Socially Responsible Investments in Europe

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Preface

In times of increasing demand for social equality, adherence to human rights and the tackling of global warming, awareness of sustainable investments is becoming more important in the context of the economic prosperity of a country. Investors, from the institutional as well as the private side, can support environmental, social and governance (ESG) issues by investing in sustainable assets. This research contributes to analysing the sustainable investment market in Europe and to developing market segments for the future. Socially Responsible Investments (SRIs) integrate ESG aspects into the decision-making process, whereby investments only focussing on the E (environmental aspects) are classified as Green Investments. The analysis of private investor sentiment is based on 12 structured interviews. Furthermore, the results for 20 institutional investors were analysed with the help of a database of sustainability reports. For the research methodology a content analysis was applied. Moreover, to evaluate the investor side and to gain further expertise in new market segments which have not yet been explored, an expert interview has been conducted with an issuer. The research concludes that there is an increasing demand for SRI and Green Investments. Especially in countries which have already implemented some regulations in this regard. However, for private and institutional investors profit maximization still plays a dominant role in the investment decision making process.

Chapter 1 provides an overview of the importance of investments in sustainable projects. Profit maximization is the common goal of national and multi-national enterprises in a capitalistic era. This chapter highlights that investors and companies can still achieve better return on their investments by investing in SRIs and projects related to ESG. Moreover, this chapter outline the research questions related to market share of traditional and sustainable investments.

Chapter 2 provides the fundamental background and actual status of research for the development of SRI and Green Investments. First, the foundation of the terminology SRI, Green Investments and ESG will be described. The chapter demonstrated the theoretical work of the segmentation theory and evaluates different segments. Further, the investor and issuer side will be described to understand who the main players in the sustainable market are. The theoretical work will end with regulatory background of the sustainable reporting standards and analyse the evolution of regulations by country. The last chapter of the literature review will analyse the current SRI and Green Investment market by the work of sustainable research institutions.

Chapter 3 describes the explorative strategy used for the research methodology. Therefore, the market was divided into two different segments. The geographical segments are the five major European countries Germany, the United Kingdom, the Netherlands, Switzerland and France. For the demographical segments the focus is on major institutional and different private investors. The major institutional investors selected for this research are commercial banks, insurance companies, endowments and pension funds. The private investors were separated into four different groups: working female, working men, retired female and retired men. The research deals with three different methods tailored to the different types of sources. First, private investors will be analysed by using 12 structured interviews. Second, the analysis of 20 institutional investors will be performed by using a content analysis from databases of sustainability reports published by financial corporations. The sustainability reports will be analysed by a mixed method and a qualitative method. The last method will be the interview of one expert analysis by thematic analysis. The last
research tool used is an expert interview to evaluate the results from investors. The expert interview gives insights into a wider spectrum of knowledge and further develops unexpected segments. Further, Chapter 3 evaluates the validation of the data and ends with the methodological constraints.

Chapter 4 summarises the results from the research for the private investors, institutional investors and the issuer in accordance with the research methodology. After presenting the results, connections and interpretations will be drawn. Chapter 4 ends with a discussion of the results.

The final Chapter 5 answers each research question and the research objective. Moreover, the limitations of the research will be shown and advice for further research will be given.
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List of Abbreviations

ABS  Asset Backed Securities
AuM  Assets under Management
ASIC Australian Securities & Investment Commission
bn  Billion
CAGR  Compound Annual Growth Rate
CBI  Climate Bonds Initiative
CEO  Chief Executive Officer
CSR  Corporate Social Responsibility
EBRD European Bank for Reconstruction and Development
EIB European Investment Bank
EES Environmental, Economic and Social
ESG Environmental, Social and Governance
EU European Union
EUROSIF European Sustainable Investment Forum
GBP Green Bond Principles
GRI Global Reporting Initiative
GSIA Global Sustainable Investment Alliance
ICMA International Capital Market Association
IFC International Financial Corporation
ILO International Labour Organisation
ISO International Organisation for Standardization
JSIF Japan Sustainable Investment Forum
NGFS Network for Greening the Financial System
OECD Organisation for Economic Co-Operation and Development
PRI Principles of Responsible Investment
RIA Responsible Investment Association
RIAA Responsible Investment Association Australia
SRI Socially Responsible Investments
TCFD Task Force on Climate-related Financial Disclosures
UN United Nations
UNEPFI United Nations Environment Programme Finance Initiative
USSIF United States Social Investment Forum
WCED World Commission on Environmental Development
1 Introduction

In 1937, President Franklin D. Roosevelt already relayed an important message for the world by saying:

“We have always known that heedless self-interest was bad morals; we know now that it is bad economics.” (Congleton, 2010, p. 32)

Even though the insight was already gained these many years ago, future generations ignored the wisdom. Instead, the trend is increasingly going towards gaining profit without the necessary reflection on moral values and instead, the new wisdom developed to “Greed is good!” (Goldberg et al., 2008, p. 53).

Our economic system is based on greed because without it we would not have successful enterprises like British Petrol (BP), Tesla, Volkswagen, Facebook or Danske Bank. Nevertheless, companies’ performance scorecards are driven by greed and profit maximization which could lead to environmental catastrophes or economic breakdowns. In 2010, due to an explosion on an oil rig named Deepwater Horizon, BP caused the largest oil spill in the Gulf of Mexico. BP instigated the largest environmental disaster in history (Ambrose, 2019). In 2015, Volkswagen was caught manipulating its software system to show lower emission values of their diesel cars than actually generated, leading to higher than stated air pollution (Jolly, 2019). In 2018, Danske Bank was involved in one of the largest money-laundering scandals in Europe caused by ignoring prevalent red flags and by wrongdoings within its corporate governance framework. As a result, aside from its financial reputation, Danske Bank lost also loyal customers (Makortoff & Reuters, 2019).

Failures or intentionally wrong actions which lead to environmental damages or to financial crises could be avoided by implementing control systems. This could be for instance internal or external audits to check the work and procedures of any given company, or guidelines, rules and restrictions implemented by nations like for example prescribed in the Kyoto Protocol or the Paris Agreement. However, not all implemented preventions guarantee a world without failures (Goldberg et al., 2008).

Therefore, it is important that also other stakeholders such as the society or investors start to learn how to control greed and to think globally and sustainably because there is only one planet to live on. As figures show, air population has increased dramatically and caused 40% more people dying as a result of bad air conditions during the last 40 years (Ritchie & Roser, 2019).

Generally, rethinking has started: Greta Thunberg is a leading figure as climate activist in Europe and started a movement which affects the whole world. In the present time she penetrates in the mind of especially young people. These findings have been arrived at many years before by well-known scientists, but they hardly found any supporters. It needed a figurehead like Greta to push these issues on the top of the global agenda (Holden, 2019). Topics like climate change, generating renewable energy and anti-nuclear issues are key issues by movements like the environmental organization Greenpeace since 1972 (Greenpeace, 2015).

Also, in the financial sector a slow process of rethinking has started taking place. Traditionally in the mid-twentieth-century, decisions from the issuer side of selling a product or from the investor
side of buying a product were taken by focusing on financial returns. Non-economic effects were not taken into account because the overall thinking was that a combination of investing in sustainability which will be a good thing cannot be combined with financial gain (Langbein & Posner, 1980). However, over the last years this thinking was disproven and the demand for sustainable assets increased (Solomon & Solomon, 2004).

A concept of Socially Responsible Investments (SRI) was developed which describes an investment strategy by integrating environmental, social and corporate governance (ESG) issues into the decision-making process of an investment. Especially institutional investors with a large investment capacity focus on investments which show sustainable intention. Moreover, there are also private investors who are getting more aware of sustainable issues and seek the advice of asset managers how to invest sustainably (Louche & Hebb, 2014).

Next to the concept of SRI over the last years a new terminology of Green Investments was established in the financial industry. The focus on green demonstrated the intention to invest especially in environmental issues (Clapp & Pillay, 2017).

1.1 Problem Statement and Research Gap

The financial market is based on profit maximization. However, the occurring environmental damages or financial crisis appeared in the last years should increase the awareness of investors to invest in SRI and Green Investments to create a sustainable environment. In the last years there has been a trend of “getting green” and doing well for the society, environment and employees in corporations. Financial institutions advertised for their SRI and Green Investments and private investors talk about investing in sustainability. The question of the sustainable development is if this is just image improvement or does the trend really exist?

Some research institutions, such as the European Sustainable Investment Forum (EUROSIF) or Climate Bonds Initiative (CBI) analyse the development of SRI and Green Investments. The overall tendency shows an increasing development in the European market. However, the reports do not provide a detailed analysis on:

- Proportion of SRI and Green Investments in comparison to non-sustainable investments by country
- Conclusion which industry sector has the most investment capacity in SRI and Green Investments
- Analysis of who the private investors are
- Most important ESG aspect for investors and countries

If these questions can be answered a target market can be identified to improve the development for SRI and Green Investments.

1.2 Research Objective

The primary research objective of this research attempts to elaborate market segments, such as demographic and geographic, within Europe and concluding which are the leading segments for
SRI and Green Investment market. Further, the estimated market growth of SRI and Green Investments to the year 2020 in Europe will be analysed.

Another objective is to evaluate research institutions according to their assessment of the capacity for SRI and Green Investments by especially institutional investors. Most previous analyses based on interviews and there was no systematic assurance that the answers are accurate. Therefore, a content analysis evaluates sustainability reports to gain expertise which amounts are invested.

This research also aims to determine the most important ESG aspects for investors and further draw conclusion if they are more interested in Green Investments hence only environmental issues or SRI focusing on all ESG aspects.

Posing the following research questions aims to answer the stated research objectives:

1. **What is the market share of Sustainable Investments compared to traditional investments?**
   Sustainable Investments (SRI and Green Investments), for example reducing CO₂ emissions, gain importance due to the awareness of climate change. Therefore, traditional investments (in the following defined as non-sustainable investments), with focus only on profit maximization and do not take sustainable aspects into account, should be less important than SRI and Green Investments.

2. **What is the most important aspect for Sustainable Investors: Environmental, Social, or Governance?**
   Investors have preferences if they either want to invest in environmental, social or governance (ESG) projects. SRI covers all issues of ESG whereby Green Investments mostly focus on environmental (E) aspects. The determination of the ESG preferences can lead to conclusion if investors want to invest either in SRI or Green Investments.

3. **Which market segments have the most potential development for Socially Responsible Investments, and Green Investments?**
   Certain market segments, such as geographic and demographic segment, divided the market in smaller parts which make it for the issuer easier to target specific investor groups. By identifying these groups, leading segments for SRI and Green Investments can be identified.

4. **What is the expected market growth within Europe in 2020 for Socially Responsible Investments, and Green Investments?**
   Market growth for SRI and Green Investments within Europe increased over the last years. Two different time periods of the past evaluate how strong the growth rate for geographic and demographic segments are expected to be in the future and draw conclusion for the whole European market.

The ultimate objective of this research is to develop recommendations for issuers to target their offer to specific segments. Moreover, the research compares different countries (geographic segments) and institutional and private investors (demographic segments) and develops guidelines or approaches to encourage SRI and Green Investments.
1.3 Value and Target Audience

This research serves as foundation to develop purposeful segments for SRI and Green Investments within the European market. The value of this research draws conclusions which geographic and demographic segment leads the SRI and Green Investment market and evaluates how the successful development was achieved. Another value of this research is that an issuer segments the market and targets different investor groups.

The main target audience for this research are research institutions, issuers, investors and the government. Sustainable research institutions can use the research as foundation for further research and compare the results with their conclusions. Issuers can see the development for SRI, Green Investments and ESG aspects in different segments and develop a target marketing strategy. Investors can compare the investment strategy with other investors and identify useful investments for their company. The government gains insights into how different countries developed over the last years, obtain information how said countries achieved this development and use these lessons learned for their own national future ambitions.

1.4 Scope and Constraints

The scope in this research is the European market. To evaluate the whole European market each country gives input about SRI, Green Investments and ESG data. Within Europe there are 47 independent countries including Russia and Turkey. Because of the limited timeframe, not every country can be taken into consideration. The data of five major European countries Germany, the United Kingdom, the Netherlands, Switzerland and France are hence being used as representation. These countries were chosen because their investment volume represents 81% of the European market of SRI and Green Investments. These five countries represent a critical mass of the whole European market (EUROSIF, 2018). For the purposes of this research, the UK is still considered as part of the European single market.

Moreover, the scope for each country will be analysed with the help of investment decisions taken by institutional and private investors. Firstly, institutional investors can be divided into five major groups: insurance companies, hedge funds, pension funds, commercial banks and endowment funds. Hedge funds do not exist in the most countries of Europe. Only the UK has many hedge funds such as Man Group. Thus, the focus of this research elaborates a representative sample of different countries; hedge funds are not evaluated as the nature of the industry does not allow for disclosure of sufficient meaningful data. Investment decisions are largely taken in the form of secondary market trades rather than primary market exposures, and in the latter case, this data is rarely publicly accessible (Levin, 2019).

Lastly, the data for private investors is not available for Switzerland and France. The data was selected by telephone or face-to-face interviews and there was no response from these countries in this study. Therefore, the final evaluation for the private investor segment was conducted by three countries and not like the institutional investors by five countries.
2 Literature Review

The objective of Chapter 2 is to gain all background information, methodical theories and reviews all relevant research areas for the current status of SRI and Green Investments to serve Chapter 3 as literature foundation. Chapter 2 is structured as follows: Chapter 2.1 begins with the definitions of SRI, ESG and Green Investments and going on with explaining the correlation between the terms. The second part, Chapter 2.2 shows theoretical background of the segmentation theory to determine the segments for this research. Moreover, the types of investors and their approaches to choose sustainable investments will be discussed and the issuer side will be explained. The theoretical Chapter finished with the regulatory background by country and international disclosure regulations. The last Chapter 2.3 provides data of research institutions about the current market size of SRI and Green Investments.

2.1 Terminology and Definitions

Over the last decades Socially Responsible Investments (SRI) became established with increasing importance in the economic world. The terminology is discussed in different researches and institutions but still has not yet a consistence definition. Vast nomenclatures and synonyms are used, for instance impact investing, responsible investing, ethical investments, value-based investing, social investments or sustainable investments (Solomon & Solomon, 2004; Louche & Hebb, 2014).

The origin of SRI started in the beginning of the eighteenth century and was lived through religious investors because the church was one of the most powerful institutions during this time. They were one of the main investment groups and were focused on the investment strategy of avoiding investments in certain types of companies. Over the time, also financial institutional investors were interested in sustainable investments, which was mainly caused due to the Vietnam War and the Apartheid conflict in South Africa (de Bettignies & Lépineux, 2009).

In 1980, Langbein and Posner were one of the first researchers to formulate a definition of SRI. They have described SRI based on two distinct investor attitudes. On the one hand, investors are focused on financial returns, whereby the social impact of the business of the company invested in is not relevant. On the other hand, investors are focused on the social impact of a company, but the financial return may be unattractive. The definition of the researches illustrates a trade-off between profit optimization and social interests. Hence, in the beginning of the evaluation of the terminology of SRI the combination of financial and non-financial factors was not possible for the imagination of researchers and investors (Langbein & Posner, 1980).

One decade later in the twentieth century the trade-off was disapproved. According to Miller (1991), Lowry (1993) or Brill et al. (1999) the view was strengthened that investments in social or ethical criteria could be as profitable as focussing on financial gain. This changing view was the beginning of the movement from the traditional investment to the social investment.

The definitions in the twenty-first century supported the statement mentioned above. Knoll (2002) explained SRI with the slogan: “doing well by doing good” (Knoll, 2002, p. 683). The statement underlies the fact that investors should follow the approach to combine financial gain and social
aspects. Moreover, Goldberg et al. (2008) underlies the fact because he demonstrated SRI as a strategy to optimize the risk and return but also improve the well-being of the society.

Aside from the academic researchers, associations for the advancement of sustainability established their own definition. The European Sustainable Investment Forum (EUROSIF) is the biggest association for the European market. Explained by them SRI

“is a long-term orientated investment approach which integrates environmental, social and governance (ESG) factors in the research, analysis and selection process of securities within an investment portfolio.” (EUROSIF, 2018, p.12)

In comparison to that the US Social Investment Forum (USSIF) describes SRI as a long-term investment discipline that wants to create competitive gains and positive society impact by including the three ESG factors (USSIF, n.d.).

In sum, the global acceptance and the common aspects of SRI can be described as a strategy in a decision-making process for investments, which include, next to the aim of profit maximizing, non-financial aspects like ESG criteria (Schueth, 2003; Sandberger et al., 2009; Höchstädter & Scheck, 2015).

In literature the terminology ESG is often used in combination with SRI. The Environmental (E), Social (S) and Governance (G) issues form selection criteria’s for investors to choose their investment preferences. ESG covers a broad range of issues. The most popular issues for environmental aspects are for instance issues about climate change, water use and conservation, sustainable nature resources, pollution or green buildings. The social aspects are focused more on human topics like workplace safety, working conditions, human rights, workplace benefits or community development (Clare, 2014). The International Capital Market Association (ICMA), a non-profit organisation with headquarters in Switzerland and with the task to publish capital market guidelines and principles for a wide range of markets participants, defines ESG categories in their Green Bond Principals (GBP). Environmental aspects are focussing on Green Investments whereby the social investments focussing on all social investments (ICMA, 2018a).

The last criteria governance, also known as corporate governance, referred to the fact how the company is controlled by shareholders. The main issues are corruption, tax avoidance, corporate political contributions, executive compensation, board diversity, anti-corruption policies, board independence or cyber security (Clare, 2014; PRI, 2018).

ESG was first mentioned in 2004 by the former UN Secretary General Kofi Annan. He established an initiative to find different possibilities to integrate ESG into the capital market. With the support of the Swiss Government, International Financial Corporation (IFC) and Chief Executive Officers (CEO) of different financial institutions, a report named “Who Cares Wins” was published, which supported the fact that ESG led to sustainable markets with a positive outcome for the world. Almost at the same time another initiative, the United Nations Environment Programme Finance Initiative (UNEPFI), published the “Freshfield-Report” which verified that ESG also has influence on financial figures. Both reports were the fundament for the launch of the Principles of Responsible Investment (PRI). It was one of the first initiatives which gave guidance and support for the integration of ESG in the investment process (Kell, 2018).
ESG is a relatively new term but the idea to integrate non-financial aspects into a decision process for investments has a longer history. In 1987, the World Commission on Environmental Development (WCED) published the Brundtland report called “Our Common Future” focused on environmental, economic and social (EES) aspects for investments (WCED, 1987). During this time the focus was more on economic issues as a result of the great depression in 1929, the oil crisis in 1973 or the Black Monday crash in 1987 (Lawrence, 2014). Nowadays the focus has shifted from economic to corporate governance issues, caused by the Enron and WorldCom scandal in 2002 due to the corporate governance failures (Schoenmaker & Schramade, 2019; B. Taylor, 2006).

The term Green Investments is the newest term in comparison to ESG and SRI. It got into the mind of economic investors when the first Green Bond was issued by the European Investment Bank (EIB) in July 2007. The climate related bond was issued with more than € 19 bn and was focussing on renewable energy and green projects (Clapp & Pillay, 2017; EIB, 2017).

The terminology Green Investments are used by researchers and sustainability associations as synonym of SRI. However, in a deeper view Green Investments are more focussing on environmental issues. That is why the Organisation for Economic Co-operation and Development (OECD) sees Green Investments as the “E” of the ESG criteria (Inderst et al., 2012). Furthermore, Chang et. al. (2012) describes green investment as the most common investment niche in SRI with a deeper focus on environmental issues.

Green Investments has still no uniform definition (Cowton, 1999; USSIF, n.d.). It describes, like SRI, a decision-making process of investors by taking environmental aspects into account. The main components are for example renewable energy (e.g. solar, water, wind energy), sustainable waste management, pollution control, waste reduction or clean transportation and the importance of each aspect is an individual estimation of a person (Daggers & Nicholls, 2017).

Figure 1 demonstrates the relationship of the terminologies SRI, Green Investments and ESG.

**Figure 1. Correlation of SRI, Green Investments and ESG**

![Correlation diagram](image)

*Source: Based on authors research and Inderst et al., 2012*

As demonstrated in Figure 1, ESG is more related to SRI because SRI integrates all ESG aspects in the investment decision process. In comparison, Green Investments can be used as synonym of SRI. However, in a closer look the focus is on the environmental aspects and does not focus on social and corporate governance issues (Inderst et al., 2012).
In this research SRI is the preamble and the terminology of sustainability or Sustainable Investments will be used as synonym. Green Investments is a separate term and focused only environmental issues.

2.2 Theoretical Background

The following section provides the research with background information for the research Chapter 3. Firstly, the theoretical work of market segmentation will be determined. Secondly, the investor and issuers will be analysed to present in detail who are the investors and issuers and uses this as foundation for the data selection. Lastly, the section ends with the regulatory background information for each country and certain disclosure regulations.

2.2.1 Market Segmentation Theory

The market segmentation theory serves as foundation to define suitable market segments for SRI and Green Investments. A market segment

“...is a group of customers who have similar needs that are different from customer needs in other parts of the market.” (Johnson et al., 2009, p. 46)

According to the definition there is a variety of customer groups in the financial markets who have different preferences, values and attitudes when selecting a security. For the issuer it is important to find the target group because every customer is served differently, and the issuer can proactively establish products to gain competitive advantages. Furthermore, the issuer can create opportunities of market growth and profitability (McDonald & Dunbar, 2004).

To find the profitable market segment the issuer has to develop the market segmentation criteria (Weinstein, 2004). The market segmentation strategy is an essential element used by the issuer to separate the market into smaller segments of investors. The most common criteria for the market segmentation are four areas: geographic, demographic, behavioural and psychographic (Kotler & Keller, 2016).

The literature does not provide a market segmentation approach for SRI and Green Investments but the literature provides general segmentation of customer in the financial industry for instance Lease et al., (1976), Anderton (1995), Hogg & Gabbott (1998), or Ehrlich & Fanelli (2012).

That means the criteria for the market segmentation for the four areas has to be developed. Heok at al. (1996) and Cahill (2006) recommended using the simplest possible market segmentation approach. That means if only the geographic segmentation works for the product or service, for instance only one particular region can buy product, then only this should be used.

Geographic segmentation is the oldest and was seen as the original strategy (Lewis & Chambers, 2000). In the geographic segmentation approach the market will be divided into different geographical regions which can be a continents, countries or cities (Walters & Jackson, 2013) and is driven by culturally differences and varying needs of the customers (Anderton, 1995).

The demographic segmentation in the financial service industry depends on different investment groups. For example a private person has different segmentation criteria than a large investment
corporation because of their different investment volumes and preferences (Machauer & Morgner, 2001). The demographic criteria’s for private investors are such as gender, age, level of education or profession (Paley, 2016). The demographic segmentation for a large financial corporation would be the differentiation between the industry sectors (Papastathopoulou, 2015).

Most service organisations have been concentrated on the geographic and demographic segmentation (Hogg & Gabbott, 1998) because behavioural and psychographic segmentation are difficult to observe and to measure. However, behavioural and psychographic segmentation give a deeper insight what investors would like to achieve with their investments (Ehrlich & Fanelli, 2012). The disadvantage of the both last mentioned segmentation criteria is that the data is mostly not available (Dolnicar et al., 2018).

Behavioural segmentation refers to decisions patterns of investors, like amounts spent on investment, occasion or timing of the investment and type of the investments (Walters & Jackson, 2013). These determinants have a great variety but the most interesting aspect for an issuer is in what kind of asset the investor would like to invest in and how often they buy a product (Dolnicar et al., 2018).

The psychographic segmentation is centred on customer values, beliefs or interests when they make an investment decision (Paley, 2016). According to Haley (1985) the psychographic segment is all about the mind of the customer. To evaluate the results for the psychographic segmentation is more difficult than geographic or demographic segmentation because the data is difficult to get (Dolnicar et al., 2018).

The research objective in this research is to elaborate market segments and estimate market growth of SRI and Green Investments in Europe. To evaluate this research objective the market, need to be divided into smaller segments. The following segments are used in this research:

- Geographic segment
- Demographic segment

Behavioural and psychographic segmentation are not common for the financial service industry (Dolnicar et al., 2018). Moreover, the evaluation of these segments does not gain value for the research objective thus both segments are not used in this research.

The geographic segmentation is needed to evaluate different countries and to evaluate the development for whole Europe. As mentioned in Chapter 1.3 “Scope and Constraints” not every country within Europe can be evaluated. Therefore, the focus has to be on particular countries. The countries will be determined with the help of case studies of European research institutions in Chapter 2.3.

The next Chapter will estimate the demographic segments. Therefore, it is needed to identify investors.

2.2.2 Investors

Before identifying the segmentation variables for the demographic segments, it has to be clarified who the investors are. To analyse and understand where the money is coming from the investor
side will be explored. The money for SRI and Green Investments is coming from investors, who have a focus on sustainability or a sustainability-linked mandate. Sustainable investors differ from traditional investors, who have no primary goal of sustainability. Sustainable investors have different strategies and also other motivations to choose an investment (Schoenmaker, 2017).

In general, there are two types of sustainable investors: retail and institutional. Globally the market is dominated by institutional investors, because they have more capital to invest. In Europe the market share of institutional investors in 2018 was about 70% and the remaining 30% belong to retail investors (EUROSIF, 2018).

Retail investors are individuals and non-financial investors who purchase securities or funds through banks and online investment platforms. This can be for instance a private person or non-financial organisations. Retail investors are less professional than institutional investors and have smaller amounts of money to invest (Wegman, 2016). Furthermore, retailers are more interested in a personal goal achievement because they invest their own money with the aim to save money for the retirement or for the family. Retail investors have a limited finance amount which depends on each individual. However, on average the finance amount is capped by 100,000 Euro (Capturing Institutional Investors, 2019).

The other type, the institutional investors, is an organisation that manages investments on behalf of asset owners. They are characterized as having a better overview and deeper knowledge of the investment market, have more money to invest and pay less fees (Baslie et al., 2016). According to different researches it can be stated that there are five types of institutional investors: pension funds, insurance companies, endowment funds, hedge funds and commercial banks (Bourgi, 2018; International Monetary Fund, 1998; Longstreth & Rosenbloom, 1973).

In comparison to that there is also a difference between a sustainable and traditional investor. The primary goal of the traditional investor is profit maximization, whereas the sustainable investors also want to gain a positive outcome on environmental, ethical, social and governance issues. Each investor has different priorities on ESG issues. That is why it depends on their specific values, preferences and circumstances which outcome they prefer (Inderst et al., 2012).

Sustainable investors use different strategies in their decision-making process. According to the EUROSIF (2018) the most common strategy in Europe in 2017 was the exclusion strategy (42%), followed by engagement and voting (22%), ESG integration (19%), norms-based screening (14%), best-in class (2%), sustainability themed (1%) and impact investing (1%). It is possible and common that sustainable investors do not have only one particular strategy but rather make a combination of different approaches (Binmahfouz, 2017).

The SRI approaches are the same approaches like for Green Investments. The only thing that differs is the focus of the environmental aspect. SRI takes all ESG aspects into account whereby Green Investment focuses on the environmental aspects (Inderst et al., 2012).

Focusing on the most common strategy, called exclusion or negative screening, sustainable investors actively avoid investing in companies, assets or countries that produce, trade or sell specific inventories. The most popular topics are tobacco, weapons, pornography, nuclear energy, alcohol,
animal testing or gambling (Camilleri, 2017). The European Bank for Reconstruction and Development (EBRD) for example defined an exclusion list and stated that they will not support projects which are directly or indirectly involved in for instance products with substances like pesticides or trade of asbestos fibres (EBRD, 2019b).

The second most common strategy is engagement and voting. In this strategy sustainable investors decide to invest in companies with an unethical and unmoral business. The aim of the sustainable investors is to convince a company’s board and shareholders to take more responsibility into their business operations. Therefore, the sustainable investor has to start an interaction with the company. This is effectively happening by the so called shareholder activism, where the sustainable investors use their voting rights at the annual general meeting to influence the behaviour of the company (Louche, 2009).

In the ESG integration approach the sustainable investors actively look for positive ESG aspects in published sources like financial statement or company websites. This strategy is often used in combination with the exclusion strategy. For instance, if an investor has decided to invest in a sustainable environment (e.g. solar energy), the investor will not invest in a coal mining company (Sherwood & Pollard, 2019).

The norm-based screening is also a popular approached in Europe and used by 14% of the sustainable investors in 2017. According to the norm-based screening, investors select companies which are in line with the applicable norms and international guidelines. These norms include for instance environmental protection, human rights, labour standards and anti-corruption principles. The applicable international guidelines include for example the OECD guideline for multinational enterprises or the ILO (International Labour Organisation) Tripartite Declaration of Principles concerning Multinational Enterprise and Social Policy (International Shareholder Service, 2015).

The last three strategies are not so common in Europe and were used by less than 2% of the sustainable investors. By choosing the best-in-class screening, investors looking for companies which have the best ESG score in comparison to the average market. The score information is provided by different market indices like the Dow Jones. The sustainable-themed investment strategy, investors selected only assets which are linked to specific topics like renewable energy, sustainable transport, building sector or waste management (PRI, 2017).

The last strategy, impact investing, is one of the most mentioned in the literature. In this particular strategy investors try to link a financial return to the performance of ethical, environmental or social outcomes. Different researchers focus on impact investing and want to measure the performance of impact funds. Therefore, an impact investor is a person who place the money in funds or directly into industries which are characterized as sustainable investments like renewable energy (Vecchi et al., 2016).

2.2.3 Issuers

Next to the investors it is also important to know who the issuers are. As well as the investor side there are no rules or regulations to evaluate an issuer. Every organisation, company or institution
can issue a bond or equity in the capital market. Sustainable issuer focus on equity and debt capitalisation (EUROSIF, 2018). On the contrary, Green Investments are only related to the debt market (Filkova, 2018). The focus in this research will be on the debt market.

The debt market is characterized as less expensive than the equity market because the investor is exposed to less risk. The interest rate is a fixed or floating rate that is why the issuer is guaranteed to gain an interest rate profit with a return of the principal payment at the maturity date (in case of no defaults). The most common debt instrument is a bond (Mellen & Evans, 2010).

ICMA divided the debt market into three different types of bonds: Sustainable -, Green- and Social Bonds. Sustainable Bonds fund projects like environmental and social projects, hence, are more aligned with the SRI mandate. Social Bonds fund social projects, hence, are also more related to SRI. In comparison, Green Bonds fund projects which are related to projects focusing on environmental benefits, hence the Green Bonds are more related to Green Investments (ICMA, 2018b).

Firstly, the focus will be on the issuers of the SRI market. According to EUROSIF (2018), the market is divided into four categories. In 2018 the most common assets issued by corporates (57%), followed by sovereign (33%), third municipal (7%) and 3% were invested by supranational.

Corporate bonds are issued by large corporations to raise capital to finance the operation for general corporate purposes and other business-like mergers and acquisitions. The issuer has to pay the coupon rate over a certain period and repay the face value at the maturity date. The investor has the advantage to receive determinable interest payments (Choudhry, 2005).

Sovereign bonds are issued by the national government in order to finance larger projects for the community or the ongoing business (Kolb, 2011). Municipal bonds are issued by municipalities to fund a variety of public projects like development of schools, road extension or for building a new playground for the children of the community (O’Hara & Temel, 2012). Supranational bonds are not so common because the issuers are two or more governments called as supranational agencies (Petitt, 2015).

Secondly, the issuers of the Green Investment market are divided in more detailed groups than the SRI market. According to the CBI (2019a) there are seven different types of issuers: sovereign, government-backed entity, local government, development bank, asset backed security (ABS), non-financial corporation and financial corporation.

In 2018 the largest issuer group of Green Investments was as like in the SRI market financial corporations with a market share of 29%. One of the largest issuers was for instance ING Bank in Netherland. The issuers of these Green Bonds typically include multilateral development banks such as the International Finance Corporation (IFC), the private sector financing arm of the World Bank, the European Investment Bank (EIB) and EBRD. These institutions have played a particular role in the development of the Green and Sustainability Bond market and have been the first issuers of these types of instruments (CBI, 2019a).

Non-financial corporates are in general corporations producing a product for the market and do not have financial services like the financial intermediaries (van de Ven & Fano, 2017). Non-financial corporates were in 2018 the second largest issuer group with a total market share of 17% (CBI, 2019a).
The other five groups had in 2018 more or less the same market share. In 2014 the development banks were the largest issuer for Green Bonds and had a market share of 40% (CBI, 2019a). The According to ICMA (2018) there are four types of Green Bonds: standard green use of proceeds bonds, green revenue bonds, green project and the green securitisation bonds. For green uses of proceeds and green revenue bonds, investors have recourse to the issuer. For green securitisations there is an additional recourse (dual recourse) to the underlying projects financed and for green project bonds there is no recourse to the issuer or the underlying project (Carè, 2018).

2.2.4 Regulatory Background and Sustainable Reporting

Over the last decades, companies are more and more obligated to report sustainable actions in their disclosures. The non-financial aspects should cover the economic, environmental, social and governance which are important for investors for the investment decisions but also to create awareness of entities to care about sustainability (Deloitte, 2019).

First an overview of the regulatory background information by country will be provided.

2.2.4.1 The Netherlands

In the beginning of the development of sustainable investments the government in a country started to implement regulations to force companies and private investors to invest in sustainability. The Netherlands was the first country in Europe which implemented tax savings regulation in 1995. The Dutch government encouraged individual and institutional investors to support Green Investments into wind and solar energy. Therefore, financial institutions had to invest in green projects and have to pay a lower interest rate than the market rate. Private investors had the opportunity to invest in these funds and are incentivised by paying less income tax on the capital gain (NL Agency, 2010).

Furthermore, at the end of the twentieth century, Dutch private and institutional investors, like pension funds and insurance companies, formed a Dutch Association of Investors for Sustainable Development. The association is a non-profit organisation with the aim to create a sustainable market. This is achieved by visiting companies which are listed on the stock market and force them to invest in sustainability (Vereniging van Beleggers voor Duurzame Ontwikkeling, 2019). In 2008, the Netherlands implemented the Pension Fund Act which forced every Pension fund to publish disclosure details of the sustainable investment strategy (van der Meij, 2011).

2.2.4.2 France

France is also one leading country of implementing regulations for sustainability. In 2001, a mandatory requirement for investors and issuers were established to publish information about the extent of ESG integration by the buying or selling of stocks. For example, investors have to disclose in their annual reports why they decided to buy these stocks and if the investments integrate ESG aspects. Four years later the French Reserve Fund, which was founded in 2001, established a law to invest money of public authorities in pension funds focussing on ESG aspects. In 2015, the French government implemented Article 173 which was focused on energy development. Every investor has to disclose all investments which are climate relevant (Swiss Sustainable Finance & CFA Institute, 2017).
2.2.4.3 United Kingdom

Next to the Netherlands and France, the UK counts to one of the countries implementing sustainable regulations. Already in 1995, the UK implemented the Pension Fund Act, hence 13 years before the Netherlands. In 2002, the UK implemented the Trustee Act which ensures that all investments of pension fund trustees are in line with the ESG aspects. One year later, a regulation for disadvantaged communities was implemented to reduce tax payments if they invest in SRI. In 2010, the UK implemented the Stewardship Code which should encourage investors to act as a responsible shareholder. Investors have to explain why they invest in sustainability or, in fact, why they do not do so (Taft, 2012).

2.2.4.4 Switzerland

Switzerland started in 2002 with a regulation for funds to establish rules for voting rights of shareholders. In 2013, the revised version of the Swiss Federal Act on War Materials was implemented. This law prohibits companies to invest in nuclear energy, mines, weapons and cluster munitions. Furthermore, in 2014, Switzerland provided guidelines to institutional investors on an approach of good corporate governance behaviour.

2.2.4.5 Germany

Germany is one out of the five countries with fewer regulations. Germany’s main focus is on the mandatory implementation of disclosure regulations especially for pension funds (Swiss Sustainable Finance & CFA Institute, 2017).

Figure 2 shows the timeline of the development for the main regulations by country.

**Figure 2. Timeline for Implementation of Regulations**

It can be stated that the Netherlands and the UK were one of the first countries which implemented regulations for sustainable investments. The Netherlands focused on private investors and the UK on institutional investors. Moreover, Figure 2 shows that the UK, the Netherlands and France implemented target regulations for pension funds.

After providing national background information, the following provides an overview of the international level with the focus on sustainability reporting guidelines.
2.3 International Sustainable Reporting

Taking a broader look at the sustainable regulations on an international level, different organisations can be named. One of the first movements of sustainable reporting was set in 1997 by the Global Reporting Initiative (GRI). GRI is a non-profit organisation in Europe which is following the vision of the Coalition for Environmentally Responsible Economies in the US. Both initiatives have the mission to develop guidelines and principles of non-financial information for a voluntary reporting of entities (Pavaloaia et al., 2017).

The GRI reporting covers non-financial information of economic, environmental and social aspects which is also known as the triple bottom line approach. The triple bottom line approach is an accounting framework focusing on the three dimensions of people, planet and profits and measures non-financial performance of economic, environmental and social aspects of a company (Innocent et al., 2018).

The first GRI guideline was published in mid-2000s and gives background information how to prepare a sustainability report and the nature of information to be disclosed. The detail of this information will be described in the specific frameworks: GRI 200 focussing on economic, GRI 300 explaining the environmental and GRI 400 focussing on the social aspects. Each framework covers between 200 and 400 topics (GRI, 2018).

The GRI approach is not mandatory for entities. The aim of the GRI was to support companies so that it is easier for them to provide information about sustainability awareness. Different studies confirm that over the years the reporting on non-financial figures increased dramatically (KPMG, 2015). More recent developments are for example the Task Force on Climate-Related Financial Disclosures (TCFD), the Network for Greening the Financial System (NGFS) and the Technical Expert Group of the European Commission.

The TCFD is an organisation with the aim to push companies to improve climate related financial disclosures due to the climate change risk. TCFD is giving recommendations for disclosure regulations but also suggests strategies to develop new climate relates business (Swiss Sustainable Finance & CFA Institute, 2017). Another development is the NGFS which is a worldwide group of central banks who meet on voluntary basis. The NGFS was established in 2017 to exchange their experiences and developments within the financial sector for environmental and climate related risk management. The aim of this group is to identify a best practice approach which can be applied by financial institutions (NGFS, 2019).

Furthermore, the EU taxonomy standard is being developed by the Technical Expert Group of the European Commission. A first report for consultation was published in June 2019 and aims to seek feedback on the guidance to investors about future sustainable trend, risk and investment opportunities. Moreover, the report provides examples how a corporation can act to achieve sustainable goals (EU Technical Expert Group, 2019).

Another important development within the last years was established by the European Parliament and the Council of the European Union (EU). They established the directive 2014/95/EU in October 2014 which regulates disclosure information about ESG aspects (Kocollari, 2018). The aim of disclosure regulations was to set incentives to integrate the ESG factors into the decision-making
process of investors. The regulation also provides transparency for end-investors to evaluate the non-financial performance of large companies they want to invest in (CSR Europe & GRI, 2017).

The regulation applies to all large public-interest companies with more than 500 employees. This covers investment banks, commercial banks, insurance companies, listed companies, pension funds and other public-interest companies. The information to be disclosed covers all ESG relevant information. The EU does not provide a strict rule how to report this information but provides different guidelines, for instance the UN Global compact, OECD guidelines or ISO 26000. The directive is valid to report for all relevant companies in their annual reports starting in 2018 (European Commission, n.d.).

Europe is one of the first regions which implemented a mandatory disclosure regulation for ESG issues. In comparison in mid-2019, the US Congress decided to reject regulations like the EU implemented (Temple-West, 2019).

Focussing on the Green Bonds there is no mandatory reporting guideline. The Green Bond Principles (GBP) were established in 2014 to give guidance to the issuer how to disclose information about the process of issuing a Green Bond and to give the investors transparency about their investments (CBI, 2019b). According to the GBP, the issuer should disclose at least annually the uses of proceeds allocation of the bonds as well as the impact they achieved with regards to the Green Investments. Annual reports are to include all projects with a short description about the project and allocation of the amount.

Moreover, it is recommended to present the information in an aggregated form to avoid getting conflicts with confidential contracts (Kimmel et al., 2019). Additionally, transparency of the disclosure is important that the investors understand in which kind of project they wish to invest in. Therefore, issuers are to give some quantitative impact measurements for instance the number of cars they reduced in a year or the greenhouse gas emission savings achieved via a particular investment (ICMA, 2018b).

To sum up, the Netherlands, the UK and France are the leading countries which implemented voluntary and mandatory regulations. Especially for pension funds the regulations are mandatory. Looking on an international level a lot of organisations, like the TCFD or NGFS, push along the awareness and voluntary reporting standards for financial institutions. However, most reporting information according to ESG, sustainable and Green Investment is not obligatory for issuers. The EU Commission established a mandatory regulation for investors within Europe to disclose actions of their sustainable behaviour. Furthermore, a lot of reporting guidelines are available like the GRI, OECD and GBP which increase the information about sustainability in the disclosure (Alliance for Corporate Transparency, 2019).

2.4 Case Study: Current Market Size

After providing an overview of the theoretical background this section describes the development of SRI and Green Investment market. The aim of this Chapter is to understand the estimation of research institution and compare the results with own studies in Chapter 4. Further, the research data is needed to determine major countries within Europe for the geographical segmentation.
The Global Sustainable Investment Alliance (GSIA) is an international organisation at aggregates data of sustainability investments all over the world (GSIA, 2019). The data of the GSIA relies on data of research institutions such as the European Sustainable Investment Forum (EUROSIF), which aggregates the data for the European market for SRI (EUROSIF, 2018). The Climate Bonds Initiative (CBI), an international non-profit organisation, focuses on the global Green Investment market (CBI, 2019b).

2.4.1 Global Market

The global SRI market is dynamic and expects with a high growth rate in future. The leading regions with the highest amount invested in sustainability are Europe, United States (US), Japan, Canada and Australia/New Zealand (GSIA, 2019).

The GSIA researched that in 2016 about $22.8 trillion and in 2018 $30.7 trillion was invested globally in sustainability assets. Compared to total assets managed in the five regions, which equates in 2016 about $82 trillion and in 2018 $92 trillion, it can be illustrated that about one third of the global investments have a sustainable impact (Landberg et al., 2019). Globally, the five key players of the SRI market are enumerated in Table 1.

Table 1. Development of Market Size by Region

<table>
<thead>
<tr>
<th>Region</th>
<th>2016</th>
<th>2018</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe</td>
<td>$12,040</td>
<td>$14,075</td>
<td>17%</td>
</tr>
<tr>
<td>United States</td>
<td>$8,723</td>
<td>$11,995</td>
<td>38%</td>
</tr>
<tr>
<td>Japan</td>
<td>$474</td>
<td>$2,180</td>
<td>360%</td>
</tr>
<tr>
<td>Canada</td>
<td>$1,086</td>
<td>$1,699</td>
<td>56%</td>
</tr>
<tr>
<td>Australia/New Zealand</td>
<td>$516</td>
<td>$734</td>
<td>42%</td>
</tr>
<tr>
<td>Total</td>
<td>$22,838</td>
<td>$30,683</td>
<td>34%</td>
</tr>
</tbody>
</table>

Source: GSIA, 2019

Footnote: All values for the market size of SRI are in billions (bn) of US dollars. The data of the assets on 2016 reported as of 12/31/2015 and 2018 assets reported as of 12/31/2017, expect Japan with the asset value of 3/31/2018.

Table 1 demonstrates the market size of each region and the amount of assets invested in SRI. The table shows the development of the market size in 2016 compared to 2018. The last row expresses the increase of sustainable assets within two years (GSIA, 2019).

Table 1 clarifies that all regions had an increase in sustainable investments over the period from 2016 to 2018. Europe had the smallest growth rate with 17% over two years but was the region with the highest volume of money invested in sustainability. In the beginning of 2018 Europe had a total market volume of $14,075 bn which express about 46% of the total market size of $30,683 bn (EUROSIF, 2018). The second largest market share in absolute terms was the US with about 40% of the total market. Japan had the smallest market share in 2016 but growth within two years about 360 % that they reached in 2018 the third biggest market share. Canada and Australia/New Zealand had the smallest market shares in 2018 about 2% -6% of the five major markets but also had increased about twice in the last two years (JSIF, 2019; RIA, 2019; RIAA, 2019; USSIF, 2018).
Furthermore, Latin America has an investment volume $1.2 trillion in 2018 and is not included in this list because GSIA could not allocate if all assets are reported as sustainable assets.

Moreover, the report of GSIA does not provide an analytical review why each region increased or decreased. Therefore, the next step is to take a deeper look to the European market to identify the major countries in Europe. The analysis for each country will be performed in Chapter 4.

2.4.2 European SRI Market

In Europe, the proportion of SRI relative to total asset managed in 2018 was 49%, so almost the half of AuM was invested in sustainable assets. Compared to the US, which is the second largest region has 26% in of SRI in 2018. Therefore, Europe is the leading region for SRI (GSIA, 2019).

Taking a deeper look into Europe, the EUROSIF illustrated that over the last years the five main countries with the fastest growing and highest investment capacity of sustainable assets are France, Germany, the UK, Switzerland and the Netherlands because these countries have the largest investment volume within Europe (EUROSIF, 2018).

Table 2 shows the development for the five major countries in Europe for the year 2014 in comparison to 2016. The five main countries invested in 2016 €8,980 bn compared to the total amount invested in 2016 $14,075 bn (€11,045 bn) of Table 1 the chosen countries cover about 81% of the total Europe. Table 2 shows also some negative developments of SRI investments, which is caused according the EUROSIF (2018) due to the small number of participants in the interviewees in 2016.

Table 2. Proportion of European Countries for SRI

<table>
<thead>
<tr>
<th>Country</th>
<th>2014</th>
<th>2016</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>€1,728</td>
<td>€3,121</td>
<td>81%</td>
</tr>
<tr>
<td>Germany</td>
<td>€897</td>
<td>€1,786</td>
<td>99%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>€1,973</td>
<td>€1,555</td>
<td>-21%</td>
</tr>
<tr>
<td>Switzerland</td>
<td>€1,562</td>
<td>€1,527</td>
<td>-2%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>€1,245</td>
<td>€991</td>
<td>-20%</td>
</tr>
<tr>
<td>Total</td>
<td>€7,405</td>
<td>€8,980</td>
<td>22%</td>
</tr>
</tbody>
</table>


Footnote: All values are shown in bn euros. The aggregated data in 2018 were not available in the latest EUROSIF report that is why the comparison is between 2014 and 2016.

France was the leading country in 2016 with total investments of €3,121 bn and a growth rate within two years of 81%. Germany, which almost doubled the investments within two years, had an investment volume of €1,786 bn. United Kingdom, Switzerland and Netherlands had an decrease over the two periods of SRI but in total there is an overall growth of 22% for the five areas (EUROSIF, 2014, 2016). [The development for each country will be analysed in Chapter 4. However, according to EUROSIF the decreasing development for UK, the Netherlands and Switzerland was due to the less participation in study participants (EUROSIF, 2016)].
2.4.3  Green Investment Market

The Green Investment market is much smaller than the SRI market because Green Investments focus only on the funding of green projects. However, the green market is growing over the last years. As reported on December 2018, global investments were reaching a volume of $ 168 bn. Compared to the SRI market in Table 1 the investments represented less than 1% (Filkova, 2018).

The CBI analysed the Green Investment market of different years. In 2018, the leading country of the world by issuing Green Bonds was the US with a market share of 20%. The second largest country was China with a market share of 18%. The third largest country was France with a market share of 8%, followed by Germany (5%) and the Netherlands with 4% (CBI, 2018a). However, if the European countries are aggregate into one region, Europe would dominate the market. The calculated market share would be 37%. This proportion of market shares is closely the same to the market share for SRI in Table 2 (CBI, 2018b).

Table 3 describes the investment volume of Green Bonds within Europe and the development from 2016 to 2018 in bn $. This research focuses on the five countries mentioned in Table 2 with the investment capacity for SRI. To compare the SRI market with the Green Investment market the same countries were chosen in Table 3. However, the chronological order differs to the order for SRI. Next to the first three mentioned countries, the next largest countries in Europe in 2018 for Green Investments were Belgium, Sweden and Spain. Actually, the UK is the seventh largest country and Switzerland was not mentioned in the ranking (CBI, 2018a).

<table>
<thead>
<tr>
<th>Country</th>
<th>2016</th>
<th>2018</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>$ 4.3</td>
<td>$ 14.2</td>
<td>230%</td>
</tr>
<tr>
<td>Germany</td>
<td>$ 4.2</td>
<td>$ 7.6</td>
<td>81%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>$ 5.5</td>
<td>$ 7.4</td>
<td>34%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>$ 0</td>
<td>$ 2.3</td>
<td>-</td>
</tr>
<tr>
<td>Switzerland</td>
<td>$ 0</td>
<td>$ 0.6</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>€ 14.0</td>
<td>€ 18.1</td>
<td>130%</td>
</tr>
</tbody>
</table>

Source: CBI, 2018a, 2018b

As seen from Table 3, France has the most potential growth rate within two years. France had the most potential growth rate because the country was also the first sovereign to issue a Green Bond in 2012. Germany and the Netherlands issued their first Green Bond in 2014. As seen in Table 3, the UK did not issue a Green Bond in 2016, however, the cumulative amount of Green Bonds issued from 2014 to 2015 was about $ 1.5 bn. Switzerland issued the first Green Bond in 2017 (CBI, 2018b).

Comparing the SRI market with the Green Investment market, the overall growth rate over 2016-2018 was higher for the Green Investments (130%) than the growth rate of 22% for the SRI. Additionally, the Green Investment market has lower investment volumes and is newer than SRI.
3 Research Design

The purpose of Chapter 3 is to establish the research methodology and provide background information to the methods used to answer the research objective. The research design in this research is an explorative strategy because there is not detailed literature provided for the research field. Some research institutions, like the EUROSIF and CBI, provide actual reports of the current market size for SRI and Green Investments. However, the research objective is to evaluate different segments. A detailed analysis of private and institutional investors is not given. Further, the evaluation of ESG importance is not provided by the literature.

3.1 Research Methodology

The Research Methodology is a process of steps performed to answer the research questions. The extent of the applied methodology depends upon the complexity of the research questions (Gould & Kolb, 1964).

In general, the research process needs information and data to evaluate the research questions. After identifying the data, the process indicates different methods adopted by the data sources. With an analysis of the data the aim is to evaluate the results (Taylor et al., 2011). The following sections describe the methods, data and analysis used to answer the research objective.

3.2 Methods

This research is centred on the questions how the sustainable market will grow in future for Europe and wants to explore the most important segments. Common literature provides different varieties of research methods to answer the research objective. Woodward et al. (2001) and Adams (2002) are supporters for interviews because the research method can achieve a deeper meaning of the contents and get further expertise. In contrast, Unerman and Bennett (2004) and Patten and Crampton (2003) are supporters for content analysis because a broad range of data can be collected which provide detailed information.

Next to interviews and content analysis there are some research papers centring around using research methods such as experiments (O’Donovan, 2002), surveys (Dunk, 2002) or investigations (Parker, 2005). However, it appears that these methods are the minority and the research methods of an interview and the content analysis are the most common one for answering the research questions.

In this research three different resources are used to evaluate the research objective:

- Retail Investors (also known as Private Investors)
- Institutional Investors
- Issuers

Retail Investors were chosen because Hardi (1995) corroborates the importance of private persons opinions in a research study. Hardi sees public participation as one of the most important data for the analysis of Sustainable Investments. The average citizen is informed about sustainability and the occurring issues around climate change. He has a preferred tendency which is not driven by rules and is interested in the development of the future. Institutional investors were chosen because
they have the largest investment capacity thus influence the SRI and Green Investment market the most (Bourgi, 2018). Issuers were selected because they are selling their products in the sustainable market. Further, they already targeted the market segments and evaluate which is the most profitable (Kolb, 2011).

For each group different methods are applied due to the different kind of data sources used. The first group, private investors, are individuals who invest their own money and do not provide information about their investment decisions in public available resources. Since the data is not publicly available a specific method has to be selected. Patton (1990) suggested using interviews when the information is not directly observable or data is not available in public resources. Therefore, the research method of an interview is used to observe information for private investors (Stufflebeam & Zhang, 2017).

The second participant group in this research are institutional investors. Research institutions, such as EUROSIF or CBI, collect data by preparing surveys and interviews. The advantage of this method is that they can reach a broad range of participants. However, due to the longstanding connection between research institutions and their customers, they are able to use this method (EUROSIF, 2018; GSIA, 2019).

Researchers, such as Bowman (1984), Guthrie and Abeysekera (2006), Denscombe (2009) and Krippendorff (2013), suggest to use a content analysis which screens reports published by financial corporations. This method allows getting reliable information about the investment decisions. Therefore, it was decided to use the content analysis for institutional investors. On the one hand it is a new and common method applied by a variety of researchers. On the other hand, content analysis is a different method than research institutions used and therefore delivers another insight in the SRI and Green Investment market.

The last group, the issuer, should evaluate the results from the investors and provide the research with further expertise. That is why it is important to obtain reliable data and more information than what the literature provides. Suggested by Littig (2009) an interview with an expert is a suitable research method. Expert interviews are a research method to gain deeper knowledge. Experts are familiar with the research topic because it is their day to day business. Moreover, the method of an expert interview provides the researchers with more information instead of focussing on already provided data (Bogner & Menz, 2009).

Figure 3 shows an overview of the research methods used in this research for each individual source.

As demonstrated in Figure 3, the starting points for the research are the investors which are split in a retail and institutional side. Retail investors are private persons and will be analysed with the help of an interview. The data for institutional investors will be analysed by way of a content analysis. The last method is the expert interview to evaluate the results of the investor.
3.2.1 **Individual Interview**

Individual interview is an interview with one person. However, it is used to gain information about the opinion of various participants (Gillham, 2003). According to Patton (1990) the research method of an interview is applied to attain information by asking questions. The kind of questions depend on the purpose which are intend to achieve (Gillham, 2003).

The interview with private investors wants to gain exact information about investment decision, investment capacity and ESG preferences. After defining the research objective, the next step is to develop the interview questions. The structure of the interview questions can be distinguished between three different types: structured, semi-structured and unstructured interview (Punch, 2005). The structured interview is a standardized interview with the aim that each participant gets exactly the same question. The advantage of this method is that the data is comparable and the candidate can be more controlled by focussing the attention on given topics (Newman & Benz, 1998).

The semi-structured and the unstructured interview are more flexible than the structured interview. Both types follow the aim to get a deeper knowledge and the subjective opinion of the interviewee. Moreover, an unstructured interview seeks to extract expertise from the interviewee which is unknown to the interviewer (Klenke, 2008).

The difference between a semi-structured and an unstructured interview is that the former follows certain guidance. The questions are prearranged and mostly open-ended to get further expertise. The unstructured interview does not follow any guidance and is more following a free style interview (Craig, 2005).

The most common type for a research interview is the structured interview because it is characterized that the researcher follows a particular goal. The aim of the research is to answer the research question how the market will develop in the future and to explore the most important segments.
Because the goal of the research is defined a structured interview is chosen and targeted question will be developed (Gillham, 2003).

Furthermore, the decision for the structured interview was also taken because individual investors have less knowledge of the financial market than institutional investors. Therefore, most of private investors are not experts in SRI and obtain advice from asset managers how to invest. That is why targeted questions must be developed to get all information. Another important point for the selection of an structured interview is that the results can be compared easily (Wegman, 2016).

The questions of a structured interview can be either open-ended or closed-ended. Open-ended questions give the interview the chance to give a certain opinion but may intend to go in the wrong direction. Closed-ended questions are formulated in the way that certain answers must be given. The form of the answer can be either “yes or no” or the participant has to tick boxes of one or multiple choice. The last mentioned form is more flexible than only answering with yes or no and give more input (GAO, 2017). For the private investors it was decided to use the closed-ended questions by ticking different answer choices. The data evaluation is comparable and on the other hand the people can be controlled by given only certain answer choices (Gillham, 2003).

Further, it has to be decided in which way the interview has to be managed. Conducting the interview can be in different ways for example via telephone, e-mail or a face-to-face meeting. Due to organizational issues the interview with the participants from the UK are conducted by telephone. The interview with the participants from Germany and the Netherlands are conducted by face-to-face meetings. The advantage of the latter method is that the interviewer has the chance to evaluate the reaction better than in a telephone interview (Vogl, 2013).

The researcher has to develop his or her own questions to answer the research questions (Gillham, 2003). Therefore, the following interview was developed.

To answer Research Question 1, the proportion of traditional investors in comparison to sustainable investors, the following question will be asked:

*Question 1: When you decide to make an investment do you only invest to maximize your profit or do you also focus on sustainability?*

- A) Only Profit
- B) Only Sustainability
- C) Profit and Sustainable Goals

The first question evaluates if a participant is a sustainable investor or not. If the interviewee is not a sustainable investor, the following question cannot be answered by the interviewee.

Question 2 analyses research question 2 which ESG criteria is the most important one:

*Question 2: When you decide to invest in sustainability which factors are important for you?*

- A) Environmental
- B) Social
- C) Governance
- D) None of the above
Question 2 draws conclusions on which ESG topic is the most important one for private investors.

Research Question 3 evaluates which market segment has the most potential development and Research Question 4 evaluates the growth rate for Europe. To evaluate a development and growth rate, there is a need to compare two different time periods. This is why Interview Question 3 and 4 will be the same question, however Question 3 will focus on the year 2012 and Question 4 will focus on the year 2018.

**Question 3: How much money have you invested in sustainable equity or debt securities in 2012?**

A) None  
B) 0 Euro to 1,000 Euro  
C) 1,001 Euro to 5,000 Euro  
D) 5,001 Euro to 10,000 Euro  
E) 10,001 Euro to 20,000 Euro  
F) More than 20,000 Euro

**Question 4: How much money have you invested in sustainable equity or debt securities in 2018?**

A) None  
B) 0 Euro to 1,000 Euro  
C) 1,001 Euro to 5,000 Euro  
D) 5,001 Euro to 10,000 Euro  
E) 10,001 Euro to 20,000 Euro  
F) More than 20,000 Euro

3.2.2 Content Analysis

Krippendorff is one the most quoted researches related to content analysis nowadays. He defines content analysis as:

“a research technique for making reliable and valid inference from data according to their context.” (Krippendorff, 2013, p. 8)

The research tool is used to analyse large data. The data can be either a printed version, an electronic text or a verbal interview (Kondracki et al., 2002). This research uses sustainability reports provided in electronic data.

A lot of researchers used content analysis for analysing annual reports, sustainability reports or corporate social governance reports of various corporations (Bowman, 1984; Guthrie & Abeysekera, 2006; Lajili & Zéghal, 2009). The analysis and screening of the reports can be performed either quantitatively or qualitatively (Denscombe, 2009). On this occasion qualitative methods deal more with the text and is therefore more subjective (Schreier, 2012) whereby the quantitative researches are more objective and represent a more systematic evaluation (Neuendorf, 2017).

Beginning with the quantitative method, the content analysis can be divided further in an index or volumetric approach (de Villiers & van Staden, 2006; Tsang, 1998). Volumetric content analysis works with counting of words (Deegan & Gordon, 1996; Gao et al., 2005), sentences (Milne &
Adler, 1999; Tilling, 2003) or paragraphs (Patten, 2002) and set these into the context of the total number of pages (Kuasirikun & Sherer, 2004). The index approach screens the context of the presence and absence of defined words or items. If the word is mentioned in the text this case will be ranked with a score of 1. If the word is not mentioned in the text a ranking of 0 will be given (Vourvachis & Woodward, 2015).

The advantage of both quantitative methods is that it provides a quick overview of the context and the method is easy to use. However, the disadvantage of these methods is, that the deeper meaning will not be evaluated (Lisch, 2014). Because of the research objective for this research aimed to conduct development for market segments, estimations for the future and attitudes of investment decisions, a pure quantitative approach is not possible. The disadvantage is discussed by many researchers and they suggested using a mixed method which combines the quantitative with qualitative information (Vourvachis & Woodward, 2015).

The mixed-method is used to look for the absence or presents of a variable (quantitative) and if the variable is present the information belonging to the variable (qualitative) will be used for the evaluation (Jitaree, 2015).

Next to the mixed-method, a qualitative method is used. The qualitative method also screens the text of the absence or presents of defined variables. However, the researcher has to read the page or paragraph to evaluate the context. Therefore, the researcher develop a scoring model to rank the defined variables (Roller & Lavrakas, 2015).

3.2.3 Expert Interview

Expert interviews are employed by researchers to gain a specialised and deeper knowledge according to the research objective. However, it is important to identify experts to be sure to obtain valuable data of the interview. Literature discusses different types of experts and evaluates who an expert is. The expert definition depends on the knowledge of an individual and can be divided into three different types: voluntarist, constructivist and sociology knowledge (Littig, 2009).

Voluntarist expertise has almost every human being. It describes the knowledge of a person gained every day over their lifetime. The voluntarist expertise is criticised by researchers because for them this knowledge does not count as a research tool for an expert interview. Constructivist knowledge is the knowledge which is provided by the society and the sociology expertise is the knowledge of people which are specialised due to their profession (Bogner & Menz, 2009). For this research part, sociology knowledge is needed to evaluate the research questions and to obtain further information about different sustainable segments and the development in the future.

The interviewee is Britta Bochert, Associate Director of the Financial Institutions team at the EBRD. Britta has been working for EBRD for more than seven years, during which she has focused on structuring a wide array of SRI investments. She specialises as issuer and investor in this field and has in depth expertise of the individual ESG components. Britta has gained on the ground experience when it comes to identifying market capacities, investment opportunities as well as changing SRI investor demands over the last several years.

Expert interviews offer advantages towards individual interviews. First of all, it is possible to get reliable results very quickly. Furthermore, experts have access to information which is often not
available in public resources or not known by private persons. Therefore, experts can give a further
insight into new market segments which are not explored yet (Bogner et al., 2009).

The structure for an expert interview is non-formalised or semi-formalised to gain a deeper
knowledge and a different expertise (Libakova & Sertakova, 2015). Both types use open-end ques-
tions which could lead to a further discussion. The semi-structured interview follows a guidance
and this is why the decision was taken to prepare a semi-structured interview (Craig, 2005).

3.3 Population and Sampling

The population and sampling differ for the three groups of private investors, institutional investors
and issuers. For the investor side the population and sampling will be selected by the combination
of geographic and demographic segments. As this research attempts to evaluate different segments,
at least one sample of a segment has to be chosen.

The geographic segmentation was described in the literature review in section 2.2.1 as the oldest
and most important segmentation method. It is used to divide the market segment into different
countries. As the case study in section 2.3 worked out the countries for SRI and Green Investments
are France, Germany, the UK, Switzerland and the Netherlands. This is why the focus is on these
countries because they represent almost 81% of the European market (EUROSIF, 2018).

The demographic segmentation was divided between private and institutional investors. Lease et
al. (1976) suggest to use variables for private investors such as gender and age. Papastathopoulou
(2015) suggest using variables for institutional investors focus on the different industry. The fol-
lowing variables are applied for the segments:

Figure 4. Overview of Research Segments

<table>
<thead>
<tr>
<th>Geographic:</th>
<th>Demographic</th>
</tr>
</thead>
<tbody>
<tr>
<td>- France</td>
<td>- Institutional Investor</td>
</tr>
<tr>
<td>- Germany</td>
<td>- Insurance Company</td>
</tr>
<tr>
<td>- UK</td>
<td>- Commercial Bank</td>
</tr>
<tr>
<td>- Switzerland</td>
<td>- Pension/Endowment Fund</td>
</tr>
<tr>
<td>- Netherlands</td>
<td>- Gender</td>
</tr>
<tr>
<td>Europe</td>
<td>- Age</td>
</tr>
</tbody>
</table>

Source: Authors own research

The variables of Figure 4 are used as foundation to select the population and samples.

3.3.1 Retail Investors

The sampling for private investors was made in combination of the geographic and demographic
segmentation because they can be combined easily (Kolb, 2011). As already determined the geo-
graphic and demographic segmentation is needed to determine the range of the demographic seg-
ments for the variables age and gender.

Lease et al. (1976) separated sustainable private investors into five groups: Group I represent-
ning retired males, Group II are older employed males, Group III (highly educated young professional),
Group IV (older females) and Group V (unmarried professional and managerial persons). As seen from the grouping of Lease et al. the focus was more on the educational level. Nowadays the focus lies more on the gender aspects. Some years ago, women were seen as less confident in the decision making of investments. Due to the development in the society, for instance, a prescribed quota for women in higher positions, women became more knowledgeable and confident about investment decisions (Matenge et al., 2016). Therefore, the first demographic variable will be a sampling between women and men.

The second variable will be different age. The age criteria is used for the demographic segmentation because customers can have similar needs (Macy et al., 2016). For the investment decision it is important to have money. That is why students are not in the focus of this research because they tend to save the money or are short of cash. Working individuals have more financial power and willingness to invest. Moreover, it has to be taken into consideration that retired people have less money to invest because of a lack of sustainable income (Papastathopoulou, 2015). Table 4 shows the sampling for private investors. The sampling is a quantitative sampling because a large sample size was selected (Patton, 1990).

Table 4. Data Selection for Retail Investors

<table>
<thead>
<tr>
<th>Group</th>
<th>#</th>
<th>Gender</th>
<th>Name</th>
<th>Age</th>
<th>Country</th>
<th>Profession</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>1</td>
<td>Male</td>
<td>Markus B.</td>
<td>30-50</td>
<td>Germany</td>
<td>Risk Manager</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Male</td>
<td>Benedikt P.</td>
<td>30-50</td>
<td>Netherland</td>
<td>Technician</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Male</td>
<td>Claus W.</td>
<td>30-50</td>
<td>UK</td>
<td>Senior Banker</td>
</tr>
<tr>
<td>II</td>
<td>4</td>
<td>Female</td>
<td>Nathalie R.</td>
<td>30-50</td>
<td>Germany</td>
<td>Risk Management</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Female</td>
<td>Brit K.</td>
<td>30-50</td>
<td>Netherland</td>
<td>Senior Auditor</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Female</td>
<td>Stephania P.</td>
<td>30-50</td>
<td>UK</td>
<td>Teacher</td>
</tr>
<tr>
<td>III</td>
<td>7</td>
<td>Male</td>
<td>Christian B.</td>
<td>50-70</td>
<td>Germany</td>
<td>Former CEO – retired</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Male</td>
<td>Claas H.</td>
<td>50-70</td>
<td>Netherland</td>
<td>Engineer – retired</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Male</td>
<td>Christoph G.</td>
<td>50-70</td>
<td>UK</td>
<td>Portfolio Manager - retired</td>
</tr>
<tr>
<td>IV</td>
<td>10</td>
<td>Female</td>
<td>Marianne B.</td>
<td>50-70</td>
<td>Germany</td>
<td>Housewife – retired</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>Female</td>
<td>Agnes W.</td>
<td>50-70</td>
<td>Netherland</td>
<td>Analyst – retired</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Female</td>
<td>Elisabeth S.</td>
<td>50-70</td>
<td>UK</td>
<td>Banking Manager - retired</td>
</tr>
</tbody>
</table>

Source: Authors own selection

Footnote: There is a limitation of the geographic segmentation for the retail investors (refer to section 5.2). Due to the availability of the data the focus lies on Germany, the UK and the Netherlands.

Based on Lease et al. (1976) and the development nowadays it was decided to make an analysis of four different groups which focused on gender and age. Group I has the focus on working males, Group II are working women, Group III (retried males) and Group IV (retried women). In combination with the geographic segmentation of three major countries in total 12 samples are selected. The samples from the Netherlands were selected randomly and from Germany and the UK were chosen directly (Patton, 1990).

3.3.2 Institutional Investors

The sampling for institutional investors was also selected in combination of geographic and demographic segmentation. The demographic segmentation for institutional investors depends on the
industry sector of a company (Papastathopoulou, 2015). As the literature review has shown institutional investors are pension funds, insurance companies, endowment funds and commercial banks.

For each industry of the four sectors (demographic segment) the largest financial corporation of the five countries (geographic segment) in Europe were chosen. The size of each company or fund was measured by the volume of their assets under management (AuM) in 2018. That is why in total there are 20 samples. The data selection for the institutional demonstrates a quantitative sampling because it is a large sample size and the data should be transformed into usable statistics (Patton, 1990).

Table 5. Data Selection for Institutional Investors

<table>
<thead>
<tr>
<th>Sector</th>
<th>#</th>
<th>Name</th>
<th>€</th>
<th>AuM bn</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endowment Funds</td>
<td>1</td>
<td>Church Commissioners for England</td>
<td>€</td>
<td>10.6</td>
<td>UK</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Erzbistum München und Freising</td>
<td>€</td>
<td>4.0</td>
<td>Germany</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>University PSL</td>
<td>€</td>
<td>0.0</td>
<td>France</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Delft University of Technology</td>
<td>€</td>
<td>0.0</td>
<td>Netherland</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Université de Genève</td>
<td>€</td>
<td>0.0</td>
<td>Switzerland</td>
</tr>
<tr>
<td>Commercial Banks</td>
<td>6</td>
<td>UBS Group AG</td>
<td>€</td>
<td>687</td>
<td>Switzerland</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>HSBC Holdings</td>
<td>€</td>
<td>669</td>
<td>UK</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>ING Groep N.V.</td>
<td>€</td>
<td>408</td>
<td>Netherland</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Deutsche Bank</td>
<td>€</td>
<td>383</td>
<td>Germany</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>BNP Paribas</td>
<td>€</td>
<td>328</td>
<td>France</td>
</tr>
<tr>
<td>Pension Funds</td>
<td>11</td>
<td>Stichting Pensioenfonds ABP</td>
<td>€</td>
<td>399</td>
<td>Netherland</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Bayrische Versorgungskammer</td>
<td>€</td>
<td>77</td>
<td>Germany</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>Universities superannuation scheme ltd</td>
<td>€</td>
<td>74</td>
<td>UK</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>Bpifrance</td>
<td>€</td>
<td>61</td>
<td>France</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>ABB Pensionskasse</td>
<td>€</td>
<td>44</td>
<td>Switzerland</td>
</tr>
<tr>
<td>Insurance Companies</td>
<td>16</td>
<td>AXA S.A.</td>
<td>€</td>
<td>397</td>
<td>France</td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>Prudential plc</td>
<td>€</td>
<td>356</td>
<td>UK</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>Allianz SE</td>
<td>€</td>
<td>263</td>
<td>Germany</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>Zurich Insurance Group Ltd</td>
<td>€</td>
<td>102</td>
<td>Switzerland</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>Aegon N.V.</td>
<td>€</td>
<td>97</td>
<td>Netherland</td>
</tr>
</tbody>
</table>

Source: Carlson, n.d.; Cherowbrier, 2019; Educba, n.d.; Kennedy, 2019; Moorcraft, 2019; Preker et. al., 2019; QS World Rankings, 2019; Relbanks, 2019, n.d.; Sovereign Wealth Fund Institute (SWFI), 2018, 2019b, 2019a

According to SWIF (2019a) endowment funds include universities and church commissions which is why the focus for endowments lies on these two sectors and does not consider foundations. However, investments of the endowment funds in France, the Netherlands and Switzerland are not as common as in the UK and Germany and they were less than € 1 million for each sector. That is why endowment funds for these three countries appear in the data selection with 0 investment volume.

3.3.3 Issuer

After selecting the investors it is also important to see what the issuer side offers (supply) and to evaluate whether the preferences of investors (demand) is met by the supply of the issuers (Strydom, 2004). That is why one financial institution, namely the European Bank for Reconstruction and Development (EBRD), was chosen to evaluate the results of the issuer side.
This decision of choosing the EBRD was taken because EBRD is an active and one of the pioneering issuers in the SRI and Green Investment market as well as experienced investor in this field. According to Patton (1990) the selection of one particular sample is, in contrary to the individual investor sample selection, a qualitative sampling because one expert was chosen due to a particular expertise. Further, the selection of one sample represents a valid selection because it was chosen purposefully and with regards of the specialized expertise.

The EBRD is an established multilateral development bank with headquarters in London, UK, and was founded in 1991. The bank has since invested over EUR 140 bn in over 5,000 development projects across a variety of emerging market countries. The bank acts as an issuer (Treasury, liability side of the bank) as well as an investor (Banking, asset side of the bank) of SRI investments, Green Bonds in particular, and is geographically focused on emerging markets, including Central and South Eastern Europe. The EBRD mandates the integration of key ESG aspects into the process of investing in as well as in issuing of Green Investments, Green Bonds and SRI Investments. Over 70% of the bank’s investments serve the private sector, hence, EBRD is one of the very few development banks which is focussing almost exclusively on developing private sector economies (as opposed to the World Bank for example, which is largely focussing on sovereign projects) (EBRD, 2019a).

EBRD was chosen as representing the issuer perspective, as it not only invests in over 39 countries from Poland to Mongolia, as well as Northern Africa, but also its multilateral development mandate allows for a holistic view of policy achievements and dynamics in Europe. The EBRD is owned by 69 countries from five continents, as well as the European Union and the EIB. These shareholders have each made a capital contribution, which forms the bank’s core funding. The EU owns 3% of the EBRD’s capital. The European Union, the EIB and the EU member states combined own 62.8% of the EBRD’s capital. Further, as the largest single donor to the EBRD, the EU has accounted for about 35% of total donor funds channelled through the EBRD since the Bank’s inception. EBRD shareholders currently represent 60% of the world’s population and 80% of its GDP (EBRD, 2019a).

3.4 Analysis

After setting the methods and samples the next step is to analyse the data to achieve meaningful results. Since this research has different research methods and data the analysis for each part has be applied differently.

3.4.1 Retail Investors

Different analysis, such as grounded theory content analysis, has been discussed by researchers to analyse interviews. Depending on sample size, data or nature of the research the research tool has to be selected (Bryman & Cramer, 2019). Nowadays, in times of artificial intelligence, researchers like Woods et al. (2016) or Jones (2007) support the use of statistical data analysis from software programs. According to them the advantage of these tools is that the results are easily and quickly explained.

However, a variety of statistical programs have been applied in the past research to evaluate interview answers. For example, the Stata analysis is a relatively new tool and commonly employed for economic research. However, analysts mentioned that the statistical evaluation of Stata is
weaker than the evaluation of the Statistical Package for Social Sciences (SPSS) tool. Another problem of the Stata evaluation is that the tool is not publicly available and therefore the access was not possible (Educba, 2018).

Due to the above-mentioned reasons it was decided that for the retail investors questionnaires the data software SPSS will be used. This tool is a common one employed in research methods of an interview. SPSS makes it possible to create appropriated statistical results of the interview answers and compare the results (Starkings, 2012). SPSS software enables to analyse quantitative data and data with a coding or score, related to a mixed method (quantitative and qualitative) (Garth, 2008).

Figure 5 shows the research methodology used for the retail investors. As seen from Figure 5 the SPSS analysis will be split in an analysis of qualitative and mixed method. The quantitative analysis evaluates the first two interview questions. The given answers will be measured in percentages and frequencies (Bryman & Cramer, 2019).

For Research Question 3 and 4, a score for the different answers will be given to identify a most important segment. Both questions have six answer possibilities. The first answers show the possibility to invest 0 Euro in SRI hence a score of 0 will be given. The following answers are staggered based on the investment volume and answer number six has the largest investment volume. Therefore, answer number six achieves a value of five points.

The interview answers were imported in Excel and uploaded in SPSS. Moreover, the scoring methodology for Research Question 3 and 4 were uploaded in SPSS to evaluate the answers.

3.4.2 Institutional Investors

The second analysis is for the institutional investors. Figure 6 shows an overview of the research methodology employed for the institutional investors.

The sample size of 20 sustainability reports will be analysed by the research method of the content analysis. The content analysis for institutional investors is divided into a quantitative and a mixed-
method. The mixed-method evaluates the market growth and development of SRI and Green Investments. The qualitative analysis focuses on the evaluation of the ESG aspects.

The differentiation between a qualitative and mixed content analysis is needed to answer the different types of research questions. Research Question 2 will be analysed by the qualitative method and Research Question 1, 3 and 4 by the mixed-method.

Figure 6. Research Methodology Institutional Investors

3.5 Mixed-Method

The mixed method obtains information about the market share of sustainable investors in comparison to traditional investors (RQ1), the development of different market segments (RQ3) and the estimation of the market growth for the future (RQ4).

First of all, it is important to develop an index to know what exactly is needed to answer the research questions. Therefore, the majority of the researchers develop their own indices (Jitaree, 2015; Verbeeten et al., 2016). Especially for Research Question 4 it is important to have at least two time periods to compare the data and the growth rate for the future (Adkins, 2019).

Based on a model of Kuckartz (2019) the following matrix was developed.

Table 6. Data Matrix Institutional Investors

<table>
<thead>
<tr>
<th>#</th>
<th>Sector</th>
<th>Country</th>
<th>€</th>
<th>%</th>
<th>2018 SRI</th>
<th>Green</th>
<th>2016 SRI</th>
<th>Green</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Endowment</td>
<td>UK</td>
<td>€*</td>
<td>100%</td>
<td>10.6</td>
<td>9.1</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>6</td>
<td>Commercial Bank</td>
<td>Switzerland</td>
<td>€*</td>
<td>25%</td>
<td>687</td>
<td>69</td>
<td>0.2</td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors own selection

The first two columns show the company selected (demographic segments) in Chapter 3.3 of Table 5 and the third column shows the headquarters (geographic segments) of the company. Therefore, each row expresses the associated data for each company.

The fourth column shows the currency in which the sustainability report was prepared. Some European companies (marked with a star) only prepare group financial statements hence the data was
only prepared in USD. Moreover, especially the UK prepared the statutory financial statement in GBP. To compare the data in the end, the financial statements prepared in USD and GBP were converted by the year end closing rate in 2018 and 2016 (referring to Appendix B for the calculation rates).

Since only some funds and insurance companies provide global consolidated financial statements and no data on geographical division exist for some sectors it is assumed that the global proportion of market share in various countries will serve as the basis for the analysis for the investment volume. For instance, company number 6 UBS Group AG with the headquarters in Switzerland provides the annual report for the whole group. According to the annual report UBS Group AG has in 2018 $ 3.153 bn (€ 2.751 bn) of AuM and $ 317 bn (€ 276 bn) sustainable assets. Furthermore, the report stated that 25 % belongs to Europe. That is why it will be assumed that UBS Group AG has in 2018 € 687 bn (€ 2.751 bn*25%) AuM in Europe and € 69 bn (€ 276 bn*25%) socially responsible assets (UBS Group AG, 2019).

The next six columns show the figures and values selected of each report for the period in 2018 and 2016. AuM describes the total investments made in the period. The column SRI shows all sustainable assets and the column green shows all investments related to Green Bonds.

The figures were selected for each company by the related sustainability reports of 2018. When the data for 2016 was not provided in the sustainability report of 2018 the reports of 2016 were used. Moreover, if no data was provided in the sustainability reports, the annual reports were used. Both data source represent a reliable source for the research questions (Vourvachis & Woodward, 2015).

To evaluate which country has the most potential development and the potential growth rate first of all the total investment volume has to be determined as well as the sum for each country. This will be performed for AuM, SRI and Green Investments. The calculations are presented in Appendix B. Each analysis will be performed for the year 2016 and 2018 to analyse the development and will be presented in charts.

The first analysis is to answer Research Question 1. The formula determines the proportion of traditional investments to SRI to understand the volume of the sustainable market in comparison to traditional investments (EUROSIF, 2018).

The proportion of SRI to non-financial investments $\frac{SRI}{AuM}$ is calculated as:

$$\frac{SRI}{AuM} = \frac{SRI}{AuM} \times 100$$

(1)

where $SRI$ is the total amount of SRI and $AuM$ the total amount of traditional investments.

The second analysis determines which country has the largest market share. The result evaluates the importance of each country. The calculation will be analysed by setting the investments for one country into the relationship of the total investments (Huggins & Thompson, 2017).
The market share $MS$ is calculated as:

$$MS = \frac{SRI_{country}}{SRI} \times 100 \tag{2}$$

where $SRI_{country}$ is the total amount invested in SRI by each country.

The third analysis evaluates the growth rate by each country to evaluate which segment has the most potential growth rate. Therefore, the figure of the compound annual growth rate (CAGR) was employed. The CAGR calculates the percentage of which an investment would have grown within one year (Dugar & Pandit, 2018).

The Compound Annual Growth Rate for each country $CAGRc$ is calculated as:

$$CAGRc = \left( \frac{SRI_{country2018}}{SRI_{country2016}} \right)^{\frac{1}{n}} - 1 \times 100 \tag{3}$$

where $n$ is the year of investments and $SRI_{country2018/2016}$ the total amount of SRI by country in the particular year.

Finally, the average growth rate for the European zone will be calculated to understand the development for Europe as a whole (EUROSIF, 2018).

The total Compound Annual Growth Rate for each country $CAGR$ is calculated as:

$$CAGR = \left( \frac{SRI_{2018}}{SRI_{2016}} \right)^{\frac{1}{n}} - 1 \times 100 \tag{4}$$

where $n$ is the year of investments and $SRI_{2018/2016}$ the total amount of SRI invested.

Formula number (2), (3) and (4) will be also calculated for Green Investments.

The demographic segmentation will focus on the four sectors insurance company, commercial bank, endowment and pension fund. To evaluate the growth rate and development first the total amounts for each sector will be calculated for AuM, SRI and Green Investments. As above described for the geographic-behavioural segmentation, formula (2) and (3) will be used to analyse the segments. The results for formula (1) and (4) will be unchanged.

To analyse which sector had the largest market share, formula (2) will be used. Instead of putting the investments for each country, the investments for each sector is set into the relationship of the total investments (Huggins & Thompson, 2017). Furthermore, to evaluate the CAGR for each sector formula (3) is used. Instead of setting the investments of each country into the relationship of the total investments, the total amount of each sector will be set into the relationship of the total investments (Dugar & Pandit, 2018).

3.6 Qualitative Method

The qualitative content analysis is used by many researchers to screen the data of a text of non-financial information (Tesch, 2013). A qualitative content analyse can be performed by four steps.
Firstly, the data source has to be identified. Secondly, the main categories and sub-categories need to be defined. This means to determine research variables for ESG on which the context is examined. Thirdly, a scoring method has to be evolved to evaluate the categories. The last step is to analyse the text (Roller & Lavrakas, 2015).

As mentioned above the first step is to identify the data source for the selected 20 companies of section 3.3. According to Vourvachis and Woodward (2015) the best data source of analysing ESG issues are sustainability reports. If this report was not available, the data will be selected by annual reports. In total 20 reports served as database.

The second step is to determine the main and sub-categories (Roller & Lavrakas, 2015). Main criteria are the environmental, social and governance (ESG) aspects as well as the focus on green topics. Researchers provide a wide range of sub-categories hence it is difficult to determine certain sub-categories (Berz et al., 2017). Moreover, some researchers are focussing either on environmental (Walls et al., 2011; Dutta et al., 2018) social (Chakravarty, 1990; Dincer & Abu-Rayash, 2019; Zhao et al., 2012) or governance criteria which makes the selection more difficult (Rezaee, 2007).

Due to the above-mentioned large variety of ESG data, it was decided to compare two main research institutions of their ESG database. Institutions were chosen because they are specialized in advising investors of different ESG aspects so it can be assumed that the data is reliable. If - by comparing the two research institutions - both had a consistency of ESG sub-categories, the sub-category was selected. Two main providers are Morgan Stanley Capital International and Thomson Reuters (Huber et al., 2017).

The sub-categories for the Green Investments were selected by the GBP because the ICMA provided up to date topics for green topics in their regulations (ICMA, 2018b).

In total four environmental sub-categories were selected of Morgan Stanley Capital International and Thomson Reuters. The GBP provided eight green topics. The topics from GBP were allocated to the environmental sub-categories of Morgan Stanley Capital International and Thomson Reuters that in total eight aspects serve for the content analyse of the environmental criteria. Furthermore, five social and four governance sub-categories are selected. The sub-categories are demonstrated in the Table 7.

The next step is to identify a scoring methodology to evaluate the content of the database. To measure the deeper meaning of the content, it is not only relevant to check if a sustainability report is available or not, it is important to develop a scoring model. The scoring model can evaluate each aspect in different categories (Abdou & Pointon, 2011).

Garg (2017) developed a scoring model with six different points: a score of zero (0) will be given if no data is available of the company; a score of one (1) is given when at least general information is provided with no qualitative or quantitative information; a score of two (2) if the information has qualitative information. Qualitative information is for example when the company describes how they want to achieve a goal. Three (3) points are given if qualitative and quantitative information is provided, for instance if the company provides information how they want to achieve
the goal accompanied with financial figures; the score of four (4) expanded qualitative and quantitative points with explanation of the reasoning of the action and no check to the GRI disclosure regulations. The most points with five (5) are given by qualitative and quantitative information with explanation of the reasoning and an additional GRI check.

**Table 7. ESG Categories for Qualitative Content Analysis**

<table>
<thead>
<tr>
<th>ESG Pillars</th>
<th>Symbol</th>
<th>Sub-Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental (4x2=8)</td>
<td>EN1</td>
<td>Innovation:</td>
</tr>
<tr>
<td></td>
<td>- EN1.1.</td>
<td>Clean transportation such as electric, hybrid, public and rail transportation</td>
</tr>
<tr>
<td></td>
<td>- EN1.2.</td>
<td>Eco efficient adapted products like eco-label and environmental certification</td>
</tr>
<tr>
<td></td>
<td>EN2</td>
<td>Resource Use:</td>
</tr>
<tr>
<td></td>
<td>- EN2.1.</td>
<td>Renewable energy is used like wind, water, solar</td>
</tr>
<tr>
<td></td>
<td>- EN2.2.</td>
<td>Waste prevention and reduction</td>
</tr>
<tr>
<td></td>
<td>EN3</td>
<td>Emission:</td>
</tr>
<tr>
<td></td>
<td>- EN3.1.</td>
<td>Reducing CO₂ emission; for instance, low carbon reduction, air emission, greenhouse gas control</td>
</tr>
<tr>
<td></td>
<td>- EN3.2.</td>
<td>Energy efficient for example energy efficient buildings or energy storage</td>
</tr>
<tr>
<td></td>
<td>EN4</td>
<td>Protection:</td>
</tr>
<tr>
<td></td>
<td>- EN4.1.</td>
<td>Terrestrial and aquatic biodiversity conservation like the protection of coastal and marine</td>
</tr>
<tr>
<td></td>
<td>- EN4.2.</td>
<td>Environmentally sustainable management of living natural resources and land use like sustainable fishery, aquaculture, biological crop protection</td>
</tr>
<tr>
<td>Social (5)</td>
<td>SO1</td>
<td>Diversity (gender, age, nationality) and inclusion (employees can speak up) of workforce</td>
</tr>
<tr>
<td></td>
<td>SO2</td>
<td>Health and safety work environment are provided</td>
</tr>
<tr>
<td></td>
<td>SO3</td>
<td>Community: is the company a good citizen and support local projects</td>
</tr>
<tr>
<td></td>
<td>SO4</td>
<td>Product Responsibility</td>
</tr>
<tr>
<td></td>
<td>SO5</td>
<td>Training of employees for their development within the company</td>
</tr>
<tr>
<td>Governance (4)</td>
<td>GO1</td>
<td>Board structure is well balanced (percentage of woman) and the reporting structure is clear</td>
</tr>
<tr>
<td></td>
<td>GO2</td>
<td>Shareholder rights are equally treated</td>
</tr>
<tr>
<td></td>
<td>GO3</td>
<td>Vision and strategies are openly reported</td>
</tr>
<tr>
<td></td>
<td>GO4</td>
<td>Corporate behaviour like business ethics, tax transparency or anti-corruption is communicated</td>
</tr>
</tbody>
</table>

*Source: ICMA, 2018b; MSCI, 2018; Reuters, 2017*

The last step is to screen the sustainability reports or financial annual reports of the ESG sub-categories of Table 7. Each sub-category is multiplied with the applicable scoring of Table 8. The final score for each ESG pillar can be determined by summing up all sub-categories (e.g. SO=SO1+SO2+SO3+SO4+SO5) (Clarkson et al., 2008). A detailed overview is presented in Appendix B.

**Table 8. Scoring Model for Sustainability Reports**

<table>
<thead>
<tr>
<th>Disclosure</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>No information regarding the parameter</td>
<td>0</td>
</tr>
<tr>
<td>1-2 lines/ no qualitative or quantitative information regarding the sub-categories</td>
<td>1</td>
</tr>
<tr>
<td>Only qualitative information has been provided</td>
<td>2</td>
</tr>
<tr>
<td>Quantitative information has been provided with qualitative information</td>
<td>3</td>
</tr>
<tr>
<td>Qualitative and quantitative is provided with information along with the reason and result but not GRI checked</td>
<td>4</td>
</tr>
<tr>
<td>Qualitative, quantitative information, reasoning/results, and GRI check as well</td>
<td>5</td>
</tr>
</tbody>
</table>

*Source: Garg, 2017*
After that the final score is calculated by adding up the ESG pillars (EN+SO+GO). The maximum score which can be reached for each pillar is the following:

<table>
<thead>
<tr>
<th>ESG Pillars</th>
<th>Numbers of Sub-Categories</th>
<th>Maximum Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental</td>
<td>8</td>
<td>40</td>
</tr>
<tr>
<td>Social</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>Governance</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>85</td>
</tr>
</tbody>
</table>

*Source: Authors own calculation*

The final evaluation of the scoring model will be performed in the following pattern.

<table>
<thead>
<tr>
<th>Table 10. Evaluation of Score Card</th>
</tr>
</thead>
<tbody>
<tr>
<td>#</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
</tbody>
</table>

*Source: Authors own calculation*

Each company is represented in one row. The first two columns give information of the sample which will be analysed. The total score column added up all points for the environmental (EN), social (SO) and governance (GO) aspects and added up as a sum in the last column. The average score columns were calculated by dividing the above-mentioned columns by the numbers of sub-categories in Table 9. For instance, for company number 1 the score of 16 for environmental aspects are divided by 8 to reach an average score of 2.41.

After evaluation each company the sum for each country were calculated. For instance, to calculate the figures for the UK first the country numbers 1, 7, 13 and 17 were added up. Then the average score for each country was calculated by dividing the total sum by four, representing the number of countries.

For the demographic segmentation the sum for each sector was calculated. For instance, to calculate the figures for the endowment funds company number 1-5 were added up. Then the average score for each sector was calculated by dividing the total sum by five, representing the number of sectors.

### 3.7 **Expert Interview**

After analysing the investor side, the semi-structured interview of the issuer has to be analysed. Literature provides many methods to analyse semi-structured interviews such as thematic analysis, discourse analysis or grounded theory (Braun & Clarke, 2006; 2019; Suciu, 2019).

The first approach, grounded theory, has its main feature by gathering a construct of theories to analyse the data. However, it is more suitable in deductive research hence it not used in this paper (Chun Tie et al., 2019). The discourse analysis has its approach to analysis conversations or writing texts. Therefore, certain themes have to be developed (Suciu, 2019). However, in this research themes are already developed such as ESG aspect. Moreover, the research tool is more used in language research that it why it is not used in this research.
The thematic analysis screens the text of an interview. The screening depends on the themes such as identified codes or topics the researcher selected before (Clarke & Braun, 2014).

There are different approaches to perform the thematic analysis thus the analysis is a flexible approach. Braun and Clarke (2006) are one of the most quoted in literature and they suggest to perform the thematic analysis in six steps. The six steps framework begins getting familiar with the data and to understand what the text is about. The second step is to identify codes to organise the data into different aspects. Thirdly, common themes have to be identified to capture the research objective. Step number four is to review step two and three and evaluate if the identifications are useful for research objective. The fifth step is to develop descriptions for the themes to understand the meaning. The last step is to prepare and screen the text.

It was decided to use the thematic analysis because the advantage is that it is very flexible and evaluates the deeper meaning of the text. Moreover, the thematic analysis was chosen because it is easy to use for the sample size of one (Maguire & Delahunt, 2017). Furthermore, according to Guest et al. (2012) the thematic analysis is a preferable research tool for an explorative research used in this research.

Figure 7 shows the overview of the research methodology employed for the sample of the issuer.

**Figure 7. Research Methodology Issuer**

![Diagram showing research methodology](image)

The thematic analysis evaluates the one sample of the expert interview for every research question. The questionnaire design of the expert interview includes four questionnaires. Each interview question evaluates one of the research questions.

### 3.8 Validity

Before taking the step to collect the data it has to be verified if the method is valid for the desirable outcome (Leung, 2015). For the private investors, a pilot testing was completed with 2 participants who are not included in the results. The interview was held with two respondents to ensure that the interview is understandable and meaningful to answer the research objective. The pilot testing expresses about 17% of the total sample size in this research. After conducting the two interviews a few adjustments were made due to the recommendations of the interviewees.

For the institutional investors a pilot test was performed with two financial corporations. Therefore, two sustainability reports served as databases. The pilot test for institutional investors covers...
10% of the total sample size. Each method was tested and evaluated if the results are appropriated. After conducting the pilot test some changes were made due to the results.

The interview questions for the expert were verified by performing a test interview with an expert from a German financial institution, namely the Sparkasse Düsseldorf. For this interview no adjustments were made.

### 3.9 Methodological Constraints

Private investors represent persons who invest their own money in assets depending on their income. A person, such as Warren Buffett, has several billion capitals to invest and would make other investment decisions than an average citizen. The willingness to take risk of a billionaire differs from persons who have to look at their money. In this research the participants were randomly chosen and represent average citizens. Therefore, the evaluation of the market growth (Question 3/4) would lead to a different conclusion if the participants have higher income thus less risk to take.

Moreover, average citizen invests most of their money in buying shares. SRI and Green Investment assets include next to the equity market also the debt or bond market. Participants for the bond market are in general institutional investors, governments, traders and some individuals. However, the average bond market starts with an investment volume of several billions. The participant questioned in this research cannot give answers to the bond market. Therefore, there is no evaluation of private investors if they either want to invest in SRI or Green Investments (Research Question 3). For private investors SRI and Green Investments is seen as one unit.

The sampling for the 12 interviewees was performed randomly. Especially the people in the Netherlands were questioned on the street. However, due to the globalisation people have different backgrounds and can be born in other countries. If the selected person of a country represents the mentality of the country cannot be guaranteed. Furthermore, only one participant represents results for one particular group in one particular country. Due to the limitation of the numbers of respondents it does not mean that everyone has the same opinion.

Moreover, the answers of the participants are influenced by the profession or background of a person. If a person is well educated and follows the news every day the participant is more informed than others.

The data of the participants is self-reported information and it is not verified that the data express the truth. Furthermore, Question 3 and 4 about the investment volume is a private question and not every participant will give a valid answer to this question.

In contrary to the private investors, institutional investors were chosen because of their largest AuM. Therefore, each sample represents the largest financial corporation by country and by sector. Each financial corporation tend to have a high investment volume hence have more willingness to invest than smaller financial corporations.

According to SWIF (2019a) the definition of endowment funds includes universities and church commissions. Therefore, the focus for endowments lies on these two sectors and includes no sampling for foundations. However, investments of the endowment funds in France, the Netherlands
and Switzerland are not as common as in the UK and Germany. The investment volume in France, the Netherlands and Switzerland are either not reported or were less than € 1 million.

The data used for the institutional investors is extracted from sustainability reports or annual reports. Some selected reports, especially for the commercial banks and insurance companies, are only provided based on consolidated figures hence were not presented for the European market or by country. Hence, the author had to apply percentage volumes assigned to Europe (within the reports) to come to an absolute total figure for the investments. Investment volumes of SRI and Green Investment are only provided on a global basis. However, each report shows the market share for each country. This was then taken to multiply with the amount of SRI and Green Investments by country. It was assumed that this market share is the same for 2018 and 2016. That is why the figures in Appendix B-1 represent an approximation of the investment volume. In some reports, Green Investment have been aggregated within the SRI, for example for the UK and Switzerland samples, hence, for 2016, no segregation of these amounts is available, and it is assumed that the Green Investment volume has been zero.

Some reports are reported in British Pound (GBP) or USD rather than in EUR. However, to compare the data it is needed to have the same currency. Therefore, GBP and USD were converted to EUR by calculating with the currency year-end closing rates from 2016 and 2018. Hence, the effect of foreign exchange fluctuations during the year is not eliminated. This could lead to different amount of investments volumes.

The analysis method for the institutional investors is a content analysis. Content analysis screens the text. If the data according to SRI, Green Investments and ESG was not mentioned in the report no further steps are taken to evaluate if the information is available in other reports.

Moreover, the scoring for the results of the ESG aspect in the content analysis depends on the estimation of the author and how the institutional investors prepare the sustainability reports.

Furthermore, the content analysis cannot verify behavioural and psychographic segmentation. Both segments have to be evaluated by questionnaires or observations during the year. Therefore, this research will not evaluate behavioural and psychographic segments.
4 Results and Discussion

The purpose of this Chapter is to show the conclusions from the empirical studies and to analyse the results. First, the primary results from the retail investors, institutional investors and the issuer will be presented. Secondly, the results are interpreted, and conclusions are drawn. Lastly, the results will be discussed.

4.1 Primary Results

The first analysis will be of the retail investors. Twelve interviewees took part in the structured interviews (as can be seen in Table 4) which were conducted during the 18\textsuperscript{th} of November and 4\textsuperscript{th} of December in 2019. Due to organisational issues, 4 interviews with the participants in the UK were conducted by telephone. The 4 interviews in Germany and 4 interviews in the Netherlands were performed face-to-face.

The analysis of the sustainability reports for the institutional investors is done for 20 companies. This includes 5 endowment funds, 5 commercial banks, 5 pension funds and 5 insurance companies. For each company the sustainability report was screened.

The evaluation of the one interview was performed face-to-face on the 21\textsuperscript{st} of December 2019.

4.1.1 Retail Investors

Answering Research Question 1 (When you decide to make an investment do you only invest to maximize your profit or do you also focus on sustainability?), the first analysis evaluates the percentage of traditional investors, who focus only on profit, compared to sustainable investors, who focused only on sustainable investment or sustainable and profit investments.

<table>
<thead>
<tr>
<th>Answer</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Only Profit</td>
<td>7</td>
<td>58</td>
</tr>
<tr>
<td>b) Only Sustainability</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>c) Profit and Sustainable Goals</td>
<td>5</td>
<td>42</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>100</td>
</tr>
</tbody>
</table>

The finding of this study shows that the percentage of traditional investors is higher than sustainable investors. From the twelve participants, seven interviewees said that they are only interested in profit, when they make an investment decision. However, five interviewees said that they consider an investment with the focus on profit and sustainability. No participant is just focussing on sustainability. It can be stated that approximately 58% of private investors do not invest in sustainability and 42% make an active sustainability investment decision.

Out of the five sustainable investors, three of them were from the Netherlands and two from Germany. The participants from the UK were just focused on profit. Analysing Question 1 by the geographic segmentation two participants were from Group II (working females), two from Group III (retired males) and one from Group IV (retired females). In total woman dominate the private investor market, especially by the younger women. Compared to females, retired males are more considerate of the sustainability component in investments than the younger generation.
The purpose of the Interview Question 2 (When you decide to invest in sustainability which factors are important for you?) was to ask the interviewees which ESG aspect is the most important aspect to answer Research Question 2. First, the question was constructed only to those interviewees who are identified as sustainable investors. However, as seen in Table 12, during the interview also the participants who were initially only focused on profit, mentioned that if they had a choice they would invest as follows:

Table 12. Evaluation of ESG Factors

<table>
<thead>
<tr>
<th>Answer</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Environmental</td>
<td>10</td>
<td>83.0</td>
</tr>
<tr>
<td>b) Social</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>c) Governance</td>
<td>1</td>
<td>8.5</td>
</tr>
<tr>
<td>d) None of the above</td>
<td>1</td>
<td>8.5</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>100.0</td>
</tr>
</tbody>
</table>

In total 10 participants mentioned that the environmental aspect is the most important one. This represents 83% of participants. Only one participant (number 1) from the younger males mentioned that nothing from the ESG aspects is important for him. Moreover, participant number 8, retried male from the Netherlands, mentioned that he would prefer to invest in companies which have clear and open structures. He said that the Board of Directors should present reliable persons and should be free of any reputational or conflict of interest like concerns. Furthermore, he mentioned that this is mainly a result of previous bad experience after the financial crisis in 2008. He was the only participant who was focused on governance aspects.

Question 3 and 4 (How much money have you invested in sustainable equity or debt securities in 2012 and 2018?) evaluate the growth rate for SRI and Green Investments and show which segment has the most potential development. Therefore, Research Question 3 and 4 will be answered.

Figure 8 express the results evaluation of the scoring methodology by the counties Germany, the UK and the Netherlands for two time periods. The more money the participants invested, the higher the score will be.

Figure 8. Evaluation Market Segments and Growth by Country

In a geographic view the Netherlands was the country with highest growth in investment capacity. The Netherlands invested in 2018 more in sustainability than in 2012. Therefore, the Netherlands reached a scoring of 9 points in 2018 and 6 points in 2012. As seen in Appendix A, three interviewees out of four invested in both periods in sustainable assets and had the largest investment volume in comparison to the other countries.
Germany is the second largest country. Out of four participants two have invested in sustainable assets. However, the participants invested the same amount in 2012 and 2018 and reached an unchanged score in both years of 6 point. Participant number 7 (Christian B.) mentioned that he did not change his investment volume over the last years because of the Brexit situation. He is not actually sure how this could influence the investment market. Furthermore, he sees a risk in the trade conflict between USA and China as well as USA and Europe. All these political conflicts and unknown developments make it difficult to make any kind of investment commitment for a longer-term period. That is why the investments are being held back until the investment market becomes more stable.

The participants from the United Kingdom have not invested in sustainable assets.

Next to the analysis by country, the analyses by demographic segmentation are presented in Figure 9.

**Figure 9. Demographic Evaluation of Market Segments and Growth**

In a demographic view Group I, working male, have not invested in 2012 and also not in 2018, in sustainable assets. Therefore, there is no development in these segment. Group II, working women, two out of three have invested in sustainable assets in 2012 between € 0 to € 1,000. Participant number 6, who have not invested in sustainability, mentioned that she would like to invest in sustainability but has not get material and meaningful advice from her bank. She said that she was not sure if the products of the bank stand for sustainability. Both other women invested in sustainability. One woman invested the same amount in both years and the other women invested more in 2018 than in 2016. That is why the segment of Group II has reached a score of 2 in 2012 and a score of 3 in 2018 representing an increase.

Group III, representing retired males, have more investment volume available than Group I and II. Therefore, Group III reached a score of 10 point in 2018. Retired males are the leading group in both years. Participant number 9 has not invested in sustainable assets. In 2012, one participant invested between € 10,001 to € 20,000 and the other more than € 10,001 to € 20,000. In comparison to 2018, both persons said that they invested more than in 2012. Therefore, Group III has also demonstrated an increasing development.

Group IV, retired females, is next to Group I the group with fewer investments in sustainable assets. Two out of three have not invested in SRI and Green Investments in 2012 and 2018. However, the other participant invested more in 2012 than 2018.
### 4.1.2 Institutional Investors

In general, total asset invested of the selected companies in 2018 was about € 4.360 bn (2016: € 4.396 bn) set out in Appendix B-1. As seen from these figures the overall investment volume decreases less than 1%. Total SRI in 2018 was about € 217 bn (2016: € 121 bn) and the total Green Investments in 2018 was € 17.3 bn (2016: € 4.2 bn).

The results for Research Question 1 (*What is the market share of Sustainable Investments compared to traditional investments?*) are shown in Figure 10. It demonstrates the proportion traditional investments, investments without integrating ESG aspects, and the proportion of SRI, investments including ESG aspects.

![Figure 10. Proportion of Total AuM to SRI](image)

As seen from Figure 10 the proportion of SRI to traditional investments in 2018 was about 5% in relationship to non-sustainable investments of 95%. In 2016, traditional investments reached a proportion of 97%. In contrast in 2016, SRI reached a proportion of 3%. These figures make clear that there is an overall growth rate of 2% for sustainable assets. However, the proportion of SRI is only a small percentage.

The detailed analysis for Research Question 2 (*What is the most important aspect for Sustainable Investors Environmental, Social or Governance?*) is shown in Appendix B-2 and Appendix B-3. The first evaluation, shown in Table 13, is an overview of the five main countries the UK, Germany, the Netherlands, Switzerland and France. For each country the highest score of the environmental (EN), social (SO) and governance (GO) aspects was calculated. The highest score reachable for each aspect was a score of 5 points.

<table>
<thead>
<tr>
<th>Country</th>
<th>EN</th>
<th>SO</th>
<th>GO</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>1.9</td>
<td>3.1</td>
<td>2.4</td>
<td>2.4</td>
</tr>
<tr>
<td>Netherland</td>
<td>2.2</td>
<td>2.3</td>
<td>2.1</td>
<td>2.2</td>
</tr>
<tr>
<td>Switzerland</td>
<td>2.3</td>
<td>3.0</td>
<td>2.1</td>
<td>2.5</td>
</tr>
<tr>
<td>France</td>
<td>2.0</td>
<td>2.6</td>
<td>2.4</td>
<td>2.3</td>
</tr>
<tr>
<td>Germany</td>
<td>1.7</td>
<td>2.8</td>
<td>2.5</td>
<td>2.2</td>
</tr>
<tr>
<td>Total</td>
<td>2.0</td>
<td>2.7</td>
<td>2.3</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Authors own calculation (Appendix B)*

The findings of the study, illustrated by Table 13, are that the social aspect is the most important ESG factor for institutional investors. The evaluation of each sustainability report conducted that
the social aspect reached a score of 2.7. The criteria within the social aspects are shown in detail in Appendix B-2/3. Criteria such as health and safety in a work environment for employees, diversity of the workforce and employees are supported for trainings, are the most valuable aspects for institutional investors.

The second most important ESG aspect is the governance aspect. The governance aspects reached a score of 2.3 points. Criteria such as the visions and strategies of a corporation are openly reported and board structures having a clearly articulated and integrated women quota are the most important aspects for institutional investors.

The environmental aspect reaches the lowest score of 2.3 points. However, environmental aspects include important criteria, for instance investments in renewable energy like wind, water and solar, waste prevention and reduction, reducing CO₂ emission by reducing air emission, or investing in energy efficient buildings.

Furthermore, seen from Table 13, the total score of ESG aspects analysed by country is almost the same for each country. Switzerland has the highest score with 2.5 points and has the main focus on social aspects. Moreover, Switzerland has the highest value of environmental aspects with 2.3 points but also is one of the countries with not so pronounced corporate governance focus.

The next country with the second highest score is the UK and has only 0.1 points less than Switzerland. The UK has, as like Switzerland, the main focus on social aspects and reached the highest value in social issues compared to the other countries. France had a total score value of 2.3 and reached therefore the third largest value.

Germany and the Netherlands share the last position with 2.2 points. Germany has the lowest value compared to the other countries according to environmental aspects and reached a value of 1.7. The Netherlands is the country with the most balanced score for environmental, social and governance issues.

Analysing the ESG by business sector there is more variation in the total sums for each sector than the analysis by country. Analysing the ESG evaluation by the four sectors, endowment funds, insurance companies, pension funds and commercial banks, the results are subjected to greater fluctuation than the results of Table 13 by country.

The highest score was reached by the insurance companies with 3.0 points and the lowest score was reached by endowment funds with 1.3 points.

**Table 14. Evaluation of ESG Issues by Sector**

<table>
<thead>
<tr>
<th>Sector</th>
<th>EN</th>
<th>SO</th>
<th>GO</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endowment Fund</td>
<td>0.8</td>
<td>1.8</td>
<td>1.6</td>
<td>1.3</td>
</tr>
<tr>
<td>Commercial Bank</td>
<td>2.5</td>
<td>3.4</td>
<td>3.0</td>
<td>2.8</td>
</tr>
<tr>
<td>Pension Fund</td>
<td>2.0</td>
<td>2.4</td>
<td>2.2</td>
<td>2.1</td>
</tr>
<tr>
<td>Insurance Company</td>
<td>2.9</td>
<td>3.4</td>
<td>2.6</td>
<td>3.0</td>
</tr>
<tr>
<td>Total</td>
<td>2.0</td>
<td>2.7</td>
<td>2.3</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Authors own calculation (Appendix B)*
Demonstrated in Table 14 the highest ESG score was reached by insurance companies with 3.0 points. The main focus of insurance companies lies in the social aspect and reached a score of 3.4. The second largest focus within the insurance companies was the environmental aspects with a value of 2.9 which is the highest value of environmental issues.

The second largest score was reached by commercial bank with a score of 2.8 points. Next to the social aspects the corporate governance issues have a high priority and reached a value of 3 points. The third largest score was reached by pension fund with 2.1 points. The score for the ESG issues is balanced within this sector.

The lowest score was calculated for the endowment funds and obtain a score of 1.3. Endowment funds have the lowest interest in environmental issues because they reached only 0.8 points and reached the highest score in the social aspect with 1.8 points. However, the last-mentioned score has the lowest value of the whole table.

The first analysis for Research Question 3 (Which market segments have the most potential development for a) Socially Responsible Investments? and b) Green Investments?) is the development for SRI by country (geographic segment). Analysing the five countries Germany, the UK, Switzerland, the Netherlands and France the results for the market share for SRI in 2016 and 2018 represented as follows:

**Figure 11. Market Share of SRI by Country**

<table>
<thead>
<tr>
<th>Country</th>
<th>2018 Market Share</th>
<th>2016 Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switzerland</td>
<td>33%</td>
<td>34%</td>
</tr>
<tr>
<td>France</td>
<td>14%</td>
<td>13%</td>
</tr>
<tr>
<td>Germany</td>
<td>18%</td>
<td>8%</td>
</tr>
<tr>
<td>UK</td>
<td>7%</td>
<td>7%</td>
</tr>
</tbody>
</table>

In 2018, Switzerland had the largest investment volume of SRI and a total market share of 33%. In comparison to 2016, the market share of Switzerland decreased by 1%. In 2018, the second largest country was the Netherlands. In 2016, the Netherlands was the market leader for SRI, however the Netherlands lost over 2016 10%. Germany, with a market share of 18% in 2018, was the third largest country. Further, in comparison to 2016, Germany increased by 10%.

France and the UK had the lowest market share in 2018. France reached a market share of 14% in 2018 and I almost stable to 2016 with 13%. The UK reached 7% in both years.

After analysing the geographic segments for SRI, the next step is to analyse the demographic segments. The demographic segmentation is divided into the four major business sectors: endowment funds, commercial banks, pension funds and insurance companies.

The market shares for the four business sectors for SRI are represented in Figure 12. In comparison to the proportion of the market share by country, shown in Figure 11, one group is clearly dominating the market.
In 2018 and 2016, commercial banks had the largest investment volume of SRI. In 2018, commercial banks had more than the half of the market share with 53%. In 2016, the market share of the commercial banks was 45%.

**Figure 12. Market Share of SRI by Sector**

In 2018, second largest business sector were pension funds and achieved a market share of 28%. In 2016, pension funds reached a market share of 35%. Insurance companies were the third largest sector with a market share of 15% in 2018 and gain in comparison to 2016 2%. The smallest sector was endowment funds with a market share of 4% in 2018.

The second analysis for Research Question 3 is development for Green Investments country. The Green Investment market is smaller than the SRI. In 2018, € 17 bn and in 2016, € 4.2 bn were invested in Green Bonds. The following pie chart shows the market share by country for Green Investments in 2018 and 2016.

**Figure 13. Market Share of Green Investments by Country**

As demonstrated in Figure 13, the dominating countries for Green Investments are the Netherlands, Germany and France. In 2018, the Netherlands had the largest investment capacity of Green Investments. The Netherlands reached a total market share of 40%. In comparison to 2016, the market shares of the Netherlands increased by 7%. The second largest country in 2018 was Germany and had just 3% less market share than the Netherlands. In 2016, Germany was the market leader of Green Investments, however Germany lost 8% over 2016. France, with a market share of 19% in 2018, lost three percent of the market share from 2016. The UK and Switzerland have not invested in Green Bonds in 2016. However, in 2018 both countries invested in Green Bonds and reached a market share of 2%.
After analysing the Green Investment market by country, the next analysis is for the Green Investment market by business sector. As seen in Figure 14, the proportion of Green Investments by business sector is almost the same proportion like for SRI by business sector shown in Figure 12.

Figure 14. Market Share of Green Investments by Sector

Like the SRI market commercial banks leading the market. Commercial banks had the largest market share in 2018 by 48% and lost about 5% over 2016. Second largest market share was hold by pension funds with 32%. In comparison to 2016, pension funds lost 1%. Insurance companies, third largest group, gain about 6% to 2018 and reached a market share of 20%. Endowment funds did not invest in Green Bonds.

The analysis for Research Question 4 (What is the expected market growth within Europe in 2020 for a) Socially Responsible Investments? and b) Green Investments?) is to estimate the growth rate for SRI and Green Investments by country (geographic segment) and by business sector (demographic segment). The first analysis, shown in Figure 15, is the analysis for SRI by country. On the one hand it demonstrates the overall investment capacity in 2016 in comparison to 2018. Further, it shows the compound annual growth rate (CAGR) per years for the five countries.

It can be stated that every country invested more in SRI than two years ago observing the effect that the overall investment volume decreased from 2016 to 2018. All amounts mentioned in Figure 15 are shown the investment volume in billions of euros.

Figure 15. Investment Volume and CAGR of SRI by Country

<table>
<thead>
<tr>
<th>Country</th>
<th>2016</th>
<th>2018</th>
<th>CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>9.0</td>
<td>14.7</td>
<td>+28%</td>
</tr>
<tr>
<td>France</td>
<td>16.2</td>
<td>29.7</td>
<td>+35%</td>
</tr>
<tr>
<td>Germany</td>
<td>10.1</td>
<td>38.3</td>
<td>+95%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>12.7</td>
<td>45.7</td>
<td>+16%</td>
</tr>
<tr>
<td>Switzerland</td>
<td>40.7</td>
<td>72.8</td>
<td>+34%</td>
</tr>
</tbody>
</table>

Demonstrated in Figure 15, the major CAGR in Europe was can be observed from Germany. The country almost quadrupled the size of investments within two years. In 2016, Germany invested €10.1 bn and within two years about €38 bn.

The second largest growth rate per years can be observed from France (CAGR: 35%). In 2018, France invested €29.7 bn and €16.2 bn in 2016. The third largest increase comes from Switzerland
with 34% growth rate per year and the largest investment volume of € 72.8 bn in 2018 (2016: € 40.7 bn). The UK was the fourth largest country with a CAGR of 28% and the Netherlands had the lowest growth rate per year of 16%.

Shown in Figure 16, the next analysis is the demographic segmentation for the four business sectors. The figure demonstrates the investment amounts and the average growth rates per year in 2018 and 2016. The overall conclusion of Figure 16 is that every business sector invested more in SRI in 2018 than two years ago in 2016.

The amounts mentioned in Figure 16 are shown in billion euros.

**Figure 16. Investment Volume and CAGR of SRI by Sector**

<table>
<thead>
<tr>
<th>Sector</th>
<th>2016</th>
<th>2018</th>
<th>CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endowment Fund</td>
<td>9</td>
<td>9.4</td>
<td>+2%</td>
</tr>
<tr>
<td>Insurance</td>
<td>15.7</td>
<td>32.6</td>
<td>+44%</td>
</tr>
<tr>
<td>Pension Fund</td>
<td>42.7</td>
<td>60.3</td>
<td>+19%</td>
</tr>
<tr>
<td>Commercial Bank</td>
<td>54.3</td>
<td>115.1</td>
<td>+46%</td>
</tr>
</tbody>
</table>

Demonstrated in Figure 16, the major CAGR in Europe can be observed from commercial banks which almost doubled the size of their investments over 2016-2018. Commercial banks invested € 54.3 bn in 2016 and after two years about € 115.1 bn.

The second largest CAGR can be observed from insurance companies with a growth of 44%. Insurance companies invested € 32.6 bn in 2018 and € 15.7 bn in 2016. The third largest increase comes from pension funds with 19% growth rate per year and an investment volume of € 60.3 bn in 2018 (2016: € 42.7 bn). Endowment funds exhibited the lowest growth rate per year of 2%.

After analysing each country and each business sector the last analysis draws conclusion for whole Europe. In 2018, the total SRI capacity was € 217 bn. In 2016, € 121 bn were invested in SRI. Therefore, the average CAGR for Europe in terms of total SRI is estimated as follows:

\[
\text{CAGR} = \left( \frac{217}{121} \right)^{\frac{1}{2}} - 1 \times 100 = 34 \%
\]

The estimated growth rate for Europe for SRI will be 34%, based on historical growth rates.

The second analysis for Research Question 4 is the focus on Green Investments. Figure 17 illustrates the investment amount in 2016 in comparison to 2018. Furthermore, it shows the growth rate for the five countries. It can be stated that every country invested more in sustainability than two years ago. The samples of the UK and Switzerland show that the countries have not invested in Green Bonds in 2016. Therefore, there is no CAGR calculated.
Demonstrated in Figure 17, the major CAGR in Europe can be observed from the Netherlands with 122%. The Netherlands invested €1.4 bn in 2016 and two years later about €6.9 bn in Green Investments. The second largest CAGR can be observed from France with a growth 94% per year. France invested €3.4 bn in 2018 and €0.9 bn in 2016. The third largest increase comes from Germany with 83% growth rate per year and an investment volume of €6.4 bn in 2018. The UK and Switzerland invested €0.3 bn in 2018.

Figure 18 shows the analysis for business sectors of Green Investments:

Demonstrated in Figure 18, the major growth rate within one year was reached from insurance companies with 141%. Insurance companies invested €0.6 bn in 2016 and two years later €3.5 bn in Green Investments. The second largest CAGR was noticed from pension funds with 98% per year. Pension funds invested €5.5 bn in 2018 and €1.4 bn in 2016. The lowest growth rate was performed by commercial banks with 94%. In 2018, pension commercial banks invested €8.3 bn.

After analysing each country and each business sector the last analysis draws conclusion for whole Europe. In 2018, the total Green Investment capacity was €17.4 bn. In 2016, €4.2 bn were invested in Green Bonds. Therefore, the average CAGR for Europe in terms of total Green Investments is estimated as follows:
\[
\text{CAGR} = \left( \frac{17.4}{4.2} \right)^{\frac{1}{3}} - 1 \times 100 = 103% \quad (4)
\]

The estimated growth rate for Europe for Green Investments will be 103%, based on historical growth rates.

### 4.2 Interpretation

The European market for SRI and Green Investments shows an increasing development from 2016 to 2018. Therefore, it will be expected that the development to the year 2020 continues to be positive. According to the results, the estimated SRI Investments will grow in Europe about 34%. The estimated growth rate for Green Investments was approximately 103%. Both results are in line with the calculations of the European research institute EUROSIF. The institute estimated an average market growth rate for SRI about 22% and Green Investments about 130% (referring to Chapter 2.3). The investment capacity of SRI is still far larger than for pure Green Investments. The results from this study also show that the Green Investment market is growing quicker than SRI.

#### 4.2.1 Private Investors

The current development for the private investors and expected growth are also increasing. Almost 42% of the private investors mentioned in 2019 that they invest in sustainable assets. According to EUROSIF (2018), retail investor in 2018 had a market share of 30%. The results show that there is an increasing demand by approximately 10% of sustainable assets. Private persons have an increasing interest in sustainable investments and are willing to invest.

Especially the segments of working women and retired males are more willing to invest in sustainable assets than working females and retriwed women. One reason that retriwed males invested more than retriwed women lies in the fact that most of these persons are married. For example, interviewee number 7 (Christian B.) and 10 (Marianne B.) are a married couple. Marianne B. has not invested within the last years because the investment decisions were made by her husband.

The result that working women invest more in sustainability than working males seems to be related to the fact that the women getting more into the business world and become increasingly aware of sustainable issues (Papastathopoulou, 2015). During the interview it was noticed that the working women are interested in environmental issues and would like to take more responsibility.

Further, one working woman, participant number 6 (Stephania P. - Teacher) who has not invested in sustainability assets, wanted to get more advice from her bank. She mentioned that she was not feeling adequately advised on the sustainable investment options available to her and catered to her individual financial situation and was not sure if the funds really support sustainability. Stephania P. was the only participant who had no financial background. This example makes clear that bank advisers should make a difference between persons with financial background and those who don’t have such background. For the latter, bank advisers should focus on ensuring more transparency of their product so that investors feel not misinformed or feel like there is a lack of understanding and purpose of this product. If people feel well advised they would invest more in sustainable assets.
In addition, the private investor geographic segment is led by the Netherlands. This may be a result of the private sector tax saving system. The Netherlands was the first county within Europe which, in 1995, implemented a tax saving regulation. If investors invest in sustainable assets the capital, a lower tax rate is applied to the capital gain of these assets. Especially for people who have larger investments amounts and higher gains, the tax savings can thus be substantial (NL Agency, 2010).

The most important ESG aspect for private investors are environmental issues. Moreover, participants who have not invested over the last years mentioned as well that they would like to invest more to address environmental issues. A target product of an issuer should cover environmental funds. Private investors will invest more in sustainability if the selected asset supports environmental aspects.

4.2.2 Institutional Investors

Almost every institutional investor (apart from three endowments) invested in either SRI or Green Investments. The Netherlands has the highest investment volume and growth rate per year for Green Investments. Most investments of the Netherlands were driven by pension funds. Stichting Pensioenfonds ABP invested € 5.5 bn in Green Bonds in 2018. In comparison to the total amount invested in Green Bonds (total amount of samples: € 17.3 bn), Stichting Pensioenfonds ABP covers about 32% of the Green Investment market.

The development of the Netherlands and its pension funds seems to be a result of the regulatory background. In 2008, the government implemented the Pension Fund Act which forced every pension fund to publish disclosure details of the sustainable investment strategy. This regulation motivates pension funds to invest in sustainability, publish the results for stakeholders and show the interest in sustainability for reputational reasons. Further, the Netherlands is characterized as having a well-developed pension fund market and thus, as a result, has a high investment capacity (EUROSIF, 2018).

However, not only the Netherlands has a strong pension fund industry. In general, total assets invested from pension funds in 2018 were € 655 bn. Out of that € 60.3 bn was invested in SRI. Therefore, it can be stated that pension funds invested 9% of their total assets in SRI. In comparison to the answer to Research Question 1, the proportion of traditional investments to sustainable investments, pension fund lies over the average of 5%. The development of pension funds in general shows a dominating market for Green Investments and SRI. Next to the Netherlands, the UK and France implemented regulations for pension fund to publicly disclose their investments decision. It seems that the implementation of regulations increased the share of investments in sustainability.

Switzerland has the largest investment amounts in 2018 and 2016 in SRI. In general, Switzerland counts as one of the countries with a large investment capacity and therefore, is leading the market of SRI. The largest investments are provided by commercial banks, such as UBS Group AG. In 2018, UBS Group AG total assets invested in Europe was € 687 bn. Compared to total assets investments (total amount of samples: € 4,359.6 bn) UBS Group AG covers 16% of the market. Further, commercial banks are leading the market. In 2018, commercial banks invested € 115.1 bn in SRI. In comparison to the total sum of SRI investments (samples: € 217.4 bn), commercial banks cover 53% of the market. However, this is resulted due to the fact that commercial banks have a high investment volume. Commercial banks have invested € 2,475 bn in traditional investments. Compared to the total amount of samples € 4,359.6 bn commercial banks have also a market
share of 57%. The more investment capacity provided by countries or industry sectors the more
the institutional investors invest the money in SRI or Green Investments.

Institutional investors, different to private investors, are more concerned about social aspects. For
their investment decision it is important to invest in corporations which take care of the work
environment of employees and the community. For instance, Deutsche Bank AG stated that they
would like to invest in corporations that care for their employees because the success of a corpo-
ration depends on each employee (and their well-being). Further, Deutsche Bank AG stated that
supporting the community is important and that they would like to show their social engagement
(Deutsche Bank, 2019).

In the last years companies have increasingly been discredited because of wrong behaviour, such
as the Danske Bank in 2018. Danske Bank was heavily criticised for its corporate governance
failures. The corporate governance aspect is the newest one of the ESG aspects. Environmental
and social issues are a topic that has affected economic systems over the last years. The awareness
of corporate governance issues will increase over the next years.

In general, external pressure from institutions, such as the Global Reporting Initiative, the Task
Force on Climate-Related Financial Disclosures, the Network for Greening the Financial System
and the Technical Expert Group of the European Commission, set incentives to invest in sustain-
ability and publish the investments in sustainability reports.

4.2.3 Issuer (Interview Appendix C)

One of the main missions of the EBRD is to help economies to achieve the emission reductions
pledged at the 2015 United Nations climate conference. Under its Green Economy Transition
(GET) approach, EBRD promotes investment in energy efficiency and renewable energy, as well
as in water and materials efficiency and climate resilience. The GET approach is the Bank’s strat-
ey for helping countries where the EBRD works build low carbon and resilient economies. EBRD
will increase green financing to 40% of its annual business volume by 2020.

To date, the EBRD has signed € 30 bn in green investments, financed over 1600 green projects
and reduced over 100 m tonnes of carbon emissions each year. The bank has issued Green Bonds
in accordance with the GBP in more than 85 issuances and in an aggregate amount in excess of €
5 bn. The focus of the issuer is on Sustainable and Green Bonds. The latest issue was in mid of
September 2019 of $ 700 m climate resilience bond with a maturity of five years (EBRD, n.d.).

In terms of the share of SRI as percentage of total investment volume, EBRD has set itself an
ambitious target of 40%. For commercial banks or insurance companies in Europe, this percentage
is currently still below the EBRD target. EBRD is a green investment champion and has built its
track record and expertise in the field over many years. As an issuer they had to learn to identify
and track the results of SRI. EBRD has a clear mission, set by its European shareholders, to invest
in projects dedicated to this specific purpose. The bank’s shareholder base is hence more sensitive
to the ESG aspects than it would be the case for commercial banks.

When it comes to the evaluation and investor preference for any of the three ESG standards, ICMA
with its GBP and SBP set standards in the definition of these aspects, however, they do not tell
investors how to measure them. Investors and issuers are much more used to measuring green
performance criteria than social ones. For example, when EBRD invests in hospitals, these would be classified as social infrastructure investments. The question remaining open at this stage of market development is how this impact is being measured (in terms of its non-financial return). EBRD has come up with a methodology that would identify the number of additional beds provided or the number of underserved population segments reached by building this hospital, however, there is no commonly agreed set of criteria between the individual market participants.

In terms of the development potential of the individual countries analysed in this research, each of them is in the process of setting ambitious targets for the volume of SRI investments over the next years. This is further supported by the on-going work and ambitious plans set out by the European Commission in its “EU Green Deal”, trying to set investment volume targets that are meant to tackle climate change by 2050. Given the size and scale, EBRD would see Germany, the Netherlands and France leading in terms of investment volume but also in terms of political buy-in they create when it comes to setting European wide targets and levels.

4.3 Discussion

Private investors are more risk-averse in their investment decisions than institutional investors as they have a smaller investment capacity. Especially in times of heightened political risks, people are more cautious when it comes to investing their money. This holding back therefore makes it more difficult for the private investor market to grow.

For private and institutional investors, the proportion of SRI Investments increased, and every segment analysed in this research has an increasing development. However, according to EUROISIF (2018), almost half of the investment capacity of institutional investors is invested in SRI. The research in this research concluded that only 5% of AuM is invested in SRI. The investment capacity in comparison to traditional investments represents a small market share.

Especially for private investors, the environmental aspect is the most important one when it comes to making an investment decision. Environmental issues have been much discussion in the media lately. Greta Thunberg as a climate activist fighting against climate change or the effects of certain companies like Bayer AG with the Glyphosate scandal makes corporations reduce their exposure to investments which negatively affect the environment. Moreover, advertisement, especially in the food industry, mentioned green activities in the corporations are contributing to the fact that and everything is getting greener. All these aspects influence people to become aware of environmental issues.

Furthermore, the capture of environmental aspects is especially important in the Green Bond market because the bonds focus on only environmental issues. However, bond markets are not available to all private investors because they cannot meet the requirements of the investment volume.

The Dutch government was the first country in Europe which implemented a tax saving system. If private persons have invested in sustainable assets, they have to pay less tax on the capital gains. The implementation of regulations or set incentives, influence the people to invest in SRI.

When looking at the work of the European Commission and its on-going work on the EU Taxonomy, it is trying to define ESG criteria so that there will be a more wider and commonly agreed
on set of principles which could measure the performance of such investments. In the end, investors would like to receive financial and non-financial returns. If you cannot measure the non-financial impact, then these criteria will lack importance. This can be explained by the fact that issuers who wish to issue benchmark size bonds (i.e. at a minimum of € 500 m per issuance) need to add social assets to their portfolio in order to reach this critical size. The main impediment for issuers to issue Green or Sustainability Bonds is that they do not have a critical mass of assets financed (or a pipeline of assets to be financed) in order to meet the demands of their investors or shareholders. Hence, social and governance assets will play an important role be going forward and a unification of typology as well as of impact measurement will serve as catalyst to boost further investments in this space. Equally, investor preference for any of these 3 aspects will be informed by availability of the assets or funds offered by banks or insurance companies.

Each of the European countries analysed in this research is in the process of setting ambitious targets for the volume of SRI investments over the next years. This is further supported by the ongoing work and ambitious plans set out by the European Commission in what they call the “EU Green Deal”. Each of the countries analysed in this research has their own specificities.

France was one of the first sovereigns to go to the market and to issue a Green Bond. This was a hugely ambitious mission, signalling the strong commitment to sustainability of France. Further, the “Paris Agreement” aims is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. The Paris Agreement entered into force in 2016, and 55 countries signed up to it. France was one of the main drivers of this commitment, and hence the relevant business segments, banks and insurance companies are to date at the forefront of ESG investments. This is mainly linked to a strong government support and push to invest in these areas.

As for Germany, their banks (such as Deutsche Bank and Commerzbank) have suffered over the last years substantial losses to their balance sheets given pre financial crisis exposures and a series of bad decision making in their investment banking and equities divisions. As a result, these institutions had less capacity to focus on important SRI matters. However, given its stable rates and favourable economic environment, Germany’s mortgage market has been a great catalyst for mortgage banks to become more active in the SRI field by way of issuing Green mortgage covered bonds. Also, Germany’s insurance and reinsurance industry remains powerful, hence, insurers more and more look into potential financial losses stemming from climate risk exposure. They try to address this by re-shifting their portfolio to more climate resilient exposures and hence increase the SRI share of their investments quite considerably.

The Netherlands has comparably a much smaller economy in size, however, is not falling short of impact. ING Bank is an SRI champion, recognised worldwide for its strong ESG investment mandates that it also transposes to its local subsidiaries all around the world. EBRD, for example, has just worked with ING Poland to issue one of the first Green Bonds issued out of Poland (by a commercial bank).

The UK is a strong market, with major banks and insurance companies being located in the centre of London. Potential Brexit impacts aside, the sheer size of the market has the chance to be very impactful and to lead by example and influence economies around the world. The Bank of England
is tracking a leadership role in the NGFS, a cooperation of 50+ central banks worldwide which are looking into how to incorporate ESG criteria in the way they are supervising banks. As financial powerhouse, mobilising UK banks and insurance companies to make the shift to a greener economy will have far reaching consequences. It further shapes investor demand as well as almost every bank is in a position to offer ESG products to their client base, thereby educating investors about ESG options and increasing demand for these products.

While no regulatory action has been taken specifically to mandate banks to have a certain percentage of their investments into SRI investments, this may well form part of the future. An important consideration of the NGFS is how to incentivise banks to do more in this space. One of the current ideas is to allow for a capital relief or a “green supporting factor” for banks if they invest in more green assets. This will have a far-reaching impact on the market in Europe and beyond.

The Task Force for Climate Related Financial Disclosures (TCFD) is led by the UNEP-FI and focuses on preparing major banks and insurance companies to get ready to do scenario analysis of their portfolio and measure the high risk exposures they have to non-green investments and consequently measure the financial impact these exposures would have for the individual institution. Market participants have started to take these exposures seriously as they have realised that in a few years’ time the losses might be immense.

To illustrate this, the example of an insurance company insuring buildings in an environment which is exposed to a high risk of flooding is taken. One day, the insurer might, with the increased impact of climate change and the increased likelihood of flooding in this particular area, have to pay material insurance claims if more and more flooding occurs in this particular area. Hence, insurance companies are incentivised to only insure buildings that have been built with a particular flood protection or they would going forward have to charge higher premier as compensation for an expected higher pay-out of claims. This way the building developer is faced with two choices: paying higher premier or building a flood-resistant building. This example demonstrates the power of the financial sector to influence climate change adaptation behaviour on a large scale.

Hence, the European market can only develop in one way: forward. The quantification remains difficult, given the wide array of definitions of what is green and how it is measured. It has become clear though that the alternative (doing nothing and keep investing in non-green assets) may actually lead to financial losses in the medium term. Once this thinking has been institutionalised, business segments will automatically have to shift their business practices and increase ESG investment allocation as part of their total AuM. Equally from the investor demand side, while there is no notable pricing advantage (higher yield) from investing in something which is green, there might be a disadvantage from investing in something which is not green (realising losses from climate change affected investments). Once regulations are more clearly defined, there will be a more unified market, making quantification and performance assessment easier and hence allowing for a greater comparison of individual European member states efforts. As for now, we have to rely on the data published by individual institutions which so far has been encouraging and showing a trend in the right direction.
5 Conclusion

The overall research objective of this research has been investigated to analyse the SRI and Green Investment market, estimate the market growth and determine important segments. In order to achieve these goals, the 12 individual interviews, 20 sustainability reports and 1 expert interview served as data foundation. In general, it was observed that the market of SRI and Green Investment increased over the last years. This increasing development is caused by the implementing of regulations and the increased of awareness by retail and institutional investors alike. However, the investment volume of SRI and Green Investments and the focus on ESG aspects will have to be intensified if global targets to combat climate change will have to be met.

5.1 Synopsis

The main findings of the research discussed as follows:

- **Research Question 1: What is the market share of Sustainable Investments compared to traditional investments?**

  Traditional investments dominate the investment market with approximately 95%. Hence, the market share of sustainable investments in comparison to traditional investments represented on average 5% in 2018, based on data extracted from 20 samples (4 business segments in 5 geographies). While this figure seems low in comparison to traditional investments, it can be stated that most of the retail and institutional investors screened for this research do conduct active SRI decisions: in terms of numbers, 42% of all private investors interviewed invested in sustainable assets in 2019 while 100% of all institutional investors invested in SRI and Green Investments in 2018.

  The results gained in this research deviate from the results published to research institutes such as EUROSIF. The main difference can be explained by the fact that whiles the former is concentrating on actual investments made (by extracting historical data from the companies’ sustainability reports), the latter is largely based on manager interviews, where individual company representatives are commenting on the future SRI plans. The 5% allocation to SRI vs. traditional investments is drawn from a representative sample which focuses on actual allocations and not only based on management targets (which may or may not be achieved in any given year). Hence, the 5% is a more actual representative which may serve as future guidance. However, this has to be contrasted with the fact that the market is changing quite rapidly with growth rates in double- and triple-digit figures, which may cause a great shift in this percentage in the next year.

- **Research Question 2: What is the most important aspect for Sustainable Investors: Environmental, Social or Governance?**

  - Private investors focus on environmental aspects because they are getting more aware of the environmental risks the world is facing and are further influenced by the media. This can be further explained by the ease of access to information and the tangible outcomes that can be observed when investing in a green asset, such as wind farms or energy efficient buildings. These are assets which are more prevalent.
in the everyday life of private investors. News coverage of climate change and the effect on renewable energy production or resource efficiency considerations are much wider publicised and hence gather more traction. Also, it has to be noted that the impact measurement and allocation of these investments is easier to establish. This is further supported by the fact that EU regulations have largely focused on a green taxonomy (definition of what is green) while other ESG aspects will follow in the future.

- In the Sustainability reports screened, it becomes evident that the management of the financial institutions are increasingly focussing on social aspects such as the well-being and training of their workforce and the community affected by the actions of the companies at large. This is largely dominated by the fact that recent scandals have put corporations more in the spotlight to take their corporate social responsibility more seriously and ensure a good special reputation of the company. A lack thereof might have a direct impact on their share price and hence have financial consequences. Additionally, as mentioned in the expert interview, the lack of reliable data in this space leads to most institutional investors still focussing largely on allocating their money towards green investments as these are more regulated and standardised than the emerging market of social investments.

- Governance aspects are seemingly a relative new field compared to environmental and social aspects. What fails to be noted here is however the fact that core governance principles and regulations were an integral part of corporations over the last years. During the financial crises, board and management responsibilities were already clearly defined in the companies’ statutes, however, the problem lies with its implementation. These structures were often disregarded and a lack of sufficient control by regulatory bodies, accountability by market participants as well as conflicting incentive schemes for management, board members as well as employees led to large corporate governance failures (cumulated in the events surrounding the global financial crisis of 2008). Since this major backlash as well as connected consequences for managers and institutions, institutional market participants have become more sensitive and aware to these matters and consider the G an integral part in the ESG.

- **Research Question 3: Which market segment has the most potential development for SRI and Green Investments?**

From the analysis and interpretations of Chapter 4, the following can be concluded for the private investors with regards to their potential development of SRI and Green Investments:

- The Netherlands is the leading country of sustainable investments which is supported by the implementation of a tax saving system on capital gains for private persons. This is incentivising the investment in SRI and hence has historically the largest percentage of SRI investments. These regulations will serve well the future development as tax incentive schemes are set to have long term effects. The regulatory support of these measures will see retail investors being incentivised to do
even more SRI as it has a direct impact on their financial well-being. While the market size of the country is nearly not as large as the others, the Netherlands is certainly one of the leading SRI investors and issuers.

- Working females and retired males are the leading demographic segment focusing on SRI. Working females are largely driven by a personal buy-in into the importance of furthering the environmental development. It is shown that they are driven by an increased empathy for the cause and additionally, their percentage increase in the total workforce as a whole is further supporting this trend. Retired males as a percentage of the total are the largest investment group into SRI which can be explained by the fact that they have the proportionally largest disposable investment amounts.

- Working females (who do not benefit from a financial education or work in the financial sector) often feel that there is a lack of financial advice which makes it harder for them to pro-actively seek out SRI decisions. They are much more reliant on financial investment advisors to tailor bespoke products to their financial needs and situations. So, unless the financial intermediary offering such product has been particularly trained to target this demographic segment, little investment volume will be seen from those with a lack of financial education. This segment will, however, greatly benefit from marketing campaigns and be influenced by media coverage (Greta Thunberg).

- The demographic segment of retired males is closest following macroeconomic developments in politics and economics are seen to be increasingly insecure when it comes to making investment decisions. The expectation from any SRI would be to not only deliver the intended non-financial returns but also to create a financial gain, at least on par with the traditional investments. Heightened uncertainty surrounding Brexit and trading conflicts between the USA and China have led to a large part of this segment holding back their investments at large, in the hope for greater political stability. This is a trend that can not only be observed by private investors but also by institutional investors. Given the disposable investment volume available, this segment will return to make more proactive SRI decisions once there is a perceived notion of stability in the markets.

The analysis for institutional investors concludes as follows:

- Based on the sample analysed in this research, Switzerland the leader in terms of SRI volume as it has a large investment capacity in absolute terms. This is explained by the fact that Switzerland is home to some of the largest banks in the world and hence large investment flows are channelled through its banking system.

- The Netherlands is leading the Green Investment market driven by its very developed pension fund system and supporting legislation such as the Pension Fund Act of 2008, requiring pension funds to publish their investment allocations. This way they are being held accountable for targets set and, subsequently, met by investors and stakeholders of the society at large.
Commercial banks are leading in terms of investment volume in the SRI and Green Investment market. International reporting regulations, for example from the Global Reporting Initiative, set standards on how to invest in SRI or Green Investments. This demonstrates the importance of a wide range of regulations which captures all market players and assists banks in understanding the taxonomy and impact reporting requirements of the underlying investments made. The banking market is at the forefront of regulatory considerations as on the one hand, their systemic importance in a society and their ability to invest and on-lend retail funding and on the other hand, the heightened scrutiny they are exposed to from their various stakeholders. In particular after the financial crisis, regulatory bodies and policy makers started initiating change, on all three of the ESG aspects, for the banks to address (socio-)political challenges in a more responsible and meaningful way.

**Research Question 4: What is the expected market growth within Europe in 2020 for SRI and Green Investments?**

The findings of the study estimate a market growth for **institutional investors** in SRI of approximately 34% and for Green Investments of 103% based on historical figures obtained for 2016 and 2018. Green Investments increase faster than SRI. The author assumes that these historical growth rates are representative for the expected market growth over 2019-2020. In the absence of actual published figures for 2019 and given the rapid growth of the market, any more precise estimation would not be possible. These estimated growth figures are based on averages of the countries and the business segments and hence shall be seen as an absolute average, with individual countries expected to be outperforming this estimation. Equally, some others will not be able to reach this same level of growth is legislations and regulations and not furthering the investment volumes. In conclusion, this growth rates are seen as the minimum targeted for most sectors since, building up on the answer to Research Question 3, the growth figures are accelerating, and their pace is expected to increase over the next years. The following conclusions have been identified to support the above:

- Europe is a growing market for SRI and Green Investments. In fact, each country and business segment is growing in terms of their investment capacity in this field.
- From 2016 to 2018, Germany has by far been the fastest growing country in terms of SRI volume, increasing investments by 95% per year.
- Over the same period, the Netherlands grew fastest in terms of Green Investments with an increase in investment volume of 122% per year.
- Commercial banks and insurance companies were the fastest growing business segment in terms of SRI from 2016 to 2018 with insurance companies in particular growing fast in the Green Investment space.

In terms of private investor participation in SRI, it has been increasing from 30% in 2018 (as per EUROSIF) to 42%, based on the results of this research, which leads to on overall expected increase of 12% (in terms of share in total SRI). This equally demonstrates a strong growth on the retail investment side, albeit at a slower pace than for the institutional investors. This can be explained by the fact that retail investor education is still very much behind the knowledge building in the institutional space and further, retail investors are
more susceptible to economic volatilities which more easily leads to a withholding of investable income in times of uncertainty.

The findings of this research make it clear that countries, financial institutions or individuals have a certain awareness of environmental, social and governance issues and are willing to allocate their money to support these causes. Rules and regulations facilitate the SRI and Green Investment markets as they create an equal level playing field for all market participants and provide investors which more certainty. Governments play an important role in drafting and further in implementing regulations which incentivise market players to invest in SRI and Green Investments. Bank advisors equally play an important role as intermediary in the education of private investors to make informed investment decisions when it comes to sustainable products given the nascent nature of the SRI and Green Investments markets.

5.2 Research Limitations

The overall limitation of this research is that the definition of SRI and Green Investments are different for issuers, retail and institutional investors. Each individual group has own perceptions and preference what the terminology include or not include, given the lack of a commonly agreed taxonomy in Europe. Therefore, it is possible that for instance one investor group allocates their funds to SRI and another would allocate their funds to Green Investments, while both are funding the same underlying asset.

Furthermore, the research is based on the five main countries of Europe and does not consider developments in other European countries. For each segment, one representative example was selected to provide an overview. This means that the market coverage has been less exhaustive than the one applied by dedicated research companies. However, this research aims to provide insight into potential future development in the SRI field and is not aiming to provide an assessment of the entire market.

Moreover, the SRI and the Green Investment markets are driven by high fluctuation over different time periods. The years 2016 and 2018 have been selected as data points as these provide the most complete and meaningful information. Conclusions drawn from two distinctive years may however limit their applicability to longer time periods. A comparison over a longer time period is important to make long term predications for the future.

The selection of individual ESG criteria is very dependent on individual preferences. While the research focused on 17 key ESG aspects, there might be others which become important in the future, causing a shift in investor preferences which cannot be foreseen as of today.

5.3 Recommendations for Future Research

The results from the investment capacity of institutional investors differs in this research from the results published by EUROSIF. EUROSIF used the method of interviews to obtain results for the amount of SRI. This research used the method of a content analysis for institutional investors to gain results of the investment volume for SRI and Green Investments. The screening of sustainability reports shows the actual amounts invested by financial corporations and leads to a
different result than the one published by research institutions. On this basis, two recommendations for further research have been identified.

First, it would be interesting to screen sustainability reports of mid-size financial corporations. As this research analyses only the largest institutional investors it may lead to different results for mid-size institutional investors. The mid-market segment, in particular in Europe, plays an important role in addressing climate change and in closing the SRI investment gap.

Second, to obtain further expertise of the investment capacity of SRI and Green Investments the issuer side should be evaluated in accordance to that. This can be reached if the focus lies on the sold products of banks for private investors and institutional investors.

Finally, that the target segments for private investors may differentiate between persons with financial education and those with a non-financial background. This could potentially lead to further conclusions relevant to bank advisors how to best target the market and mobilise retail investors.

References


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Appendices

Appendix A. Evaluation of Interview With Retail Investors

**Question 1:** When you decide to make an investment do you only invest to maximize your profit or do you also focus on sustainability?

<table>
<thead>
<tr>
<th>Answer</th>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
<th>Group IV</th>
<th>Interviewee</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Only Profit</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>b) Only Sustainability</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>c) Profit and Sustainable Goals</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

**Question 2:** When you decide to invest in sustainability which factors are important for you?

<table>
<thead>
<tr>
<th>Answer</th>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
<th>Group IV</th>
<th>Interviewee</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Environmental</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>b) Social</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>c) Governance</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>d) None of the above</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

**Question 3:** How much money have you invested in sustainable equity or debt securities in 2012?

<table>
<thead>
<tr>
<th>Answer</th>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
<th>Group IV</th>
<th>Interviewee</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) None</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>b) 0 Euro to 1,000 Euro</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>c) 1,001 Euro to 5,000 Euro</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>d) 5,001 Euro to 10,000 Euro</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>e) 10,000 Euro to 20,000 Euro</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>f) More than 20,000 Euro</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

**Question 4:** How much money have you invested in sustainable equity or debt securities in 2018?

<table>
<thead>
<tr>
<th>Answer</th>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
<th>Group IV</th>
<th>Interviewee</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) None</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>b) 0 Euro to 1,000 Euro</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>c) 1,001 Euro to 5,000 Euro</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<td>x</td>
</tr>
<tr>
<td>d) 5,001 Euro to 10,000 Euro</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>e) 10,000 Euro to 20,000 Euro</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>f) More than 20,000 Euro</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>
Appendix B. Sustainability Report Data of Institutional Investors

B-1 SRI and Green Investments

<table>
<thead>
<tr>
<th>#</th>
<th>Sector</th>
<th>Country</th>
<th>€</th>
<th>%</th>
<th>2018</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>AuM</td>
<td>SRI</td>
</tr>
<tr>
<td>1</td>
<td>Endowment</td>
<td>UK</td>
<td>€*</td>
<td>100%</td>
<td>10.6</td>
<td>9.1</td>
</tr>
<tr>
<td>2</td>
<td>Endowment</td>
<td>Germany</td>
<td>€</td>
<td>100%</td>
<td>4</td>
<td>0.3</td>
</tr>
<tr>
<td>3</td>
<td>Fund</td>
<td>France</td>
<td>€</td>
<td>100%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>Fund</td>
<td>Netherlands</td>
<td>€</td>
<td>100%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>Fund</td>
<td>Switzerland</td>
<td>€</td>
<td>100%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>Commercial</td>
<td>Switzerland</td>
<td>€*</td>
<td>25%</td>
<td>687</td>
<td>69</td>
</tr>
<tr>
<td>7</td>
<td>Commercial</td>
<td>Germany</td>
<td>€*</td>
<td>30%</td>
<td>669</td>
<td>4.5</td>
</tr>
<tr>
<td>8</td>
<td>Bank</td>
<td>Netherlands</td>
<td>€</td>
<td>46%</td>
<td>408</td>
<td>2.9</td>
</tr>
<tr>
<td>9</td>
<td>Bank</td>
<td>Germany</td>
<td>€</td>
<td>58%</td>
<td>383</td>
<td>27</td>
</tr>
<tr>
<td>10</td>
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- **Sum of Netherland**: 17.3, 11.5, 8.5, 37.3, 2.2, 2.3, 2.1, 2.2
- **Sum of Switzerland**: 18.8, 14.8, 8.3, 41.8, 2.3, 3.0, 2.1, 2.5
- **Sum of France**: 16.0, 13.0, 9.8, 38.8, 2.0, 2.6, 2.4, 2.3
- **Sum of Germany**: 13.5, 14.0, 10.0, 37.5, 1.7, 2.8, 2.5, 2.2
- **Sum of Endowments**: 6.4, 8.8, 6.4, 21.6, 0.8, 1.8, 1.6, 1.3
- **Sum Commercial Bank**: 19.8, 16.8, 11.8, 48.4, 2.5, 3.4, 3.0, 2.8
- **Sum Pension Funds**: 15.6, 12.0, 8.6, 36.2, 2.0, 2.4, 2.2, 2.1
- **Sum Insurance Companies**: 22.8, 17.2, 10.2, 50.2, 2.9, 3.4, 2.6, 3.0

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DOI: 10.5038/9781732127579
B-5 Overview Sources Sustainability Reports

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<td>Sustainable and Responsible Investment 2018</td>
<td>(Stichting Pensioenfonds ABP, 2019)</td>
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<td>Universities superannuation scheme ltd</td>
<td>Reports and Accounts 2019</td>
<td>(Universities superannuation scheme ltd, 2019)</td>
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<td>ABB Group Sustainability Report 2018</td>
<td>(ABB Pensionskasse, 2019)</td>
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<td>Climate Report 2019</td>
<td>(AXA SA, 2019)</td>
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Appendix C. Expert Interview

Date/Time: 21 December 2019, 11.00am to 3.00pm
Type of Interview: Expert Interview
Interviewee: Britta Bochert, Associate Director, European Bank for Reconstruction and Development

What is your experience with regards to how many investments are allocated to SRI and Green Investments in comparison to non-sustainable investments in Europe?

To date, the EBRD has signed € 30 bn in green investments, financed over 1600 green projects and reduced over 100 m tonnes of carbon emissions each year. Our bank has issued Green Bonds in accordance with the GBP in more than 85 issuances and in an aggregate amount in excess of € 5 bn. Our target to invest in SRI investments into our region is at 40%. This target is set by our shareholders which are largely European. So basically 60% would is going to non-sustainable investments. I have to mention, however, that every investment which is not specifically labelled green or SRI, still has to comply with our general ESG criteria. These criteria are quite strict and would for example not allow any investment to be harmful to the local economy from an ESG standpoint. So, while these investments may not as actively contribute to Green House Gas emission savings as for example Green Bond issuances do, they still do have a minimum degree of ESG compliance. Hence, it is hard to even define green vs. non green investments. Often it is a matter of labelling, which is done by the issuer itself. What we do see is the continued emergence of Second Party Opinion (SPO) providers, which are mostly NGO-type organisations which assists issuers in the labelling their investments either green or non-green. They analyse in detail the Green Bond investment frameworks and this way give confidence to investors that indeed the assets they ultimately invest in are green. To answer your question more precisely, what we can see in the European space is that ESG investments are more and more in demand from retail and institutional investors. As a bank, you inform your investors of the different SRI investment options and the different products available, but then you are to a certain extend also depended on their willingness to allocate their funds in that particular way. Banks and insurance companies, and in fact the whole segment you are covering here in your research, have become creative in development specialised funds catering to those needs. I have mentioned that our bank’s target for SRI investments (as percentage of our total investment volume) has been set at 40% by 2020. In
reality, in 2018, we achieved 36% (which equalled just over €3 bn of investments) and in 2017 we achieved 43% (just over €4 bn). You see that this percentage has been fluctuating a lot as it is very dependent on the macro-economic environment in which we operate as well as depended on the supply of adequate green assets to invest in. I would assume that these targets are harder to reach for commercial banks or insurance companies who have gained less experience in this field. They would set their targets around 10-15%.

What do you think is the most important of the three ESG aspects for investors?

All of the 3 aspects are important, if you ask a development banker. We have been working for many years to define the performance requirements of all these 3 aspects. It is not only about defining what they mean for each type of investment, but it furthermore is very important to be able to track and measure the impact of these aspects. So for example, our shareholders would say that they wish us to achieve a certain amount of GHG emission savings over a certain year. Hence, for every investment we do, we hire technical consultants which model the expected GHG savings from this investment, which we then can report back to the board and also to the public more widely. If you think about the “S” aspect, this becomes more difficult. Hence, to answer your question, I see that green investments are still at the forefront from the issuer and investor perspective, for the reason that it’s is a more unified investment market. Having said that, the S and the G are gaining more and more importance and given their low (absolute) base, their growth figures actually exceed those of the Green Investments.

Do you know which country in Europe has the most potential for further developing SRI and Green Investments? How do you estimate the demands of institutional investors?

As part of the EBRD Green Economy Transition (GET) approach, we promote investment in energy efficiency and renewable energy, as well as in water and materials efficiency and climate resilience. The GET approach is the Bank’s strategy for helping countries where the EBRD works build low carbon and resilient economies. We have a set target by our shareholders to increase green financing to 40% of our annual business volume in 2020. The demand of our investors has only been increasing over the last years as more and more capitals recognise the need for incorporating climate change into investment policies.

In terms of the individual European countries, you can see the trend is increasing: they are all contributing to building the European architecture around tackling the global climate crisis in particular by setting European wide levels and standards on how much has to be invested in SRI Investments by 2050. The European Commission is developing an action plan in the context of the European so-called “Green Deal” where it is important to not only focus on the main (developed) European countries to achieve the political buy-in, but also on those emerging economies which are more vulnerable to climate risks than its more developed peers. Given the size and scale, I would see Germany and France leading in terms of investment volume but also in in terms of political traction they can create.

How do you think the European market will develop for SRI and Green Investments in 2020?

Yes I think there will be a very big development in the market going forward and there are certain initiatives we should pay closer attention to over the next years. In particular I think we should highlight the work of the Network for Greening the Financial System (NGFS) which is a cooperation of worldwide Central Banks to determine regulation for banks in this field, This way the regulator would establish rules for engagement when it comes to the percentages to be invested in SRI Investments. But also it would set regulatory incentives for the banks. It would harmonise the market in a way.

Another important development can be assessed by the work of the Task Force for Climate Related Financial Disclosures (TCFD) is led by the UNEP-FI. It focusses on preparing major banks and insurance companies to get ready to do scenario analysis of their portfolio and measure the high risk exposures they have to non-green investments and consequently measure the financial impact these exposures would have for the individual institution. If the banks start booking losses due to non SRI investments, it would automatically incentivise them and shift their investments much more to SRI Investments, hence developing the market further.