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**The relation between ESG investing and financial returns
in the Private Equity industry**

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ABSTRACT

The ESG investing phenomenon is increasing in popularity in the last decade and a growing number of companies are integrating ESG factors in their investment strategies. This paper has the aim to study the effect that ESG investing activities have on the firms' financial returns in the private equity industry. Thanks to FMO – Dutch Entrepreneurial Development Bank, it has been possible to access to unique ESG and financial data of private equity investments in emerging countries. The results from the OLS regressions show a positive relationship between ESG rating and the IRR of FMO portfolio companies, providing further support to the body of literature that sustain that ESG activities enhance shareholders' value. The paper also studies the relationship of specific ESG factors that compose the rating, with the IRR and the findings are mixed, depending on the factor variable under analysis. Finally, to study the FMO portfolio officers' motives and expectations on ESG investing, a survey has been conducted among the Private Equity department. The survey show that portfolio officers expect that ESG activities have a positive impact in the society but without effect on the company's financial returns, and at the same time, the ESG information reduces their ambiguity perceived in the market. This study contributes to the existing controversial debate on the relationship between ESG investing and financial performance among academic literature and professional investors, realizing a comprehensive analysis combining both quantitative and qualitative data. Furthermore, while most of the literature on ESG-financial performance focuses on public markets, this research furnishes new evidence on this effect in the private equity industry, which has received less attention by academics.

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1. Introduction

The term ESG investing refers to the investment strategy that incorporates environmental, social and governance factors in the investors' portfolio decision. Investors typically assess ESG factors using non-financial data on environmental impact (i.e. carbon emission), social impact (i.e. employee satisfaction) and governance attributes (i.e. board composition). ESG investing can broadly be defined as an investment approach in which the investor's objective is to use capital to trigger change for social or environmental purposes as well as achieve a financial objective (Giese, et al., 2019). The integration of social responsible factors into investments decisions has experienced increased popularity following historical events like the Vietnam War, civil and women's right movements, Chernobyl and financial crisis. In particular, in the new millennium the corporate scandals of Enron and Worldcom, the 2008 financial crisis, the climate change emergency and more recently the Covid-19 made international investors more conscious about the social consequences of corporate activities. Now the investors' focus has shifted from a shareholder's view to a broader stakeholder's view that takes into consideration the interests of all parties involved in the firm operations. As a consequence, over the past decade the ESG investing phenomenon has experienced an incredible growth. According to Bloomberg Intelligence (2021), the global ESG asset under management could surpass the \$41 trillion in 2022. These numbers are the result of a continuous increasing trend that have seen the ESG asset total value almost doubled from 2016 till today (Global Sustainable Investment Association, 2020).

Consequently, the ESG investing wide spreading has triggered research in different fields like management, economics, and finance. One of the most studied and debated topic in the sustainable investing literature, is the relation between the ESG investing activities and the financial performance. Companies will behave more conscientiously if doing well is somehow related to doing good (Campbell, 2006). Even though a substantial amount of research on the influence of ESG on a firm's financial performance has demonstrated that ESG generates a positive effect on returns, the topic of whether ESG has a positive association with financial performance still remains the subject of a contentious discussion among academics and investment professionals (Friede et al., 2015). Although most of the studies displayed a positive effect of ESG on financial performance, the conclusions of several studies have reported mixed evidence (Giese et al., 2019). Many academic studies reported a negative, non-existing or ambiguous effect of ESG on financial returns. Revelli and Vivian (2015) conducted a meta-

analysis of different studies, and their results reports no real effect of ESG on corporate financial performance suggesting that the positive relationship is unfounded.

In the light of the different views on the ESG-financial returns relationship in literature, this study aims to provide further evidence on this debated topic. While most of the academic literature focuses on ESG investing on public financial markets, the impact of sustainable investing in the private equity industry has received less attention (Scholtens, 2006) partly because it is at its early steps and also because of the lower availability of data (Crifo & Forget, 2013). The purpose of this study is to contribute to the debate on whether the ESG investing has a positive effect on the financial performance, with a particular focus on the private equity industry. Thus, the central research question of this study is: “Does ESG investing contribute positively to the firm’s financial performance in the private equity industry?”.

The research utilizes a unique dataset of private equity investments provided by FMO – the Dutch Entrepreneurial Development Bank. FMO is a development financial institution with the mandate to create impact in the emerging countries in which it realizes its investments. A team of ESG experts works daily in the assessment of ESG and impact data for the FMO’s portfolio investments, giving the possibility to access to a dataset of high quality. Applying the ordinary least square regression method on the FMO portfolio investee companies to analyse the ESG rating and the relation with the corresponding financial return (IRR), the study reveals that in line with most of the literature, the ESG investing has a positive effect on the financial performance. Additionally, the moderating effect of the business sector and of the geographical area of the investments on the ESG-IRR relationship are investigated. The study continues with the analysis of the relation between single ESG factors that compose the rating (Green and the Reducing Inequalities labeled investments) and the IRR, revealing a mixed effect in the results, depending on the ESG factor variable under study. Finally, a survey has been conducted among the portfolio officers in the FMO Private Equity department to study the motives and expectations related to ESG investing.

The rest of the paper is organized as follows. First, in section 2 will be given a review of previous literature on ESG investing. It will be discussed both the ESG investing phenomenon and the effect that these practices have on the financial performance. Then, the conceptual framework employed in this paper with the related research question will be discussed in section 3. Next, the methodology employed in this research is discussed in section 4. Here, it is described the data collection process, the different variables used, the sample and the results

analysis, both from the empirical regressions and from the survey. In section 5, the discussion of the main results of the analysis is given while in section 6 are presented the limitations of the study and the direction for future research. Finally, in section 7 it is given the conclusion of the study.

2. Literature Review

2.1. ESG Definition & Terminology

The term ESG comprises three different factors: “environmental” factors, “social” factors, and “governance” factors. (CFA, 2021). The “Environmental” factor deals with the company efforts to preserve the natural resources and the environment. Among the “E” initiatives that companies can implement the following are the most common: reduce to the minimum the carbon emissions, waste management, limit the harm to ecology and biodiversity, minimize the negative impact of products and packaging. (Zaccone & Pedrini, 2020) (CFA, 2015). The “S”, which stands for “social”, deals with the company commitment to address social issues. The most common activities comprehended by the “S” factor are promoting diversity, support community development, protect the data and privacy, engage with the stakeholders involved in the company’s activities and protect human rights and employees’ life balance (Zaccone & Pedrini, 2020) (CFA, 2015). The “G” factor represents the governance commitment to guarantee the stakeholders ‘rights and responsibilities. Among the other initiatives, it deals with the board composition, executive compensation, whistleblower schemes, bribery and corruption prevention and committee structure (Zaccone & Pedrini, 2020) (CFA, 2015).

The ESG phenomenon has been gaining growing attention in finance literature. According to the CFA institute (2021), “investors are increasingly applying these non-financial factors as part of their analysis process to identify material risks and growth opportunities”. Larry Fink, BlackRock’s founder, and CEO has affirmed that his firm is going to put sustainability at the center of their investment decision making and that ESG factors are a top issue that cannot be ignored anymore (Odell & Ali, 2016). Following the increasing development of this phenomenon, different labels have been used to describe investments that considers ESG aspects. These labels range from the traditional *Socially responsible investing* (SRI) to the more recent *responsible investing and sustainable investing* (CFA, 2015). Socially responsible investment (SRI) refers to approaches that apply social criteria and environmental criteria in evaluating companies (Cambridge, 2021). Generally, SRI investors score companies along their chosen criteria, either for their investment universe as a whole or sector by sector; some apply differential sector-specific weightings, and all establish a hurdle for qualification or disqualification within their investment universe. Traditionally SRI has been associated with negative screening, therefore excluding companies that operate in questionable businesses (Caplan et al., 2013).

Sustainable investing refers to portfolio composition based on the selection of assets that can be defined in some way as being sustainable or possible to continue into the long-term future (Cambridge, 2021). It is usually characterized by identifying investments risk and opportunities with an ESG analysis (CFA, 2015). Another investing label widely used is impact investing. In contrast from the above mentioned, impact investing does not only comprehend investing or no investing in certain businesses, but it deals with influencing a company's activities and structures in order to achieve a particular social or environmental objective (Caplan et al.2013). It has not to be confused with philanthropy because impact investing still wants to achieve the investor financial objectives even if the returns could be lower the market benchmark (Cambridge, 2021).

Nevertheless, there is a lack of consistency in the use of these labels and often they are used to express overlapping concepts. While they have some distinctions in their definitions, what they all have in common in their investment strategies is the aim to have a positive change in the society. (Snider, 2015). All labels share the common element of emphasizing on the ESG issues (CFA, 2015). Therefore, in the following analysis, they will be used interchangeably in order to emphasize the attention on ESG issues and how these factors are taken into consideration for complete investment analysis and informed decision making. In its simplest terms, ESG investing has been defined as “the process of choosing an investment with the goal of generating both financial returns and non-financial impact” (Caplan et al., 2013).

2.2. ESG investing: past, present and future trends

What we now refer to as socially responsible investing has roots that go back hundreds of years. The roots of this phenomenon can be traced back to the ancient religious traditions (Berry et al, 2013). Religious investors with traditions that value peace and nonviolence have historically shied away from businesses that make money off goods that are meant to murder or enslave other people (Schueth, 2003). Jewish, Christian, and Islamic traditions have long been the foundation of ethical investing. Judaism offers a variety of guidance on how to handle money in an ethical manner, and in medieval Christian times, ethical limitations on borrowing and investing were based on the Old Testament (Renneboog, 2008). It is likely that Methodist and Quaker immigrants brought the concept of social responsibility in investing to the new world. The Methodists have been using what are now known as "social screens" to manage money in the United States for almost 200 years, while Quakers have never supported investing in war or slavery (Schueth, 2003). These religious traditions developed a set of norms and principles

that define how money should be spent in a "good" and "right" way, and as a result, they represent an ethical method of investing.

Unlike early ethical investment, which was founded on religious customs, modern ethical investing is more centered on the different personal ethical and social values of individual investors. The roots of the modern phenomenon can be traced back to the 1960's political environment. In those years several social campaigns, like the movements against the war in Vietnam and the ones against racism, raised awareness among investors about the social consequences of their investments (Renneboog, 2008). Consequently, in 1971 was founded the first modern mutual funds in the USA called Pax World Fund (Renneboog, 2008). It was a fund against the war in Vietnam and against militarism in general, which avoided investments in companies involved in the weapon business. Social investors turned their attention to the racist apartheid system in South Africa throughout the 1980s. SRI investors in the US and Europe have pushed mutual funds not to include South African or western corporations with South African subsidiaries in their investment portfolios and pressured companies operating in South Africa to relocate such activities to other nations (Caplan, 2013). The State Government of California approved a legislative amendment in 1986 forcing the state's pension funds to divest more than \$6 billion from businesses with operations in South Africa, making these efforts somewhat effective. (Sparkes, 2002, p. 54).

The Chernobyl nuclear power facility in the former Soviet Union (now Ukraine) erupted on April 25, 1986, sending radioactive material throughout Europe, and causing thousands more people to die from cancer. The Exxon Valdez oil supertanker ran aground near Alaska on March 23, 1989, spilling 11 million gallons of crude oil, causing the biggest environmental catastrophe in US history (Kahn, 2007). The aforementioned and other environmental disasters in the late 1980s, made investors more mindful of the severe environmental effects of industrial expansion (De Colle, 2009). Following that, there were health awareness programs that had an impact on the tobacco stocks in the USA in the mid- to late 1990s. (Krumstiek, 1997). For instance, following six months of financial study and consideration, the California State Teachers' Retirement System (CalSTRS) cut more than \$237 million in cigarette assets from its investment portfolio. Since the 2000's a series of corporate scandals like the ones of Enron and Worldcom, have turned the attention of responsible investors also to governance and responsibility issues. These latest developments about governance resulted in the inclusion of the G as a criterion for the investment analysis.

Over the past decade the ESG phenomenon has experienced a incredible growth worldwide. According to Bloomberg Intelligence (2021), the global ESG could surpass \$41 trillion in 2022 corresponding to one third of the projected total assets under management globally. These figures continue the increasing trend after the ESG assets reached the \$35 trillion in 2020 up from \$30.6 trillion in 2018 and \$22.8 trillion in 2016 according to the Global Sustainable Investment Association (2020). There has been a noticeable growth in the number of products included in Morningstar's universe of sustainable funds because of fund firms' eagerness to include environmental, social, and governance (ESG) terminology in their fund prospectuses because of pressure from the European Union (Morningstar, 2021). According to Morningstar data (2021), global sustainable fund assets nearly quadrupled in the previous six months to reach \$3.9 trillion by the end of September 2021.

The expansion of the ESG market indicated above may be explained by two key factors, as Martini (2021) has noted. The global financial crisis of 2007–2008 has, on the one hand, unavoidably brought attention to the crucial influence that CSR plays on financial markets and, consequently, on the global economy. On the other hand, the anticipated problems on matters like climate change, pollution, and the waste of natural resources have led to a significant focus to global sustainability themes and, in turn, to the necessity for their rules at a worldwide level. A clear example is the 1997 Kyoto Protocol of the United Nations Framework Convention on Climate Change, one of the most significant environmental treaties ever negotiated, which only came into force in February 2005 (UNFCCC, 1998). Its purpose was to encourage the reduction of greenhouse emissions through the production of regular reports and targeted mitigation strategies. In 2006 the United Nations began a process to create the Principles for Responsible Investment (PRI), an investor network whose goal was to encourage sustainable investments through the ESG elements. More recently, 196 nations decided to approve the so-called Paris Agreement, a universal and enforceable global climate agreement, at the 2015 UNFCCC conference in Paris (COP21) (Makuch, 2022). This agreement defines a coordinated action plan to stop future detrimental climate change.

More recently, during COP26 at the end of 2021, there was a sense of urgency to keep things moving forward from Paris 2015 as 2030 approaches. Alongside this, regulators—particularly in the EU—instituted strict mandatory reporting rules in the shape of the EU Taxonomy Regulations, the Sustainable Finance Disclosure Regulation (SFDR), and the soon-to-be-enacted Supply Chain Act. By 2023, reporting on both the "E" and "S" components of ESG criteria will be required. All these measures will be implemented in 2022. In addition, the

necessity to get energy from alternate sources has lately come to light because of the EU's dependence on Russia, particularly for its oil and gas needs. All of this has further increased the significance of "G" in the ESG. (Makuch, 2022)

Adeline Diab, Head of ESG and Thematic Investing EMEA & APAC at Bloomberg Intelligence, said: “The pandemic and the global race to net zero carbon emissions have put ESG criteria into orbit – from niche to mainstream to mandatory. ESG is fundamentally reshaping the financial industry, becoming part of financial reporting” (Bloomberg, 2022).

2.3.The PE industry and ESG investing

The term Private equity industry refers to the specialized investment firms whose business is to invest in unlisted companies, thus encompassing both venture capital and buyouts (Crifo & Forget, 2013). Private equity funds are responsible for a big portion of the investments made in the worldwide economy. From 2005 and 2007, Capital IQ recorded a total of 5,188 buyout transactions at a combined estimated enterprise value of over \$1.6 trillion (Kaplan and Stromberg, 2009). These buyout funds accounted for around one-fourth of all worldwide merger and acquisition (M&A) activity during the cycle's peak years in the early twenty-first century. (Metrick and Yasuda, 2010). In the peak years of 1999 and 2000, venture capital firms, the second primary kind of private equity, raised roughly \$160 million in funding and made early investments in recently successful companies including Google (the United States), Skype (the European Union), and Baidu (in Asia) (Metrick and Yasuda, 2010). The typical investor in private equity funds are institutional investors such as pensions funds and endowment funds. These investors, known as Limited Partners (LPs), commit a certain sum of money to private equity funds at the time of fund inception. General Partners (GPs), who administer funds from investors, identify potential investments and "call" money as needed up to the amount promised by LPs. The GP distributes the proceeds of any divestitures to its LPs (minus management fees) and the timing of these cash flows is typically unknown ex ante. The usual private equity fund partnership contract stipulates that fund has a life of 10 years, with a possible extension of 3 years (Phalippou and Gottschalg, 2009). The compensation scheme settled by the LPs to the GPs generally follows a “2/20” rule, where the 2% stands for management fee, 20% for carried interest (Robinson & Sensoy, 2013). The management fees represent the fixed remuneration while the carried interest represents the variable compensation which is triggered only in the case in which a certain hurdle rate is met. The carried interest is an incentive needed to align the interests of GPs and LPs that otherwise could diverge. The PE

funds quarterly report a Net Asset Value (NAV) which represents the Fair Value (Unrealized value) of the investments currently hold in the portfolio. Usually, the PE life cycle comprehends four different stages. The first phase is called fundraising and consists in seeking capital from investors. In the following phase, the PE fund identifies investment opportunities (sourcing phase) and collects all the necessary information about the targets through different due diligence rounds. Once the transaction is made, the fund manages the investments in its portfolio (portfolio phase) enhancing their value in three different ways: organical growth, inorganical growth or improving an underperforming business. In the end the PE fund sells the business for a return on the investment realized (exit phase) (Zaccone & Pedrini, 2020).

The PE industry has recently taken the lead as promoter of sustainable development among the financial market participants. The first official junction of PE and ESG may be traced back to 2009, when the United States Private Equity Council adopted principles encompassing environmental, health, safety, labor, governance, and social concerns (Schell, 2020). Within a month the Private Equity United Nations for Responsible Investing were launched and between 2009 and 2011, 107 world leader funds of funds and General Partners become signatories (Crifo & Forget, 2013). Recent studies have shown that in the early stages of ethical investment, the emphasis was on utilizing negative screens to exclude businesses from industries or sectors for moral or ethical reasons (Crifo & Forget, 2013). Over time, the concerns deriving from the reliance on negative screening brought the ethical socially responsible investing phenomenon to evolve towards the ESG integration in the investment process. A strong boost towards this direction has been given by the UN Sustainable Development Goals (SDGs) which have provided a global mandate to mobilize around a common set of economic, social and environmental challenges (EMPEA, 2018). The SDGs sets a framework for assessing the relative size and importance of the social and environmental costs and benefits associated with positive and negative externalities when evaluating investments in the Private equity sector (Indahl & Jacobsen, 2019). They are organized into 17 goals (Appendix 1) with related targets and indicators, agreed by 193 countries in 2015 to take a step forward towards the 2030 agenda. Several SDGs such as SDG 8 (Decent work and economic growth), SDG 10 (Reducing Inequalities) SDG 13 (Climate Action), have a direct relevance on the private sector and thus on the investment strategies of many PE funds.

2.4. The ESG investing strategies

The ESG investing phenomenon has the dual goal to combine financial performance and social good into the investments realized. There are different investment strategies to implement to achieve this goal in practical terms. According to studies in literature (Kawamura, 2002; Schueth, 2003; Richardson, 2007; CFA, 2015) there are three different sustainable investing strategies: social screening, engagement, and community involvement. The social screening strategy is implemented during the decision-making process while shareholder engagement refers to the enhancement of ownership practices (CFA, 2015). Community involvement does not comprehend the abovementioned practices, but it depends on the investor's values and beliefs. The three strategies, however, are interconnected and cannot always be used independently (Kawamura, 2002).

Screening

The social screening strategy consists in including or excluding companies from portfolios based on social, environmental and governance factors (ESG) (Schueth, 2003). It is possible to distinguish two different types of social screening: positive and negative. As mentioned in the previous paragraph, negative screening stems from the principles and convictions held by religious communities, which drove investors to refrain from backing businesses that were deemed to be unethical (Sparks, 2004). It is considered the oldest and simplest form of social responsible investing strategy. A standard negative screen can be used on an initial asset pool, such as the S&P 500 stocks, to remove corporations from the alcohol, tobacco, gambling, and defense industries as well as companies with a bad track record in labor relations or environmental protection (Renneboog, 2008). Other red flags can be reckless international activities, pornography, abortion, unfavorable working conditions, human rights violations, and animal testing. Following the implementation of a negative screen, portfolios are produced by a financial and quantitative selection process. While some SRI funds also do negative checks on a company's branches or suppliers, other SRI funds only remove companies from the investing universe when their earnings from "an-social or un-ethical" sectors surpass a certain level (Renneboog, 2008). Second, SRI portfolios are nowadays also based on positive screens. It entails actively looking for businesses that are advantageous in terms of both expected returns and social responsibility (Kawamura, 2002). Corporate governance, labor relations, the environment, investment sustainability, and the promotion of cultural diversity are the most often used positive screens. Positive screenings are sometimes employed to choose businesses

with a solid track record of utilizing sustainable energy sources or participating in the community (Ronneboog, 2008). Positive screening is frequently paired with a "best in class" strategy. According to CFA (2015) best-in-class selection refers to favoring businesses with ESG performance that is superior to or improving compared to industry peers. By investing more in businesses with stronger ESG performance levels or momentum in comparison to sector peers, it might be executed on either the level or the change in ESG performance.

Engagement

The social engagement strategy consists in exercising investors' ownership practices. This strategy involves the use of shareholder rights after the investment is made to influence the decision making and consequently corporate behavior. Min-Dong Paul Lee and Michael Lounsbury (2011) defines shareholder activism as "a unique form of social movement activism that seeks changes in corporate social behavior." A particular form of activism is social shareholder activism, which, in contrast to comparable efforts only motivated by financial gain, focuses primarily on social and environmental concerns. (Lee and Lounsbury, 2011). According to O'Rourke (2002), three are the main activities through which is enhanced shareholder activism: shareholder resolution, proxy voting and divestment. A shareholder may request the approval of particular management practices through a shareholder resolution. The annual general meetings of the company's shareholders may then be used to put this request to a vote. Instead of attending the annual meetings in person, shareholders may vote via proxy. The advocacy efforts are implemented to put pressure on managers to take certain action that will positively influence corporate behavior. Often social investors cooperate to guide management on a path that they believe will improve the financial performance and increase the well-being of company's stakeholders, such as customers, employees, communities, and natural environment (Schueth, 2003). According to Hoepner et al. (2022) investor commonly engages with firm regarding governance issues, which frequently comprehends management compensations and board composition. Environmental issues contribute for about the 22% of the engagements, where the primary theme is the climate risk. These numbers illustrate a larger trend, namely that many institutional investors find it challenging to value and hedge climate risks, making engagement on these risks a key risk management strategy (Hoepner et al., 2022). The last activity of the social shareholder engagement is divestment. It is similar to the negative screening with the difference that the decision to divest is taken in a later stage, when the investment is made and the ESG criteria are no longer met. It is often considered by investors

the last resort strategy to implement because from one side is the most effective but at the same time is the most difficult.

Community involvement

The community involvement strategy looks for businesses that make proactive contributions to the local community through supporting charitable giving, employee volunteering, and/or housing and educational initiatives (Reneboog et al., 2008). From this definition is possible to understand that community involvement goes beyond the lonely capital providing (community investment) but it also includes philanthropy, sponsorship, employee volunteering and donations. Corporate philanthropy refers to financial or in-kind donations by a company to a nonprofit organization (including goods, services, and labor), rarely expecting compensation rewards. (Cutlip et al., 1994). Sponsorship has the same feature of corporate philanthropy with the difference that it expects some earnings in return of the support provided (Seitanidi et al., 2007). As an example, Shell cited its involvement in initiatives such as assisting Mexican villages with the use of renewable energy to decrease their reliance on firewood, and for running road safety education programs in Asia that are intended to prevent children and the general public from being involved in traffic accidents. (Hess et al., 2002). Over the past several decades, corporate community involvement has developed substantially to the point that it is now a crucial component of corporate strategy.

In recent years, a new form of sustainable investing incentives scheme has started to widespread among the PE funds. As mentioned in the previous paragraph, in traditional private equity funds the compensation for general partners (GP) is driven by incentives linked to the fund's fundamental objective – the maximization of profits for their investors. The GPs take a share of the profits (carried interest) realized from their portfolios when a certain hurdle rate has been achieved. However, with the increasing importance of the ESG investing phenomenon, fund managers must balance a more complex set of objectives which comprehends achieving social and environmental impact in addition to generating financial returns. As a consequence, some LPs are attempting to address this challenge by tying a portion of the GP compensation to the ESG performance. This strategy is called impact-based incentive structure (IBIS) and might be an effective way to ensure and even optimize the impact of PE funds. From different interviews conducted¹, it has emerged that an example of IBIS is to split

¹ A series of interviews has been conducted by FMO's interns to investment officers, inside and outside the organization, to acquire greater knowledge about this emerging topic

the carried interest into a 10% dedicated to financial returns and the other 10% to the impact performance. The 10% dedicated to the impact performance will be triggered only in the case in which certain impact indicators (KPIs) will be achieved. The IBIS represents a really interesting way to boost the adoption of ESG standards in investment strategies of PE funds and even though they are at the first stage of development they will be an hot topic in the coming years.

2.5. The relation between ESG and financial performance

In recent years, numerous academic and professional asset management experts have studied the connection between a company's ESG performance and its financial risk and performance traits. Academics have been looking for an empirical connection between corporate social performance (CSP) and company financial success for more than 50 years (CFP). Companies may behave more conscientiously if doing well were somehow related to doing good, whether it is by clearing up their own dubious behavior (Campbell, 2006) or by addressing social injustices (Porter and Kramer, 2006). A strong correlation between social and financial performance would validate corporate social responsibility on the basis of economics, which are extremely important nowadays (Davis, 2009). It would give businesses permission to seek the good—even at an increased cost—in order to boost the profits and simultaneously make broader contributions to society's well-being. The influence of the economic component appeared to be crucial since the very first empirical CSP- CFP study, where Bragdon and Marlin (1972) sought to determine whether or not virtue must be its own reward. Today, 50 years later, researchers are still investigating this phenomenon. In fact, there has been so much research that several meta studies have compiled the findings of over 1,000 research reports and concluded that there is insufficient evidence to draw firm conclusions about the relationship between ESG factors and financial performance. The literature found positive, negative, and nonexistent correlations between ESG and financial performance, although most researchers discovered a positive correlation (Giese et al, 2019)

Two different theories are present in literature to explain the relationship between ESG factors and the company's financial performance: the value enhancing theory and the shareholder expense theory. On the one hand, the value enhancing hypothesis contends that incorporating socially conscious practices into business strategy and operations produces competitive advantages that support the development of long-term shareholder value (Miralles-Quiros, et al., 2018). These advantages include a stronger brand reputation (Maignan et al., 2001), more

staff productivity, improved operating efficiency, improved interactions with regulators, society, and other interested parties (Godfrey et al., 2009), and more financial resources (El Ghoul, 2006). According to this theory, ESG initiatives carried out by the companies will positively enhance their financial performance and therefore the shareholder wealth. In contrast, the shareholder expense theory sustains that investments in ESG practices increase costs reducing their financial performance, in this way pushing the firms into an economic disadvantage. Specifically, Friedman (1970), Bragdon and Marlin (1972), Vance (1975) and Brammer, Brooks and Pavelin (2006), among others, sustain that commitments towards sustainability may result in excessive investment and other actions that are not in the best interests of the shareholders. This theory suggests, therefore, that the implementation of sustainability initiatives may not be profitable and, therefore, this is likely to destroy the value of the company (Miralles-Quiros et al., 2018).

Duque-Grisales & Aguilera-Caracuel (2021) conducted research examining the relation between environmental, social and governance performance with corporate financial performance of multinational firms in Latin America. The analysis is based on a dataset of 104 multinational companies from Brazil, Chile, Colombia, Mexico and Peru in the years 2011-15. The authors found a statically significant negative relationship between the ESG scores and the financial performance of the firms under analysis. These findings have been justified by the fact that companies which make high investments in ESG, may divert resources and cash flow required for operations to social responsible activities, reducing in this way the profitability. The results from their analysis are in line with Lee et al (2009), who documented that high ESG performing firms result in lower profitability respect to low ESG performing ones. Lee et al. (2009), argued that leading ESG companies trade at a price premium in the market relative to lagging ESG firms, suggesting that the market is ready to experience lower returns in exchange of social responsibility. Friedman (1970) stated that a company must use its resources to engage into activities designated to maximize shareholder wealth, arguing that this is its only social responsibility. Also, other researchers like Bragdon and Marlin (1972), Vance (1975) and Brammer, Brooks and Pavelin (2006) support his view. They argued that the negative relationship between the two performances derives from the additional costs to optimize the ESG scores, subtracting resources dedicated to enhancing corporate profitability. In addition, Knoll (2002) affirmed that investors cannot “doing well by doing good” through the negative screening of low ESG investments because this will impose a cost on investors by either reducing their return or increasing their risk. Geczy et al. (2006) conducted a study to

investigate the diversification cost of investors who invest in SRI funds excluding traditional mutual funds, in the period 1963-2001. The researchers constructed optimal mean-variance portfolios for investors using the short-sale constraint. The study revealed that there can be significant financial costs for imposing SRI constraint on the mean-variance optimizing investors, which can be interpreted as a lower bound for the non-financial utility derived from ESG investing. Chong et al. (2006) found further evidence comparing the financial performance of social irresponsible fund with SRI funds, showing that the irresponsible funds are better off than the socially responsible funds.

From the other side of the literature, there are some scholars that argue that is possible for firms to “do well by doing good” because meeting the needs of external stakeholders will also enhance the shareholders’ value (Freeman et al, 2010). Greening et al. (2000) in their study showed that talented people have higher self-images when working for high ESG firms therefore they are more attracted by socially responsible firms. Quality workforce is an important source of competitive advantage for firms in the future. Sen et al. (2001) found that non meeting the needs of external stakeholders the consumers can be less willing to buy corporate products, showing a positive relationship between CSR initiatives and consumer’s attitude towards the company and its products. For instance, Nike had a significant consumer boycott in the early 1990s after the New York Times and other media sources exposed harsh labor practices at several of its Indonesian suppliers. In 1995, Greenpeace protested Shell Oil’s intention to demolish the Brent Spar, an outdated oil rig, in the North Sea, which made headlines throughout the world (Porter et al, 2006). Moreover, companies with their irresponsible action could face the payment of punitive fines to the governments. According to Fernando, Sharfman, and Uysal’s (2017) research, companies which violate environmental standards end up paying hefty legal fines and losing market value. Because they lower predicted costs of financial hardship, financing costs, and underinvestment cost, investments that limit the exposure to environmental risk caused by environmental events, litigation, and fines can produce value for all shareholders. As a result, in literature has started to widespread the theory that firms which operate in a broader stakeholder ‘view are also creating value for their shareholders. Eccles et al. (2014) studied a sample of 180 US companies in the period 1993-2011, 90 of which were classified as high ESG companies and the rest of the sample as low ESG companies. The poor sustainability companies primarily match the stereotype of corporate profit maximization, where social and environmental problems are often seen as externalities. In contrast high ESG companies paid great attention to corporate externalities,

and they were characterized by governance mechanisms that link management compensation to sustainable goals, an higher level of stakeholder engagement, more attention to non-financial measures regarding employees and more emphasis on ESG standards for selecting and monitoring the suppliers. In the period under study, the authors found that high ESG companies outperformed the low ESG ones both in terms of stock market and accounting measures. El Ghoul et al. (2011) examined the effect of corporate social responsibility practices on the cost of equity using a sample of 12,915 US firms in the period 1992-2007. They found that companies with high ESG scores experienced significant lower cost of equity capital. In particular, they showed that CSR investments in employee relations, environmental policies, and product strategies reduce significantly the cost of equity financing. The capital market equilibrium model predicts that a firm's market value will rise, and its cost of capital will decrease as its investor base grows in size relative to other firms. According to the theory, when fewer investors own a company's stock, the possibility for risk diversification for investors is diminished and as a result the firm's cost of capital is greater (El Ghoul et al., 2011). Researchers found that low ESG businesses often have a smaller investor base because exclusionary investment preferences of ESG investors to avoid investing in low ESG firms, resulting in low ESG firms being held by only neutral and therefore fewer investors. Their study also showed, consistent with Hong et al. (2009), that the companies that operate in the “sin” industries like tobacco and nuclear power industries suffer higher cost of equity. Giese et al. (2019) confirmed the El Ghoul et al (2011) findings, showing that ESG affects both the valuation and the performance of companies through their systematic risk profile with lower cost of capital and higher valuation. They compared the average beta of ESG quintiles, and they found that high ESG-rated companies have lower beta and consequently— according to the Capital Asset Pricing Model (CAPM)—lower costs of capital. Giese et al. (2009) also compared the average book-to-price and predicted earnings-to-price ratios of ESG quintiles, respectively. The authors showed that high ESG score companies resulted in higher valuations in terms of both book-to-price and earnings-to-price ratios ². Furthermore, they show that stock price of high ESG companies present lower idiosyncratic tail risk. The lower idiosyncratic risk -confirmed by Godfrey, Merrill, and Hansen (2009); Jo and Na (2012); and Oikonomou, Brooks, and Pavelin (2012)- is driven by a better risk management, a lower risk of severe incidents and lower tail risk. First, companies with high ESG features often have above-average risk control and compliance requirements across the organization and within their supply chain management. Second, high ESG-rated organizations are less likely to have significant

² Higher valuation implies lower book-to-price ratio and lower earnings-to-price ratio

occurrences like fraud, embezzlement, corruption, or lawsuit cases because of stronger risk control standards, which can have a negative influence on the company's value and therefore its stock price. Third, the stock price of the company eventually has less stock-specific downside or tail risk when risk incidences are less frequent.

A third group of authors have found that there is no significant relationship between the corporate ESG and financial performance. Surroca et al. (2010) sustained that previous empirical evidence regarding a positive relationship between social and financial performance is biased because they failed to take into consideration the mediating effect of intangible resources. In their research based on a sample of 599 firms from 28 different countries, they found no direct relationship between ESG and financial performance. According to Pelozo (2009), even if the majority of the studies in literature highlight a positive relationship between corporate social performance and financial performance, the effect remains unclear. He sustains that questions of causality remained unanswered and the measures used to examine this relationship are often inconsistent. Revelli and Viviani (2015) conducted a meta-analysis of 85 studies and 190 experiments, testing the relationship between corporate social initiatives and financial performance. The authors identified that globally there is no real cost or benefit to invest in SRI compared to conventional investing strategies. They argue that heterogeneity results in previous studies largely reflects the different SRI dimensions under study.

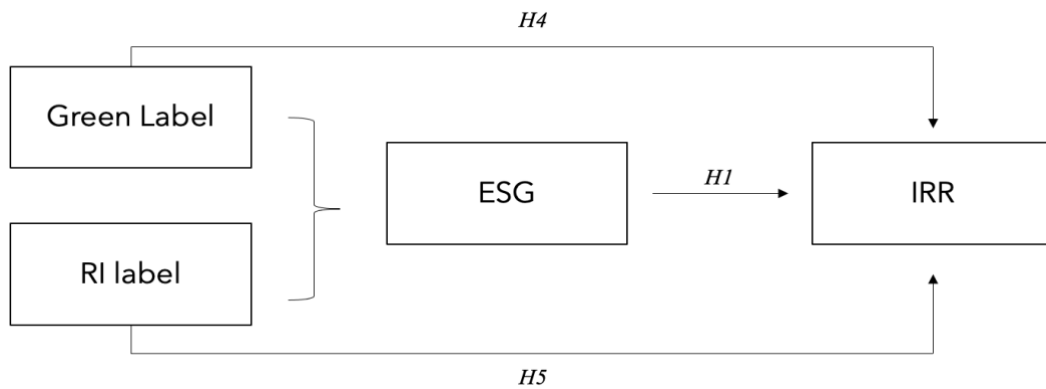
According to Giese et al. (2019), the reasons for this lack of consistency in the results of the effect of ESG initiatives on financial performance can be identified in the different ESG data used in the various methodology applied. Indeed, despite the rising use of environmental, social, and governance (ESG) ratings, there is still considerable debate among rating agencies on what rating to assign to specific companies (Christensen et al., 2022). The Wall Street Journal in one article noted “Environmental, social and governance criteria are hard to define. When we measure how different ESG providers rate companies in the S&P 500, there's often little overlap. By contrast, when ratings agencies score those same companies for their creditworthiness, they are much more often in agreement” (Sindreu et al, 2018). The absence of consistency on what a good ESG is, it is an issue of great relevance because investors could be misled by the ESG ratings. According to the Financial Times: “Investors need to be clear about what the methodology they choose is actually measuring, and why. Otherwise ESG scoring risks creating a false sense of confidence among investors who don't really understand what lies behind the numbers — and therefore don't really understand what they're buying” (Allen, 2018). The challenge to measure ESG faces difficulties since it is not always easy to

determine whether a corporate initiative is truly ESG (Larcker et al, 2021). Businesses advertise their public activities to show support for social and environmental problems. However, many projects are indistinguishable from ordinary business choices to maximize shareholder value by reducing operating risk and are tightly connected with the company's current business strategy (Larcker et al, 2021).

According to El-Hage (2021), the implementation of mandatory ESG disclosure can be a solution to this problem. Mandatory disclosures are likely to eventually lead to standardization and cost reduction for companies that are reporting on a voluntary basis. As a consequence, standardization would lead to more reliable and more available ESG information, even because their disclosure will be supervised by regulators.

3. Conceptual Framework and Research questions development

Figure 1: Conceptual Framework



This study wants to provide further evidence to the literature on the relationship between ESG investing and the financial performance in the private equity industry. In accordance with the body of literature that sustain sustainable investing contributes to the creation of shareholders' value, the following research question is developed:

Research Question 1: Is there a positive relationship between ESG rating and financial performance?

According to studies in literature (Harris, 2014), the most representative indicator for the private equity financial performance is the IRR. Hence, it will be used as a main proxy for the financial performance in this study. A second widespread indicators for the private equity financial performance is the TVPI, which has different features respect to the IRR (see paragraph 4.3.1). To see if the relationship holds for both financial indicators research questions 1a and 1b are developed.

Research Question 1a: Is there a positive relationship between ESG rating and IRR?

Research Question 1b: Is there a positive relationship between ESG rating and TVPI?

To provide further evidence on this relationship, research questions 2, 3 and 4 want to test whether the effect of ESG on IRR is affected by investment-specific characteristics.

According to previous studies (CFA, 2022) it resulted that the IRR is highly time sensitive and tends to follow a J curve where it assumes the lowest levels in the first years while it inverts the trend in a maturity stage, reaching higher levels. The study wants to test whether this IRR characteristic affects the ESG-financial performance relation. Thus, the second research question analyses the effect that different holding periods have on the ESG and financial performance relation

Research Question 2: Does the relationship between ESG rating and IRR differ across different holding periods?

Behl (2021) argues that the ESG-CFP performance relationship varies across different industries and business sectors due to varying legal, social structures and expectations from stakeholders. Moreover, Phalippou et al. (2005) in their study show that the private equity performance depends on the business sector. In line with the findings of the abovementioned literature, this study expects that the relation between ESG scores and financial performance varies across different business sectors.

Research Question 3: Does the relationship between ESG rating and IRR differ across different business sectors?

According to Liang et al. (2017), the ESG rating and country legal origin of the investments are strongly correlated. Therefore, this study expects that the relationship between the ESG rating and the financial performance changes across the country in which the investee operates.

Research Question 4: Does the relationship between ESG rating and IRR differ across different continents?

The FMO Private equity department evaluates the investments according to different impact labels which are factors that compose the final ESG rating. The two main impact labels implemented inside FMO are the Green and the Reducing inequalities labels which are used as indicators to measure the progress towards the SDG 13 (Climate Action) and SDG 10 (Reducing Inequalities). This research wants to study how the different factors that compose the ESG rating are related to the financial performance.

The studies from Cohen et al. (1995) and King et al. (2001) found a positive relationship between the environmental and the financial performance, showing positive returns for the greener investments. Hence, this study expects a positive relationship between the Green labeled investments and their IRR.

Research Question 5: Is there a positive relationship between Green Label and IRR?

Several studies have been conducted in literature to analyze the effects of the diversity and inclusion of minorities on the financial performance. Most of these studies found a positive effect of the inclusion of minorities on the financial performance (Gomez, 2019; Miller, 2009). The research expects a positive effect of the investments labelled as reducing inequalities on the financial performance.

Research Question 6: Is there a positive relationship between Reducing Inequality label and IRR?

4. Methodology

4.1. Data Collection

The research uses data obtained from FMO, the Dutch Entrepreneurial Development Bank's database on equity investments in private sector companies in developing countries between the period of 1988 and 2021. FMO is the development financial institution (DFI) of the Netherlands. Since 1970, they do investment to empower local entrepreneurs in emerging markets. The vision of the bank is to build a world, in 2050, where 9 billion people live well within the means of the planet's resources. FMO focuses its investments in the private sector of the following industries: Energy, Financial Institutions and Agribusiness, Food & water. The FMO's role extends beyond financing, as they challenge and support businesses to meet international ESG standards. These businesses, in turn, support job creation, reduce inequalities and improve the climate. In 2021, the total committed portfolio in developing and emerging countries amounted to €12.5 billion (2020: €12 billion) of which €8.3 billion was on FMO's own books (2020: €8.2 billion), €1.4 billion was through public funds (2020: €1.1 billion) and €2.8 billion through mobilized funds (2020: €2.7 billion). To achieve its vision, it is needed to overcome the global challenges highlighted by the 17 UN Sustainable Development Goals (SDG). FMO aims to create a higher impact portfolio by focusing investments on three SDGs across all its sector: Decent Work and Economic Growth (SDG 8), Reduced Inequalities (SDG 10) and Climate Action (SDG 13). The FMO Private equity department implements its strategy making investments indirectly or directly. In the first case, FMO invests in another private

equity firms as a General Partner and pays management fees to the fund manager to, in turn, invest in other operating companies. When the investment is direct, FMO directly commits the capital to the operating company.

The data collection process can be divided into different stages. The first stage consists in the collection of empirical data (financials and impact) from the FMO portfolio. The financial data of the investee companies in the FMO portfolio has been collected from the business development department while the impact data from the ESG department. The two datasets have been merged into a final one using a unique identifier (“FIA Deal Number”).

4.2. Empirical Model

The data used for the analysis is cross sectional data therefore the regressions used for the study is the ordinary least square (OLS). The model adopted in this research is a multiple linear regression which has as a dependent variable a proxy for the corporate financial performance (CFP), while as a main independent variable a proxy for ESG investing. In addition, several control variables have been added to the model in order to obtain a clean relationship between ESG and financial performance and test the Research Question 1. The variables identified are vintage year, region, business sector, investment strategy, holding period, source of funds, fair value, currency and percentage of capital called. According to earlier literature, these are the variables that could affect the relationship (Barber et al., 2021).

The first regression model implemented to test Research Question 1a and 1b is the following:

$$(1) CFP = \alpha_1 + \beta_1 ESG + \beta_n Control + u_c$$

Where the main independent variable is represented by the ESG rating. The coefficient β_1 in equation (1) represents the relation between the main independent variable and the dependent variable. If β_1 is statistically significant it is possible to conclude that ESG rating has an effect on the corporate financial performance, either positive or negative. In the first case, it would mean that investing in an investee with a higher ESG rating will lead to an improvement in the financial performance. On the contrary, if the coefficient is negative, it would mean that investing in higher ESG companies will lead to a reduction in the profitability, pointing out a trade-off between the two performances. Finally, if the coefficient is statically insignificant means that the financial performance is not affected by the ESG rating of the investee.

The second, the third and the fourth research questions want to study whether the ESG and financial performance varies across different investee-specific characteristics like the holding period, the business sector and the geographical area. Interaction effects between ESG rating and firm specific characteristics are included in the regression model to test the Research Question 2 and 3. The resulting model is the following:

$$(2) CFP = \alpha_1 + \beta_1 ESG + \beta_2 ESG * Firm_specific + \beta_n Control + u_c$$

Where the β_2 coefficient represents the magnitude of interaction effect between ESG rating and business sector or world area. If the coefficient is significant, it means that the relationship varies across different sectors or world area (according to the research question tested), confirming the effect hypnotized in the Research Question. In the case of insignificance, the relationship will not be affected by this firm-characteristics thus, the answer to the Research Question will be negative.

In the Research Question 5 and 6 of the analysis, it is studied the effect of ESG factors on the CFP. The two ESG factors identified are the Green and the Reducing Inequalities label, which are comprehended in the ESG rating assessment inside FMO (see paragraph 4.3.2). The regression model implemented is the following:

$$(3) CFP = \beta_1 ESG \text{ label} + \beta_n Control + \alpha_1 + u_c$$

Now the main independent variable is a dummy variable which indicates if the investee company presents the impact label or not. If β_1 is positive and statistically significant, it would mean that investing in a company with an impact label will lead to higher corporate financial performance. The opposite is true if the coefficient is negative.

4.3. Variable Description

4.3.1. Dependent Variables

The dependent variable under study is the financial performance of the investee companies in the FMO's portfolio. Since the study is focused on investments realized in the private equity industry, the two most common proxies used to measure the corporate financial performance are: Internal Rate of Return (IRR) and Total Value to Paid In (TVPI).

The IRR is a metric used in financial analysis to estimate the profitability of potential investments. It represents the discount rate that makes the net present value (NPV) of all cash flows equal to zero in a discount cash flow analysis. (Investopedia, 2022). The IRR is used in the analysis as a proxy for the financial performance of the investments. As the name suggests, the Net IRR is already net of fees, which allows us to base our analysis on the pure returns that are remaining at the investor's disposal. This is favorable, as the fee structure often significantly reduces the performance of a private equity fund (Kaplan & Schoar, 2005; Phalippou & Gottschalg, 2009).

The second proxy for the financial performance is the Total value to Paid in (TVPI) is the ratio of the current value of remaining investments within a fund (NAV or Fair Value), plus the total value of all distributions to date, relative to the total amount of capital paid into the fund to date. (Institutional Limited Partners Association, 2019). The TVPI is used as a performance measure which is assumed to be impacted by independent variables such as fund characteristics. The main difference between these two variables is that the IRR is highly cash flows time sensible while the TVPI does not take time into consideration. The Research Question 1a and 1b study the relationship between ESG and financial performance using both financial measures in order to take into account their different characteristics. The TVPI is used

as a further check for the relationship under study. However, for the rest of the analysis it is used the IRR as a main proxy for the financial performance.

4.3.2. Independent Variables

The study wants to analyze the effect of ESG investing on the financial performance. As mentioned above, in the first part of the empirical analysis is used as main independent variable the ESG rating. The FMO ESG rating ranges from the Laggard with a rating of D to the Leader rated AAA. Where AAA is better than AA and CC is worse than CCC. The variable in the analysis is coded in a scale from 0 to 6, with the lowest ESG rating coded with 0 (D) and the highest with 6 (AAA). FMO ESG rating evaluates the firms environmental (E) performance across the following main categories: resources efficiency, biodiversity and living natural resources, ecosystem services, supply chain biodiversity and pollution prevention. Social (S) is evaluated in the following main categories: human capital, social opportunities, stakeholder engagement. The Governance (G) comprehends corporate governance mechanisms, corporate behavior, ESG management system and ESG budget. Additionally, for what concern the PE funds the rating evaluates also the ESG integration in investment strategies, the ESG performance from previous funds, ESG training for investment team, ESG integration in legal documents, the quality monitoring of ESG performance of investees and the quality of ESG reports. In the second part of the analysis as a main independent variable are used impact labels which are consider factors of the ESG rating. These labels are used inside FMO as a way to measure the impact of the investment realized. The first is the green label, which represents transactions that cover Climate Action in the form of climate mitigation and adaptation, and also other footprint reduction like land use, waste, water and biodiversity. The Green label is based on two core Principles. First, there should be a genuine improvement resulting from FMO's investment that is beyond the local regulatory requirements. Second, the green investments should not contribute to a long-term lock-in of high carbon infrastructure. The variable is coded with a 0 if the investment has not a green label and 1 if it is green labeled. The second label is Reducing Inequalities (RI). The RI is one of the variables used to assess the impact that the investments made have in the countries. The RI label relates to SDG 10: reduce inequality within and among countries. Reducing Inequalities is also connected to gender and equality of opportunity for women and men (as reflected in FMO's gender strategy and SDG 5). Two components underlie the RI label: investment in the least developed countries (reducing inequality among countries) and investment in inclusive business (reducing inequality within countries by growing the incomes of the bottom 40% of the population, empowering social, economic, and political inclusion of all, and ensuring equal opportunity).

These two components are combined in one target: a deal can acquire the Reduced Inequalities label by investing in a least developed country or in inclusive business. The variable in the dataset is coded with a 1 if the investment has the Reducing Inequalities label and with 0 otherwise.

4.3.3. Control Variables

Several control variables are added into the models under analysis in order to take into account the effect of different factors on the relationship between ESG and financial performance. This study uses a set of control variables that have been showed in previous studies to have an effect on the financial performance of private equity firms (Barber et al., 2021).

Vintage Year, the vintage year is the year in which the fund conducts its first investment. It is included in the analysis as an independent variable because the fund's performance depends, among others, on the economic conditions that prevailed during the period in which the fund was active. The expected returns during a boom differ from the returns expected during a recession (Kaplan & Schoar, 2005; Sommer, 2013). So, the vintage year of a fund can indirectly take the business cycle into account. Moreover, this variable is grouped into 5 different dummy variables to control for the effects of macro, regulatory characteristics at investment inception and to control also the different investment horizons of the investments. The Vintage Group <2002 variable comprehends the funds with vintage year previous than the 2002. The other 4 dummy are created grouping the vintage every 4 years.

Holding Period, the holding period represents the number of years passed from the investment in the firm. This variable could influence the financial performance, especially the IRR which is time sensitive. The private equity investee' IRR tends to assume a J curve during their life (Appendix 3) (CFA,2022). The J curve is characterized by negative IRR in the first years and then increasing returns in later years when the investment matures (Corporate Finance Institute, 2021).

Business Sector, the variable business sector represents the sector in which the investee is focusing its main business activities. In the dataset there are 5 different sectors: Financial Institutions, Energy, Agribusiness, Diverse Sector and Generalist PE fund. 4 different dummy variables are included in the analysis to represent the different sectors.

Continental dummies, the variable continental dummy represents the world area in which the investee is focusing its main business activities. There are 5 different geographical area through which the investments are identified: Africa, Asia, Europe and Central Asia, Latin America and Caribbean (LAC) and World.

Country dummies, the variable country represents the specific country in which the investee is focusing its main business activities. 32 different dummy variables are created to control for the effects of the countries on the main relationship.

Fair Value, the fair value of the investee companies corresponds to their Net Asset Value (NAV). The NAV represents the net value of the investee and it is computed as the total value of the firm's asset minus the total value of its liabilities. The fair value in the dataset is denominated in Euro.

Investment strategy, The investment strategy variable represents whether the investment is direct, indirect (fund investment), or co-investment. An equity co-investment is a minority investment in a company made by investors alongside a private equity fund manager or venture capital firm. Equity co-investment enables other investors to participate in potentially highly profitable investments without paying the usual high fees charged by a private equity fund (Investopedia, 2021). Equity co-investment opportunities are typically restricted to a large institutional investors who already have an existing relationship with the private equity fund manager. The analysis 'results could be affected by the different strategy implemented according to their different level of risks and the different returns profiles. The variable assumed the value of 0 if the investment is indirect and 1 if it is a direct/ co-investment.

Source of funds, The source of funds variable represents the different sources of funds used to finance the investments. There are two main sources of capital: FMO A and Government funds. The first one consists in the funds that come directly from the FMO balance sheet while the second are funds commissioned by Governments with a specific mandate. An example of government fund is the MASSIF mandate which is the most used to finance investments among the public funds. The mandate is to provide risk capital to financial intermediaries in developing countries. These institutions in turn serve the following ultimate beneficiaries: micro-entrepreneurs, small and medium-sized enterprises (SMEs) and lower income households. These different sources of capital could have an impact on the analysis since the goals in terms of impact and financial returns differ. The variable is coded with 1 when the investment is financed with the FMO balance sheet and 0 if the financing comes from public funds.

Currency, the currency variable represents the currency in which the investee company denominates its revenues. 4 different dummy variables are created to represent the dollar (USD), the euro (EUR), Indian Rupee (INR) and the South African Rand (ZAR). These variables are included to take into account macro-economic tendencies, which are translated into currency fluctuations that in turn could affect the investees 'performance

Called, the variable called represents the percentage of capital called by the fund manager respect to the total amount committed by FMO. The lower capital called could be interpreted as a lower ability of the GP to find profitable investment opportunities, affecting the performance. It is included in the analysis to control for this effect.

4.4.Descriptive Statistics

Table 1: The table reports the descriptive statistics post cleaning. The 5 different columns report the number of observations (N), the mean (Mean), standard deviation (SD) and minimum value (Min) maximum value (Max)

	N	Mean	SD	Min	Max
IRR	636	0.03	0.41	-1.00	1.02
TVPI	639	1.37	1.09	0.00	4.62
ESG	158	3.29	1.21	0.00	6.00
Green Label	399	0.21	0.41	0.00	1.00
Reducing Inequalities	399	0.30	0.46	0.00	1.00
Fair Value	651	4,068,897	6,154,259	0.00	20,914,477
Strategy	657	0.44	0.50	0.00	1.00
Source of funds	657	0.59	0.49	0.00	1.00
Vintage Year	635	2,012.72	6.14	1988	2021
Holding Period	636	8.30	6.15	0.00	33.00

Table 1 reports the summary statistics of the main sample variables. The number of observations, the mean, the standard deviation, the minimum and maximum are reported in the table. The data in the sample are cross sectional data, meaning that the observations are from one single point in time. The IRR of the FMO investee companies refers to the financial performance as of 31st December 2021. The average IRR observed before the data cleaning is 75% (Table A in the appendix), a number substantially higher than the private equity industry average. According to McKinsey (2022) the pooled private equity IRR in 2021 was 27%. In addition, looking at the standard deviation (851%) and the maximum IRR reported in the Table A, it is clear that the average IRR is affected by outliers. The same reasoning is applicable for the TVPI. It is reported an average TVPI of 504.7x with a standard deviation of 9,903.3 and a maximum value of 246,825.5x. Thus, to avoid the influence of outliers on the results of the analysis these variables are winsorized at 5% level to replace the smallest and the largest 5% of the observations. The resulting average IRR and TVPI are respectively 3.26% and 1.37x (Table 1). The FMO portfolio includes investments with vintage years that range from 1988 to

2021, recording an average holding period of 8.3 years. Most of the investments are implemented through a direct investment, or a co-investment and the most used source of funding is the FMO balance sheet (FMO A).

The dataset comprehends 657 observations. However, some variables are missing several observations. In particular, the data related to ESG rating and impact labels are the ones that register the lowest number of observations (158 and 399 respectively). The reason of this lack of data is that FMO has started to collect ESG and impact data only three years ago. Therefore, in the FMO database the ESG and impact data are not available for the oldest investments while others investee data are currently under process in the FMO ESG department. The average ESG coded is 3.29, which corresponds to the “BB” rating. The 21% of the investments is labeled green while the 30% reducing inequalities.

4.5. Results Analysis

Due to the low availability of ESG data in the FMO database, the observations for the first models of the analysis ranges from 114 and 135 observations. Considering the Research Question 1, Table 2 presents consistent results throughout the different models implemented. In model (1) is displayed that the ESG rating has a positive and significant effect on the IRR. The coefficient is equal to 0.0434 and significant at 10% level. It means that at 1% increase in the ESG rating corresponds an improvement in the IRR of 0.0434 percentage points. As a consistency check, in model (2) is run the same regression but as a dependent variable is used the money multiple TVPI. The results show a positive and almost significant effect of the ESG rating on the TVPI. This finding is encouraging because even if not significant the p-value is close to the significance level (0.134). Furthermore, the coefficient resulted from the model is positive confirming the sign of the relationship discovered in the first model. Model (3) introduces the country fixed effect, to explain an higher level of variability of the IRR in the model. However, to control for this effect some observations are lost. The model confirms the positive effects of ESG on IRR increasing the significance of the coefficient to 5% level.

Table 2: This table presents the results for the Research Question 1-2 which has the IRR as the dependent variable in model 1-3-4-5 and the TVPI in model 2. The ESG rating is the main independent variable while holding period, vintage year, strategy dummy, FMO A dummy, Fair Value, called, country, continent, currency and business sector are used as control variables. In model 5 is introduced an interaction effect between ESG rating and holding period. The stars ***, **, *, ., respectively denote significance at the 1%, 5%, 10% and 15% level.

VARIABLES	(1) IRR	(2) TVPI	(3) IRR	(4) IRR	(5) IRR
ESG Rating	0.0434*	0.0834.	0.0543 **	0.0937 **	0.1284 ***
Holding Period				0.0428*	0.0560 **
ESG Rating * Holding Period				-0.0088.	-0.0130 **
Vintage Year	-0.0082	-0.0216	-0.0052		
Strategy Dummy	-0.1335	-0.2746	-0.1350	0.1707	-0.1938 *
FMO A Dummy	0.0141	-0.0687	-0.0009	0.0049	-0.0216
Fair Value	0.000**	0.000***	0.000***	0.000***	0.000 ***
Called	0.242	-0.223	0.2888	0.2020	0.2362
Observations	135	135	115	134	114
R-squared	0.271	0.272	0.359	0.284	0.385
<i>Controls for all panels in column</i>					
Country	NO	NO	YES	NO	YES
Continent	YES	YES	NO	YES	NO
Currency	YES	YES	YES	YES	YES
Business Sector	YES	YES	YES	YES	YES

*** p< 0.01, ** p<0.05, * p<0.1

As explained in paragraph 4.3.1, the IRR is strongly affected by the timing of cash flows. In particular, the IRR generally follows a J curve where at the first years of the investment it assumes negative values and when the investment reaches a maturity stage it inverts its curve and increase its level. To answer to the Research Question 2 and to check how this characteristic affects the ESG-IRR relationship, the Holding Period variable is introduced in model (4) and (5) with an interaction with the ESG rating. The results of the two models show a positive and highly significant effect of the ESG rating on the IRR after controlling for the interaction effect with the Holding Period. The resulting coefficients are more positive (respectively 0.0937 and 0.1284) respect to the previous models' ones. The variable Holding Period in Table 2 presents a positive and significant coefficient with the financial performance. This finding confirms that when the investments assume a longer horizon the IRR on average tends to improve. In addition, the interaction coefficient between ESG and Holding Period is also significant. To investigate further on how the ESG relationship with IRR varies across different investment horizons, the vintage years of the investments are grouped in 5 different dummies and included in the models represented in Table 3. The vintage group <2002 represents the investments with the longer holding period while the vintage group 2014/17 represents the youngest investments. The coefficients in model (1) and (2) show negative interaction effects between ESG and vintage groups, with a decreasing negativity from longer to shorter holding periods. In model (1) the interaction coefficients are close to the significance, besides ESG*vintage group <2002 and ESG * vintage group 2002/05 which are respectively insignificant and significant. In model (2) the coefficients are significant at 5% level apart from ESG*vintage group <2002 which is not statistically significant.

Table 3: This table presents the results for the Research Question 2 with a focus on the effect of different investment horizon on the ESG-IRR relationship. The IRR is used as dependent variable while the ESG rating is the main independent variable. 5 different vintage group dummies are introduced to control for the interaction effect with the ESG rating. The stars ***, **, *, ., respectively denote significance at the 1%, 5%, 10% and 15% level.

VARIABLES	(1) IRR	(2) IRR
ESG Rating	0.1093***	0.1622***
Vintage Group <2002	0.07313	1.1330
Vintage Group 2002/05	2.901*	3.356**
Vintage Group 2006/09	0.5309*	0.7162**
Vintage Group 2010/13	0.3837	0.4878*
Vintage Group 2014/17	0.2267	0.4147**
ESG Coded * Vintage Group <2002	-0.0260	-0.2905
ESG Coded * Vintage Group 2002/05	-0.6257*	-0.7556**
ESG Coded * Vintage Group 2006/09	-0.1248 .	-0.2020**
ESG Coded * Vintage Group 2010/13	-0.1292 .	-0.1847**
ESG Coded * Vintage Group 2014/17	-0.0089 .	-0.1516**
Observations	126	106
R-squared	0.333	0.449
<i>Controls for all panels in column</i>		
Country	NO	YES
Continental	YES	NO
Currency	YES	YES
Business Sector	YES	YES
Strategy	YES	YES
FMO A	YES	YES
Fair Value	YES	YES

*** p< 0.01, ** p<0.05, * p<0.1

Overall, it possible to affirm that the holding period and in general the historical period in which the investment has been realized, have an effect on the ESG-IRR relationship and this effect differs across the different vintage year groups. Therefore the results answer positively to Research Question 2. Furthermore, the overall ESG rating and financial performance relationship is confirmed to be positive and statistically significant from the results of Table 3. This finding has been consistent throughout all the models implemented. The results of the analysis answer positively to Research Question 1a and 1b and therefore Research Question 1 is confirmed.

Concerning Research Question 3, the results displayed in Table 4 signals an argument against the findings reported in literature. Model (1) and (2) in Table 4 includes interaction effects between the ESG rating and the various business sectors in which the FMO investee companies

operate. Research Question 3 questioned whether the ESG-IRR relationship is affected by the different social and legal structures and by the different expectation from the stakeholders of the various business sectors in which the company operate. The interaction coefficients reported in Table 4 are all largely statistically insignificant. These results show that the ESG relationship with the financial performance is not affected by the business sector in which the FMO investee is operating. This finding suggests that the business sectors in which the FMO portfolio companies operate neither improve or deteriorate the ESG effect on the IRR. However, the models in Table 4 report again a positive and statically significant coefficient of the ESG rating, confirming again the positive effect on the financial performance.

Table 4: This table presents the results for Research Question 3, with the IRR as dependent variable and ESG rating as main independent variable. 4 interaction effects are introduced with the business sector dummy variables. Model (1) used as a control variable continents while Model (2) countries. The stars ***, **, *, ., respectively denote significance at the 1%, 5%, 10% and 15% level.

VARIABLES	(1) IRR	(2) IRR
ESG Rating	0.2092**	0.2689**
Energy	0.3189	0.2181
Financial Institution (FI)	0.0052	0.1557
General	-0.3154	-0.2911
Diverse	0.2990	0.3960
ESG * Energy	-0.1481	-0.1211
ESG * FI	-0.0695	-0.1021
ESG * General	-0.0044	0.0042
ESG * Diverse	-0.1330	-0.1625
Observations	122	102
R-squared	0.357	0.473
<i>Controls for all panels in column</i>		
Country	NO	YES
Continental	YES	NO
Currency	YES	YES
Strategy	YES	YES
FMO A	YES	YES
Fair Value	YES	YES
ESG * Vintage Group	YES	YES

*** p< 0.01, ** p<0.05, * p<0.1

In Table 5, it is tested the Research Question 4 which ask whether the effect of the ESG rating is dependent on the geographical area in which the investment is made. To test the research question, interaction effects between ESG rating and continental dummy variables are introduced. The interaction coefficients reported are all largely insignificant. This means that

the ESG effect on the financial performance does not vary across the different continents in which the FMO investee companies focus their main business activities. This finding goes against the Research Question 4 of this research. Nevertheless, the model in Table 5 reports once again a static and positive effect of the ESG rating on the IRR providing further support to the findings of Research Question 1.

Table 5: This table presents the results for Research Question 4, with the IRR as dependent variable and ESG rating as main independent variable. 4 interaction effects are introduced with the continent dummy variables. Model (1) used as a control variable continents while Model (2) countries. The stars ***, **, *, .., respectively denote significance at the 1%, 5%, 10% and 15% level.

VARIABLES	(1) IRR
ESG Rating	0.2195*
Asia	0.0697
Africa	0.1227
Europe and Central Asia	0.2979
LAC	-0.0157
ESG * Asia	0.0013
ESG * Africa	-0.0204
ESG * Europe and Central Asia	-0.0628
ESG * LAC	0.0371
Observations	118
R-squared	0.361
<i>Controls for all panels in column</i>	
Country	NO
Currency	YES
Strategy	YES
FMO A	YES
Fair Value	YES
ESG * Vintage Group	YES
ESG * Business Sector	YES

*** p< 0.01, ** p<0.05, * p<0.1

Concerning Research Question 5 and 6, the results displayed in Table 6 demonstrate that the effect of ESG factors on financial performance is mixed. The observations for the impact labels are much higher respect to the ones of the previous models, implying more reliable results. Contrary to the evidence reported in literature, the model (1) in Table 6 shows that the investments labeled green have a significant and negative impact on the financial performance. The coefficient implies that on average the green investments lead to a reduction of the IRR by 0.124 percentage points. After controlling for the interaction effect between the green label and the holding period of the investments, model (2) still shows a statistically significant negative coefficient. The coefficient reported now is -0.2201. Regarding the reducing inequalities

labeled investments, model (3) in Table 6 shows a positive and significant coefficient on the IRR. In line with the findings reported in literature, the models suggests that on average the reducing inequalities labeled investments improve the financial performance by 0.1081 percentage points.

Table 6: This table presents the results for Research Question 5 and 6, with the IRR as dependent variable and the ESG labels Green and Reducing Inequalities as main independent variable. Model (2)(4) and (5) control for the interaction effect with the holding period. The stars ***, **, *, ., respectively denote significance at the 1%, 5%, 10% and 15% level.

VARIABLES	(1) IRR	(2) IRR	(3) IRR	(4) IRR	(5) IRR
Green Label	-0.1242***	-0.2201***			-0.2333***
Reducing Inequalities			0.1081***	0.2271***	0.2331***
Holding Period		-0.0026		0.0054	0.0039
Green Label * Holding Period		0.0251**			0.0261**
Reducing Inequalities * Holding Period				-0.0218***	-0.0229***
Observations	342	342	341	341	339
R-squared	0.388	0.391	0.396	0.411	0.431
<i>Controls for all panels in column</i>					
Country	YES	YES	YES	YES	YES
Continental	NO	NO	NO	NO	NO
Currency	YES	YES	YES	YES	YES
Business Sector FE	YES	YES	YES	YES	YES
Vintage Year	YES	NO	YES	NO	NO
FMO A	YES	YES	YES	YES	YES
Fair Value	YES	YES	YES	YES	YES
Strategy	YES	YES	YES	YES	YES

*** p<0.01, ** p<0.05, * p<0.1

Adding the interaction effect with the holding period, the coefficient increases to 0.2271, confirming the positive and significant effect on the IRR. The coefficients displayed in Table 6 are all significant at the 1% and consistent across the different models, showing that green investments have a negative effect on the IRR while the reducing inequalities labeled improve the financial performance. Hence, Research Question 5 has a negative answer while Research Question 6 a positive one.

4.6.Survey Results

As part of the analysis, it has been conducted a survey to further investigate on the motives behind the trade-off between ESG and financial performance. In particular, the survey has the aim to shed a light on the expectations and the motives of the ESG relation with the financial performance by professional investors at FMO. They are the

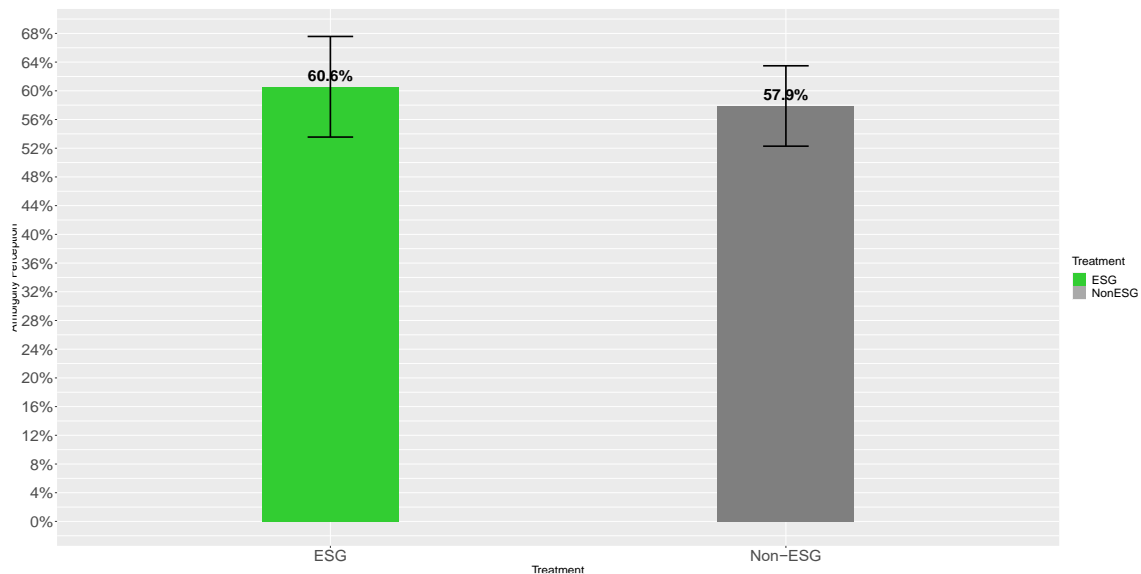
professionals that implement the FMO strategy, deciding whether or not an investment will be realized. The survey allows the study to combine an empirical regression analysis with professional investors' beliefs, realizing a unique and comprehensive research on sustainable investments in the private equity industry.

This survey was conducted at the department of Private Equity, FMO. In total 24 subjects of which 33.3% female and an average age of 38 (aged 51 - 30) participated in the survey conducted during July 2022. As mentioned above, all the participants were portfolio managers associated with profound investing experience. At the beginning of the survey, participants were introduced to the survey sections' content and payment method of the survey. One respondent who completed all questions in this survey has been randomly drawn. The respondent won €100 plus the payoffs from one randomly chosen question of this survey. The survey took around 35 minutes on average. In the survey, participants answered questions in three sections. All the subjects first reviewed the same fund's past six years' annual returns, then chose options related to the fund's future returns in the first section, played a designed bet adapted from Ellsberg urn to inform their willingness to pay for the fund with and without ESG information in the second section, and finally completed a questionnaire about their demographic information, educational backgrounds, financial literacy questions, and an SRI-related survey in the third section. The purpose of the survey is to have a comprehensive understanding about skilled investors' beliefs toward ESG performance and their ambiguity perception toward ESG.

The first interesting finding from the survey is about the ESG and the related ambiguity perception. According to Ellsberg (1961) ambiguity is distinct from risk and describes events for which not only the future outcomes but also the underlying distribution is unknown. Ambiguity is widely present in financial markets and its presence can substantially influence market outcomes (Li et al., 2021). In particular recent financial literature showed that the main market outcomes on which ambiguity has the greatest effect are on investors' behaviors like market participation and portfolio choices (Kostopoulos et al., 2020; Bianchi and Tallon, 2019). Since ESG is valuable information, the study assumes that when the portfolio officers receive this information, they will feel less ambiguity and therefore their portfolio choices will be affected. Officers may be incentivized to engage in sustainable activities for the lower ambiguity perceived.

The results in Figure 2 show the portfolio officers perception towards ambiguity. The chart shows that portfolio officers who receive the ESG information perceive less ambiguity in the market and therefore tends to engage more with sustainable investments respect to non ESG ones. However, due to the limited survey sample size the results cannot be considered significant but it still worth to see the trend of ESG information perception by professional investors.

Figure 2: The figure represents the survey results for the ambiguity perception of FMO portfolio officers. The return expectations displayed differentaite between the portfolio officers that received the ESG information from the ones that did not receive it.

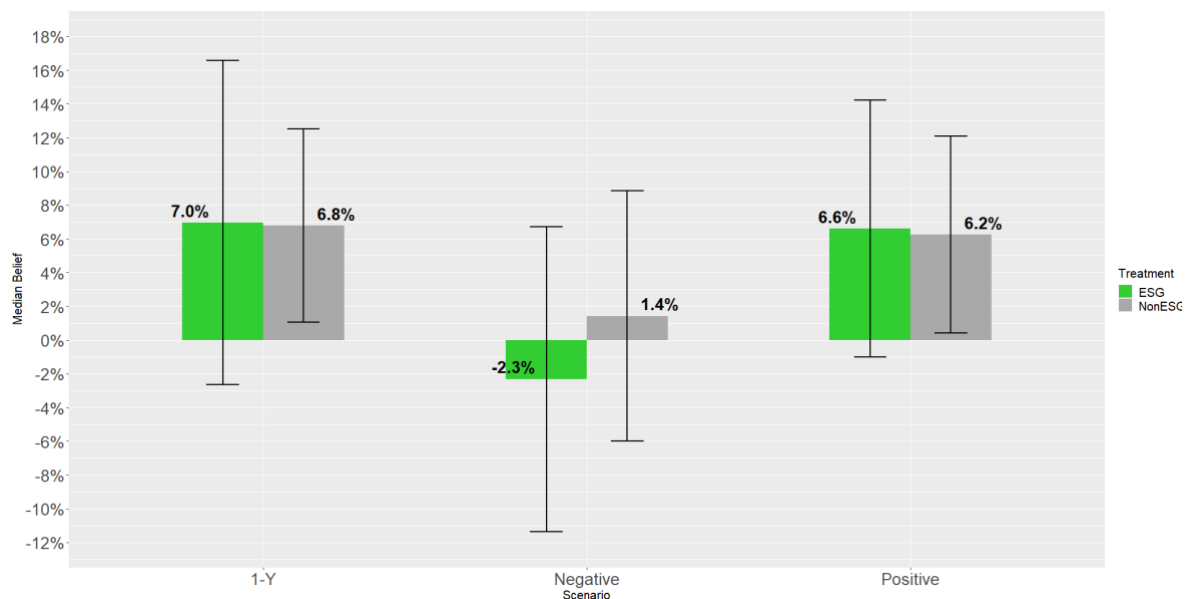


The Figure 3 reports the results about the portfolio officers returns’ beliefs. The results from the regression analysis reported in paragraph 4.5 showed that ESG has a positive and significant effect on the financial performance. The higher is the ESG performance the higher will be the financial performance of the investee companies. The results from the survey present that portfolio officers have a similar belief on what has been found in the previous analysis. The chart shows that officers believe that the ESG fund will experience a slightly higher performance respect to non ESG fund. However, the results cannot be considered significant due to the low number of respondents and the slightly difference between ESG and non ESG return expectation. The analysis of their expectations is still worthy because it allows to see the trend of how FMO officers perceive ESG and its relation with investee returns.

Figure 4 and 5 reports the SRI related survey questions. Only the most relevant results will be analysed in this research. Question 1 of Figure 4 reports an answer mean of 3.14. It means that portfolio officers think that there is no significance difference between the performance of

various sustainable degrees of funds. Question 2 in Figure 5 states that “lower sustainability funds are more risky than higher sustainability funds”. The question reports a mean of 4.09 which can be interpreted as portfolio officers believe there is no significant difference between the risk of various sustainable degrees of funds. Finally, Question 3 in Figure 5 reports the statement “ESG integration funds have a positive influence on society”. FMO professional investors’ answers show that they think that ESG has a positive impact in the society, reporting an answer mean of 5.57.

Figure 3: The figure represents the results from the return expectation in the survey conducted by FMO portfolio officers. The return expectations displayed differentiate between the portfolio officers that received the ESG information from the ones that did not receive it.



5. Discussion

The purpose of this study is to provide evidence about the relationship between ESG investing and financial performance in the private equity industry. According to a growing body of literature, the research hypothesized a positive effect of ESG practices on financial performance. The research questions have been tested employing a unique sample of investments from the FMO portfolio which combined financial and ESG data in the private equity industry from 1988 to 2021. The results from the OLS regression analysis showed a positive effect of the ESG rating on the financial performance of FMO’s portfolio companies. This result is consistent and confirmed in all the models implemented in the analysis, considering different control variables and different financial performance indicators. The positive relationship found in the empirical analysis is in accordance with the body of literature that sustains the shareholders’ value enhancing theory. The theory contends that the

incorporation of social practices into the companies' strategies and operations produces competitive advantages that support the long-term shareholder value. This finding is of great importance because it strengthens the part of literature that sustains that it is possible to "do well by doing good". Contrary to researchers like Friedman (1970) who sustained that the social initiatives subtract resources dedicated to shareholders' value maximization, the research demonstrated that sometimes it is possible to have both the social and the financial performance. According to McKinsey (2021), serving the interests of stakeholders does not necessarily come at a cost in terms of profit but on the contrary, it is essential to achieve the former goal. Indeed, taking into consideration the interest of all the stakeholders involved helps to make the profitability sustainable over the long term.

The proof of a positive effect of ESG practices on financial performance will boost even the most profit-driven investors to the adoption of sustainable practices in their investment strategies. The positive relationship found in the FMO portfolio is a result of great relevance and to understand more about the motives and expectations behind, a survey has been conducted inside the Private Equity department. The results from the FMO portfolio officers showed that one of the drivers that lead to the adoption of ESG investments is the ambiguity perception in the market. Indeed, the portfolio officers when they receive the ESG information they perceive less ambiguity and therefore tend to engage more with sustainable responsible investees. Even if this result is not significant due to the low number of observations, it is interesting to see the trend of investment officers' answers. Moreover, from the survey it is resulted that portfolio officers believe that companies that integrate ESG practices in their strategy have a positive impact on the society. Being a development financial institution, the FMO's mandate is to create impact with its investments even if this could result in a cost in terms of profit. As consequence, it is possible to affirm that a main driver for FMO portfolio officers to realize ESG investments is the willingness to have an impact in the society. The question that arises is whether the investment officers believe that the achievement of impact through their investment implies a trade-off with the financial performance or if they believe that the sustainable investments could go in line with financial returns or even improve them. Concerning the return expectation questions in the survey, it is resulted that FMO investment officers expect that ESG and non ESG funds will have almost the same return, believing that the financial performance is not significantly different among various sustainability degrees. This result implies that portfolio officers do not expect neither an improvement or a deterioration in the financial performance of investee companies when they engage with ESG practices. Hence, the empirical analysis of the FMO portfolio could raise awareness inside the

FMO Private equity department about the positive effect that ESG investing has on the financial performance. In this way portfolio officers could be more incentivized to engage into the best performing ESG companies if, beyond the lower ambiguity perceived and the willingness to have a positive impact on the society, they are also aware of the positive effect on the financial performance.

An additional finding of this first part of the analysis is the significant effect of the Holding Period on the ESG-IRR relationship. In fact, the IRR is a time sensitive measure which strongly depends by the life-stage of the investments. To dig deeper on this effect, the vintage years have been grouped into 5 different dummies to represent different holding periods and the results show a significant negative effect of the holding period on the ESG-IRR relationship. The coefficients 'negativity is decreasing with the lowest negative effect on the ESG-IRR relation registered for the investments realized in the recent years. The decreasing negative effect can be derived by the greater societal emphasis on ESG factors that is experienced in recent years. It possible to notice that the biggest reduction in the coefficients starts from the vintage year group 2006/09, period when the world financial crisis occurred. This result is in line with previous research that sustain that public and governments put a greater emphasis on ESG factors after historical events such as a financial crisis. However, even after controlling for the interaction with the different vintage groups, the study reports a positive and significant coefficient of the ESG with the IRR.

To investigate further on this relationship, the study analyses whether the ESG effect on the performance differs across different countries and business sectors. According to previous studies in literature, the ESG-financial performance relationship is influenced by varying legal, social structures and expectations from stakeholders in different industries and business sectors (Behl, 2021). Furthermore, in earlier studies it has been reported that the private equity performance depends on the business sector while that the ESG rating is strongly correlated to the country legal origin of the investment. Therefore, the expectation was a varying effect of ESG on the performance across different countries and business sectors. The results from the empirical analysis, however, show that the different continents and business sectors in which FMO has its investments do not influence the relationship between ESG and IRR. This finding suggests a solid positive ESG-IRR relationship, which is not affected by the business sector or geographical area in which the investment is realized. FMO Private equity department is divided into teams according to the geographical coverage area (Africa & LAC, Asia etc.) and

business sectors (Financial Institution and Energy). Therefore, it is possible to affirm that this positive relationship is valid for all the Private equity teams in the same way.

In the final part of the research, it is studied the influence of specific ESG factors that compose the rating on the financial performance. The two ESG factors used in the analysis are the Green and the Reducing Inequalities labels, which represent only a fraction of the multiple factors comprehended in the rating. They are used to define whether an investment presents certain impact requirements. The Green label represents transactions that cover Climate Action in the form of climate mitigation and adaptation and also other footprint reduction like land use, waste, water and biodiversity. The RI label, instead, represents the reduction of inequalities within and among countries with also a focus on gender and equality for equal opportunity between women and men. The results of the regression analysis show a positive effect of Reducing Inequalities label on the IRR, while for the Green labeled investments the effect detected is negative. According to interviews with investment officers, the negative effect of the Green Labeled investments on the financial performance could be explained by the different employment of company resources. They believe that the implementation of green activities requires the use of resources that otherwise would be used only with the goal to maximize the profit. This finding is in line with Friedman (1970) who reported that the company resources should be used only to implement activities to maximize the shareholder's value. In addition, FMO realizes investments only in emerging markets and as a consequence the employment of resources in goals different to the profit maximization's one in an already difficult economic environment, could result in a deterioration of the financial performance. This finding is in contrast with the previous literature on green investments. Therefore, the answer to Research Question 5 is negative. On the contrary, the relation found between the reducing inequalities investments and the IRR is line with the study expectation and with earlier studies. Several research has been conducted on the effect of inclusion of minorities on the financial performance and most of them have displayed a positive effect. An example is the gender diversity in the board rooms, which according to the Campbell (2008)'s study the percentage of women in boards has a positive effect on the firm value. The equal opportunities given to different genders but also to diverse nationalities and ethnicities, provide different perspective and way of thinking to the company decision making improving the organization's performance. The research result confirms the hypothesis expressed in Research Question 6, therefore Research Question 6 has a positive answer. Overall, this second part of the analysis helps to understand how different ESG components have different influences on the company

financial performance. Even if they are just two of the multiple ESG factors, it is still valuable to raise awareness on the effect of certain impact goals on the financial performance. It is particularly relevant for FMO to understand how the implementation of investments with certain impact features relates to the company financial performance

To conclude, the different effects described above highlights one of the fundamental problems that the ESG rating suffers. As reported by the Economist (2022), the ESG rating summarize in a single score a number of different objectives, providing no coherent guide for investors and firms to make trade-offs that are inevitable in any country. One of the possible examples is the closing down of a mining firm that has a positive impact in terms of environment but at the same time a negative one for its suppliers and workers. The study suggests that this incoherence of the rating is detected also with its effect on the financial performance. While it has been found an overall positive effect of ESG on the financial performance, the decomposition of the rating in two of its multiple components showed a negative effect of the Green Investments with the IRR. The contrasting effect of Green and ESG on the IRR could cause confusion to investors that invest in Green companies. According to the study results, investors would be induced to think that investing Green would enhance the ESG performance and thus the financial performance but actually they would worsen their IRR. Additionally to the ESG trade-off incoherence, another issue of great relevance is the inconsistency in the way in which the ESG rating. The absence of consistency on what a good ESG is, could led investors to be misled by the ESG ratings. A possible solution to the lack of consistency and to the rising confusion among investors could be the decomposition of the rating, focusing simply on the E, the S and the G, separately. Yet even it is not precise enough, the decomposition and the focus on only one factor would allow to solve part of the inconsistencies and to realize more standardized ratings. The more standardized the ratings are, the easier would be the assessment of the company performance on one of the ESG factors.

6. Limitation and future research

Although this study has provided deeper insights about the ESG - financial performance relationship in the private equity industry, several limitations are still present. The following limitations in combination with the paper's findings direct the direction for future research.

First, the number of observations in the FMO's dataset used for the empirical analysis is limited. The small size of the sample is due to the lack of ESG data in the FMO ESG department. Indeed, FMO has only recently started to collect sustainable data and therefore this data are present only for the active investments in the portfolio losing all the exited investments observations. The number of observations ranges from 114 to 135 for the models used to test the first three research questions. Also, the number of answers in the survey is very limited (24 respondents), implying mostly insignificant results. Nevertheless, this number is a high fraction of the total number of portfolio officers in the FMO Private Equity department (almost 30%) and it is useful to observe the trend of their answers in order to understand the motives and drivers of ESG investments at FMO. In addition, the survey is based on a compensation scheme that incentive the respondents to pay attention to every question, ensuring reliable results. Nevertheless, the sample is too limited to generalize the findings.

Second, in this study the financial performance is measured using the IRR. However, various indicators like money multiples are used in private equity to measure the financial performance. Model (2) in Table 2 has been implemented using as dependent variable the TVPI. The money multiple has been introduced as robustness check for the ESG – financials relationship. The coefficient found is positive and almost significant. This finding is encouraging because it confirms the positive relationship found with the IRR and the statical insignificance could derive to the missingness of variables in the model due to the closeness to the significance level. Therefore, it would be interesting for future research to conduct a study on the ESG effect on the financial performance using the TVPI as a main dependent variable.

Third, the IRR used in this analysis measure the financial performance of active FMO portfolio investments, therefore its value is unrealized. Even if this number is the results of audited financial statements, it is an accounting based or notional value and could be not reflective of the market IRR. Therefore, wider private equity market implications should be taken carefully. Future research could realize this analysis employing as dependent variable realized IRR; however, this was not possible to do at the time of this research due to the lack of ESG data for FMO exited investments.

Fourth, an additional limitation of the study is that the control variables used in the regression analysis do not represent all the possible investment specific drivers on the financial performance. It is possible that investees with certain characteristics, that this study does not control for, are more likely to experience a higher/lower financial performance. Despite the awareness of this limitation, the control variables included in the models are the only ones available to be used according to the data provided by the FMO database.

Moreover, the analysis focuses only on ESG and financial data as of 31st December 2021. While the FMO database stores financial performance data across different years, the ESG data are only present for the most recent financial year (FY21). For future research is interesting to add additional control variables that could influence the financial performance to see how they affect the relation. In addition, it would also be interesting to analyze how the ESG-IRR relationship varies across different financial years.

Finally, for future research it could be of particular relevance to test whether the findings of this study are applicable also to other type of private equity companies. Indeed, FMO is a development financial institution that has a strong focus on impact investments in its mandate. It would be interesting to study whether these results hold also in the most profit driven private equity companies.

7. Conclusion

To conclude, this study sought to investigate the effect of ESG investing on the financial performance of private equity companies. While there have been several studies on the ESG-return relationship, little research is present about the effect of socially responsible initiatives on the financial performance in the private equity sector because of low availability of data. Using a unique dataset of FMO portfolio investments in private equity emerging countries between 1988 and 2021 in combination with a survey filled by FMO portfolio officers, the analysis provides an insightful and comprehensive study on the ESG financial performance relationship.

The research results are in line with most of the literature that, the ESG investing has a positive effect on the financial performance. The relationship between the ESG rating and the IRR is resulted to be positive and significant in all the models implemented, employing different control variables and interaction effects. Moreover, using the TVPI as dependent variable the model showed a positive and almost significant relationship, confirming the positive sign. According to the survey's results, while investment officers perceive less ambiguity in the market with ESG companies and believe that ESG has a positive impact on the society, at the same time they expect neither a deterioration neither an improvement in the return of ESG companies respect to non ESG ones. Furthermore, from the OLS regressions it has been found that the ESG effect on the IRR does not depend on the geographical area or the business sector of the investee company while it is affected by the investment holding period. Lastly, the analysis of the ESG factor variable that compose the rating showed that the effect is mixed depending on the factor variable under study. The Green labeled investments are negatively related with the IRR while the Reducing Inequalities labeled have a positive effect on the returns.

These findings are of great importance and have three main implications. First, the positive ESG-IRR relationship provides new supporting evidence to the body of literature that sustain that is possible “doing well by doing good”. Investors should be more willing to positively include ESG factors in their investment strategies and to recognize a premium to high ESG companies respect to non ESG ones if they are followed by higher returns. On the other hand, companies should actively invest in ESG activities to enhance their financial performance. Second, this study will rise awareness about the positive effect of ESG on the financial performance among FMO PE department. While FMO investment officers adopt ESG

companies in the portfolio for the lower ambiguity perceived and the positive impact that these companies have on the society, they do not expect a positive effect on the financial performance for the inclusion of socially responsible companies. Therefore, according to the results, investment officer should start to consider in their investment decisions also the positive financial effect that ESG companies have. Third, the results from the ESG factor analysis allows companies to be more informed about the effects on their returns when specific impact goals are pursued. Moreover, companies can observe how different ESG components have different effects on the financial performance. In particular, the negative effect of green investments on the financial performance is in contrast with the general finding of the positive ESG – IRR relation. According to the study results, investors would be induced to think that investing Green would enhance the ESG performance and thus the financial performance but actually they would worsen their IRR. . The absence of consistency on what a good ESG is, could led investors to be misled by the ESG ratings. A possible solution to the lack of consistency and to the rising confusion among investors could be the decomposition of the rating, focusing simply on the E, the S and the G, separately.

The study suffers of two key limitations: a low number of observations especially for the survey and the use of the unrealized IRR as dependent variable. Therefore, inference on the wider private equity market should be taken carefully.

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9. Appendix:

Appendix 1: ESG factors

Environmental 	Air emissions and air quality	Fossil fuels	Occupational health and safety
	Biodiversity protection	Hazardous materials use	Renewable energy sources
	Community health, safety, and security	Land contamination	Waste generation
	Energy conservation	Natural resource preservation	Water use and conservation
Social 	Adequate housing	Consumer privacy	Opioids
	Abortion providers	Employment of minorities and women	Religious values
	Adult entertainment	Human rights standards	Tobacco
	Alcohol	Income inequality	Union relationships
	Animal testing	Manufacturers of birth control products	Weapons
	Casinos and gambling equipment	Obesity	Workforce exploitation
Governance 	Antitrust violations	Consumer fraud	Political contributions
	Auditor independence	Disclosure of material risks	Reporting transparency
	Board independence and elections	Executive compensation	Short-term focus
	Board diversity	Oversight of strategy	Voting rights

Appendix 2: UN Sustainable Development Goals



Table A: Descriptive Statistics before data cleaning

	N	Mean	SD	Min	Max
IRR	634	0.75	8.51	-1.00	161.10
TVPI	637	504.66	9903.33	-12.87	246,825.55
ESG	158	3.29	1.21	0.00	6.00
Green Label	399	0.21	0.41	0.00	1.00
Reducing Inequalities	399	0.30	0.46	0.00	1.00
Fair Value	649	5,073,445	13,545,283	- 825,152	254,492,471
Strategy	657	0.44	0.50	0.00	1.00
Source of funds	657	0.59	0.49	0.00	1.00
Vintage Year	635	2,012.72	6.14	1988	2021
Holding Period	636	8.30	6.15	0.00	33.00

Appendix 3: IRR J Curve (CFI, 2021)

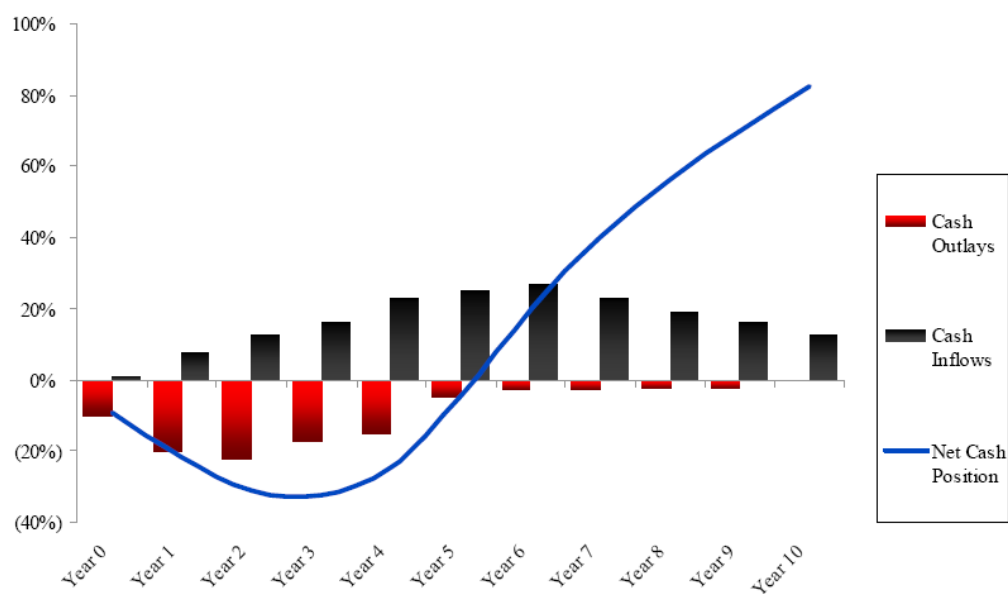


Figure 4: Survey questions

Please indicate your expectation about the below assets' performance.

	Much lower	A bit lower	The same	A bit higher	Much higher	I do not know
I expect that the returns of higher Sustainability funds compared to lower Sustainability funds are:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generally speaking, I expect that the returns of the index funds compared to active investment portfolios are:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 5: Survey questions

To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Somewhat disagree	Moderately	Somewhat agree	Agree	Strongly agree
I assume that people have only the best intentions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lower Sustainability funds are more risky than higher Sustainability funds.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ESG (Environmental, social and governance) integration funds have a positive influence on society.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When someone does me a favor, I am willing to return it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to punish someone who treats me unfairly, even if there may be costs for myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to punish someone who treats others unfairly, even if there may be cost for myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to invest in an index fund that excludes companies which do not take sufficient account of the environment, the society, and good corporate governance, even if this investment strategy may hurt the fund's financial performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to invest in an actively managed fund that excludes companies which do not take sufficient account of the environment, the society, and good corporate governance, even if this investment strategy may hurt the fund's financial performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Summary

The term ESG investing refers to the investment strategy that incorporates environmental, social and governance factors in the investors' portfolio decision. Investors typically assess ESG factors using non-financial data on environmental impact (i.e. carbon emission), social impact (i.e. employee satisfaction) and governance attributes (i.e. board composition). ESG investing can broadly be defined as an investment approach in which the investor's objective is to use capital to trigger change for social or environmental purposes as well as achieve a financial objective (Giese, et al., 2019). The integration of social responsible factors into investments decisions has experienced increased popularity following historical events like the Vietnam War, civil and women's right movements, Chernobyl and financial crisis. In particular, in the new millennium the corporate scandals of Enron and Worldcom, the 2008 financial crisis, the climate change emergency and more recently the Covid-19 made international investors more conscious about the social consequences of corporate activities. Now the investors' focus has shifted from a shareholder's view to a broader stakeholder's view that takes into consideration the interests of all parties involved in the firm operations. As a consequence, over the past decade the ESG investing phenomenon has experienced an incredible growth. According to Bloomberg Intelligence (2021), the global ESG asset under management could surpass the \$41 trillion in 2022. These numbers are the result of a continuous increasing trend that have seen the ESG asset total value almost doubled from 2016 till today (Global Sustainable Investment Association, 2020).

Consequently, the ESG investing wide spreading has triggered research in different fields like management, economics, and finance. One of the most studied and debated topic in the sustainable investing literature, is the relation between the ESG investing activities and the financial performance. Companies will behave more conscientiously if doing well is somehow related to doing good (Campbell, 2006). Even though a substantial amount of research on the influence of ESG on a firm's financial performance has demonstrated that ESG generates a positive effect on returns, the topic of whether ESG has a positive association with financial performance still remains the subject of a contentious discussion among academics and investment professionals (Friede et al., 2015). Although most of the studies displayed a positive effect of ESG on financial performance, the conclusions of several studies have reported mixed evidence (Giese et al., 2019). Many academic studies reported a negative, non-existing or ambiguous effect of ESG on financial returns. Revelli and Vivian (2015) conducted a meta-

analysis of different studies, and their results reports no real effect of ESG on corporate financial performance suggesting that the positive relationship is unfounded.

In the light of the different views on the ESG-financial returns relationship in literature, this study aims to provide further evidence on this debated topic. While most of the academic literature focuses on ESG investing on public financial markets, the impact of sustainable investing in the private equity industry has received less attention (Scholtens, 2006) partly because it is at its early steps and also because of the lower availability of data (Crifo & Forget, 2013). The purpose of this study is to contribute to the debate on whether the ESG investing has a positive effect on the financial performance, with a particular focus on the private equity industry. Thus, the central research question of this study is: “Does ESG investing contribute positively to the firm’s financial performance in the private equity industry?”.

The research utilizes a unique dataset of private equity investments provided by FMO – the Dutch Entrepreneurial Development Bank. FMO is a development financial institution with the mandate to create impact in the emerging countries in which it realizes its investments. A team of ESG experts works daily in the assessment of ESG and impact data for the FMO’s portfolio investments, giving the possibility to access to a dataset of high quality. Applying the ordinary least square regression method on the FMO portfolio investee companies to analyse the ESG rating and the relation with the corresponding financial return (IRR), the study reveals that in line with most of the literature, the ESG investing has a positive effect on the financial performance. Additionally, the moderating effect of the business sector and of the geographical area of the investments on the ESG-IRR relationship are investigated. The study continues with the analysis of the relation between single ESG factors that compose the rating (Green and the Reducing Inequalities labeled investments) and the IRR, revealing a mixed effect in the results, depending on the ESG factor variable under study. Finally, a survey has been conducted among the portfolio officers in the FMO Private Equity department to study the motives and expectations related to ESG investing.

The research questions have been tested employing a unique sample of investments from the FMO portfolio which combined financial and ESG data in the private equity industry from 1988 to 2021. The results from the OLS regression analysis showed a positive effect of the ESG rating on the financial performance of FMO’s portfolio companies. This result is consistent and confirmed in all the models implemented in the analysis, considering different

control variables and different financial performance indicators. The positive relationship found in the empirical analysis is in accordance with the body of literature that sustains the shareholders' value enhancing theory. The theory contends that the incorporation of social practices into the companies' strategies and operations produces competitive advantages that support the long-term shareholder value. This finding is of great importance because it strengthens the part of literature that sustains that it is possible to "do well by doing good". Contrary to researchers like Friedman (1970) who sustained that the social initiatives subtract resources dedicated to shareholders' value maximization, the research demonstrated that sometimes it is possible to have both the social and the financial performance. According to McKinsey (2021), serving the interests of stakeholders does not necessarily come at a cost in terms of profit but on the contrary, it is essential to achieve the former goal. Indeed, taking into consideration the interest of all the stakeholders involved helps to make the profitability sustainable over the long term.

The proof of a positive effect of ESG practices on financial performance will boost even the most profit-driven investors to the adoption of sustainable practices in their investment strategies. The positive relationship found in the FMO portfolio is a result of great relevance and to understand more about the motives and expectations behind, a survey has been conducted inside the Private Equity department. The results from the FMO portfolio officers showed that one of the drivers that lead to the adoption of ESG investments is the ambiguity perception in the market. Indeed, the portfolio officers when they receive the ESG information they perceive less ambiguity and therefore tend to engage more with sustainable responsible investees. Even if this result is not significant due to the low number of observations, it is interesting to see the trend of investment officers' answers. Moreover, from the survey it is resulted that portfolio officers believe that companies that integrate ESG practices in their strategy have a positive impact on the society. Being a development financial institution, the FMO's mandate is to create impact with its investments even if this could result in a cost in terms of profit. As consequence, it is possible to affirm that a main driver for FMO portfolio officers to realize ESG investments is the willingness to have an impact in the society. The question that arises is whether the investment officers believe that the achievement of impact through their investment implies a trade-off with the financial performance or if they believe that the sustainable investments could go in line with financial returns or even improve them. Concerning the return expectation questions in the survey, it is resulted that FMO investment officers expect that ESG and non ESG funds will have almost the same return, believing that the financial performance is not significantly different among various sustainability degrees.

This result implies that portfolio officers do not expect neither an improvement or a deterioration in the financial performance of investee companies when they engage with ESG practices. Hence, the empirical analysis of the FMO portfolio could raise awareness inside the FMO Private equity department about the positive effect that ESG investing has on the financial performance. In this way portfolio officers could be more incentivized to engage into the best performing ESG companies if, beyond the lower ambiguity perceived and the willingness to have a positive impact on the society, they are also aware of the positive effect on the financial performance.

An additional finding of this first part of the analysis is the significant effect of the Holding Period on the ESG-IRR relationship. In fact, the IRR is a time sensitive measure which strongly depends by the life-stage of the investments. To dig deeper on this effect, the vintage years have been grouped into 5 different dummies to represent different holding periods and the results show a significant negative effect of the holding period on the ESG-IRR relationship. The coefficients 'negativity is decreasing with the lowest negative effect on the ESG-IRR relation registered for the investments realized in the recent years. The decreasing negative effect can be derived by the greater societal emphasis on ESG factors that is experienced in recent years. It possible to notice that the biggest reduction in the coefficients starts from the vintage year group 2006/09, period when the world financial crisis occurred. This result is in line with previous research that sustain that public and governments put a greater emphasis on ESG factors after historical events such as a financial crisis. However, even after controlling for the interaction with the different vintage groups, the study reports a positive and significant coefficient of the ESG with the IRR.

To investigate further on this relationship, the study analyses whether the ESG effect on the performance differs across different countries and business sectors. According to previous studies in literature, the ESG-financial performance relationship is influenced by varying legal, social structures and expectations from stakeholders in different industries and business sectors (Behl, 2021). Furthermore, in earlier studies it has been reported that the private equity performance depends on the business sector while that the ESG rating is strongly correlated to the country legal origin of the investment. Therefore, the expectation was a varying effect of ESG on the performance across different countries and business sectors. The results from the empirical analysis, however, show that the different continents and business sectors in which FMO has its investments do not influence the relationship between ESG and IRR. This finding suggests a solid positive ESG-IRR relationship, which is not affected by the business sector or

geographical area in which the investment is realized. FMO Private equity department is divided into teams according to the geographical coverage area (Africa & LAC, Asia etc.) and business sectors (Financial Institution and Energy). Therefore, it is possible to affirm that this positive relationship is valid for all the Private equity teams in the same way.

In the final part of the research, it is studied the influence of specific ESG factors that compose the rating on the financial performance. The two ESG factors used in the analysis are the Green and the Reducing Inequalities labels, which represent only a fraction of the multiple factors comprehended in the rating. They are used to define whether an investment presents certain impact requirements. The Green label represents transactions that cover Climate Action in the form of climate mitigation and adaptation and also other footprint reduction like land use, waste, water and biodiversity. The RI label, instead, represents the reduction of inequalities within and among countries with also a focus on gender and equality for equal opportunity between women and men. The results of the regression analysis show a positive effect of Reducing Inequalities label on the IRR, while for the Green labeled investments the effect detected is negative. According to interviews with investment officers, the negative effect of the Green Labeled investments on the financial performance could be explained by the different employment of company resources. They believe that the implementation of green activities requires the use of resources that otherwise would be used only with the goal to maximize the profit. This finding is in line with Friedman (1970) who reported that the company resources should be used only to implement activities to maximize the shareholder's value. In addition, FMO realizes investments only in emerging markets and as a consequence the employment of resources in goals different to the profit maximization's one in an already difficult economic environment, could result in a deterioration of the financial performance. This finding is in contrast with the previous literature on green investments. Therefore, the answer to Research Question 5 is negative. On the contrary, the relation found between the reducing inequalities investments and the IRR is line with the study expectation and with earlier studies. Several research has been conducted on the effect of inclusion of minorities on the financial performance and most of them have displayed a positive effect. An example is the gender diversity in the board rooms, which according to the Campbell (2008)'s study the percentage of women in boards has a positive effect on the firm value. The equal opportunities given to different genders but also to diverse nationalities and ethnicities, provide different perspective and way of thinking to the company decision making improving the organization's performance. The research result confirms the hypothesis expressed in Research Question 6,

therefore Research Question 6 has a positive answer. Overall, this second part of the analysis helps to understand how different ESG components have different influences on the company financial performance. Even if they are just two of the multiple ESG factors, it is still valuable to raise awareness on the effect of certain impact goals on the financial performance. It is particularly relevant for FMO to understand how the implementation of investments with certain impact features relates to the company financial performance

Furthermore, the different effects described above highlights one of the fundamental problems that the ESG rating suffers. As reported by the Economist (2022), the ESG rating summarize in a single score a number of different objectives, providing no coherent guide for investors and firms to make trade-offs that are inevitable in any country. One of the possible examples is the closing down of a mining firm that has a positive impact in terms of environment but at the same time a negative one for its suppliers and workers. The study suggests that this incoherence of the rating is detected also with its effect on the financial performance. While it has been found an overall positive effect of ESG on the financial performance, the decomposition of the rating in two of its multiple components showed a negative effect of the Green Investments with the IRR. The contrasting effect of Green and ESG on the IRR could cause confusion to investors that invest in Green companies. According to the study results, investors would be induced to think that investing Green would enhance the ESG performance and thus the financial performance but actually they would worsen their IRR. Additionally to the ESG trade-off incoherence, another issue of great relevance is the inconsistency in the way in which the ESG rating. The absence of consistency on what a good ESG is, could led investors to be misled by the ESG ratings. A possible solution to the lack of consistency and to the rising confusion among investors could be the decomposition of the rating, focusing simply on the E, the S and the G, separately. Yet even it is not precise enough, the decomposition and the focus on only one factor would allow to solve part of the inconsistencies and to realize more standardized ratings. The more standardized the ratings are, the easier would be the assessment of the company performance on one of the ESG factors.

To conclude, this study sought to investigate the effect of ESG investing on the financial performance of private equity companies. While there have been several studies on the ESG-return relationship, little research is present about the effect of socially responsible initiatives on the financial performance in the private equity sector because of low availability of data. Using a unique dataset of FMO portfolio investments in private equity emerging countries between 1988 and 2021 in combination with a survey filled by FMO portfolio officers, the

analysis provides an insightful and comprehensive study on the ESG financial performance relationship.

The research results are in line with most of the literature that, the ESG investing has a positive effect on the financial performance. The relationship between the ESG rating and the IRR is resulted to be positive and significant in all the models implemented, employing different control variables and interaction effects. Moreover, using the TVPI as dependent variable the model showed a positive and almost significant relationship, confirming the positive sign. According to the survey's results, while investment officers perceive less ambiguity in the market with ESG companies and believe that ESG has a positive impact on the society, at the same time they expect neither a deterioration neither an improvement in the return of ESG companies respect to non ESG ones. Furthermore, from the OLS regressions it has been found that the ESG effect on the IRR does not depend on the geographical area or the business sector of the investee company. Lastly, the analysis of the ESG factor variable that compose the rating showed that the effect is mixed depending on the factor variable under study. The Green labeled investments are negatively related with the IRR while the Reducing Inequalities labeled have a positive effect on the returns.

These findings are of great importance and have three main implications. First, the positive ESG-IRR relationship provides new supporting evidence to the body of literature that sustain that is possible “doing well by doing good”. Investors should be more willing to positively include ESG factors in their investment strategies and to recognize a premium to high ESG companies respect to non ESG ones if they are followed by higher returns. On the other hand, companies should actively invest in ESG activities to enhance their financial performance. Second, this study will rise awareness about the positive effect of ESG on the financial performance among FMO PE department. While FMO investment officers adopt ESG companies in the portfolio for the lower ambiguity perceived and the positive impact that these companies have on the society, they do not expect a positive effect on the financial performance for the inclusion of socially responsible companies. Therefore, according to the results, investment officer should start to consider in their investment decisions also the positive financial effect that ESG companies have. Third, the results from the ESG factor analysis allows companies to be more informed about the effects on their returns when specific impact goals are pursued. Moreover, companies can observe how different ESG components have different effects on the financial performance. In particular, the negative effect of green

investments on the financial performance is in contrast with the general finding of the positive ESG – IRR relation. According to the study results, investors would be induced to think that investing Green would enhance the ESG performance and thus the financial performance but actually they would worsen their IRR. The absence of consistency on what a good ESG is, could led investors to be misled by the ESG ratings. A possible solution to the lack of consistency and to the rising confusion among investors could be the decomposition of the rating, focusing simply on the E, the S and the G, separately.

The study suffers of two key limitations: a low number of observations especially for the survey and the use of the unrealized IRR as dependent variable. Therefore, inference on the wider private equity market should be taken carefully.