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The European green deal, retail investors and sustainable investments: A perspective article covering economic, behavioral, and regulatory insights

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ABSTRACT

The purpose of the European Green Deal and the regulation associated with the so-called EU Taxonomy for Sustainable Activities is to lead capital flows towards sustainable investments. According to the European Commission this is necessary to finance solutions for the immense challenges ahead, such as climate change, social inequality, and loss of biodiversity. However, academic research raises concerns that sustainable investments may earn lower risk-adjusted returns in the long run. The European Supervisory Authorities identify greenwashing risks and pronounce the limited ability of retail investors to make informed investment decisions. The aim of this perspective article is to provide suggestions for a regulation on relevant information on sustainable investments provided by financial service providers to retail investors. Therefore, the existing regulations are put in relation with recent research on investments considering ESG issues. To enable retail investors' self-determined decision-making, financial service providers such as banks, mutual funds, and financial advisors must provide easily accessible, clear, and easily understandable information regarding the ESG-conformity of the offered financial products. In addition, financial service providers must inform retail investors about some specific risks that can arise from a narrow focus on ESG assets such as under-diversification, an overweight of large stocks, and returns that can be lower than the market return.

1. Introduction

The European Green Deal with the so-called European Union (EU) Taxonomy for Sustainable Activities (Regulation (EU) 2020/852), associated delegated acts, and corresponding amendments (e.g., Regulation (EU) 2021/1253) to existing regulations is a far-reaching and detailed regulatory framework regarding sustainable investments. The purpose of the framework is to lead capital flows towards sustainable investments. Within the framework, the term "sustainable" currently is mainly interpreted as "environmentally sustainable". Social and governance issues, i.e., the two remaining pillars of Environmental, Social and Governance (ESG), are to be considered in further steps of the regulation. There is already high demand from retail investors for sustainable investments, which have yielded high risk-adjusted returns in the past (Starks, 2023; Friede et al., 2015). However, recent research raises concerns that sustainable investments earn lower risk-adjusted returns in the long run (Pástor et al., 2021, 2022; Pedersen et al., 2021; Zerbib, 2022). Moreover, the European Securities and Markets Authority (ESMA) concludes in its progress report on greenwashing in the financial sector that "the complexity of sustainable finance, ESG literacy gaps as well as a fragmented labelling landscape limit the ability of retail investors to make informed investment decisions and participate in financing the transition according to their sustainability preferences" (ESMA, 2023, p. 7; see also EBA, 2023; EIOPA, 2023). In essence, not enough is done to educate retail investors of specific risks associated with sustainable investments.

The aim of this perspective article is to provide suggestions for a regulation on relevant information on sustainable investments provided by financial service providers to retail investors. Therefore, the existing regulations are put in relation with recent research on sustainable investments and suggestions for further steps to enhance the ability of retail investors to make informed investment decisions are derived.

2. Economic foundations

The cornerstone portfolio selection and asset pricing models by

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Markowitz (1952) and Sharpe (1964), Lintner (1965), and Mossin (1966) assume that some risks of firms (and, hence, of their stocks and bonds) are diversifiable (idiosyncratic risks) while others are not (systematic risks). Therefore, investors are only compensated for taking systematic risks. An obvious challenge for retail investors with ESG preferences is that ESG constraints limit the number of investable assets to the most sustainable ones. Fewer assets in a portfolio usually decrease the possibilities for diversification of idiosyncratic risk. As an undesired consequence, the idiosyncratic risk of the portfolio increases. Even though individual stocks of the most sustainable companies show lower idiosyncratic risk than individual stocks of less sustainable companies (Mishra and Modi, 2013; Becchetti et al., 2015; Sassen et al., 2016; Bouslah et al., 2013, 2018; Dunn et al., 2018; Giese et al., 2019; Gougler and Utz, 2020; Horn, 2023; Monti et al., 2022; Oehler and Horn, 2022), it would be fatal if retail investors had the impression that a portfolio of the few most sustainable companies is not risky. Yet, there is a lot of, e.g., marketing material of ESG-screened mutual funds that can create this impression. However, a portfolio that only covers a subset of all available stocks usually should show higher idiosyncratic risk than a portfolio that covers all available stocks. Hence, investors with ESG preferences have to take idiosyncratic risks for which they should not expect to receive a monetary return as compensation (Cornell, 2021). Studies on financial literacy indicate that many retail investors do not know or understand this diversification effect and, therefore, suffer from financial losses (von Gaudecker, 2015).

3. Investors' preferences for sustainable investments

Many investors have preferences for sustainable investments, such as stocks of firms with high ESG rating (Bauer et al., 2020; Brodback et al., 2019) and mutual funds that sign the United Nations (UN) Principles for Responsible Investment (PRI) (Kim and Yoon, 2023). These preferences may change over time, e.g., because of fluctuations in environmental awareness (Alok et al., 2020; Choi et al., 2020; Dabbous et al., 2023) or because of individual or collective economic crises (Döttling and Kim, 2022; D'Hondt et al., 2022). Hence, adaptions in the asset allocation in accordance with changes in the sustainability preferences may be necessary to meet retail investors' new preferences.

The preference for sustainability might be costly for retail investors. Asset pricing models expanding the models of Markowitz (1952), Sharpe (1964), Lintner (1965), and Mossin (1966) with investor taste for sustainable assets predict that more sustainable assets/green assets underperform less sustainable assets/brown assets in the long run (Pástor et al., 2021; Pedersen et al., 2021; Zerbib, 2022). Green assets may only temporarily outperform in times of sharply rising climate change concerns or increases of sustainability preferences/environmental awareness. This means that an outperformance of more sustainable assets/green assets can be considered a temporary distortion or a price bubble. The duration of such a distortion or bubble is, of course, not predictable and may last up to several years. Empirical evidence for these patterns is provided by Pástor et al. (2022), Ardia et al. (2022), and Horn et al. (2023). Raghunandan and Rajgopal (2022) find that ESG funds underperform financially relative to other funds within the same asset manager and year and charge higher fees. A further interpretation of the higher returns of brown assets is that investors are already demanding compensation for their exposure to carbon emission risk (see Bolton and Kacperczyk, 2020; see Giglio et al., 2020, for a review of the respective literature).

Yet, it is not sure that more sustainable assets will underperform in the future. Another strand of the literature argues that ESG-screened portfolios historically have yielded higher risk-adjusted returns and show even lower tail risk while maintaining a sufficient degree of diversification (Friede et al., 2015; Giese et al., 2019; Gougler and Utz, 2020; Verheyden et al., 2016). This outperformance might continue when climate change related physical and transition risks and cost of capital for brown and sin companies increase stronger than already expected (Stroebel and Wurgler, 2021). Investments and regulatory changes driven by, e.g., the European Green Deal itself or the Biden administration's Inflation Reduction Act and higher sustainability preferences of the millennials as future main investors could be sources of such transition risk shifts for assets with low ESG scores (Hildebrand et al., 2020).

However, when it comes to educating retail investors, the risks associated with an investment are of particular importance. Hence, it is important to clearly communicate the risk of a possible sustainability-return-tradeoff. While some retail-investors seem to be aware of this potential tradeoff (Giglio et al., 2023; Riedl and Smeets, 2017; Wins and Zwergel, 2015), many retail investors seeking for financial advice may think that ESG funds might at least not underperform regular mutual funds from their peer group, e.g., with similar geographical focus or benchmark index (Hauff and Nilsson, 2022; Nilsson, 2008). Moreover, some investors may not want to invest sustainably. According to a survey of Giglio et al. (2023), 45% of the retail investors do not see any reason to invest in ESG. Asking these investors whether they want to invest sustainably might nudge them towards a less diversified portfolio with lower return if the answer is "yes" because of biased return expectations or just because of social desirability. In an extreme case, this nudge can inflate an ESG asset pricing bubble. The burst of such a bubble and the associated monetary losses could subsequently cause an aversion of retail investors regarding ESG assets. This would be fatal, since the aim of the European Green Deal is to gain investors that are needed to finance solutions for the immense environmental challenges ahead. Therefore, the regulation must ensure that the exploration of investors' sustainability preferences is done in a balanced way, i.e. by asking "Would you invest in sustainable investments even if they offered a lower return and possibly a higher risk?"

4. Influence of ESG labels and ratings on investment flows

For retail investors that want to invest sustainably, environmental sustainability is the most important ESG-pillar (Benuzzi et al., 2024). Simultaneously, the EU regulation focuses on environmentally sustainable economic activities. The regulation (EU) 2022/1214, however, got massively criticized from environmental protection and consumer protection organizations for including specific nuclear and gas energy activities in the list of sustainable economic activities (ClientEarth, 2022). This issue demonstrates that it is hardly possible to reach consensus regarding a definition of what is sustainable. As a consequence, we already see multiple labels for sustainable investments. Besides these labels for e.g., mutual funds, retail investors can already choose between several ESG ratings to assess whether a company, and, hence, their stocks and bonds, are sustainable. These ESG ratings significantly influence investment flows (Benson and Humphrey, 2008; Bialkowski and Starks, 2016; Hartzmark and Sussman, 2019; Latino et al., 2021). This means that some investors regard the ESG ratings as appropriate to assess ESG risk (Renneboog et al., 2008; Riedl and Smeets, 2017). Some retail investors also consider ESG ratings relevant to investment performance (see Amel-Zadeh and Serafeim, 2018).

However, the mismatch between growing demand for ESG financial products and the in comparison relatively small pool of assets that are deemed sustainable is an incentive to greenwash assets with misleading fund names or by inflating ESG ratings (ESMA, 2023). Attig et al. (2022) provide evidence that top executives create an overly responsible public image of their firms (however, some firms do the opposite and decide to deliberately not communicate their substantial greenness; this behavior is called "greenhushing" (Ginder et al., 2021; Falchi et al., 2022)). This ESG window-dressing leads to positive short-term market reactions and lower near-term stock price crash risk, but to lower long-term equity valuation. Bams and van der Kroft (2022) show that some ESG ratings are inversely related to sustainable performance and argue that ESG ratings reduce aggregate sustainable performance. ESG window-dressing and greenwashing is also performed by institutional investors

and mutual fund companies (ESMA, 2023). 24% of self-labelled ESG funds are greenwashers according to the definition of Dumitrescu et al. (2022). Raghunandan and Rajgopal (2022) show that self-labelled ESG mutual funds hold portfolio firms with worse track records for compliance with labor and environmental laws relative to portfolio firms held by non-ESG funds managed by the same financial institutions in the same years. Furthermore, self-labelled ESG mutual funds hold portfolio firms with higher carbon emissions per unit of revenue. Gibson Brandon et al. (2022) as well as Kim and Yoon (2023) show that the self-commitment of institutional investors to the UN PRI is hardly trustworthy. While Gibson Brandon et al. (2022) find that signatories from the US on average do not follow their responsible investment commitments, Kim and Yoon (2023) find no evidence that mutual funds invest more responsibly after committing to UN PRI. These issues demonstrate that the self-commitment of financial intermediaries to principles that cannot be enforced by an independent institution is hardly of use for retail investors.

Nevertheless, empirical studies indicate that ESG ratings could help investors to identify stocks with some appealing characteristics. Companies with higher ESG ratings are less likely to become bankrupt (Cooper and Uzun, 2019) and earnings forecasts for stocks with higher ESG ratings are more precise (Becchetti et al., 2013). Moreover, ESG ratings predict future company-specific ESG news (Serafeim and Yoon, 2023). However, it is important to notice that the latter studies find relations between ESG ratings and company-specific, i.e., idiosyncratic, characteristics. Accordingly, multiple studies find that stocks of companies with higher ESG ratings show lower downside risk (see Lins et al., 2017; Albuquerque et al., 2019; Albuquerque et al., 2020; Hoepner et al., 2020; Ding et al., 2021; Pástor and Vorsatz, 2020) and statistically significant lower idiosyncratic risk than stocks of companies with lower ESG ratings (Mishra and Modi, 2013; Becchetti et al., 2015; Sassen et al., 2016; Bouslah et al., 2013, 2018; Dunn et al., 2018; Giese et al., 2019; Gougler and Utz, 2020; Horn, 2023;Monti et al., 2022). However, on average, the magnitude of the negative relation between idiosyncratic risk and ESG ratings is not economically meaningful, although there are certain time periods when stocks with high ESG ratings significantly outperform stocks with low ESG ratings (Horn, 2023; Oehler/Horn, 2022). Additionally, Cao et al. (2021) and Bofinger et al. (2022) show that the focus of ESG investors on ratings may lead to significant mispricing among high ESG-rated stocks, which is in line with the models of Pástor et al. (2021), Pedersen et al. (2021), and Zerbib (2022).

Moreover, investors face a further problem when they want to pick the most sustainable companies based on ESG ratings. The same company receives heterogeneous ratings among different rating agencies (see Dorfleitner et al., 2015; Chatterji et al., 2016; Kotsantonis and Serafeim, 2019; Billio et al., 2021; Berg et al., 2021, 2022; Gibson et al., 2021; Oehler and Horn, 2022; Horn and Oehler, 2022). Therefore, Edmans (2023) concludes "An ESG rating isn't fact; it's opinion." First indications arise that rating agencies might also deviate in their assessment regarding the eligibility of firm activities in the sense of the EU taxonomy (Hoepner and Schneider, 2022).

The ESMA provides two possible solutions for enhancing the ability of retail investors to make informed investment decisions and financing the transition according to their sustainability preferences (ESMA, 2023). First, the establishment of a reliable and well-designed labelling scheme for sustainable financial products. Reliable and well designed in this context means that the labelling scheme has to fulfill some generally accepted scoring principles (see Oehler, 2017) and a minimum standard in the sense that all clearly stated individual criterions have to definitely be met to receive the label (nominal principle) (see Oehler, 2023). Second, efforts to tackle ESG literacy gaps. The latter solution suffers from practical problems (see Oehler/Wendt, 2017; Oehler et al., 2018b). That is, retail investors have a limited time budget, and it is unclear how, by whom, and based on which material ESG literacy shall be increased while there is not even consensus regarding a definition of sustainability.

Hence, a regulation that increases the reliability of labelling schemes for sustainable financial products by introducing a minimum standard is more promising (see Oehler, 2023). This means that all sustainable financial products must meet certain criterions that are measured with Boolean values (yes/no) and no tolerance thresholds (see Oehler et al., 2018a; Oehler, 2023). Due to the different preferences of retail investors, further reliable ESG ratings that complement the labelling schemes for sustainable financial products could play a key role. The current ESG ratings could be more useful when they provide unambiguous and easily understandable information to retail investors. The important aspect is that retail investors could compare the rating approaches regarding their rigor and benchmarks to understand which rating best fits the preferences of the retail investor (see Oehler/Wendt, 2017, Oehler, 2023). It would be a benefit if the standard considers the disclosure recommendations provided by the Task Forces on Climate-related Financial Disclosures (TCFD) and Nature-related Financial Disclosures (TNFD).

In addition, the regulation should consider the Corporate Sustainability Due Diligence Directive (**CSDDD**), which punishes firms in the EU when violating ESG standards in their supply chain. Hence, the minimum standard also shall consider whether the upstream companies in the value chain of a company act ESG-conform (see Oehler et al., 2018a; Oehler, 2023) and not only according to the minimum international social and labor standards mentioned in Article 18 of the taxonomy. This is important since Anderson and Robinson (2022) find that households with stronger pro-environmental values do not hold greener portfolios because they are disengaged from financial decisions. Applied on mutual funds, ESG ratings considering the value chain of a company can also help (re)building trust in ESG investment products.

Additionally, it is a necessary prerequisite that the regulation sets standards for ESG related information that rating providers, banks, and fund companies provide to retail investors in key investor information documents (KIIDS) (see Oehler and Wendt, 2017). Still, a regulatory minimum standard that also includes the presentation of the information in the KIIDS is necessary to establish a level playing field (see Oehler et al., 2018a; Oehler, 2023). Simultaneously, unambiguous and easily understandable information from ESG ratings would enable retail investors to build their own portfolios with more or less screening criteria, depending on the investors' preferences. Only then can the risk of greenwashing be reduced, retail investors and non-governmental organizations for consumer protection could reasonably apply this information, and retail investors that were disengaged from financial decisions because of regulations that do not fit their preferences may participate in financial markets (again). Reduced greenwashing and the participation of retail investors with stricter ESG preferences in financial markets would then help reaching the aim of the European Green Deal and the associated regulations to lead capital flows towards sustainable investments.

5. The behavior of retail investors and implications for ESG investing

The vast majority of retail investors holds portfolios with only few assets and takes higher uncompensated idiosyncratic risk (Barber and Odean, 2000, 2001; Polkovnichenko, 2005; and Goetzmann and Kumar, 2008). Those investors would probably not further decrease portfolio diversification when investing in a world-wide ESG screened fund. However, those retail investors who follow the advice of academics to invest in exchange traded funds with a world-wide index as underlying (Horn and Oehler, 2020; Jacobs et al., 2014) might tilt their portfolio towards some systematic risk factors when adding ESG screened assets. High ESG ratings are associated with large firms (Drempetic et al., 2020), companies with low book-to-market ratio and low relative investments (Gougler and Utz, 2020). However, stocks with higher ESG ratings suffered less during the financial crisis and the COVID crash (Lins et al., 2017; Albuquerque et al., 2020; Ding et al., 2021). This can be

explained by lower exposure to market risk (Monti et al., 2022).

It does not seem appropriate to provide retail investors with detailed information on factor loadings and correlations, since such an amount of information might lead to information illusion (Oehler et al., 2020; Oehler/Wendt, 2017). Instead, the regulation should require a clear statement that compared to a market-wide investment, a narrow focus on ESG assets leads to under-diversification, an overweight of large stocks, and maybe lower returns. Since many retail investors are willing to sacrifice a bit of return to invest sustainably, such a statement should not daunt the group of retail investors with preferences for sustainable investments. However, such a statement will help to prevent unrealistic expectations and, later, frustration and avoidance of sustainable investments when exaggerated expectations are not met.

6. Conclusion

"[A]s ESG-related financial products and markets have experienced remarkable growth in the EU, [the financial authorities] face expectations from stakeholders to step up in ensuring investor protection and market integrity and maintain a trusted environment for sustainable investments." (p. 5; ESMA, 2023) The first step to reach this aim is to explore investors' sustainability preferences in a balanced way that also points out specific risks of sustainable investments. Second, investor information documents should include clear data on the ESG-conformity of an asset to enable negative screening, a clear statement that a narrow focus on ESG assets leads to under-diversification, an overweight of large stocks, and returns that can be lower than the market return. Third, clear data on the ESG-conformity of an asset requires a minimum standard for a labelling scheme. This labelling scheme must unambiguously show with Boolean values and no tolerance thresholds whether the business model of a company is ESG-conform. Furthermore, the labelling scheme shall apply the ideas of the **CSDDD to sustainable investments** and consider whether the upstream companies in the value chain act ESG-conform.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

No data was used for the research described in the article.

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