

How Norway's Sovereign Wealth Fund Affect the Excluded Companies' Stock Price

Does the exclusion from Norway's sovereign wealth fund affect the stock prices of the excluded firms in a negative way?

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Preface

This master thesis has been written during the spring semester of 2022 at the University of Agder. This concludes our Master of Science (M.Sc.) in Economics and Business Administration. During the specialization in Analytical Finance, we quickly found a curiosity for sustainability in relation to the financial market. We wanted to write about social responsibility and became interested in how the Norwegian Government Pension Fund Global manages its investments. More specifically, the excluded firms and the process of negative screening. Therefore, the thesis aims to investigate how the exclusions from the funds' portfolio will affect the excluded companies' stock prices. Further, we wanted to shed a light on future issues and the importance of sustainability. We had the opportunity to combine our knowledge from sustainability and econometrical finance courses.

The work has been challenging, educational and rewarding. We want to show our gratitude towards Valeriy Zakamulin, professor of Finance at the School of Business and Law at the University of Agder, for his guidance with this master thesis, the useful insights, and comments during the process of writing. Lastly, we would like to thank our families, friends, and co-students for their support and helpful comments throughout the working progress of this thesis. We would also like to thank each other for great collaboration and patience throughout the whole writing process.

Thank you!

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Abstract

This thesis examines the effect Norway's Government Pension Fund Global (GPF) has on the companies it excludes from the portfolio. The data sample consists of 25 companies excluded based on environmental damage and unacceptable greenhouse gas (GHG) emissions. An event study has been conducted to examine whether the exclusion from the fund has a negative impact on the companies' stock prices. This makes it possible to examine the abnormal returns, and whether they are affected by the exclusion. The main findings and conclusion are that the exclusions do not negatively influence the excluded firms. The influence of exclusions does not result in statistically significant negative abnormal returns, and thus we fail to reject the null hypothesis. These findings are inconsistent with the majority of earlier studies, which found that the exclusion had a statistically significant negative impact on the excluded companies. This may be because of the differences in the data selection, and information leakage, or it might be explained by the fact that there are always willing buyers. One explanation may also be that investors do not regard sustainability as important and essential for their investments.

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1 Introduction

1.1 Motivation

As of today, there are major global changes in the economy regarding challenges related to climate change. The term sustainability has earned increasing interest, with the definition of “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” (Brundtland, 1987, p. 41). In alignment with this definition, The United Nations (UN) has presented 17 sustainable development goals, which aim to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030 (United Nations Development Programme, 2021). With this comes a greater need for companies to take responsibility as they form a considerable part of the world economy and have an overall large influence. Sovereign Wealth Funds (SWFs) have gained increased attention in recent years, which again increases the need for more regulations. These funds are considered vague investment vehicles, and therefore, there is a need for stricter disclosure of investment information. This sudden rise in attention could be caused by the significant size of such funds (Alhashel, 2015). Fund managers who focus on social responsibility have been credited with influencing companies to improve their ethical, social, or environmental concerns (Foo, 2017).

Over the past few years, a new set of rules and guidelines have appeared, as well as laws that regulate how companies should run their business. Guidelines in society are becoming increasingly stricter and perhaps, especially regarding environmental and societal matters. The laws and guidelines differ between nations and jurisdictions, nevertheless, the challenges associated with the environment, social conditions, and governance, apply across borders. Therefore, companies that undertake a distinct responsibility, will be better equipped to meet such future challenges. Despite the fact that firms might not see a direct monetary return in the short term, they create the basis to be profitable in the long run. A study conducted by Friede, Busch & Bassen (2015) shows the absence of a negative correlation between ESG and companies’ financial performance. This implies that in most cases the implementation of ESG metrics in investment strategies does not affect the returns in a negative sense. SWFs can therefore afford to potentially sacrifice parts of the return, in exchange for investments of a higher sustainable standard in line with ESG aspects.

Although there is uncertainty about whether these investments will pay off in monetary terms, they will pay off ethically.

1.2 Problematization

Previous research shows that SWFs have become more and more affected by consumers' preferences, and therefore have increased their focus on sustainable and responsible investments. In our thesis, we wanted to investigate the influence of the Norwegian Government Pension Fund Global (GPFG). The research question we will be answering is:

Does the exclusion from Norway's sovereign wealth fund affect the stock prices of the excluded firms negatively?

To examine whether the exclusion from the GPFG has a negative impact on the stock prices, an event study has been conducted. The event study makes it possible to look into the abnormal returns, and whether they are caused by the exclusion. There exist earlier studies of GPFG and their negative screening strategy, but the majority of these focus on the entire excluded portfolio. Unlike these, we want to look at only a selection of excluded companies and focus on greenhouse gas (GHG) emissions and environmentally harmful activities. This limits the study to 25 excluded companies and distinguishes the thesis from other studies, by the particular focus on environmental exclusions. The focus on only a few of the grounds for exclusion makes it possible to look more closely at whether environmentally harmful companies are affected by exclusions. It also makes it possible to look at how investors react to such information being published publicly. This raises questions about whether investors choose to divest in such companies, or whether they retain their ownership despite negative news regarding environmental impact.

Many exclusions are linked to sinful stocks and industries, such as tobacco and weapon dealing. It might be easier to agree that this kind of investment should be avoided by SWFs, as they are directly related to harmful business. When it comes to environmentally harmful business, it can be difficult to determine the degree of destruction that should result in exclusion or not. In the case of sinful industries, it is the product itself that is considered harmful, while in the case of

environmental damage, the damaging activity is often linked to the production method and emissions. It is not necessarily the product itself that is most harmful to the environment, but rather the way production method. An exclusion based on environmental emissions will therefore be more intricate than other grounds for exclusion.

The main findings are that the influence of exclusions does not result in statistically significant negative abnormal returns, and thus we fail to reject the null hypothesis. After performing the event study, we find that our conclusions are the opposite of our expectations, as we almost exclusively find insignificant values of abnormal returns and cumulative abnormal returns in the event window. We conclude that the exclusions do not negatively influence the excluded firms. These findings are inconsistent with most of the earlier studies, which found that the exclusion had a statistically significant negative impact on the excluded companies.

1.3 Structure of the thesis

The thesis is divided into nine chapters, starting with an introduction presenting the topic of our thesis and the problematization process. Following, we present two chapters regarding SWFs and the GPFG, functioning as background chapters for the thesis. Further, our literature review, which includes relevant similar studies on the topic, is presented. The fifth chapter provides an overview of the data, how it was retrieved, and how it is organized. In the sixth chapter, the methodology of the research is presented, which looks into the details of the event study. Results based on the data and methodology are presented in chapter seven, following a further discussion of the findings regarding the abovementioned literature. Finally, we will proceed to conclude the thesis, disclose limitations, and make suggestions for future research.

2 Sovereign Wealth Funds

The increase in international investment activities of governments reflects the trends in globalization and diversification. These trends again reflect the growing integration of the global economy. The increased portfolio diversification has a loosening effect on the tendency of institutional investors to invest in domestic equities (Truman, 2007). SWFs are investment vehicles owned by the state and have gained considerable attention in the past years with extended regulations from the governments (Alhashel, 2015). The funds invest in global assets, including both financial, real, and alternative assets. SWFs are normally funded by commodity export revenues or the transfer of assets directly from official foreign exchange reserves. In some cases, government budget surpluses and pension surpluses have also been transferred into SWFs (Butt, Shivdasani, Stendevad, & Wyman, 2008). The main purposes of SWFs are to stabilize public and export revenue accumulation of savings for future generations and to manage foreign reserves (Aizenman & Glick, 2007; Beck & Fidora, 2008; Urban, 2011).

As SWFs manage such a vast amount of assets and global investment activity, they prove to be important institutional investors, and they have possible implications for stock markets and target companies (Urban, 2017). Considering the size of these funds, they have a tremendous impact on global equity. An analysis of existing literature on the subject, conducted by Megginson and Fotak (2015), confirms the impact of SWFs on the global economy and discusses their investment strategies. Chhaochharia and Laeven (2008) found that funds mainly invest to diversify away from the industries of their own country, but that they largely do so in countries that share the same culture. This indicates an investment strategy that is not exclusively driven by profit maximization. Firms' share prices respond positively when SWFs buy stakes, partially because the funds invest when the firm is in time of financial distress. Meanwhile, the long-term performance of investments by SWFs tends to be poor, consistent with flawed portfolio diversification and poor corporate governance (Alhashel, 2015).

2.1 The Government Pension Fund Global

The Government Pension Fund Global (GPF) is one of the world's largest funds, with holdings in about 9,000 companies worldwide (NBIM, 2019). It is a SWF that invests its surplus wealth from Norway's petroleum sector (Chesterman, 2007). Since 1998, the fund has generated an annual return of approximately 6.62 percent or 4.6 percent after management fees and inflation. This has resulted in a return of 8,007 BNOK in the period 1998 to 2021 (NBIM, 2022a). The fund was created after the discovery of oil in the North Sea, to serve as a shield against volatility in the oil revenue, as well as a financial reserve. The fund aims to make the national wealth last for as long as possible, and therefore its investments have a long-term perspective, ensuring that the fund is better equipped to handle fluctuations in the market (NBIM, 2019).

GPF can be characterized as a universal owner, and the return of the fund is strongly influenced by the performance of the global equity market. The fund, therefore, benefits from long-term investing which is in line with sustainable economic growth. As a shareholder, the fund has a direct influence on the management, and as a major market player, the fund may influence standard settings in the market. It is further stated that universal owners and investors have different potential ways of exerting influence. One way of exerting influence is through company engagement and dialogue with standard setters. It can also be done through collaborative efforts, such as internalizing the environmental effects of business activities. Through collaborative and concerted efforts, the fund can extend its reach of influence (Gjessing & Syse, 2007). The fund considers profitability in alignment with environmental and social issues and publishes its expectations of the companies they invest in. With the help of the independent Council on Ethics, decisions on exclusion, observation, or active ownership are made (NBIM, 2019).

2.1.1 Council of Ethics

GPF is widely acknowledged to be one of the most transparent funds of its type and is considered a role model for other SWFs (Caner & Grennes, 2009). The investments have a two-sided ethical commitment, which includes corporate engagement and avoiding being associated with companies that pose a risk to social and environmental justice. The Council of Ethics monitors the portfolio

of the fund to detect whether firms should be excluded and submits the recommendations for the exclusion and observation of specific companies to Norges Bank. Norges Bank is the operational manager of the fund and is responsible for the exercise of ownership rights. Practices that may lead to exclusions include human rights violations, severe environmental damage, acts or omissions that on an aggregate company level, lead to unacceptable greenhouse gas emissions, serious corruption or financial crime, gross violations of individuals' rights in situations of war or conflict, or other significant violations of fundamental ethical norms (Etikkradet, 2022).

The Council of Ethics sends its recommendations to the main board of Norges Bank which decides whether to exclude, observe or actively exercise ownership (NBIM, 2019). The recommendations from the Council of Ethics are taken seriously and give effect to the public interests in ethics and global justice. They serve a vital role in screening and excluding companies from the fund's investment portfolio. The council's advice and recommendations are meant to represent the values of the public, and the fact that exclusions and recommendations act as a penalty for the affected companies is less important (Clark & Monk, 2010).

2.1.2 How the Council of Ethics operates

Moses (2021) states that with the size of the GPF and the fact that the council's recommendations are made public, companies and other investors pay close attention to the recommendations. When a company is being considered for exclusion, it is given the opportunity to present its viewpoints to the Council of Ethics at an early stage in the exclusion process. The council verifies whether there are sufficient grounds for exclusion. If the council decides to recommend an exclusion, a draft is presented to the company, allowing for comment. It is especially important that the council are discreet regarding commenting on their work related to companies that are in the process of being excluded. These public statements can be of significant importance and can potentially harm the firm's reputation and affect the stock price. The council is therefore very careful to publish only well-founded statements. In addition, they are careful to comment on practices and companies that do not reach the threshold for exclusion, as it might be perceived as a form of approval (Etikkradet, 2022).

3 Sustainability in financial markets

As abovementioned, sustainability is becoming an increasingly important part of the global market, which also applies to financial markets and individual companies. This chapter presents some of the concepts that are important in terms of sustainability and to the further discussion in the thesis.

3.1 Socially Responsible Investments

The topic of sustainability has been discussed since the 1980s and is a widespread subject in many areas such as politics, education, and business. The term sustainability can be explained as the ability to maintain something over time. Yet, maintaining things themselves is not enough. Sustainability emphasizes that we should extend to maintain systems, entities, or processes that we see as underlying for our own and others' well-being and the well-being of our nature. For instance, this includes ecosystems, biodiversity, fertile land, freshwater, etc. (Becker, 2019). For this to be achievable, it requires everyone to contribute, including businesses, consumers, and governments.

Social responsibility has an increasing impact on personal investments and challenges the beliefs that investments and ethics are mutually exclusive. It is found that socially responsible investors rate ethical issues as more important when making decisions regarding investments than conventional investors. These investors are also more likely to be influenced by ethical issues when it comes to investments (McLachlan & Gardner, 2004). Cheung (2011) finds evidence that may indicate that investors value sustainability, however, only in a temporary way. In contrast, Friedman (1970) stated that the sole social responsibility of a business is to increase its profits.

Several concepts, among others Elkington (1998) and Carroll (1979) have developed theories that take environmental and social matters into consideration and have gained more attention in the previous years. The triple bottom line is a concept that presents three dimensions of performance: social, environmental, and financial (Elkington, 1994). The flexibility of the triple bottom line has changed the way businesses, non-profitable organizations, and governments measure sustainability.

The flexibility of the framework allows organizations to apply the concept in a way that suits their specific needs (Slaper & Hall, 2011). The triple bottom line “captures the essence of sustainability by measuring the impact of an organization's activities on the world [...] including both its profitability and shareholder values and its social, human and environmental capital” (Savitz & Weber, 2006).

The increasing focus on responsibility towards companies has also led to consciousness about social responsibility amongst investors. Academic literature has no common definition of socially responsible investments (SRI). However, Sandberg, Hedesström & Hamilton (2009) find that definitions of SRI are consistent in means of “integration of certain non-financial concerns, such as ethical, social or environmental, into the investment process”. The purpose of SRI is to allow investors to reflect on their personal values and ethics in their capital allocation and encourage firms to improve their ethical, social, and environmental performance (de Colle & York, 2009). Through a meta-analysis, Wallis & Klein (2015) found that “most research studies find that socially responsible (SR) investments perform equal to conventional investments, but these findings are challenged by contradictory results from other studies”. Hence, it is hard to draw any clear conclusions as to whether or not SRI has a significant impact on portfolio performance.

While SRI defines the task of investing in a socially responsible way, corporate social responsibility (CSR) is used to describe firms’ ethical and responsible behaviour and how they integrate social and ecological matters into their corporate governance. When companies implement CSR as part of their business model, socially responsible investors may see the company as a good investment opportunity. Conversely, shareholders can also influence the company in the direction of becoming more socially responsible by exercising their voting rights. (Wallis & Klein, 2015). Margolis, Elfenbein, and Walsh (2007) found that the average relation between CSR and profitability is weakly positive through a meta-analysis of empirical studies. Through an event study, Krüger (2015) found that investors react strongly negative to negative news, and weakly negative to positive news in the short run. He also found that the reaction especially related to information regarding communities, and the environment, and that investors tend to react more strongly to negative CSR events.

Firms' performance on environmental, social, and governance (ESG) matters has become more debated in the past decade by several parties, such as customers, employees, government regulators, and public interest groups (Khan, 2019). Diltz (1995) examined 28 common stock portfolios to determine whether ethical screening has an impact on portfolio performance. "Analysis of eleven distinct ethical screens and three combinations of screens reveals little impact" (Diltz, 1995). Also, the market appears to reward good environmental performance, charitable giving, and the absence of nuclear and defence work (Diltz, 1995). Friede et al. (2015) reviewed over 2000 empirical studies on ESG and corporate financial performance (CFP) and found that about 90 percent of the studies show a non-negative relation between ESG and CFP. Also, the large majority reports positive results and that it appears stable over time. However, researchers often claim that results are ambiguous, inconclusive, or contradictory (Aupperle, Carroll & Hatfield, 1985; Griffin & Mahon, 1997; Rowley & Berman, 2000; van Beurden & Gössling, 2008; Hoepner & McMillan, 2009; Revelli & Viviani, 2015).

Asset managers have overall responsibility in the fact that they manage money on behalf of asset owners and savers. This includes both citizens who buy funds directly, or institutions such as sovereign wealth funds and pension funds (Edmans, 2020). Using the CAPM-based methodology, Climent & Soriano (2011) found that environmental funds had lower performance than conventional funds with similar characteristics in the 1987-2009 period. However, their results also show that green funds achieved adjusted returns not remarkably different from the rest of socially responsible investments and conventional mutual funds in the 2001-2009 period.

3.2 Divestment or active management

Socially responsible investing can be put into practice by two approaches: exclusion or inclusion. The exclusionary approach involves filtering out certain companies when building an investment portfolio. The inclusionary approach often involves adjusting the weights of investments based on whether a company is more or less socially responsible. Pension funds and SWFs have started engaging in both positive and negative screening approaches. In the case of negative screening, the GPFG is often cited as an example (Foo, 2017). By looking into how stock markets respond to

exclusion events, it can provide direct answers to the question of whether or not investors care about corporate sustainability (Cheung, 2011).

Institutional investors have grown in importance as they have become the largest holders of shares in public companies globally. Historically, there has been a tendency for institutional investors to concentrate more on corporate governance, but recently the focus has shifted towards environmental and social issues. The objective of responsible investing is to reduce exposure to investments that pose greater ESG risks and to influence companies to become more sustainable. Relatively large institutional investors can justify the cost of active ownership. In order to change the aspects of a company, the investor can influence through an active voice, for example through voting their shares or by direct confrontation. Change can also be driven by the threat of exiting the firm, through divestment. It is further argued that divestments are typically seen as a last resort and point to the considerable financial cost of for example fossil fuel divestments. In contrast, arguments have been made that if some institutional investors sell their shares, there will always be other buyers available, which diminishes the voice and impact of responsible institutional investors (Matos, 2020).

Regarding active ownership and engagement, it is found that companies with low market performance are more likely to respond to dialogue with investors. This might be triggered by recent sustainability incidents which pressure investors to enter into dialogue with the company (Semenova & Hassel, 2019). Yin (2017) finds that active engagement can positively influence the conduct of target companies. It is also found that if institutional investors implement socially responsible investments, it will improve their reputation at the international level. The SWFs can make a positive impact on both their financial and social returns, as well as on the target companies. This can again result in a positive effect on the sustainability of financial markets as SWFs are major influential investors.

Divestment can offer some advantages over other kinds of strategies. It provides a clear moral message and makes a monetary statement. Statements related to financial means and money are often taken more seriously than just verbal statements. Divestment is regarded as a powerful strategy, which can be used to raise awareness, and influence policy and corporate behaviour (Apfel, 2015). Socially responsible investors aim to preserve their ethical values and beliefs, and

SRI fund managers employ negative screening of companies involved in “sinful” industries (de Colle & York, 2009). “Negative screening is the exclusion of certain sectors, companies, or practices from a fund or portfolio based on specific ESG criteria” (Amel-Zadeh & Serafeim, 2018). Through a global survey, Amel-Zadeh and Serafeim (2018) found that negative screening is considered to be the least beneficial to investments among the various investment styles. Full integration and engagement are perceived as more beneficial and are driven by relevance to investment performance.

Lee, Humphrey, Benson & Ahn (2010) argues that the most common criticism of non-financial screening reduces diversification, restricts investment opportunities, and impacts performance. It is apparent that excluding and publicly addressing the wrongdoings of companies, hardly ever move markets. It is also no evidence that naming and shaming negatively affect the long-term cost of capital of the affected companies. Regardless, this is an essential part of the strategy the fund uses when managing its portfolio (Clark & Monk, 2010). On the other hand, Hopener and Schopohl (2016) suggest that the exclusions of companies do not harm the funds’ performance. This indicates that exclusionary screening can meet ethical standards without compromising financial returns.

3.3 Transparency

Transparent SWFs are more likely to have an impact on target firm value than funds with a lower degree of transparency. As they represent foreign government ownership, it raises several concerns regarding associated inefficiencies. These concerns are intensified by the lack of transparency in a substantial part of the funds (Kotter & Lel, 2011). According to Aizenman and Glick (2009), SWFs tend to reflect the national norms of their associated jurisdictions.

Given that SWFs are government-owned, they have the potential to be influenced and guided by political rather than financial and economic considerations. Therefore, an increase in transparency regarding the management of SWFs is suggested. A government's decision on international investments may affect the citizens, the government itself, financial market participants and authorities, and citizens in the countries where the investments are made. These government

investments have reached such a scale and scope that it can be argued that international standards and guides are needed. The investment strategies should be as transparent as possible, as it promotes accountability among stakeholders (Truman, 2007). Transparency provides confidence and trust in markets, whereas deficient information may lead to market abuse and undermine market confidence (Buteică & Heidumac Petrescu, 2017). This is supported by Gieve's (2009) article which states that an inadequate level of transparency can lead to increased financial protectionism. Chesterman (2007) proposes that the appearance of regulation may be worse than no regulation at all. A superficial examination of a company's behaviour without serious consequences can create an illusion of accountability and can reduce the drive for actual change.

4 Literature review

This chapter will present a detailed review of existing literature and previously published articles on relevant topics for the thesis. There exists a lot of research and publications on SWFs and their investment strategy. There are also several published papers on the effect of exclusions from funds and indices. In addition, it exists a few studies on the GPFG and their negative screening strategy. However, there is limited published material on how this strategy affects the companies that are excluded from the portfolio, and whether they are negatively affected or not. The majority of existing studies on the topic include all the excluded firms, independent of whether it concerns norm-based or sector-based exclusions.

4.1 The efficient market hypothesis

The efficient market hypothesis (EMH) is a theoretical concept regarding efficient markets. It states that prices represent all available information in the market, and because of this, the market reacts instantly to new information (Fama, 1970). With this said, stocks are assumed to be traded at their real market value. A study by Țițan (2015) on EMH, which is largely based on previous event studies, finds that testing for market efficiency is difficult. Some of the event studies included in the study analyze the reaction to announcements in the short term and find that prices of financial assets quickly react to new information, hence EMH is confirmed. On the other hand, other papers with a longer time horizon invalidate EMH based on the fact that the prices gradually adjust to new information. Following this hypothesis, the prices of the excluded firms would react immediately after the publication of exclusions from the GPFG.

4.2 The effect of exclusions

Eriksen and Skara (2018) conducted an event study on the companies excluded from the GPFG portfolio. The study finds evidence of a negative tendency in abnormal returns due to divestments and finds statistically significant abnormal returns for the excluded firms. Ayoubi and Enjolras

(2020) examine the impact of negative screening by SWFs on the value of excluded firms. Their research is focused on the GPF, including the then 149 excluded firms. They document a significant decrease in the stock price of the excluded firms in the short term, indicating that the fund has a strong signalling effect on financial markets in terms of social and environmental information. However, they also document a negative reaction over a longer time period of 30 days. This suggests that information regarding firms' performance on ESG policy is valuable to investors and affects the stock price on a more fundamental level. Their study also found that exclusions linked to norm-based criteria were penalized by the market at once and suffered a decline of 7.9 percent over a 60-day period after the exclusion. Further, other studies have focused on exclusions from the Dow Jones Sustainability Index and find that excluded companies experience a temporary decrease in their stock price (Cheung, 2011; Robinson, Kleffner & Bertels, 2011).

Doh, Howton, Howton, and Siegel (2010) looked at firms included and excluded from the Calvert Social Index. "Inclusion in the index indicates an endorsement from Calvert that a firm is acting in a socially responsible way. Firms are removed from the index when they fail to meet Calvert's strict criteria, which results in what we classify as a removal of an expert endorsement" (Doh et al., 2010, p. 1480). The results of the study support the evidence that firms experience a decreased stock price of more than 1.5 percent on average. Further, they also find that added firms have a significantly better operating performance, in terms of operating income in the year leading up, compared with the deleted firms. Also, the intensity of the market response to additions and deletions varies in accordance with the amount of information available for the target firms.

Consolandi, Jaiswal-Dale, Poggiani, and Vercelli (2009) analyzed the market reaction of companies excluded and included in the Dow Jones Sustainability Index. Their results suggest that the companies suffer from a decrease in their stock prices as a result of the exclusion. This suggests that market participants tend to punish an exclusion and value engagement in ESG matters as a criterion for their investments. Looking at additions and deletions from the Domini Index, Becchetti, Ciciretti, and Hasan (2009) find that the abnormal returns around the event date are significantly negative in case of exclusion from the Domini Index. They also suggest that CSR leads companies to refocus their goals from revenue maximization to focusing more on the different goals of multiple stakeholders. Furthermore, Kassim, Ramlee, and Kassim (2017)

conducted an event study where they investigated inclusions and exclusions from the Shariah Index and found that deleted stocks earn temporary significant negative stock returns and below-normal volumes after the announcement.

Atta-Daruka (2020) documents a negative return impact around the announcement date for exclusions from the GPFPG. Because some ethics-sensitive investors mimic the behaviour of the GPFPG and divest in the excluded firms. The paper finds that firms perceived to be unethical can fall out of favour with investors and lose some of their equity value. This indicates that ethical divesting and exclusion have an impact on equity value, partly due to individual investors selling their shares. Lindset and Nguyen (2020) provide insightful findings regarding the exclusions from GPFPG. They demonstrate empirical evidence of market reactions when the exclusions are publicly announced. However, the effect is small and only present on the event day. Their study also found that the conduct-based exclusions have higher significant abnormal returns than the product-related ones.

On the other hand, other studies suggest that negative screening has a limited effect on the excluded firms. Beck and Fidora (2008) examine the potential impact of large-scale equity sales due to non-economic motives, and whether they have a significant impact on equity prices. The exclusion has the potential to impact the stock's returns on the day of the public announcement. Abnormal returns can then be interpreted as a signalling impact because of the market's reaction to the exclusions. However, the study finds only 9 out of 20 stocks recorded a negative excess return on the exclusion date. None of these returns was statistically significant. The paper by Sun and Hesse (2009) uses an event study approach to analyse the impact of SWF on financial stability in different scenarios, such as announcements of investments and divestments. Their findings suggest that there is no significant effect of SWFs on equity markets in the short term.

Dewenter, Han, and Malatesta (2010) analyse the impact of SWF investments on firm values and finds significant negative returns related to announcements of SWF divestments. Because the GPFPG has such a unique divestment profile, the study is divided into two subsamples, where one includes GPFPGs divestments, and the second one excludes the divestments. There is a difference between the two subsamples, where the non-GPFPG divestments sample has a higher statistical significance. None of the test statistics can reject the hypothesis that the abnormal returns for the

GPFG divestments are zero. Even though the divestments announcements have a statistically insignificant effect, they do have a negative tendency.

Despite the ambiguous results of the presented literature, investors seem to value corporate sustainability and ESG principles and forgo investing in firms that violate these standards (Ayoubi & Enjolras, 2020). Fernandes (2017) looked at firms' value and SWF ownership. The research paper specifically examined GPFG and used regression by both including and excluding the fund. In both cases, he found a positive relationship between firm value and SWF ownership. This implies that although divestments have no or little effect, investments by SWFs generate some market movements on a general level.

5 Data

5.1 Event data

Companies excluded from the GPFGE are published on NBIM's websites together with a short newsletter explaining the exclusion. The decision of exclusion is made in collaboration with the Council of Ethics and is based on their recommendations (NBIM, 2022b). The excluded companies, the reason for being excluded, and the exclusion date are collected from the NBIM website. The list is quite extensive and consists of 174 excluded companies, however, this event study will focus solely on the companies which are excluded based on severe environmental damage and unacceptable greenhouse gas emission. These types of exclusions are what the Council on Ethics refers to as norm-based and are related to the companies' behaviour.

The collected final sample used further in this study ends up at 25 excluded companies. As of today, there are several more firms excluded on the same basis, but these either lack publicly available information altogether or there is not enough available data to conduct an analysis. The main proportion of the sample contains companies excluded based on their severe environmental damage, making up 84 percent. The remaining part of the sample was excluded because of the unacceptable levels of greenhouse gas emissions. Table 5.1 lists the names of the excluded companies, with the names of the excluded firms, their reason for exclusion, and the specific date the exclusion was announced publicly.

Firm	Reason for exclusion	Exclusion date
Freeport McMoRan	Severe environmental damage	06.06.2006
BarrickGold	Severe environmental damage	31.01.2009
MMC Norilsk Nickel PJSC	Severe environmental damage	19.11.2009
Ta Ann Holdings Bhd	Severe environmental damage	14.10.2013
Zijin Mining Group	Severe environmental damage	14.10.2013
Vedanta Ltd	Severe environmental damage	30.01.2014
Genting Bhd	Severe environmental damage	17.08.2015
IJM Corp Bhd	Severe environmental damage	17.08.2015
POSCO	Severe environmental damage	17.08.2015
Posco International Corp	Severe environmental damage	17.08.2015
Duke Energy	Severe environmental damage	07.09.2016
Bharat Heavy Electricals Ltd	Severe environmental damage	05.05.2017
Evergreen Marine Corp. Taiwan	Severe environmental damage	16.01.2018
Korea Line corp	Severe environmental damage	16.01.2018
Thoresen Thai Agencies PCL	Severe environmental damage	16.01.2018
Halcyon Agri	Severe environmental damage	18.03.2019
Canadian Natural Resources	Unacceptable greenhouse gas emissions	13.05.2020
Cenovus Energy	Unacceptable greenhouse gas emissions	13.05.2020
Imperial Oil limited	Unacceptable greenhouse gas emissions	13.05.2020
Suncor Energy Inc	Unacceptable greenhouse gas emissions	13.05.2020
Vale SA	Severe environmental damage	13.05.2020
China Traditional Chinese Medicine Holdings	Severe environmental damage	29.09.2021
Grand Pharmaceutical Group	Severe environmental damage	29.09.2021
Tong Ren Tang Technologies	Severe environmental damage	29.09.2021
Yunnan Baiyao Group	Severe environmental damage	21.12.2021

Table 5.1: Companies excluded from the GPFG portfolio

Following the event study methodology, the event date, in this case, is the date the company was excluded from the GPFG portfolio, which is the public announcement published on the websites. Further, the estimation window is a period of approximately a year back in time, starting a month prior to the announcement. In total, this constitutes more or less 250 trading days for the excluded firms. Due to differences in national holidays affecting the different stock exchanges, the number of trading days varies somewhat in the sample. This results in lacking closing price data for some firms on specific days, which again results in a mismatch with the closing prices of the MSCI World Index. The event window includes 21 trading days, starting 10 days prior to the exclusion

date and ending 10 days after the exclusion date of each firm. The companies are excluded on different dates and in different years, which makes the event dates differ as well. In order to solve this, all event dates are treated as day zero, and days prior to the event are treated as day -10 to -1, and the days after as day 1 to 10. This makes it possible to compare the abnormal returns on the event day and at different intervals, even though the firms were excluded at different times. The purpose of including trading days prior to the day of announcement is to investigate possible information leaks and speculation in the market, whereas the purpose of including days succeeding the announcement is to capture potential market reactions.

5.2 Stock data

Both the stock price data for the excluded firms and the MSCI World Index were retrieved from Eikon DataStream. The stock price data was retrieved in the form of daily adjusted stock prices in US dollars for all companies. Adjusted closing prices are used to account for the stock's value after accounting for any corporate actions, such as dividends and stock splits. Further, the daily stock prices were used to compute the daily logarithmic returns, making it possible to investigate whether or not abnormal returns appear in the event window.

The daily logarithmic returns were computed using the following formula:

$$R_{it} = \ln \left(\frac{P_{it}}{P_{it-1}} \right)$$

In the equation of daily logarithmic returns, the P_{it} and P_{it-1} represent the daily close price for day t and $t-1$. R_{it} is the stock return for a firm i on day t . By using logarithmic returns, the effect of any possible skewness in the return distribution will be reduced.

As the firms included in the sample represent multiple different nationalities, markets, and industries, the MSCI World Index was used as a proxy for the market index. The index includes 23 developed countries, including developed markets from America, Europe, the Middle East, and the Pacific. The index represents large and mid-cap equity performance and covers about 85 percent of the free-float adjusted market capitalization in each country (MSCI, 2022). The

inclusion of a market index controls for fluctuations in price effects caused by industry and economy-wide events. By taking market fluctuations into consideration, the companies' returns may be explained by company-specific events to a greater extent.

Descriptive statistics				
	Mean	Standard deviation	Skewness	Kurtosis
BarrickGold	0.0068	0.0405	0.6532	2.6208
Bharat Heavy Electricals Ltd	-0.0057	0.0157	-1.3165	4.5433
Canadian Natural Resources	0.0059	0.0323	-0.5610	3.2828
Cenovus Energy	0.0104	0.0466	-0.2102	2.4100
China Traditional Chinese Medicine Holdings	0.0013	0.0345	0.3401	4.2375
Duke Energy	0.0006	0.0128	-1.1370	4.6892
Evergreen Marine Corp. Taiwan	-0.0015	0.0170	0.2444	2.1945
Freeport McMoRan	-0.0058	0.0414	-0.1685	2.5740
Genting Bhd	-0.0076	0.0244	-0.1710	3.3220
Grand Pharmaceutical Group	0.0031	0.0204	0.7403	3.0823
Halcyon Agri	-0.0016	0.0195	1.2586	5.7755
IJM Corp Bhd	-0.0046	0.0169	-0.6410	3.0162
Imperial Oil limited	-0.0006	0.0283	-0.4460	2.6073
Korea Line corp	0.0126	0.0405	0.7619	3.3726
MMC Norilsk Nickel PJSC	0.0012	0.0274	0.1204	2.5717
POSCO	-0.0033	0.0219	0.9482	3.1376
Posco International Corp	-0.0003	0.0306	0.8393	2.8057
Suncor Energy Inc	-0.0007	0.0343	0.3435	2.4107
Ta Ann Holdings Bhd	-0.0008	0.0084	0.3011	2.8749
Thoresen Thai Agencies PCL	-0.0005	0.0106	0.4812	2.2960
Tong Ren Tang Technologies	-0.0025	0.0217	0.4806	2.1524
Vale SA	0.0084	0.0326	0.8499	3.1000
Vedanta Ltd	-0.0029	0.0197	-0.0995	2.4853
Yunnan Baiyao Group	0.0056	0.0275	0.3607	4.2758
Zijin Mining Group	-0.0024	0.0098	-0.5154	3.2103

Table 5.2: Descriptive statistics of each excluded company

Table 5.2 presents the descriptive statistics of each specific excluded company and includes the mean return, the standard deviation of returns, the skewness, and the kurtosis. The mean return in the event window is quite low for all the excluded companies. There are small variations of weak positive and weak negative returns, but the majority show a negative return. Most firms display a relatively low standard deviation, with values close to zero, indicating returns close to the mean. The skewness of the firms varies with both positive and negative values. Three of the companies

experience a substantially skewed distribution, whereas the rest of the companies are fairly symmetrical. The values for kurtosis are within what can be considered a univariate normal distribution, meaning that the returns are normally distributed. We, therefore, expect that there are fewer outliers and extreme values in the dataset.

6 Methodology

This thesis wants to investigate the impact of exclusion from GPFG using the event study method. The main intention is to evaluate the impact of a particular event by measuring the associated abnormal returns. The event study method has not changed much since the 1960s (Kothari & Warner, 2006). Starting out, the event study methodology will be reviewed. This thesis is performed using the market model for calculating abnormal returns, following the event study methodology described by MacKinlay (1997).

6.1 Event study

The event study methodology compares variables before and after index inclusion (or exclusion) events (Cheung, 2010). According to Bowman (1983), the event study can be split into three steps. Firstly, it is important to precisely identify the event. Thereafter we need to calculate the normal stock returns. Lastly, we need to calculate and analyse the abnormal returns around the event date.

6.2 Models for measuring normal returns

Several models can be used when conducting event studies. However, there are differences in results based on which model was used in the study. MacKinlay (1997) describes two categories of approaches to estimate normal return: statistical models and economic models. Statistical models follow statistical assumptions about the behaviour of asset returns and are independent of any economic arguments. On the other hand, economic models rely on assumptions about investors' behaviour and are not based on statistical assumptions alone. "It should, however, be noted that to use economic models in practice it is necessary to add statistical assumptions. Thus, the potential advantage of economic models is not the absence of statistical assumptions, but the opportunity to calculate more precise measures of the normal return using economic restrictions" (MacKinlay, 1997, p. 17).

Looking at previous research, two models are superior to others: the constant mean return model and the market model. The statistical models assume that the asset returns are jointly multivariate normal and independently and identically distributed through time is imposed. The constant mean return model is presumably the simplest statistical model. In order to define normal returns, the model presents a constant return parameter and a disturbance term. The mean returns for a given asset are assumed to be constant through time. According to MacKinlay (1997), the market model is an improved model compared to the constant mean return model. This model considers the market returns and relates them with the specific asset returns. The market model assumes a linear relationship between the asset return and the market return. The market model will be further explained in section 6.2.1.

Other common economic models are the Capital Asset Pricing Model (CAPM) and the Arbitrage Pricing Theory (APT). In CAPM the individual stock return is related to its covariance with the market portfolio. In APT the normal return is computed with several risk factors. However, MacKinlay (1997, p.19) states that empirical findings have suggested “that the validity of the 23 restrictions imposed by the CAPM on the market model is questionable”. Brown and Warner (1985) found that event studies with a multifactor model were not more powerful than those using the market model, such as the APT.

6.2.1 Market model

As earlier mentioned, empirical findings have suggested that the most beneficial model for estimating normal return is the market model because of its high degree of explanatory power. In the market model, the systematic risk parameter (beta) is equal to the slope coefficient in a time series regression of individual firm returns on the return on a market index (Bowman, 1983, p. 568). The market model is a statistical single-factor model and assumes a stable linear relationship between market return and the return on stock i . For stock i the market model assumes normal returns are given by:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$$
$$E(\varepsilon_{it}) = 0 \quad Var(\varepsilon_{it}) = \sigma_{\varepsilon_i}^2$$

Where R_{it} is the realized returns of the stock at time t and R_{mt} is the returns of the market returns at time t . ε_{it} denotes the error term, with the expected value of zero. The model parameters α_i and β_i are estimated for each stock using the ordinary least square (OLS) regression. A typical index suitable for estimating market returns is typically S&P 500 index, MSCI Index or CRSP Value Weighted Index in the US.

MacKinlay (1997) argues that the market model suits better than the constant mean return model in event studies because the market model removes the portion of the return related to the return on the market index. Hence, the variance of the abnormal returns is reduced, making it easier to detect event effects. The R^2 of the market model regression show how beneficial it would be to use the market model against the constant mean return model. A higher value of R^2 will result in a bigger reduction in the variance of abnormal returns, increasing the potential of uncovering abnormal performance.

6.3 Estimation window, event window and event date

MacKinlay (1997) has defined the timing sequence of an event window and divides the time horizon into three different sequences: the estimation window, event window and post-event window. We also define the event date. Figure 6.1 shows the timeline for the event study.

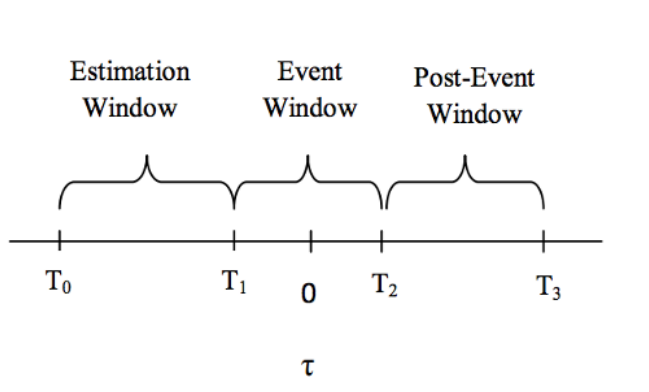


Figure 6.1: Timeline for the event study (MacKinlay, 1997, p. 20)

$\tau = 0$ describes the date of the event. This is the day when the market gains awareness of the relevant information about the event. “In many event studies in practice, accuracy of event dates

is likely to be more important than sophistication in modelling or statistical techniques” (Strong, 1992, p. 550). In their simulation research of event study methodologies, Brown and Warner (1980) found that the power of the tests was highly sensitive to the precision with which an event date could be identified. It is therefore important to find the accurate time for when the incident occurs to make a precise measurement of the impact of the event.

Furthermore, the event window takes into consideration a specific set of days before and after the date of the event. According to MacKinlay (1997), using an event window that is larger than the specific period of interest is common. If smaller or larger parts of the market have acquired information about the event beforehand, using a larger event window allows the researcher to capture and consider this. Lastly, the estimation window includes the whole period over which the parameters in the model are calculated. According to MacKinlay (1997), the most common estimation period consists of the period before the event window. To prevent the event from affecting the estimation of normal returns in the event window, it is important not to overlap between the estimation window and the event window.

6.4 Abnormal returns

Abnormal return (AR) can be explained as the difference between returns throughout an event and the normal returns, meaning the returns that would have occurred if the event never happened. In other words, the abnormal return of stock i at time t defines the difference between realized return and its expected return in the absence of the event (Cheung, 2010). The sample abnormal returns (AR_{it}) are calculated using the following formula (MacKinlay, 1997):

$$AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$$

Where R_{it} and R_{mt} are the return in event period t for security i and the market respectively.

Using the market model, the variance of abnormal return is:

$$\sigma^2(AR_{it}) = \sigma_{\varepsilon i}^2 + \frac{1}{L_1} \left[1 + \frac{(R_{mt} - \hat{\mu}_m)^2}{\hat{\sigma}_m^2} \right]$$

where L_1 is the length of the estimation window. One component $\sigma_{\varepsilon i}^2$ is the disturbance variance and the second component is additional variance due to the sampling error in α_i and β_i . When L_1 becomes large, the second component will get closer to zero, hence the variance of the abnormal returns can be approximated by:

$$\sigma^2(AR_{it}) \approx \sigma_{\varepsilon 1}^2$$

6.5 Cumulative abnormal returns

To draw any logical conclusion about the event, it is necessary to calculate the abnormal return observations. These observations are aggregated through time and across stocks. The cumulative abnormal returns (CAR) for the event period (t_1, t_2) are given by:

$$CAR_{it} = \sum_{t=t_1}^{t_2} AR_{i,t}$$

where t_1 is the final day of the estimation window and t_2 is the final day of the event window (MacKinlay, 1997). Before doing the statistical tests, the sample of abnormal returns needs to be aggregated across the stocks. Performing test statistics on one simple observation may provide false or missing inferences about the event effect. Aggregating the estimated abnormal returns from the market model equation for all N stocks at time t in the event window, we find the average abnormal returns (AAR). The sample average abnormal returns for each event period t are:

$$AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{it}$$

When $L1$ becomes large, the variance of the sample aggregated abnormal returns is:

$$Var(AAR_t) = \frac{1}{N^2} \sum_{i=1}^N \sigma_{\varepsilon i}^2$$

The cumulative average abnormal return is the sum of the average abnormal returns over the t days in the event window. The estimation of the cumulative average normal returns is useful to illustrate the effect of the abnormal returns. For any sequence in the event window, the cumulative average abnormal returns can be estimated as:

$$ACAR(t_1, t_2) = \sum_{t=t_1}^{t_2} AAR_t$$

The variance of the cumulative average abnormal returns is:

$$Var(ACAR(t_1, t_2)) = \sum_{t=t_1}^{t_2} Var(AAR_t)$$

6.6 Statistical significance

Several tests can be used to measure the statistical significance and validity of the results. To determine the probability of committing type I or type II errors, we have used tests performed on the market model. The purpose is to test if the exclusion events have an influence on the value of the excluded companies. We adopt the t -test method as a tool to solve the problem. In order to test the results, it is necessary to formulate a null hypothesis, H_0 , and an alternative hypothesis, H_1 . In this thesis, the null hypothesis will be that the exclusion does not influence the value of the companies, meaning the cumulative average abnormal returns of all the excluded firms should be zero. All tests are subject to the following null hypothesis and alternative hypothesis:

$$H_0: CAAR = 0$$

$$H_1: CAAR \neq 0$$

To test the null hypothesis, we perform a t -test which is a parametric test. Because of this, samples should meet certain preconditions, such as normality, equal variances, and independence (Kim, 2015). Some statisticians even argue that the sampling distribution forms a normal distribution even though the population distribution may or may not follow a normal distribution and that t -tests have sufficient statistical power regardless of whether or not they satisfy the condition of normality (Lumley, Emerson & Chen, 2002).

The t -test statistical formula is:

$$t = \frac{\bar{x} - \mu_0}{\frac{s}{\sqrt{n}}}$$

Where n denotes the sample size and s is the sample standard deviation. The degree of freedom is given by $n - 1$. μ_0 is the overall average value (CAAR) and \bar{x} is the sampling average value (CAAR). s is calculated as:

$$s = \sqrt{\frac{1}{N-1} \sum_{i=1}^N (CAR_i - CAAR)^2}$$

On the other hand, one of the most common methods for testing the null hypothesis of no abnormal returns is the Patell (1976) t -statistic. Several other studies are frequently used for a nearly identical test, including Dodd & Warner (1983) and Mikkelsen & Partch (1986). A distinguishing factor of the test is that it assumes the independence of returns across security events (Brown & Warner, 1980; Brown & Warner 1985). This assumption may improve power but can also cause misspecification when departures from the assumption are substantial (Campbell, Cowan & Salotti, 2010). Unlike the standard t -tests, the Patell t -statistic is robust to serial correlation in returns, cross-correlation of returns, and event-induced volatility (Sharma, Paul & Sharma, 2020).

Patell t -statistic is given by:

$$t_p = \frac{\bar{S}\sqrt{n}}{\sqrt{(m-2)/(m-4)}}$$

$$S_{it} = \frac{A_{it}}{\sqrt{(\hat{\sigma}_A^2)_i}}$$

$$(\hat{\sigma}_A^2)_i = \frac{1}{T-1} \sum_{t=1}^T (A_{it} - \frac{1}{T} \sum_{t=1}^T A_{it})^2$$

Where \bar{S} denotes the average of standardized abnormal returns S_{it} over a sample of n firms. m denotes the number of observations in the estimation window. We find the standardized abnormal returns by dividing the event period residual by the standard deviation of the estimation period residuals (Kolari & Pynnönen, 2010). H_0 is rejected at a significance level of 95 percent when the t -value is ± 1.96 and at a significance level of 99 percent when Z -value is ± 2.57 . The Patell t -statistic weight individual observations by the inverse of the standard deviation which implies that more volatile observations get less weight in the averaging than less volatile observations. Because of this, more reliable observations are obtained (Kolari and Pynnönen, 2010).

The Wilcoxon test is used to test the median of the distribution and can be used as a supplement to the one-sample t -test (Shier, 2004). The Wilcoxon test is a non-parametric alternative to the Student's t -test and does not assume that the data samples are normally distributed. By employing the test in an event study, it is possible to test whether the sign and the magnitude of the abnormal returns are significant. The test can be used to conduct a paired difference test of repeated measurements on a single sample to assess whether their population means ranks differ and is a nonparametric alternative to the t -test (Xia, 2020). The test statistic is given by:

$$S_N = \sum_i r_i^+$$

r_i^+ is the positive rank of the value of abnormal returns. The test assumes that none of the values is equal and that all values are nonzero. When N is large, the test statistic W asymptotically follows a normal distribution (Serra, 2002).

7 Results

The purpose of this event study is to examine the possible effect on the firms excluded from the GPFG portfolio. In this chapter, the empirical results from the event study will be presented. The descriptive statistics are reported in Table 7.1. The abnormal returns and the cumulative abnormal returns are reported in Figure 7.1 and Table 7.2. To test the statistical significance of the results, we perform a t -test, a Patell t -test and a Wilcoxon signed-rank test. These results are reported in Figures 7.2, 7.3 and Table 7.3.

7.1 Descriptive statistics

Table 7.1 presents the descriptive statistics of the daily returns of the excluded firms. The daily returns display a slightly positive mean return of 0.0006 and a standard deviation of 0.0254. A normally distributed dataset will display a skewness of zero, whereas the daily returns, in this case, are slightly positively skewed. The skewness of 0.1383 is therefore approximately symmetric. The kurtosis of 3.1619 indicates that the data is close to normally distributed, making the appearance of extreme values less likely. The descriptive statistics indicate that the returns are approximately normally distributed.

	Daily return of excluded companies
Mean	0.0006
Standard deviation	0.0254
Skewness	0.1383
Kurtosis	3.1619

Table 7.1: Average descriptive statistics

7.2 Market reaction to the exclusions

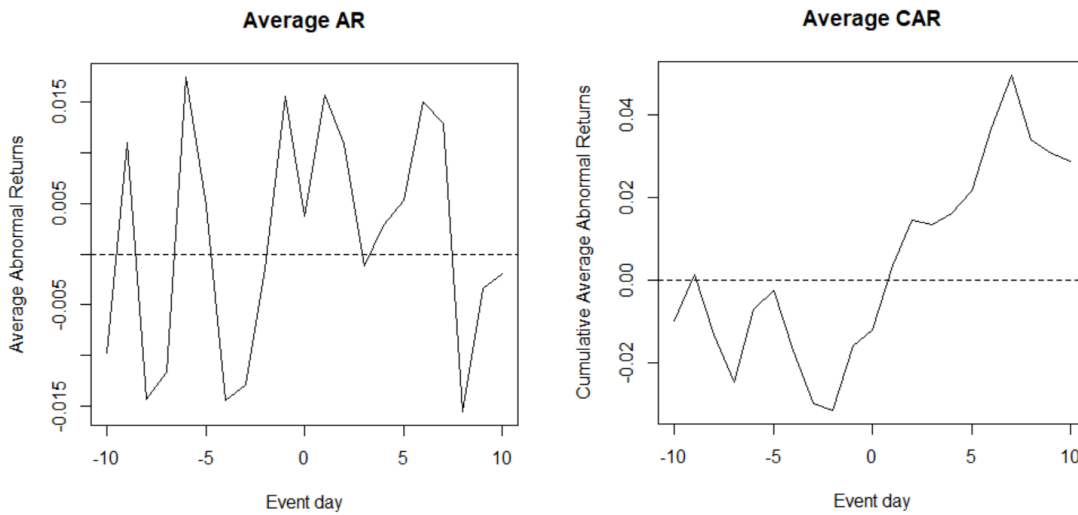


Figure 7.1: Plots of average abnormal returns and average cumulative average abnormal returns

Figure 7.1 illustrates how the average abnormal returns, and the cumulative average abnormal returns develop during the event window. Further, Table 7.2 presents the average abnormal returns and the cumulative average abnormal returns for the event window starting 10 days before the event day and ending 10 days after. The event day is denoted as day 0 and is the day the exclusion was published. The average abnormal returns represent the average of the 25 companies excluded from the portfolio.

In the days before the event, the average abnormal returns appear to be volatile due to both positive and negative returns. On days -4 to -1 preceding the event, negative AR can be observed. This indicates that the market reaction to the exclusion might have happened prior to when the news was published by NBIM. Although the values were negative in the previous days, it seems that the values rise rapidly towards positive values again. This may indicate an increased demand for the stocks, which in turn will increase the stock values. On the event day, we observe a positive AR of 0.0038, indicating a negative market reaction on the event day. The observed CAR on the event day is -0.0120, which means that the cumulative sum of the abnormal returns leading up to the exclusion is showing a decreasing performance. Even though the CAR is negative on the event day, it shows a positive value of 0.0287 for the entire event period.

Following the day of exclusions, we observe positive values of both AR and CAR, indicating that the actual returns are higher than the expected ones. Prior to the exclusion, we found several negative values of AR, which might lead to an increased demand for the stock. This could explain the positive values of AR succeeding the exclusion.

Event day	AAR	Daily CAR
-10	-0.0098	-0.0098
-9	0.0110	0.0012
-8	-0.0144	-0.0131
-7	-0.0116	-0.0247
-6	0.0175	-0.0073
-5	0.0047	-0.0025
-4	-0.0145	-0.0170
-3	-0.0129	-0.0299
-2	-0.0016	-0.0315
-1	0.0156	-0.0158
0	0.0038	-0.0120
1	0.0157	0.0036
2	0.0109	0.0145
3	-0.0012	0.0133
4	0.0028	0.0162
5	0.0054	0.0215
6	0.0151	0.0366
7	0.0129	0.0495
8	-0.0155	0.0340
9	-0.0034	0.0306
10	-0.0020	0.0287

Table 7.2: Daily average abnormal returns and daily cumulative abnormal returns.

Given the presented results, it is difficult to determine whether the deviating returns are caused by coincidences or if it has a relation to the exclusion of the firms. To check whether the results are significant, we have performed several tests to check the statistical significance.

7.3 Statistical significance

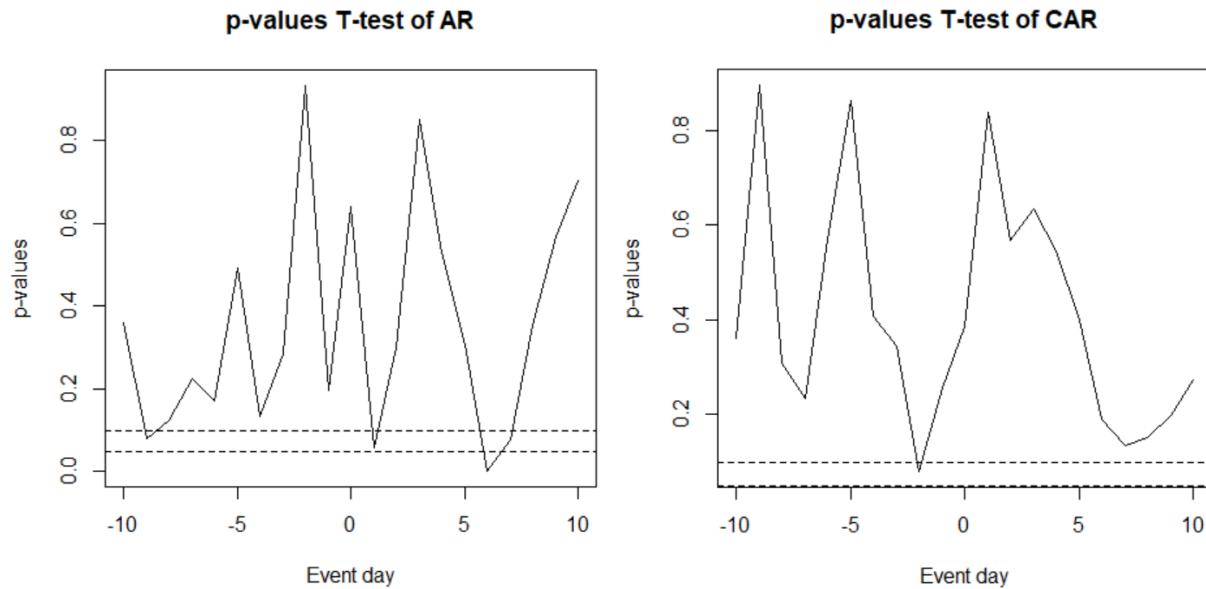


Figure 7.2: P-values of abnormal returns and cumulative abnormal returns of the t-test

Figure 7.2 depicts the t -statistics and the p-values from the t -test performed on both AR and CAR. The dotted lines represent a significance level of 5 percent and 10 percent. Almost all the p-values lie above both significance levels of 5 and 10 percent. This indicates that the abnormal returns are statistically insignificant and indicates strong evidence for the null hypothesis. The p-values indicate that the exclusion does have a significant effect on the excluded companies. The statistically significant p-values appear both before and after the event day. Nor does it appear that there are more cases of significant values before or after the event.

Even though the p-values for AR indicate strong evidence for the null hypothesis, the p-values for the CARs appear to be less volatile throughout the period and include only one value of statistical significance. On day -2 the p-value is statistically significant, resulting in a rejection of the null hypothesis. Most values lie above the significance level of 10 percent, which in turn means that the exclusion can't be proven to have an impact on CAR. It can also be mentioned that no values lie within a 5 percent significance level, which gives a higher probability of keeping the null hypothesis. Based on the statistically insignificant values of CAR, we fail to reject the null hypothesis.

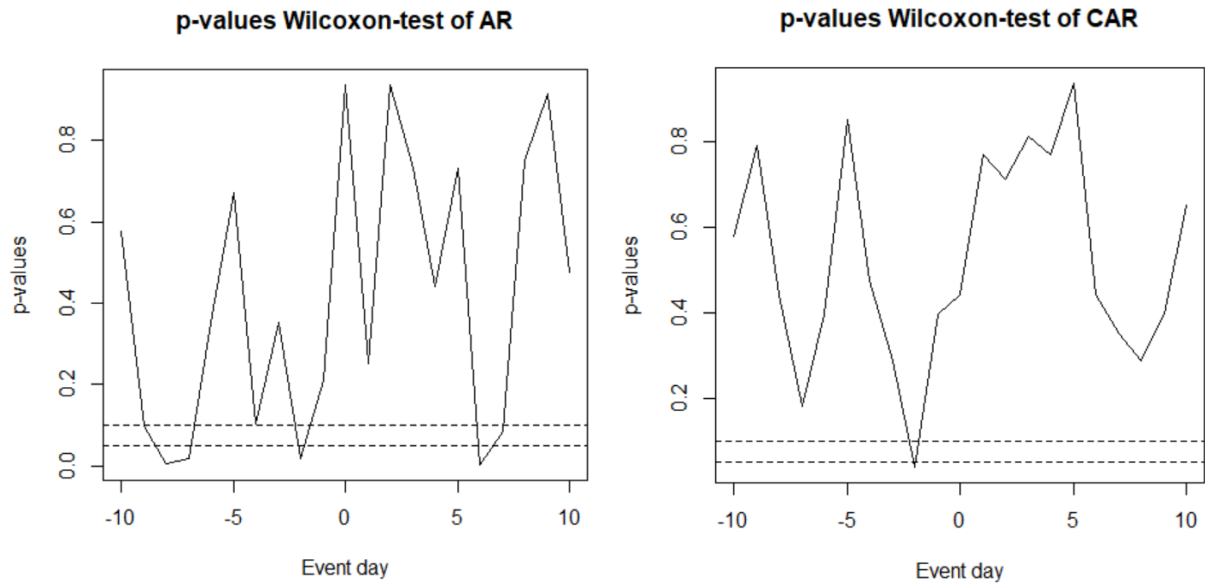


Figure 7.3: P-values of abnormal returns and cumulative abnormal returns

To implement a non-parametric test, we have performed a Wilcoxon signed-rank test on both AR and CAR. This test also gives very few statistically significant p-values on both AR and CAR. The p-values of AR appear to be volatile with both high and low p-values. This test also shows significant p-values on day -2 for both AR and CAR. This indicates a significant market reaction two days before the event day and we can reject the null hypothesis. There are more statistically significant values of AR both before and after the event day. However, most of the p-values lie above the significance levels on both AR and CAR, and we fail to reject the null hypothesis on most days. This indicates that the exclusion cannot be proven to have an impact on the firms. This strengthens the robustness of our results from the tests, which give similar conclusions.

Event day	AAR	t-test	Wilcoxon W	CAAR	t-test	Patell	Wilcoxon W
-10	-0.0098	-0.9335	141	-0.0098	-0.9335	-0.6973	141
-9	0.0110	1.8368	225	0.0012	0.1327	0.7863	152
-8	-0.0144	-1.5986	57***	-0.0131	-1.0386	-1.0253	133
-7	-0.0116	-1.2483	75**	-0.0247	-1.2193	-0.8290	112
-6	0.0175	1.4135	198	-0.0073	-0.5756	1.2468	130
-5	0.0047	0.6975	179	-0.0025	-0.1745	0.3365	155
-4	-0.0145	-1.5524	101	-0.0170	-0.8420	-1.0337	135
-3	-0.0129	-1.0924	127	-0.0299	-0.9645	-0.9196	122
-2	-0.0016	-0.0844	74**	-0.0315	-1.8265	-0.1104	86**
-1	0.0156	1.3292	210	-0.0158	-1.1620	-1.1145	130
0	0.0038	0.4713	166	-0.0120	-0.8847	0.2708	133
1	0.0157	2.0022	206	0.0036	0.2073	1.1190	151
2	0.0109	1.0576	159	0.0145	0.5809	0.7760	148
3	-0.0012	-0.1891	149	0.0133	0.4815	-0.0828	153
4	0.0028	0.6360	192	0.0162	0.6140	0.2025	151
5	0.0054	1.0420	176	0.0215	0.8567	0.3816	166
6	0.0151	3.4275	271	0.0366	1.3456	1.0755	192
7	0.0129	1.8483	227	0.0495	1.5497	0.9236	198
8	-0.0155	-0.9469	150	0.0340	1.4849	-1.1081	203
9	-0.0034	-0.5798	158	0.0306	1.3196	-0.2404	195
10	-0.0020	-0.3867	135	0.0287	1.1224	-0.1404	180

Table 7.3: Average abnormal returns (AAR) and Cumulative abnormal returns (CAR) over the event window with test statistics. *, **, and *** represent significance at the 10%, 5%, and 1% level, respectively.

Table 7.3 presents the *t*-test, the *t*-statistic, and the Wilcoxon W-score for the average abnormal returns and the cumulative average abnormal returns over the event period. Observing the values from the tests we find that the null hypothesis can be rejected on day -2. The negative values of both AAR and CAAR give the impression that the exclusion has a negative impact on the returns in the days prior to the event. However, due to the insignificant values, we fail to reject the null hypothesis and cannot prove a connection between the exclusion and the negative returns.

8 Discussion

In this chapter, the results will be analysed against the previously presented literature. The first part of this section will look at the hypothesis, and whether it can be rejected or not based on the findings. Further, it will look at the connection between the presented results and previous findings. Eventually, the potential effect and consequences on the excluded companies will be further discussed.

The hypothesis will be reviewed in relation to the results to decide whether or not to reject the null hypothesis.

H₀: The exclusion has no influence on the value of the excluded companies.

H₁: The exclusion has a negative influence on the value of the excluded companies.

The results from the regression analysis indicate no significant abnormal returns, other than two days before the event day. These findings support the null hypothesis, and we fail to reject the fact the exclusion does not influence the stock values. Even though the results do not show any statistical significance, this does mean that the fund's management strategy is negligible. SWFs should as governmental investors, function as role models for individual investors. They have the responsibility to manage the pension on behalf of the associated population and act in their best interest. If this investment strategy influences other people to act more responsibly with their investments, it might force companies to take larger responsibility for improving their environmental footprint. In this case, sinful industries may no longer appear as appealing as they do today.

Previous studies report different results regarding the impact of the event announcements. Chueng (2011) finds no evidence the announcements have a significant impact on the stock returns. The only significant impacts are from the event day and the days nearby. Other similar studies (Ayoubi & Enjolras, 2020; Doh et al., 2010; Consolandi et al., 2009; Bechetti et al., 2009; Atta-Daruka, 2020) show that there are significant negative abnormal returns in the event window, indicating that the exclusion does have a negative impact on the excluded firms. Cheung (2011) and Robinson et al. (2011) find negative, but temporary negative impacts on the excluded firms. Eriksen and Skara (2016) find negative tendencies and finds significant abnormal returns. The studies of

exclusions and deletions from sustainably oriented indices could differ from the studies of SWFs as they are exclusive focus on sustainable companies. This might result in higher abnormal returns and significance for the excluded firms.

On the other hand, Beck and Fidora (2008) and Sun and Hesse (2009) cannot find significant abnormal returns, and therefore concludes that the exclusion does not have an impact on the excluded firms. Based on the majority of previous studies which find significant negative abnormal returns, we would expect to find similar values in our event window. However, we do not find enough evidence that the excluded firms experience a negative impact from the exclusion. With this said, the study only looks at the firms excluded from the GPFG portfolio based on their environmental damaging behaviour, which could affect the results.

Previous studies vary between finding significant results and not, and most studies only look at the effect in the short term. Although our study has also been done in the short term, we do not get enough statistically significant results to be able to say that the exclusion has a negative impact. The insignificant values can potentially be explained by that the market in fact reacts, but that it has time to stabilize, resulting in no visible effect in our study. The studies by Beck and Fidora (2008) and by Sun and Hesse (2009) substantiate our findings, in that they do not find any statistical significance in the short term.

As previously mentioned, our findings are in contrast to what most previous studies find. Although we do not find significant abnormal returns, we see negative tendencies in the cumulative abnormal returns, in the days before the exclusion, and on the event day itself. Due to EMH, we expect an immediate reaction in the market after the exclusions. However, we only see negative tendencies in the days prior to the exclusions, and not in the days following the event. From our results, it may appear that the market reacts to the information before publication. It is not uncommon for investors to speculate in the stock market, especially regarding news with the potential to negatively affect the stock price of a firm. Some agents might have information about the exclusions before they are publicly announced. This might lead these investors to sell their shares before the actual announcement and could send signals to the market that something negative will affect the stock price. This may lead to further speculation amongst investors, giving a premature negative reaction before the actual announcement. This could explain the negative CARs in our

study, where it appears that the abnormal values are negative on the days before the event day.

As the Council of Ethics has an extensive process where they analyse companies and decide whether they should be excluded, it can be speculated whether the majority knows about the exclusion in advance. Because of this, the positive values after the exclusion might be explained by the fact that socially responsible investors who have already sold their shares, only get a confirmation of the suspicions they had. However, the Council of Ethics is aware of how the public statements can affect the firm's reputation and stock price and states that they are discrete regarding commenting on cases that have not yet been resolved. Due to the strict processing of information by the Council of Ethics, it is unlikely that the negative trends are due to information leakage.

Atta-Daruka (2020) states that negative tendencies could be explained by ethics-sensitive investors, who try to mimic the investment strategy of GPFG. In the same way, we find similar negative tendencies in the abnormal returns. Since the GPFG is cited as an example of negative screening (Foo, 2017) and differs from other SWFs, it is not surprising that individual investors consider them a role model and try to mimic their behaviour.

Another important aspect that can greatly influence the results and significance is which companies are included in the study. Most previous studies have examined the entire portfolio of excluded companies and have not separated specific subgroups. Our study has chosen to focus only on those companies that are excluded based on environmental damage and GHG emissions. Lindset and Nguyen (2020) find that the conduct-based exclusions have a higher significance than the product related ones. As environmental damage and GHG emissions are subject to conduct-based exclusions, we expected to find significant negative values. Surprisingly, we find the opposite. Although the basis for exclusion is conduct-based, our results are insignificant. GPFG differs from other funds due to its unique divestment strategy. Dewenter et al. (2010) find that exclusions from the fund have a lower significance than other similar funds. Consistent with our findings, this may in part explain our insignificant CARs.

9 Conclusion

The thesis examines the influence of the GPF, and whether the exclusion from the portfolio affects the stock price of excluded firms negatively. We fail to reject the null hypothesis and differing from previous research the main findings suggest that almost all values of cumulative abnormal returns are statistically insignificant. Subsequently, the levels of significance in this study are not high enough to be able to say that the exclusions have a negative effect on the target companies. The findings are inconsistent with most of the earlier studies on the topic, which found that the exclusion had a statistically significant negative impact on the excluded companies. This could be explained by the differences in the data selection, and by the fact that there are always willing buyers and investors who do not take sustainability into account. It could also be explained by the fact that the excluded companies in this study only consist of conduct-based exclusions.

Although we cannot reject the null hypothesis, the effort of the GPF is still valuable in accordance with future challenges related to climate and social challenges. The negative screening strategy they use sets examples for other funds and individual investors who try to mimic their divestment strategy. This strategy is one of the things that makes the GPF considered and respected as a responsible investor. The insignificant abnormal returns might be explained by multiple factors. Firstly, the environmentally focused exclusion criterion might not be decisive for investors. The exclusions do not necessarily affect the companies' financial performance and may affect other factors that are not reflected in the stock price.

Even though we fail to reject the null hypothesis and cannot prove that the exclusions have a significant negative impact on the excluded firms, it does not mean that the negative screening strategy of the GPF is pointless. They should continue to develop and improve internal guidelines, in matters of how they invest. This makes the fund well equipped for future requirements related to climate challenges. The funds' international reputation will benefit from being socially responsible. It could make a positive impact on the funds' performance, both financially and socially. SWFs are major influential investors, and their focus on SRI could result in positive repercussions in the financial markets. The most important thing is therefore not that exclusions are statistically significant, but that they are actually implemented.

9.1 Limitations

One of the main limitations of the thesis is the short period of the event window. We only look at the abnormal returns in a very limited period, which could affect the results as the market reaction might not be captured in the period. Differing from other academic papers on the related topic, the thesis only investigates the effect on companies excluded because of environmental damage and unacceptable greenhouse gases. The focus on only a few selected firms could be some of the explanations for the insignificant values of cumulative abnormal returns and the differing results. The choice of methodology and economic model could also affect the results in how the data are being organized. In addition, we only look at the Norwegian SWF, and the results cannot be generalized. It must also be considered that other variables might affect investors' decision-making. Although we control the economy-wide price effect by including the MSCI World Index in the model, the abnormal returns could be caused by unknown variables.

9.2 Future research

The thesis focuses on an important part of the financial market, which will become even more important in the future. As mentioned above, the thesis only investigates how the GPFG affects the excluded companies. However, to contextualize the funds' influence on the stock price, future research could benefit from looking at the SWFs of several countries. This can help to show how such funds influence the excluded firms, in general. It may also be an idea to look at exclusions over a longer period, to investigate long-term effects. There may be differences between investors' reactions to the various grounds for exclusion, and it may therefore be interesting to look more closely at all the different subgroups in conduct-based and product-based exclusions.

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Appendixes

Appendix 1: Discussion paper – International (Maria Nesvold Knudsen)

Introduction

This paper investigates the relationship between sustainability and corporate financial performance in the global financial markets. It also tries to identify whether corporate financial performance is related to companies' scores on social responsibility. The paper starts by briefly presenting the master thesis, including the research question and main findings. Afterwards, sustainability and socially responsible investments from an international perspective will be further discussed. Thereafter, it presents how these matters can be seen in relation to the master thesis, and how the operating environment can be influenced by international trends and forces and how actors may react to these forces and trends.

Presentation of Master Thesis

In the thesis, the main target was to investigate the influence of the Norwegian Government Pension Fund Global (GPFG). The master thesis sought to answer the following research question:

Does the exclusion from Norway's sovereign wealth fund affect the stock prices of the excluded firms in a negative way?

The master thesis looks at companies that are excluded from the GPFG and tries to identify whether or not the exclusion has a negative impact on the firms' stock prices in the short term. The list of excluded companies is quite extensive and consists of 174 excluded companies. However, the thesis focused solely on the companies which are excluded based on severe environmental damage and unacceptable greenhouse gas emissions. This limits the paper to look at 25 companies. Following the event study method of MacKinlay (1997), we find almost exclusively insignificant abnormal returns and cumulative abnormal returns. Based on this, we cannot conclude that the exclusion of a company from the GPFG portfolio has a negative impact on the firm's stock price.

The majority of previous event studies suggest the opposite and conclude that the exclusions affect the target companies negatively. A possible explanation of this can be interpreted by the data selection and the degree of ethically oriented investors and buyers. Also, it should be mentioned that this thesis focused on conduct-based exclusions, and most previous studies also include norm-based exclusions. Beck and Fidora (2008) conducted a study where they examined the potential impact of large-scale equity sales due to non-economic motives, and whether they have a significant impact on equity prices. They found that only 9 out of 20 firms showed a negative excess return on the event date and that none of these was statistically significant. Further, Sun and Hesse (2009) used an event study to investigate the impact of sovereign wealth funds on financial stability in different scenarios, such as divestments and inclusions, and could not find significant evidence to prove a negative impact on the target companies from the exclusion in the short term.

Sustainability from an International Perspective

The term sustainability has gained increasing, and the global responsible investment industry has grown rapidly over the past few years. In terms of sustainability, one usually refers to “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” (Brundtland, 1987, p. 41). Multiple international agents such as the United Nations (UN) have put focus on creating guidelines and proposals promoting a more sustainable approach to life in the future. UN introduced 17 sustainable development goals which aim to eradicate poverty, fight inequality and stop climate change by 2030 (United Nations Development Programme, 2019). The development goals shed a light on important issues and encourage all parts of society to create more sustainable living. In order to meet these goals, all actors will need to participate, including both consumers, businesses, and governments.

Socially Responsible Investments

In terms of the financial markets, more specifically investors, the term sustainability has become more apparent the recent years and has grown particularly in the United States and Europe. There is no universal definition of socially responsible investments (SRI) in academic literature. However, definitions of SRI are consistent in means of “integration of certain non-financial

concerns, such as ethical, social or environmental, into the investment process” (Sandberg, Hedesström & Hamilton, 2009). SRI seeks to integrate non-financial factors such as ethical, social, or environmental concerns in the investment process. They aim to earn both financial returns while remaining ethical and true to their beliefs (Foo, 2017). However, there have been disagreements on what the criterion for being socially responsible actually is. Friedman (1970) claimed that the sole social responsibility of a firm is to increase its profits and responsibilities related to the environment and society should not be an essential part of the business strategy. In the previous years, Elkington (1998) and Carroll (1979) have gained increased attention. Their theories consider environmental and social matters, as well as profits.

Socially Responsible Investments and Stock Returns

In terms of implementation of social responsibility as part of the investment strategy and looking at how this affects stock returns, most empirical studies suggest no trade-off because there is little difference between the risk-adjusted returns of stocks considered SRI friendly (Galema, Plantinga & Scholtens, 2008). However, Kacperczyk and hong (2007) find higher expected returns for companies that are excluded from a portfolio because of negative ethical issues. In this case, ethical issues are linked to companies that produce alcohol, tobacco and gaming). Semenova, Hassel and Nilsson (2010) and Semenova and Hassel (2019) suggest that there is a correlation between environmental practices and stock returns. Hanley, Shogren and White (2016) state that environmental policies can be used as a tool for attracting potential investors. Further, other studies show that focusing on environmental, social and governance criteria has a positive effect on the firm value (Letza & Coe, 2014; Donaldson & Preston, 1995). Friede, Busch & Bassen (2015) reviewed over 2000 empirical studies on environmental, social and governance implementation and corporate financial performance, and found that about 90% of the studies show a non-negative relation between these variables. Also, the large majority reports positive results and it appears to be stable over time.

Influence of Investors

“Investors, as suppliers of capital, have a special role to play insofar as they can allocate capital to corporate activities that minimize the adverse impact or facilitate innovation that pushes away

planetary boundaries. Investment strategies that integrate environment, social, and governance (ESG) factors have grown dramatically in recent years” (Bose, Dong & Simpson, 2019, p. 92). Also, it is important to mention that investors include endowments, insurance companies and pensioners and savers (Edmans, 2020). Investors are an essential part of any firm, as they have an opportunity to use their vote in how the company should run their business. Socially responsible investors want to make sure that the company they invest in will perform on all levels: both financially and ethically. Subject to this, it can be argued that environmental, social and governance criteria are one of the most important sets of standards that investors are going to use for reflecting their potential investments (Chen, 2020). When investors focus on sustainability, they indirectly impact the road to a sustainable society. By investing in socially responsible companies, the investors give these corporations a stronger positioning in the market, giving them a stronger base and the ability to set standards for other companies.

Sovereign Wealth Funds as Large-Scale Investors

“Sovereign wealth funds (SWFs) have emerged as among the most important players in global financial markets. With an estimated \$3 trillion at present, the collective assets at their disposal are expected to reach or surpass \$7.5 trillion by 2012” (Butt, Shivdasani, Stendevad & Wyman, 2008). Sovereign wealth funds manage an extensive amount of assets and make up a big part of the global investment activity. Further, they prove to be important institutional investors and have possible implications for stock markets and target firms (Urban, 2017). Fund managers that are socially responsible have been credited with persuading public companies to improve greenhouse gas reduction goals, implement sustainable forestry practices, address poor labour conditions in global supply chains, and promote gender diversity on boards (Foo, 2017). Megginson and Fotak (2015) conducted a study on existing literature regarding sovereign wealth funds and their investment strategy. They confirm the impact sovereign wealth funds have on the global economy and show why the subject is of international interest. According to Alhashel (2015), the long-term performance of investments of sovereign wealth funds tends to be poor, corresponding with weak corporate governance and flawed portfolio diversification.

Social Responsibility and the GPFG

The GPFG is a large-scale investor and has the opportunity to set a good example for other investors and businesses. Although the thesis fails to reject the null hypothesis, the efforts that GPFG make is still valuable in accordance with future challenges related to climate and social issues. Also, it could potentially strengthen the companies they choose to allocate their capital (Stafsudd & Jonnergard, 2010; Letza & Coe, 2014; Donaldson & Preston, 1995). If the GPFG manages to further develop its internal guidelines regarding how they invest, it will make the fund well equipped to meet future regulations regarding climate challenges.

Guidelines and laws, both introduced by international agents and local governments, will always influence how sovereign wealth funds, including the GPFG, can operate. This includes for example the development goals the United Nations (2021) has presented. These are subjects that apply to all businesses and all nationalities. In this way, they somehow manage to regulate or at least set the default for what is expected from firms to be good participants. For those who manage to follow these guidelines, it usually comes with some benefits, whether it strengthens their reputation or actually increases profits in the longer term. However, local rules and laws can further give restrictions, and these might be stricter in some countries than others.

Conclusion

The financial institutions, corporations and investors all together make up a large part of the global economy. Also, sovereign wealth funds have emerged as among the most important players in global financial markets (Butt et al., 2008). Because of this, the way they generate, place and spend money will affect society as a whole. Although the thesis cannot prove that exclusion affects the target firms negatively, it sheds a light on important issues of the future. If large-scale funds, such as the GPFG sets a good example in terms of being socially responsible in the way they invest, it may influence other investors and individuals to consider ethical matters themselves. What is most important is therefore not that the exclusions are significant, but that they are actually implemented. The thesis focuses mainly on the GPFG and their excluded companies, but still, the arguments apply to all sovereign funds internationally.

The world is facing climate issues that are of international importance. All countries, and therefore all businesses, individuals and investors, will need to act together and collaborate in creating the future environment. Businesses need to consider sustainability throughout their whole value chain, individuals must consider their consumer behaviour, and investors will need to consider the businesses they allocate their money, and to what degree they behave socially responsible. As GPFG is one of the largest sovereign wealth funds (NBIM, 2019), it should set a good example for others. They do in fact impact the world economy through their investments, and individuals see them as an example. Also, one should mention that sovereign wealth funds are funds of the governments, and they do in fact invest on behalf of the residents of the country. Based on that, one should expect such funds to take an extraordinary responsibility for creating a sustainable portfolio, and also that they are transparent with how they allocate their capital.

Sovereign wealth funds, including the GPFG, have a unique opportunity to affect how the financial markets should act in accordance with issues related to social, environmental and governance subjects, as they are influencers of the world economy and invest in a large number of assets. As sustainability is gaining increasing interest and will become even more debated in the future, the thesis may contribute to inspiring investors to consider environmental, social and governance factors when they allocate their money. The paper also contributes by continuing the important attention towards sustainable work for the future world.

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Appendix 2: Discussion paper – Responsible (Oda Bakkevold)

Introduction

There is an increased attention aimed at international investment strategies, which reflects trends related to globalization and diversification (Truman, 2007). Similarly, sovereign wealth fund has gained increased attention the past years (Alhashel, 2015). The aim of the master thesis is to investigate the potential influence of the Norwegian Government Pension Fund Global (GPFG) in their role as a responsible investor. More specifically, the thesis examines whether being excluded from the GPFG portfolio have a negative impact on the stock price of the excluded companies. The GPFG is widely acknowledged as one of the most transparent funds of its type, making them a role model for other similar sovereign wealth funds (Caner & Grennes, 2009). The level of transparency and honesty affects the trustworthiness of the fund and how they are perceived in society. The GPFG have the responsibility to disclose sufficient information to its stakeholders and the general public. It strengthens the fund's reputation if it is presented clearly and concisely, as opposed to making it difficult to retrieve the adequate information.

Given that the GPFG is one of the world's largest sovereign wealth funds, it is natural to think that their influence of individual investors will be of significance. The aim of the fund is to administer the national wealth for the citizens and for future generations. In order to make the wealth last, investments are done with a long-term perspective, ensuring that they are equipped to handle larger potential fluctuations in the market. Even though it is important to investigate how the fund affects and influences individual investors, it is also of important to investigate how they might affect companies by choosing to exclude or divest.

The fund has chosen to implement negative screening in their investment strategy. This process includes identifying companies that scores poorly on environmental, social and governance factors. The decision criteria are enunciated by the Council of Ethics which role it is to evaluate whether companies are in accordance with the Ethical Guidelines. With assistance and guidance from this council, the fund makes decisions several times a year related to exclusion of companies from their extensive investment portfolio (NBIM, 2019). Even though the Council of Ethics play an important role in the decisions on exclusions from the fund's portfolio, it is argued that this strategy does not move markets. Regardless of the effect of the exclusions, it is an important part

of the funds strategy when they manage their asset allocations. Clark and Monk (2010) argue that the recommendations from the council are meant to represent the values of opinions of the public. Therefore, the effect the exclusions have on the companies is of less importance.

The funds decisions and investments are widely covered by the media and are in this way able to influence other institutional investors. In this case, the Council of Ethics and the guideline for ethical investments is not only to legitimize the investments to the Norwegian citizens, but also to put pressure on companies in order to get them to adopt a responsible management (Wirth, 2018). The names of the excluded companies are published on NBIM's websites, together with a press release which includes the date of exclusion and on what basis they were excluded from the fund. In relation to a sustainable and responsible perspective, it is interesting to investigate whether the fund has an influence by naming and shaming companies in this way. It is also interesting to look at whether such a strategy actually has a direct impact on the companies that are excluded, and not only on the individual investors. If the exclusions are shown to have an effect, other institutional investors might adopt this strategy in their investments. A greater focus on the excluded firms and the reasons why they are excluded in the first place, might influence how individual investors act towards the excluded companies, and their investment decisions.

The need for socially responsible investments

McLachlan and Gardner (2004) find that socially responsible investment have had an increasing impact on personal investments, and it challenges the beliefs that investments and ethics are mutually exclusive. Further, they find that socially responsible investors put ethical issues higher than other investors when they make decisions regarding their investments. These investors are the most likely to be influenced by ethical issues. As an individual investor it might be difficult to navigate through the differing terms and definitions of sustainability. The GPFG should act as a role model for both individual investors, and other institutional investors. They should set the standard as of how to invest when you want to be conscious about your investments and invest according to your values and beliefs. Edmans (2020) argues that asset managers have an overall responsibility in the fact that they manage money on behalf of asset owners and savers. Their actions and decisions affect both citizens who buy funds directly and institutions such as sovereign wealth funds and pension funds.

Divestment or active management

There is disagreement on whether divestments and exclusion are the best strategy. Some argue that integration and engagement is more beneficiary than exiting the company and selling the shares. Lee, Humphrey, Benson & Ahn (2010) argues that divestment reduces diversification and that it restricts the investment opportunities, resulting in an impact on the performance. Others, such as Hoepner and Schopohl (2016) argues that excluding companies from the portfolio does not impact the funds' performance in a harmful way. They further argue that exclusions are a way of meeting ethical standards while still keeping the funds financial returns intact.

It is worth mentioning that in the case of divestment and exclusion of firms, there will always be other willing buyers. When one investor sells their shares because of their sustainable and responsible investment strategy, other investors that does not take these factors into account, might see the opportunity to buy the shares for a cheaper price. Investors who put profits before sustainability will always exists, and it can diminish the influence of responsible investors. With this said, it can be discussed whether one should keep such stock instead of withdrawing from the position, in order to still have the opportunity to influence from within. To outsiders, a role as an active investor might appear as supporting these unsustainable businesses, even when the goal is to influence the company in a sustainable manner. It can also be argued that to sell the unsustainable shares is an easy way out and a quick fix.

Matos (2020) finds that relatively large institutional investors have the possibility to justify the cost of an active ownership. They have the opportunity to change companies with influence from within, through active voting or by direct confrontation of the management. As opposed to this active management strategy, one can influence through the threat of exiting the firm, but this is typically seen as a last resort. Supporting the statement that large institutional investor has the opportunity to influence by, and can afford the cost of an active ownership, it can be argued that the GPFG should stay as an active investor rather than divest and exclude companies from their portfolio. It could also be said that if the fund only invests in companies considered "best of class" they miss the opportunity to affect and drive positive change in the companies that might need a push towards sustainability.

Others might argue that withdrawing from unsustainable companies is a powerful strategy. Apfel (2015) argues that divestment provides a clear moral message to the company that is being divested in, in addition to making a solid monetary statement. The threat of withdrawing financially is often considered more serious than other verbal statements, and divestment can therefore be regarded as a powerful way to raise awareness and change behaviour.

The publication of the excluded companies and their respective undesired behaviour can create an internal drive and motivation in the company itself. The GPFG is a recognized and respected sovereign wealth fund which often receives media attention for their size and decisions. As a company, regardless of size and occupation, to be included in such a portfolio must be a great recognition and opportunity. In addition, an institutional investor will in most cases be regarded as stable and a reliable investor, which is to be considered quite desirable for most companies. An exclusion from the fund might create the internal drive needed to improve in order to be considered for investment.

Naming and shaming are one way to put focus on companies operating in a non-desirable way, but there are other ways to handle undesirable behaviour. One could argue that instead of selling the shares of a firm which displays behaviour that is not in line with the ethical guidelines and principles of investing, one could take a more active role as an investor. When investing in a company, you have the right to vote in general assemblies, making it possible to change the company from within. An internal incentive to change could make changes happen more seamless and even at a faster rate than if the motivation for change is externally driven.

The paradox of the GPFG

One of the major ethical challenges in relation to the GPFG is where the financial resources come from. Their investment strategy including active ownership and exclusions can be categorized as a paradox, seeing that the resources come from the exploitations of fossil fuels. It is particularly contradictory that one of their main reasons for excluding a company is severe environmental damage and greenhouse gas emissions. In some way the fund is responsible for ensuring the meanings and values of the society. It can be argued that the fact that the basis of investments comes from exploitations of fossil fuel is hypocritical when they exclude other firms on the same basis.

On the other hand, the oil revenue is and has been very important for Norway for a long time. It is clear that this revenue won't last forever, and that one day the oil will run out. The fund therefore has the responsibility to ensure that this money is invested responsibly in order to safeguard the future of the Norwegian economy (NBIM, 2019). One can argue that the fund manages the wealth in the best possible way with the premises they have. It is better that the profit from the petroleum sector is invested into sector and industries related to sustainable businesses than if it is reinvested into the petroleum sector. Hoepner and Schopohl (2016) argues that as one of the largest public asset owners in the world, the GPFG implement the exclusionary screening strategy in order to ensure that their investments live up to the ethical standards expected from them by the general public.

Conclusion

To summarize, one can say that the overarching focus on responsibility relates to the master thesis in the way that the GPFG not only have a clear responsibility to the individual investors, but they also play an important role in generating an internal motivation of the companies to improve themselves in areas regarding sustainability issues. The GPFG can take responsibility not only by investing for future generation and securing their wealth.

They have the opportunity to invest ethically and responsible for the generation that follows, and still securing a steady financial return. The fund can afford to sacrifice a potential part of the funds return in order to invest more sustainable and ethical. Despite the fact that the origin of the fund is based on unsustainable resources, they can still function as a role model in the way they invest the wealth for the future, and how they apply the negative screening strategy. Even though the thesis findings indicate that the exclusions do not have a significant negative effect on the excluded companies, this does not mean that the GPFG shouldn't continue their strategy. They have a responsibility to the individual investors, and to the public for which they manage the wealth, in addition for future generations to come.

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