ESG Research

ESG Materiality Map
Transportation

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Climate transition risk and pollution are the most material factors from stakeholder and credit perspectives. Workforce health and safety, employment practices, and working conditions are examples of factors currently more material for stakeholders than credit.

This report does not constitute a rating action

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ESG Materiality Map Transportation

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 road, rail, marine, and air freight transportation 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.

Transportation Sector

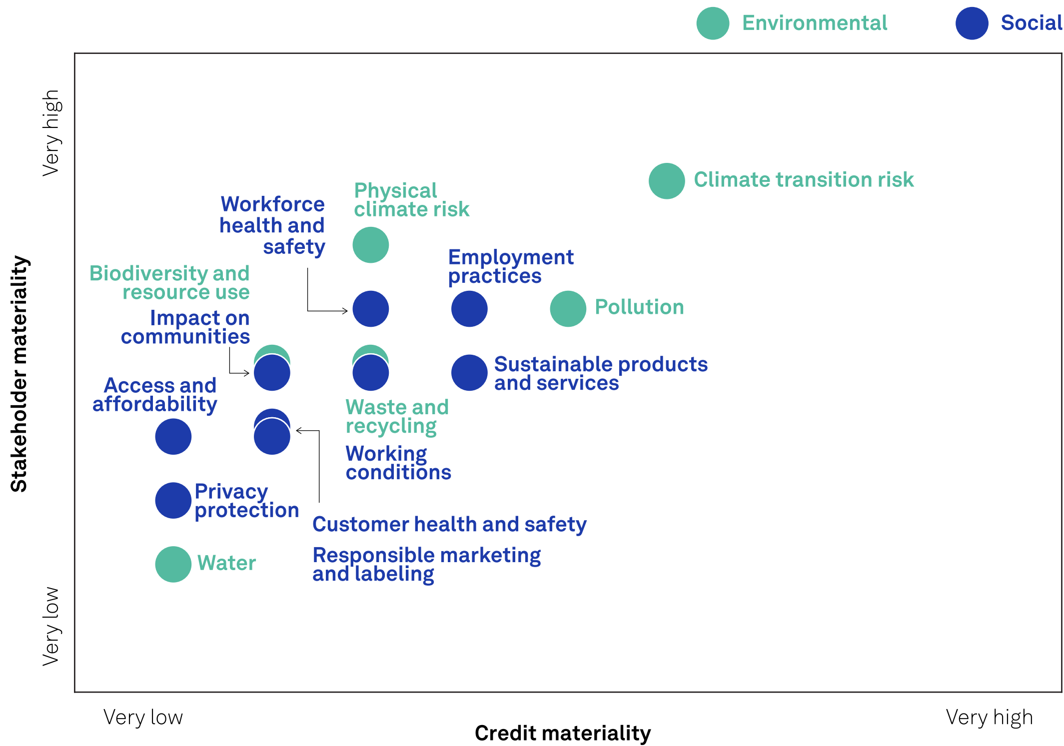
This sector includes two major segments, freight transportation and passenger transportation; and is also divided by various modes of transportation: air freight, marine (shipping and barges), road (trucking and buses), and railroad. Most surface passenger transportation, aside from bus companies, are considered in our autos and transportation infrastructure (passenger rail, mass transit) materiality maps. The road, rail, marine and air freight transportation sector also includes transportation equipment leasing to the extent that it serves these modes of transportation (for example, car rental, railcar leasing, and marine cargo container leasing).

Key Takeaways

- Climate transition risk is the most material factor, for both stakeholders and credit, due to mounting public and regulatory pressure. These transportation modes all burn hydrocarbon-based fuels to varying degrees. This could become a significant credit issue if it leads to higher regulatory costs or requires investment in new engine and fuel technologies.
- Pollution is also an important consideration for both stakeholders and credit. The industry emits considerable air pollutants, which cause health problems, especially among stakeholders living near main transportation routes. Regulation has already reduced emissions with a moderate effect on credit, but there will likely be future pressure on credit from further regulation, with regional variations.
- Workforce health and safety, employment practices, and working conditions have the most impact from a stakeholder perspective. Labor relations (unions and contract negotiations) can also be material credit considerations, affecting cost structures and competitiveness and sometimes resulting in costly strikes if not properly managed.

See materiality map on the following page.

ESG Materiality Map For The Transportation 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.

Climate transition risk

Climate transition risk is the most material environmental factor for both stakeholders and credit. Transportation is the fastest growing source of emissions worldwide, including autos, and accounts for about a quarter of global GHG emissions according to the IEA, behind only the power sector. Although trucks, ships, and rail locomotives do not burn fuel as intensively per weight carried as aircraft, the total number is much larger. Surface transport modes therefore represent most of the emissions in this sector compared with aircraft and shipping. Regulation on fuel efficiency, powertrains, or emissions began emerging in some markets and we believe they could further tighten to address climate goals. This could become a significant credit issue if it leads to higher regulatory costs, requires investments in new engine technologies (battery, electric trucks, and locomotives), use of more expensive alternative fuels (such as liquified natural gas, green hydrogen), or new supporting infrastructure. These are all being developed, but so far are more practical for short-distance moves (pickup and delivery vans) than long-distance transport.

Pollution

Pollution is also material for both stakeholders and credit. It can take the form of airborne emissions (such as nitrogen oxides and soot), accidental spills of hazardous cargo, ground pollution at facilities such as gas stations, and excessive noise. These have severe stakeholder impacts, especially for people living near major sea or road transportation routes. Air pollution from transportation is significant, and (along with that from other sources) kills more than 3.5 million people across the world every year and causes health problems for many more, according to the OECD. There has been some progress in reducing pollution through regulation, engine improvements, safety procedures, and in some cases changes to equipment. Pollution from accidents has generally had a limited impact on credit. Exceptions have been large scale incidents, such as the Exxon Valdez oil spill in Alaska in March 1989, which spurred regulation to phase in double-hulled tankers worldwide. Pressure on credit may become more recurring, as regulations demand that vehicles and vessels' design considers the likelihood and magnitude of damages they may cause to the air, ground, and waterways. For instance, regulations in the U.S. and Canada require various changes to railroad tank cars, and periodic fines or litigation for damages caused by spills of hazardous materials from trucks or railcars.

Physical climate risks

Physical climate risks are material for stakeholders and less so for credit. Acute risks--like storms, wildfires, and floods--can make operations too hazardous and immobilize assets, including but not limited to planes, trains, and vessels. Acute risks may also limit the accessibility of essential infrastructure the industry relies on, including roads, ports, and rails, and increase the risk of accidents. Over time, both acute and chronic risks--changing temperature and precipitation patterns and sea level rise--may shorten the useful life of vehicles and infrastructure. Implications to stakeholders may be widespread over a region or the service area of the damaged infrastructure (or beyond), suspending passenger transportation and disrupting supply chains, including sectors reliant on transportation. From a credit perspective, while the

industry may in some cases not bear the capital costs associated with restoring infrastructure (though freight railroads do), the interruption of service can undermine earnings and hence credit quality.

Working conditions

Transportation can involve instances of long hours, difficult schedules, and sometimes precarious working conditions that directly affect workers' well-being. For instance, long-haul truck drivers face lengthy hours and time away from home. Some seamen, often recruited from developing countries, work in difficult and sometimes dangerous conditions, as many ships are registered in countries that perform limited regulatory oversight. The sector has also faced issues with forced labor related to lower-skilled labor recruitment. Working conditions have had a more limited credit impact, though those for long-haul truck drivers (ex. in North America) contribute to a long-term shortage that is driving up wages and thus costs for companies. In some regions, future regulations on working conditions and labor rights may lead to higher operational and compliance costs, or legal exposure if they fail to meet requirements.

Employment practices

Pay and benefits for employees in freight transportation sectors vary significantly by subsector and companies. Subsectors such as shipping and trucking, which are mostly nonunionized and very competitive, often have lower compensation. By contrast, unionized railroad, package express, and some trucking companies offer generally good compensation and benefits. Management of labor relations are key operational (and thus credit) issues for companies, since strikes and other industrial actions can be disruptive and costly. Labor shortages, and entities' ability to attract, train, and retain workers, could result in increasing recruitment, training, compensation costs for companies. Over time, as laws are becoming more protective of labor rights or as competition for labor increases, costs could increase in the industry and may prove difficult to pass on to customers, given their price sensitivity, which may affect profitability and creditworthiness as a result.

Sustainable products and services

Companies looking to decarbonize their supply chains and changing consumer preferences may increasingly push for more sustainable forms of transportation, as seen with the rise of cycling in cities as an alternative to public transportation. This could lead to more intense competition or require faster investment to develop more environment-friendly solutions. Beyond this, disposal and recycling of transportation equipment at the end of its useful life poses risks to some stakeholders and, to a lesser extent, for credit. The most notable instance is the scrapping of ships. The long-term trend will likely be more stringent regulation for end-of-life vehicles management, which could raise companies' costs somewhat. However, this will likely be dwarfed by the costs of changing propulsion technologies to reduce GHG emissions.

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, Dec. 15, 2020

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