete list of industries).
3. Total market capitalization of each region/industry identified in the previous step is expressed as a percentage of the market capitalization from the S&P Global BMI.
4. Having the target to achieve 50 percent market capitalization for each industry, even companies who have not responded to the **CSA** questionnaire are added to the index until this target is achieved. After this no further companies are added to the Assessed Universe.

To be included to the Eligible Universe companies should match the following criteria (RobecoSAM, 2016c):

1. If a company have a **TSS** less than 40 percent of the **TSS** of the company with the highest score it is disqualified from the index.
2. If there are insufficient number of companies available in a certain industry, industries are combined into industry groups.
3. Remaining companies that were not disqualified in step 1 form the Eligible Universe.

On the stage of selecting the constituents of the DJSI indices from the Eligible Universe of companies, the goal is to select the Target percent of Eligible Companies in each Eligible Industry. The selection process favours a certain number of existing constituents in the index in order to reduce turnover. The selection procedure is as follows (RobecoSAM, 2016c):

1. According to their **TSS**, all companies are ranked in descending order.
2. For each industry, companies with the top target percent are selected. For the DJSI World the top 10 percent of the companies by **TSS** are selected for the membership.
3. Companies that have 0.3 score points lower than the last company selected in step 2 are also included in the index.
4. In addition, existing constituents of DJSI and top Buffer percent of all Invited Companies are selected for inclusion. For the DJSI World the Buffer percent reaches 15percent.

The governance of indices is provided by the DJSI Index Committee which consists of representatives from S&P Dow Jones Indices and RobecoSAM. The DJSI Index Committee's responsibility is to monitor all changes that might affect the DJSI including additions or

⁶S&P Global BMI (Broad Market Indices) measures global markets covering both developed and emerging economies. It includes over 11 000 companies in 52 countries.

deletions of companies, changes to the **TSS** of a company or an assignment of a new **TSS** to a company that was not listed before in any DJSI index.

The annual **CSA** process begins in March each year when the invitation for the participation is sent to companies (Figure 9).

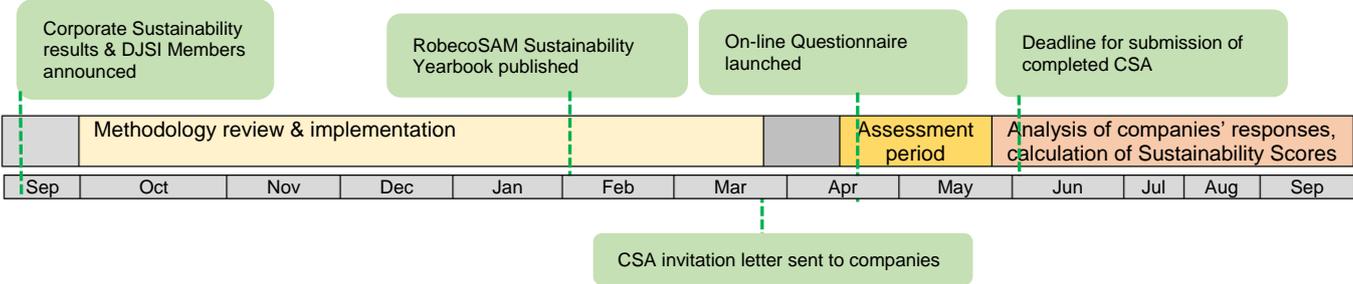


Figure 9. Timeline of the CSA Process (based on RobecoSAM, 2016c).

Companies, which agreed to participate in the **CSA** should submit the questionnaires by the end of May. June to September is the period when companies' responses are analysed and new scores released at the end of September. This means that by the end of September members of DJSI indices are known and released. Companies may also be deleted from the DJSI between annual reviews, if the Committee makes a decision to reconsider its current **TSS**.

4.3. FTSE4Good Index Series

The Financial Times Stock Exchange Group set up the FTSE4Good Indices in 2001. This is the index series of tradable and benchmark indices for sustainable investment which measure the companies' performance regarding **ESG** practices and globally recognized corporate sustainability standards (www, FTSE, 1, n.d.). To achieve this aim, the FTSE4Good Index Series identify current trends of corporate social responsibility and **SRI**, measure companies' compliance with them and present reports on the performance of the constituent companies in a useable format (*ibid.*). For inclusion in the index companies need to meet a range of **ESG** based indicators in their policy, management and reporting. The indicators have been designed to help investors minimize **ESG** risks, while still earning a competitive return.

Companies assessed by FTSE Group are organized into sectors. Sectors are classified according to their environmental impact: low, medium or high. High impact companies such as oil, gas, agriculture, air transport, etc., are required to be reported on a greater number of criteria and have to meet additional sector specific criteria comparing to medium or low impact sectors (FTSE4Good, 2016a). When the advising committee approves a company, it becomes eligible to be included in the index. FTSE4Good encourages companies to improve in corporate behaviour and performance on **ESG** factors and on greater transparency in corporate **ESG** data: by providing companies with their ratings, they can monitor and manage their own performance (Collison *et al.*, 2009).

The FTSE4Good Index Series includes four main indices: FTSE4Good Global Index, USA Index, Europe Index and UK Index. Each of these indices is produced in two formats. First, a benchmark index is calculated which represents the performance of all companies from given regions that meet the inclusion criteria. Second, a tradable version of each index is created based on a representative sample of shares in the FTSE4Good benchmarks (Table 6). These tradable indices have an objective the give asset managers a basis for the creation of investment

products. Tradable indices cover such geographical regions as US, UK, Australia, Europe and the World.

FTSE4Good indices impose additional sector specific criteria on the companies from the high-risk industries. A number of companies are excluded from FTSE4Good due to their involvement or investment in sectors where products or activities are deemed to be unethical; these are tobacco producers, companies manufacturing either parts for nuclear weapon systems or whole nuclear weapon systems, companies manufacturing conventional weapon systems, owners or operators of nuclear power stations and companies involved in the extraction or processing of uranium (FTSE4Good, 2016c).

Table 6 reveals that indices represent different geographical areas, so called ‘universes’. According to FTSE Group four main universes for the indices are the UK, Europe, the US and the globe. Geographical classification of the indices was made to aid investors who wanted different geographical exposures in their investment strategies (Collison *et al.*, 2008).

Table 6. FTSE4Good benchmark and tradable indices (based on FTSE4Good, 2016b, p.3)

Benchmark Indices:	Tradable Indices:	Currency:
FTSE4Good Global Index	FTSE4Good Global 100 Index	USD
FTSE4Good USA Index	FTSE4Good USA 100 Index	USD
FTSE4Good Europe Index	FTSE4Good Europe 50 Index	EURO
FTSE4Good UK Index	FTSE4Good UK 50 Index	GBP
FTSE4Good Australia Index	FTSE4Good Australia 30	AUD
FTSE4Good Japan Index		JPY
FTSE4Good Emerging Markets Index		USD
FTSE4Good ASEAN 5 Index		USD
FTSE4Good Emerging Latin America Index		USD

For a company to be eligible for inclusion in one of the nine FTSE4Good benchmark indices it must already be listed on one of the 13 starting indices – Constituent Universe Indices. These establish the base universes from which the securities for the benchmark indices are selected. FTSE Developed Index is the starting index for the FTSE4Good Global Index (FTSE4Good, 2016b). FTSE4Good USA index is based on the FTSE USA Index, which covers 98 percent of the stocks that are traded in the US (www, FTSE Russell Indexes, 1, n.d.). In the same manner, the FTSE4Good Europe index is drawn from the securities included in the FTSE Developed Europe Index. Finally, the shares that form the FTSE4Good Global index were taken from the FTSE Developed Index.

Tradeable indices are derived from the benchmark indices and have a limited number of constituents, which is stated in the name of each index (Table 6). The management rules for tradeable indices specify that a company in the Global or US benchmark index after each review must rise to the 90th position to be included in the tradable FTSE4Good Global 100 Index or FTSE4Good USA 100 Index; or fall to 110th to be excluded from them (FTSE4Good, 2016b). The UK and Europe adopt the same criteria but as they only have 50 constituents a company must rise to 40th place in the benchmark index to be included in the tradable index, or fall to 61st place to be excluded from it. This policy is designed to maintain a constant number of constituents and produce a stable return for the tradable indices (FTSE4Good, 2016a). If too many companies are to be included, then those with the lowest rating will be deleted. If the opposite situation might happen (when there are too many companies to be deleted and not enough companies are to be included on the tradable option), companies closest to the highest rating that are not in the index will be included in it.

Inclusion in the index is the decision of the FTSE4Good Advisory Committee, which assesses a company on the information that is supplied by the Ethical Investment Research Service (EIRIS) and EIRIS's own research of companies (FTSE4Good, 2015). The FTSE4Good Advisory Committee comprises independent investment professionals and includes individuals with a background in the **SRI** field. The information supplied to the FTSE4Good's Advisory Committee concerns details of the company's performance in three areas of interest: environmental, social and governance sustainability. The committee is required to carry out a regular review of all the constituents of the FTSE4Good indices to see that existing firms meet the eligibility criteria and to determine whether new companies should be included. Criteria for inclusion are designed by EIRIS and is based on a market analysis and consultation with the independent commission of experts. Such external institutions as **NGOs**, governmental organizations, independent consultants, industry representatives, academics and investors participate in the assessment process (FTSE4Good, 2016b). FTSE4Good inclusion criteria are regularly revised to meet market expectations in **ESG** fields. For this reason companies are expected to monitor the criteria and evolve in order to achieve or to keep their index membership. FTSE4Good employs the practice of engagement with firms that are not meeting the index standards. Firms are given time to try to improve their sustainability performance (FTSE4Good, 2016a). If the improvement was not achieved the company is excluded from the index. The task of maintaining records about the market capitalization of all constituents and changes to weightings are also the responsibility of FTSE4Good Advisory Committee.

5 Empirical results

The main focus of this section is the corporate sustainability assessment conducted by the rating agencies in collaboration with research firms. Empirical results are derived after the analysis of indices' documentation on sustainability assessment approaches. The information presented in this chapter forms the basis of the analytical discussion conducted in the next chapter.

5.1 DJSI's sustainability assessment methodology

Contact with companies, questionnaire, corporate documents and Media and Stakeholder Analysis (**MSA**) are the sources RobecoSAM uses for corporate sustainability measurement (Hassel, 2009). The questionnaire and **MSA** are parts of the **CSA**. The DJSI aims to apply a selection of companies that is based on the principles of transparency and objectivity (RobecoSAM, 2015a). RobecoSAM's annual assessment of companies starts from the industry-specific questionnaire on economic, environmental and social factors, which contains from 80 to 120 questions relative to the industry (www, *RobecoSAM, 2016, 1, n.d.*). For each of 59 industries there is a unique online questionnaire as RobecoSAM believes that each area of business have its own special sustainability drivers. All the information that companies disclose in the questionnaire is verified by RobecoSAM with the help of the supporting documents that companies provide and by the monitoring of publicly available media and stakeholder reports. (RobecoSAM, 2016b). To be assessed by RobecoSAM companies should have a market capitalization above 0.5 billion USD and be the members of DJGI.

TSS of each company is calculated after the completion of the questionnaire or with the help of publicly available information such as company documentation. When the **CSA** of a company is based on publicly available information, a company gets a zero score for the question where relevant information is not found (RobecoSAM, 2016c).

Annual assessment of a company's corporate sustainability performance consists of the **CSA**, ranking and selection of the components and Corporate Sustainability Monitoring (Figure 10). Once the components are selected, they are continuously monitored throughout the year. RobecoSAM's **CSA** plays a main role in the assessment of corporate sustainability efforts of the companies in the Invited Universe. It establishes the approaches, principles and values of corporate sustainability. The **CSA** is regularly reviewed by analysts with a goal to understand a process of value creation and risk management and adapted to focus on financially relevant aspects of corporate sustainability (RobecoSAM, 2016c). RobecoSAM explains that the revision of the assessment methodology is vital because what was important in the past may have now become standard practice, and new sustainability opportunities and challenges continue to develop over time. In addition, in order to ensure quality and objectivity of the **CSA**, independent auditor Deloitte conducts an external annual audit of the assessment process (RobecoSAM, 2016b).

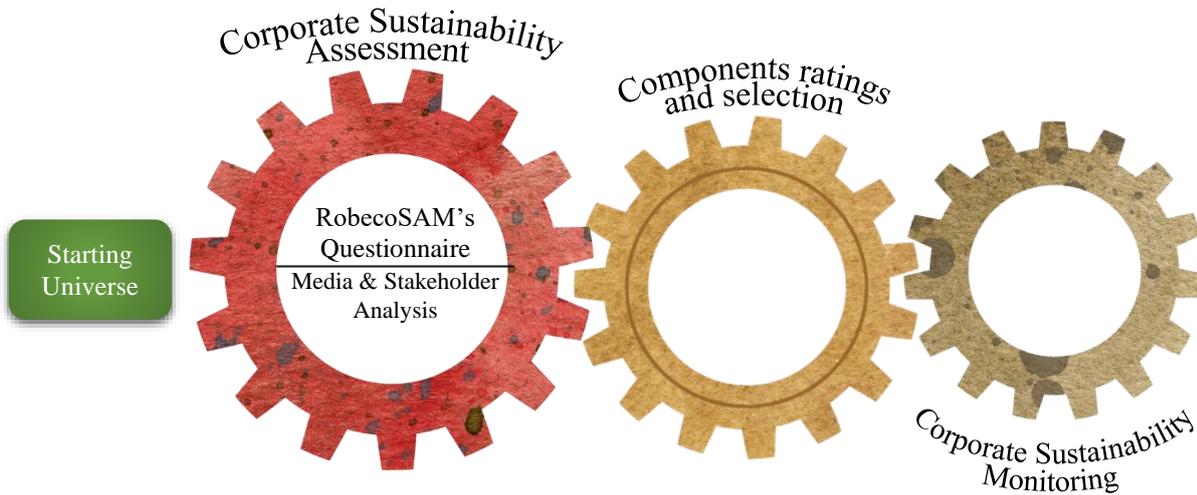


Figure 10. DJSI construction (www, RobecoSAM, 2016, 2, n.d.).

The **CSA** methodology was developed by RobecoSAM in 1999 with the objective to “identify companies that are better equipped to recognize and respond to emerging sustainability opportunities and challenges presented by global and industry trends” (RobecoSAM, 2016b, p.3). Major sustainability trends identified by RobecoSAM are resource scarcity, climate change and aging population, which in turn continuously reshape companies’ competitive environment. The **CSA** methodology is based on the application of specially designed criteria to evaluate the opportunities and risks deriving from economic, environmental and social dimensions of each of the eligible companies in the DJSI World (*ibid.*). These criteria consist of criteria applicable to companies in a specific industry group (at least 50 percent of the assessment) and of general criteria applicable to all industries (40 percent - 50 percent of the assessment) (*ibid.*, p.6). Each of these three dimensions consists of, on average 6 – 10 criteria that are of the special relevance to companies within certain industry (*ibid.*, p.5). The questionnaire is designed to limit qualitative answers through providing multiple-choice questions. The questions which allow for the qualitative answers are evaluated by RobecoSAM analysts using a predefined appraisal method, which enables to convert the answer into a quantitative score. The majority of questions allow for the maximum score for the question only if adequate supporting material is provided by the company. For each company, a **TSS** of up to 100 points is calculated.

MSA is a part of the **CSA** (RobecoSAM, 2015d). It includes media commentaries, reports from consumer organizations, assessments of companies by NGOs and governmental institutions. It searches for evidence of the situations risky for a company in sustainability terms. RepRisk, a provider of business information on ESG, during the whole year monitors different sources of information in 14 languages about companies **ESG** risks such as corruption, fraud, illegal activities, labour safety, accidents and disasters. (www, RepRisk, 1, n.d). Evidence of such kind can lead to the deletion from the index, therefore companies are expected to react to this kind of information. RobecoSAM may contact a company in order to understand the situation and company’s clarification may be included as a questionnaire response.

5.2 FTSE4Good sustainability assessment methodology

FTSE4Good is a sub-product of FTSE ESG Ratings. Their relations are as follows (FTSE4Good, 2011):

FTSE ESG Ratings are

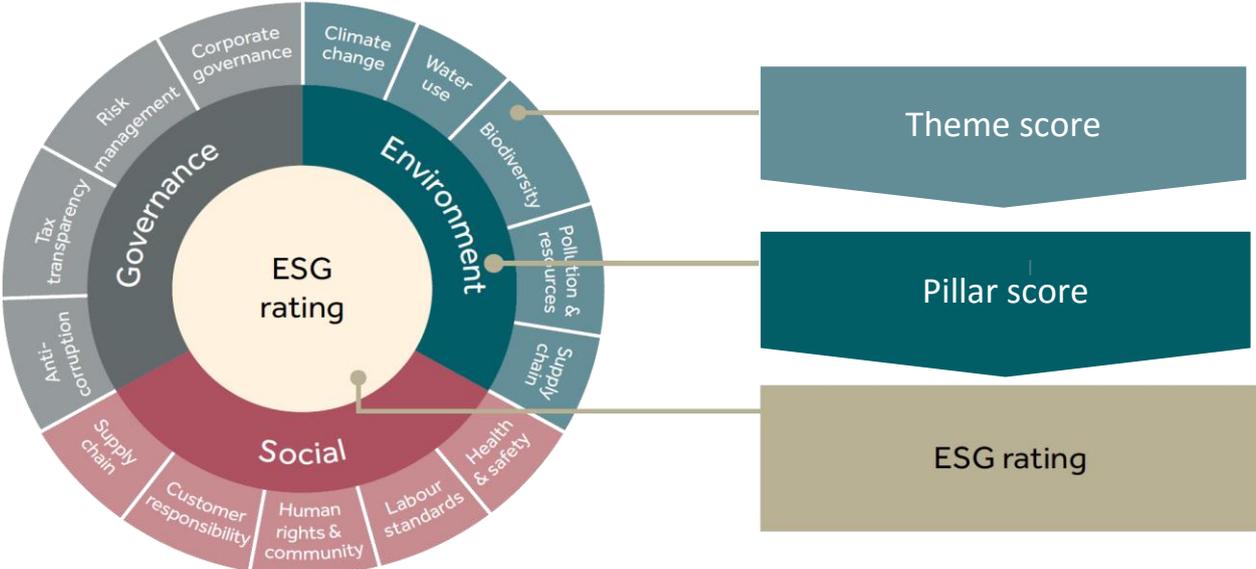
- A tool for investors to incorporate **ESG** factors along with other company information into their investment decision making process
- Provides a snapshot of a company’s transparency and management of environmental and social issues relevant for its business activities, and the governance by which this is managed

FTSE4Good Index Series are

- A visible benchmark for identifying companies with good holistic **ESG** approaches
- A subset of the FTSE ESG Ratings’ research universe which has been selected based on certain **ESG** scores

As FTSE4Good derives from FTSE ESG, methodological approach of the FTSE ESG will be presented further. In September 2014 new methodological approach was implemented for the FTSE ESG ratings which are the basis for the FTSE4Good Index Series.

The FTSE ESG Ratings consist of an overall **ESG** Rating that, in its turn consists of Pillars (Social, Environment and Governance), Thematic Scores and Indicators with the help of which companies are assessed which results in a production of **ESG** Scores and ratings (Figure 11). This structure is built for investors and allow them to understand **ESG** practices of the companies. Over 100 indicators are industry specific quantitative indicators of a company’s performance.



1 ESG rating A cumulative calculation of total ESG performance	3 Pillars A cumulative Score & risk for each of ESG	14 Themes A Score & risk for the issues in each ESG Pillar, such as Climate change/ Anti-Corruption	300 Indicators Individually researched factors which focus on key operational issues
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Figure 11. The structure of FTSE ESG rating (FTSE4Good, 2015, p.7).

The indicators under each Theme cover:

- indicators for the quality of business management
- indicators on the disclosure of corporate data
- specific indicators for various industrial sectors
- indicators on companies’ performance

The rating covers around 2 400 companies, including all constituents of the FTSE All World Developed Index which provides a starting universe for the FTSE EGS rating and FTSE4Good

indices. For the theme level a company is characterized by high, medium, low or not applicable exposure, which means relevance of each of the 14 Themes to a company. Companies characterised by higher exposure are subjects to an application of the tougher standards comparing to low exposure companies. On the indicators level points are assigned to a company per indicator it manages to meet. Not all indicators are applied to each company, but only those relevant to a certain industry. On average, 125 indicators are applied per company. FTSE employs Industry Classification Benchmark system to categorize companies according to the industries. (see Appendix 3). This classification system owned by FTSE, provides a structure for sector and industry analysis. It enables the comparison of companies on four levels of classification: 10 industries (to monitor industry trends), 19 super-sectors (useful for trading), 41 sectors (serve as a benchmark for asset managers), 114 subsectors (for deep analysis) (ICB, 2012a).

Ratings and scores (for index) relative for the industry are calculated through the comparison of company's score or place on the rating to others within the same Industry Classification Benchmark Super-sector. In the FTSE ESG Rating each company receives a grade between 0 and 5, where 5 is the highest grade. Companies in FTSE ESG Rating with grades 3.2 and above are added to the FTSE4Good Index. Those companies with a grade below 2.5 might be deleted from the FTSE4Good Index. FTSE contacts with them and if the grade remains the same during the next 12 month a company is deleted from the index.

The addition requirements to be eligible for inclusion in the FTSE4Good Index Series are as follows: (FTSE4Good, 2016a):

- Exclusions - Companies that manufacture tobacco, weapons systems and components of controversial weapons are excluded from the FTSE4Good Index Series:
- Controversy Monitoring – Any company that has been identified as having significant controversies, is not added to the Index at the reviews.
- Companies with a zero grade - Companies that have zero at a theme level are not listed in the Index.
- Nuclear Power Generation and Manufacturers of Infant Formula – Companies involved in the production of nuclear power or childhood nutrition must match to the 95 percent of the sector specific criteria to be included in the FTSE4Good.

The research team identifies and considers all relevant public information published by the company during the annual research cycle. In the process of corporate sustainability assessment FTSE does not accept any type of information that is provided by companies privately (FTSE4Good, 2015). According to FTSE reliance on the public information improves reliability of data and stimulates general transparency on the market. When research is completed, companies are contacted to review and update their information. When company's feedback has been received, scores are reviewed and updated if required. Following that, company's place in the FTSE ESG Ratings and FTSE4Good Index is reviewed with the FTSE ESG Advisory Committee. At the same time FTSE ESG Ratings' methodology is regularly reviewed by an independent committee that consists of the representatives from the investment community, business sphere, NGOs, unions and academia. On the annual basis they are invited to meet and discuss the development of the rating and index methodology. Companies that have met the inclusion criteria for FTSE4Good are provided with a certificate once per year.

6 Analytical discussion

The Analytical discussion chapter is organized using the concepts and models selected in the theoretical framework. The structure of this chapter reflects the Theory chapter except for the theory on standards section, because this theory serves as a background for the analysis and discussion. First, corporate sustainability values, indicators and influence are analysed on the example of two cases, then corporate sustainability assessment techniques are the subject of analysis. The chapter concludes with addressing the research questions.

6.1 Corporate sustainability

In this section values that DJSI and FTSE4Good have, influence they cause and indicators that apply are presented.

6.1.1 Values

Values reflect common beliefs regarding the things that are truly important. Progress toward a sustainable organization is unachievable without a clear identification and definition of the values of sustainable development (Ricart *et al.*, 2005). Methodological documentation produced by the rating agencies shed light on the values of sustainable development agencies adopt in the assessment process. The cases in this study tend to use the following terms (Table 7) to refer to the values that reflect their understanding of corporate sustainability.

Table 7. Indices values (based on RobecoSAM, 2016b, FTSE4Good, 2016b)

DJSI	<ul style="list-style-type: none"> • ability to generate long-term shareholder value • attention to financial indicators that are relevant in terms of sustainability • focus on sustainability issues that are directly linked to companies business success
FTSE4Good	<ul style="list-style-type: none"> • the integration of ESG considerations into investment analysis, decision-making and stewardship • identifying companies with good holistic ESG approaches • consistency with market expectations and developments in ESG practice

RobecoSAM, a fund management firm that constructs the principles for DJSI expresses its view of sustainability as follows:

“Corporate sustainability is a company's capacity to prosper in a competitive and changing global business environment by anticipating and managing current and future economic, environmental and social opportunities and risks. Companies that anticipate and manage current and future economic, environmental and social opportunities and risks by focusing on quality, innovation and productivity will emerge as leaders that are more likely to create a competitive advantage and long-term stakeholder value” (RobecoSAM, 2015b, p.1).

An approach that aims to create a long-term shareholder value is consistent with the neo-classical principle of profit maximization (Friedman, 1970) and contrasts with the other views on corporate sustainability as having a task to extend beyond the maximization of returns, and to accept the claims of other stakeholders (Handy, 2002). RobecoSAM’s philosophy is that sustainability should carry a positive impact on the performance of a company (Fowler & Hope, 2007). In line with this statement, RobecoSAM has confirmed that it does not see the necessity to keep a balance across the three dimensions of **TBL** in the assessment criteria that it applies to the companies in DJSI. As follows from the RobecoSAM’s Corporate Sustainability Assessment Methodology (2016) in every industry far more emphasis is put on the economic

factors comparing to social or environmental. RobecoSAM's emphasis on the economic dimension seems to be consistent with the Dow Jones' stated aim of including companies which are leaders in their industries that set industry-wide best practices.

RobecoSAM declares its commitment to The United Nations Principles for Responsible Investment that were developed by an international group of institutional investors in response to the increasing relevance of **ESG** governance issues to investment practices (www, RobecoSAM, 3). In addition, RobecoSAM's **CSA** share common metrics and definitions with **GRI**. To reduce the effort companies need to put on the questionnaire, RobecoSAM provides a list of **GRI** G4 guidelines in relation to each question (RobecoSAM, 2016a). Willis (2003) explored the connections between the **GRI** and **DJSI** and concluded that **GRI** principles employed by **DJSI** can help investors to obtain the information they need for the optimal investment decisions.

The FTSE4Good Index Series is committed to provide investors with an objective assessment of companies **ESG** practices (FTSE4Good, 2015). Index series aim to help investors to detect companies that meet globally recognized corporate sustainability standards while still earning a competitive return (FTSE4Good, 2011). To achieve this aim, the FTSE4Good indices were created to identify current trends in corporate responsibility and **SRI**, measure company compliance with these trends and report on the performance of the constituent companies in a convenient format (Collison *et al.*, 2008).

The FTSE4Good selection criteria have been developed to reflect a broad consensus on corporate responsibility best practice. In addition, FTSE4Good has an initiative to mainstream **SRI** (FTSE4Good, 2011). To certain extent it can be said that FTSE4Good is successful in pursuing it because during four years since the launch of the indices, 80 of Britain's largest 100 companies were admitted to the index (Collison *et al.*, 2009). This fact might raise a question of the broadness of the inclusion criteria and whether FTSE4Good indices conform to the values of sustainable investment. In an interview on the topic of **SRI**, published in Financial Times, a fund manager emphasized the distinction between FTSE4Good and ethical investing explaining that "that the index is more focused on disclosing a company's policies, whereas ethical funds focus more on what companies do" (Warwick-Ching, 2004, p. 26).

Regarding the values, the analysis of the materials raters provide gives an understanding that in general, there is an agreement among raters in terms of broad high-level components of sustainable development such as environment, society and economy (Chatterji *et al.*, 2015). Both studied raters cover topics of environmental and social performance. The differences across the raters are in the facts that **DJSI** is straightforward in the emphasis on the financial factors, while **FTSE** does not have this emphasis. At the same time **FTSE** consider Corporate Governance as part of **CSR**, while **DJSI** does not.

6.1.2 Influence

As the popularity of **SRI** grows, sustainability raters are gaining more influence in these sphere. Rating agencies are aware of their impact on investors and fund managers. **DJSI** targets sustainability-driven investors allowing them to appropriately benchmark **SRI** funds and derivatives over the long term (www, S&P Dow Jones Indices, 1). **DJSI** together with RobecoSAM are convinced that focus on sustainability leads to better investment decisions (www, RobecoSAM, 4, n.d.). In contrast to the traditional investment framework that rely purely on financial analysis, a sustainable investment approach accounts for material non-financial factors arising from global sustainability challenges. Thus traditional investors underestimate the impact sustainability factors have on a company's success in a long term and

may fail to construct the most efficient investment strategy. FTSE4Good also considers investors as their main audience stating that indices help to define an eligible investment universe and build a basis for active portfolio management integrating ESG factors into the process (FTSE4Good, 2015).

Although DJSI and FTSE4Good are investment indices, both have a substantial influence on companies' behaviour. Corporate websites suggest that companies value inclusion in the DJSI and FTSE4Good indices (Table 8).

Table 8. The impact of indices on companies (based on RobecoSAM, 2016b, FTSE4Good, 2016b)

DJSI	FTSE4Good
Presence in the DJSI is a corporate goal of a number of companies. As a result, the DJSI have created competition among companies for index membership	FTSE4Good has made a significant and measurable impact on the behaviour of companies worldwide.

Corporations, NGOs and governmental agencies often refer to the DJSI in order to demonstrate that integration of economic, environmental and social factors into corporate management increases shareholder value and prioritizes business activity transparency over other issues (Cerin & Dobers, 2001). Applying the best-in-class approach RobecoSAM wants to conduct a discussion with companies and with its help influence positive changes in their sustainability practices (Chatterji *et al.*, 2015). The DJSI is also used by global corporations to legitimize the efforts they put into sustainability (Cerin & Dobers, 2001). Consolandi *et al.* (2009) confirm that thanks to the best-in-class approach adopted by RobecoSAM in the composition of the sustainability index, the biggest companies tend to be more competitive in achieving sustainability goals on a global basis.

FTSE actively engages in the dialog with the companies with a help of the global company engagement program in the field of the environmental, social and governance criteria that the FTSE4Good index employs (FTSE4Good, 2011). Communication with the companies is done in a form of letters, emails, calls and meetings with the aim to provide guidance and support as companies work towards meeting ESG standards imposed by FTSE. For example, the supermarket chain TESCO was not included in the FTSE4Good when the index was released for the first time in 2001 (Collison *et al.*, 2009). However, in the first bi-annual review in September 2002, Tesco was listed in the index. Its inclusion in the index was attributed to the fact that supermarket chain management provided additional information about the company's impact on the environment (Skorecki & Voyle, 2001). This example demonstrates how FTSE's criteria can be influential though company's clarification of the situation, which suggests that the inclusion in the index is related to disclosure of the information rather than substantive organisational change (Collison *et al.*, 2009).

RobecoSAM uses the same type of approach without subtracting it in a special program and applying it as a part of exclusion strategy:

“Excluding a company from our investment universe represents our action of last resort, only to be used after all other dialogue-based methods have been exhausted. If a company persists with a highly controversial behaviour despite our best efforts to persuade it to improve its practices, we will exclude it from our universe” (RobecoSAM, 2015b).

Indices have an influence on a company's financial results. Curran and Moran (2007) proved that announcements about additions to the FTSE4Good index are associated with positive abnormal returns; in contrast, information about deletions from the index were associated with

negative abnormal returns. Regarding DJSI, Satu Pätäri *et al.*, (2012) when studying mining industry, found an evidence of a positive association between a company listing in the index and its financial performance.

6.1.3 Indicators

Financial performance indicators are well defined and very structured, while sustainability indicators are quite heterogeneous (Delmas & Blass, 2010). Although rating agencies refer to different respected guidelines and principles in the field of corporate sustainability and **SRI**, raters form their own sets of indicators utilizing their own vision and beliefs. DJSI publicly commits to adopting and implementing the UN Principles for Responsible Investment (PRI) and **GRI** guidelines (RobecoSAM, 2016a). FTSE refers to the same UN PRI (FTSE4Good, 2011). However, there is a risk that a chosen set of indicators is dictated by the availability of information and the databases that are available do not provide relevant information, while more detailed data is complicated to obtain (Chatterji & Levine, 2006)

DJSI indicators are spread across three major categories, economic, environmental and social. Each of these categories contain a number of indicators which have a certain weight in corporate sustainability assessment. Tables 9, 10 and 11 present a complete list of indicators with a brief description and a reference to **GRI** guideline.

Table 9. DJSI Economic Indicators (based on RobecoSAM, 2016a, pp.10-80)

Indicator	Explanation of the indicator	Link to GRI
<i>Economic</i>		
<i>Corporate Governance</i>	Focus on the structure and composition of the board, its committees and effectiveness to ensure the alignment of the board's interests with the long-term interest of shareholders.	<i>G4-10/34/38/39/40 G4-41/43/44/51/54 G4-LA12</i>
<i>Risk & Crisis Management</i>	Companies' implementation of internal control processes to comply with existing regulations and be proactive in developing their risk control mechanisms.	<i>G4-35/36, G4-45/46</i>
<i>Codes of Business Conduct</i>	The key focus is on the company's codes of conduct (anti-corruption laws), their implementation and the transparent reporting of breaches.	<i>G4-56/57/58, G4-SO4/5/6</i>
<i>Materiality</i>	Assessment of how companies identify and report on material issues for their business. These issues can range from industry to industry. This topic had previously been addressed in the Environmental and Social Reporting criteria. It now features in the Economic Dimension, with the goal of enabling companies to identify the economic, environmental or social issues that are most material to their business.	<i>G4-2/19/21</i>
<i>Supply Chain Management</i>	Identifies companies whose supply chain has low risk, either through the characteristics of the supply chain itself or through the management of existing risks. Another aim is to identify companies whose management of the supply chain improves long-term financial performance. The supply chain section was developed in collaboration with sustainable supply chain experts EcoVadis.	<i>G4-12, G4-EN32, G4-LA14, G4-HR10, G4-SO9</i>
<i>Tax Strategy</i>	Assessment of company's tax strategy. Tax optimization strategy can have a positive impact on profitability and company value, but an aggressive strategy might not be sustainable over the medium to long term and can add risk to long-term profits.	<i>G4-EC1</i>

Table 10. DJSI Environmental Indicators (based on RobecoSAM, 2016a, pp.10-80)

Indicator	Explanation of the indicator	Link to GRI
<i><u>Environmental</u></i>		
<i>Environmental Reporting</i>	Assessment of the quality and consistency of environmental reporting, as well as external quality guarantees based on internationally acknowledged reporting standards. The environmental reporting criteria only refer to public disclosures of environmental topics.	<i>G4-17/18</i>
<i>Operational Eco-Efficiency</i>	Reducing the overall environmental footprint of companies is crucial, as the risks of financial and reputational costs linked to environmental litigation are increasing. For all industries, minimizing the consumption of natural resources and waste-generating activities can reduce costs and, in some cases, lead to new business opportunities. The key focus of this criterion is on the inputs and outputs of business operations and on the assessment of trends in the consumption of natural resources and the production of waste.	<i>G4-EN15/16, G4-EN3/4/23</i>

Table 11. DJSI Social Indicators (based on RobecoSAM, 2016a, pp.10-80)

Indicator	Explanation of the indicator	Link to GRI
<i><u>Social</u></i>		
<i>Labor Practice Indicators & Human Rights</i>	Beyond providing a safe and healthy working environment, companies should support fair treatment practices such as diversity, equal remuneration and freedom of association. Companies benefit from higher productivity through a satisfied and dedicated workforce. Focus of this criterion is on companies' policies to manage labour relations, related KPIs, equal employment and development opportunities, human rights and freedom of association. The gender equality section is developed in collaboration with the EDGE Certified Foundation, a Swiss foundation that aims to foster gender-equal workplaces through a global certification system.	<i>G4-1011, G4-LA12/13a G4-HR3/4b/8/9</i>
<i>Human Capital Development</i>	Human capital represents a company's most significant operating cost, and the ability to manage human capital effectively can have a significant impact on a company's competitive position. The criteria assess the extent to which companies understand the importance of their investment in human capital development and the economic benefits it can have on their business.	<i>G4-LA9/10, G4-ECI</i>
<i>Social Reporting</i>	Ensuring transparency through appropriate reporting and monitoring social performance at board level increases stakeholders' and customers' trust in a company and positively influences its reputation and brand value. Criteria is focused on the consistency, scope and timeliness of the information contained in sustainability reports. The social reporting criteria only refer to public disclosures of social topics.	<i>G4-33</i>
<i>Talent Attraction & Retention</i>	The ability to attract and retain talented staff helps companies develop and maintain a competitive advantage and successfully execute their strategies. This section aims to assess the company's performance with regard to employee retention and the long term orientation of the incentive structure.	<i>G4-LA11</i>
<i>Corporate Citizenship & Philanthropy</i>	The key focus of this criterion is on how companies assess the value of their corporate citizenship and philanthropy programs. This criterion was developed together with the London Benchmarking Group (LBG).	<i>G4-SO1, G4-EC1</i>

The DJSI introduces a number of indicators that aim to demonstrate what firm is doing. It focuses on eco-efficiency and environmental reporting along with industry-specific criteria (Delmas & Blass, 2010). It also assesses such aspects of company’s performance as the evaluation of intangible assets, development of human capital, organizational issues, strategic plans, corporate governance and reporting on environmental and social issues. Additionally, DJSI assesses financial indicators while other raters do not do this (Chatterji *et al.*, 2015) The study performed by SustAinability (2013) shows that the indicators concerning sustainability aspects used by the DJSI are further reaching than in other sustainability indices.

Corporate documents that FTSE4Good presents for public use, gives insight into the indicators that the rater applies to the assessment of the eligible companies. Indicators are spread across three dimensions, namely environment, social, governance (Tables 12, 13 and 14). Typically companies choose to adopt a minimum required number of indicators from a specified sector (Collison *et al.*, 2009). This required number of criteria depends on a particular company or industry characteristics. For example, it depends on whether a company belongs to the sector specified as having a ‘high’, ‘medium’ or ‘low’ impact in relation to certain indicator, or whether a company operates in a country the human rights criteria is of the special concern (*ibid.*). FTSE4Good does not provide any links to **GRI** guidelines.

Table 12. FTSE Environment Indicators (based on the FTSE4Good, 2015, pp. 4-5)

Indicator	Explanation of the indicator
<i>Environmental</i>	
<i>Climate Change</i>	Assessment of the progress in the reduction of the greenhouse gas production, total energy consumption, disclosure of oil and gas reserves, efficiency of fuel consumption. Short- and long-term quantitative targets, collaborative initiatives and quantified progress against targets is measured.
<i>Water Use</i>	Policy commitment to address total water usage, actions taken to reduce water use and quantified progress against targets is assessed. In addition, this section pays attention to independent verification and collaboration efforts on efficient water usage
<i>Biodiversity</i>	Focus of this indicator is on the policy on biodiversity, net positive biodiversity impact, assessment of biodiversity risks. Presence of biodiversity action plans, biodiversity certification and regular audits are checked.
<i>Pollution & Resources</i>	Policy and statements of targets to reduce pollution, waste, resources, progress on targets for pollution, waste and resources are assessed together with the cost of environmental fines and penalties (if present). Life cycle assessments approach is used.
<i>Environmental Supply Chain</i>	This indicator focuses on property portfolio policy on environmental issues of the supply chain. Environmental issues comprise energy use and GHG emissions, water use and biodiversity, pollution and waste. Company’s risk assessment and monitoring of the results play an important role. Companies are encouraged to communicate and training their suppliers to reduce impact on environment and report on environmental issues.

Table 13. FTSE Social Indicators (based on the FTSE4Good, 2015, pp. 4-5)

Indicator	Explanation of the indicator
<i><u>Social</u></i>	
<i>Health & Safety</i>	Here presence of policy that addresses health & safety and presence of health and safety committee is assessed. Commitment to continuous improvement and clear targets to reduce incidents play an important role. Above this a company is evaluated on how it addresses global health (HIV/AIDS, malaria, TB) issues. Independent verification program for a global health issue is applied.
<i>Labour Standards</i>	Indicator addresses core International Labour Organization conventions, policies on discrimination, diversity, working hours and living wage and how they are applied in a company. Commitment to frameworks on labour standards and communication of labour standards to employees is checked. Percentage of employees that are contractors or temporary and the amount of time spent on employee development training is calculated.
<i>Human Rights & Community Indicators</i>	This indicator aims to see whether a company demonstrate its support to international standards such as UN Guiding Principles on Business and Human Rights, Children's Rights and the Business Principles and commitment to local employment regulations. High level of stakeholder engagement in consultations and reports is valued. Additional factors are donations/community investments made to not-for-profit organizations.
<i>Customer Responsibility</i>	Focus of this section is on responsible advertising and marketing, presence of policy on negative impact on customers. Membership in industry initiatives or use of customer responsibility related codes and guidelines are assessed. Research and development practices are valued.
<i>Social Supply Chain</i>	This section addresses policy on social issues and community engagement. It also looks at how company builds its capacity in suppliers, integrates into buyer training and whether it is a member of recognized supply chain initiative. Support of ESG products, and guidance for issuers on ESG disclosure are assessed. Company's assessment of risk on new and existing suppliers and evaluation of the results of supplier monitoring/auditing is an additional focus of this section.

Table 14. FTSE Governance Indicators (based on the FTSE4Good, 2015, pp. 4-5)

Indicator	Explanation of the indicator
<i><u>Governance</u></i>	
<i>Anti-Corruption</i>	This indicator makes a broad oversight of countering bribery and anti-corruption policies and approach to high corruption risk operations. Cost of fines, penalties, settlements in relation to corruption are measured.
<i>Tax Transparency</i>	Indicators' aim is the verification of tax data and disclosure of corporation tax paid globally. It also assesses policy commitment to tax transparency, aligns tax payments with revenue generating activity. Public statements on tax transparency by company's CEO/CFO are studied.
<i>Risk Management</i>	Risk management framework and code of conduct is the key focus of this section. Board oversight over code and risk management is done, reference to external standards is studied. Existence of a committee or senior executive responsible for risk, scenario planning, stress testing and emergency procedures are assessed.
<i>Corporate Governance</i>	The focus of this section is on the management structure of a company and its commitment to diversity. The assessment focuses on such criteria as bonus to salary ratio, percentage of independent directors on the board, percentage of women on the board, percentage of executive salary to which bonuses are restricted, percentage of salary of other staff to which bonuses are restricted. An important role is also given to the disclosure of fees paid to auditors, shareholder voting rights, provisions to protect minority shareholders, disclosure of voting results

A comparison between criteria applied by two rating agencies reveals that FTSE4Good is focused on the company's disclosure of the policies and procedures they have, while DJSI assesses companies' actions. This view found support in the scientific literature. Collison *et al.* (2009) presents several examples from the history of FTSE4Good that demonstrate how a company can influence its inclusion in the index by adapting changes to a policy, declaring intentions or publicly explaining its position on controversial issues. Delmas *et al.* (2013) explains that FTSE4Good employs metrics that assess the procedures to identify hazards in certain sphere, in the spirit of the **ISO 14001** management standards. Conceivably the assumption behind such an approach of the FTSE is that a presence of a policy implicitly leads to the implementation of the policy's statements. A peculiar feature of the DJSI indicators is that there are more of them in the economic and social dimensions, while FTSE4Good does not have 'economic' as a separate dimension at all and it consider governance as a separate part of corporate sustainability.

6.2 Corporate sustainability assessment

This section contains the analysis and comparison of indices' objectives and techniques, information sources and inclusion requirements.

6.2.1 Objectives

DJSI states that its objective is to give an instrument to investors to gain exposure to sustainability leaders for managing their sustainable investment portfolios (RobecoSAM, 2016b). DJSI's philosophy is based on the belief that adherence to corporate sustainability have a positive impact on a company performance (Fowler & Hope, 2007). At the same time investors should be ready to accept certain regional/size biases because the sustainability score is not adjusted to the size of a company or to its location (RobecoSAM, 2016b). Another objective that DJSI reveals in its documents is to serve as a benchmark for corporate sustainability. DJSI says that indices promote corporate sustainability values among companies because only the most sustainable companies that meet certain sustainability requirements are included in the index. The index, in turn, is valued by the companies because it publicly endorses a company's efforts addressing sustainability issues. This makes companies more attractive to investors. For this reason an increasing number of firms state the listing in DJSI is considered by them as a strategical aim (RobecoSAM, 2016c).

FTSE4Good lists a number of objectives such as service for asset owners, asset managers and consultants that helps to integrate ESG considerations into investments approaches, a basis for active company engagement, ESG risk analysis and research (www, FTSE, 2, n.d.). Due to the fact that FTSE4Good applies negative screening it works as an instrument for the investors that have an objective to screen risky industries exposed to higher risks out of their investment portfolios. FTSE4Good also emphasizes its objective to encourage index member companies to enhance their sustainability effort. Except for being an investment index, FTSE4Good has an aspiration to serve as a research tool in the issues of measuring risk and return relationships for different **ESG** factors.

6.2.2 Techniques

The technique of the construction and development of indices is broadly similar across raters (Chatterji *et al.*, 2015). Both indices in this study collect raw quantitative and qualitative data on the information specified by the list of indicators. The questionnaire that participating companies have to fill-in is designed to limit qualitative answers through providing multiple-choice questions (RobecoSAM, 2016b). This is done in order to ensure objectivity. The rating

agencies further implement their methodologies to issue scores on each indicator and summarize them on high level categories. For DJSI these categories are economic, environmental and social. For FTSE4Good these are environmental impact, social activities and governance. All scores are then consolidated into a single score. Finally, raters provide a list of companies that they consider to be most responsible in terms of sustainable development. The list is in the form of an equity index for potential investors.

Screening is one of the techniques often used by raters (Fowler & Hope, 2007). The most basic technique is a negative screening. The analysis of FTSE4Good methodology revealed that negative screening features prominently in the index family, while DJSI focuses on positive rather than negative screens. Certain companies are excluded from FTSE4Good due to their involvement to the unethical products such as tobacco, parts for nuclear weapon systems or whole nuclear weapon systems, conventional weapon systems, nuclear power and uranium production (FTSE4Good, 2015). Although screening is a popular technique there is no standardized methodology for screening, which might lead to the lack of trust to indices (Delmas & Blass, 2010). DJSI in its methodology states that no industries are excluded from the assessment selecting instead corporate sustainability leaders in each industry with the help of best-in-class approach (RobecoSAM, 2016b).

However, FTSE4Good do not rely exclusively on negative screening when selecting securities for inclusion in their indices. They also engage with firms to help them meet their inclusion criteria. For example, Craig MacKenzie, a member of the FTSE4Good Advisory Committee, explained that FTSE4Good is not just designed to contain ‘clean’ companies; its function is to encourage progress towards greater corporate social responsibility in the business world (Collison *et al.*, 2009).

6.2.3 Information

The basis of RobecoSAM’s rating methodology are the company’s participation in sustainability survey (RobecoSAM, 2016b). Annually, companies are asked to fill in detailed web-based questionnaires related to various aspects of their economic, social and environmental performance. The conviction of RobecoSAM is that better basis for deep analysis of companies’ performance is self-reporting, because in the questionnaire companies are ready to disclose confidential information that would never be available for public. The 2013 response rate among the companies invited to filling the **CSA** questionnaire was roughly 25 percent (*ibid.*, p.10). If the size-requirement is met by the company, RobecoSAM fill out the **CSA** questionnaire for it using publicly available information only. An additional 20 percent of companies in the eligible universe are analysed in this way (Delmas *et al.*, 2013, p.259). This is done to guarantee the coverage of 50 percent of the market capitalization for all 59 industries (RobecoSAM, 2016b, p.10). Another source of information for the construction of the index is **MSA** that during the whole year between index report publications monitors news about the companies that might harm their reputation and consequently financial performance (*ibid.*). RobecoSAM waits for the company’s reaction to this event and continues to monitor news flow related to the incident until the case is resolved.

Specifics of the FTSE4Good regarding the sources of information it uses assessing sustainable practices is that it does not accept any privately provided data from companies and relies only on publicly available data such as sustainability reports (FTSE4Good, 2016a). According to FTSE publicly available data is more credible. Above this, FTSE recourse to the European agency EIRIS that specializes on **ESG** research for responsible investors to conduct an independent research on companies invited to the index family (www, EIRIS, 1, n.d.). Cerin (2002) highlights the danger of relying on information produced by companies on their

environmental and other performance. He notes that “a gap is indicated between what companies state in their environmental reporting, what they state in their annual reporting and what they actually do” (*ibid.*, p.61). To some extent EIRIS overcomes this problem by conducting their own research on the companies and further comparing it with companies’ disclosures.

6.2.4 Requirements

To be considered for the inclusion in DJSI companies have to be publicly traded with high float-adjusted market capitalization and listed in the S&P Global BMI. In addition, any company that is already presented in the index and have free-float market capitalization above US\$ 500 million threshold as of the previous year, stays in the index (RobecoSAM, 2016c, pp.7-8). Within the index companies are weighted not according to their TSS, but according to their market capitalization. The fact that DJSI favours large companies is supported by DJSI itself: “RobecoSAM has observed that industry leaders are most likely to make the effort to fill out the questionnaire and make sustainability information available in the public domain” (RobecoSAM, 2016b, p.4). Fowler and Hope (2007) made the conclusion that large companies have more resources to devote to DJSI’s questionnaire and to interact with RobecoSAM than smaller firms. However, there is the suspicion that companies included in the index might not necessarily represent exactly sustainability leaders because the view on the economic, environmental, and social factors is not balanced (Fowler & Hope, 2007).

For a company to be eligible for inclusion in one of the FTSE4Good indices it must already be listed on one of the four starting indices. Decision of the inclusion in the FTSE4Good is made by the Advisory Committee, which assesses a company on the information that it supplies to the Ethical Investment Research Service (EIRIS). All constituents of the FTSE4Good indices are ranked by full market capitalization and there is no minimum required capitalization threshold. (FTSE4Good, 2016b). Only the FTSE ESG Rating grade from 0 to 5 functions as an indicator for inclusion or deletion from the index (FTSE4Good, 2016a, p.5).

6.3 Differences and similarities (discussion summary)

The research questions of this study are:

1. *How do sustainability indices interpret corporate sustainability?*
2. *What similarities are there in the corporate sustainability assessment between sustainability indices?*
3. *What differences are there in the corporate sustainability assessment of sustainability indices?*

To answer the question of an indices understanding of corporate sustainability, certain concepts were identified with the help of relevant theories. These concepts are *values*, *influence* and *indicators*. They were found in indices’ corporate documents and then analysed and compared for two sustainability indices chosen for this study. In order to conduct a deeper analysis of differences and similarities in corporate sustainability assessment, additional concepts were identified with the help of relevant theories. These concepts are *objectives*, *techniques*, *information* and *requirements*.

To answer the research questions it is necessary to summarise the analytical discussion of this chapter and present a clear picture of differences and similarities in the corporate sustainability assessment of the two indices. Table 15 illustrates this comparison and presents several additional points that were identified in the course of the analysis and that are relevant for the

discussion of corporate sustainability standards. It can be said that there are categories where matching is almost complete, while other aspects coincide only partly. Only two spheres of corporate sustainability assessment do not match at all.

Table 15. Similarities and differences between corporate sustainability assessment

Similarities	Partial differences	Differences
Values	Indicators	Techniques
Weighting of high-level categories	Objectives	Information
Influence		
Requirements		
Industry-specific weighting		
Methodology updating		
External review		
Adoption		

Most articles that study sustainability indices support the conclusion that there is a general agreement among indices on the main values of corporate sustainability stated in corporate documentation (see Fowler & Hope, 2007; Delmas et al., 2013; Chatterji *et al.*, 2015). Both, DJSI and FTSE4Good demonstrate their adherence to similar *values* of sustainable development on a corporate level. They clearly state that the methodology they apply is based on the triple bottom line principles of incorporating economic, environmental and social high-level categories into corporate performance. According to the recent views on investment, a firm’s ability to integrate all three **TBL** spheres into its strategy is crucial for the generation of long-term shareholder value and returns (Roca & Searcy, 2012). Indices clearly state that they are an instrument to provide shareholders with competitive returns, thus they attach value to integration of all three dimensions of **TBL** into a firms strategy. Fowler & Hope (2007) adds that the whole philosophy of DJSI’s **CSA** is built on the belief that adherence to sustainability influences a company’s performance in a positive way. This study has found that this belief manifests itself in the indices wish to convince companies to adjust their activities in accordance to indices’ sustainability values.

In the question of *weighting of high-level categories* both indices demonstrate absence of balanced approach. DJSI puts more weight on economic characteristics of a company, while FTSE4Good gives priority to social aspects. The emphasis on economics by DJSI agrees with Fowler & Hope (2007). At the same time this study has found that social dimension plays an important role in FTSE4Good methodological approach, which was not displayed in other research. At the same time, previous studies found out that the emphasis on a certain dimension of corporate sustainability might be connected to the geographical origin of the rating agency (Chatterji *et al.*, 2015).

Both indices claim that they *influence* the same stakeholders. Investors are the main group influenced by sustainability indices, which agrees with the objectives indices state and with findings of Windolph (2011). At the same time, companies that conform to index standards and consumers that trust in the reports indices publish, are also influenced by indices. a considerable number of research (e.g. Roca & Searcy, 2012; Searcy & Elkhawas, 2012; Escrig-Olmedo *et al.*, 2013) have studied the impact indices have on companies. They have concluded that indices’ assessment of corporate sustainability cause an influence on the strategies of companies that are already in the index (and do not want to lose their place) and those that would like to be included in it. This project has not viewed this issue from a company’s perspective, but from the indices perspective it is seen that the aim of convincing companies to adjust their strategies so that they comply with indices requirements is present in their

methodology. This study has not found any proof of the indices' intention to influence other groups of stakeholders, such as consumers. In other words, according to indices documents, consumers are not in their interest group. However, studies suggest that there is an indirect impact that indices cause on consumers in the way that consumers trust the results of sustainability assessment done by indices and make decisions based on these results (Windolph, 2011).

DJSI and FTSE4Good have almost identical *requirements* for the companies to be considered for the inclusion, such as an obligation to be a stock traded company with a market capitalization above the established threshold. A peculiar feature of FTSE4Good, regarding the requirements, is that its assessment of a company is based on public information. Thus, companies are required to disclose information on their activities as a part of FTSE4Good criteria. Collison *et al.* (2008) mentioned this fact and added that it had influenced a number of companies in the UK.

The similarity between indices is in the adoption of *industry-specific weighting*, when a company is compared to its peers within the same industry. This industry-specific approach was discussed in the previous research by Chatterji *et al.* (2015) where it is stated that indices normalize their measurements by industries. Discussing the question of *methodology updating* both DJSI and FTSE4Good made efforts in regular reviews and improvements of it. According to indices documentation, updating methodology is vital for the recognition of the latest challenges in corporate sustainability and for the measurement accuracy. As argued by Chatterji *et al.* (2015) suitability indices describe themselves as equivalent to financial indices and thus accuracy of the assessment of sustainability is needed in order to suit the high quality standards financial metrics possess. Another way in which accuracy of the assessment can be achieved is the employment of *external review* of the methodology. DJSI involves independent external audit to ensure quality and objectivity of the assessment approach (RobecoSAM, 2016b). FTSE4Good relies on NGOs, governmental institutions, independent consultants, industry representatives and, academics when reviewing the methodology (FTSE4Good, 2016b)

Finally, DJSI and FTSE4Good emphasize the voluntary character of the participation in the indices and thus on voluntary *adoption* of indices' corporate sustainability standards. As theory on standards suggests, it is common that standards are not obligatory, but they are usually promoted by certain organization and some benefits are often promised to adopters (Brunsson *et al.*, 2012). In the case of sustainability indices, a flow of investors' money, together with the recognition among consumers is promised to index participants.

Turning the attention to the differences between indices' corporate sustainability assessment are partial, *indicators* and *objectives* should be mentioned. The analysis revealed that DJSI and FTSE4Good have matching in two of three *indicator* categories. Both indices assess environmental and social aspects of a company's performance, but economic aspects are assessed only by DJSI, while FTSE4Good examines such category as corporate governance. This agrees with the opinion that DJSI puts emphasis on financial metrics and does not consider governance as a separate categories within corporate sustainability as FTSE4Good does (Chatterji *et al.*, 2015). While each index attaches different weight to each of the indicators, the question of indicators themselves is still highly arguable (Roca & Searcy, 2012). Certain differences are seen in the *objectives* indices state in their documentation. As Chatterji *et al.* (2015) noted, FTSE4Good's objective is to serve investors in gaining exposure to the firms that have demonstrated that they are able to meet globally recognised sustainability standards. While having an objective to provide an instrument for SRI investors, this study noticed that

FTSE4Good does not limit itself with this objective adding that it might serve as a tool for research and risk management.

The analysis of indices revealed differences between them in only two categories. Bringing up the questions regarding the *technique*, FTSE4Good use negative screening and actively engages in the dialog with companies to promote its standards of corporate sustainability. Study by Collison et al. done in 2009 explained that FTSE4Good had plans to abandon the negative screening practice and rely exclusively on engagement, but present analysis found that negative screening is still in the FTSE4Good methodology. DJSI does not screen for particular industries and no evidence of intentional contacts with companies aiming to convince them to adapt to DJSI's standards was found. Differences in techniques between indices can be explained by the fact that sustainable investors differ in their values and requirements (Chatterji *et al.*, 2015). Some want to avoid harmful industries, others want to praise a company's efforts in sustainability. Thus, rating agencies adopt to these requirements by constructing indices with the help of different techniques.

One more difference between indices' methodologies lies in the sources of *information* they use in the assessment process. For DJSI it is a combination of the information provided by companies (questionnaire, supportive documents) and publicly available information (sustainability reports, media coverage); FTSE4Good does not accept any information privately provided by companies and relies only on information from public domain. The conclusion regarding FTSE4Good partly contradicts the study by Chatterji *et al.* (2015) where it is said that both, DJSI and FTSE4Good do surveys. Evidence from FTSE4Good documents reveals that it engages in the dialog with companies that have the aim to clarify the methodological approach. But no evidence was found in support for the statement that FTSE4Good relies on any kind of companies' questionnaire in its assessment.

To sum up, both sustainability indices interpret corporate sustainability in a similar way. This is a result of common understanding of different aspects of corporate sustainability and common approaches to its assessment.

7 Conclusions

This chapter addresses the aim of the study which is to explain how corporate sustainability standards are affected by sustainability indices and concludes the main findings of the study. The chapter ends with suggestions for future research.

Regarding the growing concerns for environmental and social responsibility, measurement of non-financial performance of firms is becoming essential. Different groups of stakeholders, including investors and consumers, rely on these measurements in decision-making. While corporate sustainability still lacks unified definition and standardised practical implications, certain organizations have already established sets of principles for corporate sustainability assessment. Sustainability indices represent such organizations that provide society with the measurements of firm's non-financial performance. There are numerous evidences that suggest that society trusts these measurements. Above these, literature reveals that firms themselves put effort to adjust their performance in a way that complies with the requirements of sustainability indices. At a point when sustainability indices play such an important role in corporate sustainability assessment, the call for explanations of how corporate sustainability standards are affected by sustainability indices arises. This study intended to answer this call by the comparative analysis of the methodology of two sustainability indices, DJSI and FTSE4Good, on a list of criteria.

Sustainability raters analysed in this study possess a number of characteristics that are typical for standardizing organizations. One of the characteristics of standards is that they are integrated across nations and institutions prescribing values and ethics. Looking at the examples of DJSI and FTSE4Good it can be said that these indices assess companies worldwide applying the same requirements and measurement techniques to them regardless of the country of origin. An absolute standard under which geographical conditions are not considered can lead to a situation where sustainability efforts of companies from certain regions might not be recognised. Another feature of standards is that they require compliance from the organizations and screen out diversity. Both indices impose requirements for inclusion that are very limiting. The requirements dictate acceptable forms of ownership and size of a company. Other variations in these criteria are not allowed by the indices.

While using absolute standards in the geographical dimension and in the question of entry requirements, indices apply relative standards in the industry sector, which means that companies are compared to one another in the same industry. DJSI is convinced that industry-specific criteria are necessary because a company from one industry does not have the same exposure to, for example, climate change compared to a company from another industry. In other words, a manufacturing company cannot be compared with a bank in their impact on climate change. FTSE4Good have the same arguments to support its industry-related approach stating that higher exposure companies are assessed using tougher standards.

The analysis and comparison revealed that there are more commonalities than differences in indices' corporate sustainability assessment. In other words two analysed indices have more similar points in the assessment approach, than contradictions. Addressing the aim it can be concluded that analysed indices have already standardized certain aspects of corporate sustainability assessment and these aspects are standardized according to indices interpretation of corporate sustainability.

There are several suggestions that can be proposed for future studies. The first one is to extend the scale of this study by analysing more sustainability indices applying the same conceptual

framework. Such kind of study can help to explain whether sustainability indices influence the establishment of corporate sustainability standards and it will have better conditions for generalization. The second suggestion is to study sustainability indices from the perspective of companies and consumers. Regarding the companies, it is possible to analyse what impact sustainability indices cause on corporate strategies, whether and how companies adopt to the requirements of sustainability indices. Although consumers are not of the direct interest of sustainability indices, they also experience the influence indices cause through media that refers to indices when discussing the sustainability of a certain company. Lead by media opinion that relies on sustainability assessment provided by indices, consumers may be confused in their judgements of the sustainability level of a company.

Finally, and probably the most crucially, is to study why different sustainability indices name different companies as sustainability leaders. Appendix 4 contains the comparison of reports of sustainability indices analysed in this research. The comparison is done for the same period of time. The middle column is a combination of industries DJSI and FTSE4Good apply. The left column lists global industry leaders according to DJSI and the right column lists global industry leaders according to FTSE4Good. This table reveals that there are almost no companies that match between the two indices. Only Nestle and EDP in corresponding industry groups are recognized as leaders by both indices. A somewhat deeper analysis revealed that seven leading companies from the DJSI list are within the top 10 in FTSE4Good. Thus, only about one-third of companies match or partially match across two indices. This study has found that there are more similarities than differences in corporate sustainability assessment between two indices. If the sustainability indices apply similar approaches to assess a company's sustainability performance, why then are the assessment results so different?

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Appendix 1 List of major sustainability indices

In 2010 as a part of “Rate the Raters” project major sustainability indices, ratings and raters were studied by SustainAbility. Here they are presented in an alphabetical order.

Table 16. Prominent sustainability indices, ratings and raters (Sadowski, 2010b, p.19)

<p>Access to Medicines Index AmeriCares Power of the Partnership Award America’s Greenest Banks Angry Mermaid Award Asian Sustainability Rating ASSET4 ESG Ratings B Ratings System (B Corporation) Best Employers for Workers Over 50 Best German Sustainability Report Best Workplaces for Commuters Bloomberg Sustainability Reporting Initiative Boston College Center for Corporate Citizenship-Reputation Institute CSR Index Brand Keys Customer Loyalty Engagement Index Britain’s Most Admired Companies Building Public Trust Awards Business in the Community (BITC) Community Mark Business in the Community (BITC) CR Index Carbon Disclosure Project (CDP) Leadership Index Ceres Water Risk Benchmark Ceres-ACCA Sustainability Reporting Awards Climate Counts Company Scorecards CO2 Benchmark Communitas Awards Corporate Equality Index Corporate Knights CSR Rankings for Canadian Companies Corporate Responsibility Index (Australia) Corporate Sustainability Index Benchmark Report (Technology Business Research) CorporateRegister.com Reporting Awards Covalence Ethical Quote Ranking CR Magazine 100 Best Corporate Citizens CRD Analytics: Global Sustainability Index 50 CSR Survey of Hang Seng Index CSRHUB Ratings DiversityInc’s Top 50 Companies for Diversity</p>	<p>Diversum Ratings Dow Jones Sustainability Indexes EcoVadis SP EIRiS Company Sustainability Ratings / Profiles Ethibel Sustainable Indices Ethical Corporation Awards Ethisphere World’s Most Ethical Companies Forbes’ 100 Most Trustworthy Companies Forest Footprint Disclosure Fortune 100 Best Companies to Work For Fortune Most Accountable Companies Fortune’s Most Admired Companies FT Sustainable Banking Awards FTSE CDP Carbon Strategy Index Series FTSE4Good Index Series Global Reporters (SustainAbility) Globe Award for Sustainability Reporting GMI Company Ratings (Governance Metrics International) Golden Peacock Awards Good Company Ranking of the Largest 90 European Companies Good Guide Goodness 500 Green Awards for Creativity in Sustainability Green Effie Awards Greenopia Brand and Product Ratings Greenpeace Cool IT Challenge Leaderboard GRI Readers’ Choice Awards GS SUSTAIN Focus List Guide to Greener Electronics HIP 100 Index InfoWorld Green 15 Awards Inrate Sustainability Assessments Jantzi Social Index Johannesburg Stock Exchange SRI Index Just Means Social Innovation Awards Kane’s Socially Responsible Leader Awards Management and Excellence Rankings Maplecroft Climate Innovation Indexes Maplecroft Sustainability Performance Benchmark (MSPB) MSCI ESG Indices</p>	<p>NASDAQ OMX CRD Global Sustainability 50 Newsweek Green Rankings Oceana’s Grocery Store Guide Oekom Corporate Ratings OMX GES Ethical Index Series P&G Supplier Environmental Sustainability Scorecard Pacific Sustainability Index PR News CSR Awards RepRisk Index RepuTex Sustainability / ESG Ratings S&P ESG India S&P Shariah Indices S&P US Carbon Efficient Index Scrip Awards Storebrand Best in Class Status Sunday Times Best Green Companies The 50 Best Large Workplaces in Europe The Global 100 Most Sustainable Corporations in the World The Scientist’s Best Places To Work Lists The Wall Street Journal Asia 200 The World’s Most Respected Companies (Barron’s) The World’s Top Sustainable Stocks (SB20) Tomorrow’s Value Rating Toxic 100 Air Polluters Trucost Corporate Environmental Data and Profiles True Sustainability Index US Chamber of Commerce Business Civic Leadership Center (BCLC) Corporate Citizenship Awards Vaccine Industry Excellence Awards Vigeo Ratings Wal-Mart Sustainability Index Water Disclosure 2.0 (CEO Water Mandate) Wirtschaftswoche Ranking of Most Sustainable Corporations Working Mother’s 100 Best Companies World Environment Center Gold Medal for International Corporate Achievement in Sustainable Development</p> <p>Total number: 108</p>
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Appendix 2 Industry classification by DJSI

Table 17. List of industry sectors used by DJSI (RobecoSAM, 2016c, pp.29-32)

Food Products	Trading Companies & Distributors
Tobacco	Commercial Services & Supplies
Household Products	Professional Services
Personal Products	Airlines
Energy Equipment & Services	Transportation and Transportation Infrastructure
Oil & Gas	Semiconductors & Semiconductor Equipment
Oil & Gas Storage & Transportation	IT services & Internet Software and Services
Coal & Consumable Fuels	Software
Banks	Communications Equipment
Diversified Financial Services and Capital Markets	Electronic Equipment, Instruments & Components
Insurance	Computers & Peripherals and Office Electronics
Real Estate	Chemicals
Health Care Equipment & Supplies	Construction Materials
Health Care Providers & Services	Containers & Packaging
Health Care Equipment & Supplies	Metals & Mining
Biotechnology	Steel
Life Sciences Tools & Services	Aluminium
Pharmaceuticals	Metals & Mining
Aerospace & Defence	Paper & Forest Products
Building Products	Media
Construction & Engineering	Telecommunication Services
Machinery and Electrical Equipment	Gas Utilities
Electrical Components & Equipment	Electric Utilities
Industrial Conglomerates	Multi and Water Utilities
Machinery and Electrical Equipment	

Appendix 3 Industry classification by FTSE

Table 18. List of industry supersectors used by FTSE4Good (ICB, 2012b, pp. 1-7)

Automobiles & Parts
Banks
Basic Resources
Chemicals
Construction & Materials
Financial Services
Food & Beverage
Health Care
Industrial Goods & Services
Insurance
Media
Oil & Gas
Personal & Household Goods
Real Estate
Retail
Technology
Telecommunications
Travel & Leisure
Utilities

Appendix 4 Comparison of indices reports

Table 19. DJSI and FTSE4Good indices reports for 2013 (RobecoSAM, 2013b, pp.8-9; FTSE4Good, 2013, pp.1-5)

The best company in the industry (DJSI)	Industries (DJSI/FTSE4Good)	The best company in the industry (FTSE4Good)
Volkswagen AG*	Automobiles & Components	Pirelli&C
Australia & New Zealand Banking Group Ltd	Banks	Bank Hapoalim
	Basic Resources	Norsk Hydro
Siemens AG	Capital Goods	
Adecco SA	Commercial & Professional Services	
	Construction & Materials	St Gobain (Cie De)
Panasonic Corp	Consumer Durables & Apparel	
Tabcorp Holdings Ltd*	Consumer Services/travel & leisure	International Consolidated Airlines Group
Citigroup Inc	Diversified Financials / Financial Services	Man Group
BG Group PLC*	Energy/ Oil&Gas/Energy	Saipem
Woolworths Ltd	Food & Staples Retailing	
Nestle	Food, Beverage & Tobacco	Nestle
Abbott Laboratories	Health Care Equipment & Services	
Henkel AG & Co KGaA	Household & Personal Products	SCA
	Industrial Good&Services	ABB
Allianz SE	Insurance	Aviva
Akzo Nobel NV*	Materials / Chemicals	Johnson Matthey
Telenet Group Holding NV*	Media	WPP
Roche Holding AG*	Pharmaceuticals, Biotechnology & Life Sciences	GlaxoSmithKline
Stockland*	Real Estate	Commonwealth Property Office Fund
Lotte Shopping Co Ltd	Retailing	Next
Taiwan Semiconductor Manufacturing Co Ltd	Semiconductors & Semiconductor Equipment	
SAP AG	Software & Services	
Alcatel-Lucent SA	Technology Hardware & Equipment	STMicroelectronics
KT Corp	Telecommunication Services	BT Group
Air France-KLM	Transportation	
EDP - Energias de Portugal	Utilities	EDP - Energias de Portugal Renovaveis

* Companies that are on the first place in DJSI and in the top 10 in FTSE4Good