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**CONTRIBUTION OF SUSTAINABLE INVESTMENT TO SUSTAINABLE
DEVELOPMENT WITHIN THE FRAMEWORK OF THE SDGS: THE ROLE OF
THE ASSET MANAGEMENT INDUSTRY**

Abstract

PURPOSE: This study aims to understand how scholarly research addresses sustainable investments' contribution to sustainable development within the Sustainable Development Goals (SDG) framework. This is achieved by focusing on how the asset management industry, through the practice of advanced sustainable investment strategies, can contribute more efficiently to sustainable development.

DESIGN: For this purpose, a systematic literature review using the content analysis method and comprised between the years 2015-2021 is carried out.

FINDINGS: A systematic literature review shows that the asset management industry is critical to integrating SDGs in financial markets, through their influence on investee companies or their investment products. The findings also indicate that SDGs are integrated into investment portfolios, particularly those managed according to the impact investment strategy and those that practice active ownership. However, the integration is not homogeneous.

RESEARCH LIMITATIONS: This review has limitations derived from search engineering. In addition, research goals have conditioned the exclusion of articles that merely refer to the SDGs. Moreover, since SDGs were launched in 2015, not enough time has elapsed to analyze the total contribution of sustainable investment to achieving the SDGs.

PRACTICAL IMPLICATIONS: This study provides the basis for a multidisciplinary debate related to developing a good integration of SDGs in the asset management industry under new global challenges.

SOCIAL IMPLICATIONS: Given the disconnection between the expansion of sustainable investment and sustainability achievements, this research aims to deepen the understanding of how sustainable investment can contribute more efficiently to sustainable development within the framework of SDGs.

ORIGINALITY/VALUE: This analysis advances previous academic research by providing insights into new pathways for future studies on how to approach the asset management industry's challenges to contribute to sustainable development efficiently in the current context.

Keywords: Sustainable Development, Sustainable Development Goals (SDG), Financial Market, Asset Management Industry, Sustainable Investment (SI).

1. Introduction

The 17 Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development of the United Nations Development Program (UNDP) and the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC) are two major global initiatives that have shifted the practice of sustainable investment.

The SDGs are 17 objectives and 169 targets that constitute the reference framework for sustainability at the global level. SDGs seek to eradicate poverty, reduce inequalities, fight climate change, and achieve sustainable development. The Paris Agreement (COP21) seeks to combat climate change and accelerate and intensify the actions and investments necessary for a sustainable future with low carbon emissions.

An increasing number of studies (e.g. Le Blanc, 2015) have argued that SDGs can guide organizations in the transition to sustainable development (SD). Companies decide which SDGs they wish to influence and integrate into their corporate strategies to contribute to SD. This approach highlights the integration of SDGs into corporate strategies, showing the relevance of consistency as a basic condition for effective corporate sustainability strategy deployment (Rivera et al., 2017). In this context, some authors (e.g. Ike et al., 2019; Vildåsen, 2018) examined the integration of SDGs at the business level through the concept of corporate sustainability (CS). Following Van Marrewijk (2003), CS is defined as voluntary company activities that include social and environmental concerns in business operations and interactions with stakeholders. Therefore, CS is understood as an instrument for organizations to contribute to SD (Nawaz & Koç, 2018) and overcome the new global challenges reflected in the 2030 Agenda and COP21.

These initiatives aim to address environmental, social, and economic challenges of such a scope and magnitude that require a multilateral, multinational, and multistakeholder approach. According to the U.N. Commission on Trade and Development, meeting SDGs requires \$5 to \$7 trillion in annual investments by 2030 (UNCTAD, 2014). In addition, the International Energy Agency has calculated that maintaining the temperature threshold of the Paris Agreement will require \$53 trillion investments by 2035 (IEA, 2014; Tolliver et al., 2019). Hence, the contribution of both the public and private sectors is needed in the fight against climate change and the achievement of the SDGs (Scheyvens et al., 2016). In the

private sector, the financial sector plays a crucial role. The financial sector can enhance the relevance of the SDGs for all sectors by adopting these goals as a reference for investing, advising, or lending to companies (Betti et al., 2018). By controlling a significant share of capital markets worldwide, institutional investors and the asset management industry can influence the different ways in which their investee companies or issuers align with SDGs (García Sánchez et al., 2020).

The asset management industry can contribute to achieving these goals through sustainable investment (SI) (Schramade, 2017). SI is an investment process that has a potentially positive impact on sustainable development through the integration of not only financial concerns but also long-term environmental, social, and governance (ESG) criteria into investment decisions (Escrig-Olmedo et al., 2017). As Migliorelli (2021) pointed out, SI has evolved. In his view, the ESG concept means that financial institutions should incorporate sustainability considerations in investment decision-making to reflect environmental, social, and governance risks. Today, SI is also the bridge needed to finance the transition towards a more sustainable society and a climate-neutral economy. This evolution requires an understanding of sustainability and how it can be achieved.

The Action Plan on Sustainable Finance of the European Commission (2018) seeks to foster the role of SI. The three key objectives of the Action Plan are: “(1) *to reorient capital flows to achieve sustainable and inclusive growth; (2) to manage the financial risk stemming from climate change, environmental degradation, and social issues; and (3) to foster transparency and long termism in financial and economic activity*” (European Commission, 2018; Janik & Maruszewska, 2020).

Institutional momentum and the growing demand for sustainable investment products have led SI assets under management to USD 35.3 trillion in 2020, a growth of 15% in two years, equating to 36% of all professionally managed assets worldwide (GSIA, 2020). Despite

this expansion, many fear that this prevalence has not been reflected efficiently in sustainability achievements (Diener & Habisch, 2020).

Recently, a branch of the academic literature has attempted to explain this mismatch. Friede (2019) carried out an extensive meta-synthesis of 112 studies to analyze ESG factor integration impediments, identifying 161 topics subsumed in a four-pillar framework: market-, firm-, regulatory-, and individual-based impediments. Diener and Habisch (2020) attributed the limited sustainability achievements to the emphasis on financial aspects in SI theory and practice. They proposed a more equilibrated SI with the growing presence of non-financial information. According to Yoshino et al. (2021), the different SDG assessments institutional investors receive from consulting firms for asset allocation create major distortions. Moreover, the heterogeneity of concepts, definitions, and standards may hinder the SI markets with risks such as green or sustainable washing or the rebranding of financial flows without additionality, according to Migliorelli (2021), who defends a change of terminology to “finance for sustainability”. Díez-Cañamero et al. (2020) argue that one notorious flaw of the 2030 Agenda is its macro approach to monitoring the development of SDGs, which makes the evaluation and measurement of real contributions very difficult for companies. In summary, while the SDGs offer the opportunity to guide corporate and public efforts for sustainable development, there is a fear that companies may use the SDG rhetoric to disguise business as usual (Hummel & Szekely, 2021).

Given the disconnection between the expansion of SI and sustainability achievements, this research aims to learn how academic literature has approached the relationship between SI and SDGs. Our goal is to analyze how current scholarly research addresses the contribution of sustainable investment to sustainable development and to understand how the asset management industry, through the practice of SI, can contribute more efficiently to sustainable development within the framework of the SDGs. Following Folque et al. (2021), we argue

that adopting more advanced SI practices (such as integration, engagement, voting, and impact investment, among others) may improve the contribution of the asset management industry to sustainability.

In this article, we will conduct a systematic review, using content analysis method, of the academic articles published in journals indexed at the ISI Web of Science and Scopus that have focused on the relationship between sustainable investment and the 2030 Agenda and Paris Climate Agreement between 2015 and 2021 (until May) to answer the following research questions:

RQ 1: Are the SDGs being integrated into the SI financial market?

RQ 2: How is SI contributing to achieving the SDGs?

RQ 3: Which SI strategy allows better progress towards achieving the SDGs?

RQ 4: Which market actors play the most relevant role in achieving the SDGs by integrating advanced SI practices? In which specific SDGs?

RQ 5: As a key player in integrating contribution to SD, what are the challenges that fund managers face in the SDGs? How do they respond to these challenges?

The results of this systematic literature review show that the asset management industry is key to integrating SDGs in financial markets, whether through their influence on investee companies or their investment products. The research findings also indicate that SDGs are integrated into investment portfolios, particularly those managed according to the impact investment strategy and those that practice active ownership. However, the integration is not uniform and is characterized by SDG cherry-picking. Asset managers face many challenges in effectively aligning with the 2030 agenda. The heterogeneity of data and methodologies of measurement and disclosure that could hinder the correct assessment of SDGs and how to implement investment strategies with greater impacts seem to be more salient. However, there are others as the risks that climate change and other ESG issues could

pose to portfolios, the perils of greenwashing and rainbow washing, or the temptation of rebranding without additionality in a market becoming exceedingly competitive.

The findings shed light on new pathways for future actions to progress towards the goals and targets of the 2030 Agenda. Moreover, this research contributes to the extant literature on sustainable investment, overcoming the performance debate and focusing on how sustainable investments could make a more effective contribution to sustainable development.

The remainder of this paper is organized as follows. Section 2 details the methodology used in the literature review. Section 3 discusses the results, and section 4 concludes and discusses the research and practical implications related to this study.

2. Methodology of Literature Review

Systematic literature reviews are a form of research that uses explicit and accountable methods to combine existing literature (Gough et al., 2012). This literature review aims to identify how the relationship between sustainable investment and sustainable development has been addressed in the academic literature, focusing on the asset management industry since the launch of the SDGs and the Paris Agreement to answer the research questions formulated. This was inspired by the systematic methodology proposed by Nawaz and Koç (2018).

The search focused on articles published in journals. Only articles published in English were considered, and the analysis period ranged from 2015 to May 2021. Concretely, the period analyzed starts in 2015, when the SDGs were launched and the Paris Agreement was reached.

The studies were identified in two renowned indexed electronic databases: the ISI Web of Science (WoS) and Scopus. These two databases were chosen because they have strictly selected multidisciplinary works and global coverage. Moreover, the Scopus database

incorporates papers on emerging issues such as sustainability (Bui et al., 2020), expanding the scope of WoS.

2.1. Keywords and search

For our search, the terms SDG and sustainable development are used as synonyms, following authors who consider the 2030 Agenda a genuine social engagement to achieve worldwide sustainable development (Diez-Cañamero et al., 2020), the most important framework for global development (van Zanten & van Tulder, 2018) and the SDGs as the benchmark for responsible investors (Diener & Habisch, 2020).

In terms of investment, there are a variety of terminologies (Daugaard, 2020). Although socially responsible investment (SRI) is still in use, there has been a recent shift towards sustainable investment (SI) (Camilleri, 2020). According to Cunha et al. (2020), this term is aligned with the efforts embedded in global initiatives for global sustainable development. For SI strategies and practices, we refer to the terminology used by the European Sustainable Investment Forum (Eurosif, 2018) and the Global Sustainable Investment Alliance (GSIA, 2020), and we include terms related to the asset management industry.

A keyword search was conducted across article titles, abstracts, and keyword lists. The keywords were connected to the Boolean operator, AND. The asterisk wildcard was used to retrieve the word variants; for example, invest* was used to capture both investment and investing. Table I summarizes the keywords used for each research question.

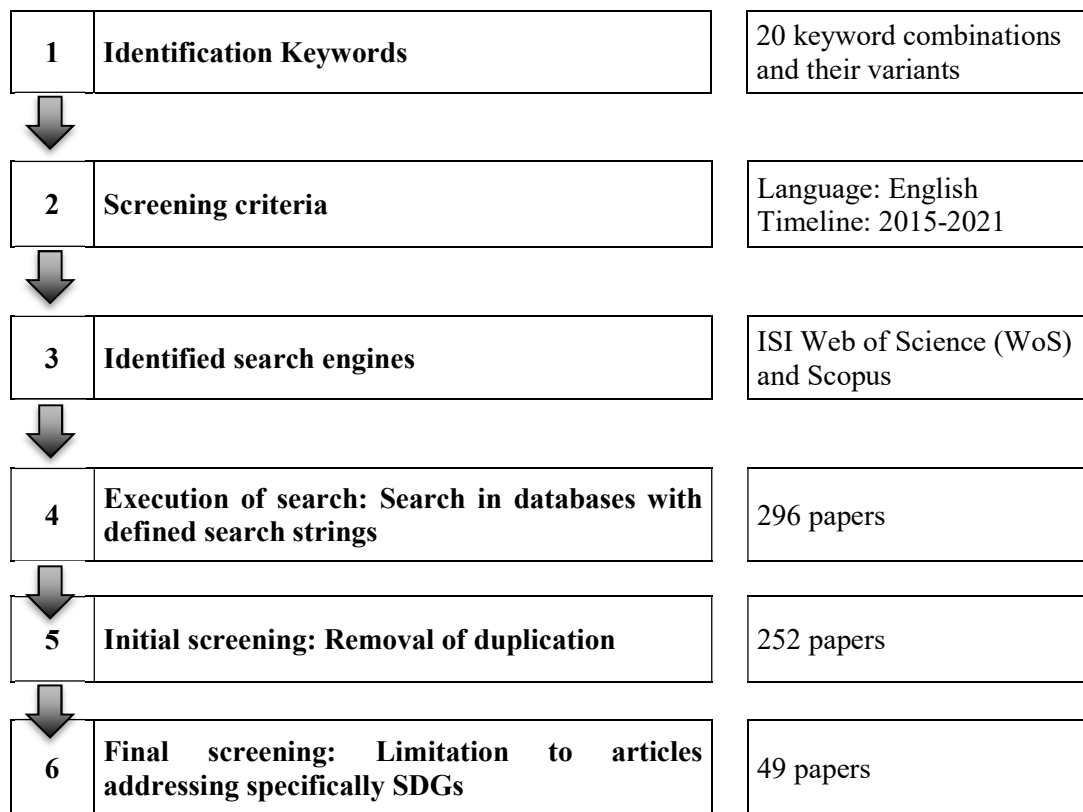
(Table I. about here)

After entering the search strings, 296 articles published in English were identified. Removing duplications eventually led to the interim result of 252 articles. We used search tools for terms in PDF documents on these 252 articles to discard those that did not contain a specific mention of sustainable development, the SDGs, or the Paris Agreement. By focusing

on articles specifically addressing SDGs and sustainable development, the final selection was limited to 49 articles. The final step was a full-text review of the shortlisted articles to be included in the final analysis.

Figure 1 summarizes the procedural schemes used in the literature.

Figure 1. Process of the Systematic Literature Research



2.2. Codification

To answer the research questions and learn how the academic literature has approached the relationship between SI and SDGs, the data collected from the 49 reviewed papers were analyzed using a content analysis method. Content analysis is “*a technique for gathering data that consists of codifying qualitative information into categories to derive quantitative scales of varying levels of complexity*” (Abbott and Monsen, 1979). Specifically, we used conceptual analysis that involved choosing certain concepts for the examination. To code the data, a set

of categorization criteria was used for each research question (Figure 2). Finally, following the process of other studies (García-Pérez et al., 2017), one of the researchers acted as the primary coder and the other two checked the results to ensure the validity of this process.

Figure 2. Categorization criteria

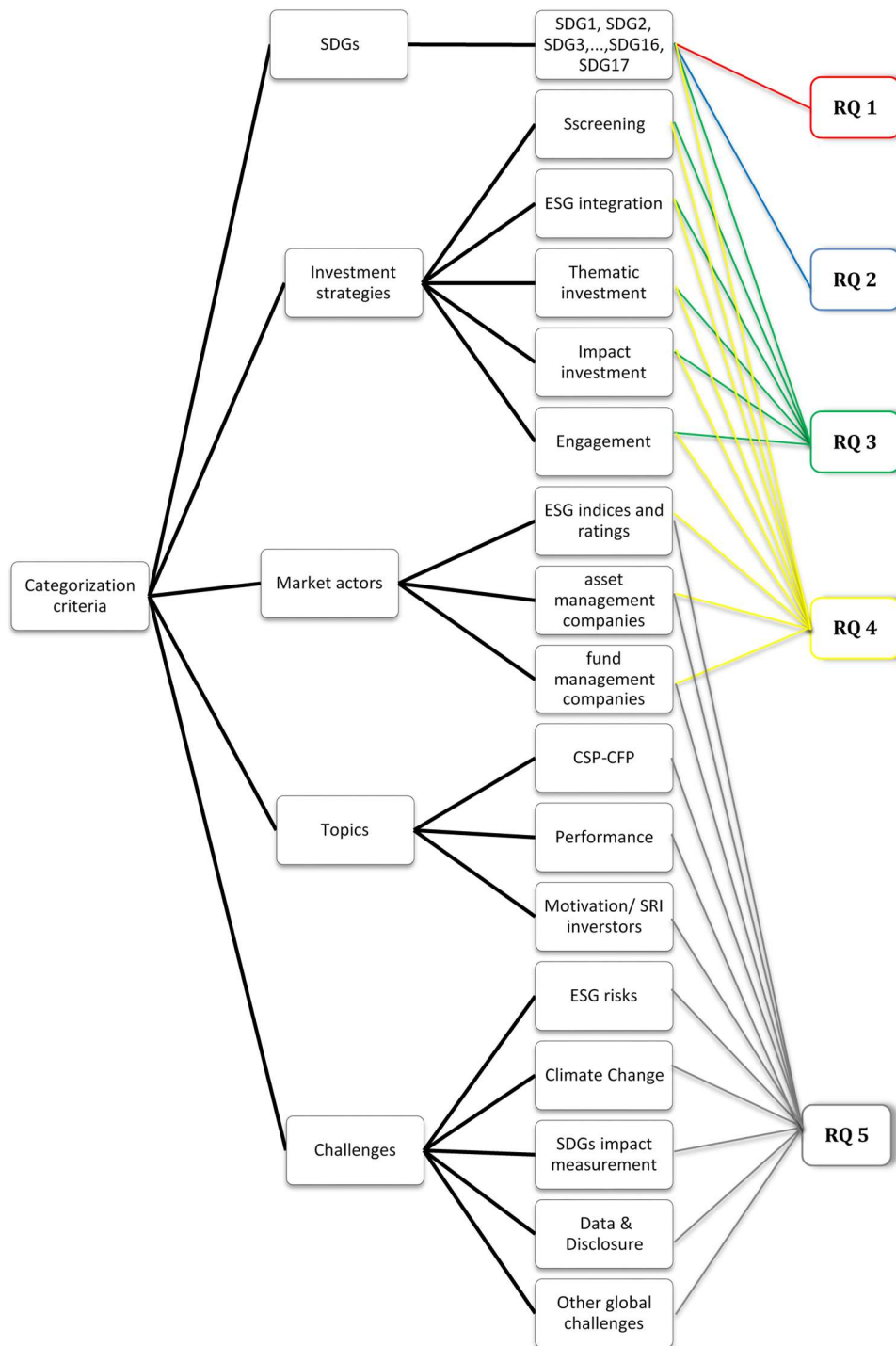


Table II shows the analyzed papers grouped according to the categorization criteria. It should also be pointed out that the compilation of research papers includes information about the journals, author(s), year of publication, research objectives, study scope, sample size, analysis methodologies, main results, and conclusions.

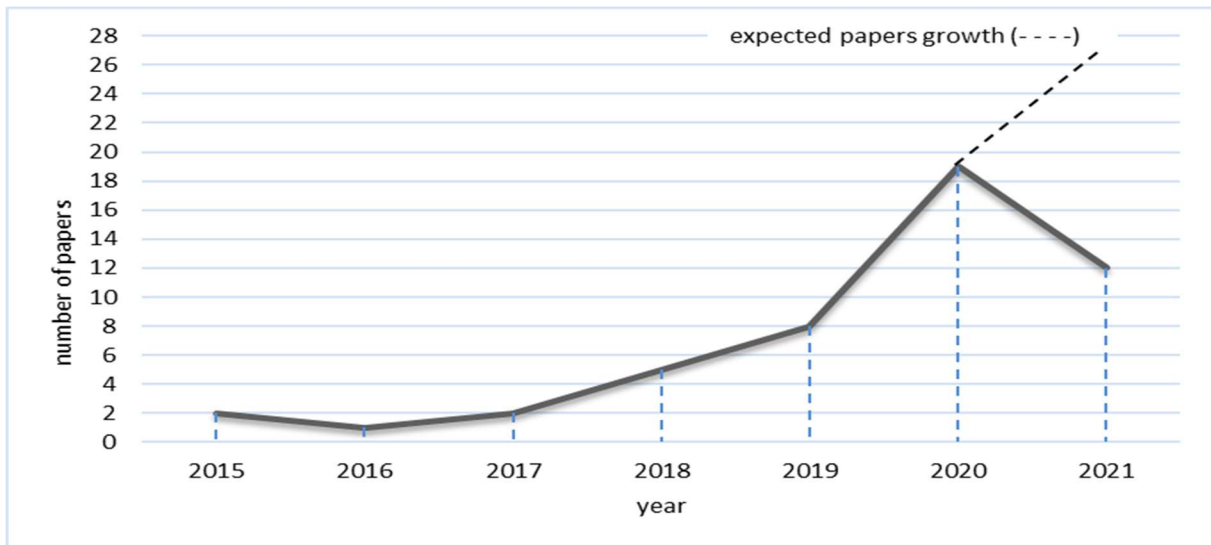
(Table II about here)

3. Research trends and findings

As previously mentioned, this systematic literature review began by grouping 49 papers according to their presence in the text of particular research topics. This grouping allowed us to review the literature to detect research trends and organize past research to suggest future research lines. Therefore, in the following paragraphs, we present the main results of the analysis.

3.1. Contextualizing the scientific production: Major traditional research areas in Sustainable Investment

Since the launch of the SDGs, publications focused on the SI market and its contribution to sustainable development has increased (Figure 3), with the highest number of publications recorded in 2020. Given the number of papers published until May 2021, the number of papers published in this area is expected to continue to increase exponentially.



*2021 from January to May

Figure 3. Distribution of publications per year*

The papers analyzed cover different research areas. The relationship between corporate sustainability performance (CSP) and the effects of sustainability practices on the financial performance of a company (CFP) has been one of the most studied topics in the field of SI. This relationship continues to be an object of study in the period analyzed in this literature review. There are relevant contributions (Junkus & Berry, 2015; Martínez-Ferrero & Frías-Aceituno, 2015; Alshehhi et al., 2018; Muhmad & Muhamad, 2020) to what Hamilton et al. (1993) coined as “doing well while doing good.”

According to Junkus and Berry (2015), there might be a data problem when considering the value of a sustainable approach in a firm. The measures used to evaluate responsible behavior are generally qualitative, based on self-reporting and annually disclosed. Moreover, a positive correlation does not clarify the direction of causality. Thus, only firms that do well can do well. In a study of 1960 multinational companies from 25 countries, Martínez-Ferrero and Frías-Aceituno (2015) addressed the causality direction and concluded that there is a positive and bidirectional relationship between CSP and CFP, although this relationship may differ between corporate governance systems. Alshehhi et al. (2018)

reviewed 132 papers and found that 78% of them report a positive relationship between corporate sustainability and financial performance. They argued that the divergence of results on this relationship could be attributed to different methodologies and measurements of variables. The view of the positive relationship that dominates the literature was confirmed by Muhmad and Muhamad (2020) in a study of 56 articles published between 2010 and 2019, where 96% reported a positive relationship between sustainability practices and the financial performance of companies.

Another widely studied topic is the performance evaluation of sustainable investment products managed by the asset-management industry. Ten percent of the papers (Table II) correspond to this research area. In the academic literature, the evaluation of the performance of SI vehicles may be evolving to widen the focus on sustainability performance. However, financial results are still a matter of interest. Cunha et al. (2020) analyzed the performance of several Dow Jones sustainability indexes versus their respective conventional peers and obtained heterogeneous results across regions. Focusing on a worldwide sample of 1,546 pension funds, Martí-Ballester (2019) explored whether investing in the SDG sectors could hurt performance. The results indicate that technology-related pension funds achieve the largest mean risk-adjusted returns, while energy-related pension funds achieve the lowest. In a later study on SDG-themed mutual funds in China, Martí-Ballester (2021) found that SDG-themed mutual funds generally perform similarly to market benchmarks. Miralles-Quirós et al. (2019) analyzed the effects of including SDG-themed ETFs in stock-bond portfolios and found that investors could obtain benefits from this approach, mainly if they focus on SDG 8, Decent Work, and Economic Growth, and SDG 9, Industry and Innovation.

The topic of motivation has been the least addressed in academic literature on SI in the age of the SDGs framework (Amel Zadeh & Serafeim, 2018; Daugaard, 2020; Lopez, 2020). However, from many studies not exclusively related to motivation, it is clear that financial

markets, specifically the asset management industry, are called for a reorientation of their activities to promote the transition to a sustainable economy. This process might entail risks that need to be understood as well as growth opportunities. Amel Zadeh & Serafeim (2018), with BNY Mellon's collaboration, surveyed 4,523 asset-managing and asset-owning institutions to understand why and how investors use ESG information and the challenges and barriers to using it. Most respondents use ESG information because they are financially material for performance. The biggest challenge is the lack of comparability of the information across firms. Daugaard (2020) addresses the motivation topic through a literature review but focuses on performance and concludes that more research on investor motivation is needed.

3.2. Comprehensive analysis of the contributions of the academic literature on the relationship between SI and SDGs

3.2.1. SDGs integration in the Financial Market

SDGs constitute a paradigm shift for companies, asset managers, investors, and the financial market. At this point, as observed by the scientific community, interest in investing in the SDGs is based, according to Schramade (2017), on the returns to society, given the social function of the financial sector (Shiller, 2013) and the returns to shareholders since SDGs offer opportunities for value creation. The so-called investment case of the SDGs could generate at least USD 12 trillion in business opportunities and 380 million jobs by 2030, while improving relationships with stakeholders and enhancing business performance (Lopez, 2020). Nevertheless, investment in SDGs raises many questions, because some SDGs appear more frequently in the academic literature linking SI and SD.

Figure 4 shows the number of scientific studies that have focused on SDGs and the financial market (where the asset management industry plays an important role). The

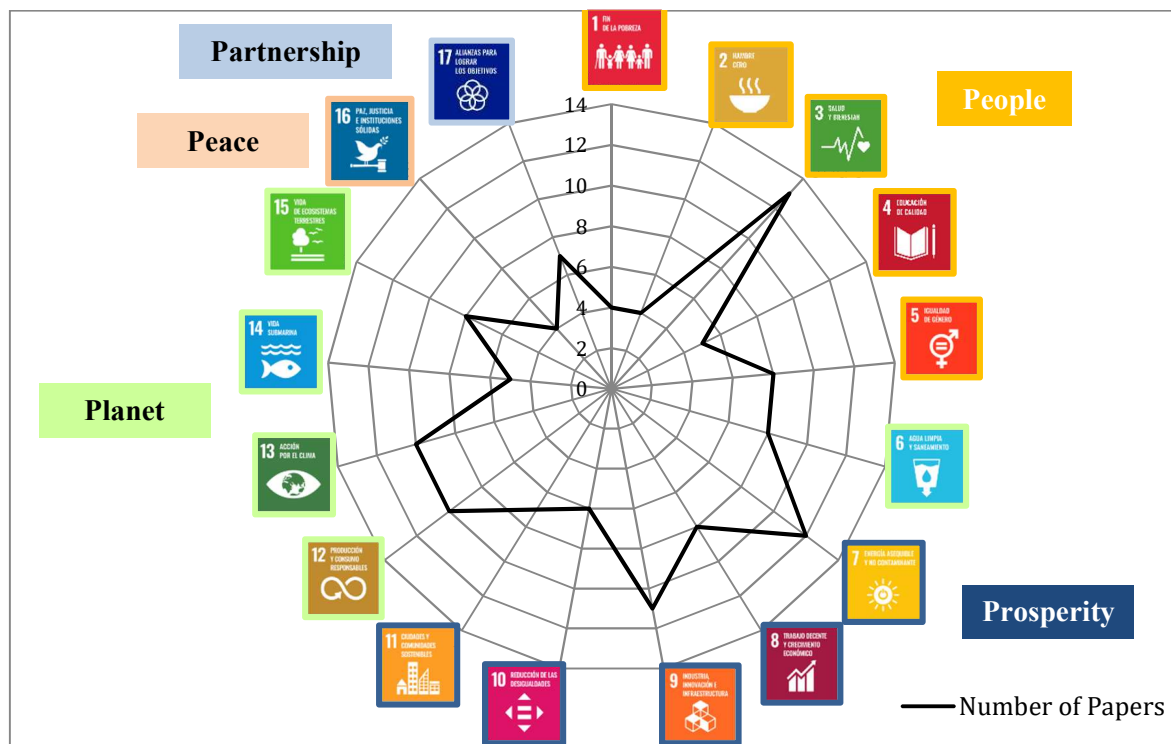
systematic literature review reveals that SDG 3, good health and well-being, is the most analyzed, followed by SDG 7, affordable and clean energy, and SDG 9, industry, innovation, and infrastructure. SDG 12, responsible consumption and production, and SDG 13, Climate Action, also stand out on investors' radars.

Two of the “people” SDGs, the ones that attend to basic needs, SDG 1, No poverty, and SDG 2, Zero hunger, and the “peace” SDG, the number 16, seem to attract less interest from academic literature that analyzes the connection between SI and sustainable development.

There is a branch of literature devoted to studying SDG 5, Gender equality. Gallego-Sosa et al. (2021) and Romano et al. (2020) explore the relationship between gender diversity on the Board of Directors and the degrees of engagement with the SDGs and the corporate sustainability practices of the companies.

Moreover, scholarly research shows that some SDGs are more investable than others are. Van Zanten and van Tulder (2018) argue that some sustainability challenges are less internally actionable by private sector companies, which may prefer to address them through philanthropic contributions or multistakeholder initiatives. Schramade (2017) points out that corporations might prefer to invest in SDGs with transformational potential, where they can make a difference. Betti et al. (2018) found that contributions to SDGs vary across sectors and that the sector with the highest potential impact is healthcare. From this perspective, the focus should be on SDGs that rank higher on material ESG issues that matter to investors. Building on Betti et al. (2018), Consolandi et al. (2020) argue that from a public policy perspective, for the achievement of the goals, companies should be provided with incentives to act even on nonmaterial issues to avoid a gap between SDG expectations and company actions.

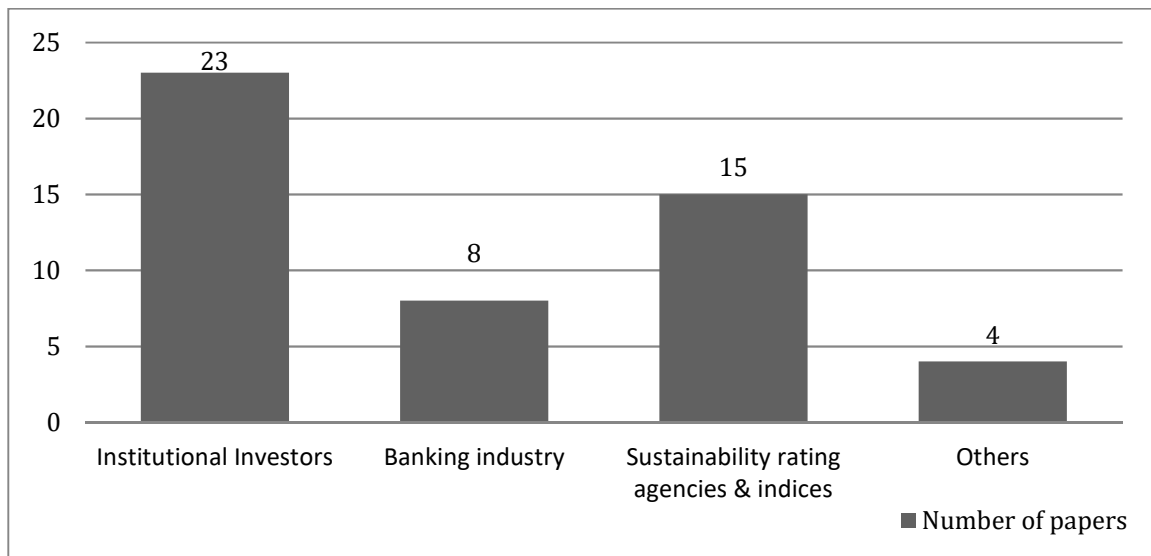
Figure 4. SDGs analyzed in the scientific literature focused on the financial market since the SDGs launch



3.2.2. Key Market Actors for the integration of SDGs in the Financial Market

The academic literature on integrating SDGs into the financial system has focused on studying the contribution of institutional investors, including asset management companies, pension funds, and sovereign wealth funds, in the search for sustainable development. Specifically, 47% of the papers analyzed in this systematic review focused on institutional investors and SDGs. Moreover, scholarly research on this topic has focused on other actors in the financial market, such as financial institutions, sustainability rating agencies, and sustainability indices (Figure 5).

Figure 5. Market actors analyzed in the literature focused on the financial market since the SDGs launch



To test the influence of institutional investors on corporate strategies and decisions that extend to sustainability practices, García-Sánchez et al. (2020) studied the relationship between institutional ownership and corporate sustainability practices. The results show that the relevance of disclosed information improves in the presence of foreign investors and pension funds. Zadeh and Serafeim (2018) analyze why investors use ESG data and find that most investors consider ESG information because this information is financially material to investment performance. Some authors (Betti et al., 2018; Consolandi et al., 2020; Schramade, 2017) have proposed frameworks with a more significant impact when investing in SDGs. Miralles-Quirós et al. (2020) analyzed investing techniques and the use of certain vehicles as ETFs in portfolio construction (Miralles-Quirós et al., 2019) to boost alphas. Martí-Ballester (2019) explores pension funds' contribution to sustainable development, while Niles and Moore (2021) study the role of wealth funds.

The evaluation and measurement of contributions to SDGs is also a critical topic in academic literature. The development of sustainable investment towards practices more data-intensive means that investors and companies rely more on indices, rankings, and ratings.

Third-party data providers assess firms' ESG performance (Berg et al., 2019), offer ESG metrics as a proxy for sustainability performance (Widyawati, 2020), and have become key references in financial markets (Escrig-Olmedo et al., 2019). Despite their relevant role, an increasing number of authors focus on the limitations of what Diez-Cañamero et al. (2020) refer to as the corporate sustainability systems (CSS) universe. These problems will be discussed in depth later in this study in the review of the challenges, particularly concerning sustainability risks and sustainability performance (Boiral et al., 2020; Muñoz-Torres et al. 2019).

The banking industry has also been studied as a key market actor in the relationship between sustainable development goals (SDGs) and sustainable finance. Gallego-Sosa et al. (2021) examine the degree of commitment to the 2030 Agenda Sustainable Development Goals in the European banking sector. Dec and Masiukiewicz (2021) analyze how banks can contribute to sustainable development by offering and advising responsible financial products. Méndez-Suárez et al. (2020) explore the role of banks in promoting the issuance of social impact bonds (SIBs), a new form of social-financial hybrid product particularly suitable for addressing SDG 1, no poverty, SDG 10, reduced inequality, and SDG 17 on partnerships. Rizzello and Kabli (2020) also studied SIBs, while Tolliver et al. (2019) focused on the issuance of green bonds. Concerning environmental risks, Breitenstein et al. (2021) underscore how central banks and regulators have warned of climate risks and highlighted the importance of financial risk assessment and management in banks, as this can mitigate the threats of climate change to the financial industry.

The commitment of investee companies to the 2030 Agenda is also a matter of interest to academia. Lopez (2020), Scheyvens et al. (2016), and van Zanten and van Tulder (2018) analyzed how multinational companies and the private sector address sustainability

challenges. Eweje et al. (2021) argue that, given SDGs' scope and interconnected nature of SDGs, their implementation requires a transformation of multistakeholder partnerships.

Furthering somewhat more into the analysis to know which market actors play the most relevant role in achieving SDGs, Figure 6 shows how the literature focused on the main market actors has studied the different SDGs grouped into five pillars (People, Prosperity, Planet, Peace, and Partnership). The relationship between the market actors and specific SDGs shows that, although the People pillar SDG 3, Good Health and Well-being, is the one raising more interest, as a whole, the most studied SDGs are included in the Prosperity Pillar, which encompasses SDG 7 to 11, followed by the SDGs included in Planet Pillar (SDGs 6, 12, 13, 14, and 15). The literature review reveals that the asset management industry has a broader perspective and that the financial market actor analyzed is more related to alignment with most SDGs, while the banking sector seems to be more focused on climate action (SDG 13) through the issuance of green bonds and partnerships (SDG 17) via social bonds. Regarding sustainability rating agencies and sustainability indices, current studies have focused on analyzing ESG metrics from a sustainability perspective without directly linking them to the SDGs.

Figure 6. Market actors and SDGs



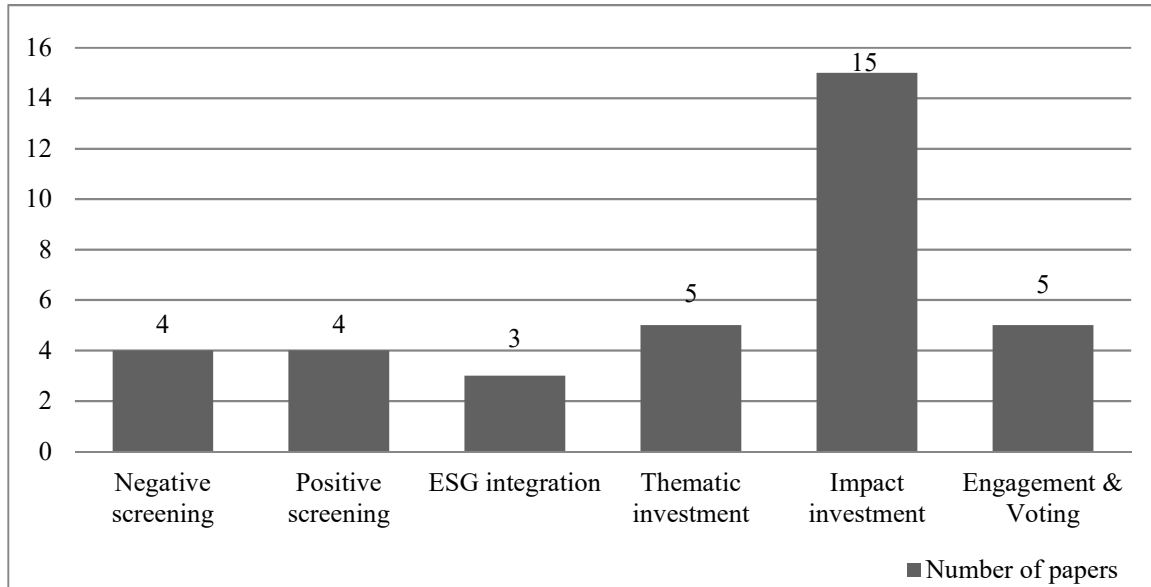
3.2.3. SI Strategies and their contribution to achieving the SDGs

The contribution of institutional investors to the 2030 agenda is critical. Among them, the mutual fund industry is called upon to transform investors' savings into the financial capital needed to address SDGs (Martí-Ballester, 2021). Therefore, scholarly research needs to deepen the knowledge of which investment strategies deployed by asset managers could have a higher contribution to sustainability.

Historically, most scholars have assessed SI from a financial perspective (Diener & Habisch, 2020). The comparison of SI financial performance with conventional investments is still a matter of interest for academia. However, we are witnessing an evolution in the literature. The scope and challenges of the SDGs framework and the urgency of the fight against climate change demands another perspective. Hence, a growing body of literature is transcending the financial performance debate to analyze and question the real contribution of investment vehicles and strategies to sustainability (Diener & Habisch, 2020; Friede, 2019; Kölbel et al., 2020; Migliorelli, 2021).

Figure 7 shows how the most recent academic literature has approached the contribution of different SI strategies to sustainable development.

Figure 7. SI strategies analyzed in the academic literature since the SDGs launch



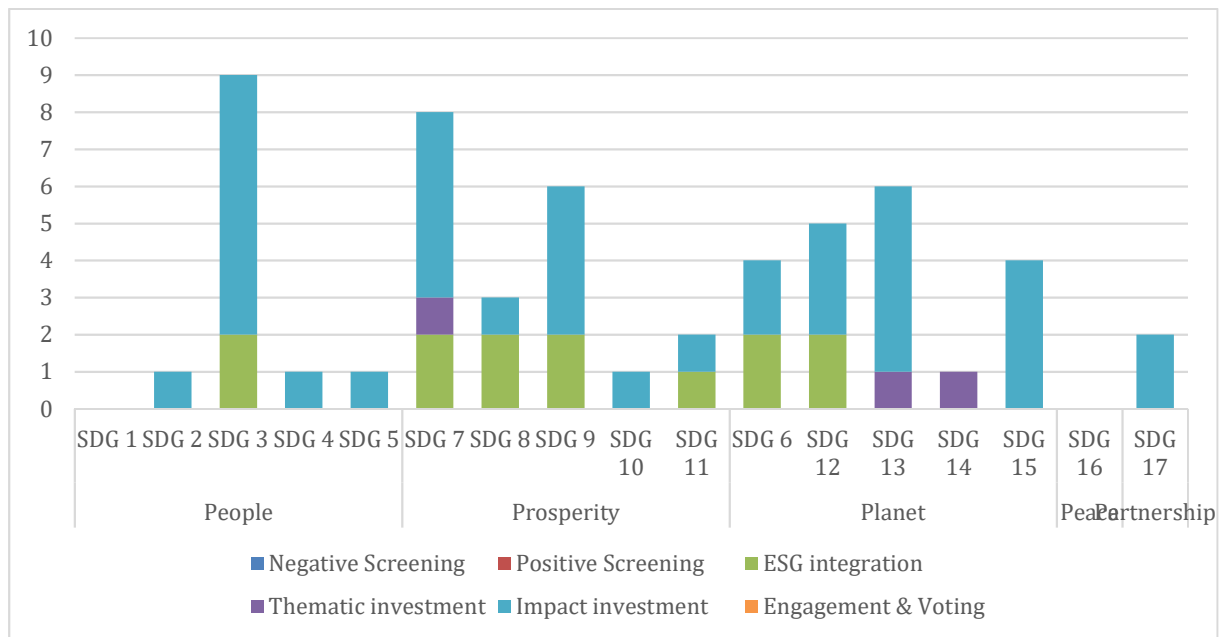
According to Diener and Habisch (2020), purely exclusionary strategies from a fund or portfolio of certain sectors, companies, and countries offer limited sustainability effects because there is no motivation for investee companies to act in specific ways. From their perspective, engagement is the most potent tool to influence corporate behavior and the best strategy for enforcing sustainability goals. In their study on how investors use ESG information, Amel Zadeh and Serafeim (2018) found that it is predominantly used, not only to engage with companies. Kölbel et al. (2020) explored how SI could have a higher impact in contributing to societal goals, concluding that the impact of shareholder engagement is well supported in the literature, while the impact of capital allocation is only partial.

Regarding sustainability-themed investments (STIs), that is, investing in themes or assets specifically contributing to sustainable solutions, Janik and Maruszewska (2020) revealed no significant correlation between environmental investments and environmental indicators among the European countries analyzed, concluding that there is no substantial evidence of the contribution of investors' assets to the improvement of the environment.

Barber et al. (2021) and Camilleri (2020) study impact investment. This strategy has its origins in the venture capital community and, given its double intention of generating social and environmental measurable and intentional impacts alongside a financial return, has become one of the fastest-growing areas of SI (Camilleri, 2020). Impact investment is now being adapted to listed companies to align with the SDGs. Schramade (2017) proposes a framework to invest in listed companies aligned with SDGs from an impact investment perspective, emphasizing the need to set measurable objectives using key performance indicators (KPIs) that also allow for measurement and reporting. In the fixed-income world, two instruments reflect the impact of investment vocation on intentionality and measurement: social impact bonds (SIBs) (Méndez-Suárez et al., 2020; Rizzello & Kabli, 2020) and green bonds (Tolliver et al., 2019).

Therefore, the literature focuses on the impact investment strategy. 31% of the references studied impact strategies and their contribution or relationship to SDGs. A careful reading of related studies shows that a change is taking place in the impact investment segment to link it increasingly with the achievement of the SDGs. Figure 8 shows this trend, where SDG 3 (good health and well-being), SDG 7 (clean energy), SDG 9 (innovation), and SDG 13 (climate action) are attracting more interest. In general, we can say that the academic literature shows an interest in studying how, through two advanced SI strategies, such as impact investment and ESG integration, the SDGs included in the planet pillar are addressed, followed by those included in the prosperity pillar. Meanwhile, positive and negative screening strategies and engagement and voting strategies have been analyzed from the perspective of how they contribute to achieving sustainability but without linking them to specific SDGs.

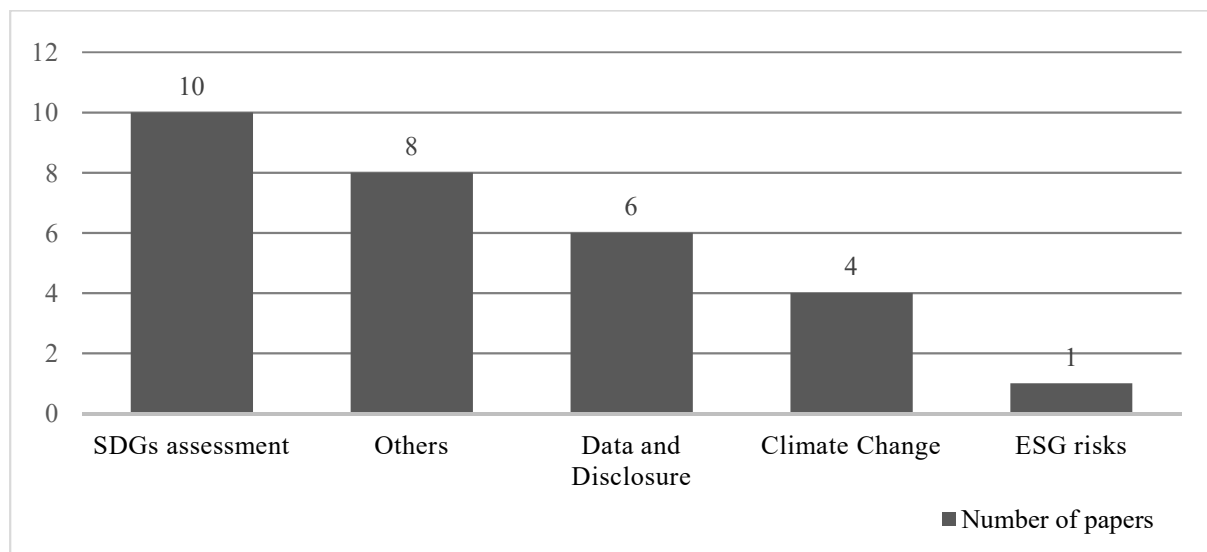
Figure 8. SI Strategies and SDGs



3.3. Challenges a new paths

As mentioned above, the academic literature on sustainable investment and financial markets has focused on comparing the financial performance of SI investment with that of conventional investment, or on the primary motivations for such investments. However, the launch of the SDGs, a framework for sustainable development, and the current context of global risks put researchers in the face of new challenges in the financial market, specifically in the asset management industry.

Figure 9. New challenges in the context of the SDGs for the financial market since the SDGs launch



In Figure 9, new scholarly research patterns since the launch of the SDGs are listed according to the number of papers that refer to them. SDGs assessment (10 entries) was the most frequently analyzed topic, closely followed by research on disclosure and reporting (six entries).

There is a problem with sustainability assessment. Some authors have questioned the actual impact of SI on sustainable development. Kölbel et al. (2020) define investor impact “as the change that investor activities achieve in company impact, and company impact as the change that company activities achieve in social and environmental parameters”(Kölbel et al., 2020, p. 2). The lack of suitable data to measure the evolution of investor impact could result in a modest impact despite the volume of assets under management. Friede (2019) also mentioned the quality of data in his exploration of investors’ impediments to integrating sustainability factors into their investment decisions. However, the main one is the perceived lack of business case: the perception that a company’s sustainability performance could be unclear, irrelevant, or damaging to financial performance. For Scheyvens et al. (2016), this

inability to move beyond the business case, considering sustainability practices as an add-on, puts into question the role of the private sector as a sustainable development actor.

Another branch of literature (Betti et al., 2018; Consolandi et al., 2020; Schramade, 2017) addresses the SDG assessment as an issue of materiality indicators and “SDG picking”: not all the SDGs are equally investable since they offer different business opportunities. Hence, investors should focus on SDGs where they could have a more relevant impact.

Diener and Habisch (2020) consider that if the volume of SI is growing but the impact on sustainable development is not, it is precisely for the emphasis on financial information. The lack of attention to non-financial information (NFI) explains why current asset management practices do not reflect their role in environmental and societal betterment. Yoshino et al. (2021) argue that institutional investors’ impact on sustainability is hindered by their dependence on consulting firms with different methodologies and models that distort the investment processes. The recent proposal adopted by the European Commission in 2021 for a corporate sustainability reporting directive (CSRD), which would amend the existing reporting requirements of the NFRD, is presented as a priority for strengthening the foundations of sustainable investment. This is consistent with the challenges presented in a review of the literature associated with the assessment of sustainability.

The challenge of heterogeneity in assessing investor impact on SDGs alignment is linked to the heterogeneity of the data. The need to measure sustainability as a result of the willingness of the investors to create portfolios with a better ESG performance has led to the rise of diverse initiatives such as social accounting, sustainability reporting, performance indicators, and ESG ratings that constitute what Diez-Cañamero et al.(2020, pp 1) define as a “chaotic universe”.

Despite the heterogeneity of standards, academia is increasingly focusing on SDG reporting. In a study of firms listed in STOXX 600 Europe, Hummel and Szekely (2021)

showed a remarkable increase in SDG reporting, from 15% in 2015 to 58% in 2018. The study also revealed a steady increase in the quality of reporting. In an analysis of Spanish-listed companies, Lopez (2020) found that 26 companies of IBEX 35 included their commitment to SDGs within the sustainable report as of 2018. Rosati and Faria (2019) publicly report that how an organization addresses SDGs is crucial for the integration of SDGs into business. Reporting fosters the alignment of capital with sustainable development and the mobilization of responsible investment in SDGs. Mgbame et al. (2020) argue that while increased levels of disclosure have not yet significantly reduced the negative externalities of corporate activities, sustainability reporting could inculcate consciousness about social and environmental impacts. Reporting is a useful tool for sustainability.

Hummel and Szekely (2021) consider that companies are more willing to disclose their contributions to SDGs achievements when they have institutional investors who could factor in those achievements. Institutional investors are also interested in how investee companies align with the SDGs to monitor business contributions to the 2030 Agenda (García-Sánchez et al., 2020). In their study of institutional investors' influence, García-Sánchez et al. (2020) find that certain types of owners, such as foreign institutions, pension funds, and mutual funds, exert a positive boost on the 2030 agenda.

Finally, Migliorelli (2021) argues that the overabundance and heterogeneity of frameworks, definitions, and standards could create risks that hinder policy and industry efforts towards mainstream SI. Among the main risks, the first is rebranding without additionality or the risk of labeling investments that do not flow to sustainable sectors or activities. The second risk is greenwashing and sustainable washing, that is, “the use of deceptive strategies to build a sustainability-oriented image.” However, standardization is not an issue that appears as a challenge in scholarly research, although the effort to tackle these EU practices of the European Union by launching the Sustainable Finance Disclosure

Regulation (SFDR, 2019) could foster the rise of academic work on this topic. This set of rules imposes transparency and disclosure requirements for incorporating sustainability risks into the investment decision-making process.

The literature has also addressed risks related to climate change within the framework of the SDGs. Breitenstein et al. (2021) conducted a literature review of climate risks and the financial sector. They found three main topics: (i) the impact of environmental concern on financial risks, (ii) environmental risk practices in the financial sector, and (iii) measures to assess financial exposure to climate change risks. This assessment is critical because it incentivizes the adoption of more proactive environmental practices. Roy et al. (2021) explored the interconnection of the SDGs framework with emission mitigation to analyze what actions can be taken and who the actors associated with these actions are. Janik and Maruszewska (2020) found that sustainability-themed investments (STIs) do not significantly affect environmental activities in Europe. Schütze et al. (2017) offer a possible explanation for this mismatch since they argue that the economic models in use do not allow evaluating a sustainability transition that might have substantial positive effects.

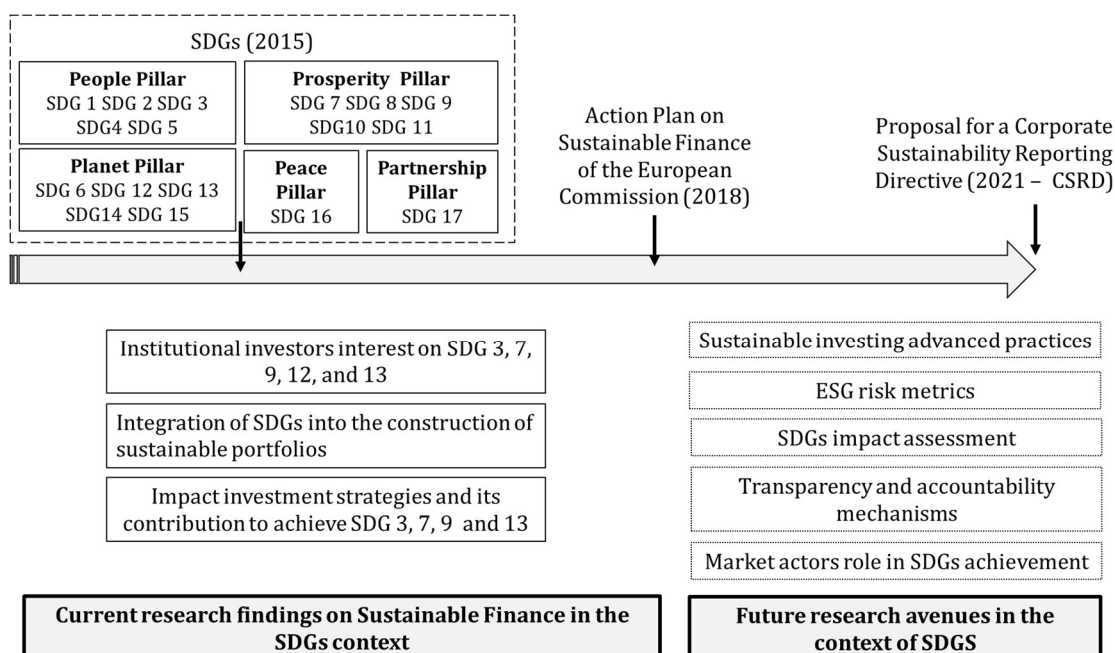
4. Discussion and Conclusion

This article aims to understand how scholarly research addresses the contribution of sustainable investment to sustainable development within the framework of SDGs, focusing on studies that analyze how the asset management industry, through the practice of advanced sustainable investment strategies, can contribute more efficiently to sustainable development. The systematic literature review allowed us to answer the research questions and propose future research avenues. Similar to other studies, this review had certain limitations derived from search engineering. In addition, research goals have conditioned the exclusion of articles that merely name SDGs to focus on those that analyze their effective integration. Moreover,

the fact that the SDGs were launched in 2015 indicates that insufficient time has elapsed to analyze the total contribution of the SI to achieving the SDGs.

Sustainable finance seems crucial to enforcing the EU Commission’s strategy for achieving SDGs. Therefore, it seems necessary to know how the academic literature addresses how the SI market behaves in this new context of global sustainability risks, and where efforts should be focused on stimulating further research. This study puts scientific production on the relationship between SI and SDGs and provides a comprehensive analysis of this literature. Furthermore, this analysis advances beyond previous academic research by providing insights into new pathways for future studies on how to approach the asset management industry's challenges in contributing to sustainable development. Figure 10 shows the main results obtained from the current study and future lines of research that help answer the research questions.

Figure 10. Current research findings and future research avenues



In answer to *RQ 1: Are the SDGs being integrated into the SI financial market?*, and *RQ 2: How is SI contributing to achieving the SDGs?*, the literature confirms that since its

launch in 2015, the 2030 Agenda has been gaining a place on investors' radars. While investee companies are increasingly committing to aligning with SDGs and disclosing their targets and achievements, institutional investors and other financial actors are showing a growing interest in how companies align with SDGs to monitor their contributions to building more sustainable portfolios. This interest arises from the potential returns to society and the need to close the finance gap, but mainly from the lofty business case of the sustainability agenda. However, the heterogeneity of corporate ESG data and rules on reporting non-financial information and the emphasis on the business case makes some SDGs more investable than others, so investment in SDGs is characterized by certain cherry-picking. Specifically, according to the literature review, SDGs 3, 7, 9, 12, and 13 appear to attract more market interest. Nevertheless, the 17 SDGs are equally important and integrated (Forestier and Kim, 2020).

Future research should shed light on ESG metrics and reporting frameworks, seeking to analyze the impact of companies on the different SDGs as a measure to determine the materiality of the SDGs to support a meaningful change towards more sustainable business practices.

In answer to *RQ3: Which SI strategy allows better progress towards achieving the SDGs?* The results of the literature review highlight the importance of engagement and impact investing. The practice of impact investing predates the SDGs, but the 2030 Agenda enhances its role within a framework in which targeting and measurement are essential. These characteristics of impact investing allow it to play a more relevant role than other less-advanced sustainable investment strategies. However, despite its growth in recent years, impact investing is still a minor segment of the SI universe, especially compared to negative screening. According to data from the last report of the Global Sustainable Investment Alliance (GSIA, 2020), the global volume of assets under the management of impact investment is only 2% of the worldwide volume in negative screening strategies. Therefore, a

call for further work must be made to explore impact investing more deeply in future publications. It is also essential to analyze how other advanced SI practices address societal challenges that generate competitive financial returns and contribute to the SDGs.

In response to *RQ 4: Which market actors play the most relevant role in achieving the SDGs by integrating advanced SI practices? In which specific SDGs?* The actors most studied in the literature are institutional investors, specifically in the asset management industry. Their role in bridging the finance gap is essential in a sustainability agenda based on public-private partnerships. The findings of the analyzed studies also underline how institutional investors might influence investee companies towards a deeper alignment with most SDGs. Banks are also called upon to contribute to the 2030 Agenda by issuing green and social bonds, distributing sustainable investment products to their clients, and integrating ESG factors into their lending activities. The shift from sustainable investment to a more data-dependent practice explains the rise of data providers that produce rankings, indices, and ratings. However, the heterogeneity of methodologies poses a significant challenge to SI. Further academic studies seem to be needed in three lines of research: (i) ESG metrics used by rating agencies to measure a company's contribution to the SDGs (positive and negative impacts) in the context of global risks; (ii) transparency and accountability mechanisms on SDG that allow institutional investors and companies to make better investment and strategic decisions; and (iii) the banking industry's role in the alignment of SI strategies with the SDGs and the development of new financial products that address the SDGs.

Therefore, heterogeneity and different methodologies of measurement and disclosure are among the main challenges that asset managers face in investing more effectively in SDGs. The diversity of ESG ratings, inconsistency of metrics, lack of transparency, and lack of standardized reporting systems may cause "greenwashing" behaviors. This poses a challenge for the asset management industry and investors, who must interpret different ESG metrics.

Therefore, the topic of RQ5 is as follows: *What are the challenges that fund managers face in the SDGs context according to the current scholarly research? How to respond to these challenges?* The correct assessment of SDGs and the implementation of investment strategies with a greater impact, as well as the risks that climate change and other ESG issues could pose to a portfolio, are also major concerns, according to the research results. The construction of sustainable portfolios should also avoid other perils in a market becoming exceedingly competitive, namely greenwashing, rainbow washing, and the temptation of rebranding without additionality. The Framework for SDG-aligned Finance (2020), launched in 2020 by the OECD and UNDP, concludes that notwithstanding the efforts of companies and investors, the lack of a common language and interpretation of the objectives of the SDGs hinders the SDG alignment. The public and private sectors should face the challenge of removing obstacles preventing alignment and addressing the problems that arise mainly from the proliferation of market-based standards that rely on different methodologies, weak accountability, and fragmented regulations. Although standardization does not appear as an emerging challenge in scholarly research, future studies should pay more attention to this issue.

Although this paper shows that academic research on the relationship between SI and SDGs is still incipient, with an upward progression, practical considerations for the asset management industry can be made based on published papers.

The systematic literature review shows that the asset management industry is critical for integrating SDGs in financial markets, whether through their influence on investee companies or their investment products. The research findings also indicate that SDGs are integrated into investment portfolios, particularly those managed according to the impact investment strategy and those that practice active ownership. Nevertheless, despite the growth

of volume and flows directed towards SI funds, sustainability indicators have not significantly improved.

The theoretical implications pertain to the need to further investigate the connections between SI and the SDGs. Considering that not all sustainable investment strategies are created equally and do not create the same outcomes for sustainable development (Folqué et al., 2021), future studies should focus on advanced sustainable investment practices that could contribute more effectively to sustainability and to the homogeneous integration of the SDGs into the financial market.

In terms of practical implications, the outlined findings of the systematic literature review can help the asset management industry promote and discuss the integration of the SDGs in the financial market through more advanced sustainable investment strategies (e.g., impact investment strategies). Furthermore, this paper proposes priority lines for future research that should be developed jointly between academia and professional practice. The integration between academic research and professional practice represents a win-win opportunity for scholars and practitioners to stimulate the transfer of knowledge on priority issues for society, such as the 2030 Agenda (Pizzi et al, 2020). Future research should investigate more robust ESG metrics (specifically risk and impact metrics), reporting frameworks based on SDGs, transparency and accountability mechanisms on SDGs, the standardization of metrics as a mechanism to avoid greenwashing types of behaviors, and market actors' role in the achievement of SDGs.

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