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Sustainable Finance: Impact investment in sustainable finance, how to track the impact of sustainable investments?

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Abstract

Impact investing is becoming increasingly popular and investors are becoming more aware of the importance of measuring the impact of their investments. The decision-making process for investors seeking to align their investments with their values must include measurement. However, there are many different approaches, which can make it challenging to measure, compare and communicate results. In order to determine the most efficient strategy, this thesis will analyse the opportunities and challenges associated with standardised and independent measurement methods. To obtain their opinions and experiences on this subject, we conducted interviews with impact investment professionals. The findings of our study offer interesting insights into the different approaches and considerations that are important for impact investors seeking to optimise their efficiency and transparency.

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Acronyms

CDP Carbon Disclosure Project.

CERES Coalition for Environmentally Responsible Economies.

CSR Corporate Social Responsibility.

CSRD Corporate Sustainability Reporting Directive.

DFIs Development Finance Institutions.

ESG Environmental, Social and Governance.

ESRS European Sustainability Reporting Standards.

EU European Union.

FMPs Financial Market Participants.

GHG Greenhouse Gas.

GIIN Global Impact Investing Network.

GRI Global Reporting Initiative.

HIPSO Harmonised Indicators for Private Sector Operations.

ICMA International Capital Markets Association.

ICT Information and Communication Technology.

IFRS International Financial Reporting Standards.

IMP Impact Management Project.

IRIS Impact Reporting and Investment Standards.

ISS Institutional Shareholder Services.

KPIs Key Performance Indicators.

LCA Life-cycle Assessment.

MDGs Millennium Development Goals.

NFRD Non-Financial Reporting Directive.

NGOs Non-governmental Organisations.

OECD Organisation for Economic Co-operation and Development.

PACs Product-Application Combinations.

PAI Principal Adverse Impacts.

PSA Product Sustainability Assessment.

SASB Sustainability Accounting Standards Board.

SDGs Sustainable Development Goals.

SF Sustainable Finance.

SFDR Sustainable Finance Disclosure Regulation.

SFI Sustainable Finance and Investment.

SMEs Small and Medium-sized Enterprises.

SPM Sustainable Portfolio Management.

SRI Socially Responsible Investing.

TCFD Task-force on Climate-related Financial Disclosures.

TNFD Taskforce on Nature-related Financial Disclosures.

TOC Theory of Change.

UN United Nations.

UNEP FI United Nations Environment Programme Finance Initiative.

UNGC United Nations Global Compact.

WBCSD World Business Council for Sustainable Development.

WRI World Resources Institute.

Introduction

We see an increase in environmental and ecological disasters every day, including health crises, heat waves, huge forest fires and a scarcity of basic resources. There is no denying that the ecosystem and our planet are both impacted by our past and present actions and activities. As a result, it is essential to consider Environmental, Social and Governance (ESG) factors when making investments and to adopt a long-term perspective.

The field of sustainable investment has expanded significantly in recent years. Investors are becoming more conscious of their influence and are attempting to match sustainability criteria with their investment choices. The urgency of the climate disaster, the extent of the world's inequality and the vulnerability of the social and ecological systems that support us have all been brought to light in this decade. Overcoming this difficulty requires knowing whether these investments are genuinely having a good impact on the environment and society, as well as how to determine that impact. Stakeholders and investors are seeking precise and dependable ways to measure the results of their investments. Due to the wide range of social and environmental concerns involved, assessing the impact of sustainable investments proves to still be a difficult task.

Given the wide range of assessment methodologies available, the field of evaluating the impact of sustainable investments is still somewhat unorganised. With an emphasis on standardised and/or independent approaches, the purpose of this dissertation is to examine methods for determining the impacts of sustainable investments. This demonstrates the significance of our study and its influence on the field. The topic of our study is:

“Sustainable Finance: Impact investment in Sustainable Finance, how to track the impact of sustainable investments?”

and more specifically,

“Standardised and/or independent measurement methods for impact measurement, what is the most effective way to do so?”

Our thesis helps to advance more environmentally friendly investing strategies and to persuade investors to use effective measurement methods in assessing the outcomes of their sustainable investments. We will examine the existing literature on impact investing and the various metrics for quantifying it in order to respond to this question. In order to get their opinions on how to measure the impact of sustainable investments, we will also interview professionals. Finally, we will evaluate the challenges and possibilities of independent and standardised methods and look at the limitations and chances for evolution in order to help people to quantify the impact of their sustainable investments in a trustworthy and accurate way.

This research will advance knowledge on how to evaluate the impact of sustainable investments and offer useful data to stakeholders and investors interested in sustainability.

Chapter 1

Literature Review

1.1. Origins and definitions of Sustainable Finance and Impact Investing

1.1.1 Sustainable Finance

Sustainable Finance (SF) emerged in 1992 in Rio de Janeiro during the Earth Summit with the creation of the United Nations Environment Programme Finance Initiative (UNEP FI). SF has evolved tremendously since last year, but it is the members of the UNEP FI group who have been the forerunners of an evolution from a basic economic system to one based on SF (UNEP FI, 2017).

According to the European Commission (2021): *“In the EU’s policy context, sustainable finance is understood as finance to support economic growth whilst reducing pressures on the environment and taking into account social and governance aspects (ESG). Sustainable finance also encompasses transparency when it comes to risks related to ESG factors that may have an impact on the financial system and the mitigation of such risks through the appropriate governance of financial and corporate actors”*.

There are two sub-categories of investment strategies within sustainable finance, *integrated SF* on the one hand, *exclusionary SF* on the other hand.

Exclusionary Sustainable Finance

The section on exclusionary Sustainable Finance (SF) seeks to forbid or exclude investments in contentious businesses or industries that do not adhere to specified sustainability standards. Aligning investments with the investor's beliefs, interests or ethics is the fundamental objective.

This preferred strategy identifies businesses, industries or activities that cannot be included in a certain portfolio using a set of criteria. The investor's tastes, values and morals may be the basis for these criteria. Therefore, investors may align their investments with their values by rejecting stocks or bonds from particular businesses or industries. The exclusion method screens out particular firms based on their offers or conduct and excludes the "worst" corporations in particular sectors when choosing assets for a portfolio. The most often stated illegal items are alcohol, cigarettes, gambling, fossil fuels and guns. This can occasionally alter the outlook for long-term risk, particularly when a corporation has substantial carbon emissions. Because the main goal is to avoid harming these three criteria, investments are avoided or made in firms or industries that have low ESG risk. Other hazards include those related to the internal structure, procedures and practices of the business, which include those that support inclusion, diversity and healthy professional relationships. In terms of results and impacts, there are also risks at the external organisational level. For instance, in terms of protecting human rights, lowering inequality and reducing pollution.

Negative selection, meanwhile, does not always completely exclude some industries. There could be "materiality thresholds" in some circumstances that determine whether an investment would be disregarded. A firm that generates 100% of its income from the sale of alcohol would be excluded from a portfolio, but one that generates 10% of its revenue from the sale of alcohol may be included in the investment universe (Berry, T. C. & Junkus, J. C., 2013; New York Life Investment, 2020; Nicholls, A., 2021b).

Integrated Sustainable Finance

Investments that are acknowledged for their capacity to have a significant, complementary, social or environmental effect are referred to as integrated Sustainable Finance (SF). Instead of just avoiding particular sectors or businesses, this kind of ESG investing entails analysing ESG characteristics to identify the “best” investment options. Investors that practise inclusive investing evaluate businesses using specific Environmental, Social and Governance considerations. This refers to businesses and initiatives with superior ESG performance. Investment managers who utilise an inclusive strategy invest in stocks or bonds they think will perform better, at least in part due to the company’s advantageous ESG policies. The objective is to raise additional and fresh cash whilst concentrating on businesses or start-ups with significant room for development (New York Life Investment, 2020; Nicholls, A., 2021b).

The inclusion strategy is more challenging since it entails varying the weights of an investment in a firm depending on its degree of social responsibility. According to this strategy, an SRI investor would award a company with “points” for exhibiting good SRI behaviour. As a result, he or she may have more Starbucks stock in their portfolio than the average investor, demonstrating that they approve of how the corporation is acting in regards to encouraging sustainable agricultural methods. This strategy entails a lot of subjectivity as managers may utilise their own research and assessment processes and augment them with third-party data (Berry, T. C. & Junkus, J. C., 2013; New York Life Investment, 2020). The selected companies are generally in line with the United Nations (UN) Sustainable Development Goals (SDGs) (figure 1.1). This corresponds to Socially Responsible Investing (SRI) and some SDGs are more concerned than others about investment. Indeed, the most important investment categories within the Sustainable Development Goals are SDGs 8, 12 and 13, whilst the least important categories are SDGs 1, 2 and 10 (Nicholls, A., 2021b).

Figure 1.1: The 17 Sustainable Development Goals (United Nations, 2022)



1.1.2 What is the difference between Environmental, Social and Governance (ESG) & Socially Responsible Investing (SRI)?

A growing number of investors want their money to support businesses that are just as dedicated to improving the world as they are to increase their bottom line, not just financial performance.

According to a 2020 poll by the U.S. Forum for Sustainable and Responsible Investing, Socially Responsible Investing (SRI) and one of its subgroups, impact investing, have drawn more than one-third of the assets underneath professional management in the U.S. That amounts to more than \$17 trillion in assets managed according to socially conscious standards, a 42% rise from 2018.

The increased demand spurs a proliferation of funds and methods that include ethical concerns in the investment decision. Clients and professionals alike frequently use the phrases Environmental, Social and Governance (ESG), Socially Responsible Investing (SRI) and Impact Investing interchangeably in the industry, assuming that they all refer to the same strategy. The meanings of these phrases do, however, differ slightly (Zhou, M., 2022).

Environmental, Social and Governance (ESG)

Concerning ESG, they have an impact on the decision-making process of investors. These factors are used to not only evaluate companies' actions but to also examine future investments. As a result of this ESG analysis, the ESG threats and opportunities of the companies are clearly highlighted. Threats refer to the losses the company may face if it does not act on ESG risks. On the other hand, opportunities involve the profit the firm could make by seizing ESG opportunities (Zhou, M., 2022). The “E” of ‘environmental’ is interested in acclimatisation and climate change mitigation but also, biodiversity protection, deforestation, pollution avoidance and circular economy. The ‘social’ “S” refers to human rights, inequality, labour relations, health, safety, diversity, inclusion, etc. Finally, the “G” of ‘governance’, includes public and also private governance, executive pay, board of directors, employee relations and so forth. All this is crucial to ensure that environmental and social considerations are taken into account in the decision process (Ditlev-Simonsen, C. D., 2022; European Commission, 2021). The three headings are interdependent, as environmental degradation has an impact on social challenges. As for governance, actions within this category allow for the consideration of social and environmental criteria in decision-making processes (Delimatsis, P., 2021).

Socially Responsible Investing (SRI)

As more and more investors are becoming aware of the possible risks and opportunities linked to ESG issues, Socially Responsible Investing (SRI) has grown in prominence in recent years. The origins of SRI may be found in a number of early 19th-century religious sects (Zhou, M., 2022). For example, John Wesley, the Quaker and Methodist leader, had long advocated that investors avoid business practices or companies that might be socially harmful and the first controlled investment fund was created in 1928 when a Boston church group established the Pioneer Fund (Trelstad, B., 2016). But the popularity of SRI did not really take off until the 1980s (Berry, T. C. & Junkus, J. C., 2013). SRI is used to reject or approve investments based on particular ethical standards. This makes it feasible to choose appealing investments and to reject businesses that, for instance,

manufacture weapons or violate human and labour rights (Zhou, M., 2022).

Investments that combine a typical financial perspective with one that is affected by and focused on social and environmental issues are referred to as SRIs. Socially Responsible Investing can better capture long-term profits for investors and serve society by influencing company behaviour by fusing fundamental research, engagement and an examination of ESG concerns. Research on the subject has identified many SRI screening procedures based on this concept, which has changed in line with investors' increasing knowledge of social and environmental issues (Sciarelli, M. et al., 2021).

The basics of SF, ESG criteria and SRI are fundamental to understanding impact investing, as builds on these concepts. In other words, impact investing cannot exist without a clear understanding of these and how they are applied in practice. It is time to move on to the heart of the matter: impact investing.

1.1.3 What is the difference between Traditional and Impact Investing?

Financial gains are just a means to the end of consumption, according to conventional investment philosophy. In other words, the economic notion of “utility” refers to the advantage that results from consumption rather than investment. It means that financial gains are interchangeable. Assuming that the risk-adjusted financial returns are comparable, the utility we obtain from an investment in an oil refinery would be the same as the utility we derive from an investment in a solar farm. The differences between impact investment and standard investing are outlined in Figure 1.2. Making the effect transferable and comparable is challenging when the impact is built into an investment. In other words, regardless of financial gain, any influence created produces value for the investor, the earth and society. The impact investor's twin objective of achieving financial success whilst generating social good explains this conflation of usefulness and financial return (Godeke, S. & Briaud, P., 2020).

Figure 1.2: Traditional investing vs impact investing (Godeke, S. & Briaud, P., 2020)

	Traditional Investing	Impact Investing
Utility/Benefit	Utility/benefit comes from consumption, not investment	Utility/benefit to an investor varies depending on the investment's environmental and social impact
Fungibility	Investments fungible across investors	Impact investments not fungible across investors
Deployment	Investments primarily deployed based on risk and return	Investments deployed with additional considerations of environmental and social benefits

1.1.4 The Philanthropic Paradox

Impact investing aims to resolve the so-called philanthropic dilemma, which holds that charitable giving might go toward issues that may have been caused by the source of the donor's money. There is a rising movement that challenges whether money made by harmful corporations should be used for philanthropic endeavours. The charitable contributions made by Purdue Pharma and the Sackler family as a result of their opioid revenues and the unfavourable effects of the Rockefellers' oil fortune on the environment are two instances of this contradiction. This paradox also arises on a personal level when we work to reduce our investments' carbon impact, make eco-friendly choices or steer clear of businesses that can exacerbate inequality. By internalising the social and environmental repercussions of money, impact investing tries to redress these inequities. Large institutional investors are redefining their role as investors by requesting companies to take into account their effects on the planet and society rather than concentrating only on maximising shareholder value. These investors have traditionally focused on the financial performance of their portfolio companies (Godeke, S. & Briaud, P., 2020).

For a long time, investment and philanthropy were viewed as two distinct disciplines, one focused on achieving financial success and the other on fostering social change. Most philanthropists and investors found it improbable that these two strategies could be combined into a single operation, as well as, generate profits whilst having a positive impact. Measurement of effect, one of the most challenging components of impact investment, has been improved upon by philanthropy for more

than a century (Rockefeller Philanthropy Advisors, 2023).

1.1.5 Impact Investing

A major shift in economic, social, cultural, environmental and/or political situations as a result of certain acts and behavioural changes by people, communities and/or society at large is referred to as having an impact (Godeke, S. & Briaud, P., 2020).

Companies and investors can both have an influence in the context of impact investing, but the nature and extent of their impact may vary. However, many individuals still find it challenging to differentiate between the two nowadays.

As shown in Figure 1.3, the investor or funder impact refers to the change(s) brought about by loan and investment operations in the impact of funded enterprises (Mangot, M. & Fonquergne, K., 2021). This entails taking greater responsibility for the advantageous and detrimental consequences of their resources and actively employing those resources to advance society and the environment (Godeke, S. & Briaud, P., 2020).

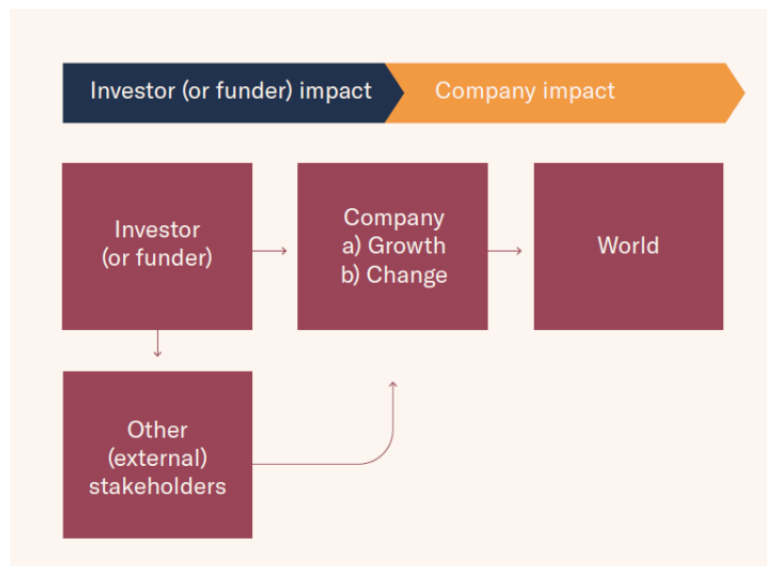
Since we are looking at this from the funder's perspective, the effect chain has two stages: funder impact and company impact. It goes without saying that in addition to donors, other stakeholders (such as NGOs, the media, governments, customers, etc.) also have an influence through their behaviour toward businesses. Other stakeholders may also be able to moderate the impact of funders, as in the case of a financial institution lobbying to change the rules that businesses are required to follow.

Through their loan and investing operations, capital providers have several chances to have a beneficial influence on the actual economy. They can encourage “brown” enterprises to enhance their sustainability performance, help “green” businesses expand more quickly and/or have an impact on other investors' investment decision-making procedures. On the other side, company impact describes the social or environmental consequences of a company's actions. This covers the goods or services the business offers, how it treats its staff, the effects its activities have on the environment

and the advantages it brings to the neighbourhood.

Impact investing takes both company and investor impact into account, but they are two separate ideas. Investors may choose investments that best align with their beliefs and objectives for making a good social and environmental effect by evaluating both forms of impact (Mangot, M. & Fonquergne, K., 2021).

Figure 1.3: The chain of impact (Mangot, M. & Fonquergne, K., 2021)



Then, the terminology of “*impact investing*” was not initially used until 2007, the practice had existed for some time and was born in the United States. According to the GIIN definition: “*Impact investments are investments made with the intention to generate positive, measurable social and environmental impact alongside a financial return*”. Positive outcomes are significantly vital in impact investing (GIIN, 2022). However, there are certain issues with the notion of impact investment. First, it can be challenging to discern between impact and non-impact investing due to the range of asset classes and topics. In order to demonstrate the scope of this idea-covering a range of subjects, locations and actors the concept’s ambiguous description is also intended. Lastly, the GIIN definition’s presumptions are not aggressive. In fact, it may be taken to imply that conventional investments that do not aim to have a positive social or environmental impact have no effect and cannot be quantified (Trelstad, B., 2016).

Three components of Impact Investing

The GIIN definition identifies the investor's "*intention*" and the "*measurement*" of both social and financial return as the two essential components. Although there is no industry-wide agreement, some contend that "*contribution*" is a third important factor. It is crucial to remember that each element is a quality of the investor rather than a firm or investment item.

The *intention* is the first element of impact investment. A beneficial influence and financial rewards must be the investor's goals. As a result, impact investing serves as a lens through which investors may make choices. Even if only one of the investors focuses on impact investing, it is still conceivable for two investors to make identical bets. For instance, two investors in the production of electric cars such as Tesla (Investor A), located in the United States and BYD (Investor B), based in China, might have distinct goals in mind. Whilst Investor B prioritised carbon reduction, Investor A made the investment only for financial reasons. Investor B's main goal in this straightforward example is to invest for effect (Godeke, S. & Briaud, P., 2020). Intention is a key component of the definition, however, there may be occasions when an investment makes an influence without trying to. As an illustration, Safaricom has revolutionised mobile connectivity in Africa to the point where it now enables mobile payment systems like M-Pesa to enable low-cost remittances and micropayments among low-income households. But rather than funding a device to help people escape poverty, the investors were primarily interested in developing a mobile platform in Africa (Trelstad, B., 2016).

Measurement is the second crucial element of impact investment. The majority of investments routinely monitor their financial performance, but impact investors should also aim to gauge the investment's overall impact. Similar to donation, impact measurement is complex and uses a variety of methodologies, including yearly impact reports, weekly reporting on key performance indicators and structured qualitative evaluations. Our method is not prescriptive since impact measuring is a young subject with few established standards. This being said, we do wish to underline the need for measurement in some form at initial screening and during the investment's life cycle, both at the portfolio and transaction level. Impact investors may aim for as well as gauge several effects

from the same investment, just like they could with a purpose (Godeke, S. & Briaud, P., 2020). The evaluation of the influence of the company's goods and services, as well as, in certain situations, the substantial impact of these procedures, may be qualitative or quantitative. The investor must be informed of the results of this impact measurement and must utilise them when making investment decisions (Melka, L., 2021).

Contribution is a third factor that some impact investors also tend to take into account, enabling the beneficiaries of investments/financing to increase the impact of their activities themselves. To determine if the effect goals would have been achieved without your contribution, you must invest in this variable. This variable, according to Paul Brest and Kelly Born, is an improvement over the company's expected social consequences in terms of quantity or quality. Contribution's inclusion as a strict bar for impact investment is still up for debate. The International Finance Corporation categorised the impact investing market by asset class in its State of Impact Investing report and then evaluated whether certain asset classes met the impact investing criteria of intent, contribution and measurement. According to the International Finance Corporation, contribution happens more readily in private markets than it does in public ones (Godeke, S. & Briaud, P., 2020).

What is the difference between “investing for impact” & “investing with impact”?

It is important to distinguish between “*investing for impact*” and “*investing with impact*” when discussing impact investment. By investing with impact, a guaranteed financial return in addition to the social benefit is made and the money is put into companies that have functioning and established business models. On the other side, investing for impact takes risks that the majority of market participants are unwilling to accept and is done through donations or highly committed social investments (Venture Philanthropy strategy) (EVPA, 2020). The risks vary depending on the investment's features, with the three primary ones being liquidity and exit plan risks, national and currency risks, as well as the execution and business model management risks (Hand, D. et al., 2020). Then, whilst every investment undoubtedly affects society, not every consequence is deliberate. But, goals that have been intentionally internalised have a higher chance of being attained.

For Brest and Born, three main factors may be recognised. The first is the influence on business, which refers to the output's social worth. The investor's financial contribution to the development of social value is the second aspect of the investment effect. Last but not least, the non-financial effect shows how stakeholders contribute to societal value (Brest, P. & Born, K., 2013).

How to achieve investor impact?

As an investor, you have access to four different instruments.

1. ***Signaling:*** By influencing the reputation of a company, investors can affect prices by endorsing, demonising or comparing it. For instance, the largest conglomerate in India, Adani, lost over \$70 billion in market value due to fraud claims made by Hindenburg Research.
2. ***Engagement:*** Vote and actively participate in changing how businesses behave about society and the environment or offer your expertise, reputation and network to promote change.
3. ***Capital Access:*** Invests in influential businesses whose access to money is limiting their ability to grow, such as startups, crowd funders and SMEs.
4. ***Flexible Conditions:*** Invests money in worthwhile initiatives that require adaptable funding (e.g., a combination of grants, debt and equity) conditions to develop, such as infrastructure, NGOs, social enterprises or micro-credit in developing markets (Bortoluzzi, K., 2023).

1.1.6 Main actors

Recognising the actors participating in sustainable finance and, more specifically, those in the impact investing sector, is crucial to place the various aspects of the effect that impact investing can have. It is possible to view the growth of the impact investing sector as a response to the financial requirements of initiatives, businesses and organisations seeking to make a social impact.

The actors can be divided into different major groups based on the roles they play. The first group is the providers, who are responsible for the supply side of Sustainable Finance and Investment (SFI) and consist of individuals who channel and broker financial resources and investments to support the growing impact investing market. Three types of providers can be identified: (1) individual investors, (2) institutional investors and (3) financial institutions.

- First of all, *individual investors* are individuals (private persons) who have a long investment horizon. Their main motivations are their personal, moral and ethical values, the achievement of a social or environmental goal and most of the time financial, as they believe that investing in sustainability leads to a satisfactory portfolio performance (Meira, E. et al., 2021).
- Then, *institutional investors* include nonprofits and churches as well as mutual funds, pension funds, hedge funds, sovereign wealth funds, insurance funds, seed funds and venture capital funds. Personal beliefs, market differentiation, customer demand, the return of tax advantages to society, legislation and pressure from industry trade organisations, NGOs, the media and social movements are some of the driving forces behind the investment (Meira, E. et al., 2021). Institutional investors take action based on how closely market and impact goals align. Although institutional investors are often prepared to support long-term sustainable initiatives, current restrictions frequently hinder them from doing so or only permit them to do so to a very limited extent since they demand cautious investing strategies. They oversee significant sums of money on behalf of their customers and their top priority is to safeguard and increase those clients' assets over the long run. They employ a risk-controlled investment strategy as a result. Additionally, certain laws, such as those governing pension funds' solvency, require institutional investors to balance their liabilities and assets, which may restrict their capacity to support long-term, sustainable endeavours that might not immediately provide a profit (Berensmann, K. & Lindenberg, N., 2016).
- Banks, insurance firms and microfinance institutions are all examples of *financial institutions* (Meira, E. et al., 2021). Because they make up a significant portion of the world's financial assets, banking system assets play a significant role in the global financial system. Particu-

larly, developing nations and emerging markets have implemented numerous policies to raise money for sustainable development and incorporate green financing into the financial sector (Berensmann, K. & Lindenberg, N., 2016). As an illustration, consider the BPCE group's subsidiary, the Crédit Coopératif bank. To motivate organisations and associations to actively engage in Corporate Social Responsibility (CSR), the bank introduced the "Choose your impact" loan in March 2020. A 0.10% interest rate reduction is possible if environmental and social indicators, which were mutually specified at the time the loan was obtained, are met. According to the ISO 26000 standard, the criteria chosen at the time the loan is signed must be based on one or more applications of CSR. The loan's size might range from 700,000 to 5 million euros. Only a fixed-rate loan with a maximum term of 15 years is available (Finance for Tomorrow, 2021).

The recipients, who represent the demand side of the SFI, come in second. They consist of businesses that handle their finances and investments according to their impacts. They promote goods and services that have favourable social and environmental effects through their sustainable business methods. Other categories of recipients include cooperatives and associations. Innovations, manager beliefs and professional concerns, increased employee motivation, access to superior financial goods and services, a decrease in the cost of capital and the maximisation of market value all serve as long-term drivers of these decisions. In addition, this category of actors can reduce future cash flow fluctuations, as well as ESG risks, reputational risks, philanthropy, shareholder profiling, government incentives, legislation and pressure from customers, NGOs, but also from the media, shareholders and society at large. (Meira, E. et al., 2021).

Thirdly, there are the supporters who build the institutional context required for the creation and application of SFI. In addition to Non-governmental Organisations (NGOs), stock exchanges, data and rating providers, standard-setting organisations, network groups, universities and the media, the research has focused on the role of governments as financial sector regulators and supervisors. By doing this, they can encourage investors to think about impact investment by introducing new laws, organisations or tax benefits. Their primary drivers are public appeal, lowering financial system stability concerns, cutting back on government spending and increasing the involvement of

commercial and financial actors in advancing sustainable development (Meira, E. et al., 2021).

Moreover, Institutions that link investors with impact investments are known as intermediates. They could offer services like transaction finding, investment management and due diligence. Platforms for impact investing, advice companies, brokers, asset management consultants, clearinghouses and depository institutions are a few examples of intermediaries. Their function is just as important as that of other actors because of how effectively they can increase liquidity, lower risk, cut costs associated with transactions and information and improve payment systems. To help asset managers with their impact investing programs, portfolio creation and strategy formulation, advisory companies provide structuring services. In order to create solutions that satisfy impact investors, brokers are also essential. On the other hand, wealth advisers are in charge of explaining to affluent people and family offices the differences between the many effect types, how the various products and instruments on the market function and how they meet the client's desired outcome and risk tolerance. They also design and advertise impact financial solutions. Depository institutions also innovate, create and develop investment products in addition to lending money to businesses that uphold social responsibility (Melka, L., 2021).

Finally, beneficiaries of SFI who comprehend society and the environment are the last groups. To validate the SFI's efforts and accomplishments, social participation is crucial. Traditional financial actors continue to perceive the environment as an endless source of natural resources. If the SFI is to be successful, this anthropocentric perspective must be altered (Meira, E. et al., 2021).

It is crucial that these players cooperate to build a vibrant impact investing ecosystem where capital is channelled toward ventures that have the potential to provide profitable returns whilst also having a good social and environmental effect.

A considerable number of the actors described above may participate in more than one of the groups. For example, governments are key supporters of the SFI but may also act as providers by financing SFI initiatives through public investment banks and as recipients by issuing sovereign bonds (Meira, E. et al., 2021). Given that the legal and regulatory framework establishes the structure of the financial system, regulators and central banks can significantly affect how quickly the

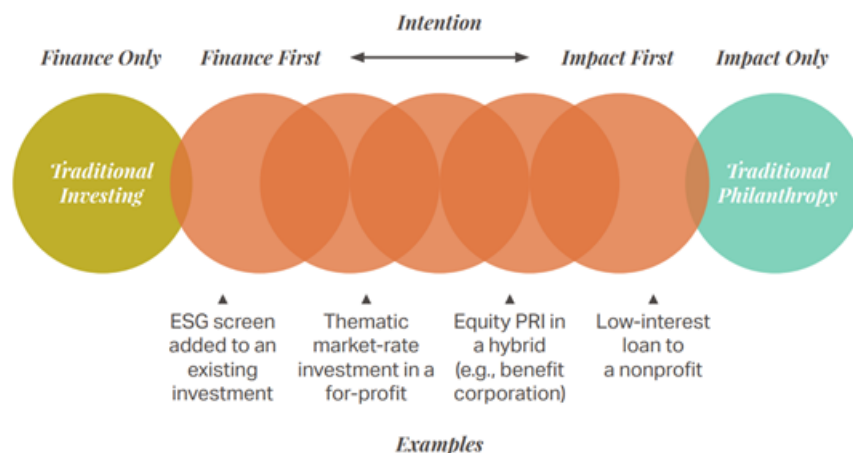
financial system becomes more environmentally friendly. But because the existing financial system is primarily focused on short-term gains, one of the most urgent problems that financial regulators may assist solve is a chronic lack of investment in long-term and impact projects (Berensmann, K. & Lindenberg, N., 2016). Whether or not traditional short-term financial logic has influenced the motivations of SFI actors is the key question regarding the characteristics of SFI actors. Understanding the SFI's ability to have positive social and environmental effects depends heavily on this query. Overall, there is still considerable work to be done to map the essential traits and drives of actors (Meira, E. et al., 2021). Climate hazards could be more fully considered in bank stress testing and the due diligence requirements for banks and financial institutions to affect general investing behaviour. The lack of coordination between financial and environmental policy approaches has been one of the primary issues with green regulation in the finance industry. Financial institutions must report and disclose their impact and environmental risks, but finance ministries frequently have not mandated this (Berensmann, K. & Lindenberg, N., 2016). Links in the chain include owners, asset managers, business owners and suppliers of goods and services. To assist the expanding impact investment market, each of these links must grow, receive training and make sense of their potential commitment. Governments, the commercial sector, creative foundations, centres and academic institutions are only a few of the important facilitators in this expansion (Melka, L., 2021).

1.1.7 The Spectrum of Intention

Finding an area on this spectrum (Figure 1.4) to invest in is essential for every impact investor. Some tactics aim to help society whilst concentrating on financial gain. Some strategies prioritise social effect and accept returns that vary from below market rates to a straightforward financial return (Rockefeller Philanthropy Advisors, 2023).

A socially conscious investor may provide a nonprofit organisation with a low-interest loan or a recoverable gift at the far right of Figure 1.4. On the other hand, a financial strategy may result in an equity investment in a publicly traded firm because of how it incorporates Corporate Social

Figure 1.4: The spectrum of Intention (Rockefeller Philanthropy Advisors, 2023)

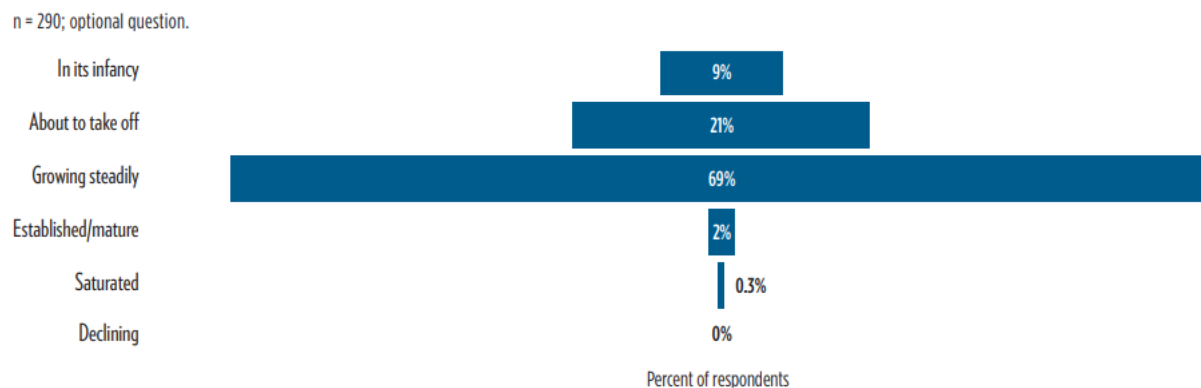


Responsibility (CSR). A microfinance fund that supports entrepreneurs in developing nations or banking with a local financial institution that helps increase economic prospects for low-income people are both examples of impact investments. Impact investing may sometimes be highly complicated, leading to the creation of new financial instruments or new forms of business partnerships. These innovative transactions, such as investing in pay-for-success contracts or putting funds into start-up social enterprises, sometimes call for professional advice, especially for beginners (Rockefeller Philanthropy Advisors, 2023).

Impact investing can take the form of many different asset classes and provide many different kinds of results. As mentioned, it aims to use capital and investment funds to produce beneficial social results (Chen, J., 2022). Impact investment can be made in both emerging and developed markets. The market is both expanding and attracting a variety of investors (GIIN, 2022). The GIIN pegs the market for impact investing as being worth USD 1.164 trillion globally. Figure 1.4 illustrates a more thorough measurement of impact assets managed globally. Whilst some investors have been conducting impact investments for decades, a current international initiative to hastily establish a highly functional market that supports impact investing has come to light. Investors are generally enthusiastic about its future growth and anticipate greater scale and efficiency (Hand, D. et al., 2022).

This was also the finding of the GIIN “*Annual Impact Investor Survey*” 2020, reflecting the views of 294 respondents who reported on their investment activities (Figure 1.5). In fact, the majority of the participants (69%) believe the market for impact investing is “*growing steadily*”, whilst 21% believe it is “*about to take off*”. Notably, no respondents predict that the market for impact investing is “*declining*”. Similar questions were posed in 2011 and 75% of respondents said that the market was still “*in its infancy*” (Hand, D. et al., 2020).

Figure 1.5: Stages of industry evolution (Hand, D. et al., 2020)



1.1.8 Motivations for making impact investments

Measuring impact or evaluating the results of particular investments, is essential to successful impact investing. The sustainability of businesses, the types of investment strategies that can be deployed and the techniques for evaluating their outcomes all benefit from impact investing. The right measuring methods, thorough analysis and well-thought-out investment plans are also essential for successful impact investing. An investment’s social or environmental impact is more important in determining its financial return than these other elements (Han, E., 2022).

The GIIN discovered several motivational sources in its investigation. 87% of investors aim to make a difference with their investments. As responsible investors, 87% of them also place importance on impact investing and 81% of them think it may help them accomplish their impact objectives. In contrast, 70% of respondents indicated a financial interest in this tactic when compared to other

alternatives. Also, 62% believe that making this investment is crucial for contributing to global goals (such as the SDGs or the Paris Agreement). Yet, geographical location and return philosophy might affect an investor's objectives (Hand, D. et al., 2020). Impact investors are typically driven by a desire to promote social or environmental goals as well as by the notion that pursuing two goals at once investment returns and social or environmental benefits is more efficient than doing so separately (Trelstad, B., 2016).

1.1.9 What is the main obstacle to the growth of the impact investing market?

Investors believe there are not enough investment alternatives that satisfy the requirements for impact investing, whilst funders believe there are insufficient funds available. The fact that impact investing frequently demands more investigation and dedication than standard investment might be a deterrent for some investors. As a result, due to worries about risk and financial rewards, some investors can be hesitant to engage in impact enterprises. The exact goals and strategies of an investor, as well as the instruments they employ, will have a significantly greater impact on the response. For instance, there are a lot more options to rebalance a portfolio toward climate issues and impact investors are starting to pay more attention to the creative economy. Disagreements over the relative impact of certain investments have an influence on the flow of impact capital in addition to risk and return. Depending on how much time, effort and money you are prepared to contribute, you will have access to a variety of investment alternatives. All participants in the impact investing ecosystem, including investors, fund managers, entrepreneurs and others, must work together to overcome this. We can help unleash the full potential of this developing industry by cooperating to make impact investment possibilities more accessible and to promote awareness of its potential (Brest, P. & Born, K., 2013; Godeke, S. & Briaud, P., 2020).

1.1.10 The current situation of Impact Investing

The 294 biggest businesses worldwide supplied research to GIIN's survey report from 2020, which helped to map the impact investing industry. Impact asset management is managed by these companies alone to the tune of \$404 billion, which represents a large piece of the \$1,164 billion worldwide impact investing market, which is now projected to be roughly 35% of the total market size. Private debt, which is direct equity, makes up the majority of this investment. The United States and Canada are home to the vast majority of market participants, followed by Europe. Agriculture and food, health, energy and financial services are the industries with the most advanced impact investing practices. Other industries and sub-industries that fall under the umbrella of impact investment include forestry, the arts and humanities and Information and Communication Technology (ICT). Also, the poll reveals that 51% of the organisations are for-profit asset managers, 14% are non-profit and 14% are foundations, with the other organisations being pension funds, family offices or insurance firms. According to 67% of respondents, their returns are comparable to market rates, 18% are almost as high but lower and 15% are lower than market rates and self-sufficient (Hand, D. et al., 2020).

1.1.11 Situation in the European Union

The ecological issue is taken seriously by the European Union, which is working to put policies in place to assist sustainable finance. The Commission first unveiled its Green Deal for Europe in December 2019 and is now recommending a set of actions to meet the Paris Agreement's goals of decarbonising the European economy by 2050 and raising the 2030 Greenhouse Gas (GHG) emission reduction target. The Commission decided in April 2021 to raise the GHG emission reduction target from 40% to 55% by 2030 compared to 1990 levels to pursue carbon neutrality by 2050 (Amanatidis, G., 2022). Impact assessments are conducted for activities that are anticipated to have major economic, social or environmental effects when considering the impact. An impact assessment report presents a summary of the outcomes of the effect assessment procedure. The Regulatory Review Board, an impartial organisation that renders views, examines each report's

quality. The following components must be described in the impact assessment report:

- Impacts on SMEs and competitiveness, as well as a clear declaration if any of these consequences are not thought to be significant; environmental, economic and social impacts;
- Who the initiative will impact and how;
- The approach to consultation and the outcomes obtained (Commission européenne, 2023).

The European Union has put into effect its Sustainable Finance Disclosure Regulation (SFDR) as of March 10, 2021. The EU SFDR applies to financial advisors and Financial Market Participants (FMPs). The SFDR's goal is to make financial institutions and market participants more transparent about sustainability. To standardise sustainability reporting, it comprises disclosure standards at the entity and product levels. The action plan has three distinct goals. 1) To reroute capital into a more sustainable economy; 2) To incorporate sustainability into risk management; and 3) To encourage openness and long-term thinking.

FMPs are required to provide details about their financial products and reports on their Principal Adverse Impacts (PAI) at the entity and product levels. The PAI is a list of sustainability considerations that businesses must start disclosing in their investment strategies and choices, such as waste, biodiversity, GHG emissions and human rights. It includes both required and optional ESG indicators (Greenpeace, 2021). PAIs are thus a representation of any adverse effects that investment choices or counsel may have on governance, social or environmental concerns.

To evaluate detrimental sustainability consequences across a range of ESG issues, fund managers are expected to report quantitative data on fourteen important indicators, nine of which are environmental and the other five of which are social. These metrics need to be gathered and compiled from the portfolio companies. Carbon footprint, the gender pay gap or portfolio business compliance with OECD and UNGC criteria are examples of mandatory indicators that must be disclosed. The PAI statement must include a description of the following qualitative information:

- A summary of the PAI statement and the relevant reference period;

- An explanation of the methods used to choose the indicators, a description of the data sources used, a summary of the policies for identifying and prioritising the most significant negative sustainability consequences and the date on which those policies were approved;
- Information on engagement strategies and key negative impact mitigation strategies.

Nonetheless, they seek to ensure comparable data on the potential negative effects of investment activity on Environmental, Social and Governance concerns. PAIs are among the most challenging components of the SFDR regime for corporations to comply with (Apiday, 2023).

The new EU Taxonomy, which strives to level the playing field throughout the EU, is likewise in line with the SFDR (Greenpeace, 2021). The Taxonomy of the EU is a classification scheme that establishes a list of environmentally sustainable economic activities. It might play a significant role in helping the EU increase sustainable investment and implement the European environmental agreement (European Commission, 2023b). The European Union (EU) Taxonomy aims to increase investments in environmentally sustainable activities. These activities will help to lower the global ecological burden and pave the way for the EU's environmental ambition to be properly achieved (Canfora, P. et al., 2022). The EU Taxonomy will provide businesses, investors and political decision-makers with appropriate definitions of economic activities that may be viewed as environmentally sustainable. As a result, it ought to give investors some sense of security, assist businesses in becoming more environmentally conscious, lessen market fragmentation and help direct investments to where they are most needed (European Commission, 2023b). The European Taxonomy will make it easier to develop European standards for environmentally friendly financial products and to implement labels attesting to their compliance (Canfora, P. et al., 2022).

As a result, the Taxonomy is a uniform European classification approach that will allow for the measurement of the “sustainable” component of a company's or financial product's operations (portfolio or investment fund, in particular). It will be feasible to compare the contributions of various economic players and financial goods to the ecological transition once it has been completely established, detailed and deployed to inform investment decisions. The Taxonomy is evolving as a key framework for reorienting businesses and the economy towards sustainable development due

to its usefulness in creating standards for awarding “green” badges. The growth of “green” finance, particularly “green” bonds and “sustainable” finance, depends on promoting market openness. By making the criteria for selecting prospective industrial operations more objective and verifiable, it will also be possible to restrict “greenwashing”.

As previously mentioned, the Taxonomy evaluates the sustainability of economic activity concerning six environmental objectives: pollution prevention and control, climate change mitigation, adaptation to climate change, sustainable use and protection of water and marine resources, transition to a circular economy and preservation and restoration of biodiversity and ecosystems. So, if an activity satisfies three cumulative requirements, it will be deemed sustainable: (1) significantly contribute to at least one of the six environmental objectives; (2) not significantly affect the other five purposes; and (3) adhere to minimal social protection.

It is important to keep in mind that not all activities are “unsustainable” because they may not have been thoroughly examined and documented or may not have a significant environmental impact. Also, the Taxonomy is still being built and developed and regular reviews are planned to update and modify it (Arbaretier, E. et al., 2022).

1.1.12 Green Bonds

One of the most significant financial instruments in the world of green finance for impact investing is green bonds. The Green Bonds Principles state that *“a green bond is a type of bond where the proceeds will be applied to finance or refinance a new or an existing eligible Green Project”*. This characteristic of specifically aiming to finance projects related to the environment or climate change makes them perfectly aligned with the Sustainable Development Goals (SDGs) of the United Nations Agenda 2030. Growing numbers of projects to combat climate change are being funded via green bonds (Springer, N. et al., 2022). However, there is a lack of clarification as to what makes a bond “green”. As there are too many ways to assess whether or not a bond is green, this constitutes a major problem for investors (Quirici, M. C., 2020). Despite a significant rise in demand and better regulation requirements, there is still a gap between the activities that these bonds finance

and the measurement of the accompanying Greenhouse Gas (GHG) reductions (Springer, N. et al., 2022).

\$227.8 billion in green bonds have been issued as of the first half of 2021, amounting to a \$1.4 billion cumulative total. This reflects a 49% growth rate between 2016 and 2021. 84% of 135 hedge funds with \$6.25 trillion in assets under management expressed “increasing interest in ESG-oriented funds and strategies over the previous 12 months” in a poll conducted in 2019. Being governmental debt, green bonds are listed on all significant international markets (Nicholls, A., 2021b).

For several reasons, green bonds are particularly appealing as a tool for impact investing. First of all, green bonds are advantageous for capital-intensive investments since, frequently, minimising sustainability impacts calls for substantial, structural changes in capital assets rather than minor adjustments to current production methods. Aside from distributing the risk of change along the supply chain, green bonds can also enhance investment volume, collective capital and sets of technology advancements, enabling significant production improvements with greater environmental effects. Through the simultaneous investment in less-tested solutions with potentially huge financial and/or environmental payouts, as well as the guarantee of predictable income from tested solutions with well-known payout structures, such risk bundling facilitates the development of new solutions. Additionally, this project aggregation and risk bundling can assist in removing obstacles to individual technical actors’ access to finance, time, risk and/or knowledge (i.e. those upstream actors implementing solutions). In situations where numerous minor actors are required to implement solutions that have a significant overall impact and in complex supply networks where there is more “distance” from investor capital and technological solution actors, aggregation can be particularly effective. Additionally, green bonds offer flexibility for various issuer types (municipal, corporate and structured products), making this vehicle an alternative for a wide range of businesses (Springer, N. et al., 2022).

However, reality reveals that the green bond market has engaged in significant greenwashing behind this facade. Historical data scarcity and lack of comparability make it impossible to accurately

quantify the environmental and financial trade-offs (both estimated and realised) of alternative investments because there has never been a quantitative requirement for estimating potential environmental returns for green bonds. Due to the missing connection between investments and the effects of the projects they fund, a similar approach to examining differences in environmental indicators has not been possible. As a result, it has been possible to look into potential greenwashing by investigating the financial disparities indicators between standard and green bonds of similar types. For instance, Boston Properties, a sizable real estate investment trust, issued \$850 million in green bonds to use the profits to finance new or existing “Eligible Green Projects”. However, the prospectus that outlines the bonds is explicit in stating that there can be no assurance that the projects will satisfy any specific “green” criteria, that there are no particular standards that must be met and that the company will not be penalised for failing to meet any specific standard. Two significant initiatives have started to tackle some of these problems. The European Union has created a thorough taxonomy that serves as a framework for the objective impact evaluation of green bonds and the International Capital Markets Association (ICMA) has established a set of green bond principles to guarantee that these financing tools fulfil objective standards (Springer, N. et al., 2022).

Moreover, Green Bonds is also a subcategory of Sustainable Development Bonds that serve as one of the most significant tools for impact investing as well as financial instruments helpful in achieving the Sustainable Development Goals (SDGs) of the UN 2030 Agenda. In fact, green bonds are fully in line with the SDGs because they use the earnings explicitly for financing environmental or climate change projects. However, the level of investments at this time is insufficient to support an economic system that is both socially and environmentally sustainable. This is due to the fact that the issuing of green bonds is frequently restricted to a small number of issuers, such as development banks, as opposed to a broad variety of businesses from various sectors. As a result, the overall size of the green bond market is relatively modest in comparison to the entire size of the global bond market. To achieve sustainable and equitable growth, it is vital to refocus financial flows toward sustainable investments (La Torre, M. & Chiappini, H., 2020).

Green bonds, for example, can be used to fund improvements in transport infrastructure, agriculture production and renewable energy generation projects. A good illustration of measuring the impact

of green bonds is the SNCF. They have created a report documenting the environmental impact of investments made via green bonds in which they have developed a method to measure how their investments reduce greenhouse gas emissions and contribute to the protection of resources through their operations. The carbon effect of a project is determined by contrasting its carbon footprint (the emissions it produces) with emissions that were prevented during operation: They use recognised carbon assessment techniques to compute the carbon footprint by calculating the overall emissions generated by a repair, upgrade or new line project. They assess the emissions from the transport system in two scenarios: the first, in which they execute the project and the second, in which they take no action in order to compute the averted emissions. According to this approach, the carbon effect of a project financed by green bonds is determined by subtracting averted emissions from project-generated emissions. They demonstrate both real transparency and a quality of communication to investors (SNCF Group, 2021).

Another way to measure the impact of green bonds is to link them to the SDGs as mentioned. ISS ESG evaluated the contribution of the SNCF SA's green bond to the Sustainable Development Goals (SDGs) established by the United Nations (UN) based on an evaluation of the sustainability quality of the green bond asset pool and employing a proprietary methodology. Each User of the Proceeds category for the bond has been evaluated for how it contributes to or hinders the SDGs. Relevant impact metrics will be offered and may or may not change depending on the project type (ISS, 2020).

Although the majority of issuers do so, not all standards require green bond issuers to expose the anticipated impact and use of proceeds. As they are required by the most widely used green bond standards, the use of profits reports is increasingly widespread, but impact studies that attempt to quantify the climate or environmental benefit of a project are becoming more significant (Ehlers, T. et al., 2021).

In conclusion, before investing in green bonds becomes commonplace, work still needs to be done on standards, terminology and meanings. However, the example of the SNCF and other companies are encouraging the investment of green bonds and especially in possible ways of assessing their

real impact. Governments may lead the way in supporting the growth of the green bond market and facilitating the transition to a more sustainable and fair economic system. For instance, the Belgian government has taken action to encourage the issuing of green bonds by establishing a framework for green bonds that specifies rules for issuers to go with. The framework contains criteria for qualified projects, reporting requirements for how funds were used and an external evaluation of bond issues (The Kingdom of Belgium Debt Agency, 2022).

1.2. Impact Tracking

The popularity of impact investing and the quick growth of this industry over the previous 10 years have brought attention to the requirement for effective measurement (Melka, L., 2021). Impact measurement is crucial for social companies as well as investors. It guarantees that the promise of producing a good social and/or environmental impact is kept in order to account for the success of the activities conducted. Impact analysis reduces the danger of mission drift. Hence, assessing the effect is important to all parties involved (Spiess-Knafl, W. & Scheck, B., 2017). There have therefore been noticeable trends and advancements throughout the world (Melka, L., 2021). Impact measurement is complex and methods can range significantly, from weekly reporting on key performance metrics to structured qualitative evaluations to yearly impact reports. Hence us wanting to stress the significance of measurement, both at the portfolio and transaction levels, as well as the initial screening and during the investment's lifespan. Impact investors may aim for and gauge several effects from the same investment, just like they could with purpose (Godeke, S. & Briaud, P., 2020).

The examination of investments' social and/or environmental externalities in relation to the effect goals the investor has set out can be referred to as impact measurement. The impact goals that are being pursued are fundamentally positive since they include trying to raise the company's positive externality (over time or in comparison to a reference scenario) or significantly reduce its negative externality. The review may be qualitative or quantitative and may focus on both the significance of

the company's procedures as well as the effect of its goods and services. It is crucial to measure the impact of every investment, whether it is positive, negative or neutral. Impact analysis can show investors the genuine effects of their investments and point up areas for improvement. As a result, once an investor has assessed the effects of a particular investment, they should disseminate their findings and utilise them to inform future investment choices. By doing this, they can make sure that their investments reflect their beliefs and objectives and are making the world a better place. Impact investors wishing to produce both financial returns and beneficial social or environmental impact must understand how to quantify an investment's impact and use that expertise to inform investment decisions (Melka, L., 2021).

Simple measures of change, such as unemployment rates, cannot ever be used to assess the effects of an intervention; instead, specific methodologies, frequently very rigorous ones, are employed to assure the validity of the findings. The issue of impacts, to what degree did the intervention truly create change, is answered through good impact measurement. This entails weighing the importance of the intervention against other contextual or policy considerations. The initial purpose of measurement is to demonstrate as much as possible the relationship between the intervention and beneficial changes for beneficiaries and society at large, in order to better explain this to partners and the broader public. In order to identify areas with the highest potential for impact and to enhance the actions already being carried out in order to boost their social or environmental impact, the second goal is to attract attention to what is going well and what is not. This is a useful method for strategic steering (Melka, L., 2021). For instance, if a business invests in a community development project, it can assess the impact of the investment by looking at the outcomes, such as increased access to clean water, less poverty and more jobs in the neighbourhood. If the outcomes are unsatisfactory, the business can reevaluate its plan to increase the return on investment.

Impact measurement and impact management must be considered as being closely related in order to maximise the impact of sustainable financing. The latter is described as the method by which impact investors can incorporate ideas about both positive and negative impacts into their investment and business strategies as well as into all phases of the investment process, from deal selection to due diligence, deal structuring, investment management and exit. Impact management sets goals

for modifying procedures and enhancing results in order to lessen the detrimental effects of investments on people and the environment and boost the beneficial effects (Boiardi, P., 2020; Nicholls, A., 2021a).

Hence, good impact monitoring and management are important to optimal investment choices in sustainable finance (Nicholls, A., 2021a). This includes standards, guidelines, frameworks, qualitative and quantitative methodologies and other tools that assist investors and companies in quantifying positive impacts and minimising negative impacts. We will go into more detail about these methods in Section 1.3. Stakeholder involvement, site visits and case studies are examples of qualitative approaches, whereas environmental and social impact assessments, life cycle analyses and carbon footprints are examples of quantitative methods. Each of these technologies enables businesses to establish impact goals, monitor development and assess the effect. To obtain financing, comply with the SDGs and most importantly, create impact, public and private actors must implement efficient impact assessment and management methods (Boiardi, P., 2020).

1.2.1 Why is measuring the impact an important factor?

In addition to being essential for making wise investments, measuring impact also enables you to discuss the business's activity in a very specific and engaging manner. It is an effective method for communicating what you do and what you provide. For all parties involved, including investors, recipients, intermediaries and governments, measuring impact presents a unique opportunity. Thinking about the best technique to measure an impact project may help entrepreneurs design, guide and drive the project from the beginning.

First of all, it is intriguing for investors to quantify the impact in order to promote comprehension, accountability and value development. This enables investors to forecast both the immediate impact of their investment portfolios and the long-term impact of future possibilities. They can deploy resources effectively by comprehending how their investments fulfil or can achieve social and environmental objectives.

This then enables businesses to gauge their success in attaining their objectives as well as enhance their influence by regularly observing and assessing operations. Recipients of investments have an additional incentive to measure impact, particularly to anticipate and maximise it. For instance, they will be able to decide on the best distribution strategy, location and price to have the greatest influence possible in the present.

Impact assessment is to manage and evaluate impact-producing activities, improve the impact's accountability and transparency and ultimately draw in additional funding. As a result, measuring and tracking the impact may promote confidence in sustainable finance. Investors may show that they are dedicated to producing positive results and are accountable for the impact of their investments by giving clear and open information on the impact of investments. Governments and intermediaries are also interested in institutionalising trustworthiness and openness (Melka, L., 2021).

Companies with ESG objectives also profit from impact measurement since it enables them to deploy their resources to get the best outcomes. Impact investment and impact assessment will be crucial as sustainability, ESG policies and SDGs efforts gain traction inside businesses.

Impact measurement serves three main purposes: it makes sure that scarce resources are allocated to the opportunities with the greatest potential for positive change, it evaluates the effects of previous investments and it makes sure that businesses are held accountable for their impact performance. Impact evaluation enables investors to evaluate the outcomes of prior investments and improve their selection of potential new investments. Impact investment would be nothing more than a guessing game without effective monitoring (Han, E., 2022).

1.2.2 What challenges arise from impact measurement?

Impact measurement is projected to see rapid development both now and in the years to come. The field will need to specifically address the difficulties investors now have when attempting to gauge the effectiveness of their investments. Despite the fact that impact investors have a variety of goals in mind, they all recognise the value of monitoring and controlling impact results.

The first is the intrinsic complexity of social issues, which is similar to the complexity of their potential solutions. Results might not become apparent for several years after their underlying problems have been treated. As a result, it can be challenging to understand the cause-and-effect link between activities and their effects. Moreover, since there can occasionally be a significant lag time between them, it can be challenging to determine the precise timing of measurements. This is especially true when one takes into account the political and cultural aspects of any societal development.

A significant obstacle to impact measurement is still determining net impact. Impact, according to France Invest's Impact Commission, is always favourable (since it is sought by the investor). Yet, when quantifying it, it is imperative to have a global perspective; otherwise, we run the danger of ignoring important negative externalities. Whilst it is true that the "Do Not Significant Harm" regulations of the European Taxonomy and the "Principal Adverse Significant Impact" concept of 2019 EU Transparency Regulation encourages investors to lessen these negative externalities, many measures concentrate on the positive impact without necessarily measuring the net impact, which is the result of combining an impact performance indicator and a negative externalities indicator. This is described by the Impact Commission as the combination of a negative externality (not chosen by the investor) and a positive effect (selected by the investor) (Melka, L., 2021).

In addition, although the market is developing, its immaturity continues to pose a problem. Some investors are hesitant to use them in the face of the diversity of norms and standards instead choosing to take inspiration from them whilst they wait for a consensus. They run the danger of having to rework their whole impact assessment approach if they choose a standard for their investments that is not necessarily approved by the investors when it comes the time to depart. For startups, this may be difficult and even detrimental.

The lack of trustworthy and dependable data is another problem. Businesses may choose to withhold information regarding their ESG performance, making it difficult for investors to evaluate the effects of their investments. Even when data is accessible, it could not be of high enough quality to enable monitoring and impact measurement. This might occur as a result of data gaps, inconsis-

encies or inaccuracies that could compromise the precision and dependability of impact estimates. Investors and stakeholders may be sceptical about the effects of sustainable finance initiatives due to a lack of trustworthy and consistent data.

As a result, time, money and knowledge are needed for impact monitoring. It is an expensive process that is frequently challenging to implement since, depending on the organisations in charge, it might take various approaches, be more rigorous, resort to different techniques, follow different practices or not at all. Given the paucity of resources required to quantify the effect, this may operate as a barrier to entry for some investors and restrict the expansion of sustainable finance more broadly. Also, it takes a lot of time, especially if data must be gathered manually or if intricate impact analyses are necessary. This might make it difficult for investors to make timely judgments and adapt to changing market circumstances (Melka, L., 2021).

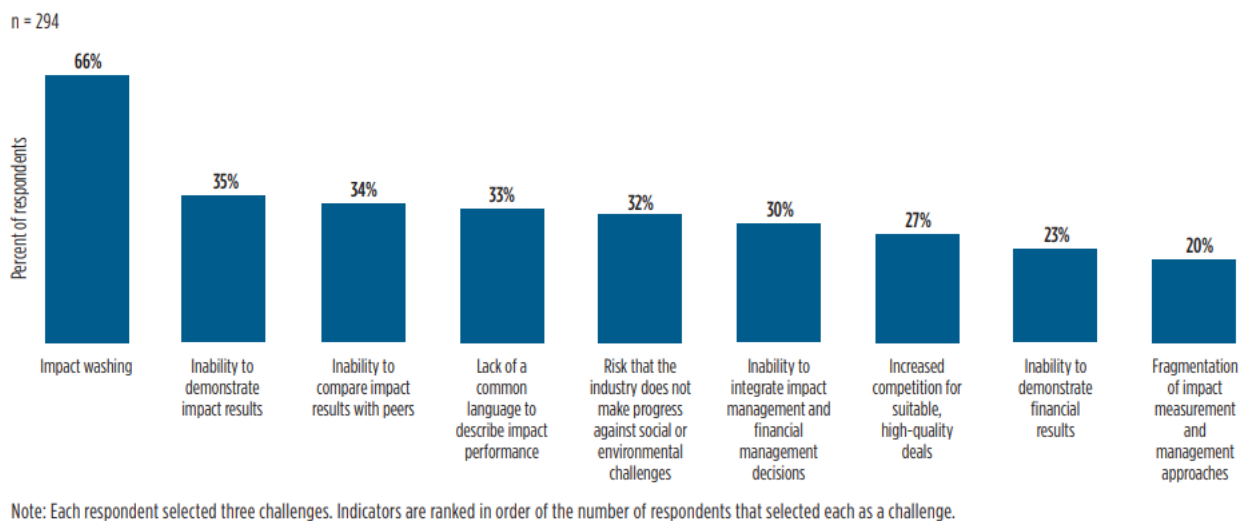
The vast range of time horizons for charitable activities is another aspect that makes assessment challenging. Only with certain immunisations are the two simultaneous. The study of medicine can take decades. The majority of societal problems, such as poverty, a lack of human rights, ethnic strife, etc., have temporal horizons with, occasionally, no distinct conclusion. This being said, funders should anticipate seeing improvement and undoubtedly positive effects for certain communities and organisations. Does this imply that contributors should stop considering systemic impact? Definitely, no donors run the danger of supporting effective initiatives that have little or no impact on the issue they are trying to solve if they do not take the bigger picture into account ('Assessing impact', 2023).

The use of the methods might also be difficult when attempting to measure impact. Impact measurement may be challenging due to its complexity and investors may not be aware of which ones best suit their investments or even which outcomes to gauge. As there is currently no one reliable, widely accepted approach, it is particularly challenging to compare the effective performance of various investments and to evaluate the overall influence of sustainable finance on society and the environment. The whole idea of impact investing runs the risk of being watered down and utilised as a mere marketing tool by certain investors if there is not a basic level of rigour through-

out the sector. The non-financial performance also requires uniformity and consistency, just as the International Financial Reporting Standards Council provides guidelines for assessing financial success. Nonetheless, some organisations have made significant progress in developing a uniform vocabulary and agreed on fundamentals for impact measurement. Impact investing measurement is emerging as a significant driver with the potential to revolutionise the social finance environment. We will go into more detail about a few of the standardised, impartial instruments used to assess how investments affect the environment, society and corporate governance in Section 1.3 and Section 1.4. These methods come in a variety, but we have decided to concentrate on those that we feel are most pertinent to our practical study (Melka, L., 2021).

In addition to these various challenges, the “*Annual Impact Investor Survey*” 2020 of the GIIN revealed respondents’ expectations of the biggest challenges the impact investment market is likely to face over the next five years as you can see in Figure 1.6.

Figure 1.6: Challenges facing the market over the next five years (Hand, D. et al., 2020)



Three challenges were chosen by each respondent. By far the majority of responders (66%) consider “*impact washing*” to be a significant concern. The difficulty in demonstrating impact results (35%) and the “*inability to compare impact results with peers*” (34%), which are the second and third most highlighted issues, both relate to impact performance. Intriguingly, the lowest percent-

age of respondents believe that among the biggest market issues for the following five years will be the “*inability to demonstrate financial performance*” (23%) and “*fragmentation of impact measurement and management approaches*” (20%). We find that the fragmentation of approaches to measuring and managing impact is a major challenge for only 1/5 of the respondents, which is surprising (Hand, D. et al., 2020).

We note that the challenges listed in the graph are consistent with some of the challenges found in the literature, they can be connected to each other. Indeed, the complexity of social issues, the vast range of time horizons for charitable activities and the potential use of different methods might lead to a fragmentation of impact measurement and management approaches that also result in a lack of common language to describe impact performance. This lack of common language is also linked to the inability to compare the results of your impact with those of your colleagues. The risk that the market does not make progress can be related to market immaturity.

It is generally observed that the challenges are somehow related to each other and that some are shared by a large number of actors, as is the case for impact washing.

1.3. Standardised methods

A rapidly expanding industry, impact investing seeks to provide both financial gains and beneficial social and environmental effects. Investors and stakeholders have realised the need for standardised methods to monitor and report the impact of their investments as impact investing gains popularity. Numerous international organisations have recently created standardised measures.

To aggregate data on the impact of initiatives for comparative research, standardisation refers to the establishment and implementation of pre-existing methodologies and benchmark indicators by funders and social benefit organisations (Avisé, 2020).

Standardised methods may provide impact investors with a common vocabulary, allowing them to compare and analyse the effects of various investments and determine the total effects of their

portfolios. Standardised technologies may also encourage openness and confidence in the impact investing market, which will encourage money to flow to high-impact initiatives.

There are a large number of standardised indicators, but we will only develop those that will be useful for the analysis of practical cases.

1.3.1 Global Reporting Initiative (GRI)

The Global Reporting Initiative (GRI) “*supports businesses to understand and communicate their impact on critical sustainability issues such as climate change, human rights, governance and social well-being*” (Boiardi, P., 2020).

The GRI Standards, which are the most frequently used and approved sustainability reporting standards in the world, are provided by the GRI, an independent worldwide organisation. These standards can be defined by the Global Reporting Initiative in 2022 as “*a modular system of interconnected standards. They enable organisations to publicly report on the impacts of their activities in a structured manner that is transparent to stakeholders and other interested parties*” (Global Reporting Initiative, 2022). The Global Reporting Initiative was conceptualised during the autumn of 1997 by the Coalition for Environmentally Responsible Economies (CERES) in collaboration with the Tellus Institute, which is a charitable organisation that focuses on environmental management and fair development. The objective of the GRI is to promote global harmonisation in the reporting of precise and trustworthy statistics on the Environmental, Social and Governance (ESG) performance of businesses (Brown, H. S., et al., 2009; Woods, M., 2003).

Even though they are still voluntary, more than 5,000 organisations worldwide were using the GRI Standards by 2020 to report on their sustainability performance and more than 23,000 GRI reports had been submitted. 92% of the 250 biggest corporations in the world reported on ESG performance in some way and 74% of them did so using GRI Guidelines (Nicholls, A., 2021a). According to the KPMG 2020 Sustainability Reporting Study, GRI is used for reporting by two-thirds of the 5,200 major corporations across 52 countries. The GRI standards are improving the

practice of sustainability reporting and empowering organisations and their stakeholders to act and arrive at better decisions that provide economic, environmental and social benefits for all thanks to thousands of reporters in more than 100 countries (GRI, 2022a).

The GRI Standards can be used by any organisation, no matter how big or little, public or private, from any industry or region. Reporters utilise the Standards to report on an organisation's impacts credibly, over time and relative to other organisations. The organisation can make use of the released information to evaluate its policies and strategies or guide decision-making, such as goal-setting. Disclosures can help investors analyse a company's sustainability plan, financial risks and long-term profitability. The information can also help analysts, policymakers and academics with benchmarking and research. These standards are always being revised, enhanced and expanded with new elements. For example, the 2021 edition includes new disclosures on policy commitments for responsible business behaviour, such as respect for human rights and due diligence and how these responsibilities are ingrained throughout the organisation. (Global Reporting Initiative, 2022; GRI, 2022b).

The *GRI Universal Standards*, *GRI Sector Standards* and *GRI Topic Standards* are the 3 types of standards that make up the modular system known as the GRI Standards. The Standards give a standardised framework for an institution to convey its impacts. Disclosures may include mandates and guidance. The GRI Standards provide the instructions and information that a company must disclose. Recommendations are appreciated but not necessary. Background, explanations and examples can aid understanding.

GRI Universal Standards: They encompass the following components and apply to all organisations:

- *GRI 1:* Foundation 2021 outlines the conditions that must be met by the organisation to provide reports in compliance with the GRI Standards and specific guidelines. The company studies GRI 1 before implementing the GRI Standards.
- *GRI 2:* General Disclosures 2021 includes information used by the organisation to disclose

its reporting processes and other organisational specifics, such as its operations, governance and policies.

- *GRI 3: Material Topics 2021* explains how to recognise material themes. Additionally, it includes details on how the organisation determines what issues are material, what topics are on its list and how it maintains each topic.

GRI Sector Standards: They improve reporting quality, completeness and consistency. Standards will be produced for 40 sectors, starting with the most impactful ones like 35 oil and gas, agriculture, aquaculture, fisheries, etc. The standards list subjects expected to be material to most organisations in a given industry and suggest appropriate disclosures. Then, an organisation must apply a Sector Standard whilst reporting under GRI Standards. Each Sector Standard includes a summary of the sector's features, including its activities and commercial links. However, a sector standard may list extra disclosures not contained in a topic standard, such as when the topic standard does not give enough information about the organisation's effects. Industry data, international instruments and expert guidance define subjects and disclosures, they reflect the expectations of many stakeholders for impact management in the sector.

GRI Topic Standards: They provide topic disclosures on waste standards, occupational health and safety, taxation and so forth. Each standard offers a topic overview, topic-specific information and how an institution handles impacts. An organisation can decide on theme reporting standards that match its key issues (Global Reporting Initiative, 2022, 2023).

As explained, for enterprises and businesses, the GRI offers reporting guidelines on sustainability. To achieve this, it offers disclosures that let investors assess and control impact. The reporting on sustainability as such would be separate from and unrelated to any investment in the business. Companies can monitor and report on their most important impacts on the environment, society and economy thanks to the GRI Standards. More than 100 countries' enterprises have embraced sustainability standards and more than 50 of those nations and regions are incorporating the GRI into their policies. Both businesses and governments are able to report on these standards (OECD, 2019).

Under the European Taxonomy, sustainability reporting will become compulsory for large companies, before reaching large SMEs in 2024. It is therefore interesting to use the GRI standards to report on its activities and thus use the report within the EU Taxonomy (CAP Conseil, 2023).

1.3.2 Sustainability Accounting Standards Board (SASB)

The SASB is a non-profit organisation that was established in 2011 to create sustainable accounting standards to simplify the exposure and reporting of ESG data. Its stated goal is to create sector-specific disclosure guidelines for ESG subjects that make it easier for businesses to communicate with investors about financially significant, decision-useful ESG data. The SASB aspires to establish ESG reporting standards that are comparable to those set for mainline investment in the International Financial Reporting Standards and the Generally Accepted Accounting Principles, following the model set by the International Accounting Standards Board and the Financial Accounting Standards Board. To establish standards, the SASB has created a conceptual framework for ESG reporting that is founded on a few key tenets: worldwide applicability, financial materiality and norms that are industry-specific, evidence-based and market-informed. These guidelines are intended to encourage cost-efficient sustainability disclosures that give investors relevant information they can use to make informed decisions. Organisations can give industry-based sustainability disclosures based on SASB Guidelines regarding opportunities and risks that have an impact on enterprise value (Nicholls, A., 2021a; SASB, 2023).

A Sustainable Industry Classification System, which classifies industries based on a combination of conventional classification variables and sustainability risks and possibilities, has also been established by the SASB and contains 77 standards across 11 industrial sectors. The SASB standards are made to produce quantifiable, standardised and comparable data since they are focused on giving investors information that will help them make decisions. Furthermore, the standards' guiding premise is the demonstration of financial materiality because investors are the ones who are driving them. The guidelines are also industry-specific because differing business structures, reliance on different resources and other factors lead sustainability concerns to emerge differently within

various industries. The Value Reporting Foundation, which had previously maintained the SASB Standards, merged with the IFRS Foundation in August 2022, taking over responsibility for these Standards. Companies all across the world employ SASB guidelines for disclosing ESG information in annual reports, financial documents, business websites and sustainability reports. More than 120 businesses have included SASB standards in their ESG reporting in 2020 (Nicholls, A., 2021a).

The five major sustainability dimensions comprise the issues covered by SASB:

1. ***Social Capital:*** This aspect relates to how businesses are viewed by society or the expectation that a business will benefit society in exchange for a social licence to exist. It involves managing relationships with significant external stakeholders, including clients, neighbourhood communities, the general public as well as, the government. It includes concerns with human rights, the defence of marginalised groups, regional economic growth, accessibility and quality of goods and services, accessibility and affordability, ethical marketing techniques and customer privacy.
2. ***Business Model and Innovation:*** This aspect focuses on how innovation and business models are impacted by sustainability concerns. It focuses on how to incorporate environmental, social and human rights concerns into a business's value creation process, including resource recovery and other innovations in the production process, as well as product innovation, including efficiency and responsibility in the design, use and product disposal. As well as managing the company's own assets as well as those it oversees as a fiduciary for others, this also involves managing the environmental and social implications on tangible and financial assets.
3. ***Environment:*** This dimension includes the company's environmental impact, either through the use of non-renewable natural resources as inputs into the factors of production (e.g. water, minerals, ecosystems, biodiversity) or through damaging discharges to the environment (e.g. air, soil, water) that may harm natural resources and the corporation's economic position or operational performance.

4. ***Human Capital:*** This dimension manages a company's human resources (workers and contractors) as long-term value creators. Employee engagement, diversity, incentives, compensation and attracting and retaining personnel in highly competitive or tight markets for specific talent, skills or training affect productivity. In industries with historical pension liabilities and economies of scale, it handles working conditions and labour relations management. Finally, it covers employee health and safety management and creating a safety culture in hazardous workplaces.
5. ***Leadership and Governance:*** The management of these issues, which could potentially conflict with the interests of larger stakeholder groups (such as the government, community, customers and employees) and result in potential liability or, worse, a restriction or revocation of the licence to operate, is a part of this dimension. This covers adherence to regulations as well as political influence and regulatory influence. It also covers conflict of interest, anti-competitive activity, risk management, safety management, supply chain management and bribery and corruption (Basu, S. K., 2022; SASB, 2017).

1.3.3 Greenhouse Gas (GHG)

The World Resources Institute (WRI), a U.S.-based environmental NGO and the World Business Council for Sustainable Development (WBCSD), a coalition of 170 international companies with headquarters in Geneva organised the multi-stakeholder partnership known as the Greenhouse Gas Protocol Initiative. The Initiative was established in 1998 to create globally recognised Greenhouse Gas (GHG) accounting and reporting standards for the industry and encourage their widespread adoption (WBCSD & WRI, 2004).

There are two distinct but related standards that make up the GHG Protocol Initiative:

- **GHG Protocol Corporate Accounting and Reporting Standard:** this publication, which offers businesses a step-by-step manual for calculating and disclosing their GHG emissions.

- **GHG Protocol Project Quantification Standard:** a guide for estimating reductions from GHG mitigation projects will soon be available.

The GHG Protocol Corporate Standard is intended to be independent of any particular programs or policies. The majority of GHG programs currently in existence and their unique accounting and reporting requirements can be used with it, nevertheless. The GHG Protocol Corporate Standard should be distinguished from other GHG programs. This standard exclusively addresses the accounting and reporting of emissions; it makes no mention of sending emissions data to WRI or WBCSD. Furthermore, whilst this standard is intended to create a verifiable inventory, it does not specify how the verification process should be carried out.

There are several cross-sector and sector-specific calculation tools that can be used in addition to the standard and instructions provided here. To assist users in calculating GHG emissions from specific sources or industries, these tools include electronic spreadsheets and step-by-step instructions (WBCSD & WRI, 2004).

The most extensively utilised greenhouse gas accounting rules are provided by the GHG Protocol. The standards are made to give corporations, governments and other organisations a framework for measuring and disclosing their greenhouse gas emissions in a way that advances their objectives (WRI & WBCSD, 2023).

The GHG protocol contains seven accounting and reporting principles:

1. **Relevance:** Confirm that the GHG inventory accurately reflects the company's GHG emissions (and removals, if relevant) and meets the demands of users, both internal and external to the organisation, in terms of decision-making.
2. **Completeness:** All GHG emissions (and removals, if any) from sources, sinks and activities inside the inventory boundary must be recorded and reported. Explain and defend any definite exclusions.
3. **Consistency:** Use uniform procedures to enable accurate performance monitoring of emis-

sions (and removals, if appropriate) throughout time and between businesses. Any alterations to the data, inventory boundary, procedures or any other pertinent elements of the time series should be openly documented.

4. **Transparency:** Based on a transparent audit trail, address all pertinent issues in a factual and well-reasoned manner. Provide appropriate references to the accounting and computation processes, as well as the data sources and disclose any pertinent assumptions.
5. **Accuracy:** As much as is practical, make sure that the quantification of GHG emissions (and removals, if relevant) does not systematically overestimate or underestimate real emissions (and removals, if applicable). Get a level of precision that will allow consumers to make judgments knowing that the information being given is accurate.
6. **Conservativeness:** When there is a lot of uncertainty, make conservative assumptions, values and procedures. Instead of underestimating emissions and overestimating removals, conservative values and assumptions are more likely to exaggerate GHG emissions and underestimate removals.
7. **Permanence:** Ascertain that procedures are in place to track the ongoing storage of stated removals, take reversals into account and report emissions from related carbon pools (GHC Protocol et al., 2011).

92% of Fortune 500 firms that responded to the CDP in 2016 employed GHG Protocol, either directly or indirectly, through a GHG Protocol-based initiative. This provides the accounting infrastructure for almost all company GHG reporting programs worldwide. The wide-ranging stakeholder outreach and consultation that WRI and WBCSD facilitate throughout each standard development initiative is partly responsible for the acceptance of GHG Protocol standards (WRI & WBCSD, 2023).

1.3.4 Task-force on Climate-related Financial Disclosures (TCFD)

Due to changing weather patterns and an increase in extreme weather events like hurricanes, floods, wildfires and droughts, communities and their residents as well as local businesses are all impacted by climate change. Companies need to be ready and have the appropriate policies and procedures in place to reduce any risks from climate change on their operations. Investors who fund businesses must understand how those businesses are addressing the possible effects of climate change to protect their investments. But most of the time, there is not much information available to investors on how long-term businesses are considering climate change and how well-prepared they are for its effects. A group of private sector experts formed the Task-force on Climate-related Financial Disclosures (TCFD) under the Financial Stability Board of the G20 in January 2016 to assist companies in disclosing information to their investors consistently. The TCFD created a framework that can be used by businesses worldwide and across all industries. Investors will be able to incorporate climate-related information into their decision-making more easily as more corporations adopt this framework for consistent and comparable disclosure. The TCFD recommendations, which make up the framework, were released in June 2017. Since then, the Task Force has been working to both assist investors in utilising the new company disclosures and to encourage businesses to implement the recommendations. Also, they have released Status Reports with analysis and examples from the industry.

It is rather significant that the Task Force's recommendations also extend to businesses in the financial industry, such as banks, insurance providers, asset managers and asset owners. Big asset owners and asset managers are at the top of the investment food chain and have a crucial role to play in persuading the companies in which they invest to give stronger financial disclosures about climate change. The Task Force suggests that those who compile financial disclosures connected to climate change include such disclosures in their regular (i.e., public) yearly financial reports. Governance, strategy, risk management and measurements and targets are the four thematic areas (Figure 1.7) around which the Task Force organised its recommendations. These areas are fundamental to how businesses operate.

- *Governance*: The organisation's governance of climate-related opportunities and threats;
- *Strategy*: Consequences of climate-related hazards and opportunities on the organisation's operations, strategy and financial planning, both actual and potential;
- *Risk Management*: The procedures that are followed by the organisation in order to locate, evaluate and mitigate risks that are caused by climate change;
- *Metrics and Targets*: The measures and goals that are utilised in the process of assessing and managing relevant risks and opportunities associated with climate change (Nisanci, D., 2021).

Figure 1.7: Recommendations of the Task Force on Climate-related Financial Disclosures (Nisanci, D., 2021)

Governance	Strategy	Risk Management	Metrics and Targets
Disclose the organization's governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	Disclose how the organization identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
Recommended Disclosures	Recommended Disclosures	Recommended Disclosures	Recommended Disclosures
a) Describe the board's oversight of climate-related risks and opportunities.	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	a) Describe the organization's processes for identifying and assessing climate-related risks.	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.
b) Describe management's role in assessing and managing climate-related risks and opportunities.	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	b) Describe the organization's processes for managing climate-related risks.	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

The four overall guidelines are backed by recommended disclosures, which expand the framework with information that will assist investors and others understand how reporting companies analyse the risks and opportunities associated with climate change. In addition, guidelines were released by the Task Force to assist all organisations in the process of establishing climate-related financial

disclosures that are compatible with the recommendations and suggested disclosures. Preparers are assisted by the guideline, which offers background as well as suggestions for putting the recommended disclosures into practice. Supplemental guidance was developed for the financial sector and certain non-financial sectors to highlight important sector-specific considerations and provide a fuller picture of potential climate-related financial impacts in those sectors. One of the most important recommended disclosures made by the Task Force focuses on the organisation's ability to adapt its strategy in response to a variety of climate-related scenarios, including one in which the temperature rise is 2 degrees Celsius or less (Nisanci, D., 2021).

Since the publishing of its recommendations, the TCFD has received a significant amount of support for its work from a wide variety of stakeholders, including firms, investors, insurers, stock exchanges, governments and regulators. As of August in the year 2020, more than 1,402 businesses with a total market capitalization of '\$12.2 trillion and including financial institutions responsible for assets totalling over \$150.4 trillion have indicated their support for the initiative. A total of 36 central banks and supervisors encourage reporting following the TCFD and Belgium is one of only five governments that back the TCFD (Nisanci, D., 2021; TCFD, 2019).

1.3.5 Sustainable Development Goals (SDGs)

The Sustainable Development Goals (SDGs), sometimes referred to as the Global Goals, were enacted by the United Nations as a global call to action to eradicate poverty, safeguard the environment and guarantee that by the year 2030, peace and prosperity will be experienced by everyone (UNDP, 2022).

The 17 goals were endorsed by 193 UN Member States in 2015. Figure 1.1 contains the list of these goals. Generally speaking, each of the 17 goals has between 8 and 12 targets. It stands for 169 targets that are connected to the goals and helps to clarify them. Indicators were created to make measuring progress possible. Between one and four indications or 232 indicators, are assigned to each goal. The degree of specialisation and concreteness of various goals varies much like that of the indicators. The indicators can also be changed. The global indicator framework will undergo

36 revisions in 2020. To make sure that the indicators are applicable and actually measure what they are supposed to, it is a good idea to make them more dynamic. However, it is more difficult to gauge progress because of shifting signs. The 17 SDGs emphasise that development should balance social, economic and environmental sustainability and that actions in one area will have an impact on results in others.

The SDGs cover broader ground and involve a larger number of stakeholders. The SDGs development included stakeholder interaction as a crucial component. It is almost certain that not all of these objectives will be accomplished by 2030. However, the world's agreement on a single agenda is a significant advance. The major problem with the SDGs is that some of their conflicting goals are important to business; in their report 2 years after the introduction of the SDGs, 40% of the world's 250 largest companies mentioned the SDGs. As with countries, firms can resort to the aims and indicators for benchmarking and comparison. Companies are working toward sustainability, but this strategy is not necessarily reliable when they self-report their successes. The market for ecological and "green" items is expanding and many businesses promote their goods as such without any supporting evidence. This is known as "greenwashing" and it creates the impression that the items and businesses are acting sustainably (Ditlev-Simonsen, C. D., 2022).

The 17 SDGs were not only addressed to poorer countries but also to the developed world and rich countries, calling on them to engage in sustainable development. This is the major difference between the SDGs and the Millennium Development Goals (MDGs) which were developed in 2000 and were aimed more at poorer countries. The new goals are more numerous and all countries must strive to achieve them. To fulfil the SDGs in every context, society as a whole must contribute its creativity, knowledge, technological prowess and financial resources (Jacobsson, E. M. & Edwall, T., 2017; UNDP, 2022).

1.3.6 B-Corp Certification

The goal of B-Corp certification is to reach consumers and the general public by indicating that businesses or products adhere to the highest standards of performance in terms of social and en-

vironmental issues, public transparency and legal responsibility to strike a balance between profit and purpose. A minimum level for corporate environmental and social performance is intended to be provided by B-Corp certification. The certification is private and is given on the basis of an examination of information gathered from operational employees and approved by the American nonprofit B Lab. Leading the global push for an inclusive, equitable and renewable economy are certified B-Corporations. B Lab is distinctive in its capacity to assess a company's complete social and environmental effect, unlike other corporate certifications (B Lab, 2023; Boiardi, P., 2020; Villela, M. et al., 2021).

The B Impact Assessment, a compilation of best practices in corporate responsibility covering social, environmental and governance criteria, serves as the foundation for certification. The effectiveness of a company's operations and business model on its stakeholders is measured and compared across five main "impact areas": employees, community, customers, environment and governance. Organisations applying to become B Corps are evaluated in accordance with these best practices. Companies must obtain a minimum overall score of 80 points out of a potential 200 in order to qualify for B Corp certification. Each of these areas has a set of questions with unique weightings (Villela, M. et al., 2021).

B Corps are required to undergo an audit procedure every three years to maintain their accreditation, which assures their long-term resilience. This requirement forces the B Corps to continuously improve. The B Corp certification is comprehensive and does not only address one social or environmental issue. Companies must recertify every three years and there is an annual charge associated with certification that can range from \$500 to \$50,000 depending on the size of the business. The B Corp movement highlights the necessity for businesses to adopt a new mindset by reflecting on how they may "be better for the world," which is also known as the B Corp credo (Boiardi, P., 2020; Villela, M. et al., 2021).

1.3.7 Corporate Sustainability Reporting Directive (CSRD)

The Corporate Sustainability Reporting Directive (CSRD) proposal was made public by the European Commission on April 21, 2021, as a component of the Sustainable Finance Programme, the Green Deal for Europe and to expand the Non-Financial Reporting Directive (NFRD)'s current requirements. Large businesses are required by the NFRD to report data on environmental issues, social issues and employee treatment, respect for human rights, anti-corruption and bribery efforts and diversity on company boards (in terms of age, gender, educational background and professional experience).

With the implementation of this new directive, the regulations governing the social and environmental data that businesses are required to provide have been modernised and strengthened. It will now be necessary for a larger group of major businesses, roughly 50 000 businesses in total, as well as listed SMEs to report on sustainability.

The new regulations will guarantee that stakeholders and investors have access to the data they need to evaluate the investment risks associated with climate change and other sustainability-related concerns. They will also foster a culture of transparency about the impact of how businesses affect both people and the environment. Finally, by harmonising the information that must be submitted, reporting costs for businesses over the medium to long term will be decreased. The CSRD also mandates that businesses conduct an audit of the sustainability data they report. Additionally, it enables the digitalisation of sustainability-related data.

The new regulations will become effective for the first time for the 2024 fiscal year for reports that are published in 2025. Because of the new regulations, more businesses will be held responsible for their social impact and committed to a sustainable economy. Companies subject to the CSRD will be required to report according to European Sustainability Reporting Standards (ESRS).(Conseil de l'Union Européenne, 2023; European Commission, 2023a).

1.3.8 ISO and Life-cycle Assessment (LCA)

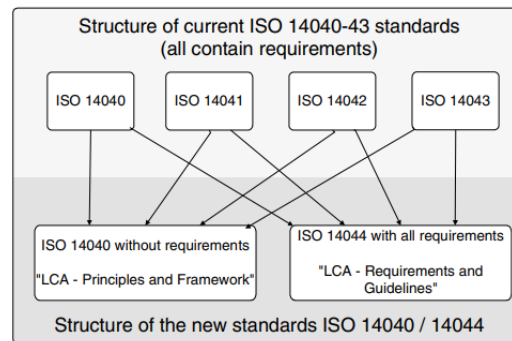
The Life-cycle Assessment (LCA) approach evaluates how a product affects the environment during its entire life, improving resource usage efficiency and lowering liabilities. It can be used to research how a product affects the environment or how well it serves its intended purpose. A “cradle-to-grave” examination is how LCA is frequently referred to. The three main components of LCA are: (1) identifying and quantifying the environmental loads involved, such as the energy and raw material consumption, emissions and wastes produced; (2) assessing the potential environmental effects of these loads; and (3) evaluating the options available for minimising these environmental impacts.

A standard-compliant LCA typically includes four phases: the definition of objectives and the scope of the study, the preparation of a life cycle inventory (an inventory of inputs and outputs), the impact assessment and finally the evaluation (European Environment Agency, 2023).

The creation of the international life cycle assessment standards (ISO 14040:1997, ISO 14041:1999, ISO 14042:2000 and ISO 14043:2000) was a key step in the consolidation of LCA processes and techniques. All technical specifications and guidelines on these would be included in the new standard 14044. They made a significant contribution to the widespread acceptance of LCA by all parties involved and the international society (Finkbeiner, M. et al., 2006).

The International Organisation for Standardisation has created two complimentary standards to guarantee the comparability of life cycle evaluations (DQS Holding GmbH, 2022) as you can see in Figure 1.8. They primarily concentrate on the LCA procedure, which tracks a product’s impact from conception to disposal. Whilst ISO 14044 “*specifies requirements and provides guidelines*” for LCA, ISO 14040 “*describes the principles and framework for LCA*” (Pallas, G., 2021).

Figure 1.8: General outline of the new standards (Pallas, G., 2021)



1.3.9 Independent assurance statement

The independent statement of assurance is not a measurement tool per se. However, it is important in terms of the confidence that readers have in the information reported by companies and thus the way in which they report on their impacts.

Investors, customers, employees and other important stakeholders should be able to understand how well a firm is managing its impact on society and the environment through the use of sustainability reporting. The purpose of sustainability reporting is to facilitate this understanding. The practice of a third party verifying that a company's sustainability report satisfies a set of predetermined criteria is known as assurance. Thus, we can be certain that what they say is accurate.

As a result, the knowledge that sustainability reports are subject to regulation by international organisations is quite encouraging. This indicates that the reports have to adhere to the established parameters for them to be considered reliable. Businesses must utilise independent Assurance services to lend credibility to their sustainability reports. This is because there may be a lack of confidence in the information that is offered in a sustainability report.

Independent Sustainability Report Assurance services verify that specific standards are adhered to in a company's report and can assure the report's legitimacy. This results in increased levels of confidence among the various stakeholders and corporations that use the information contained in the report. The information that is provided in a report will be able to be relied upon by stake-

holders and stakeholders will have easier access to reports. Assurance services verify, in addition, that the company is reporting by international standards, which may be mandated by law or internal policy. This enables businesses to avoid expending pricey resources on the creation of their reporting guidelines.

Last but not least, assurance services can help decrease the legal risk connected with sustainability reporting by providing evidence that a company's report adheres to the rules that have been established. Both the corporation and its stakeholders will benefit from this solution as it will reduce the risk of legal action. In addition, the use of an assurance service is not only helpful in generating trust, but it can also be a requirement for companies under certain circumstances, such as by the rules of a government or stock exchange or when a company is trying to attract investment.

Why is it necessary to have assurance whilst reporting on sustainability?

It is essential to have an independent assurance of ESG reporting's sustainability so that stakeholders and investors can develop a sense of confidence in the report. The presence of independent third-party verification of a company's reports may be a positive indicator of the credibility and transparency of the company's reporting.

What are the three primary categories of audits?

Businesses can get Sustainability Report Assurance for their report by employing any combination of procedures 1 through 3, depending on the amount of labour they are willing to perform themselves and the amount of expense they are willing to absorb.

1. If a company decides to generate its report, it will be responsible for ensuring that it complies with some kind of established standard and it will also have the option of choosing which independent third-party organisation it would like to publish it to, in order to have its quality checked or verified.
2. Businesses have the option of using a service offered by a provider that assesses their compliance with a particular set of criteria. In most cases, this is a no-cost or very low-cost service;

however, providers may impose a fee if they are required to replicate any of the standards in the report multiple times.

3. A data check may also be conducted by a third-party supplier using sources from credible organisations such as agencies of the United Nations. It is imperative that businesses only use the most recent sources available. Depending on the kind of check that is being performed, this can also be done for a nominal price (Emerick, D., 2023).

1.4. Independent methods

Ad hoc or customised evaluation refers to methods of assessment that prioritise contextual analysis and take into account the unique characteristics of projects, particularly by including stakeholders at every stage of the procedure. These tailored procedures can be created internally or with the aid of a third party (Avisé, 2020; Melka, L., 2021).

1.4.1 Stages of the system's construction

There is no one method for quantifying impact, as those who make the decision to do so are aware. Given the variety of methods available, it is obvious that any strategy may be modified to fit the objectives of the business and the investor. The investor or beneficiary should take into account the nature and complexity of the firm, as well as the time, resources and capabilities available when choosing their method. Various combinations of quantitative and qualitative measurements (preferably both) might be included.

There is a wide range of practices when it comes to investor or beneficiary involvement. Both the firm and the fund, which may play a significant role in the decision-making process, can work together to quantify the results or the company can operate independently and offer the fund impact assessments, which the fund can then check as needed. This strategy is predicated on the notion that typically speaking, the corporation is best positioned to assess and report on its own social and

environmental effects, much like it does for its investors' financial reports.

The impact measurement system is mostly developed upstream, during the investment selection and analysis phase, from the perspective of the investors. Since investments must strike a balance between the pursuit of social and environmental change and financial return, measurement methods can aid in better understanding and comparing investments. Impact measurement has a role to play throughout the investment cycle and with diverse stakeholders, even though the focus is typically on the due diligence phase (Melka, L., 2021).

The investment cycle can be divided into key activities based on their impact:

1. ***Estimation of potential impact:*** Pre-investment or screening process.
2. ***Impact planning:*** Choosing methods and tools to measure it after the investment or during the discussion.
3. ***Impact Monitoring:*** Ongoing evaluation of development to see if the business' performance is on track.
4. ***Impact evaluation:*** Determining the impact produced at the end of the investment cycle and using it for decision-making and to re-calibrate the strategy to improve impact performance (Melka, L., 2021; Nicholls, A., 2021a).

In order to select a particular number of objectives, the investor and his target will work together to some extent during the preliminary analysis phase. The goal is to create performance indicators that are appropriate for the activity and age of the company, are relatively simple to assess and allow the investor to control the impact made whilst also clearly communicating it to his clients. The metrics will be regularly checked, but the investor will also carry out additional qualitative tests because it is frequently challenging to define impact with statistics alone (Melka, L., 2021).

1.4.2 “Home-made” Measures

Many funds are satisfied with sectoral profitability and a comparison to the sustainable development goals when it comes to assessing impact. However, effective measurement starts with self-evaluation and the application of personalised measures. Also, even though techniques to stop greenwashing are being created, the fund manager’s integrity remains a crucial factor and he or she must be open and clear about what can and cannot be done in terms of impact and investment. First and foremost, he needs to be able to defend his decisions to potential investors; for instance, he can invest in businesses for which there are currently no impact measurements if he has a strong intuition about the plan and strategy. Take the argument that bees have a favourable effect on pollination and, as a result, on the agricultural yield that can rise without chemical fertilisers, as an example, to demonstrate this point. Since it calls for a shift in crop management practices, the influence of this thesis in the short term is not immediately apparent in reality. Nevertheless, if we consider the loss of biodiversity brought on by the decline in pollinating insect populations, which presently account for 40% of the world’s food output, we see that the effect over the next 10 to 15 years might be enormous (Melka, L., 2021).

In the next subsection, we will present you with one independent measure called *Sustainable Portfolio Management (SPM)* from Solvay which will be further analysed in our practical part.

1.4.3 Sustainable Portfolio Management (SPM) Tool

The chemical industry is faced with the challenge of creating sustainable value and providing solutions for society and the planet whilst minimising its impact on the environment and resources (e.g. raw materials, energy). Solvay is dedicated to effectively addressing these issues (WBCSD, 2023).

Solvay is a business that takes responsibility for its actions seriously. They thus developed a Sustainable Portfolio Management (SPM) tool in 2012 as a logical strategic response to environmental concerns. This last one is a tool for incorporating the sustainability factor into strategic and operational decisions on key commercial activities, including strategy, research and innovation, invest-

ment, marketing and sales, as well as mergers and acquisitions. This integration solution allows the business to fulfil its commitments and wishes about its ten sustainability goals. Their long-term value creation strategy centres on the development of durable solutions, which meet the needs of the market economy. The SPM tool adapts to various information requests, time and resource constraints and allows for impact measurement, which is crucial for determining the true value of commercial solutions for customers and the environment. Additionally, it attempts to improve Solvay's commercial performance and guarantee future expansion. Decision-makers are educated about Solvay's goods' contributions to sustainable development, taking into account both their environmental footprint and their impact on the environment, through the SPM. It is acknowledged as complying with the Product Sustainability Assessment (PSA) requirements of the World Business Council for Sustainable Development (WBCSD) and is regarded by many authoritative bodies as an essential strategic tool for decision-makers. The SPM and the European Safe and Sustainable by Design programs have similar goals (Solvay, 2023a). Other businesses can resort to the SPM tool to assist them in giving the financial system important data for decision-making. SPM is used, among other things, to quantify risk, manage it and provide a better knowledge of ESG data, which can give an organisation a competitive edge so that it can take advantage of the correct possibilities (Solvay, 2019).

Technically speaking, Solvay's SPM tool is frequently referred to as a camera since it captures a snapshot of sustainability possibilities and threats in the environment of the organisation. It creates an understanding of market signals for sustainability and their potential effects on the company's strategic projects and portfolio. According to three attributes, products and their applications are depicted in a heat map using the SPM snapshot (see Figure 1.9):

1. The relationship between a product's monetised environmental footprint and its sales value is known as operational vulnerability (vertical axis). It is, in other words, the monetary environmental impact of production for every EUR of sales. Based on a quantitative Life-cycle Assessment (LCA), the upstream, cradle-to-gate span of the value chain is used to define business risks and opportunities associated with sustainability. The ratio indicates how likely Solvay is to lose customers to more environmentally friendly competitors. The

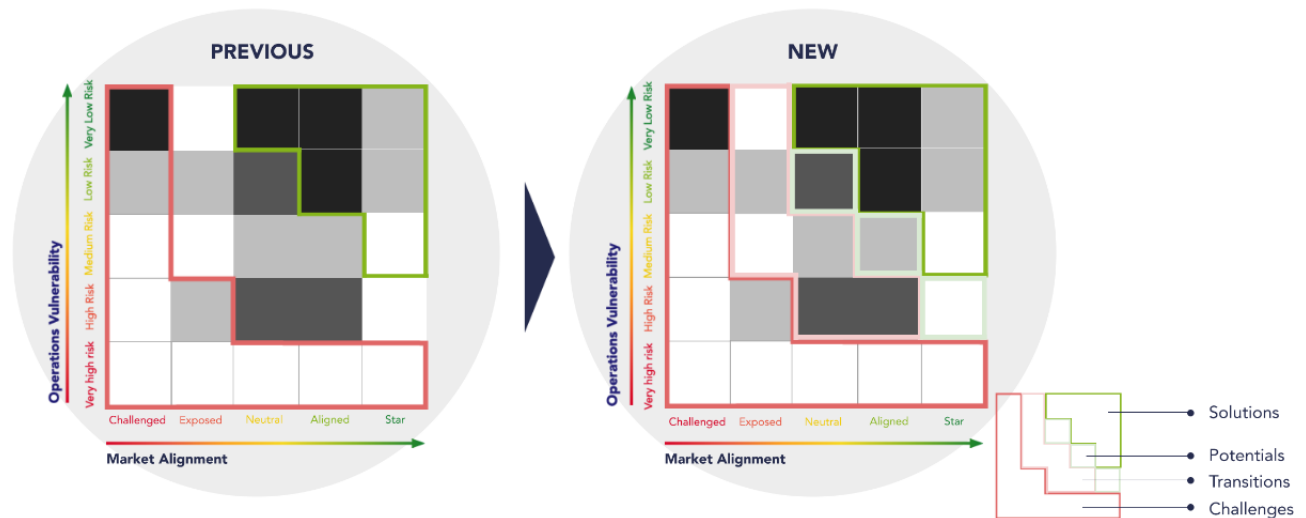
likelihood of replacing a less environmentally friendly competitive technology increases.

2. Products are ranked on a range of five scales from “challenged” to “star potential” based on market alignment (horizontal axis), which assesses market signals concerning sustainability benefits and constraints. From a customer and market standpoint, it examines if a product in a certain application is a part of the sustainability solution or the problem.
3. The SPM heat map includes sales quantities as well and shows them, with the darker colours denoting the associated revenues (Solvay, 2023b).

The SPM assessment’s top-level portfolio steering tool is the heat map. Product-Application Combinations (PACs) are divided into four upper-level categories. In the latest version of their guide, Solvay has integrated two new categories, dividing the “Neutral” category into two categories called “Transitions” and “Potentials” as you can see in Figure 1.9.

- **Solutions:** PACs with more effective sustainability contributions that improve value chain performance for Solvay customers and the environment and show reduced environmental impact during production.
- **Potentials:** This is a category that addresses the manufacturing environmental impact. It does not have a negative or spectacular sustainability performance and it has the potential to resemble the Solutions category. These are goods that are demanded by customers, but whose environmental impact may be reduced.
- **Transitions:** This category identifies low-level, unfavourable sustainability challenges on the manufacturing and/or market axes using names used by competitors (BASF, AkzoNobel).
- **Challenges:** PACs for which there are either substantial operational vulnerability issues or strong negative signals coming from market sustainability drivers. These are goods where future sales may be significantly negatively impacted and where goods may eventually vanish.

Figure 1.9: Two new categories to trigger actions (Solvay, 2023a)



This Sustainable Portfolio Management (SPM) technology can detect even the slightest sustainability market signals. Solvay can evaluate market signals for sustainability, educate its operations on those signals, foresee their effects and take appropriate business actions (Solvay, 2023b).

As an illustration, consider the laws mandating automakers and drivers to cut back on CO₂ emissions. As a provider to the automobile sector, Solvay offers the Silica product as a remedy that works with the SPM tool. Highly Dispersible Silica (HDS) from Solvay is utilised in both tread and non-tread sections, and it improves wet grip while also reducing rolling resistance, which is important for safety and fuel efficiency. There are various factories and procedures used to make HDS. These factories and processes utilise various amounts and types of energy, which means their effects on the environment will vary when seen from the perspective of a Life-cycle Assessment (LCA). When looking at products from an SPM perspective, it is necessary to group those with nearly identical effects into the product assessment and distinguish those with very distinct impacts into separate SPM product evaluations. "1 kg of Silica HDS has a cradle-to-gate impact of kg of CO₂ equivalent, MJ of energy consumption (coal, gas, oil, renewable energy) DALY (Disability-adjusted life year) equivalent (regarding human and ecotoxicity) and m³ of water consumption" (Solvay, 2023a).

The manufacturing of silica HDS has significant external expenses relating to global warming potential, human toxicity, human health and resources that are not renewable, which account for more than 80% of the entire cost. The examination of "Operational Vulnerability" reveals that the manufacturing of silica HDS has a "low" risk of operational vulnerability with respect to the turnover of this product segment.

The main issues that tyre producers are currently confronting are reducing fuel consumption and the ecological impact of tyre production by replacing carbon black. In response to the "Market Alignment", HDS improves energy effectiveness. The method lowers vehicle fuel use and CO₂ emissions by 7% by reducing tyre rolling resistance by 25%. (Solvay, 2023a).

The SPM is a tool that can help evaluate the risks and possibilities connected with the environmental impact of certain facilities and products, whether operational or market-driven.(WBCSD, 2023).

On its current portfolio, which accounts for more than 80% of its revenues and projected future costs, Solvay conducts SPM studies annually. The growth of its sustainable solutions has recently been 5% more than the portfolio's average sales growth. Fully auditable and subject to the SPM assessment, an annual external evaluation (Solvay, 2023a).

Finally, it is challenging to obtain material that contradicts Solvay's description of its tool since the documentation discovered is from Solvay or other sources that rely on information shared by Solvay. Despite the fact that this technology is extensively used and compliant, one should use caution. We therefore think that Solvay's SPM tool is a useful method for gauging and monitoring a company's portfolio's sustainability effect. It could, however, be constrained in terms of data availability and precision. It is crucial to remember that the SPM is only one tool within a larger set of sustainability tools and that it should be used in conjunction with other strategies, such as stakeholder engagement and life cycle assessment, to guarantee a thorough and effective sustainability plan. It should be viewed as a crucial component of a larger sustainability toolbox because it presently does not account for all sustainability-related challenges.

1.5. Independent methods vs Standardised methods

Private investors have recently started taking both positive and negative effects into account when making investment decisions, which has led to new inquiries about how to measure and manage impact at the portfolio level (Boiardi, P., 2020). Since there is no consensus on what constitutes “good” sustainability performance, it is difficult to examine the sustainability trend’s effects on specific products or services objectively (Vervoorn, M. et al., 2018). The increasing participation of public/nonprofit and private/commercial actors in the same investments and initiatives leads to differences in the meaning and definition of key concepts (such as the terms impact and additionally, among others), which poses additional issues (Boiardi, P., 2020). Within businesses, there is no accepted terminology or methodology for describing or rating sustainability performance. As a result, there is a widespread lack of internal and external communication. Many industry standards, labels, certification programs and laws have been developed in response to this problem to aid businesses and customers in making educated choices. These requirements frequently differ by region and industry (Vervoorn, M. et al., 2018). Some of these indicators conflict with one another, whilst others overlap. These projects have a variety of motivators, from the investors themselves to the staff and customers. It is challenging to navigate this congested area due to the variety and various understandings of terms and concepts (Boiardi, P., 2020).

Two methods of impact evaluation are now being discussed: standardising measurements on the one hand and adapting the assessment procedure on the other (Avisé, 2020).

1.5.1 Standardisation of Impact measurement

The standardisation of measurements, which ensures that the investor and the shareholder agree on their meaning and specificity when reporting outcomes, further reduces the investor’s effort. Social entrepreneurs are expected to have many funding sources as well as multiple stakeholders who they must answer to. If all investors employ the same metrics, they might be less effective. By adopting standard measurements, investors might be able to decide which measures to include

in a new operation. They are given the chance to understand how others evaluate the results of comparable investments, what strategies have worked for them and how to share the knowledge by being exposed to established methods (Melka, L., 2021).

There are a large number of standardised methods, the IRIS database, a collection of standardised indicators created by the Global Impact Investing Network (GIIN), is without a doubt the most well-known measure method. To develop impact investment globally, the GIIN offers the free and open-source IRIS+ database, which was created in 2008 and improved numerous times (in 2011, 2014, 2016 and 2019). Investors can efficiently assess and manage their influence thanks to the database. Its indications, which can be quantitative or qualitative, all share the ability to be quickly gathered for use in decision-making and aggregated at the portfolio level. Quantitative measures can be applied in calculations or qualitative values to report on the social, environmental and financial performance of an investment. After the GIIN initiative, further metrics, global measurement projects and catalogues of standardised performance indicators have emerged (Melka, L., 2021; Nicholls, A., 2021a).

The Impact Management Project (IMP) Collective is the third most popular worldwide initiative utilised by impact actors to evaluate and enhance the positive externalities of investments, according to the most recent annual survey of GIIN members. It comes in third place, below IRIS (second place) and the Sustainable Development Goals (first place). More than 2,000 individuals and a network of 16 organisations are currently present in the IMP, a global platform and exchange space established in 2016. The creation of worldwide consensus on new standards for impact assessment, management and reporting is their shared objective through this public interest effort. A variety of contributors from Asia, Europe and the United States provide funding for IMP. Its thinking is driven by three key directions:

1. Formalising an effective management procedure (the practice)
2. Creating a framework and standardised data for impact measurement and reporting (the performance)

3. Developing impact comparison methods (the comparison)

Five dimensions serve as the foundation for regulating impact through a structure like the one created by IMP: As you can see in Figure 1.10, the “*What*”: the nature, type and territorial scope of the influence; The “*Who*” refers to the impact’s target actors and their qualities; the “*How much*” refers to the impact’s scope; The structure’s “*Contribution*” or how it contributes to the change that has been noticed; The “*Risks*” are those that could have an impact on this contribution (Melka, L., 2021).

Figure 1.10: The five dimensions of impact according to the Impact Management Project (Avisé, 2020)

The IMP reached global consensus that impact can be deconstructed into five dimensions: What, Who, How Much, Contribution and Risk

IMPACT DIMENSION	IMPACT QUESTIONS EACH DIMENSION SEEKS TO ANSWER
 WHAT	• What outcome occurs in period? • How important is the outcome to the people (or planet) experiencing it?
 WHO	• Who experiences the outcome? • How underserved are the affected stakeholders in relation to the outcome?
 HOW MUCH	• How much of the outcome occurs - across scale, depth and duration?
 CONTRIBUTION	• What is the enterprise’s contribution to the outcome, accounting for what would have happened anyway?
 RISK	• What is the risk to people and planet that impact does not occur as expected?

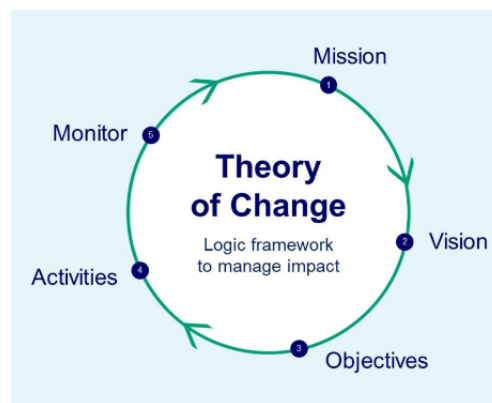
Source: Impact Management Project analysis.

CC BY NC ND

The impact investment sector has also used the Theory of Change (TOC) approach to implementing logic and continuous feedback loops for efficient impact measurement and management. It mainly consists of a five-step model that explains and shows how and why a desired change or outcome is likely to materialise. In summary, the five steps are (Figure 1.11):

1. Start with your goal of generating income for social change.
2. Establish the need for change and your desired outcomes.
3. Set important impact goals.
4. Describe the tasks you intend to carry out.
5. Track and report your impact using statistics and case studies.

Figure 1.11: The five steps (Triodos Investment Management, 2023)



Although a Theory of Change model has a linear structure, it adds analytical complexity by making assumptions about the short, medium and long-term effects of a certain action (or group of acts). It is usually summarised in a descriptive diagram, frequently with an accompanying, illustrative narrative. An organisation can visualise how a desired impact might be achieved over time by using a TOC, which is often built as a multistage, predictive and heuristic model. A TOC can, however, also be used as a management tool to adjust strategy as programs advance. A wide range of stakeholders, including investors/funders, senior management, staff, beneficiaries and other partners, are

often involved in developing an effective TOC. The questions and choices made during the TOC generation process are frequently just as crucial as the finished diagram. There are many significant applications for creating a TOC in terms of controlling and measuring impact. A Theory of Change helps organisations make decisions about what kinds of material data to gather, when and from which sources, allowing them to concentrate on the evaluation of their impact over time. Additionally, a well-crafted TOC enables an organisation to create an impact narrative with which to engage investors and other stakeholders and simplifies the complex process of producing impact results into understandable stages of action. A good TOC should consist in the following:

- Dependable, grounded in prior knowledge and pertinent research,
- Attainable in terms of the tools required to complete the work,
- Supported by the stakeholders who will help define the TOC,
- Testable with predetermined, reliable indicators that are given priority for measuring the desired results (Nicholls, A., 2021a).

Like other measurement techniques, using standardised methods has advantages and limitations. As the methods are already available, it can be less expensive to install them continuously over time, which also makes it easier and encourages more frequent reporting. Moreover, standardisation enables method and technique simplification, which makes it easier to integrate them into management solutions. The ability to aggregate outcomes from one organisation to another thanks to standardisation makes it easier to compare organisations using comparable indicators and practices and to compare results objectively. This comparison is significant since it enables for comparison of impacts and serves an external audience (Tiess, 2023).

Nonetheless, despite these noteworthy benefits, standardisation carries certain risks. The results lack nuance since the diversity of organisations and the changes they bring about are not represented by the use of conventional techniques. Moreover, these processes frequently favour quantitative outcomes over those that are more qualitative (Tiess, 2023).

These standardised instruments are thus particularly intriguing for impact assessment and promote communication among stakeholders, but they are ultimately challenging to employ because the social impact of every project depends on its specific setting (Avisé, 2020).

1.5.2 Customisation of the evaluation process

Many fund managers employ independent measurement and management techniques despite efforts to coordinate impact measurement. These customised procedures, whether created internally or with the aid of a third party (certification agencies, consultancies, academic institutions), may be more accurate and better adapted to their investments. Additionally, they are better controlled by the funds that founded them and the designated beneficiary corporations. They occasionally exist before standard measuring frameworks and their designers make use of them whilst they wait for the latter to develop. In order to create a relatively deep and thorough impact management system, they frequently consist of integrated models that incorporate approaches from the early methods and components of standardised assessment. As a result, some believe that whilst specialised methodologies that more accurately reflect the facts of impact investing may be desired, impact measuring frameworks are welcome to help structure the industry. Allowing for a more thorough and context-specific description is one of the key benefits of employing a customised evaluation. It enables greater understanding and improvement rather than sharing and comparing impact because it is primarily geared toward an internal audience (Avisé, 2020; Melka, L., 2021; Tiess, 2023).

A personalised approach places evaluation as a method for understanding the impacts and implications of a project and, more broadly, for boosting the inventive potential of social economy institutions when it is carried out over a long period of time (Avisé, 2020).

1.5.3 Convergence of measurement methods

Companies utilise a range of sustainability reporting standards (or do not disclose which ones they use) or create their own standards based on frameworks already in place (Albu, N. et al., 2013).

Sustainability reporting has grown and expanded significantly in recent years. Not only do these reports have more latitude in terms of presentation and compliance, they also give the business a chance to show its stakeholders how it addresses social and environmental challenges (Basu, S. K., 2022). This variation in practices raises concerns about the accuracy and comparability of sustainability reporting, as well as the propriety of accepting multiple reporting frameworks or the requirement to converge all current sustainability reporting practices into a single, uniform practice, in this difficult and rapidly changing environment (Albu, N. et al., 2013; Basu, S. K., 2022). The current state of affairs, however, permits businesses in many nations to select the reporting framework they prefer or to create their own because there are numerous reporting frameworks available, the majority of which are optional. Firms can select the plans that work best for their operations, which is a benefit, but it makes comparison difficult (Albu, N. et al., 2013).

Increased accountability, better decision-making, enhanced credibility and acceptance in important markets, as well as improved reputation and legitimacy, are all correlated with Corporate Social Responsibility (CSR) disclosures. Some contend that CSR reporting is influenced by motivations other than accountability, such as worries about legitimacy, managing stakeholders and disguising conflicts. The causes of this difference include the diversity of present reporting requirements, the range of acceptance and enforcement strategies (mandated or voluntary), the type of national law organisational variables (such as size, industry or interests) and regional institutions and culture. The quality of information for user decision-making is significantly impacted by this range of techniques, which, in turn, hinders comparability. These issues thus reduce the report's reliability (Albu, N. et al., 2013).

For new investors who are unable to distinguish between various levels of impact, the lack of consistency in impact measurement and management also acts as a barrier to admission. This effectively fuels SDG-washing and damages the credibility of social impact and sustainable investment initiatives. SDG-washing is the practice of emphasising a product or service's contribution to one of the SDGs whilst downplaying its detrimental effects on the other SDGs. SDG-washing is the term for the practice of claiming that existing financial goods have an "effect" by saying that they support certain SDGs whilst hiding the true impact. At the moment, we see businesses and

investors re-branding investments and activities that have little to do with creating a more sustainable world as “impact” investments. Public authorities, including policymakers and development finance providers, have the power to control the market by establishing and advocating integrity standards in order to counter the risk of “impact washing”; Despite efforts to assist investors and businesses in shifting from measuring results to measuring impacts, the majority continue to do so (Boiardi, P., 2020).

A relevant and effective way to inform stakeholders about how businesses are doing in relation to their goals is through good sustainability reporting. Businesses that use this strategy will probably have an advantage over rivals and may be able to boost shareholder value. Making sustainability-related information and reporting more trustworthy, thorough and useful for external stakeholders and internal management is thus regarded as a big problem for businesses (Basu, S. K., 2022). Impact measurement is consequently complicated by the disparity in standards. For this reason, detailed corporate reporting will be required with the Corporate Sustainability Reporting Directive.

1.6. Conclusion

Ultimately, the discussion over how to evaluate the impact is still in its early stages. There is currently insufficient information and studies available on the topic. Impact investment still has a major issue in measuring effect.

Thus, it is easier to understand the differences between the two approaches and their goals: on the one hand, the availability of standard indicators gives all actors (organisations, funders as well as public authorities) a common measurement framework; on the other hand, a tailored approach is necessary if we want to take into account the complexity of a project or system and enhance its specificity, especially in the social field.

It is sometimes required to strike a balance between these two techniques because of their complementary goals, although doing so proves rather difficult. On one hand, providing and using indicators in accordance with an existing base of indicators in the context of dialogue with funders

and on the other, engaging in an evaluation process involving, for example, a group of associations, beneficiaries and other stakeholders to understand and improve the social impact on a territory. The two exercises are occasionally carried out in parallel (Avise, 2020).

Even if it is impossible to have just one effective framework, it is crucial to encourage cohesiveness and harmonisation among the ones that already exist. Impact measuring frameworks and approaches have been tried in a number of ways. However, it has become evident that there is no single approach or framework that works for all applications and this for a variety of reasons. Depending on their impact strategy, investors may need different information, whilst the underlying assets (i.e., the businesses that must measure and supply the data) have varying levels of capacity and funding to carry out the assessments. Additionally, the application of sophisticated modelling approaches and monetization methodologies is hampered by the absence of data and data infrastructure in a nation or industry. As a result, a number of frameworks that may be applied in many situations and for various goals are starting to develop. Investors should, but only when practicable, resort to standardised databases of impact measures and indicators. Investors and businesses can use a variety of impact measurements and indicator databases that are segmented by industry and sub-sector and offer standardised definitions of accomplishments and results. Whenever possible, investors ought to employ standardised indicators (Boiardi, P., 2020).

To fulfil the needs of a particular underlying asset or a new sub-sector or to provide a solution to a query with significant managerial ramifications, investors might need to develop their own indicators. A solid measurement system must include impact metrics and indicators. Whilst choosing a list of indicators to assess impact without specifying the objectives of the measurement and a structured framework for the measurement is not a good practice, using indicators with established definitions is advantageous because it increases the comparability of investments. Going beyond results to gauge impact is still challenging. Investors and businesses typically stop at outcome indicators and do not measure impact yet. Investors should aim to create outcome targets, measure results and never stop at the output level whenever possible so as to properly evaluate the actual change they have brought about in the lives of their beneficiaries (Boiardi, P., 2020).

In general, it is not advisable to advocate for one method over another; rather, it is crucial now to engage in conversation and jointly create the criteria for the evaluation process with funders and social utility institutions (Avisé, 2020).

By directing a sharing and coordination process and bringing together best practices on the most reliable principles, frameworks, standards and measurements for measuring and managing impact, the OECD may provide value. Policymakers may ensure that all investors engaged in development adhere to best practices for managing and evaluating their impact by developing regulatory advice (Boiardi, P., 2020).

Following our various research and reflections, we are able to ask ourselves the following question:

“Standardised and/or independent measurement methods for impact measurement, what is the most effective way to do so?”

We personally believe that the best way to evaluate impact is to use a combination of approaches. That is the use of standardised methods that allow for a partial comparison between organisations and sectors and, at the same time, the development of a more personalised evaluation method that better captures the essence of the project and is more adapted to reflect the reality of the given impact. We believe that by combining the two approaches, impact measurement will be more optimal and will benefit from the advantages of both evaluation methods.

This is what we will try to demonstrate at our scale in the second part of our work.

Chapter 2

Practical analysis

The practical analysis of this thesis's subject will be the main emphasis of its second part. The goal is to understand what is the most effective way to measure its impact, whether it is the use of standardised and/or independent measures. The analysis will be based on the data acquired in the literature research and on the various facts presented during the interviews in order to respond to these questions. More theoretical material will thus be connected to the subjects covered in the interviews in order to increase relevance and depth. Therefore, the literature review is a suitable place to start and sets the stage for this empirical section, which is divided into three parts.

First of all, we will start by going through the complete process employed in this study. We will go into depth about how the sample was selected before moving on to how the data were gathered. Finally, we will talk about this chapter's final subsection, which is about data analysis.

Then, we will concentrate on the data analysis, which is the centre of this study and summarises the findings from the interviews. This chapter has identified and described all the pertinent data, which will be used to separate the opinions of Solvay which is a company that has created its own measurement method and the "experts", then combine the data and aggregate the findings.

Finally, in order to take a critical look at the topic, we will explore the conversations that have been had on the topic in order to support this chapter as objectively as possible.

2.1. Methodology

2.1.1 Research methodology

Even though there are several research methodologies, our technique was first selected for qualitative analysis. The goal of qualitative research is to gather enough data to address the problem after it has been processed. The only questions that could be asked under the qualitative method are “Why?”, “How?” and “Who?” Given that the literature on impact investing and the metrics that make it up is still in its infancy, we chose this strategy since it seemed to be the most appropriate (Sawadogo, H. P., 2021).

2.1.2 Sample selection

First of all, it may be described as the group of components from which data are gathered. The sample that is selected depends on three factors: the homogeneity or heterogeneity of the components, the process used to choose the components and the total number of components. Naturally, the participants were chosen for the study’s objectives and viability based on their theoretical applicability to the phenomena under investigation. As a result, the interviewee sample might be described as varied in terms of their areas of expertise. The various interviews are, in fact, either impact investing actors or “experts” in the field.

Additionally, all responders are from Belgium, France, Denmark or Luxembourg in terms of regional character, which might skew the analysis. This prejudice might be viewed as insignificant given the respondents’ professionalism and market expertise. Last but not least, one of the elements that determine the degree of confidence in the findings is the sample size. The 14 respondents offered insightful remarks and a certain amount of theoretical saturation, despite the fact that this confidence is arbitrary. Due to the sample’s limits, an aggregate analysis would have required a significant increase in the number of interviewers, which would have been exceedingly challenging given the dissertation’s constraints (Thiétart, R. A., 2014).

2.1.3 Data collection

Between April 24 and May 10, 2023, 10 interviews were done to gather the data of 14 respondents (Appendix A) that were later examined. Teams and Google Meet were used to conduct the individual and group interviews, which varied in length from 30 minutes to 1 hour depending on the interviewees. The research was verbal, semi-directive interviews with each participant. The semi-structured interview is a data-gathering method that contributes to the generation of knowledge that promotes qualitative and interpretive methods. Indeed, conducting semi-directive interviews with a majority of open-ended and broad questions allowed the respondent some latitude in his responses, allowing us to get the exact information that we could rarely uncover through the literary evaluation. This gave us a more thorough understanding of the various procedures as well as the motivations for the choices made. In other words, because the interviews were semi-structured, we were able to ask very general questions and then use the interviewee's comments as a springboard to steer them toward the data we were looking for. They also gave us a chance to ask queries that we had not considered when creating the questionnaire. By progressing in this manner, we were able to learn the viewpoints of the many stakeholders, comprehend the efficient and inefficient procedures, comprehend the reasons behind the decisions, comprehend the development-related barriers, etc (Claude, G., 2019).

Through the use of structured interview guides (Appendices B1 to B4), the questions posed adhered to the format of the literature review. In order to stay on topic, some conversational themes were predetermined. In addition, the interviewees received early notice of the subjects to be covered during the interview so they could prepare any appropriate responses. To encourage spontaneous replies, we made sure that the final questionnaire remained a secret. The interviews were thus written down in French as it was the language in which the interview was conducted but the statements were then translated in the practical part.

2.1.4 Data analysis

An inductive approach based on grounded theory was used to analyse the data. With this method, themes and ideas might develop from the data that has been gathered rather than from a pre-determined premise. With the individual's permission, each conversation was recorded and then completely transcribed (Appendices C1 to C10). The material gathered during the interviews was split into topics following the previously prepared interview guide questions to be gathered and cross-referenced. In order to have a better picture and to make the analysis and writing easier, all the data was then compiled and synthesised. The data gathered from the interviews was contrasted with that covered in the literature study to ensure relevancy. The findings of this study have improved our comprehension of the viewpoints and experiences of experts in the field, which has enriched related research.

2.1.5 Presentation of the interviewees

Lionel Melka

Lionel Melka, aged 46, began his career in Mergers and Acquisitions advice 25 years ago at prestigious banks like Lazard and Rothschild. After investing in various structures and asset classes for 10 years, he changed his strategy. He learned about ESG and its limits at this moment, which led him to become more interested in impact. He wrote a book on impact investing after being convinced of the benefits of this investment method.

Bruno Van Parys

Bruno Van Parys is an agricultural engineer who graduated from UCLouvain. He worked at Solvay for almost 30 years, spending the majority of that time in technical and technical-commercial roles before transitioning into sales and marketing. He also held management positions and travelled around the world, including Paris and Thailand, where he established a biomaterials unit. When

he moved back to Brussels around 7 years ago, he joined Solvay's corporate solutions department, where he focused on sustainability as a growth driver for companies, which is increasingly important in the decisions of customers and investors. At Solvay, the Sustainable Portfolio Management tool was the core focus of his corporate sustainable development role.

Yves Souris

Yves Souris has worked for many years in the commercial sector, most notably at Solvay, where he managed a particular division for almost 10 years. He began working for the corporate sustainability team a year ago in the same part as Bruno Van Parys, where he was responsible for assisting the GBUs in creating sustainable solutions and issuing alerts when needed. He most recently joined the ESG reporting division of Michel Washer's team in September, which entails interactions with investors and rating agencies. He has therefore been serving in both positions for the past 6 to 7 months or so.

Frédéric Vereecke, Matilda Di Nardo & Jérémie Gross

At the Belgian Investment Company for Developing Countries (BIO), Frédéric Vereecke works as an investment officer on real investment initiatives, with a focus on financial inclusion in South East Asia. At BIO, Jérémie Gross and Matilda Di Nardo are specialists in assessment. In order to create the strategic orientations required to accurately identify these impacts, their responsibility is to quantify the impact of initiatives by identifying, measuring and monitoring impact.

Yannis Lambourdiere

Yannis Lambourdiere studied in Paris and currently works at Impact Partners. During his studies, he began investing at Impact Partners. After that, he worked in traditional investment at Axa Private Equity and BPI France. He became interested in impact investing again in 2014 when Impact Partners' CEO Mathieu Cornieti got in touch with him about raising money for the organisation.

François Monville

François Monville just joined the Impact Partners team, making him a novice to the impact investment industry. Prior to it, he spent 25 years working for Mazars in high international positions. Before concluding his career in London, he opened and developed nations including Hungary, Indonesia, Singapore and the Philippines. When he made the decision to merge his professional and associative activities, which led him to meet the CEO of Impact Partners and join the team.

Keith Bortoluzzi

Keith Bortoluzzi is a businessman who founded a number of companies in several industries, including PowerPoint productivity software, a trading card, a collectables marketplace and an artificial intelligence lab that aids in market capitalisation. He developed an interest in ESG and impact during the development of the latter firm at the request of his institutional investors, who wanted to incorporate non-financial factors into their investment decisions. Since the Covid-19 pandemic, he has focused on the intersection of investment, technology and extra-financial concerns, particularly with regard to impact, which is now more frequently associated with measurable environmental and social measures than with planned activities.

Yves Marenne

Yves Marenne received a degree in civil engineering from UCLouvain in 1986. Before concentrating on energy concerns, he spent 13 years working in the steel industry. He has been employed by ICEDD (Institute of Consulting and Research in Sustainable Development) since 1999, as an independent consultant that primarily provides energy and macroeconomic advice to governmental entities. He specialised in energy balances, energy policy and combined heat and power. He is a municipal councillor and a member of the 'Ecolo' political party and his devotion to the environment is mostly based on his work. As part of his job, he carried out impact assessments of Green Bonds.

Pierre-Yves Thomas

Since roughly 13 years ago, Pierre-Yves Thomas has been employed by PwC Luxembourg as an auditor with a focus on alternative investments, such as private debt and private equity. A few months before the SFDR regulation's introduction, he joined the ESG team. He has always been attentive to Environmental, Social and Governance (ESG) concerns because he is a countryside Saint-Hubert native. It is therefore no surprise that he chose to join the ESG team in order to combine his love of his career and his passion for sustainable development.

Mathilde Albin

Mathilde Albin has been working at PwC Luxembourg for almost 3 years. She arrived when talking about “sustainable finance” was just getting started. It was her responsibility to develop this aspect inside the business and determine how it may be used in certain divisions, notably insurance. She completed two master's degrees, one of which was in sustainable finance at Sciences Po, in addition to attending a business school with a focus on sustainable development. She is currently employed by the insurance group responsible for the SFDR publications. She assists portfolio managers with articles 8 and 9 by examining their disclosures, methodology and procedures. She also has an opinion about the metrics set forth by the investing firms.

Yann Verstraeten

Yann Verstraeten is a graduate economist with a focus on environmental science who attended the Louvain School of Management about 10 years ago. In his current position, he consults for an organisation called ICF, which focuses on public policies pertaining to European institutions, such as those pertaining to migration, socio-economics, employment, climate change, sustainable financing and biodiversity. He interacts with several players in the commercial sector, including financial institutions, who are taking biodiversity into account in their everyday operations as the coordinator of a European platform called Business and Biodiversity. His role is to lead and aid

them in comprehending how they both affect and depend on biodiversity. He is interested in impact investment because of his concentration on biodiversity, especially when it comes to learning how to incorporate biodiversity into economic systems.

Claire Cherpion

With experience in process control and risk, Claire Cherpion has been a Director in PWC's Risk and Assurance practice for 18 years. She started her career in financial auditing before specialising in sustainability reporting for her clients over the last 3-4 years. Her job is to assist her clients in creating sustainability reports or reviewing them in terms of assurance to ensure the implementation and material impact of certain Key Performance Indicators (KPIs). It is compatible with a number of worldwide norms, such as GRI, SASB and TCFD, as well as European norms, such as CSRD and ESRS.

2.2. Findings

2.2.1 Impact Investing

Definition

According to the majority of respondents, impact investing tries to create good change by balancing the goal of making a profit for investors with the goal of producing social or environmental value. We further point out that the GIIN definition includes additionality, intentionality and measurement requirements, which are the three main standards universally accepted for impact investment. Additionality refers to the GIIN concept of contribution, which is a crucial element to take into consideration. These criteria are necessary to guarantee impact investing's efficacy and contribution to resolving the social and environmental issues that now face our planet.

According to Lionel Melka, intentionality is the intention that the investment will have an effect

from the beginning. Second, according to Frédéric Vereecke, the concept of additionality suggests that the beneficial outcome would have been smaller if the investment in the issue had not been funded. In contrast, “greenwashing” represents ecological existing investments that would have been undertaken anyhow. Finally, the most challenging aspect of impact investment is the methods of measurement employed to evaluate this impact. The combination of these three requirements, François Monville said, is the secret to effective impact investing. It is essential to have a clear objective to bring about positive change since you cannot change everything and must pick your battles carefully to make a difference. Yannis Lambourdiere concurs with this statement and adds that impact investment will rely on the goals one chooses for themselves, since these goals may be more focused on the environment, education or health. He describes an impact investment as one that will immediately contribute to the accomplishment of a purpose from the outset, meaning that we can directly connect this investment to our mission. Impact investing has two main objectives: first, it promotes change and harmonises the interests of business owners, investors and clients. Second, it will make it possible to quantify and assess this influence, which must be possible to do relatively directly. He uses the reduction of unemployment as an example to illustrate his concept; in this situation, the investment’s immediate effect will be the increase in the number of individuals who are able to find jobs.

Five of the interviewees agreed that impact investing is defined as an investment that would have a beneficial influence on society and the environment whilst taking into account financial return without overriding other considerations. By raising the theory of change, François Monville also referred to the idea of positive transformation. Investors must be provided with the resources to make the switch to sustainability, said Claire Cherpion. According to the two Solvay experts, this investment will help either slow down a degrading process or improve everything linked to the environment and society in general. As claimed by Bruno Van Parys, this must improve both the social and environmental performance of clients and consumers. Finding innovative methods and techniques that enable us to accomplish more with fewer resources is the key. It also involves bringing products to market that are safer and more effective, allowing users and direct customers to lessen their impact, that is, to emit less CO₂, use less water and use less energy whilst maintaining

the functionality and quality of their goods.

From another perspective, François Monville and Keith Bortoluzzi believe that the term “impact” is overused and utilised in a variety of contexts. Few impact devices, according to the latter, satisfy the three requirements of intentionality, additionality and measurement. The most challenging criterion would be the second. Additionally, it is the only one to emphasise how crucial it is to distinguish between investor impact and corporate impact. Claiming that a corporation has a positive influence or that an investment has a beneficial effect are two quite different things. According to him, a shareholder in Total may have a positive impact whilst the firm itself may have a negative effect, which is very plausible. Total will always have a negative influence, but if the investor assists Total in changing and becoming more moral, it is because of his interventions, guidance and training.

Since there are several definitions of impact investment and no universally accepted definition, Mathilde Albin agrees that it might be difficult to define. Nevertheless, they all report impact investing definitions that are more or less the same, depending on their activity and scale.

Importance of the measure

In today’s environment, evaluating impact is more than vital, according to all the professionals we spoke with. In the words of Lionel Melka, impact measurement is particularly vital for the individuals in charge of the project since it gives them direction and enables them to quantify their efforts. If only to demonstrate the second criterion of additionality that the investment has really had an effect the investor must demonstrate A plus B. The measuring instrument is the foundation of impact investment, thus. You cannot determine whether there was an effect if you do not measure the consequence. In Yann Verstarten’s personal opinion, it is critical to consider both the potential financial return and the social and/or environmental benefit that this investment might have on society.

According to François Monville, measuring the impact is useless without a mission, as Yannis Lambourdiere mentioned. In other words, it is important to select impact KPIs that are closely

related to the goal that drives the organisation's business strategy. If there is no alignment of interests, measuring is useless, in his opinion. According to Pierre-Yves Thomas, the measure is crucial to maintaining the trust of consumers who may decide to spend a portion of their resources with certain businesses or investment funds that make claims to support or carry out tactics that pursue sustainable goals. It is therefore, crucial to evaluate this influence in order to reduce the possibility of greenwashing.

Keith Bortoluzzi claims there are two schools of learning. One of the financial experts in green bonds, which are more traditional investments, claims that there cannot be an impact if there is no measurement. There is no influence if you cannot quantify the return or the return on the environment. On the other hand, we have venture philanthropy which makes investments in initiatives where additionality is so great that the influence is still experienced even though it is exceedingly challenging or often even impossible to quantify. In other words, measuring is less significant in the long run if there is additionality and intentionality.

Although some forms of effect are still challenging to measure, what we learned from the interviews is consistent with the literature analysis in that it is obvious that evaluating impact is important for impact investors and stakeholders participating in a project. We do observe that Keith Bortoluzzi's position is in opposition to what other people have asserted, though.

2.2.2 Impact Tracking

The most common standards

It is evident that there are several methods and instruments available for assessing the effect of impact investing. However, a tool's usefulness frequently depends on the details of the project in question. Our respondents often cited SASB, GRI, the European Taxonomy, SFDR, CSRD and GIIN as the best and most extensively used tools for assessing effectiveness in the field of impact investing. Due in large part to its IRIS+ database, the latter is regarded as a reference institution in the field of impact measurement.

Lionel Melka asserts that because the GIIN is a genuine organisation with a solid reputation, its tools are probably the most extensively utilised in terms of standardising and that for some straightforward tasks, these standards may be adequate. According to Yves Souris, GRI is the extra-financial reporting standard that is adopted by the majority of businesses worldwide, roughly 90% of them. This is a result of how rigorous, thorough and extensive GRI reporting is. Companies may be confident of quality non-financial reporting and leadership by adhering to the GRI criteria. There are also additional, more specialised standards that run concurrently with the GRI. Examples include the TCFD on climate, which has four pillars and the TNFD on biodiversity, which adds complexity. Because there are too many standards, the CSRD, which will soon be available, will allow some harmonisation across these many instruments at the European level. Companies will be required to report their effect under the CSRD. In fact, Yann Verstraeten emphasised that this new guideline would be implemented gradually nevertheless.

Method selection

Mathilde Albin and Lionel Melka agree that a number of factors, like the investment, the project, the industry or the sector in which one is located or the impact one is attempting to assess, influence the choice of measurement techniques. This viewpoint is also held by Yann Verstraeten and Pierre-Yves Thomas, who added that it may also be influenced by the state of the economy, the magnitude of the investment and the structure of the business. Therefore, a number of demands also influence and refine the choice of the impact indicator and, ultimately, the metric. These needs are in addition to the application and situational setting in which the firm or financial institution works. Other factors to take into account include the organisation's goal, the challenges it encounters, the availability and cost of its tools (some are free whereas others require a fee), the amount of time needed to put out the work necessary to monitor the effect and many others. In order to ensure and establish the data's authenticity and trustworthiness, it is critical to use tools that are acknowledged and have proven to be both relevant and accurate.

Lionel Melka offers two distinctions regarding the selection of indicators. Those that are indolent

and those that are diligent. Those who seek an answer straight away but one that will not suffice for someone who is genuinely interested in the issue are lazy. As a result, lazy people try to add their projects on top of an existing approach. Then there is the image of the diligent labourers, whose genuine tasks may take days or even weeks to complete. Of course, they draw inspiration from an existing model, but they create the project's whole architecture. As they examine the KPIs that are pertinent for each project individually, this assists them in determining the best possible instrument. Depending on the project, certain ways are undoubtedly superior to others, however, it is difficult to comment on this. The most successful strategy will undoubtedly be a dual one: both qualitative and quantitative. Take impact funds as an example. In order to make his argument, Lionel Melka used the example of financing water access in nations bordering the Senegal River. A qualitative assessment is set up, incorporating interviews with project recipients to get their thoughts, to determine the true effect of the initiative. To allow qualitative synthesis, identical questions are asked of various respondents. Additionally, a quantitative analysis is performed to determine the project's most pertinent indicators for evaluating its quantitative impact.

Finding an appropriate method that is also practical is a challenge for Bruno Van Parys. For his part, Pierre-Yves Thomas believes that whilst a solution must be adaptable, it need not always be reproducible. A replicable solution is possible, but it must be flexible enough to accommodate the particulars of the organisation in question if accurate data is to be obtained.

Difficulties in measuring impact

The difficulty of assessing impact is a fundamental issue and continues to be a significant obstacle in the field of impact investment. It is true that there is no easy way to measure impact and the absence of harmonisation makes the work difficult. Additionally, it takes a lot of time and money to measure impact and not everyone has easy access to the data.

The challenge, in Yannis Lambourdiere's view, occurs when the pursuit of impact is not at the core of the business strategy. This may include calls for more reporting, which, from the perspective of the entrepreneur, may not contribute anything. Impact has value for the entrepreneur and serves

as a performance measure for him as well, but, when it is at the core of the business model of the organisation. To make it easier to integrate the assessment of this impact, it is crucial that the impact be actively sought via the investment. When the influence is highly indirect, there is an extra difficulty, which complicates measuring.

Frédéric Vereecke concurred. It might be challenging to assess impact since there are occasionally conflicting interests. In order to guarantee that everyone is travelling in the same direction, it is important to have a values alignment. The firms that have the best impact measurements are often those that have a good understanding of their ecosystem, their staff and their consumers and are able to quantify what they are doing as a result. A corporation will be more competent in the tasks it does the more it can measure the effects it has on society, the environment and performance.

According to Keith Bortoluzzi, the technique issue is the first hurdle. There is a categorisation issue too; some initiatives have effects that are on the cusp of many impact categories, such as forest conservation, which can affect both species biodiversity and soil biodiversity. As a result, there are a plethora of techniques and it is difficult to harmonise and classify everything. Despite having a carbon accounting system in place, we currently lack a system for accounting for all impacts since not all effects can be reduced to carbon.

There is no one approach or harmonisation of practices due to a lack of standards. Even politicians cannot agree since there is no international agreement. Every investor has a unique strategy for each sort of enterprise. The difficulty for an impact investor comes from the fact that you cannot boil down everything you want to measure to a single metric. You need to identify the appropriate indicators that can account for everything. According to Matilda Di Nardo, there are several Development Finance Institutions (DFIs) in Europe and whilst these organisations often connect and harmonise their indicators, the road to complete data harmonisation remains long. Yann Verstarten further asserts that businesses frequently feel confused in the sea of indications and defer assessing their effect as a result.

Mathilde Albin might use the Taxonomy as a framework to refer to. It is, however, quite challenging. Pierre-Yves draws attention to the discrepancy between the amount of need and how

businesses will be able to handle this degree of requirement given a lack of operational assistance or trustworthy data.

Jérémie Gross brought out a further issue with the quantification issue, namely the measurement-related consequences. Given not everything can be measured, quantifying influence is still a challenging procedure. Some of it is given a more descriptive, qualitative description. This quantification issue parallels the dual nature of the method, which is both qualitative and quantitative.

After that, the majority of professionals agree that effect measurement now faces serious difficulty due to a lack of relevant data. The reason for this is frequently that businesses lack the information and know where they can find it or have it but it is poorly organised. Furthermore, it is impossible to measure without data. Data collection may prove complicated, particularly for initiatives that face both financial and transparency challenges. It is now hard to adopt all these impact processes in a business that is not accustomed to reporting and auditing. Indeed, both time and money must be invested in it. Additionally, it is frequently a laborious and time-consuming operation. Smaller businesses or even SMEs, lack the funding necessary to implement all of this. The measure is not yet essential, but it is becoming more and more necessary. Too few businesses are making the effort to quantify their effect as a result. Lionel Melka claims that this is a significant challenge since without access to all the required data, unified reporting is not feasible. Claire Cherpion also notes that it will be challenging to establish strong governance and choose what data we should report. Complexity will also be present in the information analysis required to develop a plan. Timing, which must be in accordance with the time horizon of decision-making, is an issue that goes hand in hand with resources.

The absence of data is really one of the major challenges faced when assessing effect. This might be due to a variety of causes, including the complexity of the issue, the challenge of finding accurate and comparative data or the confidentiality and financial restrictions related to data gathering. Some of the difficulties with impact measuring discussed in the literature are reflected in the difficulties brought up by experts. These include the requirement for time and financial effort, the dearth of trustworthy data and the difficulty in making comparisons owing to the absence of standardisation.

What are the possible solutions?

Professionals have solutions to give despite the difficulties impact investments confront in terms of measuring and monitoring impact.

First of all, according to Lionel Melka and Yves Souris, problems are frequently solved at the start of a project. It involves developing upstream impact indicators and tracking them over time. The indication must be adjusted if the outcome is negative. Additionally, eco-design may be taken into account if the measurement is done upstream so that the project can satisfy the expectations of all stakeholders. Building a reporting or impact business strategy in advance, maybe with the aid of auditors, would thus be crucial. This stage is created ex-ante with the project manager since if it is not done from the beginning, it will never be done. The French appliance repair firm Murphy was used as an illustration. It was ingrained in their DNA, therefore they established an internal measuring system right away. It is considerably simpler to implement metrics whilst the project is just getting started rather than trying to do so after it has already made significant progress.

According to Matilda Di Naro, databases like IRIS+ and HIPSO, which concentrate on the private sector, are answers to the issue of data harmonisation. Aspects that aid in approaching impact are also made accessible for IRIS+. These two systems are used to synchronise measurements. Jérémie Gross brought out the rising number of harmonisation-related activities that concentrate on the problem of effect measurement. Another that focuses on the private sector is the Operating Principles for Impact Management.

In contrast, Pierre-Yves Thomas argues that creating an internal, independent measuring technique would be the best course of action. He does, however, talk about the CSRD, which will offer confidence in sustainability data. In an upbeat view, he predicts that this will constitute a sizable portion of the answer to the problem we currently confront. According to Mathilde Albin, who concurs with this viewpoint, the legal system is the answer to the problems impact measurement faces. The latter is rapidly being used by big businesses, after which it will spread to SMEs and finally to small businesses. Although it is reasonably easy to construct huge schemes for the European Union, this is not always clear for the smallest structures, therefore it will be important to succeed in assisting

these tiny businesses. Both a financial aid component and a support component should be provided. According to Pierre-Yves Thomas, this is one of the only interim fixes for the issues we are now experiencing. This approach, granted that it may be profitable, relies somewhat on human greed or at the very least, on the desire to be able to compensate individuals who contribute to the common good in the future.

We see that the upstream development of impact indicators and their ongoing monitoring, the engagement of specialists like auditors and the introduction of regulatory frameworks for businesses like CSRD are the principal solutions that emerge from these interviews. In the area of impact investment, these solutions may make measuring and monitoring easier.

The importance of transparency and how to ensure it

Transparency, a crucial component in the field of impact investment, was one aspect that kept coming up during the interviews. Transparency can only be ensured if data is accurate, readily available and easily measured. However, it is obvious that there is a problem with data accessibility and this poses a significant barrier to corporate openness. Keith Bortoluzzi believes that the words governance and transparency are synonymous. Environmental, Social and Governance is one of the guiding principles of impact and before E and S, there was G. One should not invest if there is no governance; this has always been the first non-financial investing guideline. The availability of information to stakeholders is one of many components of governance, along with peace policies, management compensation, pay conditions and strong adherence to the law. Any impact project, whether it be social or environmental, must adhere to the governance concept.

The importance of transparency is shared by Lionel Melka. Companies must make the effect of the initiative visible to the public if they hope to receive long-term support and develop positive relationships with their donors. It is dangerous since there is a considerable reputation risk involved if a corporation breaks its agreements.

According to Claire Cherpion, firms must disclose their effect so that investors may make wise

choices and be aware of their influence. She claims that whilst the Taxonomy's implementation is complicated, it is a rather effective technique to maintain openness. The CSRD, according to Pierre-Yves Thomas, may be a mechanism to ensure it as well. It is dependent on the investors' will. For major publicly traded corporations, making an environmental declaration in their management report is kind of already required. The CSRD is progressively expanding its reach, but it will be some time before it is accessible to businesses of all sizes. Numerous businesses have already adopted sustainable practices to set themselves apart from rivals.

Yannis Lambourdiere prefers simple measures because he believes that if they are too complicated, the outcome would be opaque and hard to quantify. François Monville acknowledges that accepting both positive and negative statements is vital in order to gain the trust of investors.

Transparency is the missing key, according to Mathilde Albin. Although certain industries still have some way to go, implementing transitional measures remains a viable solution.

Most experts emphasised the necessity for external auditing by a third party to verify the data's trustworthiness since a lack of transparency increases the possibility of greenwashing.

According to Bruno Van Parys, your data is more dependable the more you rely on primary, accurate information that you have control over in your operations or that is simple to get from your suppliers.

In conclusion, experts in impact investing concur that openness is essential to fostering stakeholder confidence, providing transparent governance, avoiding greenwashing and assuring the sustainability of initiatives. Each aspect of a project, from measurement to reporting, must respect transparency. As this directly affects their reputation and their connection with contributors, businesses must be clear in their pledges and capable of delivering on them. Last but not least, data must be recorded, stored and audited in order to properly evaluate the accuracy of the impact measurement. The literature has also noted the significance of an independent declaration of assurance.

2.2.3 Independent & Standardised methods

Standardised or Independent methods

According to Lionel Melka, a standardised tool is one that is made available by an institute or an organisation. For Yannis Lambourdiere, the standard is less flexible to specific instances and allows for methodical thought about each business case. In contrast, Bruno Van Parys analyses the proliferation of regulations in impact measurement. However, these projects deliver a set of accepted and widely used norms, which promotes uniformity.

It is evident that certain project measures have been established around internal management in addition to efforts to standardise and harmonise measuring methods.

Lionel Melka prefers to use the phrase “tailor-made” procedures to describe instruments that are specifically tailored for a given project as opposed to independent measuring methods. These custom processes can be developed internally or with the assistance of a close project partner after thorough interviews and the development of a proprietary model. Although it will provide a more individualised approach, this evaluation is frequently more expensive to implement. He thinks that right now, it is crucial to decide between using a conventional measuring approach and an independent one. When in charge of a smaller project with more modest goals, it is simpler to put a “tailored-made” approach into practice. It will be increasingly difficult to break free from a proprietary and customised paradigm on bigger projects. According to Claire Cherpion, the development of an internal tool makes it possible to keep track of every activity the business does in order to meet its own goals.

Regardless of whether a standard or independent technique is used to measure anything, there are still issues with data collecting and dependability. The data that comes from a model that is supplied with inaccurate data is unlikely to be pertinent. The “garbage in, garbage out” adage applies here. It is crucial to pay attention to this topic going forward. Bruno Van Parys also recalled the internal tool’s difficulty in continuing to be reliable and practical over time.

Size and aims determine whether to use an independent or standard measuring approach. Standardised methods might encourage methodical thinking, but internal measuring tools can provide a more individualised approach. However, data collection and dependability continue to be any measuring tool's limitations and businesses must make sure that the incoming data is accurate to get useful findings. The decision between these two strategies ultimately comes down to the project's complexity and the company's goals, but using measurement tools can assist in better understanding and evaluating the company's influence on society and the environment.

The variety of approaches: obstacle or opportunity?

It remains critical to grasp the many viewpoints on the variety of measuring techniques in impact investment. Some people view this as a challenge, whilst others see it as a positive opportunity. We sought the opinions of our numerous interviewees on this matter.

Many of them believed that the variety of approaches would be a challenge. Indeed, it presents a challenge for Lionel Melka since it calls for greater effort at least from investors. The variety of measuring frameworks, in Frédéric Vereecke's opinion, is in some ways holding up the implementation of this kind of instrument. Standardised procedures should be used because they are simpler to use and analyse, but they should also be continually improved with the help of like-minded parties. These indicators track actual events at the operational, social and environmental levels. As the demands of these circumstances are evolving, framework evolution is required. Therefore, in his opinion, the diversity of methodologies serves more as a restriction than an impediment. With a package that has received support from all relevant parties, cash might be allocated more swiftly. He used reporting as an illustration. An organisation that reports on its effect must do so using many distinct reporting systems, which consumes more time and resources and results in some inefficiencies. Instead, further research on the true impact may be done using these resources. For their parts, Bruno Van Parys and Yann Verstraeten draw attention to the fact that it is simple to become lost in the sea of approaches.

There is no such thing as a "perfect" or comprehensive technique, as pointed out by Pierre-Yves

Thomas, Mathilde Albin and Yves Souris. In order to have many sounds that all point in the same direction before making a choice, it is preferable to employ multiple indicators. According to Pierre-Yves Thomas, it is best to dispose of various clusters of corroborate and non-corroborate pieces given the incomplete nature of the data. The market now offers an unimaginable number of business impact measures, but none of them stands out or is open to everyone, according to Mathilde Albin. According to Yves Souris, extra-financial reporting gains more credibility when many indicators are used at once.

However, Yannis Lambourdiere and François Monville argue that having several indicators is not always required because our world is varied and it relies on the company's objective. Multiple signs may appear for the same mission, even if only one can sometimes prove sufficient. Should it be the case, the firm may still have a significant influence. Our reading confirms that François Monville warns us against conflating ESG and its effect. It is essential to be able to compare at the ESG level and there are numerous mechanisms in place to converge the measurements. However, the company's strategy, goal and business model must all revolve around the effect in order for it to be meaningful. The measurement of effect will be transparent if it is clearly articulated and well-designed.

According to Keith Bortoluzzi, it is conceivable to integrate the many tools being developed in order to complete the information being given and obtain a more comprehensive picture.

The methods used to quantify effect are not ideal; some would argue that it is preferable to utilise more than one to gain a full picture of the influence, whilst others would argue that having too much information might smother it. The impact is frequently measured using the dual approach, which combines quantitative and qualitative analysis. Ultimately, it is crucial to keep a critical watch on impact measuring methods and select the most applicable and reliable ones for each project.

Standardisation or development of an Independent method?

Knowing that each approach has advantages, weaknesses and restrictions, the key question is which approach to choose.

For Jérémie Gross, there is a problem with uniformity in terms of methodology. The majority of experts concur that because everyone would be measuring the same item in the same way with standardisation, there would be better comparability across businesses. This would provide everyone with a consistent starting point, more organised accountability and the assurance that everyone is making the same claims and using the same kinds of supporting data or analysis. Due to our reliance on common frameworks, this also lends a certain amount of legitimacy. According to Bruno Van Parys, the purpose of measuring is to have two organisations measure the same thing and get results that are essentially the same. The vast majority of experts concur with this statement. Despite this, there are disadvantages as well and it relies on what we refer to as harmonisation and standardisation. It is true that we lose accuracy and granularity, even if impact measurement requires this precision.

Mathilde Albin continued by stating that although there must be a uniform minimum standard satisfied, there must also be some degree of flexibility in relation to the indicators. For Pierre-Yves Thomas, it is crucial to be able to compare various KPIs amongst businesses that engage in comparable operations. In order to prevent needless duplication in the reporting, Frédéric Vereecke said, it is essential for the sectors that will benefit from the standardisation of measurement data to converge.

According to Lionel Melka, standardisation stands for simplicity and comfort. He uses the GIIN's IRIS+ grid as an example, which allows you to input your project in a standardised format in a reasonable amount of time, even if the outcome is not ideal. Additionally included were the projects of the Impact Management Project (IMP), which link standardisation efforts. The Impact Partners approach may be used to draw the connection; they base their work on the IMP model and afterwards provide KPIs in accordance with the projects. However, the author believes that the projects are so different from one another that it is difficult to have a harmonised and aggregated

agreement. The tonne of CO₂ is one KPIs that may be aggregated when it comes to the environment because it is a number that can be applied to all projects. However, the limitation of standard tools is that they are not always suited to the project, thus they do not provide appropriate indications and run the risk of missing significant difficulties. According to Claire Cherpion, some businesses will take 30 years to make the switch to sustainability and as a result, their outcomes will not be noteworthy for a long time. Regarding the cap on customisation, she asserts that everyone will use their own methods and that businesses would compete to be the best.

In Melka's approach, individuals frequently begin evaluating their influence using a standardised instrument before the constraints become apparent. In order to get a more comprehensive outcome, adjustments are made to the model. According to Yves Marenne, who shares this outlook, using a framework is a smart way to get ideas for effective practices to emulate before creating a suitable calculation technique and project-specific indicators. He wrote his paper on the effects of green bonds using this approach. He resorted to the ICMA references that were listed in the supporting materials of fact, he established a calculating technique to provide estimates after adhering to the requirements of the ICMA's Harmonised Framework for Impact Reporting. Similar to Melka and Marenne, Claire Cherpion thinks it is critical to utilise standardised KPIs to encourage less effective organisations to advance, but in conjunction with internal tools, taking into consideration the unique characteristics that each company possesses. Whilst conventional approaches do allow for company comparison, they may leave out information that might be important. Companies might convey constructive efforts that may not be readily apparent using typical tools by using independent ways.

According to Yves Souris, there is no benefit to utilising a bespoke approach. Coming from Solvay, this is an intriguing point of view. He defends the development of the tool at Solvay at a period when there was nothing and that the corporation immediately saw the need to evaluate new acquisitions and to orient the business, projects, investments and opex by using a model. To conduct this evaluation, there was no instrument available. This is why the SPM tool was created. SPM is a tool, not a standard and other firms increasingly utilise it outside as well. Bruno Van Parys said that SPM will become less and less of a Solvay-specific tool because Solvay is collaborating with a number of other businesses on a more generic consortium that they could genuinely utilise. Regarding the

emissions and consumption of thermal cars as well as the autonomy of electric vehicles, he uses the WLTP standard or the 14001 standards as examples. We could dispute the genuine nature of a vehicle's range if it has a range of 400 kilometres and another has a range of 500 kilometres, but we could also agree that a range of 500 kilometres is preferable to a range of 400. Once again, this demonstrates just how beneficial uniformity of standards would be.

In the end, it is impossible to choose just one impact investing strategy. Among other things, standardisation would enable performance comparisons, a guarantee of a uniform meaning for the indicators and a given level of data quality. The process of standardising and harmonising indicators and standards, however, continues to be crucial for operational as well as effect measurement.

2.2.4 Case study: Solvay's Sustainable Portfolio Management (SPM) tool

It was fascinating to learn about the motivations and factors that went into Solvay's internal management tool developed as part of the investigation. Additionally, it enables us to better contextualise the tool, understand the details that went into its development and evaluate its efficiency and use.

A sustainable portfolio management tool is provided by Solvay. Integrating this aspect into operational choices enables the organisation to make strategic decisions that optimise its portfolio, foster advancement towards its sustainability goals and support such development.

Why create your own tool alongside standardised methods?

The development of the decision-supporting internal management tool SPM inside the Solvay framework was founded on the intuition that genuinely sustainable solutions would lead to better growth, according to Bruno Van Parys. There was no technique at the time (2008). The evaluation of the environmental impact was the first step. They made an effort, with the aid of a third party, to consider the issues that society as a whole was concerned about and what it anticipated from an organisation like Solvay. Thus, we discover Lionel Melka's suggestions on the need for a third

party to assist in creating the internal tool. It became clear that society wanted the chemical industry to use less energy, water and other resources, as well as to pollute less. On the other side, the business community was asked to offer better, safer alternatives. These two perspectives gave rise to the SPM tool, which has the “Operations vulnerability” and “Market alignment” axes. Yves Souris concurs with him, noting that the absence of tools at the period led to the invention of the tool, making Solvay an avant-garde inventor.

Selection of the 21 indicators in the Life-cycle Assessment (LCA) procedure

We asked Solvay to provide information on the criteria used in picking their indicators because they are crucial to the impact-measuring process.

The 21 environmental impact indicators included in the Solvay SPM guidance take into consideration inputs and outputs in the form of emissions to land, air and water, as well as energy use and human toxicity.

Since they were novices and needed a broad perspective, they initially did not want to restrict themselves to measuring solely the carbon footprint and worked with a consultant who specialised in life cycle assessment. Therefore, in order to be as thorough as possible and to guarantee that the development of one indicator would not be at the expense of another (reducing CO₂ emissions at the expense of water consumption, for example), the specialists assisted in the selection of indicators. With the assistance of an outside expert, the life cycle assessment calculation methodologies have just undergone another evaluation in an effort to better align them with accepted best practices.

Shadow costs & financial risks

Solvay capitalises on bad effects by charging “shadow costs” that it does not actually incur. According to Bruno Van Parys, the reality is more complicated because there are many different ways to value environmental harm. The environmental expenses might vary by a factor of 1 to 100 or even 1 to 1000 for the same unit and the same environmental effect. In order to conduct a critical

literature assessment of this sort of activity, they also hired an independent consultant, after which they came up with numerous ideas that they believed to be accurate. Although Solvay has not yet integrated the expenses, they use a reference cost for CO₂ of €100 per tonne of CO₂ when making investment choices. As a result, they are able to incorporate it into their investments. The price of water is now starting to be considered. They settled on a global cost for SPM of €1 per cubic metre, which is equal to the price of desalinating sea water. The water stress of the area will be taken into consideration at the capex level, which causes the costs to fluctuate depending on where the investment is made. For instance, the cost of an investment in a desert where access to water is limited will be significantly greater than an investment in an area where water is readily available.

What is notable is the addition of these alleged “shadow” sums in order to more precisely quantify and value the negative effects of the investment. These prices are chosen after conducting a considerable amount of research to make sure they reflect reality as closely as possible.

Importance of the social aspect

The two axes indicated above, “Operations vulnerability” (vertical axis) and “Market alignment” (horizontal axis) make up the SPM tool. Whilst the vertical axis enables quantitative analysis, the horizontal axis offers a more qualitative method of evaluating environmental, social and health concerns. The first component is “Health and Security,” which includes not only the product-specific element, i.e., the qualities of the items that are brought to market, but also the contribution of the products, such as the contribution to food availability. This also covers how items affect the quality of the air and water. Health-harming practices are labelled as “exposed,” such as smoking filters or ingredients in snack foods that are approved by the World Health Organisation. All of this is a component of Solvay’s social outreach initiatives. Since this is a sector where the environment is a significant concern, the “Climate change” component is also taken into consideration in the operations. The “Resources” dimension follows and it entails using responsible sourcing and purchasing goods from a particular value chain that are not likely to raise social or environmental issues (such as forced labour or child labour, for example). Customers are more anxious to guarantee that the

supply they make to Solvay is part of a value chain where precisely these social and environmental concerns are under control, which is represented by the last dimension as “Opinion leader”. We refer to this as responsible sourcing. Exclusion may occur if certain ethical guidelines are not followed at the sourcing level.

Qualitative or semi-quantitative analysis

The SPM tool combines quantitative and qualitative analysis across these two dimensions. The purely quantitative analysis would take too much time and money to complete. Bruno Van Parys believes that analytical rigour must coexist with practicality. Depending on the data and complexity, a product’s life cycle study might take anything from a few hours to a month and this alone takes resources. Regarding the issue of market alignment, Solvay places a premium on seeing and, to the best of its abilities, anticipating market signals related to sustainability and the circular economy. It is crucial to avoid expressing opinions and to stick to the facts. However, if we believe that it is useful and that it can differentiate, we may perform a purely quantitative study on “cradle to cradle” for some items in a mono-product or mono-market instance, at which time it is possible to include the budget. Limits also come into play here.

The instrument’s reliability

A crucial component in ensuring the tool’s dependability is the collection of evidence during assessments and the consistent documentation of this data. An external auditor conducts a critical examination of a number of Product-Applications, the methodology’s unit of measurement, each year. There are two different forms of audit, according to Yves Souris. The first is a restricted assurance audit, in which 10 to 15 per cent of the data are randomly chosen and checked. A reasonable audit follows, where 50% of the data which comprises a large number of indicators is processed. To make sure that a large material turnover is covered, the top 10 cases of turnover are always audited. To certify the audited data, whether financial or non-financial, the auditor is introduced at the conclusion of the annual report. By doing so, they can make sure they have not missed a market

signal, prevent greenwashing and verify any instances where the firm needs validation since they do not feel confident in the data.

Stakeholder engagement

When the two axes are combined, the SPM tool will produce a result. As a consequence, the portfolio will be divided into “Challenges” and “Solutions” sections. The solutions’ goods have a beneficial influence on the social and environmental performance of its users whilst having a low environmental impact. Customers are drawn to all of this.

Solvay devotes greater resources to its solution portfolio and they create KPIs to track its expansion. Their solution portfolios increase on average 5% faster than the market as a whole each year. The KPIs are also audited, giving reasonable confidence in the outcomes supplied. This is also an internal benefit for the team in charge of the tool because it offers them a business orientation. All of this is shown to investors and signifies a portion of the company’s commitment. Bruno Van Parys cites SPM as both a compass and a call to action. If a product solves a problem, I invest in it, but if it presents a challenge, we must rethink and invent. If a product falls somewhere in the middle, you will need to differentiate it if it appears important.

“Transitions” and “Potentials”

The categories “Solutions” and “Challenges” are fairly distinct, but there was also a category in the middle named “Neutral” Since it was impossible to improve the portfolios that were in Neutral, there were no benefits or difficulties, Solvay created two additional categories named “Transitions” and “Potentials” to better describe the state of the items in Neutral. If you make an effort and give yourself the resources to enhance your environmental profile or your placement on the application, this is significant for the market and the product can move to “Solutions” for items in the “Potentials” category. Contrarily, resources must be put in place to prevent social and environmental dangers with items that are in “Transitions,” since they are on the point of becoming “Challenges.”

Due to a lack of demand, the “Challenges” items are probably going to be taken off the market. Products in “Solutions” can foresee and address the so-called “unmet needs” of the market, a desire that has not even been articulated and at this point the product’s alignment with the market is perfect.

SPM and future market trends

Solvay examines the facts and makes an effort to foresee future rules in order to account for market trends and changes in the regulatory environment. The role is not always simple, however, as there are often draught rules that are still in the debate stage and do not yet exist, as well as numerous pronouncements made by lawmakers that are not always realised. The goal is to highlight market indicators that may be taken as factual, of which regulation is one.

The “Chemical Sustainable Strategy” was launched by the European Commission and is also evolving in accordance with rules. Solvay strives to consider these components in its assessments, which may be used as a benchmark. It is crucial to consider both the present and the future since the more we predict, always with accuracy, the more we put ourselves ahead of our rivals.

Limits of SPM

The SPM tool is currently a go-to resource for giving research initiatives direction and guiding these innovation projects pragmatically towards more sustainable solutions. Therefore, the tool’s implementation must remain thorough and not become more complex. As it could become ineffective.

The European Taxonomy and the comparison are both possible. Due to their reputation as being ecologically friendly and their ability to help consumers lower their carbon footprint, among other things, certain items qualify for the European Taxonomy. This enables Solvay to lower its carbon impact as a result. For Solvay, this facilitates the identification of product portfolios that qualify as well as a check and balance to ensure that certain topics were not overlooked throughout the

examination.

The business wants the tool to comply with the SDGs, the circular economy, the European Taxonomy and other standards. The issue is to create a tool that satisfies all of these objectives without being overly complicated, as was previously stated. Essentially, it is a compass and it must stay that way. It should not change into a reporting tool where everything may be inserted without losing its strategic purpose.

The fact that other chemical firms have created tools like the one Solvay developed is a crucial component. In fact, these various businesses, including Solvay, have collaborated since 2017 to create a common set of guidelines called PSA (Portfolio Sustainability Assessment), which is compatible with SPM, under the auspices of the World Business Council for Sustainable Development. As it is necessary for everyone to agree on this instruction, the SPM has to be modified so as to satisfy everyone. There are currently more than fifty partners seated at the PSA group's table, including representatives from the chemical industry as well as the building sector, the food industry, the pharmaceutical business and other sectors. The PSA group was founded following consultation with 10 or so founding members. Because the world is changing, the PSA firms perceive in the instrument something that is effective and that has to include fresh market signals from outside.

The tool is still in use internally since it is current, provides options for gauging the impact, whether on biodiversity or other areas and serves as a major internal decision-making tool. Bruno Van Parys and Yves Souris both agreed that SPM's limitation is that it is still mostly an internal tool. Comparisons may only be made with SPM using competitors. Therefore, it would be better if everyone used it.

2.2.5 Perspectives

What future for impact investing?

Opinions seem to be in agreement with respect to impact investment's framework, as well as its development in the future.

Frédéric Vereecke is aware that impact investing is effective and that making sustainable investments enables initiatives to run on their own, sustainably and over the long term. Additionally, he not only believes that there is a strategy for enhancing the private sector but that the present structures still have limits and that there is a serious lack of ambition, both of which are harmful to the cause and to attaining larger outcomes. Everyone understands how important it is to be able to better quantify the effects we may have, even on a small scale like the environment. Undoubtedly, everything is speeding up, but it is all happening too slowly and a shortage of resources is being felt on many levels. International accounting standards have been created over many years and are likely not yet comprehensive, but due to the pressing environmental situation, we cannot afford to wait any longer.

A similar comparison is made by Bruno Van Parys with accounting standards, which have been in use for many years and are continually changing. The foundation for social and environmental requirements will also change. In order to keep up with market best practices and avoid falling behind, we must do so. As they lower the risks, investors are becoming more eager to participate in more sustainable enterprises. This calls for both physical and intangible indicators of what constitutes a sustainable investment. This is the area of the European Taxonomy's classification of investments in terms of sustainability. Therefore, when the approaches are improved, some will become more relevant whilst others will become less so. In the long run, like with financial accounting, convergence and standardisation could be both observed. Additionally, the outside world requires accounting, so we must be prepared, particularly for reporting, which is evolving into a required rule.

Yannis Lambourdiere claims that it is a positive thing because more and more investors are becom-

ing interested in impact. Even if more individuals are defining the concept differently, there is more competition and the impact market is growing and will continue to do so. So, despite utilising a precise and widely accepted definition of impact, we must continue on this course. There is also a definite improvement in the way it is measured. We must continue to adhere to fundamental concepts that are connected to the business model, clearly observable and auditable. François Monville went on to discuss the necessity of going “back to basics” in development, where we must act in a straightforward and helpful manner. The communication between shareholders must continue, but we must also recognise the value of the discourse among employees since they will most certainly be affected.

For those who concentrate on non-financial concerns, the impact is a topic that is growing more and more appealing. According to Keith Bortoluzzi, the term “sustainability with impact” has recently become popular. He believes that we will eventually standardise measuring techniques, but that it is still a long way off and impossible to estimate when. It is only a matter of time and like Frédéric Vereecke, he feels that although it is not impossible, we may not have much time left. Even if we live in a far-off and complex future, harmonising the influence is still conceivable. In terms of initiatives being implemented, the future is beginning to take shape; the rest is more of a washing impact for him.

In his opinion, Yves Souris believes that impact investing is already in action and points out that Europe has already started with a set of guidelines like the CSRD. Given that we now have to employ many indicators at once since there is not a specific one that is comprehensive, the latter will enable harmonisation. He believes that when we are operating under the CSRD in two years, we will have something more harmonised since, at present, there are too many new standards being introduced to make it practicable. Because they must show their influence in terms of risks and possibilities, organisations are under a lot of pressure to evolve. Companies will have some indirect need to “make things prettier” if they have to remark on their actions.

In addition, Mathilde Albin emphasises that whilst the shared European legal framework contributes to some degree of harmonisation, there is still more work to be done. According to her, the

development of impact investments is inevitable and this will result in even higher expectations and, she hopes, a more sustainably developed world as people will have no other option. Pierre-Yves Thomas shares this outlook; according to him, social and environmental solutions need to be developed even more quickly than they are and he already notices a shift in people's attitudes. Even if it may take a few more years, this will be incorporated into the way we invest, according to Claire Cherpion.

Last but not least, according to Lionel Melka, impact investing will experience tremendous growth. According to him, the bulk of ESG practices involve greenwashing on all fronts and there will be a string of scandals similar to those involving the Orpea firm. The latter, which received great marks from the ESG authorities, was sued for abusing inmates in their facilities. People will turn to impact when Environmental, Social and Governance is discredited. Impact washing does exist, but it still represents a more moral industry.

As an author, Lionel Melka often looks at the hits on Google Scholar. When he started writing his book three years ago, there were very few academic articles on impact investing. Now he sees twenty times as many publications on the subject, which is truly a precursor to change. As we have seen in our research, the assets have doubled or tripled in size and the returns on investment are relatively interesting because we see that the returns on the first funds created a few years ago have more or less kept their promises. This is a sector that is in the process of organising itself with a lot of measurement tools being put in place. There is also a real demand on the part of savers, as people no longer want to finance projects that are harmful for the planet and global savings must be invested towards actions that positively impact our planet and humanity as a whole. In other words, he thinks that in 20 or 30 years, almost all investments will be impact-based. We are also seeing a lot of young people getting excited about impact entrepreneurship. The BCorp movement also works very well because it is a fairly demanding label with an auditing process that is fairly long but successful and serious. Lionel Melka even thinks that there will be more and more companies whose job will be to help set up impact measurement tools. Often, if we take up the three elements of the definition of impact investment, the intention is there and additionality is also a principle. The problem lies in measurement as many people do not know how to properly go about it. There is

clearly a need for impact certification or recognition. Today, people no longer believe in the public commitment of companies, certification and audits are needed to restore trust.

Yann Verstraeten also mentions the CSRD, which will make impact reporting mandatory. In the next few years, the community of companies that will have to report environmental information will increase, so we will see a trend where impact measurement will become more and more important in the economy.

The statements collected are in line with the information provided in the literature review and the GIIN Annual Impact Investor Survey. Professionals are quite enthusiastic about the future of the sector and no one thinks that the sector is in decline, quite the contrary.

2.3. Discussion

Impact investing

The field of impact investment is expanding and drawing more attention. Nevertheless, there is still considerable ambiguity and a lack of clarity regarding its definition and limitations despite its rising popularity. The line between impact investment and ESG practices may not be clear to all stakeholders. Understanding and calculating the actual impact of these investments on social and environmental factors is crucial. Investors may therefore make better-informed decisions, optimise their beneficial impact and encourage the alignment of values and environmental goals.

Challenges in measuring impact

Stakeholders also acknowledged most of the obstacles to impact measurement that were noted in the literature review. For instance, the sector has significant challenges concerning the accessibility and availability of pertinent and trustworthy data for measurement. This, in turn, leads to a lack of transparency on behalf of various players bringing about a lack of the necessary measuring criteria.

The involvement of a third party in the calculation of the measure can assist in addressing this absence of openness.

Another challenge is the inherent complexity of social issues; in fact, some initiatives have impacts that overlap many categories. It is difficult to measure and evaluate them correctly due to their complexity.

Comparability is a challenge, but various tools are emerging to ensure effective and improved standardisation. To overcome the difficulties of comparability between actors and sectors for impact assessment, these methods are crucial. This challenge is made more difficult by the absence of global consensus and practice uniformity, although attempts are being made to overcome this.

Work must be done, for instance, to standardise impact measuring procedures. It is feasible to guarantee greater comparability between projects and industries by creating uniform standards and key metrics. This enhances the accuracy and validity of the findings when assessing impact.

In this environment, the introduction of instruments like GRI guidelines, SASB standards and forthcoming CSRD is positively welcome. These procedures are crucial for creating uniform frameworks for impact assessment. The SASB standards are acknowledged for their contribution to analysing sustainability risks and opportunities, whereas the GRI rules are extensively used for reporting on economic, environmental and social consequences. It is also important to emphasise how the impending CSRD would enhance the regulatory environment. This regulation sets high standards among stakeholders and marks a significant advancement within the European sustainability environment. Due to this instruction, more businesses will be conscious of their social effect and progress towards a more win-win economy.

By encouraging more standards of effect measuring practices, new methods and current projects help solve the issue of comparability.

The Sustainable Portfolio Management (SPM) tool

Our research's investigation of the Solvay SPM tool was an interesting and important step. We were able to comprehend the procedure for creating an internal tool to aid in decision-making more thoroughly as a result. We were able to learn the demands and drivers behind the creation of this technology by examining it.

The Solvay tool contributes to the internal dialogue by providing support for the company's strategic choices. Its use aims to improve the quality of decisions taken within the company, based on objective data and an in-depth analysis. The SPM tool enables a comparison between the environmental and social performance of the company's various activities and strategic goals. It can aid in locating problem areas and direct choices towards more environmentally friendly actions. The tool promotes more informed decision-making by providing details on the environmental and social effects of various options. The SPM tool can also be used to openly communicate with stakeholders outside the organisation. The business builds its credibility and reputation by showcasing the measures taken to evaluate and manage environmental and social effects.

When considering the existent literature, it becomes apparent that orienting decisions according to more project-specific criteria proves essential. Although using the SPM tool has made it possible to collect and use more accurate data, it is unnecessary to devote as much effort to the creation of an internal tool. The product itself is still evolving and is now being utilised by other businesses, which is sufficient proof.

Measurement methods

There is no denying that there are a variety of methodological choices accessible when it comes to determining impact. This variation is primarily caused by the wide range of settings, assessment goals and array of effects desired. Every strategy has benefits and drawbacks, which emphasises how crucial it is to choose the one that is best suited for the given circumstance. The variety of impact measurement methods is a reflection of the range of viewpoints and academic specialities

that are already present in the subject.

In order to obtain a full view of the given impact, certain professionals decide to combine several methodologies into mixed approaches. This strategy minimises each method's shortcomings whilst enhancing its strengths. For instance, combining quantitative and qualitative methodologies can deliver effective data that is both more thorough and well-rounded.

However, the variety of impact measurement techniques frequently presents a significant difficulty for individuals who are involved in evaluating social and environmental outcomes. In terms of comparability, consistency and shared standards, this diversity of techniques may provide challenges. The absence of a common methodological framework might make it challenging to compare the outcomes of various methodologies and make communication between stakeholders more challenging.

It is widely recognised by interviewees that further research is necessary to improve impact measures and take into consideration the unique needs of the many actors involved. Studies and research already conducted on the topic also provide weight to this viewpoint. This conclusion is supported by the available literature, which also emphasises the value of ongoing attempts to improve impact measurement methods while paying close attention to the requirements and expectations of various stakeholders.

Conclusion

Main findings

Measuring the effects of investments on society and the environment is a developing topic in the field of sustainable finance. Understanding the benefits or drawbacks of a company's operations to global sustainability is becoming increasingly important to investors and businesses. This research aims to explore the question:

“Sustainable Finance: Impact investment in Sustainable Finance, how to track the impact of sustainable investments?”

with the sub-question:

“Standardised and/or independent measurement methods for impact measurement, what is the most effective way to do so?”

There is no widely recognised “best” approach for assessing the impact of investments in this dynamic. Nevertheless, a more efficient approach may be identified based on the unique features and goals of each project. In order to obtain findings that are of a useful nature, the measuring technique and project environment must both be aligned. To make it easier to compare and comprehend impact methods, some standardisation is required, according to a stakeholder review. A shared foundation would produce a clear and uniform structure.

However, the capacity to modify measuring techniques for each unique project is equally crucial. To achieve general standards whilst allowing for the development of project-specific indicators, a balanced strategy is to pursue broad standardisation. This strategy would preserve a clear framework for better monitoring, transparency and impact understanding whilst allowing for more individualised assessment that takes into account the unique characteristics of each business or investment.

We point out that the judgement we made in the conclusion of our literature review is in line with the views given by professionals during our interviews.

Contribution

Given the fact that the field of impact investing is expanding quickly but that there is still a dearth of comprehensive literature on the topic, our contribution through this research is significant. We became aware of the field's level of complexity and the need to improve accessibility, especially for those looking to comprehend and evaluate the impact of sustainable investment.

We have seen that the achievement of sustainability objectives and the shift to a more responsible economy depend more and more on sustainable financing. Nevertheless, despite this expanding significance, there are still gaps in our knowledge of the many approaches to assessing impact and our ability to choose the approach that is most useful.

We sought to clarify these concerns in our research. We looked at the literature on the standardised methods of measurement as well as the argument in favour of an independent method of measurement for evaluating the effects of sustainable investment. Our goal was to outline the opportunities and limits of different approaches so that we could decide which is the most effective technique to assess the effects.

Impact investment provides complicated difficulties that need comprehensive and continuing research as the industry is ever-changing and evolving. We make no claims to have discovered the

best successful approach, but rather that by providing a perspective based on existing research and analysis, we have somewhat clarified the issue at hand.

We truly hope that our study has filled some of this knowledge gap and stimulated increased interest and debate about the topic of impact evaluation of sustainable investments. We believe that by disclosing our research and ideas, we have helped anyone looking to adopt more environmentally friendly financial habits and thus advance long-term sustainability objectives.

Limits and further research

An understanding of the limitations that can affect the findings is necessary for a thorough investigation. Despite being a wealth of knowledge, our qualitative study necessarily has some limitations. First, it is crucial to acknowledge that this strategy has inherent biases because of the stakeholders' subjectivity. As a result of the participant's preference for expressing his or her own opinions, there is some subjectivity in the data gathered.

In addition, repressing information is another significant restriction. Sometimes respondents will withhold information, which can limit how open and comprehensive the data that is gathered. When assessing the findings, it is essential to take this possible reservation into consideration.

The ability to generalise the propositions is another crucial factor. It is important to understand that, despite our efforts to select a sample of 14 individuals who are representative of many industries and nations, this sample cannot be used to draw general conclusions about all professionals engaged in the field of impact measurement. The results should not be construed as being representative of the entire population and should, instead be understood in the study's context.

In addition, the fact that the sample of respondents was not chosen at random which could have introduced representativeness bias-should be highlighted. It is therefore important to consider this restriction when interpreting the findings and to be aware that some aspects of the realm of ethical and sustainable finance could not be fully represented.

Analysing data from the interviews was another challenge we sadly had to face. Considering how complicated and ambiguous the study's topic was, it was difficult to compile all the information without overlooking crucial details. Despite our best efforts to provide a thorough study, this challenge may have an impact on the outcomes.

Finally, it is important to stress that the conclusions from our analysis should not be interpreted as generalisations. Given the exploratory nature of our empirical analysis, we must be critical of these results and use caution in how we interpret them (Bryman, A., 2012).

In future studies, it would prove relevant to investigate ways to attain standards in measuring the impacts of sustainable investments. This study would concentrate on strategies that may create a standard foundation for measurement techniques. The objective would be to find specific steps to attain harmonious practices and it would be interesting to observe how tight cooperation between industry participants in sustainable finance can naturally develop.

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