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Seeking Climate Justice in the Financial Sector

**Interpreting the fiduciary duty of Estonian pension funds based on their contribution to
reinforcing/tackling climate change**

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ABSTRACT

Climate change – considered as the most acute risk to our planet – is mostly fuelled by the operations of influential corporates who are financially supported by financial institutions, which have traditionally specialised on profit-maximisation and neglected climate risks in investment processes. However, considering economy's increasing financialisation and the growing science behind the financial materiality of climate risks, disregarding these risks potentially harms investment returns and the society more broadly. This suggests to financial institutions breaching fiduciary duty, their legal obligation to act in their clients' interest with prudence and competence. Therefore, investors globally are increasingly considering climate risks in investment processes, necessitating a more holistic fiduciary duty. In Estonia, however, the issue of investments' impacts on climate and vice versa has not been risen, implying uncertainty around which prudential standards are followed.

This study analyses the fiduciary duty of Estonian pension funds, based on how they invest in companies exacerbating climate change and address climate risks in investment processes. The study finds differences depending on where funds are managed or headquartered but argues that they systematically reinforce climate change in their portfolios. Suggesting thus to traditional fiduciary duty, which is plausibly encouraged by different economic, contextual, legislative, behavioural and political reasons.

Keywords: ethical finance, responsible finance, ESG integration, fiduciary duty, climate change, climate lobbying, climate risks, pension funds, financial institutions, Estonia

ABBREVIATIONS

AGM – Annual General Meeting

AUM – Assets Under Management

CO2 – Carbon dioxide

EPA - US Environmental Protection Agency's

ESG – Environmental, social and governance-related (e.g., factors, risks)

EU – European Union

GHG – Greenhouse gases

IPCC – Intergovernmental Panel on Climate Change

MtCO2e – Million tonnages of CO2 or CO2-equivalent emissions

OECD – The Organisation for Economic Co-operation and Development

SIF – Swedbank Investeerimisfondid AS (Swedbank Investment Funds)

TCFD – Task Force on Climate-related Financial Disclosures

UN – United Nations

UNGC – United Nations Global Compact

UNPRI – United Nations Principles for Responsible Investments

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1. INTRODUCTION

Climate change is by many considered as the most critical problem our planet is facing, given its adverse impacts across geographies and all fields of life, especially on those individuals and countries that are least responsible but bear the highest risks and costs (Stern, 2007; Fleurbaey, et al., 2014). Climate change is caused primarily by the increase in human-induced greenhouse gas emissions like carbon dioxide, methane and nitrous oxide (further: GHG emissions) (IPCC, 2014). These emissions result either directly or indirectly from the operations of industries such as energy, industrial, transportation and others, that often support their operations by using their economic and political influence to lower environmental regulations, which are critical to reducing GHG emissions (Schendler & Toffel, 2011; CDP, 2017).

A key determinant in tackling climate change is the financial sector, which systematically invests in and hence supports industries causing adverse climate impacts (FFGI, 2015; Kirsch, et al., 2018). While the neoclassic theory ingrained in the present-day economic system implies that the financial sector specialises on profits and overlooks climate-related *environmental, social and governance factors* (further: ESG factors), the growing body of knowledge proves these to have a *financially material* impact on investments' performance (Sullivan & Mackenzie, 2006; Stern, 2007; Woods, 2011; TCFD, 2017). Such ESG factors include pollution, resource efficiency, and climate change (environmental), human rights, health, safety and community relations (social), and corruption, transparency and corporate governance (governance) (European Commission, 2017; Inderst & Stewart, 2018).

Therefore, financial institutions neglecting financially material ESG factors in investment processes suggests that they are breaching **their legal fiduciary duty, generally defined as financial institutions' obligation to act in the sole interest of their clients with care, prudence and cautiousness** (Sandberg, 2011; Getzler, 2014; Sullivan, et al., 2015). The issue concerns especially long-term investments, because the materiality of climate risks increases in time, and public investments such as pension funds, which use citizens' capital for investments and therefore influence societal welfare more broadly (Coburn, et al., 2015; 2° Investing Initiative, 2017).

Intergovernmental organisations, governments and investors around the world have agreed on the urgency and are taking measures to support regulatory, operational and behavioural transitioning to low-GHG-emitting investment portfolios and economy (Blackrock, 2016; Sullivan & Fischer, 2017; European Commission, 2018; Matthews, 2018). Thus, necessitating a transformation of fiduciary duty from its traditional neoclassic form, which focuses solely on conventional financial factors, to a more holistic function, i.e., addressing also the financially material climate-related

ESG risks. To the author's best knowledge, however, research groups, NGOs, financial institutions, media and other stakeholders in Estonia have not publicly raised awareness of the impact of financial institutions' investments on the climate, and the risks that climate change poses on investments and asset owners. This raises uncertainty around whether the fiduciary duty adheres to traditional or more contemporary prudential standards.

Considering the previous, the central aim of this study is to examine how can Estonian pension funds' (as a societally critical subset of financial institutions) fiduciary duty be interpreted based on how they address climate risks in their portfolios. This is answered by analysing two sub-questions:

1. To what extent have Estonian pension funds, in January/February 2019, invested in companies that are significantly reinforcing climate change?
2. What policies and mechanisms do pension funds have in place to address climate-related ESG risks in their portfolios?

This study a) utilises secondary data to compile a sample of 36 influential companies reinforcing climate change, considering GHG emissions and policy influencing, b) analyses the monthly investment reports of January/February 2019 of all 23 Estonian mandatory pension funds to see how and to what extent they have invested in the 36 companies either directly or through other investment funds, and c) combines desk research with a dialogue with pension funds' representatives to examine if and how the five financial institutions managing the 23 pension funds mitigate climate-related ESG risks in investment processes. The fiduciary duty is then interpreted based on a two-level model built on neoclassic economic and stakeholders' theories, subsequently leading to an analysis exploring the explanatory variables that allow the interpretation of the fiduciary duty in the context of Estonian pension funds.

The study is structured as follows: section 2 provides a literature overview and contextualises the nature, impacts and contributors to climate change, the role of financial institutions in both reinforcing and tackling climate change, and introduces the Estonian context, section 3 frames the theoretical framework, section 4 details the methodology, sections 5-6 present and analyse the empirical findings, and section 7 provides concluding remarks.

2. LITERATURE REVIEW & CONTEXTUALISATION

2.1. Nature, impacts and contributors to climate change

2.1.1. Climate change: the core and the impacts

The intensifying of human activities like combusting fossil fuels, deforestation and agricultural activities has escalated the emergence of GHG emissions like carbon dioxide, methane and nitrous oxide in the atmosphere. These emissions growingly block the heat from exiting the atmosphere, causing the *greenhouse effect* leading to *climate change*, i.e., increasing global average sea surface and surface air temperatures and other long-term alterations on the global climate (Stern, 2007; IPCC, 2018). It has been estimated that human activities have caused an approximate 1°C temperature rise globally from the second half of the 19th century until today and that it reaches 1.5°C from as early as 2030 if current trends maintain the *status quo* (Wuebbles, et al., 2017; IPCC, 2018).

Such rapid temperature rise increases the likelihood of pervasive, often irreversible harms and climate-related risks on all fields and corners of the planet. These include (Foley, 2007; Stern, 2007; IPCC, 2014; Coburn, et al., 2015; EY, 2016; Wuebbles, et al., 2017; IPCC, 2018):

- 1) Physical impairment of constructions, land and infrastructure resulting from higher severity of climate-related events like droughts, floods, storms, rising sea levels and temperatures, heat waves and others;
- 2) Secondary impacts like lowering yields of crops, food insecurity, higher prevalence of diseases, shortening resources of various kinds, disturbances in trade and supply chains, migration, violent conflicts, volatile political environments, and others;
- 3) Regulatory changes to cope with climate change, such as removing subsidies from and introducing carbon pricing in carbon-intensive industries like energy and transportation;
- 4) Business risks like legal risks emerging from neglecting increasing climate-related obligations, competition risks related to adapting to changes in the operational, market and regulatory contexts, and reputational risks such as failing to meet stakeholders' expectations on tackling climate change;
- 5) Financial market-specific risks like altering the valuation of enterprises and industries most vulnerable to climate risks, such as agriculture, forestry, tourism, real estate and others, and subsequently decreasing market confidence and prices.

Ironically, research shows that adverse climate impacts fall disproportionately on those contributing to their intensifying least, firstly the futures generations, but secondly also the vulnerable and poor, both within countries and when comparing poorer countries to richer (Stern, 2007;

Fleurbaey, et al., 2014). This is reasoned to be due to the differences in socio-economic, physical, and competence-related factors that lead climate change to reinforce poverty and inequalities, e.g., through the lower ability to rebound from climate-related damages to assets, infrastructure, productivity, social networks, homes and other livelihood-related concerns (Olsson, et al., 2014; Miyan, 2015).

The previous stresses the importance of addressing climate change to pursue fair development and subsequently raises the concept of climate equity – how to best distribute the burden of coping with and mitigating climate change fairly between individuals (in a national context), countries (international context) and generations (intergenerational context) (Woods, 2011; Fleurbaey, et al., 2014). Knowing that companies, industries and countries that have gained the most have also contributed the most to the climate issue, they have a greater responsibility for supporting the coping and mitigation mechanisms (Shue, 2013; Otto, et al., 2017; Skeie, et al., 2017).

2.1.2. Main contributors to climate change

It is generally agreed that the main drivers of increasing GHG emissions are the population and economic growth that lead to spreading consumption in its different forms, especially in wealthier countries and sub-regions (Fleurbaey, et al., 2014; IPCC, 2014). Nevertheless, the question of who contributes the most is complex because industrial corporates have the power over choosing which resources are extracted, manufactured, supplied and marketed but consumers – governments, other companies, individuals, etc. – are those using fossil fuels and other harmful products, thus creating the demand (Valle, 2018).

To understand the contributors better, the GHG Protocol (WRI & WBCSD, 2004) sets out a prevalently used classification of three levels of GHG emissions: Scope 1 (direct emissions from companies' internal sources), Scope 2 (indirect emissions from the use of purchased energy) and Scope 3 (indirect emissions caused by external parties from using the purchased resources produced by the company). Even though it is estimated that Scope 3 emissions – originating from the use of gas, coal and oil for energy purposes by consumers in the value chain – comprise nine-tenth of companies' GHG emissions, the corporates are still argued to be responsible for the resources used in the economy and society (CDP, 2017; Patel, 2018).

The Carbon Majors Report 2017 (CDP, 2017) highlights that more than half of industrial GHG emissions emitted during 1988-2016 can be linked to 25 companies and that in 2015, 20% of the emissions were financed through publicly listed investments, making the role of investor engagement critical. As estimated by IPCC (2014), in 2010, most Scope 1 GHG emissions were emitted by energy sector (35% of GHG emissions), followed by agriculture, forestry and other land use

(24%), industrial (21%), transportation (14%) and construction sector (6%). Region-wise in 2012, China, the USA and the European Union (EU) contributed to more than half of global CO₂-related GHG emissions (excluding forestry and land-use change), followed by India, Russia and Japan (WRI, 2015).

The literature suggests that climate change is also fuelled by the policy influence of the highest GHG-emitting industries, whose operations and profits are most susceptible to increasing levels of climate-related regulations (e.g. carbon tax or emissions trading), such as automotive, chemicals and energy (Fatemi & Fooladi, 2013; Brulle, 2018; InfluenceMap, 2018a). This includes influencing decision-makers' perceptions on climate change, either directly through lobbying public officials or sponsoring elective campaigns, or indirectly through memberships in think tanks and trade associations standing against environmental regulations (Karbassi, et al., 2013; Grumbach, 2015; InfluenceMap, 2017a; UNPRI, 2018a).

2.2. The role of the financial industry in climate change

2.2.1. Investing in companies contributing to adverse climate impacts

OECD (2017b) refers to relationships between investors and investees as business relationships, which imply that investors – even minority shareholders and those passively investing in indices – are linked to impacts that are caused or contributed to by the investee companies. Hence, making investors responsible for using their *leverage* to influence the portfolio companies to prevent or mitigate the negative impacts. Nevertheless, as exemplified below, numerous studies reveal that financial institutions systematically invest in companies that intensify the climate threat, either directly via stocks and bonds or through other investment vehicles, playing therefore a catalytic role in reinforcing climate change.

Kirsch et al. (2018) investigated 36 international banks and revealed that between 2015-2017, they invested a combined 345 billion USD into 30 largest companies in six extreme fossil fuel sectors: coal mining and power, liquefied natural gas, tar sands, ultra-deep and arctic oils. Also, a recent study portrays that from 2016 to 2018, 33 international banks, led by JPMorgan Chase, were found to have invested 1.9 trillion USD in companies in the aforementioned six sectors plus fracked oil and gas (Kirsch, et al., 2019). Fair Finance Guide International (FFGI, 2015) found that between 2009-2014, 25 largest banks globally financed fossil fuel companies with at least 931 billion USD, almost ten times more than their investments in renewable energy. More industry- and geographically-focused studies find, among others, that Dutch insurance groups invest in palm oil companies engaged in severe deforestation (Brink et al., 2017) and German banks in

companies with adverse climate impacts in energy and extractive industries (Facing Finance, 2017).

Concerning indirect investments, InfluenceMap (2018b) found that Blackrock, as an asset manager with the most publicly listed funds used by institutional investors globally, has the highest portfolios' average thermal coal intensity among 10 largest fund manager groups: 571 tonnages of thermal coal held per million USD assets under management (AUM), compared to global fund benchmark 376. With an aggregate 2.3 trillion USD AUM, Blackrock also controls most thermal coal and oil/gas reserves globally. The study also disaggregates findings to individual funds, showing, for instance how the coal intensity of Blackrock's iShares Core MSCI Emerging Markets Index ranges to more than 3000 tonnages of thermal coal per million USD AUM.

The governments too are financing companies and projects with adverse climate impacts, e.g., in 2014 alone, the governments belonging to the Group of 20 subsidised around 230 billion USD for coal, gas and oil, and made public investments of an additional 72 billion to obtain energy from fossil fuels (Climate Transparency, 2017).

2.2.2. Financial institutions' fiduciary duty

Climate change exposes explicit and adverse risks also on the financial industry, such as those arising from physical risks to assets and subsequent secondary impacts, or the risks associated with transitioning to a low-carbon economy like legal and policy, competition and market-related, reputational and technology-related risks (TCFD, 2017). Such climate risks are hence financially material, i.e., affecting revenues, credit risk, cost of capital, operating costs, profitability, competitiveness, production capacity and output, market uncertainty and instability and investments' overall financial performance (Sullivan, et al., 2015; Inderst & Stewart, 2018).

Therefore, investing in and thus supporting companies reinforcing climate change without regarding material climate-related ESG factors indicates to financial institutions breaching their fiduciary duty (Sandberg, 2011). While there are examples of how pursuing responsible investments has caused opportunity costs (Sanders, 2014), numerous studies have proven that thoughtfully considering material ESG factors in investment processes, especially climate risks, has resulted in either costs and returns comparable to traditional investing (yet higher impact) or lower volatility, improved risk-adjusted returns, higher enterprise or fund value, and other financial gains, e.g., see Andersson, et al. (2015), De & Clayman (2015), Melas, et al. (2016), Fatemi, et al. (2018), Gary (2018), Kumar, et al. (2018), and Yu, et al. (2018).

Knowing this, OECD (2017a) separates four levels of financial institutions' fiduciary duties, each increasingly considering ESG factors in investment processes: traditional (neglecting all ESG

factors), modern (considering only material ESG factors), broader (considering all ESG factors, willing to sacrifice financial returns), and universal (integrating all ESG factors, believing all are material in the long-term). Woods (2011) distinguishes just two, narrow and broad fiduciary duty, first aligning with the traditional and second comprising modern, broader and universal aspects of OECD's terminology (2017a).

Among the main reasons behind the failure to uphold the broad fiduciary duty is the sector's specialised profit-driven nature to create wealth and maximise shareholders' value (Dore, 2008; Sandberg, 2015), which historically has not recognised the materiality of ESG factors and still relies on analysing solely the traditional financial factors in decision-making (European Commission, 2016). The profit-driven focus *per se* contributes to and is driven by other concerns that can encourage the misconduct of fiduciary duty and the failure to support the growth of long-term economic, social and environmental sustainability. These concerns include 1) increasing speculation and short-termism shifting the focus away from long-term value-creation, leading to neglecting material ESG factors in investment processes, 2) the inability to effectively internalise negative social and environmental externalities such as those arising from climate change, and 3) enlarging financialisation contributing to the rising societal instability (Dore, 2008; Fatemi & Fooladi, 2013; Fleurbaey, et al., 2014; European Commission, 2016; UNPRI & UNGC, 2017).

The previous, especially the short-termism and subsequent neglect of the ESG factors, are critical concerns for long-term investments such as pension funds that ought to be optimised on average on a 20-year horizon, but instead their net present value is mostly determined by cash flows that are forecasted to be received only after up to three to five years (Schroders, 2016; 2^o Investing Initiative, 2017). Such mismatch in the investment time horizons has led long-term portfolios to be more exposed to short-term financial risks, instead of the long-term risks related to economy and the environment, e.g., the consequences of climate change on pension funds' financial performance (Sullivan & Mackenzie, 2006; Coburn, et al., 2015; European Commission, 2017). Hence, the inability to properly regard long-term value drivers such as climate-related ESG factors can be considered as breaching the fiduciary duty (Sullivan, et al., 2015; European Commission, 2017). Reasons behind the short-termism are multiple, such as behavioural biases (myopia and inertia resulting from profit-focused values, herding behaviour to benchmark against traditional peers, etc.), regulatory pressures (e.g., quarterly reporting encouraging short-term goals), and others (Woods, 2011; OECD, 2017a; Gary, 2018).

2.3. Financial institutions addressing climate change

2.3.1. Investors and policymakers stepping up in tackling climate change

By signing the Paris Agreement, since 2015, 195 countries have agreed to take measures to decrease global warming, including – as stated in its Article 2 – aligning financial flows with the pursuit of lowering GHG emissions and achieving climate-resilient development (UN, 2015a; UN, 2019). Thereby, strengthening the movement advocating for investment practices and policies that address climate-risks.

Investors have started to acknowledge the severity of the climate impacts on the planet and their materiality on investments, seen by the growing investor movements such as Portfolio Decarbonization Coalition (28 investors with a combined 3 trillion USD AUM), Montreal Pledge (120 investors, 10 trillion USD AUM), Climate Action 100+ (2019) (342 investors, 33 trillion USD AUM), Global Investor Coalition (415 investors, 32 trillion USD AUM), and UN Principles for Responsible Investment (UNPRI, 2016; 2018b; Sullivan & Fischer, 2017). Signed by more than 2000 investors with combined 80 trillion USD AUM, UNPRI is among the most-recognised principles, necessitates financial institutions to openly consider ESG issues in investment processes, and regards climate change as the most critical ESG factor. Through these and other initiatives, investors have made policy *and* operational commitments to tackle climate change.

Two more common policy commitments are 1) acknowledging that climate change, GHG emissions and carbon regulations are associated with investment risks, and 2) supporting transitioning to a low-carbon economy. A combination of policy and operational commitments include 3) committing to integrating ESG factors into investment processes, i.e., analysis, decision-making, risk management, etc. (further: ESG integration). ESG integration involves 4) regularly measuring and disclosing carbon-related goals and progress (often suggested to be aligned with the recommendations by the Task Force on Climate-related Financial Disclosures or TCFD), 5) seeking active ownership through individual or joint engagement to influence portfolio companies to mitigate climate risks, and 6) gradually divesting from carbon-intensive sectors, often complemented by a defined maximum threshold, e.g., 20% restriction of investing in fossil fuels (UNPRI, 2016; Herder, Brink, & Riemersma, 2018; Climate Action 100+, 2019; Montreal Pledge, 2019). The operational commitments are elaborated in section 2.3.2.

Results of joint engagement of Climate Action 100+, for instance, are exemplified by the recent public statements of major GHG emitters Shell (IIGCC, 2019) and Glencore (2019) to align their operations with the Paris Agreement. Such investor leverage over investees has also been used against climate lobbying, e.g., in 2018, investors with a combined 2 trillion USD AUM (led by

the UK and Swedish pension funds) requested 55 European companies with significant political influence to align their climate lobbying practices with the Paris Agreement (Matthews, 2018). And also against the inactivity of governments to take measures against climate change, e.g., by 415 investors in Global Investor Coalition (2018) urging governments to accelerate the transition to a low-carbon economy. While there is often limited information about the real impact of such engagement, e.g., changes in GHG emissions, financial flows to renewables, or the share price of carbon-intensive companies (Sullivan & Fischer, 2017), adhering to certain climate standards indicates that investors-investees are aware of the materiality of climate risks, setting a foundation for further improvements (Herder, Brink, & Riemersma, 2018).

Other trends indicating investors' awareness of climate-related risks and opportunities include the increasing choice of investment funds highlighting climate change among the key sustainability issues, such as Dow Jones Sustainability Indices, MSCI ESG Universal Index and the state-led Fourth Swedish National Pension Fund (Bernasconi & Bolton, 2015; Ezeokoli et al., 2017; Kumar et al., 2018), and the rapidly rising numbers of stakeholders utilising ESG-related data in investment processes, exemplified by the users of Bloomberg's ESG-related data increasing fivefold between 2010-2018 (Ezeokoli et al. 2017; Bloomberg, 2019).

Governments have shown increasing interest, especially since the Paris Agreement, to promote the low-carbon transition in the financial industry. For instance, the G20 central bank governors and finance ministers' action leading to the establishment of TCFD that analyses which assets are more susceptible to climate risks and develops investor tools to disclose climate-related ESG factors (G20, 2015; TCFD, 2017). On the EU level, the EU Action Plan on Sustainable Finance (European Commission, 2018) details goals to foster responsible, transparent and long-term-focused financial sector especially *vis-à-vis* climate issues, including expanding investors' fiduciary duty to also involve addressing climate concerns. On-going progress is also witnessed in legislative changes, e.g., in Sweden and the Netherlands pension funds must define in policies how they consider ESG factors and in France, all institutional investors must disclose their carbon footprint and methods to address climate risks (European Commission, 2017; OECD, 2017a; Emin & Breen, 2018).

2.3.2. Addressing climate risks in investment processes

Investors address climate risks in their operations mostly under the umbrella of ESG integration, which European Sustainable Investment Forum (Eurosif, 2018) refers to as the systemic incorporation of material ESG factors throughout the mainstream investment process. In practice, ESG integration is more hectic, superficial and often used for marketing purposes rather than investment decisions (Schramade, 2016), and can occur on different levels, such as labelled climate

bonds, passive ESG indexes or holistic ESG integration across portfolios (Inderst & Stewart, 2018).

In the context of climate risks, common elements of ESG integration include:

1. senior management’s acknowledgement of the necessity to consider material ESG factors in investment processes (UNPRI, 2016; Zandbergen, 2017), see policy commitments described in section 2.3.1.;
2. existing strategy for ESG integration, which according to UNPRI (2016), involves having identified material ESG factors for different investments (e.g., bonds vs equity, passive vs active), quantified their financial materiality, and created a strategy to integrate these in investment processes, including who and how actively monitors, assesses and manages the identified risks;
3. embeddedness of the strategy throughout the investment processes, that – based on the three-dimensional typology by Sustainalytics & IRCCi (2017) – comprises of governance (who manages ESG integration and which governance mechanisms support it), research (what ESG data are researched and integrated), and application (how is ESG integrated method-wise);
4. disclosing climate-related risks and progress, which most investors align with the recommendations by TCFD (2017) that details four levels of disclosures: governance (roles of the board and management), strategy (detailed climate risks and opportunities), risk management (integration of managing climate risks within the overall risk management), and metrics and targets for managing climate risks.

There are numerous methods for ESG integration, as demonstrated in Table 1.

Table 1. Common ESG integration methods

Integration methods	Explanation	Examples
Negative (or exclusionary, norms-based) screening	Investing in companies, sectors or funds that comply with accepted norms & excluding those not compliant (avoiding negative impacts).	Excluding funds with high exposure to companies engaged in thermal coal extraction.
Positive screening (best-in-class, thematic, impact)	Investing in more responsible (i.e., considerate to ESG factors) or impactful companies, industries or funds (supporting positive impacts).	Investing in renewable energy as opposed to fossil fuels, or in a fossil fuel firm showing more advancements than its peers in transitioning to a low-carbon business.
ESG tilting or sector weighting	Under or overweighting portfolio with a chosen industry, compared to benchmarks, as a result of ESG analysis.	Underweighting portfolio of companies engaged in thermal coal extraction and overweighting with firms with positive climate-related ESG ratings.

ESG data integration in investment models	Integrating ESG risks and data in investment models, such as discount rate, margins and cash flow models.	Adjusting the expected profit margins of a carbon-intensive company based on the risk of an altering regulatory environment concerning GHG emissions.
ESG engagement and activism	Actively monitoring and engaging with investees to lower their ESG risks, through a dialogue, trading holdings, voting at annual general meetings (AGMs) or divesting if the investee is resistant to change.	Calling a carbon-intensive company or fund to lower its GHG emissions via a constructive dialogue, voting at AGMs, or joining investor-led movements for more effective engagement.

Sources: ISS-Ethix (2015), UNPRI (2016), Aberdeen (2017), Ezeokoli et al. (2017), OECD (2017b), Sustainalytics & IRCCi (2017), Inderst & Stewart (2018), Kumar et al. (2018).

Exclusion strategies (e.g., divesting or not investing in carbon-intensive companies) allow investors to manage risks within portfolios (e.g., lowering carbon footprint) but these have no direct impact on the companies that should improve their practices, especially as other investors can purchase these shares or bonds (Sanders, 2014; Apfel & Ziulkowski, 2015). ESG integration and engagement, though, enables investors to use their leverage (e.g., share- or bondholder rights) to call companies for more responsible practices, allowing to reduce financial risks (Kumar, et al., 2018). Impact-wise, the ideal goal is, therefore, to strive for engagement strategy, especially when implemented at scale by joining large investor movements that are found more effective than unilateral commitments (Sullivan & Fischer, 2017).

Different investment strategies inherently enable and support different ESG integration strategies and methods. For instance, active strategies (i.e., prevalently direct investments via bonds and stocks) enable monitoring investees' ESG risks on individual basis and better engage with them individually, while for passive strategies (mostly investments in other funds), it might be more effective to invest in tailored index funds that use exclusion or tilting strategies to maintain a low overall ESG risk level (OECD, 2017b; Sustainalytics & IRRCi, 2017). Alternatively, equity instruments like stocks, in which the investor owns shares, enable voting at AGMs, whereas the same is, in most cases, not possible for fixed-income debt instruments like bonds (Inderst & Stewart, 2018).

While methods and tools are many, key constraints for effective ESG integration include the scarcity of steady and trustworthy data, the limited proven analytical models for investment managers (EY, 2016), the inability to quantify the materiality of larger ESG factors, the lack of coherence between investment and ESG professionals (Sustainalytics & IRRCi, 2017), the absence of adequate and clear standards and frameworks (European Commission, 2017), and the vagueness of the additionality of investors' efforts on addressing climate risks (Sullivan & Fischer, 2017).

2.4. Context of Estonian pension funds

2.4.1. Fiduciary duty in Estonian law

Estonian Credit Institution Act (Estonian Government, 2005) explicitly defines the fiduciary duty of Estonian financial institutions, stating in its Paragraph 48 that the managers – all members of the steering committee and board – and employees of financial institutions must:

- “...act with expected prudence and competence and accordingly to the requirements of their jobs, in the interest of the credit institution and its clients.” (§48, Section 4);
- “...set the economic interests of the credit institution and its clients above their own.” (§48, Section 5).

Estonian law differs from the generally accepted definition stated in the Introduction, firstly, by emphasising the *expected* prudence and competence, leaving room for interpretation of the determinants of the expectations, such as who expects or what exactly is expected. And secondly, the duty is defined not between the financial institution and the client, but between the individuals working for the institution and *both* the institution and its clients. Therefore, complicating determining whether the interests of the clients can be considered superior to those of the financial institutions or vice versa.

Considering the materiality of climate risks and this study’s focus on Estonian pension funds (see section 2.4.2. below), the Funded Pensions Act paragraph 32 details that if a mandatory pension fund manager causes loss to asset owners – which arguably includes neglecting material investment risks –, the clients must be compensated (Estonian Government, 2019). Further, paragraph 248 in the Investment Funds Act (Estonian Government, 2013) states that for fund management, it is required to establish a transparent and adequate procedural and organisational risk management system, including measures assuring managers’ and employees’ competence of considering relevant risks in investment processes. This implies that financial institutions should assure that its staff is competent in addressing material climate/ESG risks.

Unlike the legislation in other countries like the Netherlands, Sweden and France, Estonian laws do not require pension funds or other financial institutions to disclose their ESG approach (OECD, 2017a). Nevertheless, the Estonian legislative system should consider the trends arising from the EU that can be expected to alter regulatory frameworks to be more pro-climate and encourage ESG integration. These include 1) the Occupational Retirement Provision Directive II obliging pension fund managers to publicly state if and how they consider ESG factors in investment policies and risk management, 2) the agreement to include ESG factors in the legal text of securitisation, and 3) Shareholder Rights Directive II requiring institutional investors to establish and

openly disclose a voting and engagement policy (European Commission, 2017; UNPRI, 2017; European Parliament, 2018).

2.4.2. Estonian pension fund context

This paper focuses on pension funds, given their long-term investment perspective and societal importance. Estonia has a three-pillar pension system (Pensionikeskus, 2019):

- 1) the first is a state-paid old-age pension followed by the solidarity principle and financed by the taxes paid from the salaries of current working-age people;
- 2) the second, mandatory pension fund, follows the preliminary financing principle, is paid by working-age taxpayers' salaries and supplemented by state contributions, and is managed by private financial institutions;
- 3) the third is a voluntary supplementary pension, paid from taxpayers' salaries and managed by private financial institutions.

This study focuses on the mandatory second pillar due to its relevance to Estonian citizens and its management by private financial institutions. It examines all 23 mandatory funds, which are managed by five financial institutions: 7 by AS LHV Varahaldus (further: *LHV*), 2 by Tuleva Fondid AS (*Tuleva*), 4 by Luminor Pensions Estonia AS (*Luminor*), 5 by AS SEB Varahaldus (*SEB*) and 5 by Swedbank Investeerimisfondid AS (*SIF*). The two first are owned by Estonian capital, and the three latter owned by foreign, mostly Nordic banks (Milne, 2019): SEB by SEB Group and SIF by Swedbank Group (both Sweden), and Luminor by a mix of Nordea Group, DNB and Blackrock, but its pension funds are managed by Nordea (see Nordea, 2019a:14). As of February 2019, the aggregate AUM for all funds was €4.13 billion, from which SIF manages 42%, LHV 30%, SEB 19%, Luminor 8% and Tuleva 2% (rounded up, see Appendix A).

To the author's best knowledge, Estonian research groups, NGOs, media organisations, educational institutions, financial industry or other relevant stakeholders have not raised public awareness of the role of the financial industry and pension funds in climate change or sustainability issues more broadly. The public discussion revolving around Estonian pension funds has in the past year been on their low returns (e.g., see Oja, 2018 and Pekk, 2018) – second-lowest in OECD countries in 2017 (OECD, 2018) – and in the past months whether the mandatory second pillar should be made voluntary overall. As of 6th April 2019, the latter is written even in the action plan of the coalition (note, elections were held in March 2019) (ERR, 2019), and is assumed to increase the short-termism in pension funds further.

3. THEORETICAL GROUNDING

3.1. Fiduciary duty in the traditional view of the financial sector

The values and practices prevalent in the financial sector originate from the neoclassic economic theory, based on which markets are an outcome of the rational behaviour of individual economic actors maximising their utility (Friedman, 1970; Pouncy, 2002). One of the theory's underlying premises is the division of societal labour, i.e., society works best if its actors specialise in distinct tasks, resulting in economic efficiency (Sandberg, 2015). In this light, the traditional view of the financial market is to specialise solely on maximising shareholders' wealth (i.e., risk-adjusted returns), which is also the basis for the traditional interpretation of financial institutions' fiduciary duty (Sullivan & Mackenzie, 2006; Woods, 2011). While the assumption of leaving the fair redistribution of wealth to the state and other actors seems reasonable, the other distinguishable characteristic of the neoclassic theory is to minimise states' interference in the markets (Zinnbauer, 2001; Sandberg, 2015), suggesting that the economic actors should be accountable also for redistributing this wealth.

The specialisation on wealth-creation and lowering levels of regulations have led to the financialisation of the real economy, i.e., the growing influence of financial institutions over other sectors, therefore exposing the economy and society more broadly to risks and costs stemming from the financial sector (Van der Zwan, 2014). This permits economic injustice within and between countries and sectors, given that the traditional view advises the profit-focused specialisation of financial institutions to be indifferent to the well-being of other societal actors (Pouncy, 2002). The indifference allows financial institutions to maximise profits while disregarding risks their practices expose on the economy and society more broadly, thus enabling and contributing to the emergence of societal distress, as seen on the example of the global recession in 2008, for instance (Woods, 2011). These examples and contradicting goals of the financial sector and society further illustrate a) the gap between financial and non-financial values, b) the paradox regarding the division of societal labour when markets are regulated inappropriately, and c) subsequently the negative externalities (including inefficient market) emerging when the utility of more influential economic actors is maximised on the expense of the utility of others (Zinnbauer, 2001; Sandberg, 2015). Hence, pointing to the need to price the externalities (both positive and negative) arising from the decisions of individual actors, e.g., through market regulations, which *per se* contrasts the traditional view.

According to the fiduciary duty defined in the traditional view, the specialisation on profit maximisation impedes considering ESG factors in the decision-making because they are prevalently

considered non-financial and hence would lead to higher costs, going against the prudential standards (Woods, 2011). This is complemented by the supremacy of the modern portfolio theory (MPT) in the investment strategies that follows the neoclassic efficient market theory and highlights diversification as the principal way for investors to manage risks and achieve higher returns (Freshfields Bruckhaus Deringer, 2005). Firstly, because ESG integration restricts diversification, secondly because negative externalities – including negative ESG performance – is believed to be already internalised in the pricing, hence suggesting that additional ESG integration is unnecessary, and thirdly because of the administrative costs historically associated with considering ESG factors (OECD, 2017a; Gary, 2018).

However, it is known from section 2.3.1. that investors are increasingly integrating ESG and governments actively requiring financial institutions to disclose and consider ESG and especially climate factors in investment processes. This suggests that ESG integration is not necessarily linked to higher costs or lower risk diversification, or imply that ESG factors are already internalised in pricing. And subsequently, that in practice ESG integration does not go against prudential standards but rather supports the latter, implying also that the fiduciary duty is outgrowing from its traditional nature.

3.2. The stakeholder theory of the financial sector

Dissimilar to the neoclassic perspective that views markets to comprise of individual self-interested actors, the institutional economic theory rationalises connections and transactions between individuals and collectives and defines the economy as an advancing collection of institutions that govern society (Zinnbauer, 2001; Pouncy, 2002). This perspective allows defining the stakeholder theory, according to which the economy and its actors can be redefined as institutions enabling different stakeholders to achieve different objectives (Donaldson & Preston, 1995).

The inter-dependence of varying objectives necessitates systems thinking, which ultimately aims to consider the effects of economic decisions on all stakeholders and to distribute wealth, opportunities and costs equitably (Pouncy, 2002; Valentinov, Roth, & Will, 2019). Thus, aligning greatly with the concept of climate equity as discussed in section 2.1.1. In this view, those influencing or influenced by the processes of certain actors are entitled to be regarded not as means to an end, but rather an end in itself, and should, therefore, be considered in actors' decision-making (Evan & Freeman, 1988). Stakeholder theory has been central in interpreting companies' functions and identifying and explaining the relations between stakeholder management and the traditional corporate goal of profit maximisation (Donaldson & Preston, 1995).

The stakeholder theory has also been fundamental in the understanding and reinterpretation of the fiduciary duty to include not just maximising shareholders' wealth as depicted by the traditional view but adequately considering the objectives of all key stakeholders involved in the investment chain, such as communities and ecosystems affected by or involved in the processes of investee companies, shareholders, state and others (Juravle & Lewis, 2008; Sullivan, et al., 2015). Hypothetically applying stakeholder theory in its entirety in practice (i.e., considering all related stakeholders in investment processes), however, can be expected to result in the financial sector allocating too many resources to non-financial functions and thereby sacrificing economic efficiency. Therefore, possibly causing resistance among the financial institutions whose practices are deeply ingrained in the traditional view and risking with the society at large losing from the inefficient realisation of the traditional function of the financial sector (Woods, 2011).

In this light, as put by Sandberg (2015), the traditional view originating from neoclassic economic theory indicates to the absence of responsibility, and the stakeholder view stemming from institutional economics to sacrificing economic efficiency.

3.3. Incorporating climate change and fiduciary duty into a two-level model

3.3.1. Two-level model in a climate context

To merge together the traditional view (economic efficiency) and stakeholder view (the interest of the society), Sandberg (2015) proposes a two-level utilitarian model, according to which all societal functions adhere to a general goal most optimal for society in the long run, and the individual functions pursue specialised goals. He suggests that financial institutions should be able to efficiently allocate capital and create wealth, on the conditions that they 1) assure that the specialised goal feeds and correlates with the general goal, and 2) take adequate measures if the first condition is not met.

To pursue the two-level model in practice, it is useful to examine Friedman's article from 1970, "The Social Responsibility of Business is to Increase its Profits", which portrays the underlying principles and values of the traditional view and highlights two arguments that contradict the two-level model.

The article *firstly* emphasises the importance of voluntary individual interests of societal stakeholders, implying that the general goal cannot represent consensus but rather compromises that require conformity, even coercion, which arguably leads to the inability to execute individual interests. However, as also argued by Friedman, some extent of conformity is inevitable, suggesting to the *optimality* of the general goal. Among other examples, the Sustainable Development Goals endorsed by the UN and all its member states refer to a global consensus on the *optimal*

general goal, namely global peace and equitable prosperity for people and planet, for now and future (UN, 2015b). In the climate context, the Paris Agreement details how 195 countries agree that climate change exposes multifaceted risks on the planet and people, and recognise that not taking adequate measures to address climate risks impairs the general goal of peace and prosperity (UN, 2015a). For the comprehensiveness and inclusion of stakeholders globally in both, this general goal with the prerequisite of adequately addressing climate change can be considered as the overarching level of the two-level model.

And *secondly*, the article represents how corporate social responsibility is viewed in the neoclassic theory, heavily criticising all its forms with a strong assumption that these inevitably lead to higher costs. Friedman (1970) seems to imply that the neoclassic theory disregards addressing *material* risks – which were discussed earlier to strengthen financial sector’s specialised goal – as a possible consequence of social responsibility, arguably due to the absence of such a body of knowledge at the time of the publishing (Gary, 2018). This raises the question of whether neoclassic fundamentals, which are entrenched in the present-day economics but neglect corporate sustainability pursuits, are still relevant.

As discussed, climate change is considered among the most material ESG risks to be integrated into investment processes (Stern, 2007; European Commission, 2017; UNPRI, 2018b). Therefore, focusing on the financial materiality of ESG factors seems to put the two-level theory in practice and bridge stakeholders’ needs and sustainability issues with the profit-maximising traditional view, given that considering material ESG factors does not require sacrificing financial profits if done properly (see section 2.2.2). However, the role of non-material ESG factors can be argued to incline more strongly to the stakeholder theory. The fundamental question deciding if financial institutions pursue ESG integration is hence how material they believe ESG factors to be, both short- and long-term (OECD, 2017a).

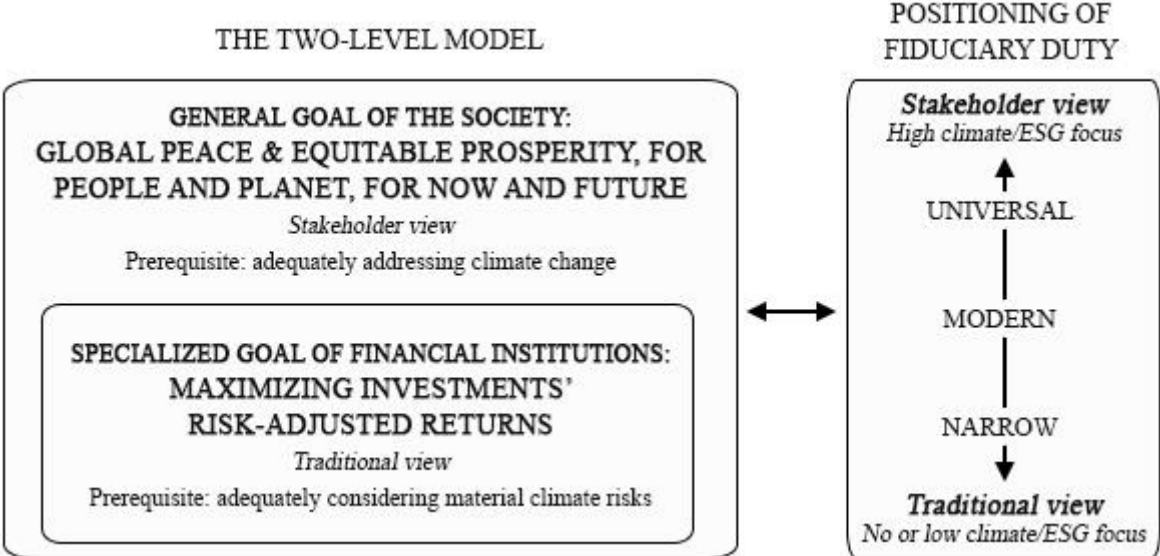
3.3.2. Operationalising the two-level model

As illustrated in the left rectangles in Graph 1 below, climate change can be contextualised in the two-level model for being the fundamental prerequisite of pursuing the general goal (stakeholder perspective, e.g., climate equity) but also strengthening the specialised goal of financial institutions (traditional view, e.g., see material climate-related ESG risks highlighted in TCFD, 2017).

Further, financial institutions’ fiduciary duty can be positioned based on the model through examining existing investments, policies, mechanisms and attitudes within the financial sector. Derived from the typology of fiduciary duties of OECD (2017a) and Woods (2011) (see section 2.2.2.), the study defines and analyses fiduciary duty on three levels, as depicted in the right

rectangle of Graph 1: narrow (traditional view, neglecting climate/ESG factors), modern (broad, considering material climate/ESG factors), and universal (broad, considering all climate/ESG factors).

Graph 1. Positioning fiduciary duty based on the two-level model in the climate context



Sources: Author’s interpretation of the two-level model proposed by Sandberg (2015) in the climate context (left rectangle), and how it allows positioning fiduciary duty on three levels, derived from Woods (2011) and OECD (2017a)

Neglecting material climate and ESG risks suggests that narrow fiduciary duty breaches the prudential standards, but diverting too much from the specialised goal and considering all ESG risks could possibly sacrifice economic efficiency, as discussed above by Sandberg (2015), thus possibly not serving clients’ best interest. In this light, the modern fiduciary duty focusing on the materiality is considered most balanced and ideal, while the narrow fiduciary duty falls outside the model as it does not address climate risks, which is a prerequisite for pursuing the specialised goal.

Considering the existing literature, context and theory, this paper seeks to answer how can the fiduciary duty of Estonian pension funds be interpreted based on how they address climate risks in their portfolios and investment processes. This is aimed to be achieved via two sub-questions:

1. To what extent have Estonian pension funds, in January/February 2019, invested in companies that are significantly reinforcing climate change?
2. What policies and mechanisms do pension funds have in place to address climate-related ESG risks in their portfolios?

4. METHODOLOGY & LIMITATIONS

To answer the research questions, this paper follows the logic and combines methods used in numerous studies highlighted before, e.g., those conducted by Fair Finance Guide (2015) and Kirsch, et al. (2018), and involves three steps: 1) choosing the sample of companies reinforcing climate change, considering policy influencing and GHG emissions, 2) examining the investments of Estonian pension funds in these companies, and 3) analysing the policies and mechanisms of financial institutions on if and how they consider climate-related ESG risks in investment processes, through desk research and engaging with pension fund representatives.

4.1. Methods

4.1.1. Choosing the sample of companies reinforcing climate change

The sample is chosen from influential companies reinforcing climate change, influence being defined by two criteria highlighted in section 2.1.2.: climate lobbying and GHG emissions. Considering the nature and scope of this study, secondary data from existing research is used to determine the sample.

Initial list: climate lobbying

First, an initial list of companies most active and influential in lobbying against climate policies is established, based on the findings and scoring methodology developed by InfluenceMap, which aggregates a performance band from an organisational score (carbon policy footprint) and a relationship score (misalignment of company's statements with trade associations and other influencers it is connected to). See more detailed criteria in Appendix B.

InfluenceMap investigates publicly listed and non-state-owned companies with significant power over influencing the climate policy, on how they address climate change in their lobbying practices. The companies in the initial list are chosen from the available sample of the online database of InfluenceMap (2019a), as well as from individual reports, primarily the Corporate Carbon Policy Footprint (InfluenceMap, 2017b) and a separate analysis of 55 European companies requested by a group of investors, including Swedish and UK pension funds (InfluenceMap, 2018a). Both reports and the database contain links to individual company profiles that include regularly updated data on companies' climate lobbying activities.

The derived initial company list includes 39 companies (see the Performance column in Appendix C for details).

Final sample: considering GHG emissions

Knowing that many companies in the initial list of 39 belong to the highest GHG emitters globally (see CDP, 2017, and compare the results with the initial list in Appendix C), this study's final sample is chosen by removing the lowest GHG emitters from the initial list by considering companies' Scope 1 and 3 GHG emissions¹ in 2016 or 2017, depending on data availability. GHG emissions are determined based on companies' replies to CDP, accessible in the database of the latter (CDP, 2019).

Derived from the reported GHG emissions described in Appendix C, for 35 out of 39 companies who provided the data, the median CO₂ or CO₂-equivalent GHG emissions is 110 million tonnes (MtCO₂e)². Considering that the GHG emissions of 32 of the 35 companies range between 10 and 802 MtCO₂e and three have less than 1 MtCO₂, the latter three are removed from the initial list. Further, recognising that the four companies who have not reported their emissions to CDP are among the 7 most influential climate lobbyists in the initial list of 39, they are included in the final sample.

Based on the criteria of high GHG emissions³ and active climate lobbying, 36 companies remain in the final sample (see the Sample column in Appendix C).

Describing companies in the sample

The 36 companies are in the following sectors: energy (12 companies), materials (8), automotive (6), chemicals (5), utilities (4) and industrials (1), most belonging to the highest-GHG-emitting sectors as described in section 2.1.2. 18 companies are headquartered in different European countries (mostly Germany, France and the UK), 14 in the USA and one each in South Africa, Australia, Russia and Japan. Knowing from section 2.1.2. that in 2012 more than half of the global CO₂-emissions were released by the EU, the USA and China combined, excluding companies from the latter implies to potential bias in the sample. However, this is because InfluenceMap excludes state-owned companies, which is known to be the case for many larger Chinese companies.

¹ To determine Scope 3 GHG emissions, this study considers only emissions arising from the use of sold products, i.e., from the final use of products and services sold by a company (WRI & WBCSD, 2013).

² To illustrate the scope, according to the US Environmental Protection Agency (EPA, 2018), 110 MtCO₂e is equivalent to GHG emissions arising from driving 393 billion kilometres with an average passenger car or burning 544 thousand railcars' worth of coal.

³ Different companies use different methods to determine their GHG emissions (especially Scope 3), and many do not determine their Scope 3 emissions, because not required or relevant for some sectors (CDP, 2019). Thus, the voluntarily reported GHG emissions should be considered as a mere indication of GHG-related concerns associated with the examined companies, as suggested by the GHG Protocol (WRI & WBCSD, 2004).

4.1.2. Examining Estonian pension funds' investments in chosen firms

Inspecting Estonian pension funds' investments in the 36 companies involves two parts: collecting data from investment reports of all mandatory pension funds and examining if and how these funds have invested in the sample companies.

Collecting data on pension funds' portfolio holdings

For all 23 mandatory pension funds, the latest monthly investment reports are collected: January 31st or February 28th, 2019, depending on data availability on financial institutions' webpages (as of 9th April 2019). Details of portfolio holdings of these funds are then compiled to an Excel dataset for data analysis. See Appendix A for a descriptive table of the pension funds and sources of portfolio holdings.

Examining pension funds' investments in 36 sample companies

Examining whether financial institutions have, through pension funds, invested in the sample companies is based on the principle that investment of any amount indicates to contributing to the impacts of investee companies, and hence the expectation that financial institutions are accountable for alleviating any adverse risks and impacts (OECD, 2017b). Considering this and the complexity of fully quantifying each cent funnelling from 23 pension funds into the 36 companies (mostly due to the indirect investments, for which data is often not available), this study inspects dichotomously whether the five financial institutions have invested in the sample companies in January/February 2019. This comprises of two steps: investigating direct and indirect investments. First, all *direct investments* are examined to see which of the 36 companies have the pension funds invested in directly through stocks or bonds (see Appendix E for details). Investments in subsidiaries are counted as investments in the holding company (e.g., BMW Finance instead of BMW). Second, for *indirect investments*, investments to other investment funds are investigated, and then information of these funds' holdings sought, primarily from fund managers' websites, to see whether they invest in the sample companies (see Appendices D and F for details). This study seeks to verify for each of the 36 companies whether it is financially supported by at least one investment fund, which pension funds have invested in, mainly because it is often not possible to access detailed information of investment funds' holdings, through which indirect investments in the companies could possibly be made. Hence, the fact that some financial institutions appear to be investing less or not at all in some of the 36 companies could imply either the pension funds not investing in the companies *or* the author not being able to access the data of specific investment funds.

Also, information of portfolio holdings of investment funds that pension funds invest in is mostly not available for a specific date that would match the monthly investment reports of pension funds (January 31st or February 28th). Hence, this study seeks portfolio data of investment funds that are closest to the investment reports of pension funds, with an assumption that the funds have not traded the sample companies (i.e., acknowledging the economic size and positions of the latter). The portfolio data for 11 of the 14 investigated investment funds are as of the end of January to the beginning of April 2019, suggesting a maximum mismatch of two months between the compared periods. For three funds invested in by Tuleva, portfolio holdings were found as of May 31st, 2018, and hence the mismatch is nine months. See exact portfolio holdings' dates of investment funds in Appendix F.

4.1.3. Analysing the ESG integration of financial institutions

Analysing the ESG integration is structured around three themes deducted from the literature, combining the three-dimensional typology by Sustainalytics & IRCCi (2017) with the work by UNPRI (2016), and complementing the two by specific questions and nuances from other studies examining financial institutions' ESG practices, such as those authored by de Andrade & Stolpestad (2017) and Björnsson (2017). The three themes are:

1. **Acknowledgement:** do financial institutions in their policies publicly acknowledge that climate risks are associated with investment risks and returns, support transitioning to low-carbon portfolios, and actively seek to divest from high-GHG-emitting sectors? And do they consider ESG risks in investment policies and mechanisms in some form?
2. **Application:** through which methods is ESG integrated (negative screening, positive screening, sector weighting, engagement, divestment or others), and how? If climate issues are monitored and assessed, then what exactly? Is ESG analysis conducted as part of the investment process and if so, when (pre- and/or post-investment), using what data (company-, sector-, macro- or regional-level, and originating from where), and how?
3. **Management:** who is responsible for conducting ESG analysis (investment manager, in-house ESG specialist, external service-provider or a combination), and what is their competence? Is there a structured process for ESG integration, and if ESG is managed by another entity, then how is ESG integration coordinated?

The themes are analysed and compared for the five financial institutions, firstly, by engaging with their representatives to seek information and evidence of mechanisms used to address climate-related ESG risks in investment processes, and secondly, through desk research on the publicly available and provided policies and documents. See Table 3 in section 5.2.1. for an overview of sources used.

The engagement process is based on an online questionnaire and subsequent dialogue via emails and phone calls to clarify and substantiate the answers. The questionnaire covers the three themes and includes 26 content questions in total, which answer if and how climate-related ESG risks are considered in investment policies and processes, and if not, then why. The number of questions to be answered, however, depends on the answers (e.g., if a respondent states that ESG risks are not considered at all, the number of questions is 5). The questionnaire is built on a SoGoSurvey platform because it supports skipping logic, which makes the questionnaire more intuitive and relevant for different respondents. See Appendix G for a copy of the questionnaire.

The main purpose for choosing an online questionnaire is that it allows financial institution representatives to a) think through their responses and substantiate these with relevant examples and evidence, b) consult with the personnel responsible for ESG, if necessary, and c) answer at a time most convenient for them. Also, the questionnaire is compiled in English because many financial institutions are likely to rely on their foreign holding company. When conducting the study, the questionnaire was often taken as the base from which to collect further input via phone interviews and email dialogues.

The planned sample of respondents included pension fund managers, but the eventual sample was determined by the availability of contacts, knowledge of ESG issues and other aspects. See Table 3 in section 5.2.1. for the list of respondents. Financial institution representatives were initially contacted through personal or companies' general emails, depending on the availability, on March 27th, 2019, with the request to answer the questionnaire by April 8th. The contacts were frequently followed up via email and phone calls with reminders and requests to substantiate the answers.

4.2. Limitations

This study requires acknowledging several limitations, primarily those related to fiduciary duty, sampling and secondary data, and analysing financial institutions' ESG integration.

Fiduciary duty

Firstly, it is acknowledged that financial institutions' fiduciary duty, which is focused on in this study, influences and is dependent on numerous determinants, such as regulatory and legislative frameworks, institutions like financial ministries and supervisory institutions, prevailing investment approaches and value-systems, the behaviour of the industry peers, and others (Woods, 2011; Martini, 2018). Nevertheless, this study limits itself to explicitly reflecting financial institutions' fiduciary duty based on their investments and ESG integration, while still recognising other factors in the context.

Secondly, the definition of fiduciary duty consists of two central parts: financial institutions acting 1) in clients' sole interest with no conflict of interests, and 2) with expected prudence and competence (Sandberg, 2011). While the first part would provide useful insight into considering clients' different interests, this study is limited to analysing the second part, given the focus on climate change and the materiality of climate risks.

Thirdly, this study examines investments and financial institutions' mechanisms to address climate and ESG risks as of one point in time, as longitudinal data for ESG mechanisms are not available. Therefore, the study does not aim to find causality but rather explore the possible variables, which define the fiduciary duty in the context of Estonian pension funds.

Sampling of companies and pension funds

Fourthly, the choice of sample companies is limited to utilising secondary data compiled by two different organisations, which requires considering the limitations and nuances of both, as well as the limitations arising from combining these. These limitations are elaborated in Appendix B. To highlight a few, InfluenceMap's scoring methodology is based on quantifying and weighting qualitative elements, a process which is susceptible to subjectivity, and the choice of companies disregards state-owned companies, many of which are regarded as bigger polluters than non-state-owned companies (e.g., see CDP, 2017). For CDP, companies voluntarily report their GHG emissions based on different methodologies, and hence the results are likely to be inconsistent or biased towards companies' benefit. While combining the studies complicates choosing the sample and author's own research could possibly lead to a more suitable level of detail to this study, the secondary data is regarded sufficient due to the comprehensiveness and recency of the existing data, and the focus of the first sub-research question to merely investigate *how* pension funds invest in companies reinforcing climate change.

Fifthly, the data was collected on a pension-fund level (see section 5.1.), but the analysis aggregates this primarily to the financial institutions' level. While observing pension funds in more detail would provide valuable insight into the fiduciary duty of funds with different characteristics, the ESG integration is assumed to be driven by financial institutions managing the pension funds, and hence this study focuses on the latter.

Sixthly, analysing also the invested amounts would provide a better understanding of which pension funds support sample companies more extensively. Nonetheless, as investments are often made through other investment vehicles, many of which do not publish detailed portfolio holdings, quantifying investments from 23 pension funds to all 36 companies is complex. Therefore,

this study is limited to analysing whether or not pension funds invest in the 36 companies and follows the principle that investments of all amounts exhibit supporting investees' actions.

Studying ESG integration

Seventhly, this paper focuses on *what* mechanisms financial institutions use to address climate-related ESG risks but does not explicitly focus on *how effective* these mechanisms are or *why* specific methods are used, as these go beyond the scope of this paper. However, the latter two are also discussed to the extent they emerge in dialogues with financial institutions.

Eighthly, international financial institutions can have ESG, investment and other functions spread across different subsidiaries and countries, thus complicating accessing relevant sources. Adding also the expected confidential nature of ESG integration (as it is an internal process), this study acknowledges the limitations of not being able to access *all* relevant sources. Nevertheless, the author aims to obtain as a comprehensive set of materials as possible through an extensive analysis of publicly available documents and dialogues with financial institutions. Also, it is expected that all statements by financial institutions cannot be verified by specific documents due to inaccessibility or other reasons. Hence, this study, to the extent possible, refers to such statements as “the investor claims to be doing something” instead of “the investor does something”.

5. EMPIRICAL FINDINGS

5.1. Pension funds' investments in companies reinforcing climate change

Appendix D illustrates which Estonian financial institutions in their pension funds have invested in which of the 36 companies reinforcing climate change. It depicts that all five financial institutions have invested, as of January/February 2019, in either 35 or all 36 companies. The findings are disaggregated to pension-fund level in Appendices E (direct) and F (indirect investments).

5.1.1. Direct investments

Direct investments in stocks and bonds comprise a significantly smaller proportion than indirect investments through other investment funds. SIF appears to have invested directly in 16, SEB in seven and LHV in five of the 36 companies. Luminor and Tuleva have not made any direct investments in their pension funds. Table 2 below illustrates the proportion of investments made in stocks and bonds.

Table 2. Number of direct investments in the 36 companies via stocks and bonds

Financial institution	# companies directly invested in (n=36)	Stock (shareholder)	Bond (bondholder)
SIF	16	15	2
SEB	7	2	5
LHV	5	1	5
Luminor	0	0	0
Tuleva	0	0	0

Source: Appendix E

SIF has invested directly in 16 companies through three different pension funds (mostly K3 and K4), SEB in seven companies through four funds (mostly Progressive) and LHV in five companies through four funds (see Appendix E).

5.1.2. Indirect investments

As seen in Appendix D, the five financial institutions have made most investments in the 36 companies indirectly through other investment funds, each investing in and hence supporting at least 34 of the 36 companies through at least two different investment funds.

Appendix F details which pension funds indirectly invest in the companies through which investment funds. From the 14 investment funds observed, six have invested in at least 34 companies, four in 14 to 20 companies, one in seven and two in one company. Knowing that larger investment funds mostly invest in economically influential companies, the significant number of investments by Estonian pension funds confirms the importance of the 36 companies in the global economy and illustrates the prevalent risk distribution in portfolios.

At LHV, most identified indirect investments in the 36 companies are made through Index, at Luminor through A, A Plus and B, at SEB through Energetic, at SIF through K90-99, and at Tuleva through World Stocks pension funds. See Appendix F for an overview of all pension funds.

There are many pension funds whose direct and indirect investments have not been described. For direct investments, Appendix E is exhaustive (i.e., all investments are detailed), and hence these pension funds do not directly invest in any of the 36 companies. For indirect investments, however, the examined 14 investment funds do not cover all investments of all financial institutions and pension funds because the opposite is beyond this study's scope (see Methodology).

5.2. ESG integration of Estonian pension funds

5.2.1. Overview

Obtaining information on the ESG integration of Estonian pension fund managers differed for financial institutions, as depicted in Table 3 below.

Table 3. Respondents and sources for analysing ESG integration of Estonian pension funds

FI & Respondent	Form of dialogue	Additional sources used for analysis
LHV Kristo Oidermaa <i>Pension Fund Manager</i>	One-time reply via email	None because claimed that LHV does not consider climate or ESG risks in policies or practices.
Tuleva Tõnu Pekk <i>Pension Fund Manager</i>	Responded to the survey	None because claimed that Tuleva does not consider climate or ESG risks in policies or practices.
Luminor Laur Samlik <i>Portfolio Analyst</i>	One in-depth phone interview and several follow-ups via email and phone	Climate Change Position Statement (Nordea, 2017a) Sustainability Policy (Nordea, 2017b) Annual Report 2018 (Nordea, 2019a) Commitment to Responsible Investment (Nordea, 2019b) Responsible Investment Policy (Nordea, 2019c) Exclusion list (Nordea, 2019d) Proxy Voting Dashboard (Nordea, 2019e) Sustainability Governance Structure (Nordea, 2019f) Commitment and policies (Nordea, 2019g)
SEB Endriko Võrklaev <i>Pension Fund Manager</i>	Responded to the survey, followed up once via an in-depth phone interview and several times via email and phone	Climate Change Position Statement (SEB, 2015) Environmental Policy (SEB, 2018) Sustainability Policy (SEB, 2019f) SEB's Sustainability Policies (SEB, 2019g) Exclusion: Core Criteria (SEB, 2019h) Voting Principles (SEB, 2019i)
SIF Kristjan Tamla <i>CEO</i>	One-time reply via email stating that its ESG policy is currently under development and indicating to SIF's voting policy on eurofunds	Environmental Policy (Swedbank, 2018a) Climate Change Position Statement (Swedbank, 2018b) Sustainability policy (Swedbank, 2018c) Energy Sector Guidelines (Swedbank, 2018d) Exclusion list (Swedbank, 2019f) Annual and Sustainability Report 2018 (Swedbank, 2019g) Client Complaint Handling Policy (Swedbank, n.d.)

The findings greatly vary between Estonian- and foreign-owned financial institutions.

Both Estonian-owned financial institutions, **LHV** (via email) and **Tuleva** (via survey), stated resolutely that they do not address climate or other ESG risks in their investment policies and processes. **LHV**'s representative claimed that LHV is following the ESG sphere but has not taken any measures because ESG is not yet important enough in Estonia to be considered, adding that likely because of the relatively small investment amounts compared to the costs of developing ESG mechanisms. **Tuleva**'s representative provided two reasons: its first pension fund was launched just two years ago and has not reached a scale that would enable setting its own investment policies, and it is a passive investment manager depending on global index funds, which are made available for Estonian investors.

The three other, foreign-owned financial institutions – **Luminor**, **SEB** and **SIF** – appear to be putting more focus on climate and ESG, especially through their holding companies' group-level

policies and mechanisms, which are applied to Estonian pension funds differently. *Luminor* has given the investment mandate – the right to manage its pension funds – entirely to Nordea Investment Management AB, a non-Estonian subsidiary also belonging to Nordea Group (source: phone interview). Hence, Nordea’s group-level policies and mechanisms, which also apply to Luminor’s pension funds, are analysed⁴. *SEB* has given part of its investment mandate to SEB Investment Management AB, a non-Estonian subsidiary belonging to SEB Group (source: phone interview), and hence ESG integration is examined on two levels: SEB Group and SEB Varahaldus. *SIF* claimed to be currently developing its ESG policy (estimated launch in June 2019, source: email), implying that an internal comprehensive ESG policy is not followed as of April 2019. Still, Swedbank’s group-level ESG policies and mechanisms were examined to see if and how they apply to SIF.

Recognising the absence of climate/ESG integration in LHV and Tuleva, the ESG integration practices of only the three foreign-owned financial institutions are dissected in Table 4 below, based on the themes described in section 4.1.3.: acknowledgement, application and management. The table concentrates on ESG integration aspects that are most relevant for Estonian pension funds in the climate context, and the findings are concluded after the table.

⁴ Nordea’s policy documents applied to Luminor’s Estonian pension funds include those published under the names of Nordea Group, Nordea Investment Management AB, and Nordea Asset Management, as suggested by Luminor’s representative via phone interviews.

Table 4. ESG integration in foreign-owned financial institutions managing Estonian pension funds

Theme	Nordea Group/Luminor	SEB Group/SEB Varahaldus	Swedbank Group/SIF
Acknowledgement: climate/ESG risks (group-level policies for all)	Recognises a) its role and importance in supporting the transition to a low-carbon economy (Nordea, 2017b), and b) that climate and ESG risks are material (Nordea, 2017a, 2019b), and thus considering ESG is part of fiduciary duty (Nordea, 2019c).	Recognises a) its responsibility to support the needs of different stakeholders in the climate context (SEB, 2015), and b) the need to address material climate risks (SEB, 2015 & 2018).	Recognises a) its responsibility to address sustainability-related challenges in the society, and b) the need to consider ESG factors in investment decisions (Swedbank, 2018c & 2018a)
Acknowledgement: commitments to initiatives focusing on climate	Nordea (2017b, 2019c, 2019g) has committed to UN Global Compact, UNPRI, UNEPFI, Equator Principles, OECD Guidelines for MNEs, Paris Pledge Action in support of COP 21, Rio Declaration on Environment and Development, CDP and Montreal Carbon Pledge.	SEB (2018) has committed to UN Global Compact, UNPRI, UNEPFI, Equator Principles, CDP, OECD guidelines for MNEs, Global Investor Statement on Climate Change, Montreal Carbon Pledge.	Swedbank (2018a & 2019g) adheres primarily to UN Global Compact and UNPRI but has also committed to UNEPFI, OECD Guidelines for MNEs, CDP and Montreal Carbon Pledge
Application: negative screening (exclusion lists)	In all pension funds, excludes companies exceeding coal revenues (metallurgical coal, thermal coal, coke) of 30%, or breaching environmental norms (Nordea, 2017a & 2019c).	In all pension funds, excludes companies exceeding coal revenues of 20%, or breaching environmental norms, and in Progressive pension fund, also excludes energy sector (oil, gas, coal) from equity investments entirely (SEB, 2019f & phone interview).	In all pension funds, appears to exclude companies exceeding coal revenues of 30% (Swedbank, 2018b).
Application: positive screening	On group-level (Nordea, 2019b) and in Luminor pension funds (source: email), actively selects securities with high ESG performance, based on proprietary methodology.	On group-level (SEB, 2019f) and in Estonian pension funds (source: phone interview), selects securities contributing to sustainable development and mitigating climate risks.	No information was provided/found on whether SIF's pension funds utilise positive screening.
Application: voting	On group-level, uses voting at AGMs to address ESG issues and has a public voting portal showing how it has voted (Nordea 2017b & 2019b). From January 2018 to March 2019, used voting rights for 6 firms in the sample of 36 (Nordea, 2019e).	On group-level, no information was provided/found on how SEB uses voting rights in its Estonian pension funds. At SEB Varahaldus, a relevant policy exists (SEB, 2019i), but has not been used for climate/ESG issues (source: phone interview).	On group-level, no information was provided/found on how Swedbank uses voting rights in its Estonian pension funds. At SIF, a relevant policy exists (Swedbank, n.d.) but its application could not be verified.
Application: engagement	On group-level, claims to engage with companies to advance their climate & ESG	On group-level, claims to engage with companies to advance their climate & ESG	No information was provided or could be found regarding how

	performance and to prefer engagement to divestment (Nordea, 2017a, 2017b & 2019b).	performance and to prefer engagement to divestment (SEB, 2015 & 2019f).	Swedbank/SIF engages with companies in SIF's pension funds.
Application: ESG data integration	On group-level, claims to integrate ESG data in all investment decisions for internally and actively managed funds (e.g., Luminor's pension funds and Nordea's other funds), which includes considering climate- and fossil-fuel related risks (Nordea, 2017b & 2019c, email dialogue).	On group-level, claims to integrate ESG & climate risks in investment processes (SEB, 2015). In funds managed in Estonia this was stated to include only basic ESG-questions in due diligence, if relevant (not monitored post-investment), and consulting ESG team for controversial projects (phone interview).	No information was provided or could be found regarding how Swedbank/SIF integrates ESG data in the investment process of SIF's pension funds.
Application: direct vs indirect investments	On group-level, ESG is addressed mainly for direct investments representing Nordea's largest holdings in its internal funds (Nordea, 2019b; 2019c). In Luminor's funds, Nordea's internal funds were claimed to comprise up to 50% of the portfolio, the rest being invested in index products (email dialogue).	On group-level, sustainability efforts and ESG integration (i.e., exclusion list & engagement) apply solely to direct investments in fixed income securities and equities, and when possible, SEB's internal funds (SEB, 2019f).	On group-level, exclusion list is applied only for direct investments in firms and equity derivatives in firms. Influence work for external funds is expected to be conducted by external fund managers (Swedbank, 2019f).
Management	Sustainability decisions are made by Business Ethics and Values Committees and implemented by different Business Areas and Group Functions (including the management team of Luminor's pension funds). Group Sustainable Finance supports integrating sustainability strategy in business decisions, and Sustainability Committee (represented by Business Areas) proposes improvements (Nordea, 2019f). Also, the Responsible Investment Committee (comprising Senior Executive Mgmt.) oversees Nordea's Responsible Investment Policy (Nordea, 2019c). Employees access ESG data via an internal research platform and meetings with ESG & investment teams of Nordea (2019b).	Sustainability/ESG strategies are developed by an operational ESG team, Chief Sustainability Strategist and advisory Corporate Sustainability Committee, and their implementation executed by heads of each division, business support or group staff function (SEB, 2018 & 2019f). SEB Varahaldus follows the core exclusion criteria, considers basic ESG in due diligence (when needed), consults ESG team in Sweden for bigger issues, and decides on providing ESG mandate. ESG competence is transferred via one-time online training, regular conference calls with ESG team, and overview emails of ESG trends (survey & phone interview).	Sustainability/ESG strategies for investment decisions are governed by Board of Directs and CEO and its Office, executed by Group Sustainability (5-member expert group), supported by Business Ethics Committee for case-specific sustainability risks, and implemented by business functions, including SIF (Swedbank, 2019g). Swedbank (2018a, 2018d, 2019g) claims to consistently educate its employees regarding sustainable banking, managing environmental impact, and other relevant issues, but these were not verified by SIF.

5.2.2. Acknowledgement of ESG and climate change in policies

As concluded in Table 4, *all three* financial institutions in their group-level policies explicitly acknowledge that adequately considering climate and ESG risks in investment processes is fundamental for managing *both* sustainability *and* financial risks (Nordea, 2017b; SEB, 2015; Swedbank 2018a), but seem to focus on climate/ESG risks' *materiality* and hence prioritise the financial risks (Nordea, 2019c; SEB, 2018; Swedbank, 2018c).

Further, *all three* have comprehensive sustainability and environment policies, which are supported by position statements on climate change that instruct addressing climate risks in investment processes (Nordea, 2017a; SEB, 2015; Swedbank, 2018b). *SEB* (2019g) and *Swedbank* (2018d) complement the previous by climate-related sector guidelines, such as forestry, fossil fuels and energy. *All three* are signatories of several climate-related initiatives highlighted also in section 2.3.1, such as Montreal Pledge, UNPRI and UN Global Compact, asserting their acknowledgement of climate risks for both society and investments.

The group-level policies on climate and sustainability, however, seem to be distanced from Estonian subsidiaries, due to the very limited climate/ESG mentions in subsidiaries' policies. Also, *Luminor's* representative in the first phone interview claimed not being aware of specific policies due to investment mandate given to another entity abroad, adding that the mandate includes a clause that investments must be UNPRI signatories, to the extent possible. *SEB's* representative affirmed acknowledging ESG risks but was at the time of the first phone interview not aware of specific climate-related policies. *SIF's* representative via email, while not elaborating on existing ESG/climate policies-practices, stated to be developing its internal ESG policy, which would be the first among the five financial institutions.

5.2.3. Application: negative & positive screening

All three utilise standard group-level exclusion lists, which also apply to *direct investments* in Estonian pension funds (Nordea, 2017a; SEB, 2019f; Swedbank, 2018b). Among others, *all three* exclude companies that breach environmental norms or are coal-dependent, although to a different extent (see Table 4). *SEB* as the only exception, since 2017, excludes the energy sector (coal, gas and oil) from direct equity investments in its largest, Progressive pension fund (equity part comprising around one-fourth of SEB's Estonian pension funds' total AUM), via an ESG investment mandate given to another SEB Group subsidiary (SEB, 2019f; phone interview). *SEB's* representative claimed that stricter ESG criteria are not applied to smaller funds mostly because of the limited direct investments and high relative administrative costs, but also the lack of progress in the ESG sphere by other Estonian financial institutions, the short-term financial expectations of

clients, and overall lack of societal demand for ESG in Estonia. From this study's sample of 36 companies, the standard exclusion lists of Nordea (2019d) and Swedbank (2019f) include only Phillips 66, and SEB's (2019h) also BHP Billiton and Royal Dutch Shell. Nevertheless, none of the three has been excluded because of climate-related or environmental reasons.

Luminor's (Nordea, 2019b) and *SEB's* (2019f) pension funds also utilise positive screening by investing in securities with high ESG performance. For instance, SEB's Optimal pension fund has invested in Sustainability High Yield and Ethical Equity Funds that, similarly to Progressive pension fund, follow stricter exclusion strategies, and Luminor's A and A Plus pension funds in Emerging Stars Equity Fund, which follows Nordea's proprietary STARS rating methodology (sources: respectively phone interview and emails; portfolio sources in Appendix A). *SIF's* pension funds were not found to apply positive screening.

5.2.4. Application: Engagement via voting at AGMs

Only *Nordea*, representing also Luminor, was found to actively exercise its voting rights in its largest holdings to advance their ESG-related performance, also making voting-decision publicly available at its Voting Portal (Nordea, 2017b; 2019b). For instance, since January 2018 Nordea has engaged with several of the 36 sample companies: Lukoil, Total, ExxonMobil, the Southern Company, Valero Energy and Royal Dutch Shell (Nordea, 2019e).

On group-level, no explicit information was found on how *SEB* or *Swedbank* use their voting rights, especially on behalf of their Estonian pension funds. However, in Estonian subsidiaries, they both have relevant voting policies (SEB, 2019i; Swedbank, n.d.), which SEB's representative said have not been used for climate/ESG issues, likely due to lacking ESG focus in Estonia (phone interview), and SIF's representative decided not to comment.

5.2.5. Application: Engagement via dialogue

Nordea (2017a; 2017b; 2019b), on behalf of Luminor, and *SEB* (2015; 2019f) in their group-level policies claim to prioritise constructive dialogues over investments and engage with largest holdings via dialogue to influence companies to improve their climate/ESG performance. Also, while a record of dialogues could not be found for either, *SEB's* exclusion list (2019h) suggests not including Lukoil (a sample company) in the list due to the on-going engagement process.

On group-level, *Nordea* and *SEB* (and *Swedbank* but its group-level engagement practices were not found to be linked to SIF's pension funds⁵) appear to have influenced investee companies to

⁵ As stated in the Annual and Sustainability Report 2018 of Swedbank (2019g), advanced ESG integration methods seem to be used in other funds, e.g., Swedbank Robur, which were not found to be associated with SIF's funds.

align their practices with the Paris Agreement jointly with other investors by being signatories of Montreal Pledge, UNPRI, Global Investor Coalition and others (see section 2.3.1. and Table 4 in section 5.2.1.). There was no information found, however, to what extent the group-level engagement practices can be associated with Estonian pension funds' portfolios.

5.2.6. Application: ESG data integration

In group-level policies, both *Nordea* (2017b; 2019c) and *SEB* (2015) claim to be incorporating ESG (including climate) data in investment decisions in their internal funds, including conducting regular norm-based screening, which could result in engagement or exclusion/divestment. Also, while *Nordea's* representative stated that ESG data is integrated also in Luminor's pension funds directly (email dialogue), *SEB's* representative said to be inquiring only basic ESG-related information from Estonian-based investments during due diligence and consulting SEB Group's ESG team for controversial projects, if relevant (phone interview). No information was provided or could be found regarding how *Swedbank/SIF* integrates ESG data in the investment process of SIF's pension funds.

5.2.7. Application: Direct-internal vs indirect-external investments

All three in their ESG integration methods focus explicitly on direct investments and internally managed funds, primarily in largest holdings (Nordea, 2019b; 2019c; SEB 2019f; Swedbank, 2019f), which disregards a large part of pension funds' portfolios.

More specific information was provided only by *Luminor* whose pension funds comprise up to 50% of Nordea's internal funds (where ESG integration is applied), the rest being external funds whose holdings – according to Nordea's documents shared by Luminor's representative – cannot be influenced from a responsible investment perspective (source: email).

To exemplify on exclusion lists, focusing on direct/internal investments allows financial institutions to invest in exclusion list companies indirectly through external investment funds. For instance, as described before, Phillips 66 is in all three exclusion lists, but all three financial institutions invest in the company through at least two external investment funds (see Appendix D).

5.2.8. Application in Estonian subsidiaries

Estonian subsidiaries managing pension funds (i.e., *SIF's* and most of *SEB's* portfolios) were not found to comprehensively integrate ESG in investment processes (e.g., engagement via dialogue, exercising voting rights, ESG data integration), other than the basic ESG data integration at SEB if relevant (source: phone interview), and the core exclusion lists for both. This is likely due to the lack of ESG competence, group-level activities already incorporating Estonian pension funds

(for Luminor and SEB), and other reasons. However, *SIF*'s on-going ESG policy development suggests to improving ESG-landscape also in Estonian-managed pension funds.

5.2.9. Management: Estonian subsidiaries

As described in Table 4, on group-level, while *all three* have differing ESG/sustainability governance structures, all include an operational ESG/sustainability team, advisory sustainability committee, and business functions responsible for implementing ESG/sustainability strategies (Nordea, 2019f; SEB, 2018; 2019f; Swedbank, 2019g).

Estonian subsidiaries appear to have the implementing business function. As such, *Luminor* and *SEB* claimed to utilise investment mandates, which include ESG criteria, to give the operational (ESG) management of pension funds to foreign-based entities. *Luminor* respectively for all pension funds with a clause that UNPRI signatories must be emphasised in investments, and *SEB* for equity investments in Progressive pension fund to follow SEB's stricter sustainability criteria (sources: phone interviews). For investment teams in Estonia, the ESG competence is transferred through internal training, regular meetings with ESG team, mailing lists and other means (Nordea, 2019b; SEB, survey & phone interview; Swedbank, 2019g).

6. ANALYSIS & PROBLEMATISATION

6.1. Analysis of the results: defining the fiduciary duty

6.1.1. Systemic investments in companies exacerbating climate change

Examining exclusively the investments, each financial institution through its pension funds invests in and thus supports either 35 or 36 companies significantly reinforcing climate change. Therefore, similarly to other studies conducted on financial institutions globally (see section 2.2.1.), Estonian financial institutions, too, systemically support and exacerbate climate change through their investments. Many investments are made directly (see Appendix E), providing financial institutions with higher flexibility to address climate/ESG risks than indirect investments (see section 2.3.2.), but the systematicness of investing in climate-adverse companies arises primarily from the widespread investments in larger index funds (see Appendix D), making financial institutions and asset owners mostly minority share- or bondholders in investee companies. The systematic investing in the sample companies depicts that the pension funds of the five financial institutions are strongly exposed to systemic financial market risks, as is climate change (see section 2.1.1.), aligning with the arguments presented by Woods (2011).

Based on the two-level model operationalised in section 3.3.2., both direct and indirect investments in the sample companies raise two complementary concerns, and subsequently two

demands for the five financial institutions. *Firstly*, the capital of asset owners, the Estonian citizens, is systemically exposed to material climate risks, potentially harming the financial returns, if not addressed properly, and therefore also financial institutions' specialised goal. Thereby requiring addressing climate risks to act in clients' best interest with prudence and competence and conform to the modern fiduciary duty. *Secondly*, considering the work of OECD (2017b), the business relationships between financial institutions and investee companies raise expectations for financial institutions to contribute to the prevention and mitigation of adverse climate impacts, as these directly conflict with the general societal goal.

6.1.2. Fiduciary duty based on climate/ESG risk acknowledgement

Regarding foreign-owned financial institutions, the group-level policies that are applied also to Luminor's, SEB's and SIF's pension funds, acknowledge the funds' importance in addressing stakeholders' needs in the climate context, thus hinting to the universal fiduciary duty and pursuing the general goal. On an operational level, though, the policies highlight mainly the material climate/ESG factors, indicating to the modern fiduciary duty and optimal specialised goal (Nordea, 2017b, 2019c; SEB 2015, 2018; Swedbank, 2018a, 2018c).

However, there seems to be a distinct difference between Estonian- and foreign-owned financial institutions, as unlike the latter, the former (LHV and Tuleva) *do not* acknowledge nor consider climate/ESG risks in their policies or practices (see section 5.2.1.). This reflects their strictly narrow fiduciary duty, which can be considered as breaching fiduciary duty overall by disregarding *financially material* climate/ESG risks, as discussed in section 2.2.2. Section 6.2. elaborates on the plausible explanatory variables determining this narrow interpretation.

6.1.3. Fiduciary duty based on ESG integration in practice

Focusing only on the foreign-owned financial institutions (due to the absence of climate/ESG considerations at Estonian-owned financial institutions), the fiduciary duty can be defined by holistically considering different ESG integration methods and nuances highlighted in this and the following section.

First, exclusion lists appear among the most common practices to address climate/ESG risks, as all three financial institutions seem to apply one to all pension funds, and SEB also stricter criteria to its largest pension fund. As discussed, while all three standard exclusion lists include companies for breaching environmental norms or being too coal-dependent, each list includes up to three companies from this study's sample of 36, and none for climate/environmental reasons (see section 5.2.3.). Knowing that the sample includes companies that are among most influential in reinforcing climate change, this could – on one side – show that exclusion lists are possibly not

stringent enough regarding climate issues such as GHG emissions. On the other side, this could reflect the stance of Nordea and SEB to prioritise engagement over divestment and exclusion (section 5.2.3.). Also, SEB and Luminor appear to utilise positive screening by choosing high-ESG-performing securities in portfolios, which is a sign of supporting the general goal of the two-level model, but which comprise a small part of total AUM. The limited coverage of negative and positive screening thus seems to align with what is agreed in the literature regarding these having little impact on portfolios (Sullivan & Mackenzie, 2006).

Second, engagement practices – dialogue and voting activities – cannot be as directly associated with Estonian pension funds, mainly because they are carried out on group-level and their links to pension funds' portfolios cannot be tracked or proven exhaustively. However, as group-level engagement practices still include companies that Estonian pension funds have invested in, they can partially be attributed to the latter, and thus contribute to interpreting the fiduciary duty. For instance, on group-level, Nordea was the only company found to transparently share its voting decisions at AGMs of investee companies, which included several of the 36 companies (see section 5.2.4.), and SEB to be engaging with Lukoil via dialogue (section 5.2.5.).

Third, Nordea and SEB on group-level appear to integrate ESG data in investment processes, the former claiming to do so in all Luminor's pension funds, and the latter to a limited extent in Estonian-managed funds via qualitative inquiries for Estonian-based investments, if relevant (section 5.2.6.). Nevertheless, ESG data integration in Estonian pension funds could not be substantiated comprehensively.

Based on ESG integration in practice, the fiduciary duty differs depending on the financial institution, as Luminor's pension funds appear to be most transparent and considerate to climate/ESG risks, followed by SEB and ultimately SIF whose ESG integration seems to be limited to following the exclusion list.

Further, there appears to be a discrepancy between the group-level ESG integration and the extent to which funds managed by Estonian subsidiaries consider climate/ESG risks in their operations, shown by the absence of climate/ESG considerations in policies and processes of the subsidiaries (see sections 5.2.2. and 5.2.8.). This suggests that pension funds managed by Estonian subsidiaries, similarly to Estonian-owned financial institutions, are tilted towards the narrow fiduciary duty. On the contrary, pension funds managed outside Estonia by foreign-owned financial institutions via investment mandates seem to follow higher ESG standards, i.e., SEB's Progressive and all Luminor's pension funds. Section 6.2. elaborates on the plausible explanatory variables determining the narrow nature of the fiduciary duty of pension funds managed in Estonia.

6.1.4. Indirect-external investments: diversifying risks *and* responsibilities

The focus of all methods mentioned above appears to be on *direct* investments, with emphasis on largest holdings (see section 5.2.7.). This indicates to disregarding taking responsibility for the actions and impacts of the 36 companies which have been invested in and supported indirectly through external index funds.

While the prevalence of indirect investments illustrates the nature of risk diversification, a cornerstone of MPT (see section 3.1.), it also suggests to diversifying responsibilities, allowing a large number of investors investing in index funds to discard responsibility for the adverse impacts made at the other end of the investment value chain. Therefore, even though Luminor, SEB and SIF all, to some extent, address climate and ESG risks, these do not seem to be cared for within a vast part of portfolios (see sources of Appendix A).

From financial institutions' perspective, this can *firstly* be objected by many pension funds applying positive screening and investing in more sustainable funds (see section 5.2.3.). However, these comprise only a small part of portfolios and do not alleviate climate/ESG risks in other funds. And *secondly*, on group-level, it is likely that the three financial institutions engage with companies that they have invested in indirectly, through investor-initiatives like Montreal Pledge and UNPRI (see section 5.2.5.). However, considering the explicit focus of ESG-related policies and processes on largest holdings (section 5.2.7.), such engagement suggests that the possible engagement with indirect investments is more coincidental, and subsequently, does not entail purposefully engaging with Estonian pension funds' portfolio companies.

Based on the small sample of three financial institutions considering climate/ESG risks, focusing on direct-internal (and disregarding indirect-external) investments in ESG integration might be the present-day standard. This can be reasoned by the convenience or cost-effectiveness of engaging with portfolio companies with direct business relationships, and thus more tangible potential impact (e.g., Nordea, 2019b), but also due to the early stage of gradual transformation of mainstream financial sector towards the modern fiduciary duty (see sections 2.3.1. and 2.3.2.).

However, considering that Nordea (Luminor), SEB and Swedbank do not appear to be explicitly and adequately addressing the adverse impacts of indirect investments (see section 5.2.7.), not taking responsibility for the risks and impacts of a large part of portfolios implies to conflicting with the general societal goal, even though making efforts to follow the modern fiduciary duty. Discarding such responsibility raises questions on the sufficiency of modern fiduciary duty to pursue the specialised goal in the two-level model, in Estonian pension funds and mainstream finance overall. It also shows room for improvement regarding committing to group-level policies,

in which all three claimed to be responsible for supporting the well-being of the stakeholders their investments are affecting (see section 5.2.2.).

6.2. Variables explaining the Estonian fiduciary duty

Derived from the literature and theory, several plausible variables reinforce the narrow fiduciary duty in the Estonian context, for both the Estonian-owned financial institutions and Estonian-managed pension funds of foreign-owned financial institutions.

6.2.1. Influence from foreign-based ESG resources

First, all ESG integration methods utilised in Estonian pension funds seem to be influenced by ESG/sustainability competence and resources that are predominantly foreign-based (see section 5.2.9.). This manifests itself in, for instance, Estonia lacking adequate competence and mechanisms for addressing climate/ESG risks, as suggested by SEB's representative in a phone interview. The missing know-how can also contribute to preventing the increasing societal demand for addressing climate/ESG risks in investment processes, which is necessary to shift towards the modern fiduciary duty, as discussed later in section 6.2.4.

However, as Estonian financial institutions mostly follow the guidelines provided from abroad, *how* they address climate/ESG risks, and therefore also their fiduciary duty, is largely defined by ESG departments situated outside Estonia. Considering also the aforementioned, two examples of how Estonian subsidiaries could pursue a more modern fiduciary duty include providing more extensive ESG investment mandates to foreign entities with stronger ESG-related competence *or* seeking domestic ESG competence and initiating climate/ESG mechanisms that best suit the local context.

6.2.2. Small investment amounts and cost implication

Based on the discussions with financial institutions' representatives (see section 5.2.1.), two common interrelated reasons preventing the transformation of the narrow fiduciary duty are the relatively small investment amounts in Estonia and the costs associated with establishing ESG mechanisms.

Regarding the first, Estonian pension funds' total AUM, €4 billion (see section 2.4.2.), is indeed small compared to the global financial sector, as exemplified in section 2.2.1. From financial institutions' perspective, this could suggest that Estonian pension funds are not reinforcing climate change as extensively as larger financial institutions, and thus seemingly have a lower responsibility for mitigating the adverse impacts than global investors. Still, following the principle that any investment amount supports the impacts of investee companies, even small amounts raise

expectations for financial institutions to be accountable for alleviating adverse risks and impacts (OECD, 2017b). Further, small investment amounts suggest to Estonian pension funds having low investor leverage to incentivise companies to advance their climate/ESG performance, and subsequently potentially low effectiveness of engagement. As highlighted in section 2.3.2, though, all financial institutions, despite the size of holdings, can effectively influence portfolio companies, e.g., through joint investor initiatives like Montreal Pledge and UNPRI. While already supported on group-level by Nordea (Luminor), SEB and Swedbank (see section 5.2.5.), these efforts could be 1) more purposefully directed to Estonian pension funds' portfolio companies and adverse climate impacts in specific, 2) better communicated to different stakeholders in Estonia to advance societal demand for ESG integration (see section 6.2.4.), and 3) adopted also by Estonian-owned financial institutions.

The second reason is the cost associated with establishing an ESG system, especially regarding the small investment amounts (see section 5.2.1.). Indeed, it can be assumed that foreign-owned financial institutions can leverage their economies of scale, as through international structures they can establish ESG mechanisms with lower relative costs, and considering higher investment amounts, achieve potentially higher impact. For instance, by having one central ESG team responsible for group-wide ESG integration (see examples in Table 4 and section 5.2.9.). However, different corporate structures and investment strategies can gradually develop and adopt different ESG strategies most fitting for financial institutions' operations (specialised goal) and impactful to the society (general goal) (see section 2.3.2.), including for specific contexts like passive strategies (e.g., Tuleva) and smaller investment amounts (Estonian financial sector overall). In this light, the ability to develop customised ESG mechanisms counters the two arguments that appear to strengthen the narrow fiduciary duty.

6.2.3. The vagueness of fiduciary duty in Estonian law

The narrow nature of fiduciary duty in Estonian pension funds is likely supported by how Estonian legislation defines the term, as discussed in section 2.4.1. That is, investors are required to act based on their *expected* prudence and competence, which reflects the vagueness of the fiduciary duty in the Estonian law as it leaves room for translation: expectations of what elements of prudence and competence, and expectations by whom?

Considering the law, still, and knowing that financial institutions, NGOs, the government and others have not publicly raised awareness of the impact of investments on climate and vice versa, expectations on considering climate-related ESG risks in investment processes can be deemed non-existent. In this sense, financial institutions putting no or little emphasis on ESG integration are acting based on their *expected* prudence and competence, therefore adhering to the narrow

fiduciary duty without breaching the law, despite the materiality of climate-related ESG risks. Putting this in the two-level model, the low climate/ESG-related expectations do not obligate financial institutions to conform to the general societal goal, reflecting the strictly traditional view of the financial sector.

Acknowledging the materiality of climate risks and the emerging discontent with the traditional fiduciary duty from people, organisations and governments globally (see section 2.3.1.), *not* paying attention to climate and other ESG risks suggests that the science behind the materiality of these risks (see section 2.2.2.) is not yet ingrained in stakeholders' expectations to Estonian pension funds and financial sector.

6.2.4. Herding behaviour and societal demand

When discussing why one financial institution does not integrate climate/ESG risks (LHV) or another utilises ESG integration but does not publicly communicate it (SEB, source: phone interview), the key argument that arose from the discussions was not the limited viable data or frameworks, as discussed in section 2.3.2., but that “others are not doing it” and the lack of societal demand for ESG in Estonia, complemented by cost implications and other reasons.

The first suggests that the narrow fiduciary duty in the Estonian context is reinforced by “herding behaviour” or benchmarking against sector peers (see section 2.2.2.). Considering the Estonian legislation, such behaviour hinders changing the *expectations* on prudence and competence, which is a prerequisite to transforming the fiduciary duty to be modern. Therefore, the shifting of expectations on prudence and competence, and subsequently the transformation of the fiduciary duty will likely accelerate, if financial institutions with more advanced ESG mechanisms begin communicating their practices to stakeholders like asset owners, NGOs, the government, and others. Recognising the gaps between foreign- and Estonian-owned financial institutions, if the former increasingly highlighted their (in many ways insufficient, yet existing) ESG policies and practices to relevant stakeholders, Estonian-owned financial institutions are likely incentivised to catch up. The latter also supports mitigating the lack of demand by societal stakeholders for climate/ESG integration in the financial sector, which was suggested as another main reason behind the narrow fiduciary duty (source: phone interviews with LHV and SEB representatives). On the example of Sweden where SEB and Swedbank are headquartered, its NGOs are calling financial institutions to be more responsible (e.g., Fair Finance International Sweden), its national pension funds are demanding companies to mitigate adverse climate lobbying activities, and its government requires pension funds to define, in policies, how they consider ESG factors (see section 2.3.1.). This inevitably pressurises Swedish financial institutions to put a stronger focus on climate and ESG

risks, which can be assumed to be carried over to Estonian subsidiaries because of consistency, legitimacy, ethical, financial and other reasons.

In Estonia, however, such societal demand is lacking, preventing the advancing of fiduciary duty. Therefore, it can be expected that the more relevant stakeholders show interest in how climate/ESG risks are addressed in Estonian pension funds and financial institutions, the more rapid the transformation to modern fiduciary duty.

6.2.5. Short vs long-term investments

Lastly, the narrow fiduciary duty can be assumed to be strengthened by the prevalent short-termism in the financial sector (see section 2.2.2.), which in Estonia – as suggested by SEB’s representative in a phone interview – is especially fuelled by the political landscape, in which the recent coalition aims to make the mandatory second pillar voluntary (see section 2.4.2.). This, however, requires financial institutions to put increasing focus on short-term results. The increasing short-termism does not explain the narrow fiduciary *per se* but implicates that it is hindering the transformation to modern fiduciary duty, as climate/ESG risks are often considered long-term (see Introduction and section 2.2.2.).

7. CONCLUDING REMARKS

7.1. Concluding the analysis

This study finds that Estonian financial institutions in their pension funds invest systemically – mostly through external investment funds – in companies significantly reinforcing climate change, thus raising the requirement to manage material climate/ESG risks (specialised goal), and the expectation to contribute to mitigating adverse impacts within portfolios (general goal).

The findings reveal, however, that *if* and *how* financial institutions consider climate/ESG risks in pension funds depends on whether the funds are managed by Estonian or foreign entities, which mechanisms are integrated on a group- and which on Estonian-level (for foreign financial institutions), and other factors. Estonian-owned financial institutions LHV and Tuleva disregard climate/ESG risks from investment decisions, reflecting the narrow fiduciary duty, whereas the foreign-owned Luminor, SEB and SIF adhere to group-level policies acknowledging the necessity to consider stakeholders’ needs and material climate/ESG risks, implying that they comply with modern fiduciary duty. For foreign-owned financial institutions, pension funds managed by Estonian subsidiaries appear to address climate/ESG risks less adequately than those managed abroad via an investment mandate (i.e., SEB’s Progressive and all Luminor’s pension funds), illustrating the generally narrow fiduciary duty in the Estonian context.

The narrowness, especially for pension funds managed in Estonia, was discussed to be reinforced by 1) fiduciary duty being influenced by foreign-based financial institutions, 2) small investment amounts causing relatively costly ESG mechanism development, 3) vagueness of fiduciary duty in Estonian jurisdiction, 4) lacking societal demand from industry peers and other stakeholders for ESG integration, and 5) increasing short-termism of Estonian pension funds resulting from recent political developments.

Despite these and other determinants explaining the fiduciary duty of Estonian pension funds, neglecting material climate/ESG risks can still be regarded as not meeting the prudential standards as per the modern fiduciary duty, given the potential impact of these risks on financial returns. Nevertheless, this study provides initial insight into how climate/ESG-related aspects are considered in the Estonian financial sector, supporting hence the on-going policy debates at the EU-level, complementing the work of the UN and OECD, and incentivising relevant stakeholders in Estonia to consider ways to include climate/ESG in the prudential standards and expectations of the fiduciary duty.

7.2. Further research

This study can be complemented by further research in numerous ways. *First*, investigating *how effective* are the mechanisms identified in this paper would provide a clearer understanding of whether the ESG methods uphold modern fiduciary duty standards. *Second*, examining more explicitly the variables affecting fiduciary duty in the climate context from a multi-stakeholder perspective would provide further insight into the technical, behavioural, contextual and other constraints hindering Estonian pension funds and financial institutions to integrate climate/ESG risks in investment processes. *Third*, the Estonian financial sector would benefit from an applied study modelling how modern fiduciary duty can be developed and integrated into the Estonian context, considering also the findings of this study. *Fourth*, considering the on-going advancements and increasing societal demand for ESG integration globally, the Estonian financial sector can be expected to gradually shift towards the modern fiduciary duty, and hence conducting a follow-up study with a more longitudinal view of portfolios and ESG integration methods would depict the transformation *process* of the fiduciary duty. *Fifth*, knowing that even the more advanced ESG integration methods used by financial institutions in Estonian pension funds disregard a vast part of portfolios, studying more explicitly the modern fiduciary duty would enhance the understanding of its *real* impact on investments and portfolios.

BIBLIOGRAPHY

- 2° Investing Initiative. (2017). All Swans are Black in the Dark: How the short-term focus of financial analysis does not shed light on the long term risk. Retrieved May 2, 2019, from <https://www.genfound.org/media/1383/all-swans-are-black-in-the-dark.pdf>
- Aberdeen. (2017). Doing 'the right thing' and making money. ESG and the corporate bond investor. Retrieved March 12, 2019, from https://www.standardlifeinvestments.com/ESG_and_the_corporate_bond_investor_TCM.pdf
- Amundi. (2019a). Amundi Index MSCI World UCITS ETF DR, fund holdings at 04/04/2019. Retrieved April 9, 2019, from <https://www.amundiETF.fr/professional/product/view/LU1437016972>
- Amundi. (2019b). Amundi MSCI Europe UCITS ETF – EUR (C), as at 04/04/2019. Retrieved April 9, 2019, from <https://www.amundiETF.fr/professional/product/view/LU1681042609>
- Andersson, M., Bolton, P., & Samama, F. (2015). Hedging Climate Risk. *Financial Analysts Journal*, 72(3). doi:10.2139/ssrn.2499628
- Apfel, W. H., & Ziulkowski, A. (2015). Portfolio Carbon Footprint Report. Retrieved February 18, 2019, from <https://waldenassetmgmt.com/new/the-value-of-footprints/>
- Belvedere, M. J. (2014). I'd vote 'yes' on Keystone pipeline: Warren Buffett. CNBC. Retrieved April 12, 2019, from <https://www.cnbc.com/2014/03/03/id-vote-yes-on-keystone-pipeline-warren-buffett.html>
- Bernasconi, L., & Bolton, P. (2015). Institutional Investing and Climate Change: Don't Worry About Ethics, Worry About Fiduciary Responsibility. The Rockefeller Foundation. Retrieved March 14, 2019, from <https://www.rockefellerfoundation.org/blog/institutional-investing-and-climate-change-dont-worry-about-ethics-worry-about-fiduciary-responsibility/>
- Björnsson, O. (2017). Fuel for Conflict: Investors and the case of Lundin Petroleum in Sudan. Swedwatch, Fair Finance Guide. Alice Blondel. Retrieved March 16, 2019, from https://swedwatch.org/wp-content/uploads/2017/05/Fuel-for-conflict_full-report.pdf
- Blackrock. (2016). EXPLORING ESG: A Practitioner's Perspective. Retrieved March 19, 2019, from <https://www.blackrock.com/corporate/literature/whitepaper/viewpoint-exploring-esg-a-practitioners-perspective-june-2016.pdf>
- Blackrock. (2018a). iShares Developed World Index Fund (IE), as at 31 May 2018. In Annual report and audited financial statements, Black Rock Index Selection Fund. Retrieved March 20, 2019, from <https://www.blackrock.com/uk/individual/literature/annual-report/blackrock-index-selection-fund-en-gb-annual-report.pdf>
- Blackrock. (2018b). iShares Developed World Ex Tobacco Index Fund (IE), as at 31 May 2018. In Annual report and audited financial statements, Black Rock Index Selection Fund. Retrieved March 20, 2019, from <https://www.blackrock.com/uk/individual/literature/annual-report/blackrock-index-selection-fund-en-gb-annual-report.pdf>
- Blackrock. (2018c). iShares Emerging Markets Index Fund (IE), as at 31 May 2018. In Annual report and audited financial statements, Black Rock Index Selection Fund. Retrieved March 20, 2019, from <https://www.blackrock.com/uk/individual/literature/annual-report/blackrock-index-selection-fund-en-gb-annual-report.pdf>
- Blackrock. (2019a). iShares Core MSCI World UCITS ETF. SWDA, as of 15 Feb 2019. Retrieved March 20, 2019, from

- <https://www.ishares.com/uk/individual/en/products/251882/ishares-msci-world-ucits-etf-acc-fund>
- Blackrock. (2019b). iShares MSCI North America UCITS ETF. INAA, As of 4 Mar 2019. Retrieved March 5, 2019, from <https://www.blackrock.com/americas-offshore/products/251873/ishares-msci-north-america-ucits-etf>, Retrieved 2019-03-06
- Blackrock. (2019c). iShares Core MSCI Europe UCITS ETF. IMEU, as of 4 Mar 2019. Retrieved March 6, 2019, from <https://www.ishares.com/uk/individual/en/products/251860/ishares-msci-europe-ucits-etf-inc-fund>
- Blackrock. (2019d). iShares Core MSCI EM IMI UCITS ETF. EIMI, as at 1 Mar 2019. Retrieved March 5, 2019, from <https://www.ishares.com/uk/individual/en/products/264659/ishares-msci-emerging-markets-imi-ucits-etf>
- Blackrock. (2019d). iShares STOXX Europe 600 UCITS ETF (DE), as at 08/04/2019. Retrieved April 9, 2019, from <https://www.ishares.com/ch/individual/en/products/251931/ishares-stoxx-europe-600-ucits-etf-de-fund>
- Blackrock. (2019e). iShares Core S&P 500 ETF, as at 08/04/2019. Retrieved April 9, 2019, from <https://www.ishares.com/us/products/239726/ishares-core-sp-500-etf>
- Bloomberg. (2019). ESG data. Retrieved March 12, 2019, from <https://www.bloomberg.com/impact/impact/esg-data/>
- Brink, H., Kusumaningtyas, R., Riemersma, M., & Warmerdam, W. (2017). Deforestation and land grabbing in the palm oil sector – A Fair Insurance Guide case study. Amsterdam, The Netherlands: Profundo. Retrieved February 13, 2019, from <https://fairfinanceguide.org/media/373737/2017-05-deforestation-and-land-grabbing-in-the-palm-oil-sector-nl.pdf>
- Brulle, R. J. (2018). The climate lobby: a sectoral analysis of lobbying spending on climate change in the USA, 2000 to 2016. *Climatic Change*, 149, 289-303.
- Campbell, J. (2017). Australia's deindustrialisation. *The Spectator*. Retrieved April 12, 2019, from <https://www.spectator.com.au/2017/08/australias-deindustrialisation/>
- CDP. (2017). The Carbon Majors Database: CDP Carbon Majors Report 2017. Retrieved March 4, 2019, from <https://b8f65cb373b1b7b15feb-c70d8ead6ced550b4d987d7c03fcdd1d.ssl.cf3.rackcdn.com/cms/reports/documents/000/002/327/original/Carbon-Majors-Report-2017.pdf?1499691240>
- CDP. (2019). Research - Responses. Retrieved April 6, 2019, from <https://www.cdp.net/en/responses>
- Climate Action 100+. (2019). Investors. Retrieved April 29, 2019, from <https://climateaction100.wordpress.com/investors/>
- Climate Transparency. (2017). Financing the Transition from Brown to Green: How to track country performance towards low carbon, climate-resilient economies. Berlin, Germany. Retrieved March 20, 2019, from http://www.climate-transparency.org/wp-content/uploads/2017/12/Financing_the_transition.pdf
- Coburn, A., Copic, J., Crawford-Brown, D., Foley, A., Kelly, S., Neduv, E., . . . Yeo, J. (2015). Unhedgeable risk: How climate change sentiment impacts investment. University of Cambridge Institute for Sustainable Leadership. Retrieved February 4, 2019, from <https://www.cisl.cam.ac.uk/resources/publication-pdfs/unhedgeable-risk.pdf>
- de Andrade, G. P., & Stolpestad, I. W. (2017). Fair Finance Guide Norway Case Study: The role of Norwegian banks in the Borneo crisis. Etisk Bankguide/Fair Finance Guide Norway.

- Retrieved March 16, 2019, from <https://fairfinanceguide.org/media/373658/2017-apr-the-role-of-norwegian-banks-in-the-borneo-crisis-no.pdf>
- De, I., & Clayman, M. R. (2015). The Benefits of Socially Responsible Investing: An Active Manager's Perspective. *Journal of Investing*, 24(4), 49-72.
- Donaldson, T., & Preston, L. E. (1995). The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications. *The Academy of Management Review*, 20(1), 65-91.
- Dore, R. (2008). Financialization of the global economy. *Industrial and Corporate Change*, 17(6), 1097-1112. Retrieved from 10.1093/icc/dtn041
- DWS Investments. (2019a). MSCI Emerging Markets UCITS ETF 1C. As of 4 Mar 2019. Retrieved March 4, 2019, from <https://etf.dws.com/en-gb/IE00BTJRM35-msci-emerging-markets-ucits-etf-1c/>
- DWS Investments. (2019b). MSCI World UCITS ETF 1C. XDWD, as at 6 Mar 2019. Retrieved March 6, 2019, from <https://etf.dws.com/en-lu/IE00BJ0KDQ92-msci-world-ucits-etf-1c/>
- Emin, G., & Breen, N. (2018). How are Investors Addressing Article 173 for the Sovereign Asset Class? Beyond Ratings. Retrieved February 19, 2019, from <https://www.beyond-ratings.com/uploads/images/20181018-br-investors-climate-reporting-article-173-sovereigns.pdf>
- EPA. (2018). Greenhouse Gas Equivalencies Calculator. Retrieved April 11, 2019, from <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>
- ERR. (2019). Keskerakonna, Isamaa ja EKRE koalitsioonileppe terviktekst. Retrieved April 15, 2019, from <https://www.err.ee/927401/keskerakonna-isamaa-ja-ekre-koalitsioonileppe-terviktekst>
- Estonian Government. (2005). Credit Institutions Act. Retrieved January 29, 2019, from <https://www.riigiteataja.ee/akt/865017>
- Estonian Government. (2019). Funded Pensions Act. Retrieved March 15, 2019, from <https://www.riigiteataja.ee/en/eli/521012019010/consolide>
- Ezeokoli, O., Layne, C., Statman, M., & Urdapilleta, O. (2017). Environmental, Social, and Governance (ESG) Investment Tools: A Review of the Current Field. Summit Consulting. Retrieved March 12, 2019, from <https://www.dol.gov/asp/evaluation/completed-studies/ESG-Investment-Tools-Review-of-the-Current-Field.pdf>
- European Commission. (2016). Summary of the Responses to the Public Consultation on Long-term and Sustainable Investment. Retrieved May 6, 2019, from http://ec.europa.eu/information_society/newsroom/image/document/2016-44/feedback_final_pc_30068_en_19173.pdf
- European Commission. (2017). Financing a Sustainable European Economy. Retrieved January 27, 2019, from https://ec.europa.eu/info/sites/info/files/170713-sustainable-finance-report_en.pdf
- European Commission. (2018). Action Plan: Financing Sustainable Growth. European Commission. Retrieved March 8, 2019, from <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018DC0097&from=EN>
- European Parliament. (2018). Common rules and new framework for securitisation. Briefing: EU Legislation in Progress. Retrieved May 10, 2019, from [http://www.europarl.europa.eu/RegData/etudes/BRIE/2017/608777/EPRS_BRI\(2017\)608777_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2017/608777/EPRS_BRI(2017)608777_EN.pdf)
- Eurosif. (2018). European SRI Study 2018. Retrieved March 9, 2019, from <http://www.eurosif.org/wp-content/uploads/2018/11/European-SRI-2018-Study-LR.pdf>

- Evan, W. M., & Freeman, R. E. (1988). A stakeholder theory of the modern corporation: Kantian capitalism. In T. Beauchamp, & N. Bowie, *Ethical theory and business* (Vol. Third edition, pp. 97-106). Englewood Cliffs, New Jersey: Prentice Hall.
- EY. (2016). Climate change. The investment perspective. EYGM Limited. Retrieved February 26, 2019, from [https://www.ey.com/Publication/vwLUAssets/EY-climate-change-and-investment/\\$FILE/EY-climate-change-and-investment.pdf](https://www.ey.com/Publication/vwLUAssets/EY-climate-change-and-investment/$FILE/EY-climate-change-and-investment.pdf)
- Facing Finance. (2017). Alles im grünen Bereich? Retrieved February 13, 2019, from https://www.fairfinanceguide.de/media/373694/ff_verbraucher_umwelt.pdf
- Fatemi, A. M., & Fooladi, I. J. (2013). Sustainable finance: A new paradigm. *Journal of International Financial Markets, Institutions & Money*, 24(2), 101-113.
- Fatemi, A. M., Glaum, M., & Kaiser, S. (2018). ESG performance and firm value: The moderating role of disclosure. *Global Finance Journal*, 38, 45-64.
- FFGI. (2015). Undermining our future. A study of banks' investments in selected companies attributable to fossil fuels and renewable energy. Fair Finance Guide International. Retrieved February 13, 2019, from <https://fairfinanceguide.org/media/60908/ffg-report-151102-undermining-our-future-final.pdf>
- Fleurbaey, M., Kartha, S., Bolwig, S., Chee, Y., Chen, Y., Corbera, E., . . . Sagar, A. (2014). Sustainable Development and Equity. In IPCC, *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. United Kingdom and New York, NY, USA: Cambridge University Press.
- Foley, D. K. (2007). The economic fundamentals of global warming. Workshop on the Economic Analysis of Global Warming. The New School. Retrieved March 12, 2019, from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.79.1173&rep=rep1&type=pdf>
- Freshfields Bruckhaus Deringer. (2005). A legal framework for the integration of environmental, social and governance issues into institutional investment. Geneva: United Nations Environment Programme Finance Initiative. Retrieved March 14, 2019, from https://www.unepfi.org/fileadmin/documents/freshfields_legal_resp_20051123.pdf
- Friedman, M. (1970). The Social Responsibility of Business is to Increase its Profits. *New York Times Magazine*.
- G20. (2015). Communiqué: G20 Finance Ministers and Central Bank Governors Meeting, 16-17 April 2015, Washington D.C., USA. Retrieved February 20, 2019, from <http://www.g20.org.tr/wp-content/uploads/2015/04/April-G20-FMCBG-Communique-Final.pdf>
- Gary, S. N. (2018). Best Interests in the Long Term: Fiduciary Duties and ESG Integration. *University of Colorado Law Review*, 90, 731-801.
- Gelter, M., & Helleringer, G. (2018). Fiduciary Principles in European Civil Law Systems. *ECGI Working Paper Series in Law*. Retrieved January 27, 2019, from https://ecgi.global/sites/default/files/working_papers/documents/finalgelterhelleringer_0.pdf
- Getzler, J. (2014). Financial Crisis and the Decline of Fiduciary Law. *Capital Failure: Rebuilding Trust in Financial Services*. Oxford Scholarship Online.
- Glencore. (2019). Furthering our commitment to the transition to a low-carbon economy. Retrieved February 20, 2019, from <https://www.glencore.com/media-and-insights/news/Furthering-our-commitment-to-the-transition-to-a-low-carbon-economy>

- Global Investor Coalition. (2018). Briefing Paper on the 2018 Global Investor Statement to Governments on Climate Change. Retrieved February 15, 2019, from http://globalinvestorcoalition.org/wp-content/uploads/2018/07/180529_GISGCC_briefing_paper_FINAL.pdf
- Grumbach, J. M. (2015). Polluting industries as climate protagonists: cap and trade and the problem of business preferences. *Business & Politics*, 17(4), 633-659.
- Heal, G. (2009). The economics of climate change: a post-stern perspective. *Climatic Change*, 96(3), 275-297.
- Herder, A., Brink, H., & Riemersma, M. (2018). Fair Finance Guide International Methodology 2018: A methodology for the assessment of responsible investment and finance policies of financial institutions. Profundo & Fair Finance Guide International. Retrieved February 20, 2019, from <https://fairfinanceguide.org/media/494198/2017-71-ffgi-policy-assessment-2018-methodology-180308-edits-180528.pdf>
- IIGCC. (2019). PRESS RELEASE: Shell sets out detail on delivery of climate change agreement with Climate Action 100+ investors. Retrieved March 24, 2019, from <https://www.iigcc.org/media/2019/03/Shell-sets-out-detail-to-deliver-on-investor-climate-change-agreement-1.pdf>
- Inderst, G., & Stewart, F. (2018). Incorporating Environmental, Social and Governance (ESG) Factors into Fixed Income Investment. World Bank Group. Retrieved January 22, 2019, from <http://documents.worldbank.org/curated/en/913961524150628959/pdf/125442-REPL-PUBLIC-Incorporating-ESG-Factors-into-Fixed-Income-Investment-Final-April26-LowRes.pdf>
- InfluenceMap. (2017a). Trade Associations and their Climate Policy Footprint. Retrieved February 12, 2019, from <https://influencemap.org/report/Trade-Associations-and-their-Climate-Policy-Footprint-067f4e745c9920eb3dfaa5b637511634>
- InfluenceMap. (2017b). Corporate Carbon Policy Footprint. Physical carbon emissions may be only part of the picture - introducing the 50 Most Influential. Retrieved February 11, 2019, from <https://influencemap.org/report/Corporate-Carbon-Policy-Footprint-4274a464677481802bd502ffff008d74>
- InfluenceMap. (2018a). Climate lobbying analysis for investors on European corporations. Retrieved February 13, 2019, from <https://influencemap.org/report/-05d2a2c2513dcf8d9aad93c20ad7914d>
- InfluenceMap. (2018b). Who Owns the World's Fossil Fuels? A forensic look at the operators and shareholders of fossil fuel companies. Retrieved March 20, 2019, from https://influencemap.org/evoke/382252/file_proxy
- InfluenceMap. (2018c). Trade associations and climate: shareholders make themselves heard. Analysis of current activity at Rio Tinto and potential future investor targets. Retrieved February 12, 2019, from <https://influencemap.org/report/Trade-associations-and-climate-shareholders-make-themselves-heard-cf9db75c0a4e25555fafb0d84a152c23>
- InfluenceMap. (2019a). InfluenceMap Scoring Table: Corporations and Influencers. Retrieved April 7, 2019, from <https://influencemap.org/filter/List-of-Companies-and-Influencers>
- InfluenceMap. (2019b). About our scores. Retrieved April 8, 2019, from <https://influencemap.org/page/About-our-Scores>
- InfluenceMap. (2019c). National Association of Manufacturers (NAM). Retrieved April 12, 2019, from <https://influencemap.org/influencer/National-Association-of-Manufacturing-NAM>

- IPCC. (2014). Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Geneva. Retrieved January 29, 2019, from https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf
- IPCC. (2018). Summary for Policymakers. In *Global Warming of 1.5°C*. Retrieved January 29, 2019, from https://www.ipcc.ch/site/assets/uploads/sites/2/2018/07/SR15_SPM_High_Res.pdf
- ISS-Ethix. (2015). Norm-Based Screening. Retrieved March 3, 2019, from <https://www.issgovernance.com/file/products/iss-ethix-norm-based-screening.pdf>
- Jorgenson, A. K. (2006). Global Warming and the Neglected Greenhouse Gas: A Cross-National Study of the Social Causes of Methane Emissions Intensity. *Social Forces*, 84(3), 1779-1798.
- Juravle, C., & Lewis, A. (2008). Identifying impediments to SRI in Europe: a review of the practitioner and academic literature. *Business Ethics: A European Review*, 17(3), 285-310.
- Karbassi, L., Silveira, F. C., VanVoore, M., Haeussling, S., Metzger, E., Dagnet, Y., . . . Huusko, H. (2013). Guide for Responsible Corporate Engagement in Climate Policy. A Caring for Climate Report. UN Global Compact. Retrieved February 12, 2019, from https://www.unglobalcompact.org/docs/issues_doc/Environment/climate/Guide_Responsible_Corporate_Engagement_Climate_Policy.pdf
- Kirsch, A., Disterhoft, J. O., Louvel, Y., Saldamando, A., Aitken, G., Cushing, B., . . . Parras, J. (2018). Banking on Climate Change: Fossil Fuel Finance Report Card 2018. Retrieved February 5, 2019, from https://www.banktrack.org/download/banking_on_climate_change/banking_on_climate_change_2018_web_final.pdf
- Kirsch, A., Disterhoft, J. O., Marr, G., Aitken, G., Hamlett, C., Louvel, Y., . . . Houska, T. (2019). Banking on Climate Change. Fossil Fuel Finance Report Card 2019. Retrieved March 20, 2019, from https://www.ran.org/wp-content/uploads/2019/03/Banking_on_Climate_Change_2019_vFINAL.pdf
- Krisher, T. (2017). Ford CEO hopeful that Trump will ease gas mileage standards. The Associated Press. Retrieved April 12, 2019, from <https://apnews.com/0798e849e28c4467bae6f9b1bf2b006a>
- Kumar, N., Menou, V., Doole, S., & Nishikawa, L. (2018). Broader Horizons: An Approach to ESG Strategic Tilting. Investments & Wealth Institute. Retrieved March 11, 2019, from <https://investmentsandwealth.org/getattachment/cac16313-bbbd-40d5-b424-406725ee1fcc/IWM18MayJun-ESGStrategicTilting.pdf>
- Lance, R. (2016). The Energy Renaissance – And What Its Price Cycles Mean to You. Retrieved April 11, 2019, from <http://www.conocophillips.com/news-media/story/the-energy-renaissance-and-what-its-price-cycles-mean-to-you/>
- Leahy, S. (2019). This is the world's most destructive oil operation—and it's growing. National Geographic. Retrieved April 12, 2019, from <https://www.nationalgeographic.com/environment/2019/04/alberta-canadas-tar-sands-is-growing-but-indigenous-people-fight-back/>
- LHV. (2019a). LHV Pensionifond XS. Investeeringute aruanne seisuga 28.02.2019. Retrieved April 9, 2019, from https://www.lhv.ee/assets/files/pension/LHV_pensionifond_XS_kuuaruanne_2019_02.pdf

- LHV. (2019b). LHV Pensionifond S. Investeeringute aruanne seisuga 28.02.2019. Retrieved April 9, 2019, from https://www.lhv.ee/assets/files/pension/LHV_pensionifond_S_kuuaruanne_2019_02.pdf
- LHV. (2019c). LHV Pensionifond M. Investeeringute aruanne seisuga 28.02.2019. Retrieved April 9, 2019, from https://www.lhv.ee/assets/files/pension/LHV_pensionifond_M_kuuaruanne_2019_02.pdf
- LHV. (2019d). LHV Pensionifond L. Investeeringute aruanne seisuga 28.02.2019. Retrieved April 9, 2019, from https://www.lhv.ee/assets/files/pension/LHV_pensionifond_L_kuuaruanne_2019_02.pdf
- LHV. (2019e). LHV Pensionifond XL. Investeeringute aruanne seisuga 28.02.2019. Retrieved April 9, 2019, from https://www.lhv.ee/assets/files/pension/LHV_pensionifond_XL_kuuaruanne_2019_02.pdf
- LHV. (2019f). LHV Pensionifond Indeks. Investeeringute aruanne seisuga 31.01.2019. Retrieved April 9, 2019, from https://www.lhv.ee/assets/files/pension/LHV_pensionifond_Indeks_kuuaruanne_2019_01.pdf
- LHV. (2019g). LHV Pensionifond Eesti. Investeeringute aruanne seisuga 28.02.2019. Retrieved April 9, 2019, from https://www.lhv.ee/assets/files/pension/LHV_pensionifond_Eesti_kuuaruanne_2019_02.pdf
- Luminor. (2019a). Luminor A Pensionifond. Investeeringute aruanne / 01.02.2019 - 28.02.2019. Retrieved April 9, 2019, from https://www.luminor.ee/sites/default/files/documents/files/common/investeeringute_aruanne_a.pdf
- Luminor. (2019b). Luminor A Pluss Pensionifond. Investeeringute aruanne / 01.02.2019 - 28.02.2019. Retrieved April 9, 2019, from https://www.luminor.ee/sites/default/files/documents/files/common/investeeringute_aruanne_a_pluss.pdf
- Luminor. (2019c). Luminor B Pensionifond. Investeeringute aruanne / 01.02.2019 - 28.02.2019. Retrieved April 9, 2019, from https://www.luminor.ee/sites/default/files/documents/files/common/investeeringute_aruanne_b.pdf
- Luminor. (2019d). Luminor C Pensionifond. Investeeringute aruanne / 01.02.2019 - 28.02.2019. Retrieved April 9, 2019, from https://www.luminor.ee/sites/default/files/documents/files/common/investeeringute_aruanne_c.pdf
- Lyxor. (2019). Lyxor ETF Core MSCI World (DR) UCITS ETF – Acc, as at 09/04/2019. Retrieved April 9, 2019, from <https://www.lyxoretf.co.uk/en/instit/products/equity-etf/lyxor-core-msci-world-dr-ucits-etf-acc/lu1781541179/usd>
- Martini, M. (2018). Finance & climate change: a mountain yet to climb. Finance Watch. Retrieved March 13, 2019, from <https://www.finance-watch.org/finance-and-climate-change-a-mountain-yet-to-climb/>
- Matthews, A. (2018). EXECUTIVE PERSPECTIVE: Why contradictory climate lobbying has to end. Thomson Reuters. Retrieved February 16, 2019, from <https://blogs.thomsonreuters.com/sustainability/2018/11/13/executive-perspective-why-contradictory-climate-lobbying-has-to-end/>

- Melas, D., Nagy, Z., & Kulkarni, P. (2016). Factor Investing and ESG Integration. MSCI Research. Retrieved March 11, 2019, from <https://www.msci.com/documents/10199/d13c8a0e-de0e-4313-82e2-0a197af30c34>
- Milne, R. (2019). Baltic regulators fret that scandal could drive Nordic banks away. *Financial Times*. Retrieved March 18, 2019, from <https://www.ft.com/content/89152afe-46fc-11e9-b168-96a37d002cd3>
- Miyan, M. A. (2015). Droughts in Asian Least Developed Countries: Vulnerability and sustainability. *Weather and Climate Extremes*, 7, 8-23.
- Montreal Pledge. (2019). Sign the Pledge. Retrieved March 24, 2019, from <https://montrealpledge.org/sign-the-pledge/>
- National Association of Manufacturers. (2019). Board of Directors. Retrieved April 12, 2019, from <https://www.nam.org/About/Board-of-Directors/>
- Nordea. (2017a). Nordea Position Statement on Climate Change. Retrieved April 16, 2019, from https://www.nordea.com/Images/33-235388/Nordea_Position_Statement_Climate_Change.pdf
- Nordea. (2017b). Sustainability Policy. Retrieved April 16, 2019, from <https://www.nordea.com/Images/36-207037/Sustainability%20policy%2020181001.pdf>
- Nordea. (2019a). Annual Report 2018. Retrieved April 15, 2019, from <https://www.nordea.com/Images/33-304448/Annual%20Report%20Nordea%20Bank%20Abp%202018.pdf>
- Nordea. (2019b). Nordea Asset Management: Our Commitment to Responsible Investment. Nordea Asset Management. Retrieved April 15, 2019, from https://www.nordea.lu/documents/responsible-investments---framework/RI-F_eng_INT.pdf/
- Nordea. (2019c). Responsible investment policy. Updated February 2019. Retrieved April 16, 2019, from https://www.nordea.com/Images/33-227926/RI_Policy_FEbruary_2019_v3.pdf
- Nordea. (2019d). Exclusion list (January 2019). Nordea Asset Management. Retrieved April 15, 2019, from https://www.nordea.lu/documents/static-links/Nordea_Exclusion_List.pdf/
- Nordea. (2019e). Proxy Voting Dashboard. Retrieved April 15, 2019, from <https://vds.issgovernance.com/vds/#/NzI0Nw==/>
- Nordea. (2019f). Sustainability governance structure. Retrieved April 16, 2019, from <https://www.nordea.com/en/sustainability/sustainability-in-nordea/governance/sustainability-governance/>
- Nordea. (2019g). Commitments and policies. Retrieved April 27, 2019, from <https://www.nordea.com/en/sustainability/sustainability-in-nordea/commitments-and-policies/#tab=Commitments>
- OECD. (2017a). Investment governance and the integration of environmental, social and governance factors. Retrieved March 15, 2019, from <https://www.oecd.org/finance/Investment-Governance-Integration-ESG-Factors.pdf>
- OECD. (2017b). Responsible business conduct for institutional investors: Key considerations for due diligence under the OECD Guidelines for Multinational Enterprises. Retrieved February 19, 2019, from <https://mneguidelines.oecd.org/RBC-for-Institutional-Investors.pdf>
- OECD. (2018). Pension Markets in Focus. Retrieved May 2, 2019, from <http://www.oecd.org/daf/fin/private-pensions/Pension-Markets-in-Focus-2018.pdf>

- Oja, T. (2018). Kolm põhjust, miks Eesti pensioniraha sulab. *Postimees*. Retrieved January 23, 2019, from <https://majandus24.postimees.ee/6435911/kolm-pohjust-miks-estii-pensioniraha-sulab>
- Olsson, L., Opondo, M., Tschakert, P., Agrawal, A., Eriksen, S., Ma, S., . . . Zakieldeen, S. (2014). Livelihoods and poverty. In C. Field, V. Barros, D. Dokken, K. Mach, M. Mastrandrea, T. Bilir, . . . L. White, *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (pp. 798-832). Cambridge, United Kingdom, and New York, NY, USA: Cambridge University Press.
- Otto, F., Skeie, R., Fuglestedt, J., Berntsen, T., & Allen, M. (2017). Assigning historic responsibility for extreme weather events. *Nature Climate Change*, 7(11), 757-759.
- Patel, R. (2018). Die grüne Lüge. (W. Boote, Interviewer)
- Pekk, T. (2018). FaktOI(!)did ehk kummaliselt mõjus jama. *Tuleva*. Retrieved April 12, 2019, from <https://tuleva.ee/analuusid/faktoidid-ja-pensionipoliitika/>
- Pensionikeskus. (2019). The pillars and their difference. Retrieved February 16, 2019, from <https://www.pensionikeskus.ee/en/estonian-pension-system/the-pillar-and-their-difference/>
- Pouncy, C. R. (2002). Economic Justice and Economic Theory: Limiting the Reach of Neoclassic Ideology. *Journal of Law & Public Policy*, 14(1), 11-28.
- Sandberg, J. (2011). Socially Responsible Investment and Fiduciary Duty: Putting the Freshfields Report into perspective. *Journal of Business Ethics*, 101(1), 143-162.
- Sandberg, J. (2015). Towards a Theory of Sustainable Finance. UNEP Inquiry & The Centre for International Governance Innovation. Retrieved January 28, 2019, from http://unepinquiry.org/wp-content/uploads/2015/10/Towards_a_Theory_of_Sustainable_Finance.pdf
- Sanders, W. (2014). Resolving the Conflict Between Fiduciary Duties and Socially Responsible Investing. *Pace Law Review*, 13, 535-579.
- Schendler, A., & Toffel, M. (2011). What Environmental Ratings Miss. (12-017). Retrieved February 2, 2019, from <https://www.hbs.edu/faculty/Publication%20Files/12-017.pdf>
- Schramade, W. (2016). Bridging Sustainability and Finance: The Value Driver Adjustment Approach. *Journal of Applied Corporate Finance*, 28(2), 17-28.
- Schroders. (2016). Global Investors Study 2016 - Plan Sponsors. Retrieved March 14, 2019, from <https://www.schroders.com/en/sysglobalassets/digital/insights/2016/pdfs/global-investors-study-pension-funds.pdf>
- SEB. (2015). Climate Change. Position statement for the SEB Group. Retrieved April 15, 2019, from https://sebgroup.com/siteassets/about_seb1/sustainability/sustainability_governance/policies/climate_change.pdf
- SEB. (2018). Environmental Policy for the SEB Group. Retrieved April 15, 2019, from [https://webapp.sebgroup.com/mb/mblib.nsf/alldocsbyunid/CBAA255D7EC51026C1257C28002FB11A/\\$FILE/Environmental_Policy.pdf](https://webapp.sebgroup.com/mb/mblib.nsf/alldocsbyunid/CBAA255D7EC51026C1257C28002FB11A/$FILE/Environmental_Policy.pdf)
- SEB. (2019a). SEB Konservatiivne Pensionifond. Investeeringute aruanne seisuga 28.02.2019. Retrieved April 9, 2019, from https://e.seb.ee/ip/ipank.p?act=SENDFILE&fname=20190228_Portfolio_EE3600019717_est.pdf

- SEB. (2019b). SEB Optimaalne Pensionifond. Investeeringute aruanne seisuga 28.02.2019. Retrieved April 9, 2019, from https://e.seb.ee/ip/ipank.p?act=SENDFILE&fname=20190228_Portfolio_EE3600098612_est.pdf
- SEB. (2019c). SEB Progressiivne Pensionifond. Investeeringute aruanne seisuga 28.02.2019. Retrieved April 9, 2019, from https://e.seb.ee/ip/ipank.p?act=SENDFILE&fname=20190228_Portfolio_EE3600019725_est.pdf
- SEB. (2019d). SEB Energiline Pensionifond. Investeeringute aruanne seisuga 28.02.2019. Retrieved April 9, 2019, from https://e.seb.ee/ip/ipank.p?act=SENDFILE&fname=20190228_Portfolio_EE3600103297_est.pdf
- SEB. (2019e). SEB Energiline Pensionifond Indeks. Investeeringute aruanne seisuga 28.02.2019. Retrieved April 9, 2019, from https://e.seb.ee/ip/ipank.p?act=SENDFILE&fname=20190228_Portfolio_EE3600109427_est.pdf
- SEB. (2019f). Sustainability Policy for SEB Investment Management AB. Retrieved April 14, 2019, from https://sebgroup.com/contentassets/2a0d5a136fc1481bb0bee06a6cb7de38/sustainability_policy_sebimab_march2019.pdf
- SEB. (2019g). Policies. Retrieved April 15, 2019, from <https://sebgroup.com/about-seb/sustainability/how-we-work/policies>
- SEB. (2019h). Exclusion: Core criteria. Excluded companies as of 15 March 2019. Retrieved April 14, 2019, from https://sebgroup.com/contentassets/cc6bb0156d9a4717813f6e20e85b363c/exclusionsebimab_corecriteria_march2019.pdf
- SEB. (2019i). Voting Principles. Retrieved April 17, 2019, from <https://www.seb.ee/eng/seb/about-company/related-companies/seb-varahaldus/voting-principles>
- Shue, H. (2013). Climate Hope: Implementing the Exit Strategy. *Chicago Journal of International Law*, 13(2), 381-402. Retrieved February 4, 2019, from <https://chicagounbound.uchicago.edu/cjil/vol13/iss2/6/>
- Skeie, R. B., Fuglestedt, J., Berntsen, T., Peters, G. P., Andrew, R., Allen, M., & Kallbekken, S. (2017). Perspective has a strong effect on the calculation of historical contributions to global warming. *Environmental Research Letters*, 12(2).
- Stern, N. (2007). *The Economics of Climate Change: The Stern Review*. Cambridge University Press.
- Sullivan, R., & Fischer, R. (2017). Portfolio Investment in a Carbon Constrained World: The Third Annual Progress Report of The Portfolio Decarbonization Coalition. Retrieved April 29, 2019, from <https://unepfi.org/pdc/wp-content/uploads/PDC-Progress-Update-2017.pdf>
- Sullivan, R., & Mackenzie, C. (2006). Introduction. In R. Sullivan, & C. Mackenzie (Eds.), *Responsible Investment* (pp. 12-19). Sheffield: Greenleaf.
- Sullivan, R., Martindale, W., Feller, E., & Bordon, A. (2015). Fiduciary Duty in the 21st Century. Retrieved January 25, 2019, from http://www.unepfi.org/fileadmin/documents/fiduciary_duty_21st_century.pdf

- Supran, G., & Oreskes, N. (2017). Assessing ExxonMobil's climate change communications (1977–2014). *Environmental Research Letters*, 12. Retrieved February 12, 2019, from <https://iopscience.iop.org/article/10.1088/1748-9326/aa815f/pdf>
- Sustainalytics & IRRCi. (2017). How Investors Integrate ESG: A Typology of Approaches. Retrieved March 12, 2019, from <http://marketing.sustainalytics.com/acton/attachment/5105/f-0945/1/-/-/-/-/Typology%20of%20ESG%20Integration-Final-Apri2017.pdf>
- Swedbank. (2018a). Environmental Policy. Retrieved April 16, 2019, from <https://online.swedbank.se/ConditionsEarchive/download?bankid=1111&id=WEBDOC-PPE1341726>
- Swedbank. (2018b). Instruction - Position Statement Climate Change. Retrieved April 15, 2019, from <https://online.swedbank.se/ConditionsEarchive/download?bankid=1111&id=WEBDOC-PPE1341798>
- Swedbank. (2018c). Sustainability Policy. Retrieved April 27, 2019, from <https://online.swedbank.se/ConditionsEarchive/download?bankid=1111&id=WEBDOC-PPE1341707>
- Swedbank. (2018d). Sector Guidelines: Energy. Retrieved April 27, 2019, from <https://online.swedbank.se/ConditionsEarchive/download?bankid=1111&id=WEBDOC-PPE1341773>
- Swedbank. (2019a). Swedbank Pensionifond K1 investeringute aruanne seisuga 28.02.2019. Retrieved April 9, 2019, from https://www.swedbank.ee/static/investor/funds/K1_investment_portfolio.pdf
- Swedbank. (2019b). Swedbank Pensionifond K2 investeringute aruanne seisuga 28.02.2019. Retrieved April 9, 2019, from https://www.swedbank.ee/static/investor/funds/K2_investment_portfolio.pdf
- Swedbank. (2019c). Swedbank Pensionifond K3 investeringute aruanne seisuga 28.02.2019. Retrieved April 9, 2019, from https://www.swedbank.ee/static/investor/funds/K3_investment_portfolio.pdf
- Swedbank. (2019d). Swedbank Pensionifond K4 investeringute aruanne seisuga 28.02.2019. Retrieved April 9, 2019, from https://www.swedbank.ee/static/investor/funds/K4_investment_portfolio.pdf
- Swedbank. (2019e). Swedbank Pensionifond K90-99 investeringute aruanne seisuga 28.02.2019. Retrieved April 9, 2019, from https://www.swedbank.ee/static/investor/funds/K90-99_investment_portfolio.pdf
- Swedbank. (2019f). Exclusion list. Retrieved April 15, 2019, from <https://online.swedbank.se/ConditionsEarchive/download?bankid=1111&id=WEBDOC-PPE1341384>
- Swedbank. (2019g). Annual and Sustainability Report 2018. Retrieved April 16, 2019, from <https://online.swedbank.se/ConditionsEarchive/download?bankid=1111&id=WEBDOC-PRODE29146126>
- Swedbank. (n.d.). Kliendikaebuste lahendamise kord Swedbank Investeerimisfondid AS-is. Retrieved April 17, 2019, from https://www.swedbank.ee/static/pdf/private/investor/funds/cond_fundsweb_est.pdf
- Zandbergen, M. (2017). Seven steps to ESG integration - the Robeco approach. Robeco. Retrieved March 10, 2019, from <https://www.fondsnieuws.nl/marktrapporten/file/13355>

- Zinnbauer, D. (2001). From Neo-Classical Economics to New Institutional Economics and Beyond: Prospects for an Interdisciplinary Research Programme? *London School of Economics, Development Studies Institute Working Paper Series*(1-12). Retrieved March 14, 2019, from <https://ssrn.com/abstract=2240572>
- TCFD. (2017). Recommendations of the Task Force on Climate-related Financial Disclosures. The Task Force on Climate-related Financial Disclosures. Retrieved February 20, 2019, from <https://www.fsb-tcf.org/wp-content/uploads/2017/06/FINAL-2017-TCFD-Report-11052018.pdf>
- TransCanada. (2013). TransCanada Welcomes the Support of Over 165 Business Leaders Calling for Approval of Keystone XL. Retrieved April 12, 2019, from https://influencemap.org/site/data/000/076/33549_LyondellBasell-Industries---Q10:-D5_76447_2015-08-04_14:54.pdf
- Tuleva. (2019a). Tuleva Maaailma Aktsiate Pensionifond. Investeeringute aruanne seisuga 28.02.2019. Retrieved April 9, 2019, from <https://tuleva.ee/wp-content/uploads/2019/03/TULAPF-investeeringute-aruanne-280219.pdf>
- Tuleva. (2019b). Tuleva Maaailma Völakirjade Pensionifond. Investeeringute aruanne seisuga 28.02.2019. Retrieved April 9, 2019, from <https://tuleva.ee/wp-content/uploads/2019/03/TULVPF-investeeringute-aruanne-280219.pdf>
- UN. (2015a). Paris Agreement. Retrieved February 20, 2019, from https://unfccc.int/sites/default/files/english_paris_agreement.pdf
- UN. (2015b). Transforming Our World: The 2030 Agenda for Sustainable Development. A/RES/70/1. United Nations. Retrieved April 5, 2019, from <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf>
- UN. (2019). 7. d) *Paris Agreement*. United Nations Treaty Collection. Retrieved February 20, 2019, from https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&clang=_en
- UNPRI & UNGC. (2017). Coping, Shifting, Changing 2.0: Corporate and investor strategies for managing market short-termism. Retrieved January 28, 2019, from <https://www.unpri.org/download?ac=4215>
- UNPRI. (2016). *A Practical Guide to ESG Integration for Equity Investing*. Retrieved March 8, 2019, from <https://www.unpri.org/download?ac=10>
- UNPRI. (2017). *PRI Policy Briefing: EU Shareholder Rights Directive (2016)*. Retrieved March 18, 2019, from <https://www.unpri.org/download?ac=1428>
- UNPRI. (2018a). *Converging on Climate Lobbying. Aligning Corporate Practice with Investor Expectations*. Retrieved February 16, 2019, from https://www.unpri.org/Uploads/g/v/q/PRI_Converging_on_climate_lobbying.pdf
- UNPRI. (2018b). *PRI Climate Thought Leadership. The Inevitable Policy Response: Act Now. Forcing the Climate Transition*. Retrieved March 12, 2019, from <https://www.unpri.org/download?ac=5363>
- Valentinov, V., Roth, S., & Will, M. G. (2019). Stakeholder Theory: A Luhmannian Perspective. *Administration & Society*, 51(5), 826-849.
- Valle, G. D. (2018). Can consumer choices ward off the worst effects of climate change? An expert explains. Vox Media. Retrieved April 4, 2019, from <https://www.vox.com/the-goods/2018/10/12/17967738/climate-change-consumer-choices-green-renewable-energy>

- Van der Zwan, N. (2014). Making sense of financialization. *Socio-Economic Review*, 12(1), 99-129.
- Woods, C. M. (2011). *The environment, intergenerational equity & long-term investment*. Worcester College, School of Geography and the Environment. Oxford.
- WRI & WBCSD. (2004). The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard. Revised Edition. World Resource Institute & World Business Council for Sustainable Development. Retrieved April 3, 2019, from <https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf>
- WRI & WBCSD. (2013). GHG Protocol. Technical Guidance for Calculating Scope 3 Emissions. Retrieved April 15, 2019, from https://ghgprotocol.org/sites/default/files/standards/Scope3_Calculation_Guidance_0.pdf
- WRI. (2015). CAIT Climate Data Explorer. Washington, DC: World Resource Institute. Retrieved February 2, 2019, from <http://cait.wri.org>
- Wuebbles, D., Fahey, D., Hibbard, K., DeAngelo, B., Doherty, S., Hayhoe, K., . . . Weaver, C. (2017). *Executive Summary of the Climate Science Special Report: Fourth National Climate Assessment, Volume I*. U.S. Global Change Research Program, Washington, DC. Retrieved January 29, 2019, from https://science2017.globalchange.gov/downloads/CSSR2017_PRINT_Executive_Summary.pdf
- Yu, E. P.-y., Guo, C. Q., & Luu, B. V. (2018). Environmental, social and governance transparency and firm value. *Business Strategy & the Environment*, 27(7), 987-1004.

APPENDICES

Appendix A. Descriptive data of Estonian II pillar pension funds

Pension Fund (PF)	Sources to portfolio holdings	Fund mgmt.	02.2019 AUM (€M)	From
LHV PF XS	LHV, 2019a	Active	20.384	2002
LHV PF S	LHV, 2019b	Active	57.930	2002
LHV PF M	LHV, 2019c	Active	118.251	2002
LHV PF L	LHV, 2019d	Active	832.649	2002
LHV PF XL	LHV, 2019e	Active	175.155	2002
LHV PF Index	LHV, 2019f	Passive	12.861	2016
LHV PF Estonia	LHV, 2019g	Active	2.323	2018
Luminor A PF	Luminor, 2019a	Active	243.185	2008
Luminor A Pluss PF	Luminor, 2019b	Active	41.338	2009
Luminor B PF	Luminor, 2019c	Active	24.887	2008
Luminor C PF	Luminor, 2019d	Active	12.968	2008
SEB Conservative PF	SEB, 2019a	Active	61.229	2002
SEB Optimal PF	SEB, 2019b	Active	31.701	2008
SEB Progressive PF	SEB, 2019c	Active	573.981	2002
SEB Energetic PF	SEB, 2019d	Active	100.401	2009
SEB Energetic PF Index	SEB, 2019e	Passive	5.970	2016
Swedbank PF K1	Swedbank, 2019a	Active	65.143	2002
Swedbank PF K2	Swedbank, 2019b	Active	326.493	2002
Swedbank PF K3	Swedbank, 2019c	Active	999.315	2002
Swedbank PF K4	Swedbank, 2019d	Active	335.373	2009
Swedbank PF K90-99	Swedbank, 2019e	Passive	4.431	2016
Tuleva World Stocks PF	Tuleva, 2019a	Passive	78.262	2017
Tuleva World Bonds PF	Tuleva, 2019b	Passive	3.964	2017
			4128.2	

Sources of pension fund investments: Monthly Investment Reports as of February 28, 2019⁶ (LHV, 2019a, 2019b, 2019c, 2019d, 2019e, 2019f & 2019g; Luminor, 2019a, 2019b, 2019c & 2019d; SEB, 2019a, 2019b, 2019c, 2019d & 2019e; Swedbank, 2019a, 2019b, 2019c, 2019d & 2019e; Tuleva, 2019a & 2019b)

⁶ Only exception being LHV Pension Fund Index, which is as of 31.01.2019.

Appendix B. Criteria for the choice of sample companies

Criteria	Active lobbying against climate policies	High GHG emissions
Source	Database of InfluenceMap. Firms chosen from two reports: Corporate Carbon Policy Footprint (InfluenceMap, 2017b) and Customised analysis of 55 European firms (InfluenceMap, 2018a).	Carbon Majors Report (CDP, 2017)
Criteria definition	InfluenceMap (2017b; 2018c; 2019b) investigates firms' performance score ⁷ on two dimensions: a) Organisational score for climate policy footprint as the relative impact a company has on climate policy (incl. climate policy stance, policy engagement intensity, firm's economic size). b) Relationship score for (mis)alignment between the company's statements of its positions opposing to climate change, and its membership in trade associations that oppose environmental policies.	Tonnes of CO2 emissions (Mt CO2e) from Scope 1 and Scope 3 emissions.
Sub-criteria and sources	<u>Sub-criteria:</u> Position and transparency of climate science; Necessity for climate regulation; Support for UN climate treaty; Positions on carbon tax, emissions trading, energy efficiency standards, renewable energy, GHG emission standards and others; Transparency on business associations affecting climate policy; Climate lobby governance <u>Sources:</u> Website, Social Media, Financial Disclosures, Media Reports, EU register, Legislative Consultations, CDP Replies	<u>Sources:</u> a) Direct replies from companies to CDP requests and publicly available data like securities filings and annual reports. b) Estimations based on IPCC's Guidelines for National Greenhouse Gas Inventories.
Limitations	1. The choice of sample is focused more on Europe and the USA than other countries and regions, such as China. 2. Reports are assumed to be updated in the online database of InfluenceMap consistently, but as no date of the latest review is provided on companies' profile pages, the date of the latest revision cannot be verified. 3. The proprietary scoring of InfluenceMap is based on quantifying and deducing climate lobbying scores from several individual elements, exposing the methodology to potential subjectivity in terms of which elements are more important and possibly leading to decreasing data resolution.	1. Both Scope 1 and 3 are derived from fossil fuel-related activities, neglecting companies' other activities, which would arguably increase the reported GHG emissions. 2. Data is as of 2017, and thus might be outdated, considering the changes in companies' operations and regulatory environments, and the rapidly advancing measurement mechanisms and reporting requirements. 3. Companies have provided data voluntarily based on their own methods, and hence results might be biased towards the companies. 4. The reported emissions are often likely based on extrapolations, indicating to potential inaccuracies.

⁷ Performance aggregated by InfluenceMap (2019b) on two dimensions: 1) organisational score (i.e., the extent to which the company directly influences climate legislation via engagement with policymakers and political messaging) and 2) relationship score (i.e., organisational score of trade associations or other influencers and the strength and importance of company's relationships with these influencers). The performance ranges from A+ (aggregate score for two dimensions 95-100%) to E- (score between 25-30%), and those below 25 percent have F performance. Thus, E is 30-35%, E+ 35-40%, D- 40-45% and D 45-50%.

Appendix C. Choice of sample based on the two criteria: active lobbying against climate policies and high GHG emissions

#	Company	Data by InfluenceMap (2017b, 2018a, 2019a, 2019b)			GHG emissions (CDP, 2019) <i>in million tonnages CO₂ or CO₂-equivalent emissions</i>				Sample
		Sector	Headquarters	Perform. ^{8,9}	Scope 1	Scope 3 ¹⁰	Scope 1+3	Year	
1	Nucor Corporation	Materials	USA	F	-	-	-	2017	+
2	Phillips 66	Energy	USA	F	-	-	-	2017	+
3	LyondellBasell Industries	Chemicals	USA	F	13.93	-	13.93	2017	+
4	Valero Energy	Energy	USA	E-	-	-	-	2017	+
5	Southern Company	Utilities	USA	E-	97.53	-	97.53	2017	+
6	Chevron	Energy	USA	E-	60.00	364.00	424.00	2016	+
7	Berkshire Hathaway	Industrials	USA	E-	-	-	-	2017	+
8	Caterpillar	Industrials	USA	E-	0.83	-	0.83	2010	
9	Occidental Petroleum	Energy	USA	E-	11.30	63.00	74.30	2017	+
10	ExxonMobil	Energy	USA	E	120.00	275.85	395.85	2016	+
11	Glencore Int	Materials	Switzerland	E	22.90	282.31	305.21	2016	+
12	OMV	Energy	Austria	E	11.15	99.68	110.83	2017	+
13	ConocoPhillips	Energy	USA	E	19.33	164.44	183.77	2017	+
14	Lukoil	Energy	Russia	E	31.14	-	31.14	2017	+
15	ArcelorMittal	Materials	Luxembourg	E	178.65	-	178.65	2017	+

⁸ Climate lobbying Performance Band aggregated by InfluenceMap (2019b) on two dimensions: 1) organisational score (i.e., the extent to which the company directly influences climate legislation via engagement with policymakers and political messaging) and 2) relationship score (i.e., organisational score of trade associations or other influencers and the strength and importance of company's relationships with these influencers).

The performance ranges from A+ (aggregate score for two dimensions 95-100%) to E- (score between 25-30%), and those below 25% have F performance. Thus, E is 30-35%, E+ 35-40%, D- 40-45% and D 45-50%.

⁹ While it is beyond the scope of this study to analyse the company-specific lobbying activities that InfluenceMap bases its company scoring on, common lobbying practices used by the 39 companies include 1) publicly opposing efforts to transition to a low-carbon economy, e.g., chief executives of Glencore, ConocoPhillips, Ford Motors and many others (Lance, 2016; Campbell, 2017; Krisher, 2017), 2) supporting projects causing significant harm to the climate, e.g., Valero Energy, Phillips 66, Chevron and many others supporting the Albertan Tar Sands and Keystone Pipeline XL that bear high social and environmental risks (Belvedere, 2014; TransCanada, 2013; Leahy, 2019), 3) organisation or its executives holding key positions in organisations advocating for less stringent environmental policies, e.g., ExxonMobil, Toyota Motor, Southern Company and Dow Inc. being executive committee members of National Association of Manufacturers (2019) (InfluenceMap, 2019c), and many others.

¹⁰ To determine Scope 3 GHG emissions, this study considers only emissions arising from the use of sold products, i.e., from the final use of products and services sold by a company (WRI & WBCSD, 2013).

16	BASF	Chemicals	Germany	E	18.78	42.77	61.55	2017	+
17	Bayer	Healthcare	Germany	E+	0.61	-	0.61	2017	
18	BP	Energy	UK	E+	50.10	395.00	445.10	2016	+
19	Duke Energy	Utilities	USA	E+	95.21	15.95	111.16	2017	+
20	HeidelberCement	Materials	Germany	E+	74.99	-	74.99	2017	+
21	Anglo American	Materials	South Africa	E+	9.92	99.88	109.81	2017	+
22	American Electric Power	Utilities	USA	E+	78.76	-	78.76	2017	+
23	Solvay	Chemicals	Brussels	E+	10.25	-	10.25	2017	+
24	21st Century Fox	Media	USA	E+	0.06	0.01	0.07	2017	
25	Fiat Chrysler Automobiles	Automotive	UK	E+	1.10	90.15	91.25	2017	+
26	Daimler	Automotive	Germany	E+	1.19	60.20	61.39	2017	+
27	Dow Chemicals	Chemicals	USA	E+	25.76	3.00	28.76	2017	+
28	Rio Tinto Group	Materials	UK	E+	21.10	102.00	123.10	2016	+
29	Toyota Motor	Automotive	Japan	E+	2.60	328.94	331.54	2017	+
30	BMW Group	Automotive	Germany	D-	0.63	51.89	52.51	2017	+
31	Renault	Automotive	France	D-	0.67	89.34	90.02	2017	+
32	Ford Motor	Automotive	USA	D-	1.39	161.40	162.79	2017	+
33	Repsol	Energy	Spain	D-	22.95	148.82	171.78	2017	+
34	ThyssenKrupp AG	Materials	Germany	D-	22.10	780.00	802.10	2017	+
35	Air Liquide	Chemicals	France	D-	14.48	-	14.48	2017	+
36	RWE	Utilities	Germany	D	135.60	51.33	186.93	2017	+
37	Total	Energy	France	D	36.20	400.00	436.20	2017	+
38	Royal Dutch Shell	Energy	Netherlands	D	73.00	579.00	652.00	2017	+
39	BHP	Materials	Australia	D	10.43	254.00	264.43	2017	+

Appendix D. The investments of Estonian pension funds' managers in companies significantly reinforcing climate change (see Appendix C), per financial institution as of 28.02.2019¹¹

	Company	LHV	Luminor	SEB	Swedbank	Tuleva
1	Nucor Corporation	+ ^{2,9,8}	+ ^{2,5}	+ ^{1,2,8,13,3}	+ ^{13,9}	+ ^{10,11}
2	Phillips 66	+ ^{2,9,8}	+ ^{2,5}	+ ^{2,8,13,3}	+ ^{13,9}	+ ^{10,11}
3	LyondellBasell Industries	+ ^{2,9,8}	+ ^{2,5}	+ ^{1,2,8,13,3}	+ ^{1,13,9}	+ ^{10,11}
4	Valero Energy	+ ^{2,9,8}	+ ^{2,5}	+ ^{2,8,13,3}	+ ^{1,13,9}	+ ^{10,11}
5	Southern Company	+ ^{2,9,8}	+ ^{2,5}	+ ^{2,8,13,3}	+ ^{13,9}	+ ^{10,11}
6	Chevron	+ ^{2,9,8}	+ ^{2,5}	+ ^{2,8,13,3}	+ ^{1,13,9}	+ ^{10,11}
7	Berkshire Hathaway	+ ^{1,2,9,8}	+ ^{2,5}	+ ^{2,8,13,3}	+ ^{13,9}	+ ^{10,11}
8	Occidental Petroleum	+ ^{2,9,8}	+ ^{2,5}	+ ^{2,8,13,3}	+ ^{13,9}	+ ^{10,11}
9	ExxonMobil	+ ^{2,9,8}	+ ^{2,5}	+ ^{2,8,13,3}	+ ^{1,13,9}	+ ^{10,11}
10	Glencore Int	+ ^{2,9,14,8}	+ ^{2,6}	+ ^{1,2,8,13,14}	+ ^{13,9}	+ ^{10,11}
11	OMV	+ ^{2,9,14,8}	+ ^{2,6}	+ ^{2,8,13,14}	+ ^{13,9}	+ ^{10,11}
12	ConocoPhillips	+ ^{2,9,8}	+ ^{2,5}	+ ^{2,8,13,3}	+ ^{1,13,9}	+ ^{10,11}
13	Lukoil	+ ⁴	+ ⁷			+ ¹²
14	ArcelorMittal	+ ^{2,9,14,8}	+ ^{2,6}	+ ^{2,8,13,14}	+ ^{13,9}	+ ^{10,11}
15	BASF	+ ^{1,2,9,14,8}	+ ^{2,6}	+ ^{2,8,13,14}	+ ^{1,13,9,15}	+ ^{10,11}
16	BP	+ ^{2,9,14,8}	+ ^{2,6}	+ ^{2,8,13,14}	+ ^{13,9}	+ ^{10,11}
17	Duke Energy	+ ^{2,9,8}	+ ^{2,5}	+ ^{2,8,13,3}	+ ^{13,9}	+ ^{10,11}
18	HeidelberCement	+ ^{2,9,14,8}	+ ^{2,6}	+ ^{2,8,13,14}	+ ^{1,13,9,15}	+ ^{10,11}
19	Anglo American	+ ^{2,9,8}	+ ^{2,6}	+ ^{2,8,13}	+ ^{1,13,9}	+ ^{10,11,12}
20	American Electric Power	+ ^{2,9,8}	+ ^{2,5}	+ ^{2,8,13,3}	+ ^{13,9}	+ ^{10,11}
21	Solvay	+ ^{2,9,14,8}	+ ^{2,6}	+ ^{2,8,13,14}	+ ^{13,9}	+ ^{10,11}
22	Fiat Chrysler Automobiles	+ ^{2,9,14,8}	+ ^{2,6}	+ ^{2,8,13,14}	+ ^{13,9}	+ ^{10,11}
23	Daimler	+ ^{1,2,9,14,8}	+ ^{2,6}	+ ^{1,2,8,13,14}	+ ^{13,9}	+ ^{10,11}
24	Dow Chemicals	+ ^{2,9,8}	+ ^{2,5}	+ ^{2,8,13,3}	+ ^{13,9}	+ ^{10,11}
25	Rio Tinto Group	+ ^{2,9,14,8}	+ ^{2,6}	+ ^{2,8,13,14}	+ ^{1,13,9}	+ ^{10,11}
26	Toyota Motor	+ ^{2,9,8}	+ ²	+ ^{2,8,13}	+ ^{1,13,9}	+ ^{10,11}
27	BMW Group	+ ^{1,2,9,14,8}	+ ^{2,6}	+ ^{1,2,8,13,14}	+ ^{1,13,9,15}	+ ^{10,11}
28	Renault	+ ^{2,9,14,8}	+ ^{2,6}	+ ^{2,8,13,14}	+ ^{1,13,9}	+ ^{10,11}
29	Ford Motor	+ ^{2,9,8}	+ ^{2,5}	+ ^{2,8,13,3}	+ ^{1,13,9}	+ ^{10,11}
30	Repsol	+ ^{2,9,14,8}	+ ^{2,6}	+ ^{1,2,8,13,14}	+ ^{1,13,9,15}	+ ^{10,11}
31	ThyssenKrupp AG	+ ^{2,9,14,8}	+ ^{2,6}	+ ^{2,8,13,14}	+ ^{13,9}	+ ^{10,11}
32	Air Liquide	+ ^{2,9,14,8}	+ ^{2,6}	+ ^{1,2,8,13,14}	+ ^{13,9}	+ ^{10,11}
33	RWE	+ ^{2,9,14,8}	+ ^{2,6}	+ ^{2,8,13,14}	+ ^{13,9,15}	+ ^{10,11}
34	Total	+ ^{1,2,9,14,8}	+ ^{2,6}	+ ^{2,8,13,14}	+ ^{1,13,9,15}	+ ¹⁰
35	Royal Dutch Shell	+ ^{2,9,14,8}	+ ^{2,6}	+ ^{2,8,13,14}	+ ^{1,13,9,15}	+ ^{10,11}
36	BHP Billiton	+ ^{2,9,14,8}	+ ^{2,6}	+ ^{2,8,14}	+ ^{13,9}	+ ^{10,11}

Sources: Direct investments¹ (marked with superscript number 1, see Appendix E for fund-specific direct investments), Indirect investments²⁻¹⁵ (marked with superscript numbers from 2 to 15, which are all separate investment funds elaborated in Appendix F, also regarding which specific pension fund invests in the investment fund).

¹¹ Only exception being LHV Pension Fund Index, which is as of 31.01.2019.

Appendix E. Direct investments in the sample companies, per financial institution¹², per pension fund (S marks direct investment through stocks and B through bonds).

	Company	LHV	SEB	SIF
1	Nucor Corporation		Progressive - S	
2	Phillips 66			
3	LyondellBasell Industries		Progressive - S	K3, K4 - S
4	Valero Energy			K3, K4 - S
5	Southern Company			
6	Chevron			K3, K4 - S
7	Berkshire Hathaway	S, M, L, XL - B		
8	Occidental Petroleum			
9	ExxonMobil			K3, K4 - S
10	Glencore Int		Progressive - B	
11	OMV			
12	ConocoPhillips			K3, K4 - S
13	Lukoil			
14	ArcelorMittal			
15	BASF	S, M, L, XL - B		K3, K4 - S
16	BP			
17	Duke Energy			
18	HeidelberCement			K2, K3 - B
19	Anglo American			K3, K4 - S
20	American Electric Power			
21	Solvay			
22	Fiat Chrysler Automobiles			
23	Daimler	S, M, L, XL - B M, L, XL - S	Progressive - B	
24	Dow Chemicals			
25	Rio Tinto Group			K3, K4 - S
26	Toyota Motor			K3, K4 - S
27	BMW Group	S, XL - B	Energetic, Progressive, Optimal, Conservative- B	K2, K3, K4 - B K3, K4 - S
28	Renault			K3, K4 - S
29	Ford Motor			K3, K4 - S
30	Repsol		Progressive - B	K3, K4 - S
31	ThyssenKrupp AG			
32	Air Liquide		Progressive - B	
33	RWE			
34	Total	S, M, L, XL - B		K3, K4 - S
35	Royal Dutch Shell			K3, K4 - S
36	BHP			
		5 companies	7 companies	16 companies

Source: see sources to fund-specific portfolio holdings in Appendix A.

¹² The table excludes Luminor and Tuleva because none of their pension funds had made direct investments as of February 28, 2019.

Appendix F. Information of which Estonian pension funds have invested in which investment funds that have sample companies in holdings, as examined in Appendix D.

#	Investment fund information			# investees from 36	Investments in the investment fund per pension fund ¹³				
	Funds	Portf. date	Sources to funds		LHV	Luminor	SEB	SIF	Tuleva
2	iShares Core MSCI World UCITS ETF	15.02.19	(Blackrock, 2019a)	35	Index	A, A+, B			
3	iShares Core S&P 500 ETF	08.04.19	(Blackrock, 2019e)	14			Optimal, Progressive, Energetic, Energetic Index		
4	MSCI Emerging Markets UCITS ETF 1C	04.03.19	(DWS Investments, 2019a)	1	Index				
5	iShares MSCI North America UCITS ETF	04.03.19	(Blackrock, 2019b)	14		A, A+			
6	iShares Core MSCI Europe UCITS ETF	04.03.19	(Blackrock, 2019c)	20		A, A+, B			
7	iShares Core MSCI EM IMI UCITS ETF	01.03.19	(Blackrock, 2019d)	1		A, A+, B			
8	MSCI World UCITS ETF 1C	06.03.19	(DWS Investments, 2019b)	35	Index		Optimal, Energetic		
9	Lyxor ETF Core MSCI World (DR) UCITS ETF	09.04.19	(Lyxor, 2019)	35	Index			K90-99	
10	iShares Developed World Index Fund (IE)	31.05.18	(Blackrock, 2018a)	35					World Stocks
11	iShares Developed World Ex Tobacco Index Fund (IE)	31.05.18	(Blackrock, 2018b)	34					World Stocks

¹³ See sources to specific funds from Appendix A.

12	iShares Emerging Markets Index Fund (IE)	31.05.18	(Blackrock, 2018c)	1					World Stocks
13	Amundi Index MSCI World UCITS ETF DR	04.04.19	(Amundi, 2019a)	35			Energetic	K90-99	
14	iShares STOXX Europe 600 UCITS ETF (DE)	08.04.19	(Blackrock, 2019d)	19	M, L		Energetic		
15	Amundi MSCI Europe UCITS ETF – EUR (C)	04.04.19	(Amundi, 2019b)	7				K2, K3, K4	

Appendix G. Questionnaire for Estonian pension fund managers' on how Estonian pension funds address climate-related ESG risks.

*** Required Information**

page 1

ADDRESSING CLIMATE-RELATED ESG RISKS IN ESTONIAN PENSION FUNDS

Thank you for agreeing to participate in the survey conducted as part of my master's thesis at Lund University, Sweden.

Contact: Uku Lilleväli, uku.lillevali@gmail.com, +372 56661999

The aim of the survey is **to map if and how environmental, social and governance-related risks relevant to climate (further: ESG/sustainability risks) are considered in the investment processes of financial institutions managing Estonian pension funds (further: FI).**

Depending on the sector, such ESG risks can be related to, *inter alia*, GHG emissions, waste & energy management, and ecological impacts (*environmental*), supply chain management and employee health & safety (*social*), and critical incident risk management, management of the legal & regulatory environment, and transparency (*governance*). Disregarding these can exacerbate policy and legal risks (e.g., increasing pricing of GHG emissions or exposure to litigation), market risks (higher costs of raw materials), reputational risks (growing stakeholder concerns), physical harm to assets, and countless others.

Five things to know and consider when filling the survey:

The number and nature of questions depend on the answers but overall **the survey is expected to take 4-14 minutes, depending on the answers and their level of detail.**

The responses are analysed based on the level of detail and evidence provided: e.g. if you answer "Yes" to using specific methods but neither elaborate nor provide proof, the "Yes" will carry a low weight in the analysis. Therefore, please **substantiate answers with details, examples and evidence, where possible.** Any sensitive data will be handled with discretion.

If FI is either a direct or indirect subsidiary of a foreign-owned company and the practices adhered to are those of the holding company abroad, focus on how the practices are or have been applied in the subsidiary's pension funds and investments.

While the survey refers to FI as the financial institution more broadly, **ensure that responses clarify if the practices and policies differ between pension funds and other investments & funds managed by FI.**

The analysis is conducted based on two types of data: a) examining FIs' publicly available documents, and b) pension funds' managers' survey responses. **The results of all FIs are compared and sent back with individual analysis for each financial institution in May.**

I kindly ask you to respond **by Monday 8 April 2019**, preferably in English. The final study will be published in mid-May 2019. Do not hesitate to ask should you have any clarifying questions but note that the deadline is final, so it is suggested to contact with any questions that might arise as soon as possible.

*** 1. First and last name**

*** 2. Financial institution (FI)**

page 2

3. Does FI state publicly in its policies that it...

	Yes	No	Partially
*(a) acknowledges that climate risks are associated with investment risks and returns?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*(b) supports transitioning to low-carbon portfolios and economy?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*(c) actively seeks to divest from high-greenhouse gas-emitting companies and sectors?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 4. Please specify.** Which of the previous statements are included in which policies or documents? Are these commitments relevant to all financial products and services, or just some (e.g., pension funds)? Do the commitments also explain how they are operationalized? If partially then how? And other relevant information. **Support these statements with appropriate sources.**

page 3

*** 5. Does FI in some form consider ESG/sustainability risks in its policies and investment processes?** For instance, a) negative screening by excluding companies, sectors or funds not complying with certain standards, b) positive screening by investing in more responsible or impactful companies, c) sector-weighting for the funds to be less inclined to adverse risks and impacts, d) engaging with the investees through voting or dialogue, or other ways. (Select one option)

- Yes Continue to Page No. 4
- No Answer Question 6 and Skip to Page No. 14

6. If FI does NOT consider ESG/sustainability risks in its investment processes, then what are the main reasons for not doing so? For example, if FI focuses more on passive investing, then why is it not investing in ESG risk-adjusted benchmark indexes with equally diversified risks and comparable or higher historical returns (e.g., many of Dow Jones Sustainability Indices vs traditional Dow Jones Indices)? Or why are material climate-related ESG factors neglected in long-term investments such as pension funds?

page 4

This section involves questions on different approaches to integrating ESG/sustainability criteria in investment processes. Please indicate whether FI uses the particular approach in some method or form, and provide details, examples and evidence, if so.

*** 7. Does FI use negative screening approach: avoiding investing in companies, sectors or funds that do not comply with chosen ESG/sustainability criteria or accepted norms and standards?** For instance, excluding companies engaged in thermal coal extraction, funds with high exposure to companies combusting fossil fuels, or companies not adhering to international standards such as the UN Global Compact. (Select one option)

- Yes, for ALL investments/funds Yes, for SOME investments/funds No

*** 8. If yes, then how is the negative screening approach used?** Which standards are followed or how the ESG/sustainability criteria are chosen? Which companies, sectors or funds are excluded? How often is the exclusion list or ESG criteria updated? Specify whether the same negative screening approach is

used for all investments or only pension or other specific investment funds. **Provide details, examples and evidence.**

page 5

*** 9. Does FI use positive screening approach: investing in more responsible or impactful companies, industries or funds?** For example, investing in renewable energy as opposed to fossil fuels or preferring ESG/sustainability-adjusted funds over the traditional benchmark indexes. (Select one option)

Yes, for ALL investments/funds Yes, for SOME investments/funds No

*** 10. If yes, then how is the positive screening approach used?** Which standards are followed and how the ESG/sustainability criteria are chosen? Which companies, sectors or funds are prioritized? Is the positive screening assessed only pre-investment or also post-investment, and if so, how? Specify whether the same positive screening approach is used for all investments or only pension or other specific investment funds. **Provide details, examples and evidence.**

page 6

*** 11. Does FI utilise sector weighting: under- or overweighting portfolio with a chosen industry or market segment, and regularly re-weighting based on ESG/sustainability analysis?** For example, using a maximum threshold of 10 per cent of investments financing fossil fuels, or investing in funds that use similar thresholds. (Select one option)

Yes, for ALL funds Yes, for SOME funds No

*** 12. If yes, then how is sector weighting used?** Which ESG factors or sectors are prioritised? How often is the portfolio balanced or re-weighted? Specify if sector weighting is used for all investments or only pension or other specific investment funds. **Provide details, examples and evidence.**

page 7

*** 13. Does FI actively monitor and engage with controversial companies or funds to lower their ESG/sustainability risks?** For instance, making a company or fund to reduce its carbon footprint through a dialogue, voting at shareholder meetings, collaborating with other investors, or other ways. (Select one option)

Yes No

*** 14. If yes, then describe the engagement process.** What are the criteria for initiating the engagement process? What are some examples of the engagement processes within the past 2-3 years? Has the engagement been unilateral or with other investors? One time or with follow-up? **Provide details, examples and evidence.**

page 8

*** 15. Has FI divested from or blacklisted companies or funds that have been engaged in controversial issues and/or that have not shown signs of improvements after engagement processes?** For instance, companies or funds significantly reinforcing climate change either in operations or through lobbying activities. (Select one option)

Yes No

16. If yes, then why and which companies/funds have been divested from or black-listed because of ESG risks or sustainability issues? Please describe how the divestment/black-listing decisions are made. **Provide details, examples and evidence.**

page 9

*** 17. Does FI employ other methods to address ESG/sustainability risks?** (Select one option)

Yes No

*** 18. If yes, then which methods not mentioned above does FI employ to address ESG risks and sustainability concerns?** Please describe these methods and explain if they are used for all investments or only for pension or other specific investment funds. **Provide details, examples and evidence.**

page 10

*** 19. Does FI conduct ESG/sustainability analysis as part of the investment process? If so, when?** Answer "Other" and specify if it varies for different investments or funds. (Select one option)

- | | |
|---|-------------------------|
| <input type="radio"/> No | Skip to Page No. 14 |
| <input type="radio"/> Yes, pre-investment (due diligence) | Continue to Page No. 11 |
| <input type="radio"/> Yes, post-investment (regularly monitoring and assessing) | Continue to Page No. 11 |
| <input type="radio"/> Yes, both pre- and post-investment | Continue to Page No. 11 |
| <input type="radio"/> Other (Please specify) _____ | Continue to Page No. 11 |

page 11

*** 20. Choose all levels of data collected for ESG/sustainability analysis.** Choose also "Other" and specify, if it varies for different investments or funds.

- Company-level
- Sector-level
- Macro-level issues, such as climate change

- Regional trends
- Other (Please specify) _____

*** 21. Please describe the ESG/sustainability risk analysis process.** Through which channels and data providers FI collects ESG/sustainability data that it bases its ESG analysis on? How do the pre- and post-investment analysis differ? And other relevant information. **Provide details, examples and evidence.**

page 12

*** 22. Who is responsible for conducting ESG/sustainability analysis in FI?** (Select one option)

- Investment managers who have received ESG training
- Employed in-house ESG/sustainability specialist(s)
- External service-provider(s)
- Both in-house specialists and external experts
- Other (Please specify) _____

*** 23. Please specify.** If investment managers, then where and how often have they received ESG training? If in-house ESG specialists, then how many full-time equivalents, what are their roles, what is their education and experience with ESG? If external service-providers, then who? If using both internal and external, then how is this divided? If both pre- and post-investment ESG/sustainability analysis are conducted, then who is responsible for what? **Provide details, examples and evidence, where possible.**

page 13

*** 24. Has FI established a structured process of how ESG factors are considered in investment processes? And if so, what does the process consist of?** For instance, ESG/sustainability reporting, explicit ESG/sustainability priorities, a protocol for documenting if and how ESG factors are considered in decision-making, designated ESG inputs, ESG threshold trigger, mandatory or optional processes, etc. **Provide details, examples and evidence, where possible.**

page 14

*** 25. Does FI monitor and assess its progress on tackling climate change or other sustainability issues in its investments?** (Select one option)

- Yes, in ALL investments/funds (Continue to Page No. 15)
- Yes, for SOME investments/funds (Continue to Page No. 15)
- No (Skip to Page No. 16)

page 15

* 26. **Please specify.** What elements do the monitoring and assessment consist of? For instance: governance, strategy, risk management and metrics and results. Does FI monitor and assess the progress for all investments & funds or only for pension or other specific investment funds. **Provide details, examples and evidence, where possible.**

* 27. **Does FI communicate externally its methods and progress on tackling climate change or sustainability concerns more broadly in its portfolio? If so, how does the disclosure vary for different investment funds? To whom are these disclosures made available?** Provide details, examples and evidence, where possible.

page 16

* 28. **If FI is a subsidiary of a foreign-owned bank and the ESG is managed by the holding company, then how are ESG-related practices coordinated between the Estonian subsidiary managing pension funds and the foreign holding company?** Who is responsible for the ESG analysis and investment decisions? Does it differ for companies, sectors or investment types? What is under the ESG mandate of the subsidiary and what under the ESG mandate of the holding company? **Provide details, examples and evidence.**