

ESG Materiality Map

Agribusiness

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Environmental factors, such as physical climate risk, climate transition risk, and biodiversity and resources use, are highly material factors. Social factors are also very material, although less so for credit.

This report does not constitute a rating action



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In line with the research report “[Materiality Mapping: Providing Insights Into The Relative Materiality Of ESG Factors](#),” published on May 18, 2022, S&P Global Ratings is publishing research on the ESG materiality map for the agribusiness sector. We provide an illustration of our current view of the relative materiality of certain environmental and social (E&S) factors, from both the stakeholder and credit perspectives, for the sector. The materiality map does not represent any new analytical approach to the treatment of E&S factors in our credit ratings. See our ESG criteria for more information on how we incorporate the impact of ESG credit factors into our credit ratings analysis.

Agribusiness Sector

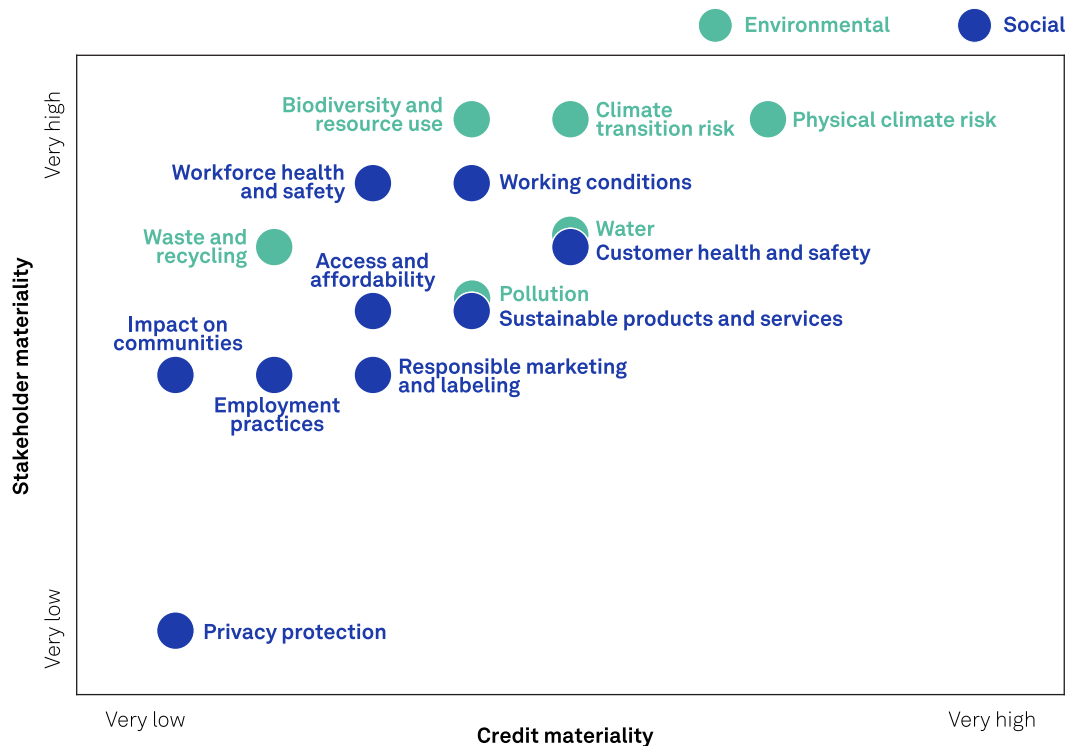
The agribusiness sector covers a wide variety of companies operating across animal agriculture, arable agriculture, aquaculture, wild-capture fisheries, and commodity foods. Companies in this sector include soft commodity traders, meat, grain and food processors, and fishing companies.

Key Takeaways

- Physical climate risk is the most material factor for stakeholders and credit. Increasing frequency of climate hazards (droughts, frosts, and floods) carry broad stakeholder consequences by threatening the stability of food supply. This risk also threatens cash flow stability and is therefore material to credit, albeit more so for businesses that are more closely linked to farming.
- Climate transition risk and biodiversity and resource use are equally material environmental factors for stakeholders, but currently less material for credit. We expect these factors could become more material in the future as governments adopt policy measures. Agribusiness is a significant contributor to global emissions, particularly methane and nitrous oxide, as well as deforestation and land use.
- Customer health and safety is a social factor that is material to both stakeholders and credit because food contamination affects society broadly. Other social factors like employment practices, workforce health and safety, and working conditions are material to stakeholders. The materiality for credit is evolving as lowering the prevalence of poverty among farm laborers, limiting worker fatalities, and reformatting processing facilities that are overly conducive to viral contagion garner more regulatory attention.

See materiality map on the following page.

ESG Materiality Map For The Agribusiness Sector



The materiality map provides an illustration at a point in time, of our findings on the relative materiality of certain environmental and social (E&S) factors, from both the stakeholder and credit perspectives, for the sector. It does not represent any new analytical approach to the treatment of E&S factors in our credit ratings. See our ESG Criteria for more information on how we incorporate the impact of ESG credit factors into our credit ratings analysis. Source: S&P Global Ratings.

How To Read The ESG Materiality Map

The stakeholder materiality (Y axis) reflects our assessment of the relative level of impacts and dependencies of the sector on the environment, society, and economy.

The credit materiality (X axis) reflects our assessment of the relative level of potential and actual credit impact for the sector. The credit implications for the factors positioned on the left side to the middle of the X-axis would be more limited and absorbable. On the right side, there is higher potential for these implications to be more disruptive. We assess credit implications for an entity based on its individual characteristics.

Assessing E&S factors' materiality: We consider both the likelihood of the impact from a given factor, as well as the magnitude of the impact. The materiality of the factors varies depending on the perspective (stakeholder or credit) as well as the evolving and dynamic interactions between these two dimensions.

The main areas of the map:

- The upper-right quadrant displays the most material, on a relative basis, E&S factors identified for the sector from both a stakeholder and credit perspective.
- The upper-left quadrant presents factors that are more material from a stakeholder than credit perspective. These factors have the potential to become more material from a credit perspective.
- The bottom-left quadrant shows factors that are less material for both stakeholders and credit. Their materiality may evolve over time and this dynamic may not be linear.

Examples Of Material Factors

Below we provide the rationale of some of the material factors to illustrate the above findings.

Physical climate risk

Physical climate risk is the most material factor for both stakeholders and credit. Climate change is affecting food production. Poor harvests--driven by volatile and more frequent and severe acute physical risks like drought, floods, and wildfires—are affecting crops. Agricultural drought is almost twice as likely to occur now than before industrialization, according to the Intergovernmental Panel on Climate Change (IPCC). The consequences of this will likely affect stakeholders including manufacturers, consumers, and, most acutely, farmers, many of which are among the poorest tranches of the population. Moreover, the increasing frequency and severity of these events increase the likelihood of global food shortages and/or inflated prices, alongside the potential for climate change to shift climate zones in many regions over time. The credit impact is not uniform across the agricultural supply chain. Entities with direct exposure to farming are more subject to physical climate risk compared with companies further down the supply chain, such as grain traders or processors who can leverage their scale to profit from variability in crop yield across regions. To combat the increasing frequency of climate events, agribusinesses are investing more in adaptation measures. This includes new farming practices (including planting more productive cover crops to sustain yields while maintaining soil health) or technologies to monitor weather patterns and soil health more actively to improve the effectiveness of crop applications. Yet the return on investments of these initiatives is currently uncertain and will likely depend on the volatility--and predictability--of future climate events.

Climate transition risk

While highly material to stakeholders, climate transition risk is not yet as material to creditors but may become so in the future if regulations to curb greenhouse gas emissions (GHG) in agriculture become more prevalent. Agriculture, forestry, and other land use is responsible for 22% of global GHG emissions according to the IPCC's 6th Assessment report and is a major contributor to emissions of nitrous oxide (a potent GHG), with the bulk coming from deforestation, raising livestock, and soil management. Given the current underdeveloped regulatory framework to limit emissions from farming and limited change in consumer preference toward meat-free products globally, the impact to credit is less material but could quickly become more costly if carbon taxes or other financial penalties are levied on the sector. Agribusinesses are at the early stages of addressing emissions in the value chain, either by reducing emissions from meat production (beef in particular) or by enhancing carbon capture in soils and recycling waste for biofuels. These efforts, coupled with growing biofuel adoption, could provide a financial offset to a more costly regulatory regime, but so far their credit materiality remains modest as adoption of these efforts is not yet global.

Biodiversity and resource use

The impact of biodiversity is more pronounced for stakeholders than for credit. This is partly because farming practices to date have increased food production in a cost-effective manner and enabled the industry to meet growing demand profitably despite reducing biodiversity and increasing land use. Nonetheless, the overuse of some chemicals harms soil and water health and excessive land use harms biodiversity by expanding agricultural land into spaces of natural habitat. This has a negative impact on a wide number of stakeholders, including farmers and

people that depend on the natural ecosystems for their livelihoods. We see growing stakeholder pressure on farmers to switch to more sustainable farming methods such as regenerative soil treatment, no-tilling, and increasing the mix of organic crops. The impact to credit may likely become more material over time as measures enacted by governments to protect biodiversity can translate into higher costs to compensate for negative externalities. So far, the credit impact of such measures has been limited to specific segments of the industry such as livestock farming and meat processing, for which prohibition against deforestation is starting to be enforced more stringently but not yet materially from a financial perspective.

Customer health and safety

Customer health and safety is material for stakeholders and credit, although more so for stakeholders. The primary risk to customer health in the food industry is food contamination and disease that could have a very severe impact on customers. Foodborne contaminants are ubiquitous. Antimicrobial resistant superbugs and resistant bacteria have been found in meat products including those categorized as Highest Priority Critically Important Antimicrobials, which are those with few or no alternatives to treat people with serious infections. Since 1940, agricultural intensification measures, such as those found in factory farms have been associated with more than 40% of zoonotic infectious diseases that have emerged in humans. This is credit material for the sector. Product recalls due to food contaminations are relatively frequent in the industry and sometimes the credit impact could be important. For larger companies in developed markets, they make up a small percentage of total revenues and tend to be quickly uncovered given the highly regulated status of food processing facilities. They nonetheless periodically recur. For companies with a high degree of product or manufacturing concentration, a product recall and/or supply shock can suspend operations and compromise debt service capacity. In addition, some incidents can be material enough to lead to trade restrictions and result in significant legal liability and reputation risk if contamination occurs because of safety compliance breaches.

Working conditions

Working conditions is a more material factor for stakeholders than credit. Mismanagement of working conditions is frequent and can affect stakeholders widely and very severely. Many farmers, especially in emerging markets, still struggle with lower-than-living wages. The sector's supply chains have some of the lowest paid and vulnerable workers across industries, and in some commodity chains the use of underaged or forced labor is still present, making stakeholder materiality high. Small farmers make up about one half billion people, and supply around a third of the planet's food (according to the Food and Agricultural Organization). In certain segments of food processing, wages are also comparatively low and jobs can be seasonal. The slaughter and processing of meat relies disproportionately on immigrants and refugees, which further weighs on stakeholder materiality of employment practices. Much of the world's farming occurs in underdeveloped areas in which farms are locally owned and managed and where unfair practices are most acute. Since worker malpractices often occur in difficult-to-trace parts of the supply chain, they have not translated into material credit risks. Still, policies are being discussed that aim to require increased supply chain traceability, grievance mechanisms, and other social compliance or due diligence practices for unjust worker rights practices, and to increase corporate liability for practices in their supply chains. This could make working conditions more material to credit in the future.

Workforce health and safety

This factor is highly material for stakeholders and less so for credit. Farmers and those employed elsewhere in the industry have high fatality and injury rates making stakeholder materiality fairly high. Employee health and safety is becoming more material to credit, particularly following the pandemic. The pandemic shed light on workplace conditions at meat processing facilities in which employees work in close proximity, thereby increasing the risk of viral contagion. Although the industry's response to provide protective equipment, implement social distancing and temporarily increase wages led to material cost increases, we expect litigation and other regulatory risks will remain well mitigated.

What is our approach to research on the ESG materiality map?

Referring to the research report “[Materiality Mapping: Providing Insights Into The Relative Materiality Of ESG Factors](#),” published on May 18, 2022, this research is built on the ESG materiality concept that considers ESG issues as material when they could affect stakeholders, potentially leading to material direct or indirect credit impact on entities. It considers that all businesses, through their activities and interactions, impact and depend, directly or indirectly, on stakeholders such as the environment (natural capital), society (human and social capital), and economy (financial capital). Using this ESG materiality concept, S&P Global Ratings has worked toward identifying a common, global, cross-sector set of E&S factors that we believe are material to stakeholders, and either are already, or have the potential to become, credit material for entities. The materiality map we propose provides an illustration at a point in time, of our findings on the relative materiality of those factors, from both the stakeholder and credit perspectives.

How does the sector ESG materiality map relate to credit ratings or ESG evaluations?

The sector materiality map is a visual representation of the factors that we consider impactful to the sector from a stakeholder and credit perspective for the purposes of this research. It does not represent any new analytical approach to the E&S factors in our credit ratings.

The relative materiality of the factors indicated on the materiality maps may inform the E&S Risk Atlas scores and the weights of the E&S factors used in ESG evaluations.

They may also inform our discussions with issuers on those factors' existing or potential credit materiality.

Related Research

- [Materiality Mapping: Providing Insights Into The Relative Materiality Of ESG Factors](#), May 18, 2022
- [Environmental, Social, And Governance Principles In Credit Ratings](#), Oct. 10, 2021
- [ESG Evaluation Analytical Approach](#), Sept. 20, 2022

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