ESG Research

Materiality Mapping: Providing Insights Into The Relative Materiality Of ESG Factors

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Two dimensions of ESG materiality - stakeholder materiality and financial materiality - and how materiality mapping can evaluate the evolving and dynamic interactions between the two in a given sector.

This report does not constitute a rating action.

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As environmental, social, and governance (ESG) factors become integral considerations in the marketplace across many types of analysis, investors are seeking more and clearer information about what these mean, including their relevance and materiality. In this context, S&P Global Ratings and S&P Global Sustainable1 have jointly researched two dimensions of ESG materiality: stakeholder materiality and financial materiality. This report also discusses how a materiality mapping exercise can evaluate the relationships between these two dimensions in a given sector--including evolving and dynamic interactions. We believe the sector materiality map we propose and the relationships it illustrates can help investors better frame their own analysis of ESG materiality.

Key Takeaways

- As part of this joint research between S&P Global Ratings and S&P Global Sustainable 1, we have reviewed a common set of material ESG factors for the analysis of entities and sectors, looking at how ESG issues could affect stakeholders, potentially leading to material direct or indirect financial impacts on entities.
- Some ESG factors may only have the potential to yield a financial impact. Some others may have limited financial impact while the impact on stakeholders is high.
- The materiality mapping exercise at the sector level can help assess this potential and the relative magnitude of the impact. It can also help evaluate the relative materiality of ESG factors, which a materiality map could graphically represent.
- The effective realization of financial impact is evolving, dynamic, and inherently uncertain. Therefore, for the purposes of this mapping exercise, we will take a forward-looking view of the materiality of an ESG factor on financial performance.
- We observe that the financial impact of ESG factors is most often realized through four main drivers related to public awareness, regulations, legal actions, and accounting methods. These are not exhaustive or mutually exclusive, but interact with each other.

The ESG Materiality Concept Helps Identify Material ESG Factors

The Two Dimensions Of ESG Materiality

In order to identify ESG factors that are relevant for the analysis of entities or sectors, we consider how ESG issues could affect the stakeholders of a particular entity or sector, potentially leading to a material financial impact on either one.

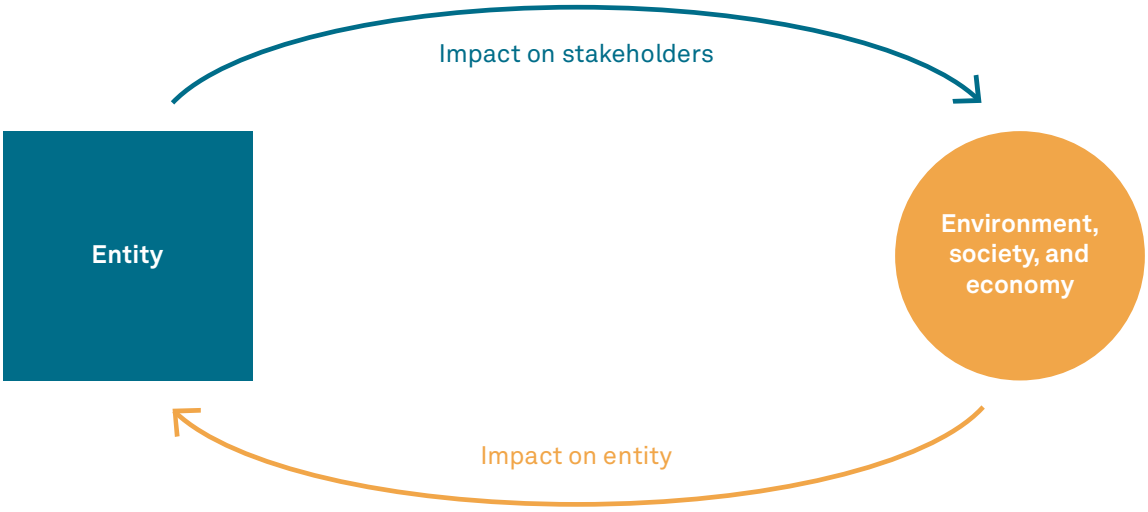
This approach considers that all businesses, through their activities and interactions, affect and depend on, directly or indirectly, stakeholders such as the environment (natural capital), society (human and social capital), and economy (financial capital).

Impact on stakeholders: For example, entities impact their workforces and communities directly through employment and wages paid, or indirectly through their suppliers. Other indirect impacts are to the environment, such as pollution of fresh water causing illness in communities.

Impact on entities: For example, private-sector companies depend on healthy and motivated workers and trustful customer relationships. Unfair employment practices can result in reduced employee engagement and productivity, and possibly in turn impact revenue and costs.

Chart 1

The Two Dimensions Of ESG Materiality



Note: By entity, we mean a legal entity that could be, for example, a corporation or government body. Source: S&P Global Ratings.

ESG Factors That Are Financially Material While Affecting Stakeholders

Using the ESG materiality concept described above, we can work toward identifying a global, cross-sector set of ESG factors that we consider material to stakeholders, and either are or have the potential to become financially material for entities.

Our analysis of the current or potential financial materiality of ESG factors is assessed using our analytical insights about entities and sectors. This can be informed--when available--by macroeconomic trends or correlation studies of ESG metrics and historical financial metrics showing the potential positive or negative financial impact of an ESG issue on entities. For example, research shows that biodiversity losses threaten a large share of global GDP (about 40% to 50% depending on the source: OECD, World Economic Forum, and Dasgupta Report). With such a significant proportion of global GDP exposed to biodiversity loss, there could be knock-on implications for entities' financial performance in the future. The uncertainty of these implications means that biodiversity currently has low financial materiality but with potential to rise at some point in time.

The Materiality Map Shows Relative Materiality Among ESG Factors

The materiality mapping exercise at the sector level, and at a point in time, can help evaluate the relative materiality of ESG factors. The mapping process generates a materiality map that can represent graphically the extent of stakeholder materiality (y-axis in the example below) and the level of financial materiality (x- axis). The axes can be adjusted to show a particular analytical view.

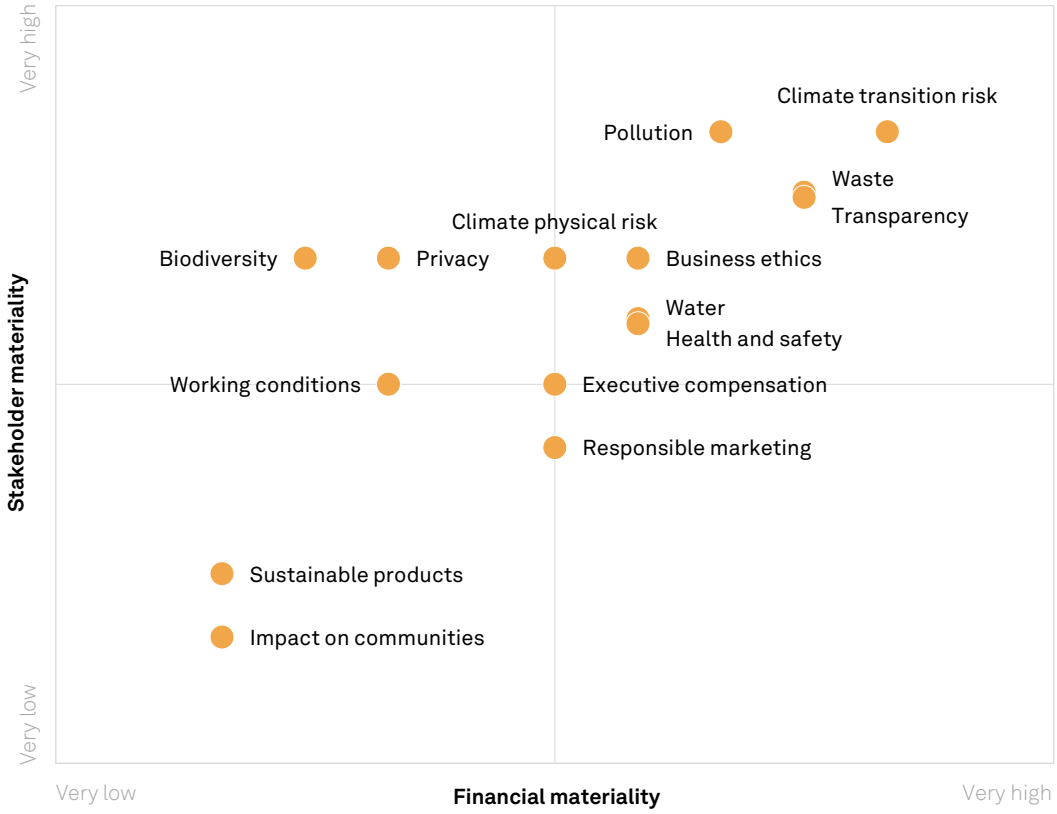
In assessing the sector materiality of ESG factors, we will consider the likelihood of the impact from a given factor and the magnitude of impact on stakeholders as well as on the sector's financial position.

Example Of An ESG Materiality Map

The hypothetical ESG materiality map below illustrates the relative materiality of ESG factors in the ABC sector. The upper-right quadrant will display the most material ESG factors for the sector from both a stakeholder and financial perspective.

Chart 2

Example Of An ESG Materiality Map For The ABC Sector



Note: The ESG factors shown on the map are some examples and not necessarily the actual ones used by S&P Global Ratings or S&P Global Sustainable1. The sector shown is meant to be hypothetical. Source: S&P Global Ratings. Source: S&P Global Ratings.

For example, the impact on the environment linked to pollution can be highly significant in the mining sector. Tailing dams create a high risk of contamination of soil and air that is very likely irreversible--affecting not only the environment but potentially also local communities. The financial impact of pollution for the sector is also considered high. Because costs related to pollution have partially materialized via the cost of disasters, the financial impact could be high because of reputational consequences and heightened pressure and attention from communities and the society, resulting in the loss of an entity's social license to operate or, in extreme cases, halted operations.

Stakeholder Materiality Assesses The Extent Of Impact And Dependencies On Stakeholders

Stakeholder materiality (y-axis) considers the level of impact and dependencies of the sector on the environment, society, and economy.

We can assess the stakeholder materiality of ESG factors by seeking to determine the magnitude of the potential impact of entities on stakeholders across the entire value chain. To do so, it is

important to understand the likelihood of an impact as well as its breadth and depth. The breadth considers the size of the effect on the environment, society, and the economy. The depth is assessed by looking at the severity of the harm and the extent of the benefits.

For example, the pharmaceuticals sector plays an important role in providing access to affordable essential drugs to the society. Failure to do so can affect stakeholders widely (breadth) and severely (depth). Issues of access and affordability of medicines are prevalent in developing countries and can have a material impact on many people in mature economies--from indebtedness as a result of purchasing needed medications to lack of access to medications essential to their health. A company's management of this issue can mitigate or increase the depth of this impact and generate positive or negative impact.

The Financial Materiality Of ESG Factors Dynamically Evolves, Requiring A Forward-Looking View

The financial materiality (x-axis) considers the level of potential and actual financial impact, such as changes in revenue, expenses, cash flow, or cost of capital.

Indeed, some ESG factors may only have the potential to yield a financial impact. Some others may have limited financial impact while the impact on stakeholders is high. The materiality mapping can help assess this potential and the relative magnitude of the impact.

The effective realization of financial impact is evolving, dynamic, and inherently uncertain. This is mainly due to the wide-ranging, interconnected, and complex nature of ESG factors. Therefore, we will consider an ESG factor to be material for financial performance with a forward-looking view, based on our assessment of the visibility of that ESG factor's risk or opportunity.

We think ESG factors can become material for financial analysis through a number of different drivers. We observe that, to date, the financial impact of ESG factors is most often realized through four main drivers, which are not exhaustive or mutually exclusive, but interact with each other (see box for more detail):

- The introduction of new or tighter policies or regulations usually directly influences the economics of businesses and the financial situation of entities in a sector.
- Increased public awareness of environmental and societal changes can trigger changes in stakeholder demand for more sustainable products, services, and relations.
- Legal actions can also suddenly result in the materialization of a financial impact for most entities in a sector.
- The widespread adoption of reliable and standardized accounting methods for quantifying and disclosing the impact of ESG can help uncover and determine financial materiality.

Four Main Drivers, Not To The Exclusion Of Others, And Interacting With Each Other, Can Help Assess The Realization Of The Financial Impact Of ESG Factors

Introduction of new or tighter policies or regulations

The enforcement of new regulations is usually has the greatest financial impact. This directly influences the economics of businesses and the financial situation of entities. Environmental issues are generally the most susceptible to regulatory change. This includes, for example, all laws related to waste discharge and recycling (batteries, packaging, and end-of-life requirements, to name a few), aiming at protecting the environment and public health, which could result in penalties and fines. These regulatory changes require entities to take action to ensure compliance, which generates costs.

Increased public awareness of environmental and societal changes

An increase in social and market awareness can trigger shifts of stakeholders' preference for more sustainable products, services, and relations. For example, major controversies since 2016 have revealed huge client data leakages by large tech companies. These companies' business models have often developed to commercializing clients' data, driving a large share of revenue. Since the clients are more aware of the issues, they are less willing to provide consent to companies to use their data for commercial purposes. Another example is the increasing demand for more sustainable products, such as organic produce, which directly drives profits at companies offering these choices.

Legal actions can also suddenly result in the materialization of a financial impact

Frequent or high-profile legal actions may carry reputational risks, raise public awareness, trigger requirements to make operational changes, and prompt authorities to tighten regulations. This sometimes creates more damage than pure legal costs when entities are not prepared. For example, legal proceedings have brought about profound changes in legislation, specifically in the field of equal employment opportunity.

Widespread adoption of reliable and standardized accounting methods for quantifying and disclosing the impact of ESG

Sometimes, despite public awareness and the existence of regulations, the lack of a reliable and standardized method of quantification hinders financial materialization. Greenhouse gas (GHG) accounting is a good example. Until recently, scope 3 emissions (emissions from the value chain) were excluded from most entities' scopes for GHG reductions, even though they are usually the largest source of emissions. This was mainly due to the lack of clear accounting guidance, until the Science Based Targets Initiative and GHG Protocol issued further guidance, which, together with transition risk scenario, can also be used to better assess future carbon costs and, in turn, the potential financial impact of transition risks.

Example of the evolving realization of financial impact: A look at biodiversity

We consider biodiversity to be a material factor. This is supported by studies showing that economies and society rely heavily on natural capital and the ecosystem.

The materiality map above for the ABC sector shows the biodiversity factor with a relatively midsize stakeholder impact and a low financial impact on entities. The latter mainly reflects the current shortage of available, comprehensive, and reliable reporting.

Insights into the realization of financial impact stands to improve, since the quantification of biodiversity loss or gain in financial terms is an area of active research. Plus, close surveillance of the stakeholder impact of biodiversity issues will continue to drive entities to improve disclosure, likely aided by the work of initiatives such as the Taskforce on Nature-related Financial Disclosures. In addition, the growing global focus and awareness on deforestation and biodiversity loss could trigger regulatory developments or changes in consumer behavior that lead to a business and financial impact.

The interdependencies between sectors will also play a crucial role in the dynamic evolution of the financial materiality of biodiversity. For example, weather systems may be disrupted by deforestation due to land use change from intensive agricultural production, leading to increased flood risk and soil degradation. In turn, this could affect the financial performance of other sectors and companies, such as beverage companies, that are highly dependent on water and other ecosystem services.

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Related Research

S&P Global Ratings

- ESG Evaluation Analytical Approach, Dec. 15, 2020
- General Criteria: Environmental, Social, And Governance Principles in Credit Ratings, Oct. 10, 2021

S&P Global Sustainable1

- S&P Global ESG Scores Methodology