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Does ESG integration impact the real economy?

A theory of change and review of current evidence

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Contents

As the usage of ESG has firmly settled in the mainstream of finance on the one hand, and more actors care about real-world impact on the other hand, this report comes at a critical time—outlining if, where, and how these two key topics overlap.

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I. Executive Summary

This report addresses if and how ESG integration impacts the real economy. ESG integration means that environmental, social, and governance metrics and ratings are integrated into investment decisions, and it is the most used sustainable investment approach in Switzerland and worldwide.

The report lays out a conceptual theory of change for ESG integration that describes how ESG integration might impact the real economy. It then investigates to what degree this theory of change is valid, based on a review of the current academic literature, including two studies[1] undertaken in partnership with the Swiss Federal Office for Environment (FOEN) specifically for this report.

The question is broken down into **four assumptions** that need to be true for ESG integration to have impact. These are:

1. ESG ratings reflect company impact.
2. Portfolio holdings deviate from the market benchmark by tilting towards ESG leaders and away from ESG laggards.
3. The market share of ESG investors is large enough to create an ESG premium.
4. Managers consider the ESG premium to be large enough to justify additional investments or adopt improved practices.

The review concludes that (1) ESG ratings can reflect company impact when they focus on impact materiality rather than financial materiality, (2) dedicated ESG funds tilt their holdings towards ESG leaders, but many institutional investors who have committed to ESG integration do not, (3) there is some evidence that an ESG premium exists, but it remains uncertain whether it is economically meaningful, and (4) managers readily address low-hanging fruit but hesitate to undertake larger investments to appeal to ESG investors unless there is also pressure from clients, competitors, or regulators. The overall conclusion on whether ESG integration has an impact on the real economy is: "maybe a little bit."

Nevertheless, the strength of ESG integration lies in its scale, so even uncertain and small impacts may add up to a meaningful effect. We, therefore, provide recommendations on how the impact of ESG integration could be enhanced.

For fund managers:

1. Emphasize ESG metrics that reflect impact materiality rather than financial materiality (for example, carbon emissions rather than transition risk).
2. Ensure that the portfolio has substantial active ESG weights, meaning that ESG performance causes a firm's weight in the portfolio to be markedly different from the weight in the benchmark.
3. Communicate explicitly to firms which criteria matter and under which circumstances the ESG assessment would trigger buy and sell decisions.

For policymakers:

1. Standardization of ESG reporting is needed to help firms to get more clarity on which metrics they need to focus on. Also here the focus on impact materiality is essential.
2. Mandated disclosure of the ESG tilt compared to the benchmark would help customers differentiate between ESG integration funds.
3. Disclosure of the considered metrics and how these metrics enter the decision-making process would provide greater clarity to companies on what really matters regarding ESG.

[1] https://www.csp.uzh.ch/en/research/Practitioner-Research/Does-ESG-integration-impact-the-real-economy.html

Deutsch

Dieser Bericht geht der Frage nach, ob und wie sich die ESG-Integration auf die Realwirtschaft auswirkt. ESG-Integration bedeutet, dass Umwelt-, Sozial- und Governance-Kriterien und -Ratings in Anlageentscheidungen integriert werden, und ist der am häufigsten verwendeten Ansatz für nachhaltige Anlagen in der Schweiz und weltweit. Der Bericht stellt eine konzeptionelle Theorie des Wandels auf, die beschreibt, wie sich ESG-Integration auf die Realwirtschaft auswirken könnte. Anschließend wird untersucht, inwieweit diese Theorie des Wandels gültig ist, basierend auf der aktuellen akademischen Literatur, einschließlich zweier Studien, die in Zusammenarbeit mit dem Schweizer Bundesamt für Umwelt BAFU speziell für diesen Bericht durchgeführt wurden.

Die Frage wird in vier Annahmen unterteilt, die zutreffen müssen, damit die ESG-Integration Auswirkungen hat. Diese sind:

1. ESG-Ratings müssen die Auswirkungen eines Unternehmens widerspiegeln.
2. Die Portfoliogewichte weichen von der Benchmark ab, indem sie ESG-Leaders übergewichten und sich ESG-Laggards untergewichten.
3. Der Marktanteil der ESG-Anleger ist groß genug, um eine ESG-Prämie zu schaffen.
4. Die Manager halten die ESG-Prämie für groß genug, um zusätzliche Investitionen zu rechtfertigen oder verbesserte Geschäftspraktiken einzuführen.

Die Untersuchung kommt zu dem Schluss, dass (1) ESG-Ratings die Auswirkungen von Unternehmen widerspiegeln können, wenn diese die die Impact Materialität und nicht die finanzielle Materialität ins Zentrum stellen, (2) spezialisierte ESG-Fonds ihre Portfolios auf ESG-Leaders ausrichten, viele institutionelle Anleger, die sich der ESG-Integration verschrieben haben, dies jedoch nicht tun, (3) es einige Belege dafür gibt, dass eine ESG-Prämie existiert, es jedoch ungewiss bleibt, ob sie wirtschaftlich bedeutsam ist, und (4) Manager bereitwillig kleine Massnahmen treffen, aber zögern, größere Investitionen zu tätigen, um ESG-Anleger anzusprechen. Dies geschieht nur, wenn es auch Druck von Kunden, Wettbewerbern oder Regulierungsbehörden gibt. Das Gesamtfazit zur Frage, ob die ESG-Integration Auswirkungen auf die Realwirtschaft hat, lautet: vielleicht ein wenig.

Die Stärke der ESG-Integration liegt jedoch in ihrer breiten Anwendung, so dass sich selbst ungewisse und kleine Auswirkungen zu einem bedeutenden Effekt summieren können. Wir geben daher Empfehlungen, wie die Auswirkungen der ESG-Integration verbessert werden können.

Für Fondsmanager, die die Wirkung der ESG-Integration erhöhen wollen:

1. Legen Sie den Schwerpunkt auf ESG-Kennzahlen, die die Impact Materialität und nicht die finanzielle Materialität widerspiegeln (z.B. CO2 Emissionen anstelle von Transitionsrisiken).
2. Stellen Sie sicher, dass das Portfolio eine erhebliche aktive ESG-Gewichtung aufweist, d.h., dass die ESG-Kennzahlen einen wesentlichen Unterschied in der Gewichtung eines Unternehmens im Portfolio ausmachen.
3. Kommunizieren sie klar, welche Kriterien wichtig sind und unter welchen Umständen die ESG-Bewertung Kauf- und Verkaufsentscheidungen auslösen würde.

Für politische Entscheidungsträger:

1. Eine Standardisierung der ESG-Berichterstattung ist erforderlich, damit die Unternehmen mehr Klarheit darüber erhalten, auf welche Kennzahlen sie sich konzentrieren müssen. Auch hier ist der Fokus auf Impact Materialität wesentlich.
2. Um den Kunden eine bessere Unterscheidung zwischen ESG-integrierten Fonds zu ermöglichen, könnte eine Offenlegung des ESG-Gewichtungvorgeschrieben werden.
3. Um den Unternehmen mehr Klarheit darüber zu verschaffen, was in Bezug auf ESG wirklich wichtig ist, sollten ESG-Integrationsfonds offenlegen welche ESG Metriken berücksichtigt werden und wie diese Metriken in den Entscheidungsprozess einfließen.

Francais

Ce rapport aborde la question de savoir si et comment l'intégration ESG impacte sur l'économie réelle. L'intégration ESG signifie que les mesures et les notations environnementales, sociales et de gouvernance sont intégrées dans les décisions d'investissement. Il s'agit de l'approche d'investissement durable la plus utilisée en Suisse et dans le monde. Le rapport expose une théorie conceptuelle du changement pour l'intégration ESG qui décrit comment l'intégration ESG pourrait avoir un impact sur l'économie réelle. Il examine ensuite dans quelle mesure cette théorie du changement est valable, sur la base d'un examen de la littérature académique actuelle, y compris deux études réalisées en partenariat avec l'Office fédéral de l'environnement OFEV spécifiquement pour ce rapport.

La question est décomposée en quatre hypothèses qui doivent être vraies pour que l'intégration ESG ait un impact. Ces hypothèses sont les suivantes

1. Les notations ESG doivent refléter l'impact de l'entreprise.
2. Les positions du portefeuille s'écartent de l'indice de référence du marché en s'orientant vers les leaders ESG et en s'écartant des retardataires ESG.
3. La part de marché des investisseurs ESG est suffisamment importante pour créer une prime ESG.
4. Les gestionnaires considèrent que la prime ESG est suffisamment importante pour justifier des investissements supplémentaires ou l'adoption de pratiques améliorées.

L'étude conclut que (1) les notations ESG peuvent refléter l'impact des entreprises lorsqu'elles se concentrent sur la matérialité de l'impact plutôt que sur la matérialité financière, (2) les fonds ESG spécialisés orientent leurs avoirs vers les leaders ESG, mais de nombreux investisseurs institutionnels qui se sont engagés dans l'intégration ESG ne le font pas, (3) il existe des preuves de l'existence d'une prime ESG, mais il n'est pas certain qu'elle soit économiquement significative, et (4) les gestionnaires s'attaquent facilement aux fruits mûrs, mais hésitent à entreprendre des investissements plus importants pour attirer les investisseurs ESG, à moins qu'ils ne subissent également des pressions de la part de leurs clients, de leurs concurrents ou des régulateurs. La conclusion générale quant à l'impact de l'intégration ESG sur l'économie réelle est la suivante : peut-être un peu.

Néanmoins, la force de l'intégration ESG réside dans son ampleur, de sorte que même des impacts incertains et faibles peuvent s'additionner pour produire un effet significatif. Nous fournissons donc des recommandations sur la manière dont l'impact de l'intégration ESG pourrait être renforcé.

Pour les gestionnaires de fonds qui souhaitent augmenter l'impact de l'intégration ESG:

1. Mettre l'accent sur les mesures ESG qui reflètent la matérialité de l'impact, plutôt que la matérialité financière (par exemple les émissions de carbone plutôt que le risque de transition).
2. Veillez à ce que le portefeuille ait des pondérations ESG actives substantielles, ce qui signifie que la performance ESG fait que le poids d'une entreprise dans le portefeuille est sensiblement différent du poids dans l'indice de référence.
3. Communiquer explicitement aux entreprises quels critères sont importants et dans quelles circonstances l'évaluation ESG déclencherait des décisions d'achat et de vente.

Pour les décideurs politiques :

1. La standardisation du reporting ESG est nécessaire, afin d'aider les entreprises à obtenir plus de clarté sur les paramètres sur lesquels elles doivent se concentrer. Ici aussi, l'accent mis sur la matérialité de l'impact est essentiel.
2. Pour permettre aux clients de mieux différencier les fonds à intégration ESG, il faudrait exiger la divulgation de l'étendue de l'intégration ESG.
3. Pour que les entreprises sachent plus clairement ce qui compte vraiment en matière d'ESG, les fonds d'intégration ESG devraient être tenus de divulguer les paramètres pris en compte et la manière dont ces paramètres entrent dans le processus décisionnel.

II. Introduction

With the adoption of the Paris Agreement, Switzerland has committed to aligning its financial flows with the climate goals. This commitment is mirrored in the Swiss Federal Council's report on Nachhaltigkeit[2] im Finanzsektor, which formulates clear goals concerning the role of the financial industry in the context of sustainability and climate change. Specifically, the government aims to create conditions so that the Swiss financial sector can make an "effective contribution" to sustainability. For the Swiss government to create these conditions, it is essential to understand how the financial sector can make an effective contribution.

Presently, there remains considerable uncertainty about the impact of the sustainable investing industry. Specifically, there is a need to better understand how concrete actions of financial institutions are related to meaningful change in the real economy.

This report focuses on one very prominent sustainable investing approach: ESG integration. ESG integration stands for the integration of Environmental, Social, and Governance information in the investment process. ESG integration is the most widely practiced form of sustainable investing in Switzerland and globally (SSF 2021; GSIA 2021). At the same time, the effect of ESG integration on the real economy is not well understood. Based on a previous review, there is insufficient evidence to support the claim that ESG integration makes an effective contribution to sustainability (Kaiser 2020).

The present report reviews the latest evidence in the current academic finance literature, including the results of two unpublished studies that were conducted by researchers at the Center for Sustainable Finance and Private Wealth at the University of Zurich with financial support provided by the Swiss Federal Office for the Environment (FOEN).

Understanding why and under which circumstances ESG integration approaches have real economic impact will provide guidance to asset managers on how to practice ESG integration in the most impactful manner. It will also inform policymakers by establishing which conditions are necessary to facilitate impact through the ESG integration approach.

[2] https://www.sif.admin.ch/sif/de/home/finanzmarktpolitik/nachhalt_finanzsektor.html

III. ESG integration and its Theory of Change

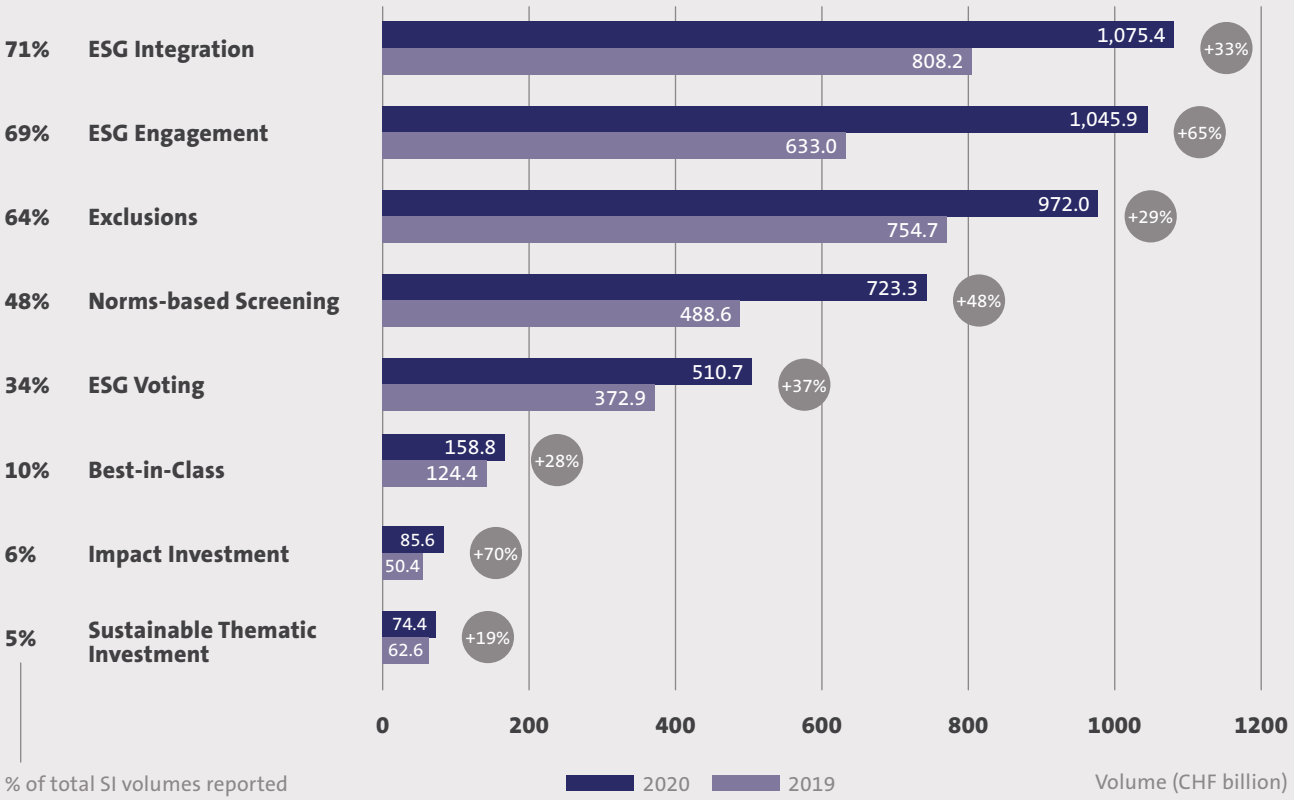
A definition of ESG integration

ESG integration is an investment approach in which the investment manager combines financial information with information on corporations' environmental, social, and governance performance. According to Swiss Sustainable Finance[3], it is defined as follows:

ESG Integration:

The explicit inclusion by investors of ESG risks and opportunities into traditional financial analysis and investment decisions based on a systematic process and appropriate research sources.

Figure 1: Growth of assets under management (AUM) in different sustainable investing strategies in Switzerland. Source: SSF 2021



[3] https://www.sustainablefinance.ch/en/glossary-_content---1--3077.html

ESG integration is the most widely practiced form of sustainable investing in Switzerland[4] and globally[5]. According to the latest numbers, around USD 25 trillion are invested under an ESG integration approach, representing around a quarter of all professionally managed assets globally (GSIA 2021). Also, in Switzerland, a total of CHF 1.520 trillion is considered to be invested according to an ESG integration approach (SSF 2021).

An even larger amount of over USD 100 trillion[6] is managed by the signatories of the UN Principles for Sustainable Investing. Signatories have pledged to "[...] incorporate ESG issues into investment analysis and decision-making processes," which is very similar to ESG integration.

ESG integration is a flexible approach that does not exclude any industry or product per se. Also, an ESG integration portfolio may contain investments with low ESG performance. Fund managers can compensate for such a position with other, high-performing positions or be convinced that it is a good investment from a financial point of view, despite ESG concerns.

In most cases, impact is not the primary intent of ESG integration. Instead, the intention behind ESG integration is typically to optimize the risk-return profile – taking advantage of ESG opportunities and avoiding ESG risks.

And yet, for retail investors, an important motivation to opt for an ESG integration approach is the feeling or belief that it will have some positive impact and not only enhance financial returns (2Dii 2020). In addition, due to its large volume, ESG integration plays a significant role in today's financial markets. For these reasons, it is important to understand whether and under what circumstances ESG integration may contribute to a more sustainable economy and how such a contribution could be enhanced.

[4] Swiss Sustainable Finance (2020): Swiss Sustainable Investment Market Study 2020: https://www.sustainablefinance.ch/en/swiss-sustainable-investment-market-study-2020-_content---1--3037-- 35722.html

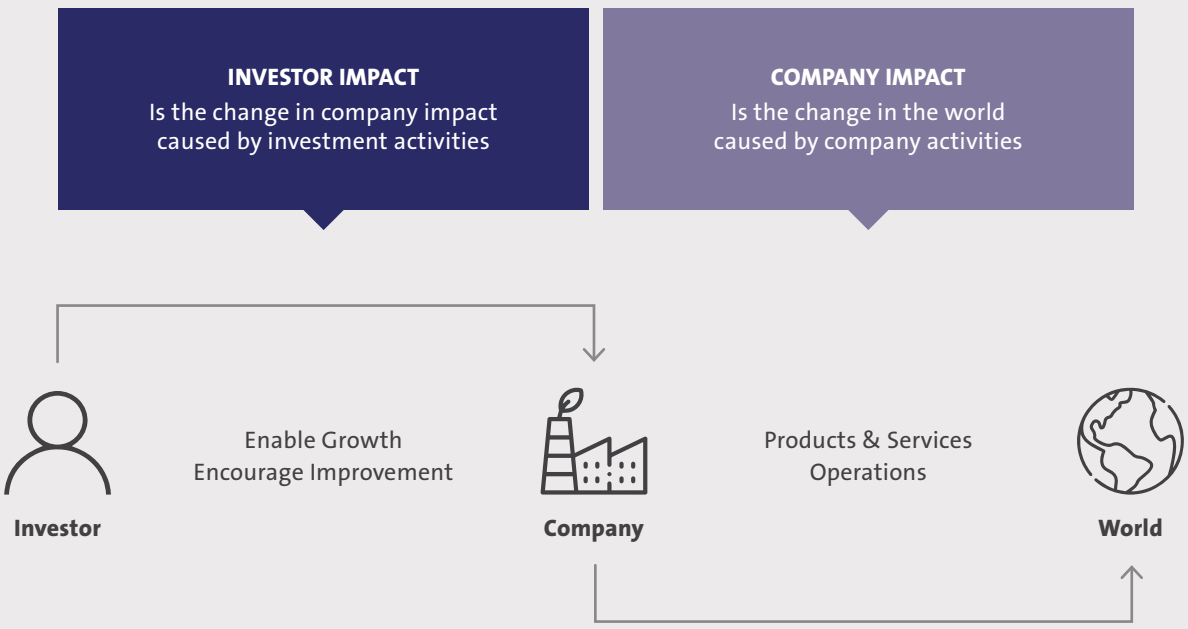
[5] Global sustainable investment alliance (GSIA). http://www.gsi-alliance.org/wp-content/uploads/2021/07/GSIR-2020.pdf

[6] https://www.unpri.org/about-the-pri/annual-report-2020/6811.article

A Theory of Change for ESG integration

A theory of change is a description of how and why a specific activity will cause change in a target parameter. In developing this theory of change, we follow the framework of investor impact and company impact, as shown in Figure 2. Company impact describes changes in the real world that are caused by the actions of companies, such as fewer emissions through more efficient operations. Investor impact describes the changes in company impact caused by investor actions, such as an improvement in operational efficiency due to investor activities. Our theory of change is focused on investor impact and therefore takes company impact as its target parameter.

Figure 2: Investor impact versus company impact (taken from Heeb and Kölbel (2020))



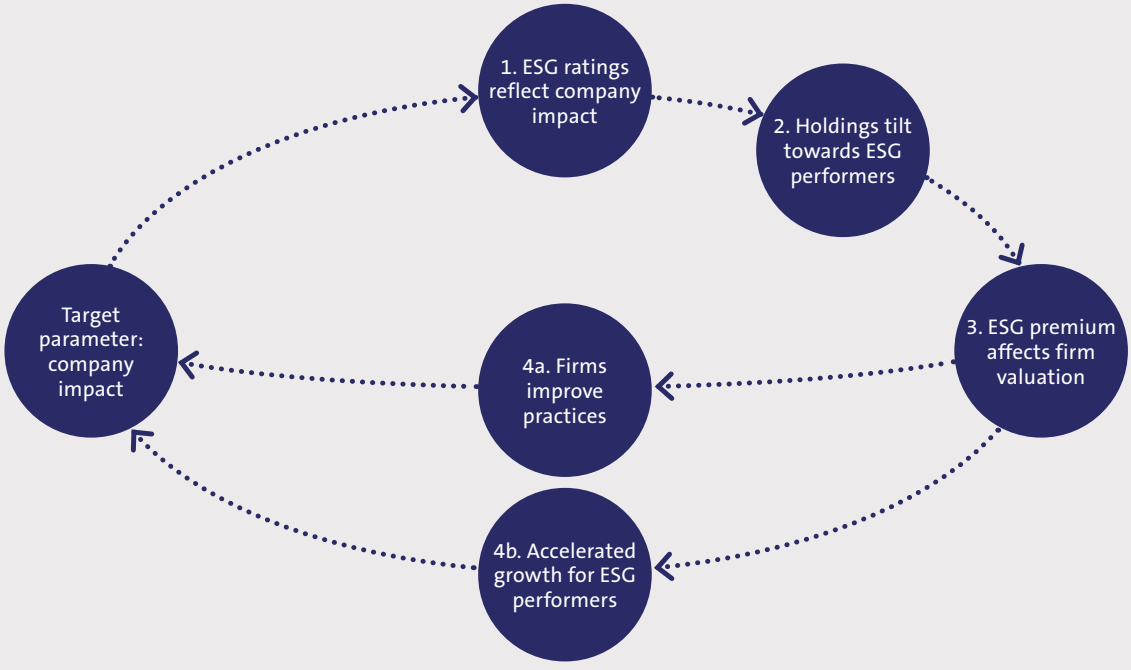
A theory of change for ESG integration is illustrated in Figure 3. The general idea is that ESG funds overweight holdings with positive company impact, which boosts the valuation of those companies, and in this way, sets incentives for all companies to increase their impact.

This theory of change rests on four key assumptions:

1. ESG ratings reflect company impact.
2. Portfolio holdings deviate from the market benchmark by tilting towards ESG leaders and away from ESG laggards.
3. The market share of ESG investors is large enough to create an ESG premium.
4. Managers consider the ESG premium to be large enough to justify additional investments or adopt improved practices.

When all four assumptions are satisfied, we would expect an impact of ESG integration on the real economy. Importantly, all these assumptions must be satisfied simultaneously, and the weakest link determines the overall impact. When one of them is in doubt, the impact of ESG integration is in doubt, and it also does not make sense to compensate for low confidence in one assumption with high confidence in another. In the following, we flesh out these four assumptions.

Figure 3: A theory of change for the impact of ESG integration on the real economy



01.

ESG ratings reflect company impact

ESG integration relies on information about firms' ESG performance. For ESG integration to influence company impact, ESG performance must be correlated with company impact. For example, a firm's improvement in operational efficiency with respect to greenhouse gas emissions should be reflected in improved ESG performance. Vice versa, a firm's improved sustainability reporting should not lead to an improved ESG performance when the operational efficiency stays the same.

Investors use many different ESG ratings and metrics to form an opinion on ESG performance. There is no perfect measure. Also, investors not only use third-party ESG ratings but also develop their own processes and assessment methods.

The required assumption is that ESG assessments are positively correlated with company impact. If the ESG assessment used by investors is a precise measure of company impact, then the impact of ESG integration would be maximized. If the correlation is zero, ESG integration would have no impact; if it is negative, ESG integration would have a negative impact.

02.

Holdings tilt towards ESG performers

The second assumption is that ESG funds tilt their holdings towards assets with high ESG scores. In the following, we speak of "green firms," meaning firms with strong ESG performance, and "brown firms," meaning firms with poor ESG performance. The required assumption is that ESG funds tilt their holdings towards green firms and away from brown firms.

Whether this assumption holds depends on the extent to which holdings of ESG funds deviate from the market benchmark. Suppose a green firm and a brown firm both have a weight of 1% in a market index. If ESG performance is the only relevant consideration, ESG funds will give a weight of 2% to the green firm and 0% to the brown firm. If ESG performance is instead a peripheral consideration, ESG funds might give a weight of 1.01% to the green firm and 0.99% to the brown firm.

Thus, the effectiveness of ESG integration depends on how strongly funds tilt their holdings towards green firms. If ESG funds deviate substantially from the market benchmark, the impact is stronger. If ESG funds invest similar to the market benchmark, the impact is weaker. If there is no difference in the market benchmark, the impact is zero.

03.

ESG premium affects firm valuation

The third assumption is that firm valuation responds to the portfolio choices of ESG funds. In equilibrium, the valuation of green firms would be higher, and the valuation of brown firms would be lower. This means that green firms see their stock price increased by an "ESG premium," whereas brown firms see their stock price decreased by an "ESG discount."

The basis for this assumption is established in theoretical equilibrium models (e.g. Pástor, Stambaugh, and Taylor, 2021). The key rationale is that ESG investors need a counterparty for their trades. If ESG investors sell a brown stock, non-ESG investors need to buy it. But non-ESG investors have no incentive to buy the brown stock, as they would have to deviate from their optimal portfolio unless they can

buy it at a discount. The opposite applies to green stocks, where non-ESG investors only sell when they receive a premium in return. As a result, the prices of brown stocks go down, and prices of green stocks go up.

The strength of this effect depends on the market share of ESG investors. The more investors and assets apply ESG integration (and fulfill assumptions 1 and 2), the stronger is the link between ESG performance and firm valuation.

04.

Firms react with an improvement of practices or accelerated growth

The fourth assumption is that the changes in firm valuation trigger changes in the company. There are two distinct channels through which this might happen: improved practices or accelerated growth.

An improvement of practices is triggered when managers realize that there is a reform that can achieve an increase in firm value that is greater than the cost of the reform. For example, managers may realize that becoming a signatory of the UN Global Compact is a low-cost measure they can undertake to attract ESG investors, leading to an increase in stock price. In essence, the decision is based on a cost-benefit analysis comparing the cost of reform with the benefit of the ESG premium. The key question is how large managers expect the ESG premium to be. If the expected ESG premium is large, managers may undertake costly reforms. If the expected ESG premium is small or when its magnitude is uncertain, managers may only undertake low-cost reforms.

Accelerated growth is achieved when the cost of capital for green firms becomes lower compared to brown firms so that green firms can grow faster. The ESG premium that investors pay for a company's stocks and bonds implies a lower cost of capital for the firm. The cost of capital, in turn, defines the internal hurdle rate based on which firms decide which projects are profitable. If the hurdle rate is lowered, more projects are profitable. The relevance of this growth effect also depends on the magnitude of the ESG premium. It also depends on how the company is financed and whether it has growth opportunities.

The assumption is that the ESG premium is large enough to either justify reforms that enhance the company's ESG performance or enable green firms to realize additional growth opportunities compared to brown firms. Thus, the greater the ESG premium, the greater the impact of ESG integration. It is important to note that the ESG premium implies that ESG investors accept lower returns. This means that there is a trade-off between investment performance and impact[7].

This last step closes the circle. If green companies grow faster than they would otherwise, then ESG integration leads to an increase in company impact. Similarly, if brown companies implement reforms to increase their ESG performance that they would not implement otherwise, ESG integration leads to an increase in company impact.

[7] It is possible that investors benefit financially from ESG integration, for example by correctly predicting a future regulatory environment, where ESG performers thrive. Note, however, that in this case regulators rather than investors are driving change. Investors may benefit from the change, but they did not cause it. Another possibility, explored in (Pastor, Stambaugh, and Taylor 2021), is that early ESG investors temporarily benefit from catching a market trend early. The authors expect this effect to disappear at some point.

IV. Empirical evidence on the impact of ESG integration

This chapter summarizes the empirical evidence for the previously presented theory of change. It is important to note that this report has not undergone academic peer review, and also many of the academic papers we refer to are still working papers, i.e. have not yet undergone academic peer review. This report reflects the author's interpretation of currently available evidence, without claiming scientific validity.

Do ESG ratings correlate with company impact?

If the company's **ESG score** *improves, does the world become a better place?*

A true benchmark of company impact is currently unavailable, making it difficult to validate existing metrics empirically. ESG ratings are well-known to diverge in the sense that different providers give different scores to the same company (Berg, Kölbel, and Rigobon 2022). In addition, existing providers now offer a range of scores catering to a range of use-cases. Given this divergence, it is clear that some ESG ratings are more representative of company impact and others less. Determining which ones are sound measures of company impact is a question beyond the scope of this report. However, the report offers some helpful considerations.

A central element of ESG ratings is the definition of materiality. There is a distinction between "financial materiality" and "impact materiality" (EFRAG 2021). Financial materiality means that the rating considers aspects that are material (i.e., relevant) for the firm's value, for instance, the extent to which climate regulation may hurt profitability. Impact materiality means that the rating considers aspects relevant to the well-being of stakeholders and the health of the natural environment. In this case, the level of emissions is the focus rather than the potential financial repercussions in response to those emissions.

For ESG metrics to reflect company impact, the focus should be on impact materiality. Historically, most ESG ratings have emphasized financial materiality, which is legitimate when the purpose is to identify companies that will do well in a changing environment. However, when the purpose is to drive change (rather than benefit from change), ESG ratings should focus on impact materiality. An easy way to think about it: If the company's ESG score improves, does the world become a better place? If the answer is yes, the score may serve as a reasonable proxy for company impact.

Since recently, several rating agencies have offered metrics that indicate to what extent firms generate revenue with products suited to address the Sustainable Development Goals. The general idea behind such metrics is rather well aligned with the concept of company impact. However, one issue to be mindful of is the extent to which products are really suited to solve the problems underlying the SDGs. There is a range: from products that address a critical need to products that are rather thematically associated with an SDG. For example, a toothbrush is an important hygiene article and thus associated with SDG 6 for water and sanitation. Yet, when the underlying problem is a dysfunctional drinking water supply system, toothbrushes are not addressing that problem.

In sum, ESG ratings and metrics correlate more with company impact when they have an impact-materiality orientation and when improvements in the metric reliably indicate a better state of the world.

Do ESG fund holdings react to ESG performance?

The answer to this question depends on how ESG funds are defined. Gibson et al. (2019) have studied a very broad definition: the holdings of all institutional investors who are signatories of the Principles for Responsible Investing (PRI).

Together, these investors hold over USD 100 trillion, a substantial fraction of the global securities market. They find that the holdings of signatories are significantly tilted towards high ESG stocks compared to non-signatories. Yet, in the US, which represents a large part of the market, PRI signatories hold even slightly fewer high ESG stocks compared to non-signatories. This suggests that the holdings of PRI signatories hardly respond to firms' ESG performance, and it implies that the impact of this large pool of capital is uncertain.

Our study (Berg, Heeb, and Kölbel 2022) analyzes a narrower definition of ESG funds. We focus on US mutual funds whose name or prospectus contain ESG-related keywords, such as ESG, sustainable, or responsible. This group of funds comprises about USD 100 billion, i.e., three orders of magnitude less than the combined assets of PRI signatories. We focus on changes in MSCI ESG ratings and find that the holdings of these funds respond significantly to both upgrades and downgrades. This suggests that mutual funds marketed as ESG funds respond to ESG information.

The results of the qualitative study (Kellers, Kölbel, and Paetzold 2022) support this picture. We find that it is a problem for companies to understand whether investors are merely talking about ESG or whether investors are serious about making trades based on ESG information.

There is a clear sense that ESG is a topic that has become very important and is brought up in most conversations with investors. But beyond the prominence of the topic, there is a lack of clarity about what investors' specific expectations are and to what extent ESG information will drive investment decisions. Accordingly, firms try to obtain clear signals from investors and determine whether investors merely talk about ESG or whether they make buy-and-sell decisions based on ESG information.

In summary, there is a very large pool of capital that one might assume is performing ESG integration and a much smaller pool of capital sensitive to ESG information. There is clear evidence that some ESG funds respond to ESG information - the question is, what fraction of the market qualifies as a "real ESG fund"? Results so far suggest that even though ESG investing has been growing strongly, the pool of capital that substantially adjusts holdings in response to ESG information is much smaller than the popularity of ESG integration might suggest.

Do changes in ESG performance affect firm valuation?

This question is difficult to answer empirically. The stock price reflects the stock's "fair value" based on fundamentals, plus a potential ESG premium due to ESG investors that buy into the stock. The stock price is directly observable, but the fair value and the ESG premium are not, making it difficult to isolate the ESG premium. ESG performance can influence both components: the fair value and the ESG premium. First, better ESG performance can convey information about fundamentals that pushes up the fair value of the stock (for example, when customers are shifting to green products). In this case, all investors would respond to ESG information, which means that the price impact is not due to ESG investors but simply reflects the view of the market at large. Second, better ESG performance can be unrelated to the firm's fundamentals and merely provide information about the firm's environmental and social impact. In this case, only ESG investors would respond to ESG information, allowing them to have an impact on the price that would not otherwise occur. It is likely that both channels are relevant simultaneously, making it difficult to disentangle the effect.

One approach is to measure abnormal returns in an event study. We have adopted this methodology in our quantitative study (Berg, Heeb, and Kölbel 2022) and found that an upgrade in (MSCI) ESG ratings is followed by positive abnormal returns and a downgrade by negative abnormal returns over a window of 18 months after the event. These changes are significant, but the effect of downgrades is more significant than that of upgrades. In both directions, the economic impact is meaningful (around 1 to 2% over a year). This result is similar to the findings by Glück et al. (2021). Using a shorter event window of 10 days, this study finds a significant negative effect of downgrades (with a magnitude of -0.02% to -0.19% over ten days) but no significant effect of upgrades. These event studies do not discriminate between the ESG premium and fundamental value. Thus, the actual ESG premium is likely smaller than these estimates suggest.

Briere and Brière and Ramelli (2021) rely on a different methodology to measure green sentiment, which is calculated based on inflows in environmentally-themed ETFs. They document an effect of 0.6% over six months for a one standard deviation in the green sentiment measure. Finally, Berk and van Binsbergen (2021) calibrate a theoretical model with real data and estimate an ESG premium of 0.35%, which they deem too small to be economically relevant.

In our qualitative study (Kellers, Kölbel, and Paetzold 2022), most respondents agreed that there probably is an ESG premium. At the same time, respondents were hesitant to give estimates of the size of this ESG premium. This is an important point because firms are unlikely to react to some academically-measured values; they react to what they believe to be true. This observation is well in line with the quantitative findings that suggest that there is an ESG premium, but it remains uncertain whether it is economically meaningful.

In conclusion, several studies suggest that there is an ESG premium; however, these studies leave open whether the ESG premium is economically meaningful.

How do firms respond?

Our quantitative study finds that the change in (MSCI) ESG ratings is not followed by changes in capital expenditure or cash holdings. This would suggest that the firms do not grow faster because they have better ESG ratings. Vice versa, firms do not appear to curtail capital expenditure following rating downgrades. In other words, we do not find evidence for a growth effect.

We also investigate whether firms respond to downgrades with efforts to improve their ESG performance. We find that this occurs, but only in the governance dimension. The environmental and social dimensions do not systematically improve after a rating downgrade. This suggests that improvement of practices also occurs but only to a limited extent. It seems that the impact of ESG integration is limited to "low hanging fruits."

A study by Rohleder et al. (2022) investigates whether firms respond to selling pressure related to carbon emissions. They find that firms that experience carbon-related selling pressure subsequently reduce their carbon emission intensity compared to firms that do not experience such selling pressure. This result suggests that firms respond substantially to investors by integrating the ESG metric of emission intensity by reducing carbon emissions. While the paper establishes causality, there remains the possibility that regulatory pressure is what ultimately induces investors to sell certain carbon-intensive firms and these carbon-intensive firms to reduce their carbon emissions.

In our qualitative study (Kellers, Kölbel, and Paetzold 2022), we find that corporate responses to ESG investors are limited to relatively minor things such as improved reporting unless other factors are present. Major shifts in a corporation's strategy or investment plans tend to be driven more by regulatory, technological, or competitive forces. For example, in the case of car manufacturing and climate change, it took the availability of new technology (battery-powered electric vehicles), successful competitors, changing customer demand, and a clear commitment by regulators to advance electric mobility. This combination induced a strategic shift by certain car manufacturers to invest in electric vehicle development. 'Investors pushing for investing in electric vehicles' was not characterized as a decisive factor for such strategic shifts.

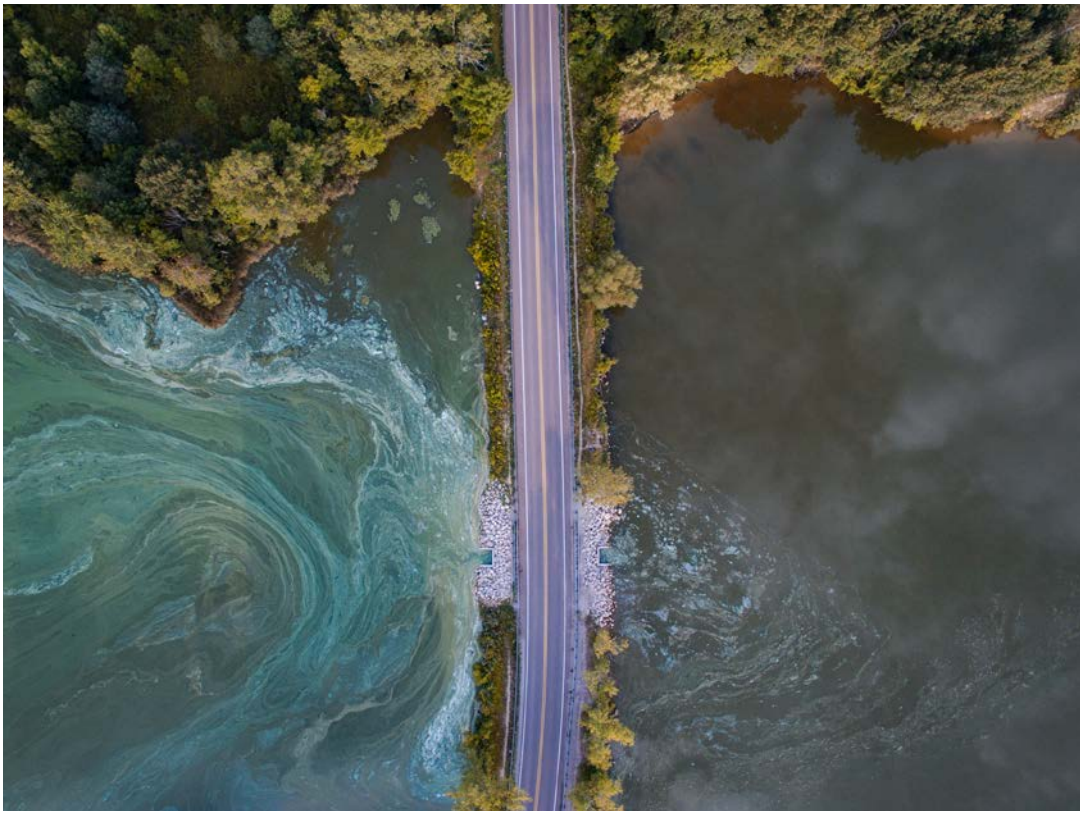
In sum, there is no clear evidence that companies' growth trajectory changes due to ESG integration. There is some evidence that companies implement new practices due to ESG integration, but these seem limited to low-cost measures. Costly reforms and shifts in investment plans seem unlikely unless other factors in addition to ESG integration are at play.

V. Conclusion

Does ESG integration affect the real economy? Given the currently available evidence, we conclude: "maybe a little bit."

We write "maybe" because an impact is only to be expected if four key assumptions are simultaneously satisfied. Specifically, if the underlying ESG metric is a valid measure of company impact, there are enough ESG investors, if these investors implement a substantial tilt towards ESG, and there is a noticeable ESG premium, then ESG integration should have a positive impact on the real economy. Satisfying all four assumptions is demanding, and therefore we emphasize that "maybe" there is an impact.

We write "a little bit" because the magnitude of the ESG premium remains unclear. In response, companies tend to take rather small and careful steps to enhance their ESG profile. Thus, ESG integration is most likely a mechanism that incentivizes companies across industries to pick low-hanging fruits, which as a first step often means developing their ESG reporting or adopting some basic best practices. Such changes are not irrelevant and can accumulate to substantial impacts. Yet, major strategic shifts in corporate strategy and investments are not associated with ESG integration. Such shifts seem to be triggered by larger developments in a company's regulatory, technological, and competitive situation.



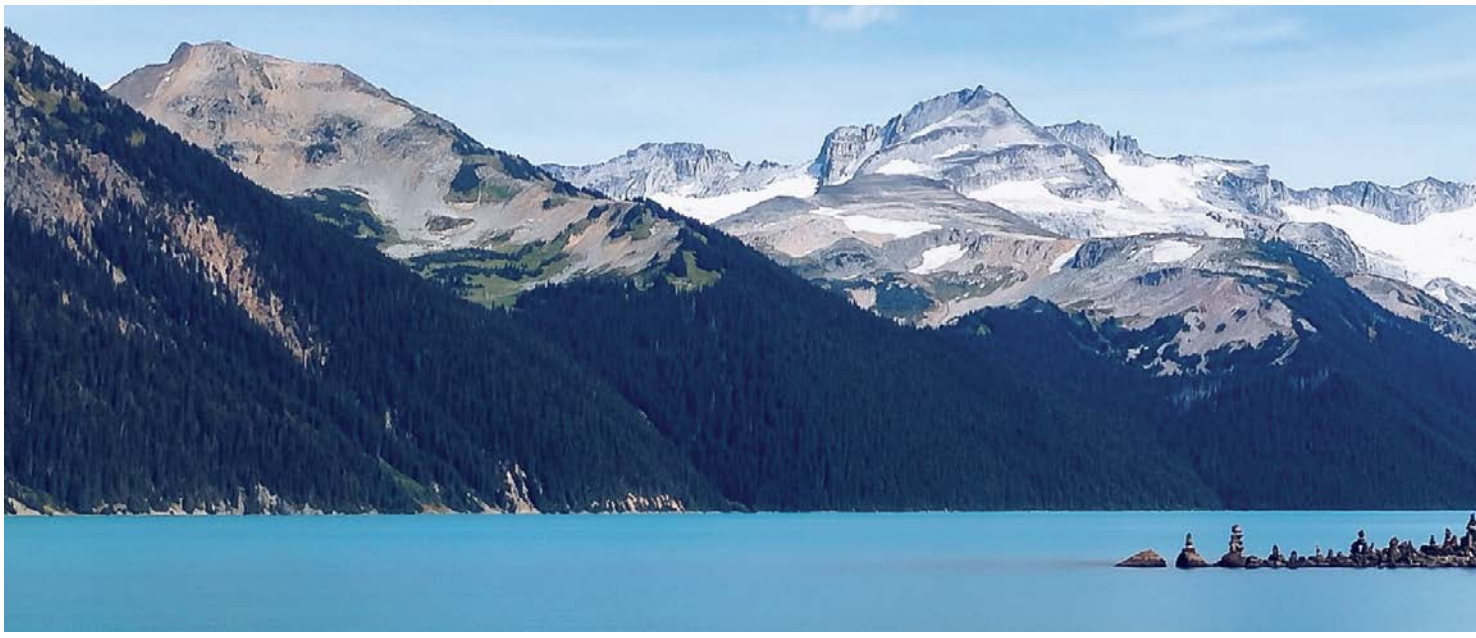
VI. Recommendations

The insights summarized in this report support several recommendations for the practice of ESG integration. We list them separately for investors and regulators.

Investors

If investors or asset managers want to increase the investor impact of ESG integration, we recommend:

1. **Use ESG metrics that focus on impact materiality rather than financial materiality.** Also, focus on ESG metrics that relate to management practices rather than industry characteristics so that companies can realistically address the issues, for example, a best-in-class rating focused on impact materiality.
2. **Deviate from the benchmark by actively tilting your holdings towards high ESG assets**. The theory is clear that a product that closely tracks the market benchmark in terms of weights cannot have an impact.
3. **Be clear and authentic.** Tell companies which metrics matter for portfolio construction and only ask for metrics that actually affect investment decisions. It might help to combine ESG integration with an engagement dialogue to ensure that firms understand the expectations regarding ESG.
4. **Be careful when claiming that an ESG integration product has impact.** The above recommendations are suited to make impact more likely but are no guarantee. Managers wishing to make an impact claim should spell out their theory of change, for example, based on the framework presented in this report.



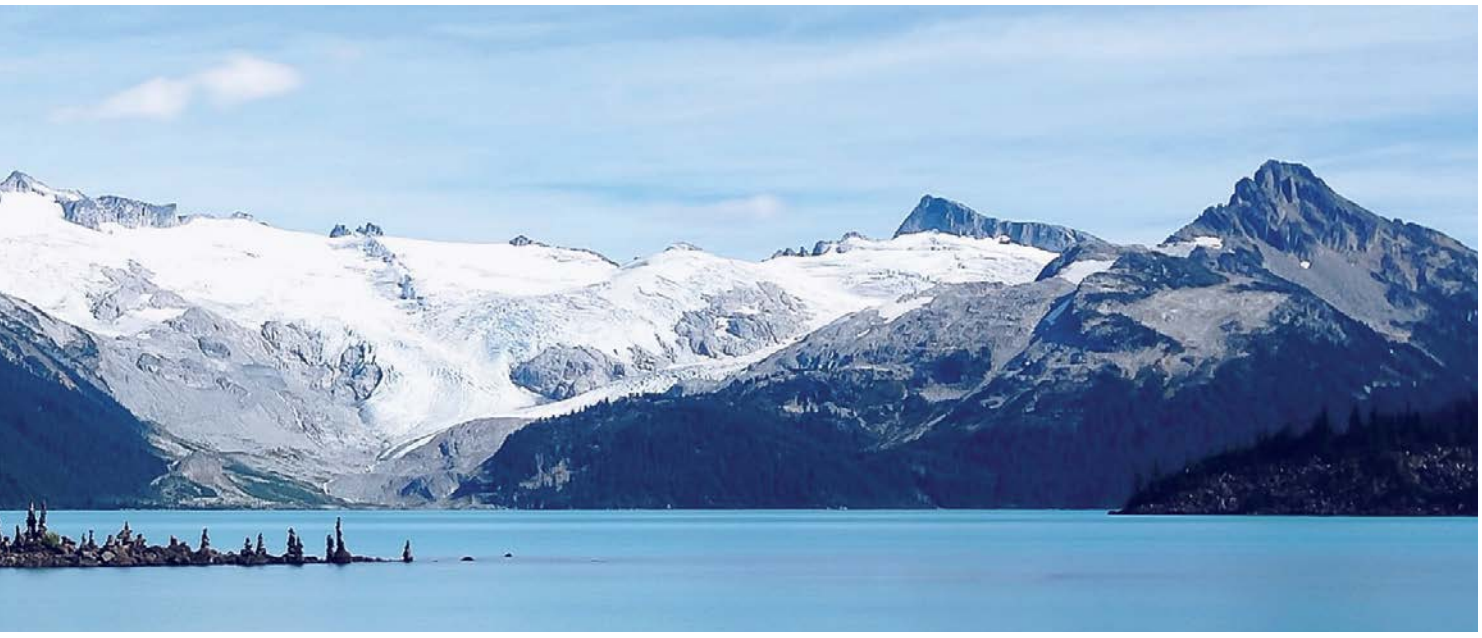
Regulators

If regulators want to create conditions that enhance the impact of ESG integration, we recommend:

1. **Standardize ratings and reporting.** Since effects on capital allocation depend on the amount of money tracking ESG performance, a more harmonized way of measuring ESG would lead to greater coordination among ESG investors, which gives companies clearer signals on which performance metrics they must focus on.

2. **Disclose benchmark deviation.** An important prerequisite to having impact in the context of ESG integration is that a portfolio deviates from the benchmark. One way to ensure that this prerequisite is met is to require that financial products disclose their portfolio's deviation from the benchmark or that these products maintain a minimum benchmark deviation. Alternatively, a similar effect might be achieved by requiring that products be benchmarked to an ESG index, which has a substantial deviation from the conventional market index.

3. **Disclose details on the ESG integration process.** ESG integration is often a black box both for investee companies and retail investors. This could be remedied by requiring that product providers disclose more information about the ESG integration process. Concretely, this could include information about what data is relied upon, whether there are any minimum thresholds that companies must pass, and the mechanisms through which ESG data affects buy and sell decisions.



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Resources

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From evidence to impact

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