FitchRatings

2021

ESG IN CREDIT

WHITE PAPER

July 2021

Contents

Foreword

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President of Fitch Ratings

The profile of sustainability around the world continues to grow, particularly as the recent pandemic brought social issues sharply into focus, as well as environmental issues and outcomes. Financial markets are increasingly turning their attention towards Environmental, Social and Governance (ESG) in a desire to be seen to "do good and do well". Regulators, asset owners, investors and companies are increasingly placing sustainability at the heart of their activities and embedding ESG considerations into their workflows. For Fitch Ratings, 2020 marked the second year of systematically assessing and tracking the impact of ESG factors on our ratings via our ESG Relevance Scores. Fitch's ESG Relevance Scores identify the relevance and materiality of ESG issues and clearly explain their impact on our credit rating decisions. For the third consecutive year, Fitch was voted by investors the 'Most Transparent Credit Rating Agency' in Environmental Finance's Sustainable Investment Awards.

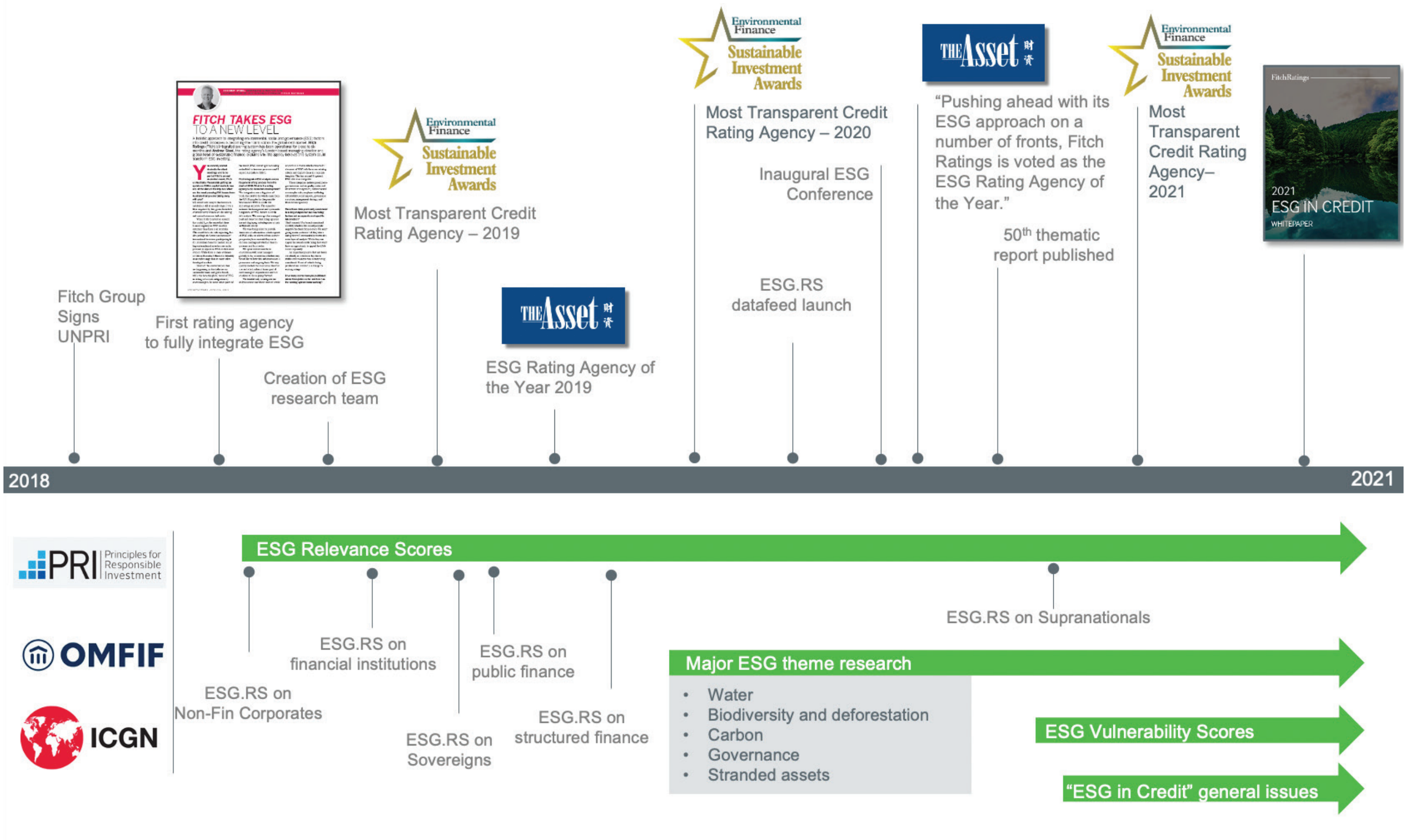
Fitch Ratings remains the only credit rating agency with an entity/transaction-specific, credit-focused approach to displaying sector and issuer level ESG credit risks across its rated entities. Since the launch of our ESG Relevance Scores in January 2019, our coverage has expanded to cover all analytical groups and we now maintain over 140,000 individual environmental, social and governance scores for more than 10,000 entities and transactions worldwide. Groups covered include both high-yield and investment-grade companies, Emerging and Developed Markets, and issuers from Corporates, Financial Institutions, Sovereigns, Public Finance, Project Finance, Covered Bonds and Structured Finance. Our ESG Relevance Scores are fully integrated into our core credit ratings research, are assigned by our rating analysts and supported by a team of Sustainable Finance specialists.

Fitch maintains over 140,000 individual Environmental, Social or Governance scores for over 10,000 entities and transactions worldwide.

During 2020 Fitch continued to build tools and collateral providing insights into how ESG risks impact credit rating decisions, and launched a 2-degree scenario-based credit research product - ESG Vulnerability Scores. This product is designed to help investors understand the relative credit risk vulnerability of sectors and entities to long-term environmental-related changes under a scenario that incorporates a global transition to a 2°C warmer climate by 2050, based on the Principles for Responsible Investment's (PRI) Forecast Policy Scenario (FPS). Fitch continues to strengthen and expand its ESG capabilities in order to meet evolving market demands, and will be launching a series of value added ESG products during 2021 and into 2022.

While the European Union continues to drive forward ESG initiatives with its Sustainable Finance Action Plan, there has also been notable shifts in environmental and social priorities in the US under President Biden's administration. Unsurprisingly climate change remains high on the list of global priorities for governments in 2021, especially with 200 signatory countries to the UN's Framework Convention needing to submit new long-term greenhouse gas reduction targets at the November COP26 to be held in Glasgow, UK.

Financial regulators continue to focus on climate change and the potential risk it poses to financial stability, whilst stakeholder scrutiny of environmental and social issues, throughout value chains, continues to grow. Pressure on corporates and financial institutions to demonstrate how they plan to achieve stated net-zero targets, and support social justice objectives, is intensifying. Fitch Ratings remains committed to furthering its reputation as a trusted provider of data and analysis, and to continuing to deliver insightful, independent and transparent ESG products to the market.


FITCH TAKES ESG TO A NEW LEVEL
Environmental Finance
Sustainable Investment Awards
Most Transparent Credit Rating Agency – 2019
THE Asset
ESG Rating Agency of the Year 2019
Environmental Finance
Sustainable Investment Awards
Most Transparent Credit Rating Agency – 2020
Inaugural ESG Conference
ESG.RS datafeed launch
THE Asset
"Pushing ahead with its ESG approach on a number of fronts, Fitch Ratings is voted as the ESG Rating Agency of the Year."
50th thematic report published
Environmental Finance
Sustainable Investment Awards
Most Transparent Credit Rating Agency– 2021
FitchRatings
2021 ESG IN CREDIT
WHITEPAPER
Fitch Group Signs UNPRI
First rating agency to fully integrate ESG
Creation of ESG research team
2018
2021
PRI Principles for Responsible Investment
OMFIF
ICGN
ESG Relevance Scores
ESG.RS on Non-Fin Corporates
ESG.RS on financial institutions
ESG.RS on Sovereigns
ESG.RS on public finance
ESG.RS on structured finance
ESG.RS on Supranationals
Major ESG theme research
• Water
• Biodiversity and deforestation
• Carbon
• Governance
• Stranded assets
ESG Vulnerability Scores
"ESG in Credit" general issues

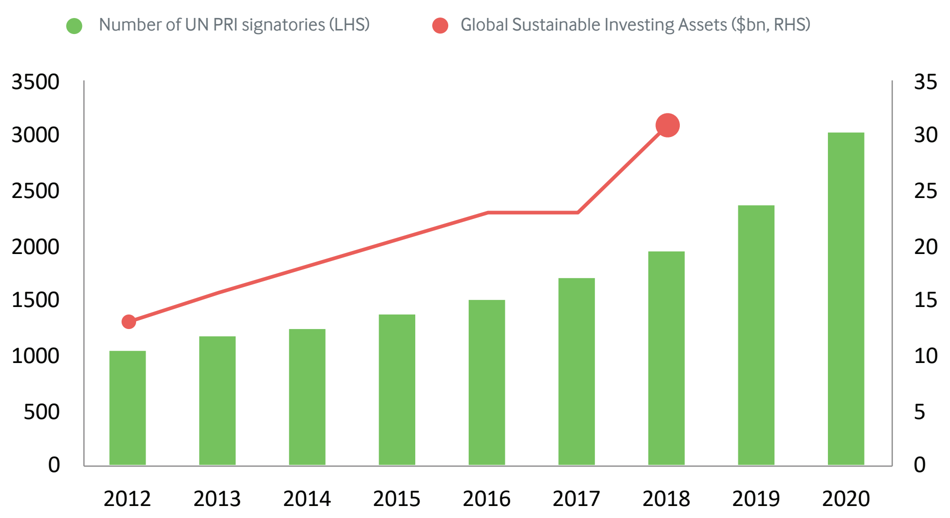
ESG Integration In Credit: Gathering Pace

What was once a niche investment strategy and a distinct fund class is now practiced in many (if not all) major financial markets and by investment firms worldwide, including in emerging markets. ESG investing – also referred to as responsible investment and historically as socially responsible investing (SRI) – has seen huge growth in the past few years, as evidenced by the number of signatories of the UN PRI and the global sustainable investing assets (see chart below).

This growth has been accompanied by an explosion of coverage by news outlets, including mainstream financial and non-financial newspapers and online magazines. Furthermore, an industry for ESG products and services has developed to cater to the demands of asset owners and investment managers.

ESG Investing Becomes Mainstream

Number of UN PRI Signatories, Global Sustainable Investing Assets ($bn)



Source: Fitch, UN PRI, IMF

While the initial focus was on equities, the much bigger fixed income universe has taken an increased interest in ESG investing across all asset classes: financial and non-financial corporates; public finance; project finance; and structured finance – although some areas are encountering more demand than others. Asset owners are the main driver behind this change and have implemented responsible investment practices, such as screening for ESG factors in their fixed income portfolios, since the beginning of this century.

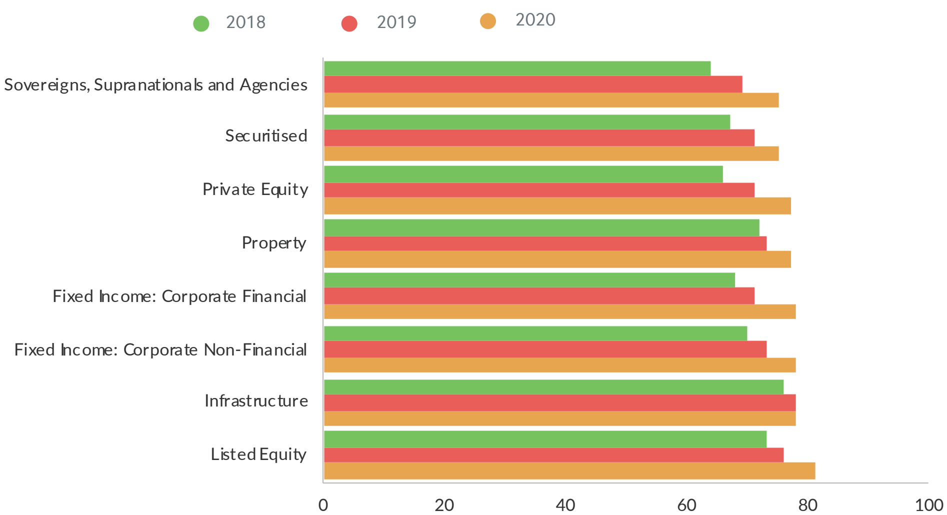
The knock-on effect of this process is early and late adopters exploring the financial advantages of ESG investing, mainly from the perspectives of risk management and by attracting and retaining clients. Asset managers are no longer asking whether to integrate ESG, but how they can differentiate themselves through increasingly sophisticated ESG investment approaches.

What is Driving Change and Interest in ESG in the Debt Capital Markets?

Many factors are propelling interest from the debt capital markets in ESG, including an overall desire to be seen as an industry that promotes "doing good" while "doing well." One of the biggest drivers in the last few years has been the percentage of asset owners considering ESG in their selection and contractual processes. This practice is still most common for investments in listed equities, but has been widely adopted for investments in fixed income and private assets. This has driven a marked acceleration in asset managers integrating ESG considerations into their investment processes.

Many factors are propelling interest from the debt capital markets in ESG, including an overall desire to be seen as an industry that is promoting "doing good" as well as "doing well."

Asset Owners Broaden ESG Demands Across Asset Classes



Source: UN PRI, Fitch Ratings

The main application of ESG considerations is through risk management, which itself is a major driver of ESG investing. Industry studies have demonstrated that ESG integration techniques can help identify unknown or undervalued credit drivers and that material ESG issues can affect credit spreads.

A study by Hermes Investment Management[1] showed an inverse relationship between CDS spreads and their proprietary ESG scores of North American and European corporates. In addition, the study showed corporates with the highest ESG scores — issuers that perform well based on ESG factors — have the narrowest distribution of spreads, which should result in a more stable return profile.

An investor who only held companies with above-average ESG scores on both Environmental and Social scores would have avoided most U.S. bankruptcies.

1. M Reznick and M Viehs, "Pricing ESG risks in Credit Markets," Hermes Investment Management, April 2017

ESG Relevance Scores were developed to assist investors with their credit analysis and provide transparency around the material ESG issues that have influenced Fitch's credit ratings.

In September 2018, Fitch Group signed the United Nations-supported Principles for Responsible Investment (UN PRI), underlining its commitment to incorporating ESG issues into investment practices and developing a more sustainable global financial system.

ESG Integration

Due to client demand and the large number of studies showing links between ESG factors and investing and financial performance, investor awareness and understanding of the financial benefits of ESG investing has grown tremendously.

As a consequence, integration has become the preferred and dominant ESG investment strategy among asset owners and investors looking to decrease their downside risk and/or boost their upside potential. ESG integration techniques and tools include ESG materiality frameworks, ESG-integrated research notes and centralized dashboards for financial and ESG information and valuations. CFA Institute's[3] and PRI's ESG Integration Framework[4] provide a comprehensive list of ESG integration techniques.

One of the biggest obstacles to integrating ESG credit considerations into credit analysis, investment decisions and portfolios is the availability of ESG data and, by extension, the quantification of ESG credit considerations. To circumvent incomplete and incomparable datasets, investors collect and purchase ESG information from multiple sources and vendors, including company websites, NGOs, intergovernmental organizations and ESG data providers.

Transparency regarding the influence of ESG issues on credit ratings has also concerned investors, as highlighted by PRI's Statement on ESG in credit risk and ratings[5]. As signatories to the statement and in keeping with our core values, the Fitch Ratings' ESG Relevance Scores were developed to assist investors with their credit analysis and to provide transparency around the material ESG issues that have influenced Fitch's credit ratings.

3. https://www.cfainstitute.org/en/research/survey-reports/guidance-case-studies-esg-integration-survey-report
4. https://www.unpri.org/the-esg-integration-framework/3722.article
5. https://www.unpri.org/credit-ratings/statement-on-esg-in-credit-risk-and-ratings-available-in-different-languages/77.article

ESG in Credit Series: Integrating ESG Issues

Fitch Ratings is publishing a series of ESG in Credit special reports, each covering a particular environmental or social general issue drawn from Fitch's ESG scoring templates. The purpose of these reports is to create a one-stop resource that assists investors in understanding the credit relevance and materiality of environmental and social issues across sectors and asset classes. To date, five reports have been published covering environmental issues (links to these reports are listed below). The five remaining reports covering social issues will be published by Q3 2021.

ESG in Credit – GHG and Air Quality Issues

ESG in Credit –Energy and Fuel Management Issues

ESG in Credit – Water Issue

ESG in Credit –Biodiversity and Waste Issues

ESG in Credit – Exposure to Environmental Impact Issues

ESG in Credit Series: Integrating ESG Issues

Fitch is the first credit rating agency to apply a systematic approach to publishing opinions about how ESG issues are relevant and material to individual entity or transaction credit ratings.

Fitch is the first credit rating agency (CRA) to apply a systematic approach in publishing how ESG issues are relevant and material to individual entity, transaction or program credit ratings. Our credit research reports clearly integrate our scoring system to show how ESG factors impact individual credit rating decisions.

Why Did Fitch Introduce ESG Relevance Scores?

Launched in 2019, ESG Relevance Scores are a Fitch research product intended to augment market transparency and satisfy investor demand for more thorough and robust reporting on how ESG affects credit risk. Fitch spent months gathering the views and opinions of a range of market stakeholders on what they wanted credit rating agencies to provide before devising our relevance scores. The investor-based UN PRI's CRA initiative was also instrumental in determining what investors want from CRAs: public disclosure of ESG credit issues at an industry and sector level; transparent descriptions of how ESG issues affect individual company credit ratings; and identification of systemic ESG risks.

While investors can access many and varied data sources when seeking to manage portfolios in a more sustainable manner, nothing specifically highlighted entity- and sector-level ESG risk elements for fundamental credit risk. Fitch's focus is purely on fundamental credit analysis, so ESG Relevance Scores aim solely at addressing ESG in that context. This approach represents a significant step forward in providing transparency in our treatment of ESG factors from a credit risk perspective when making rating decisions.

Fitch's approach provides investors with the opportunity to examine, discuss, and challenge opinions about how ESG factors impact individual rating decisions. Investors also benefit from Fitch's long track record of analyzing issuers and our broad market coverage with 80%+ of the debt in global fixed-income indexes carrying a Fitch rating.

Fitch's ESG Relevance Score Framework

ESG Relevance Scores, which are assigned by the same analysts as the final rating of an entity/transaction or program, transparently and consistently display both the relevance and materiality of individually identified ESG risk elements to the rating decision. Together with Fitch's dedicated Sustainable Finance Group, each ratings team within Fitch worked globally to categorize and classify ESG credit risks at a sector level and score them for individual entities/transactions/programs within that sector.

Individual 'E', 'S' and 'G' relevance scores range from '5' to '1'. A score of '5' indicates factors that on a standalone basis have a direct impact on the rating. Conversely, a score of '1' indicates factors that have no credit impact or are irrelevant to the sector and the entity/transaction/program from a credit perspective.

Relevance Scores of '4' and '5' indicate that the ESG risk is either a rating driver or a key rating driver to the credit decision, and therefore a debate point at committee. While the vast majority of elevated scores are negative, there are also incidences of positive credit influence. In this case the scores carry an additional '+' identifier.

Credit-Relevant ESG Scale – Definitions

How relevant are E, S and G issues to the overall credit rating?

5	Highly relevant, a key rating driver that has a significant impact on the rating on an individual basis. Equivalent to "higher" relative importance within Navigator.
4	Relevant to rating, not a key rating driver but has an impact on the rating in combination with other factors. Equivalent to "moderate" relative importance within Navigator.
3	Minimally relevant to rating, either very low impact or actively managed in a way that results in no impact on the entity rating. Equivalent to "lower" relative importance within Navigator.
2	Irrelevant to the entity rating but relevant to the sector.
1	Irrelevant to the entity rating and irrelevant to the sector.

The scores provide granularity on why ratings change and make the impact of ESG risks on a rating decision under Fitch's criteria much more transparent. The scores do not make value judgments on whether an entity engages in good or bad ESG practices, nor do they assess how broadly sustainable a practice is, but they draw out which 'E', 'S' and 'G' risk elements are influencing the credit rating decision.

The indicators used to gauge sustainability or "ESG performance" can align with credit risk, but not always. To illustrate, carbon intensity (carbon emissions per unit of revenue or energy produced) is frequently used as an indicator of environmental performance.

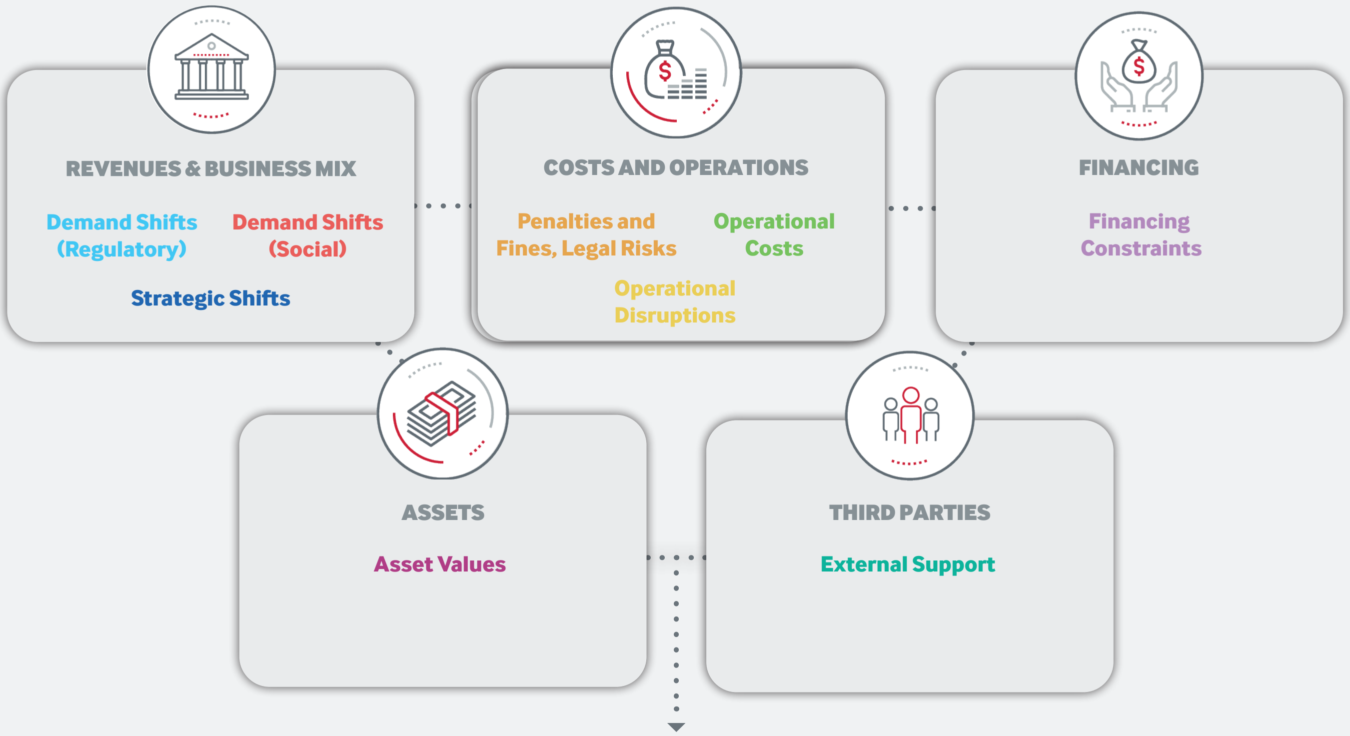
While carbon intensity in itself is not relevant to credit analysis, it could be in jurisdictions where tighter regulation leads to additional costs associated with higher carbon intensity, or when changing social preferences present challenging financing conditions for carbon-intensive entities. The relevance to a credit rating will also depend on the broader credit profile, including the entity's ability to absorb or pass on higher costs, or its reliance on particular funding sources.

Environmental and Social risk can materialize into credit factors, depending on the factor and sector-specific nuances.

While Governance risks are typically assessed directly in Fitch's credit rating criteria, they can also affect areas such as profitability and financing flexibility. In contrast, Environmental and Social risks are generally assessed in reference to other credit factors.

Environmental and Social risks can materialize in credit factors, depending on risk and sector-specific nuances. ESG risks can affect credit profiles both on an entity-specific and sector-wide basis and be considered in credit analysis either as potential risks or as impacts that have already taken place. The risk and impact can be one-off (such as legal liabilities for a particular incident or event), or ongoing (such as demand shifts or strategic changes driven by secular trends). As detailed in the asset class sections of this report, Fitch's unique templating system clearly highlights the aspects of ESG risk considered to be credit relevant to individual industry sectors.

Environmental and Social Risks in Credit: Transmission Mechanisms and Financial Impacts



Financial Impacts	Examples of Entities/Sectors Affected	Causation/ESG Risk
Demand Shifts (Regulatory)	Chilean Utilities With Coal Exposure	Government regulations leading to reduced use of coal.
Demand Shifts (Social)	Tobacco	Continued decline in consumption and regulatory risk connected with the widespread well-publicized health effects of tobacco products.
Penalties and Fines, Legal Risks	Banks	Banks impacted by financial crime risks and conduct compliance failures: Commonwealth Bank of Australia; Wells Fargo & Co; Danske Bank. regulatory investigations into misconduct, negative rating actions ensued.
Operational Disruptions	Cenovus Energy Inc (Canadian corporate)	High exposure to pipeline and logistics takeaway capacity, which has been delayed multiple times due to social resistance to pipelines in Canada. This has widened the Canadian oil price differential to record levels and negatively impacts producers like Cenovus.
Strategic Shifts	Global Auto Manufacturers	Tightening global emissions legislation remains a pivotal issue for the industry. Adoption rate of electric vehicles (EV) is still uncertain and depends on factors outside of car makers' control, such as the development of charging infrastructure. In addition, EVs are less profitable, so an increasing share of EVs will initially burden manufacturers' earnings.
External Support	Structured Agency Notes	GSE program focused on customer welfare and fair messaging while driving strong performance contributing to reduced expected losses, which has a positive impact on the credit profile, and is relevant to the ratings in conjunction with other factors.

The Policy Agenda: Climate Regulation and Disclosure Standards

What role is government and regulation playing in the shift towards ESG?

From a credit ratings perspective, an emerging 'climate policy gap' poses a significant regulatory risk for both financial and non-financial corporates. The gap between government pledges to cut carbon emissions and policies in place highlights the potential risk of a sharp shift in the policy landscape (governments have tackled only a few to date). Climate regulations have been relevant to credit ratings for only a handful of sectors, with existing policies often lacking financial impact or immediacy. Carbon pricing schemes are among the most convenient levers for policymakers to expand the reach and impact of climate policies and momentum is gathering in this area. Fitch expects more activity surrounding these developments through 2021 and beyond.

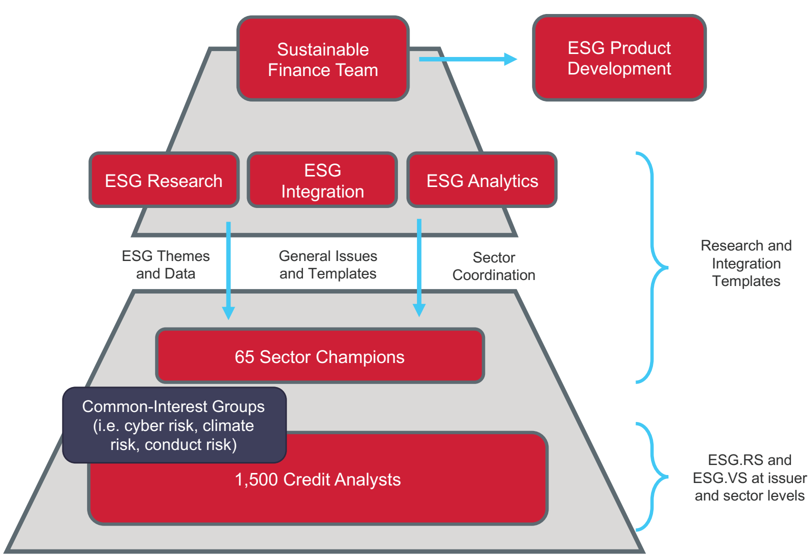
How easy will it be for these policy changes to be brought in? What are the main obstacles?

Lack of a simple and transparent global disclosure standard for corporates is one of the biggest obstacles to implementing change — it is very hard to track and incentivize change without a consistent, comparable and clear way of measuring it. Of the initiatives underway to tackle this issue, the EU Taxonomy is one of the most developed. Fitch does not expect the establishment of the EU's Taxonomy for Sustainable Activities to have credit implications in the short term, but we do believe that it lays the foundation for a sustainable finance ecosystem. Such activities could also become the target of policies with direct financial incentives as policymakers decide to take a more aggressive stance toward directing capital.

How Are ESG Relevance Scores Derived?

ESG Relevance Scores (ESG.RS) are assigned by Fitch's 1,500 credit analysts as part of their regular risk analysis. These analysts are the primary point of contact for industry participants on all aspects of risk, including ESG. This strong link to Fitch's core business ensures ESG remains a fully embedded and relevant aspect of our work. They are supported by a specialist ESG analytics team with extensive experience as industry credit specialists as well as being avid proponents of ESG analysis.

The ESG analytics team also created a global network of dedicated analytical ESG Champions who support all rated sectors, geographies and asset classes to ensure the robustness and continuous improvement of ESG research and data underpinning our credit rating decisions.



7. http://materiality.sasb.org

To assign ESG.RS, Fitch identified a holistic set of general ESG risk issue categories for consideration by its analysts across sectors. The general issue categories align with headline risk categories from widely accepted classification standards published by entities such as the Sustainability Accounting Standards Board (SASB7), Global Reporting Initiative and UN PRI. The Fitch ESG Relevance Score templates list these General Risk Issues under the relevant Environmental, Social or Governance headings. The template then provides Fitch's view of specific credit issues related to the sector covered by the template for each of the general issue categories.

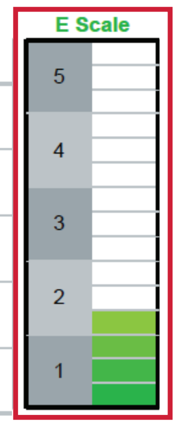
The Environmental (E), Social (S) and Governance (G) scales each indicate an aggregate score. Aggregate scores are calculated based on the highest ESG relevance scores for general issues in a particular category and the number of general issues categories receiving that score. The 'E' scoring example on the next page shows one bar in the '2' score range, indicating '2' is the highest ESG relevance score for environmental general issues, and one or two general issues receive that score. This rises to two bars in the score range if three or four general issues have the highest ESG relevance score, and three bars if all general issues receive the highest score.

Fitch ESG Scoring in Practice

Example of ESG Scoring in the Environmental Category

Environmental (E)

General Issues	E Score	Sector-Specific Issues	Reference
GHG Emissions & Air Quality	1	n.a.	n.a.
Energy Management	1	n.a.	n.a.
Water & Wastewater Management	1	n.a.	n.a.
Waste & Hazardous Materials Management; Ecological Impacts	2	Environmental site risk and associated remediation/liability costs; sustainable building practices including Green building certificate credentials	Asset Quality; Financial Structure; Surveillance
Exposure to Environmental Impacts	2	Asset, operations and/or cash flow exposure to extreme weather events and other catastrophe risk, including but not limited to flooding, hurricanes, tornadoes, and earthquakes	Asset Quality; Financial Structure; Surveillance



As shown in the hypothetical example below, Fitch uses an additive approach to calculate the aggregate score, rather than an average. This is because the aggregate score is designed to indicate the materiality of 'E', 'S' or 'G' factors overall to an entity, transaction or program's credit rating. Lower materiality for other general issues in a category will not offset the materiality of the highest scoring issue to the credit rating. However, multiple incidences of the highest ESG relevance score could indicate greater overall materiality to the credit rating, relative to a similar entity, transaction or program where only one general issue receives the highest score. The analysis undertaken by Fitch across over 10,000 entities clearly shows that weighting risks by sector can often be misleading as the business and financial profile of an individual entity plays a significant role in determining how an ESG risk impacts a credit profile should it materialize.

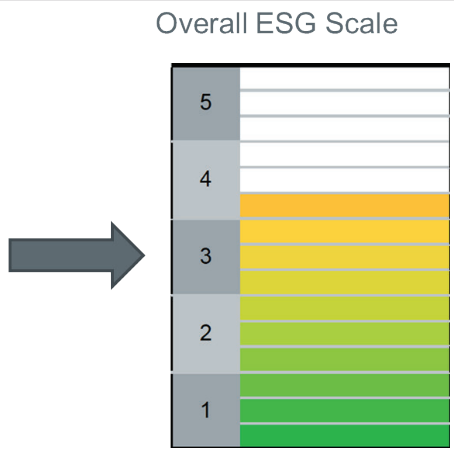
Fitch uses an additive approach to calculate the aggregate score, rather than an average.

Fitch ESG Scoring In Practice

An Additive Approach

Hypothetical Issuer ABC

Score level		N# of General Issues scored at the level
Key Driver	5	0
Driver	4	1
Potential Driver	3	6
Not a Rating Driver	2	2
	1	5



ESG Credit Trends 2021

Fitch ESG Relevance Score Framework

Incorporating Sector Specifics in Broad 'E', 'S' and 'G' Categories

GENERAL ISSUE CATEGORIES

5 ENVIRONMENTAL CATEGORIES
5 SOCIAL CATEGORIES
4 or 5 GOVERNANCE CATEGORIES

- Set of General Issue categories for consideration across sectors.
- Align with widely accepted classification standards like the one published by the Sustainability Accounting Standard Board (SASB).
- Standardized across sectors.
- Different for non-Sovereign and Sovereign (including state and local government) entities.
- Governance General Issue categories are different for Structured Finance transactions and Covered Bond programs.

SECTOR SPECIFIC CREDIT ISSUES

106 UNIQUE ESG SECTOR TEMPLATES

- Extract ESG elements that affect fundamental credit at a sector level.
- Identify sector-specific ESG credit issues that relate to each of the General Issue categories.
- For some sectors, one or more General Issue categories are not material to the credit quality of entities in that sector and denoted as "n.a."
- The specific rating criteria factor(s) within which the corresponding ESG issues are captured in Fitch's credit analysis is (are) highlighted in each General Issue category.

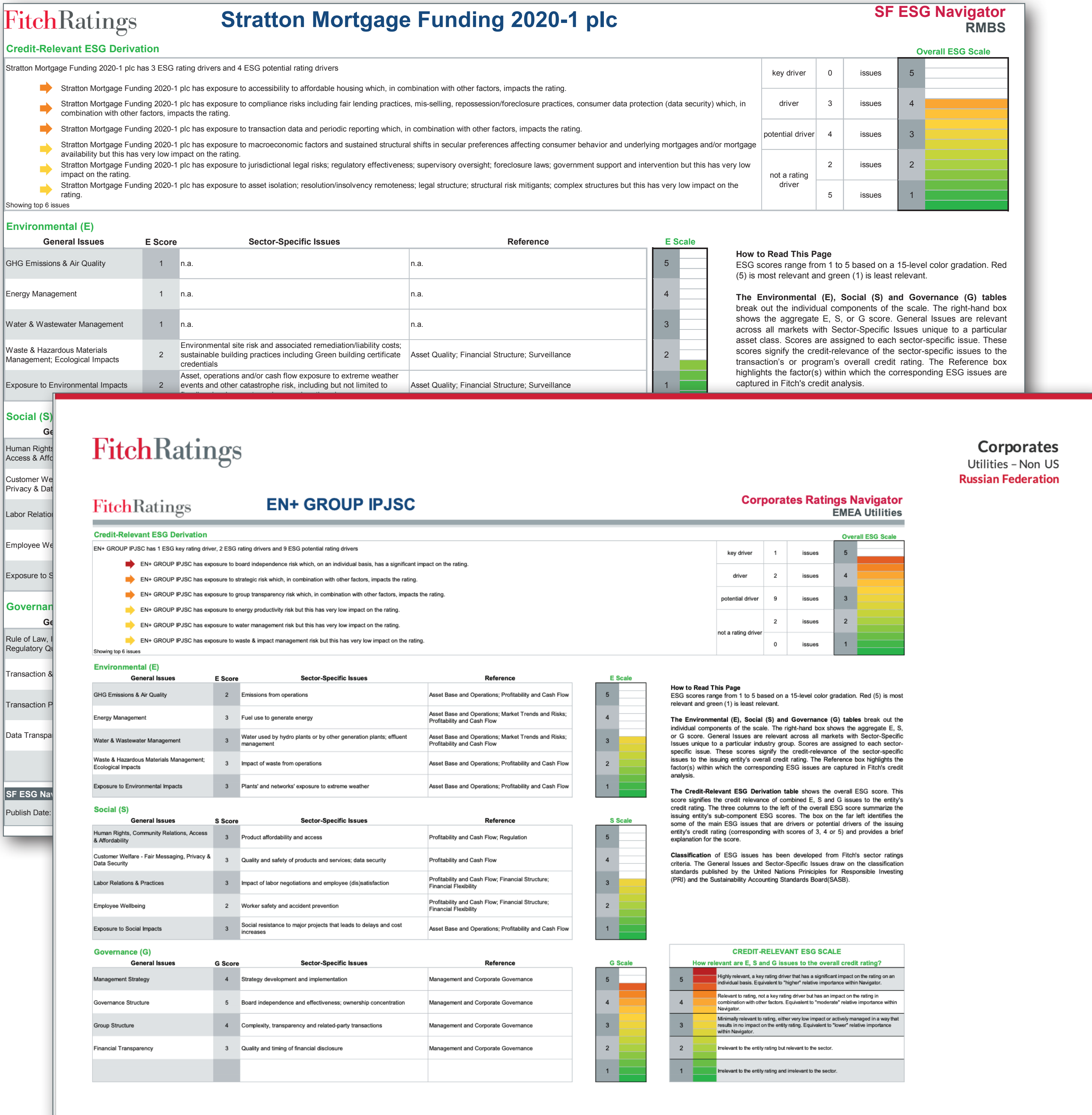
SCORING OF MATERIALITY TO CREDIT RATING

14 or 15 SCORES AND 1 AGGREGATE SCORE FOR EACH ENTITY/TRANSACTION/ PROGRAM

- Individual 'E', 'S' and 'G' relevance scores range from 5 to 1.
- A score of 5 indicates factors that on a standalone basis have a direct impact on the credit rating.
- Conversely, a score of '1' indicates factors that have no credit impact or are irrelevant to the credit rating.

ESG Navigators Examples

Consistently Displaying the Outcome at Issuer, Program, and Transaction Level



FitchRatings **Stratton Mortgage Funding 2020-1 plc** SF ESG Navigator RMBS

Credit-Relevant ESG Derivation

Stratton Mortgage Funding 2020-1 plc has 3 ESG rating drivers and 4 ESG potential rating drivers

- Stratton Mortgage Funding 2020-1 plc has exposure to accessibility to affordable housing which, in combination with other factors, impacts the rating.
- Stratton Mortgage Funding 2020-1 plc has exposure to compliance risks including fair lending practices, mis-selling, repossession/foreclosure practices, consumer data protection (data security) which, in combination with other factors, impacts the rating.
- Stratton Mortgage Funding 2020-1 plc has exposure to transaction data and periodic reporting which, in combination with other factors, impacts the rating.
- Stratton Mortgage Funding 2020-1 plc has exposure to macroeconomic factors and sustained structural shifts in secular preferences affecting consumer behavior and underlying mortgages and/or mortgage availability but this has very low impact on the rating.
- Stratton Mortgage Funding 2020-1 plc has exposure to jurisdictional legal risks; regulatory effectiveness; supervisory oversight; foreclosure laws; government support and intervention but this has very low impact on the rating.
- Stratton Mortgage Funding 2020-1 plc has exposure to asset isolation; resolution/insolvency remoteness; legal structure; structural risk mitigants; complex structures but this has very low impact on the rating.

Showing top 6 issues

Overall ESG Scale

key driver	0	issues	5
driver	3	issues	4
potential driver	4	issues	3
not a rating driver	2	issues	2
	5	issues	1

Environmental (E)

General Issues	E Score	Sector-Specific Issues	Reference
GHG Emissions & Air Quality	1	n.a.	n.a.
Energy Management	1	n.a.	n.a.
Water & Wastewater Management	1	n.a.	n.a.
Waste & Hazardous Materials Management; Ecological Impacts	2	Environmental site risk and associated remediation/liability costs; sustainable building practices including Green building certificate credentials	Asset Quality; Financial Structure; Surveillance
Exposure to Environmental Impacts	2	Asset, operations and/or cash flow exposure to extreme weather events and other catastrophe risk, including but not limited to	Asset Quality; Financial Structure; Surveillance

E Scale: 5, 4, 3, 2, 1

How to Read This Page
ESG scores range from 1 to 5 based on a 15-level color gradation. Red (5) is most relevant and green (1) is least relevant.

The Environmental (E), Social (S) and Governance (G) tables break out the individual components of the scale. The right-hand box shows the aggregate E, S, or G score. General Issues are relevant across all markets with Sector-Specific Issues unique to a particular asset class. Scores are assigned to each sector-specific issue. These scores signify the credit-relevance of the sector-specific issues to the transaction's or program's overall credit rating. The Reference box highlights the factor(s) within which the corresponding ESG issues are captured in Fitch's credit analysis.

Social (S) Ge Human Rights Access & Affo Customer We Privacy & Dat Labor Relatio Employee We Exposure to S Governan Ge Rule of Law, I Regulatory Qu Transaction & Transaction P Data Transpa SF ESG Nav Publish Date:

FitchRatings

Corporates
Utilities – Non US
Russian Federation

FitchRatings **EN+ GROUP IPJSC** Corporates Ratings Navigator EMEA Utilities

Credit-Relevant ESG Derivation

EN+ GROUP IPJSC has 1 ESG key rating driver, 2 ESG rating drivers and 9 ESG potential rating drivers

- EN+ GROUP IPJSC has exposure to board independence risk which, on an individual basis, has a significant impact on the rating.
- EN+ GROUP IPJSC has exposure to strategic risk which, in combination with other factors, impacts the rating.
- EN+ GROUP IPJSC has exposure to group transparency risk which, in combination with other factors, impacts the rating.
- EN+ GROUP IPJSC has exposure to energy productivity risk but this has very low impact on the rating.
- EN+ GROUP IPJSC has exposure to water management risk but this has very low impact on the rating.
- EN+ GROUP IPJSC has exposure to waste & impact management risk but this has very low impact on the rating.

Showing top 6 issues

Overall ESG Scale

key driver	1	issues	5
driver	2	issues	4
potential driver	9	issues	3
not a rating driver	2	issues	2
	0	issues	1

Environmental (E)

General Issues	E Score	Sector-Specific Issues	Reference
GHG Emissions & Air Quality	2	Emissions from operations	Asset Base and Operations; Profitability and Cash Flow
Energy Management	3	Fuel use to generate energy	Asset Base and Operations; Market Trends and Risks; Profitability and Cash Flow
Water & Wastewater Management	3	Water used by hydro plants or by other generation plants; effluent management	Asset Base and Operations; Market Trends and Risks; Profitability and Cash Flow
Waste & Hazardous Materials Management; Ecological Impacts	3	Impact of waste from operations	Asset Base and Operations; Profitability and Cash Flow
Exposure to Environmental Impacts	3	Plants' and networks' exposure to extreme weather	Asset Base and Operations; Profitability and Cash Flow

E Scale: 5, 4, 3, 2, 1

Social (S)

General Issues	S Score	Sector-Specific Issues	Reference
Human Rights, Community Relations, Access & Affordability	3	Product affordability and access	Profitability and Cash Flow; Regulation
Customer Welfare - Fair Messaging, Privacy & Data Security	3	Quality and safety of products and services; data security	Profitability and Cash Flow
Labor Relations & Practices	3	Impact of labor negotiations and employee (dis)satisfaction	Profitability and Cash Flow; Financial Structure; Financial Flexibility
Employee Wellbeing	2	Worker safety and accident prevention	Profitability and Cash Flow; Financial Structure; Financial Flexibility
Exposure to Social Impacts	3	Social resistance to major projects that leads to delays and cost increases	Asset Base and Operations; Profitability and Cash Flow

S Scale: 5, 4, 3, 2, 1

Governance (G)

General Issues	G Score	Sector-Specific Issues	Reference
Management Strategy	4	Strategy development and implementation	Management and Corporate Governance
Governance Structure	5	Board independence and effectiveness; ownership concentration	Management and Corporate Governance
Group Structure	4	Complexity, transparency and related-party transactions	Management and Corporate Governance
Financial Transparency	3	Quality and timing of financial disclosure	Management and Corporate Governance

G Scale: 5, 4, 3, 2, 1

How to Read This Page
ESG scores range from 1 to 5 based on a 15-level color gradation. Red (5) is most relevant and green (1) is least relevant.

The Environmental (E), Social (S) and Governance (G) tables break out the individual components of the scale. The right-hand box shows the aggregate E, S, or G score. General Issues are relevant across all markets with Sector-Specific Issues unique to a particular industry group. Scores are assigned to each sector-specific issue. These scores signify the credit-relevance of the sector-specific issues to the issuing entity's overall credit rating. The Reference box highlights the factor(s) within which the corresponding ESG issues are captured in Fitch's credit analysis.

The Credit-Relevant ESG Derivation table shows the overall ESG score. This score signifies the credit relevance of combined E, S and G issues to the entity's credit rating. The three columns to the left of the overall ESG score summarize the issuing entity's sub-component ESG scores. The box on the far left identifies the some of the main ESG issues that are drivers or potential drivers of the issuing entity's credit rating (corresponding with scores of 3, 4 or 5) and provides a brief explanation for the score.

Classification of ESG issues has been developed from Fitch's sector ratings criteria. The General Issues and Sector-Specific Issues draw on the classification standards published by the United Nations Priniciples for Responsible Investing (PRI) and the Sustainability Accounting Standards Board(SASB).

CREDIT-RELEVANT ESG SCALE
How relevant are E, S and G issues to the overall credit rating?

5	Highly relevant, a key rating driver that has a significant impact on the rating on an individual basis. Equivalent to "higher" relative importance within Navigator.
4	Relevant to rating, not a key rating driver but has an impact on the rating in combination with other factors. Equivalent to "moderate" relative importance within Navigator.
3	Minimally relevant to rating, either very low impact or actively managed in a way that results in no impact on the entity rating. Equivalent to "lower" relative importance within Navigator.
2	Irrelevant to the entity rating but relevant to the sector.
1	Irrelevant to the entity rating and irrelevant to the sector.

Fitch Ratings maintains 106 unique ESG sector templates across analytical groups (see sample list below). Credit analysts use these in assessing each entity, transaction or program when assigning ESG Relevance Scores. These templates assist the analysts by framing ESG risk elements within our existing ratings criteria that affect fundamental credit at a sector level. This helps them to clearly identify and display which ESG risk elements have played a part in each credit rating decision. The templates can be used to identify ESG issues that are potentially relevant to the credit profiles of issuers and transactions in a specific sector, as the auto manufacturing example illustrates on the next page.

Fitch's Main ESG Sector Templates

Corporates		Financial Institutions	Sovereigns	Structured Finance and Covered Bonds	US Public Finance	International Public Finance	Global Infrastructure and Project Finance
APAC Utilities	LATAM Real Estate	Banks	Sovereigns	ABS Secured (Aircraft, Auto, Consumer ABS-Secured Equipment, SME, Utility Tariff Bonds)	Higher Education	Government-Related Entities	Generic
Australia Regulated Network Utilities	Lodging	Life Insurance		ABS Unsecured (Credit Card, Consumer ABS-Unsecured, U.K. Student Loans, U.S. Student Loans)	Hospitals	Local & Regional Governments	Oil & Gas Production
Automotive Manufacturers	Medical Products	Non-Life Insurance		CMBS	Community Development and Social Lending		Pipeline & Energy Midstream
Auto Suppliers	Mining	NBFI		RMBS	Life Plan Communities		Power Transmission
Building Materials	Non-Alcoholic Beverages			Covered Bonds - Commercial Real Estate Loans and Mixed Mortgage	Public Power		Renewable Energy
Building Products	Non-Food Retailing			Covered Bonds - Residential Mortgage and Public Sector	Revenue Master		Social Infrastucture
Business Services	Oil & Gas Production			Covered Bonds - Multi-Issuer Cedulas Hipotecarias	State & Local Governments		Sports (GIG)
Business Services DAP	Oilfield Services				Water & Sewer		Thermal Power
Chemicals	Oil Refining & Marketing						Transportation
Chinese Homebuilders	Packaged Food						
Commodity Processing & Trading	Pharmaceuticals						
Consumer Products	Pipeline & Energy Midstream						
Diversified Industrials & Capital Goods	Protein						
Diversified Media	Restaurants						
EMEA Homebuilders							
EMEA Real Estate & Property	Shipping Companies						
EMEA Regulated Networks	Steel						
EMEA Utilities	Technology						
Engineering & Construction	Telecommunications						
Food Retailing	Tobacco						
Gaming	US Equity REITS & REOCs						
Generic	US Healthcare Providers						
Global Electricity Generation	US Homebuilders						
LATAM Utilities	US Utilities						

Templates assist the analysts in extracting the ESG elements that affect fundamental credit at a sector level.

Fitch's dedicated Sustainable Finance Group worked with sector credit analysts to identify the sector-specific ESG credit issues related to each of the General Issue categories; splitting them into the three broad groupings of Environmental, Social and Governance. These general issues are standardized across all sectors in a particular analytical group, but Social and Governance categories vary slightly for tax-supported and Sovereign (including state and local government) entities. Governance General Issue categories are also different for Structured Finance transactions and Covered Bond programs.

For some sectors, one or more General Issue categories were considered immaterial to the credit quality of entities in that sector. In this case, "n.a." was input in lieu of a sector-specific issue. For example, the sector-specific issues for auto manufacturers are shown below and, in 'E' and 'S', highlight the importance of emissions, fuel economy, recycling, vehicle safety, labor negotiations, and shift in consumer preferences, among others. 'G' sector-specific issues are common across most sub-sectors in non-financial corporates.

Fitch's ESG Scoring Template: The Example of Auto Manufacturers

Environmental (E)

General Issues	E Score	Sector-Specific Issues	Reference
GHG Emissions & Air Quality		Emissions and pollutants from vehicles sold	Brand Positioning; Profitability; Financial Structure
Energy & Fuel Management		Fuel economy requirements of the product	Brand Positioning; Profitability; Financial Structure
Water & Wastewater Management		Water usage in manufacturing	Competitive Position; Cost Structure; Profitability; Financial Structure
Waste & Hazardous Materials Management; Ecological Impacts		Waste and recycling in manufacturing operations; use of environmentally friendly materials	Brand Positioning; Profitability; Financial Structure

Social (S)

General Issues	S Score	Sector-Specific Issues	Reference
Human Rights, Community Relations, Access & Affordability		n.a.	n.a.
Customer Welfare - Fair Messaging, Privacy & Data Security		Data security; vehicle safety	Brand Positioning; Profitability
Labor Relations & Practices		Impact of labor negotiations and employee (dis) satisfaction	Cost Structure; Profitability
Employee Wellbeing		n.a.	n.a.
Exposure to Social Impacts		Cities' focus on promoting less vehicle ownership; shift in consumer preferences toward cleaner energy	Profitability

Governance (G)

General Issues	G Score	Sector-Specific Issues	Reference
Management Strategy		Strategy development and implementation	Management and Corporate Governance
Governance Structure		Board independence and effectiveness; ownership concentration	Management and Corporate Governance
Group Structure		Complexity, transparency and related-party transactions	Management and Corporate Governance
Financial Transparency		Quality and timing of financial disclosure	Management and Corporate Governance

Fitch highlights areas where its ratings criteria captures ESG issues in the "Reference" box. It is common for a single ESG issue to correspond to multiple traditional credit factors, rather than mapping neatly to a single area of qualitative or quantitative analysis. Fitch's analysis shows that the manner in which an ESG risk manifests itself in credit analysis is highly entity specific and strongly influenced by the issuer's business and financial profile.

The primary source of information behind ratings remains public information disclosed by the issuer. This information includes, but is not limited to, audited financial statements, strategic objectives, and investor presentations. In addition, Fitch's analysts engage with management teams to understand the organizations' potential ESG credit risk exposures. Fitch notes that direct participation from the issuer adds valuable information to the process, but the level, quality and relevance varies among issuers and may vary for each an issuer over time.

Additional information includes peer group data, sector and regulatory analysis and Fitch's forward-looking assumptions. The rating analysts use all readily available relevant information and management access in addition to their expertise on the sector and credit to arrive at the ESG scores.

Across all asset classes, on average 16% of issuers, programs and transactions are experiencing one or more elevated scores of '4' or '5.' There is, however, significant differences not only between asset classes (see coverage table below), but also differences between individual subsectors within asset classes as well as between entities, transactions or programmes.

This framework allows Fitch to display the evolving impact of 'E', 'S' and 'G' risks on credit over time. Generalizing for all asset classes, the lowest level of credit impact comes from environmental factors, which Fitch believes is mainly driven now by a low level of cost crystallization in credit profiles from environmental legislation and regulation. Over time, Fitch expects that regulation will increase. With changes in policies, more environmental costs are likely to be factored into credit profiles as policymakers explore new ways to expand the reach and impact of their policies.

Fitch's ESG Score Coverage by Sector

Fitch Analytical Groups	ESG Templates	No. of Issuers/ Transactions	No. of Data Points	% some impact
Corporates	52	1,590	22,260	23%
Financial Institutions	4	1,392	19,488	15%
Sovereigns	2	145	2,155	100%
Public Finance & Infrastructure	28	2,720	39,051	7%
Structured	20	4,339	60,746	19%
Total	**106**	**10,186**	**143,700**	**17%**

Source: Fitch Ratings, Data as of 31 March, 2021

Fitch's initial research across its global ratings portfolio clearly shows that Governance overall is the most dynamic ESG factor from a credit perspective. Social factors also play a key role in non-financial corporates and structured finance ratings. Whilst Environmental factors are more relevant to non-financial corporates than other asset classes, they impact relatively few sectors due to regulation's low credit impact in most sectors. As policies evolve and the social pressure on economic activities grows, Fitch expects the relative impact from 'E' and 'S' issues to grow over time.

AFRICA	
Banks	38
Non Fin Corporates	9
Infra/Project Fin	1
Insurance	3
Gov Related Entities	
Local/Regional Govts	2
Non-Bank Fin Instit	
Structured Finance	
Sovereigns	20
Supranationals	4

CENTRAL & EASTERN EUROPE	
Banks	140
Non Fin Corporates	113
Infra/Project Fin	3
Insurance	17
Gov Related Entities	63
Local/Regional Govts	29
Non-Bank Fin Instit	11
Structured Finance	22
Sovereigns	20
Supranationals	2

DEVELOPED MARKETS ASIA-PACIFIC	
Banks	95
Non Fin Corporates	68
Infra/Project Fin	8
Insurance	33
Gov Related Entities	11
Local/Regional Govts	2
Non-Bank Fin Instit	16
Structured Finance	283
Sovereigns	7
Supranationals	

DEVELOPED MARKETS EUROPE	
Banks	241
Non Fin Corporates	310
Infra/Project Fin	51
Insurance	65
Gov Related Entities	70
Local/Regional Govts	64
Non-Bank Fin Instit	34
Structured Finance	677
Sovereigns	22
Supranationals	5

EMERGING MARKETS - ASIA	
Banks	72
Non Fin Corporates	224
Infra/Project Fin	17
Insurance	29
Gov Related Entities	125
Local/Regional Govts	1
Non-Bank Fin Instit	20
Structured Finance	30
Sovereigns	14
Supranationals	3

LATAM	
Banks	114
Non Fin Corporates	207
Infra/Project Fin	29
Insurance	11
Gov Related Entities	3
Local/Regional Govts	21
Non-Bank Fin Instit	18
Structured Finance	35
Sovereigns	20
Supranationals	2

MIDDLE EAST	
Banks	65
Non Fin Corporates	20
Infra/Project Fin	6
Insurance	3
Gov Related Entities	3
Local/Regional Govts	
Non-Bank Fin Instit	3
Structured Finance	
Sovereigns	12
Supranationals	5

NORTH AMERICA	
Banks	173
Non Fin Corporates	596
Infra/Project Fin	210
Insurance	91
Gov Related Entities	1
Local/Regional Govts	6
Non-Bank Fin Instit	70
Structured Finance	3548
Sovereigns	2
Supranationals	4
U.S. State and Local Governments	909
U.S. Public Finance Revenue-Supported	1,069

N# of issuers and transactions with ESG.RS

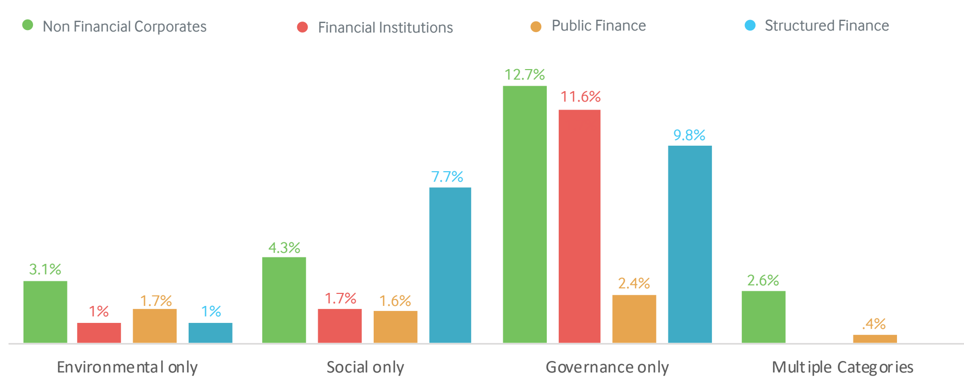
1,500
Credit Analysts

ESG.RS
100 sectors covered globally 10,300 issuers and transactions

ESG.VS
All sectors/ regions to be covered globally

Source: Fitch Ratings , as at 31 March, 2021

Relative Relevance of ESG factors to Ratings



Y axis indicates the proportion of Fitch rated entities, transactions or program with one or more elevated score of '4' or '5'.
Source: Fitch Ratings , as at 31 March, 2021

Five Key Environmental, Social and Governance Trends for 2021

Fitch identified five key Environmental, Social and Governance trends for 2021 that are relevant to credit ratings, supported by Fitch's proprietary ESG Relevance Scores as well as research and insights from over 1,400 credit analysts in 30 countries.

The trends outlined below highlight how sustainability considerations are increasingly being incorporated into policies, corporate governance frameworks and the lending and investment decisions of financial institutions. This will increase ESG's influence on company strategy, financing and operating environments for issuers in 2021.

Social Risks Will Emerge From "New Normal": The coronavirus pandemic's heavy economic burden on societies is likely to leave persistent social scars, such as greater inequality and poverty, as well as challenges regarding affordability and access to basic needs. We expect the societal tensions that stem from these scars, and the policies designed to alleviate them, to lead to new social risks for issuers while exacerbating existing risks.

Innovation Will Broaden ESG Reach in Credit: We expect the sustainable market to evolve to incorporate labels beyond "green" (such as "social" and "transition"). Innovations such as sustainability-linked bonds (SLBs) will widen access to a broader range of sectors and asset classes. While there is yet to be clear evidence that ESG instruments provide a meaningful difference in financing costs at scale for issuers compared to conventional bonds, greater policy incentives may change this as regulations formalise the market.

Data Deluge to Increase ESG Scrutiny: We believe the ongoing increase in ESG reporting requirements and steps taken towards the harmonisation of reporting standards will improve the quality and quantity of ESG data over time. This will spur financial institutions to enhance ESG due diligence and exclusionary policies to cover a broader set of ESG issues and entities, further affecting financing conditions for issuers.

Sustainable Governance to Steer Strategy: The growing interest in sustainability is sparking debate on how corporate governance frameworks should be reformed to foster long-term responsible corporate behaviour, such as clarification of directors' duties. Combined with more active ownership from investors and the formalising of sustainability targets into remuneration andsustainability-linked instruments, we expect ESG issues to increasingly influence strategic and management decisions.

Path to Net-Zero Brings Economic Shifts: Companies and governments offered a wave of net-zero emissions pledges in 2020, but the policy paths to achieve these pledges are unclear. We expect more details on these paths in 2021 to provide some insight into potential long-term economic effects. Other important variables that will shape economic impacts, such as the pace of technological progress and the degree of global policy coordination, are harder to predict.

Evaluating ESG Risks in Non-Financial Corporates

Fitch developed 52 sector scoring templates that identify 'E' and 'S' risks specific to each industry for each general issue risk category, whilst the sector specific issues for the 'G' risk category under general issues are common for all non-financial industrial sectors. The sector templates cover seven broad industry groupings:

- Healthcare, Consumer & Retail
- Food, Beverage & Tobacco
- Industrial & Transport
- Natural Resources
- Real Estate, Construction & Building Materials
- Services & Communications
- Utilities, Power & Gas

The following table (pages 24-25) discloses the sector-specific factors for a selection of important sub-sectors, showing the variety and customization provided to each factor. For some sectors, one or more general issues are not material to the credit quality of entities, in which case, "n.a." is input in lieu of a sector-specific issue, for example, "Employee Wellbeing" for U.S. REITs.

Looking at the first environmental factor (Greenhouse Gas (GHG) Emission & Air Quality), Fitch considers emissions from production a relevant issue for Oil & Gas producers, while it may impact auto manufacturers in relation to the emissions (and pollutants) coming from the vehicles sold. GHG emissions, by contrast, are not material to the credit analysis of pharmaceutical and REIT companies.

Taking the example of U.S. REITs, the table shows how sustainable building practices and portfolio exposure to climate change-related risk (eg. flooding) are material issues that can have an impact on credit ratings. The former factor falls under "Waste & Hazardous Material Management; Ecological Impacts" and the latter under "Exposure to Environmental Impacts".

Categories of Social risks are more relevant for credits in developed markets (DM), where consumer trends often emerge as credit drivers. Healthcare and Consumer & Retail are examples of sectors with high exposure to social impacts, particularly certain U.S. Healthcare Providers who have several scores of '4' or '5' for "Exposure to Social Impacts". In general, health-related shifts in consumer preferences and regulation affect a wide range of issuers in the food, beverages & tobacco sector, as does scrutiny over healthcare costs and drug pricing for the pharmaceuticals industry.

Related Research

ESG. RS Compendium:
[Corporates]

ESG Sector Heat Maps:
[Corporates]

Templates Compendium:
[ESG Sector Template Compendium]

Fitch has developed 52 sector scoring templates which identify the risks specific to each industry within each 'E' and 'S' risk category, while Governance risks are common across all the industrial sectors.

Categories of Social risks are often more relevant for credits in developed markets (DM), with ESG-based consumer trends being common.

Apart from consumer trends, Social risks are particularly relevant for the natural resources sector through public opposition to projects.

Apart from consumer trends, Social risks are particularly relevant for the natural resources sector through public opposition to projects, and for U.S. utilities. While social risks are less relevant for emerging markets (EM), social and political pressure on consumer pricing is a common feature for some EM corporates. Social risks are relevant to credit ratings for issuers in 29 of the 52 industry sectors for corporate issuers.

The Governance factor category is universally relevant for corporate ratings, with a similar approach across sectors on the assessment of:

- management strategy implementation,
- governance framework,
- group structure, and
- financial transparency.

Often, high ESG relevance scores in the 'E' or 'S' categories have a related score in the 'G' category, since inadequate governance controls can often lead to broader issues in the operational or ESG-specific risk profile of an issuer.

Sector-Specific Factors for Non-Financial Corporates

ENVIRONMENTAL	Oil and Gas Production	Mining	Pharmaceuticals	Auto Manufacturers	Non-Alcoholic Beverages	U.S. REITs	EMEA Regulated Utilities
GHG Emissions & Air Quality	Emissions from oil and gas production	Regulatory Risk - Emission Standards	n.a.	Emissions and pollutants from vehicles sold	Emissions from distribution operations	n.a.	Emissions from operations
Energy Management	Energy use in oil and gas production operations	Energy use in operations	Energy use in manufacturing	Fuel economy requirements of the product	Energy use in manufacturing and distribution	n.a.	Energy and fuel use in operations; entities' financial targets for losses/ shrinkage
Water & Wastewater Management	Water management (e.g. usage levels, recycling capacity)	Water usage in operations (including exposure to regions with water scarcity)	Water usage in manufacturing process	Water usage in manufacturing	Water usage	n.a.	Water usage in operations; water utilities' financial targets for water quality, leakage and usage
Waste & Hazardous Materials Management; Ecological Impacts	Waste and material handling; operations' proximity to environmentally sensitive areas	Total amount of tailings and mineral processing waste produced; management of tailings dams	Management of product life cycle and potential impact on food/ water supply; supply chain management - product/APIs	Waste and recycling in manufacturing operations; use of environmentally-friendly materials	Impact of packaging; supply chain management - product	Sustainable building practices including Green building certificate credentials	Impact of waste including pollution incidents; discharge compliance; sludge disposal
Exposure to Environmental Impacts	Hydrocarbon reserves exposure to present/future regulation and environmental costs	Exposure to extreme weather events	Manufacturing facilities and inventory exposure to extreme weather events	n.a.	Crop yield affected by climate change	Portfolio's exposure to climate change-related risk including flooding	Exposure to extreme weather events; negative (e.g. risk of drought and flooding) or positive (e.g. additional return on capex for network weather-resilience).

Sector-Specific Factors for Non-Financial Corporates (cont.)

<table>
<tr><th>SOCIAL</th><th>Oil and Gas Production</th><th>Mining</th><th>Pharmaceuticals</th><th>Auto Manufacturers</th><th>Non-Alcoholic Beverages</th><th>U.S. REITs</th><th>EMEA Regulated Utilities</th></tr>
<tr><td>Human Rights, Community Relations, Access & Affordability</td><td>Operations' proximity to areas of conflict or indigenous lands</td><td>Relationships with local communities and/or land right holders</td><td>Wellbeing of clinical trial participants; patient access and affordability</td><td colspan="3">n.a.</td><td>Product affordability and access</td></tr>
<tr><td>Customer Welfare - Fair Messaging, Privacy & Data Security</td><td colspan="2">n.a.</td><td>Drug safety & side effects; ethical marketing; data safety in clinical trials; counterfeit drug management</td><td>Data security; vehicle safety</td><td>Health & nutrition; product labeling & marketing</td><td>Data security</td><td>Quality and safety of products and services; data security</td></tr>
<tr><td>Labor Relations & Practices</td><td>Impact of labor negotiations and employee (dis) satisfaction</td><td>Impact of labor negotiations and employee (dis) satisfaction</td><td>Impact of labor negotiations and employee (dis) satisfaction; employee recruitment and retention</td><td>Impact of labor negotiations and employee (dis) satisfaction</td><td>Impact of labor negotiations and employee (dis) satisfaction</td><td>Impact of labor negotiations and employee (dis) satisfaction</td><td>Impact of labor negotiations and employee (dis) satisfaction</td></tr>
<tr><td>Employee Wellbeing</td><td colspan="2">Worker safety and accident prevention</td><td colspan="4">n.a.</td><td>Worker safety and accident prevention</td></tr>
<tr><td>Exposure to Social Impacts</td><td>Social resistance to major projects or operations that leads to delays and cost increases</td><td>Social resistance to major projects or operations that leads to delays and cost increases</td><td>Pressure to contain healthcare spending growth; highly sensitive political environment</td><td>Cities' focus on promoting less vehicle ownership; shift in consumer preferences toward cleaner energy</td><td>n.a.</td><td>Shift in market preferences</td><td>Social resistance to major projects that leads to delays and cost increases</td></tr>
</table>

n.a.: not material to credit ratings in the sector

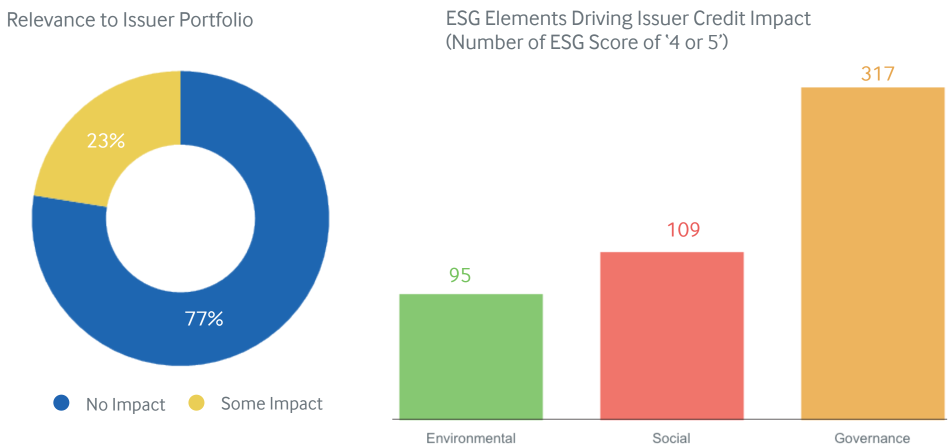
ESG Relevance Scores in Non-Financial Corporate Ratings: Key Facts and Findings

Fitch's corporate portfolio contains over 22,000 individual 'E', 'S' and 'G' scores for publicly-rated entities. Results show that 22.7% of ratings are being influenced by ESG factors (one or more score of '4' or '5'), with 1.6% of rated entities having a single 'E', 'S' or 'G' sub-factor that by itself led to a change in the rating (score of '5'). There are significant variances by market classification (developed markets vs emerging markets) as well as by region and sector. The below table highlights sub-sectors in which more than 10% of issuers have '4 or 5' scores, helping identify emerging sector trends.

Non-Financial Corporate Sub-Sectors with More than 10% of Issuers Ratings Influenced by 'E' or 'S' Factors

	General Issue Category	Healthcare, Consumer & Retail	Food, Beverage & Tobacco	Industrial & Transport	Natural Resources	Real Estate, Construction & Building Materials	Services & Communications	Utilities, Power & Gas
ENVIRONMENTAL	GHG Emissions & Air Quality			Auto Manufacturers				EMEA Utilities
ENVIRONMENTAL	Energy Management							EMEA Utilities
ENVIRONMENTAL	Water & Wastewater Management							
ENVIRONMENTAL	Waste & Hazardous Materials Management; Ecological Impacts				Oil Refining & Marketing			
ENVIRONMENTAL	Exposure to Environmental Impacts				Oil Refining & Marketing Commodity Processing	LATAM REITs		
SOCIAL	Customer Welfare - Fair Messaging, Privacy & Data Security	Gaming	Non-Alcoholic Beverages Tobacco			Building Products		
SOCIAL	Exposure to Social Impacts	Pharmaceuticals U.S. Healthcare Providers	Non-Alcoholic Beverages Tobacco					

ESG Relevance in Fitch's Non-Financial Corporate Portfolio



Source: Fitch Ratings, as at 31 March 2021

Social Risk is often the most difficult factor to isolate within the three risk areas under ESG. Using a broad definition, Fitch identified a series of credit relevant social risks. These include:

- "community relations" (often credit relevant for extractive industries),
- "social pressure on energy-essentials pricing" (across energy and utility sectors),
- "customer welfare and product safety" (for a wide range of industries), and
- "trends in product acceptance" (primarily in food, beverage and tobacco areas).

"Labor relations" are observed relatively infrequently as a credit-relevant factor in Fitch's rating discussions, as duration and frequency of occurrence tends not to persist to a stage where there is a significant credit impact for the overall business.

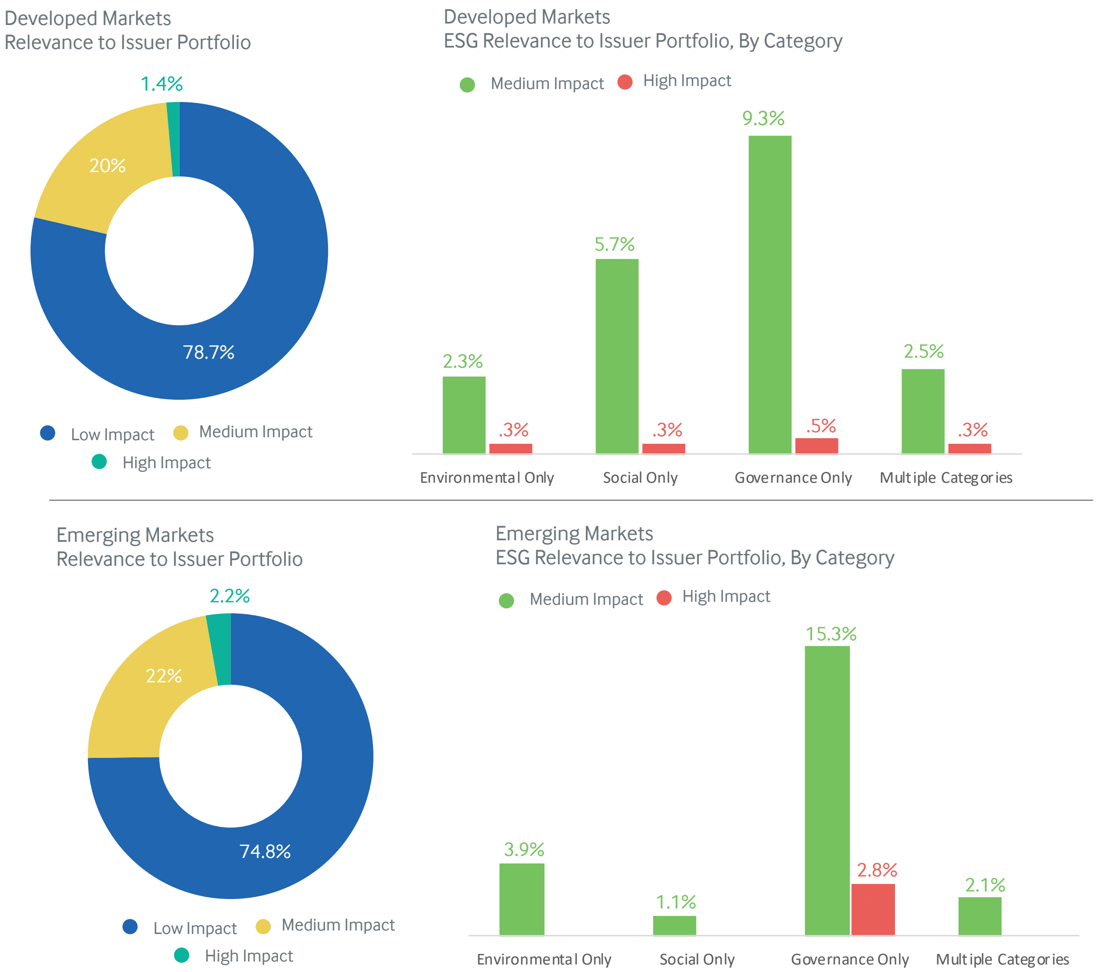
Governance Risk dominates all the sectors within the scoring, accounting for more '4'/'5' scores than the other two categories combined. The wide range of governance issues raised most frequently includes "operational errors," "governance shortcomings," "complex structures" and "financial transparency."

Corporate Developed Market (DM) versus Emerging Market (EM) ESG Relevance

Overall ESG.RS scoring trends for Corporates show that EM rated issuers continue to show a higher percentage of medium/high impact scores (25.2%) than DM issuers (21.4%) as at March 2021. This continues a trend in evidence since Fitch launched its ESG Relevance Scores for Corporates in January 2019.

Other trends include a materially higher proportion of elevated Governance Scores for EM issuers (18.1%) than for DM issuers (9.8%), in part reflecting more concentrated ownership structures in EM countries and the risks stemming from these, such as related party transactions. Another key differential is the higher occurrence of ratings being impacted by social considerations in DM (6.0%) compared to EM (1.1%). This higher proportion is primarily related to customer welfare, consumer preferences and social change factors.

ESG Relevance in Fitch's Developed Market and Emerging Market Portfolio's



Source: Fitch Ratings, data as of 31 March, 2021

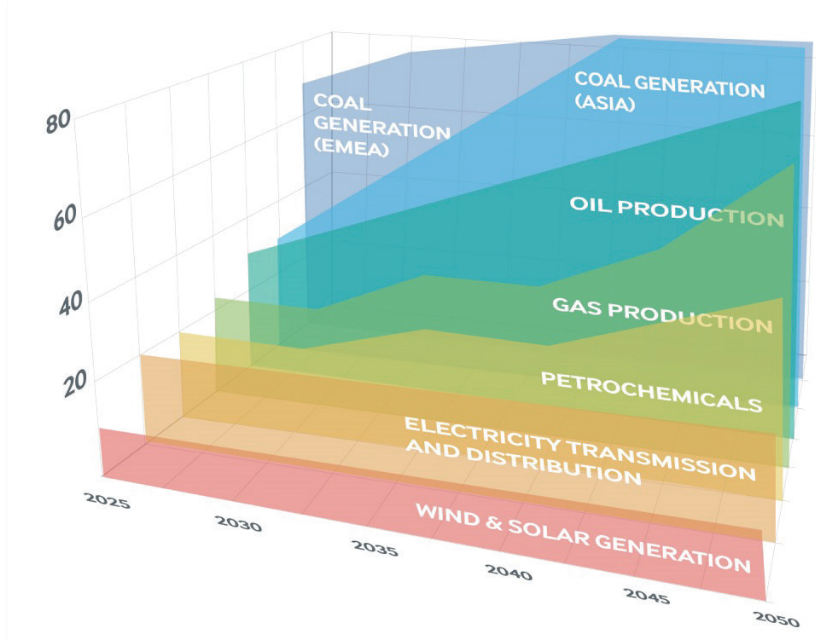
Assessing Long-Term Climate Risks: ESG Vulnerability Scores

ESG Vulnerability Scores (ESG.VS), launched as a pilot project in October 2020, measure the relative vulnerability of sectors and entities to long-term ESG-related changes under a scenario that incorporates a global transition to a 2°C warmer climate by 2050, based on the Principles for Responsible Investment's (PRI) Forecast Policy Scenario (FPS). The FPS provides a realistic basis on which to consider the most significant potential credit impact from long-term ESG risk factors and outlines a range of response policies consistent with the scenario's warming projections.

Fitch analysts identify the risks to businesses and projects from these policies. While the FPS only represents one scenario, Fitch views regulatory change as the biggest single driver of credit impact from ESG. The ESG.VS also reflect other scenarios and Fitch analysts' expertise as appropriate. Fitch provides a view on how these vulnerabilities differ between, say, a 2032 bond issued by an Asian coal-focused utility company and a 2048 bond issued by a U.S. gas generation and transmission company. The higher the sector or entity score at a particular point in time, the greater the vulnerability under the scenario. A sector with a score of 90, for example, faces an existential threat from ESG before 2050, whereas one with a score of 10 will experience little disruption and may even see benefits. By providing scores in a time series to 2050, the ESG.VS compare the relative vulnerability of sectors and entities at different stages in the transition.

To date, Fitch has applied its ESG.VS methodology to the global power utilities sector, and the oil & gas and chemicals sector.

ESG.VS measures the vulnerability of sector and issuer creditworthiness to a 2°C scenario



More on the UN PRI's Forecast Policy Scenario (FPS)

The FPS scenario, also known as the Inevitable Policy Response (IPR) scenario, was commissioned by PRI and developed by Vivid Economics and Energy Transition Advisors in 2019. Its purpose was to assist investors when assessing the future portfolio impacts of climate risks in a world that transitions to a 2°C warmer climate by 2050.

At the heart of the FPS scenario is a forceful global policy response sometime between 2023 and 2025. This policy response is the result of the Paris Agreement's Global Stocktake pressuring countries to submit ambitious and industry-disruptive, third-round climate pledges (NDCs) by 2025.

The assumptions and forecasted data of the FPS scenario are influenced significantly by these climate pledges as well as the increasing cost competitiveness of technology developments, especially in renewable energy. The key assumptions center on: carbon pricing, a coal phase-out, zero-carbon power, and a sales ban on internal combustion engines.

Spotlight: Tightening Climate Policy to Drive Carbon Offsetting and Emissions

Demand for Carbon Offsets to Outstrip Supply by 2025, Benefitting Emerging Markets

Global carbon trading jumped to a record high of USD 214 billion in 2019 – an annual increase of more than a third – as prices rose on current or expected tightening of regulation. The EU's Emissions Trading Scheme (ETS) made up about 80% of this volume and the rollout of China's national ETS is likely to increase this further. Demand for carbon offsets is likely to outstrip supply by 2025 as climate policies tighten, benefiting emerging markets (EM).

Global Trading Scheme Can Lower Costs, but Lack of Global Agreement Adds Uncertainty

Free trading of carbon offsets under a global scheme could cut costs of the Paris Agreement by up to 33% by 2030, or achieve a 50% increase in abatement for equivalent costs by directing mitigation towards the lowest-cost options. However, governments have struggled to agree on issues such as the carryover of past credits, accounting treatment and measures to ensure the additionality of overall emissions reduction. Lack of agreement may slow the path of decarbonisation, but an agreement that fails to address concerns may lead to abrupt policy changes further down the line.

Expansion of Carbon Policies to "Hard-to-Abate" Sectors Drives Demand for Offsets

Tightening climate regulation is leading to the launch of numerous carbon ETS globally and the expansion of existing schemes to more sectors. Emissions from the construction, transportation and agricultural sectors largely sit outside of emissions trading and carbon tax systems at present, despite their substantial abatement potential, including for non-CO_2 greenhouse gases, such as methane. Fitch Ratings expects the expansion of carbon trading schemes to these sectors will drive demand for offsets.

EM, Industrials to Drive Offset Supply

Regions and low-cost mitigation potential would likely benefit from an increase in inward investment. A lot of the forecast emissions growth will come from EM industrial sectors, where penetration of low-carbon technology is lower. Avoided emissions in these regions will be key to offsetting supply.

Rise in ETS Costs Could Precede a Sharp Increase in Offset Prices - Driven by Policy

The increase in EU ETS prices in recent months has been driven by policy announcements and market intervention. A further tightening of emission reduction targets is likely to lead to further increases in ETS prices and a corresponding increase in offset prices. This is spurring an increase in the volume of trading and speculative positions, driven by an expectation of policy support.

Regulatory Carbon Markets to Expand, Led by China Carbon

ETS have evolved over time, from largely unregulated offset systems through the Kyoto Protocol-era Clean Development Mechanism (CDM) to more modern ETS and voluntary carbon offsetting standards. ETS schemes are regulated markets with net allocations usually determined on an annual or multiannual basis, while the voluntary carbon market remains largely unregulated, albeit with a growing role for third-party verification of offset projects, which tend to focus on forestry and forest restoration activities in the global south.

Related Research

ESG. RS Compendium:
Global Banks
Insurance
Non Bank Financial Institutions

ESG Sector Heat Maps:
Financial Institutions

Templates Compendium:
ESG Sector Template Compendium

The Governance factor category is universally relevant for financial institutions rating.

Evaluating ESG Risks in Financial Institutions

Fitch has developed sector scoring that identifies the risks specific to 30 subsectors within banks, non-bank financial institutions (NBFIs) and insurers.

The Governance risk category is universally relevant for financial institutions ratings, with a similar approach across subsectors on the assessment of management strategy implementation, governance framework, group structure and financial transparency.

The Social risk category sees a larger degree of divergence among subsectors. While the exposure to labor relations and employee wellbeing affects all issuers equally, risks associated with community relations, access and affordability, fair messaging, privacy and data protection, and the need to manage broader social impacts to protect reputation and brand and retain customers, are relevant to banks, NBFIs and government sponsored entities within our financial institutions group.

Within the Community Relations, Customer Welfare and Social Impacts risk categories, several banks and NBFIs, such as credit card and consumer finance companies, see various degrees of compliance risk relating to fair lending practices and debt collection practices as well as exposures to changes in regulatory measures, such as interest rate caps to protect vulnerable borrowers.

The Environmental risk category is the one area with a very limited credit impact on financial institutions. Emissions & Air Quality, together with Energy Management, affect only NBFI issuers such as auto, equipment and aircraft lessors. These sectors face regulatory risks including potential emissions fines or compliance costs related to equipment that directly generates greenhouse gas emissions, while not impacting any entities in the other sub-factors.

Exposure to environmental impacts can influence all subsectors, even outside the natural vulnerability of property & casualty insurers to environmental catastrophes. Environmental impacts can affect credit profiles, including banks with high exposure to agricultural lending in areas exposed to extreme weather conditions, agricultural equipment lessors exposed to cyclical borrower repayment difficulties and banks lending to real estate sectors in countries experiencing a higher frequency and severity of hurricanes, storms, etc.

Sector-Specific Factors for Financial Institutions

ENVIRONMENTAL	BANKS	NBFIs	INSURANCE- Non Life	INSURANCE- Life
GHG Emissions & Air Quality	n.a.	Regulatory risks, emissions fines or compliance costs related to owned equipment, which could impact asset demand, profitability, etc.	n.a.	
Energy Management	n.a.	Investments in or ownership of assets with below-average energy/fuel efficiency, which could impact future valuation of these assets.	n.a.	
Water & Wastewater Management	n.a.			
Waste & Hazardous Materials Management; Ecological Impacts	n.a.		Underwriting/reserving exposed to asbestos/hazardous materials risks	n.a.
Exposure to Environmental Impacts	Impact of extreme weather events on assets and/or operations and corresponding risk appetite & management; catastrophe risk; credit concentrations	Impact of extreme weather events on assets and/or operations and corresponding risk appetite & management; catastrophe risk; credit concentrations	Underwriting/reserving exposed to environmental and natural catastrophe risks; impact of catastrophes on own operations or asset quality; credit concentrations	Impact of extreme weather events/natural catastrophes on operations or asset quality; credit concentrations
SOCIAL				
Human Rights, Community Relations, Access & Affordability	Services for under banked and underserved communities-SME and community development programs; financial literacy programs	n.a.		
Customer Welfare: Fair Messaging, Privacy & Data Security	Compliance risks including fair lending practices, mis-selling, repossession/foreclosure practices, consumer data protection (data security)	Fair lending practices; pricing transparency; repossession/foreclosure/collection practices; consumer data protection; legal/regulatory fines stemming from any of the above	Compliance risk; treating customers fairly; pricing transparency; privacy/data security; legal/regulatory fines; exposure to insured and own cyber risk	
Labor Relations & Practices	Impact of labor negotiations, including board/employee compensation and composition			
Employee Well-being	n.a.			
Exposure to Social Impacts	Shift in social or consumer preferences as a result of an institution's social positions, or social and/or political disapproval of core banking practices or activities		Social responsibility and its effect on brand strength; increased vulnerability due to credit concentrations	
GOVERNANCE				
Management Strategy	Operational implementation of strategy			
Governance Structure	Board independence and effectiveness; ownership concentration; protection of creditor/stakeholder rights; legal /compliance risks; business continuity; key person risk; related-party transactions			
Group Structure	Organizational structure; appropriateness relative to business model; opacity; intra-group dynamics; ownership			
Financial Transparency	Quality and frequency of financial reporting and auditing processes			

n.a.: not material to credit ratings in the sector

ESG Relevance Scores in Financial Institutions Ratings: Key Facts and Findings

At a global level at end-1Q21, 29% of NBFI, 15% of bank and 4% of insurance entities have at least one relevance score of '4' or '5'. Particular differences exist across sectors and geographies, revealing notable differences in high-impact ESG issues.

ESG Relevance in Fitch's Overall Financial Institution Portfolio

Source: Fitch Ratings, as at 31 March 2021

Sector Differences Observed: On a sectoral basis, NBFI issuer credit ratings are more impacted by ESG risks (i.e. scoring '4' or '5') than banks, and insurance companies. Governance-related risk elements, particularly 'Governance Structure', account for the majority of the higher relevance scores ('4' or '5'on the 1-5 scale) for both banks and NBFIs. Environmental considerations, specifically catastrophe risk, are most relevant to non-life (re)insurers. 'Social' ESG risks, reflected in scores of '4' and '5', usually relate to NBFIs and typically stem from the conduct risks of lending at higher interest rates, particularly to more vulnerable borrowers. Of note, no insurance entities have yet been assigned an ESG relevance score of '5' in any category.

Regional Differences Also Noted: FI ratings in emerging markets are more impacted by ESG issues, with 23% of global entities having a score of '4' or '5' at end-1Q21, compared to just 10% for global developed market. 44% of bank issuers within APAC emerging markets were assigned at least one higher ESG Relevance Score. This was followed by Americas EM at 25% and Middle East and Africa at 20%. ESG relevance for NBFIs was highest in APAC EM at 55%, followed by Americas EM at 33% and European EM at 21% (although based on a relatively small sample size). The scores were driven by governance and, secondarily, by social considerations. Although fewer reinsurer's credit ratings are affected by ESG-relevant risks, the largest concentration of such entities is within APAC in both developed and emerging markets.

Spotlight: Governance Risks for Banks

Failures in managing non-financial risks such as governance and financial crime risks often result in fines, penalties and remediation costs. Fitch believes that governance and financial crime risks – along with associated financial penalties and indirect business costs - are likely to become more ratings-relevant for banks as non-financial data points are better captured and public authorities, consumers and ESG-aware investors become increasingly conscious of the social impact of the institutions they do business with and less tolerant of transgressions.

In many emerging markets, Fitch's operating environment assessments capture heightened jurisdictional governance and financial crime risks. In developed markets, jurisdictional risks tend to be lower, and idiosyncratic governance and financial crime risks, which can be more difficult to spot in complex organisations, have tended to be less material to ratings than other considerations. At end-1Q21, ratings of only 3% of banks in developed markets saw any material impact arising from a governance issue; in emerging markets, the incidence of governance impacts is far higher at 24%.

Spotlight: Bank Regulators Turn to Climate Change Stress Tests

Regulatory climate change stress testing for banks and insurance companies is set to become mainstream. We expect that financial institution supervisors will increasingly roll out such tests, eventually incorporating them into their regular testing for financial sector resilience. Supervisors are being encouraged to do so given widespread acceptance that climate change risks have associated financial costs which, if unchecked, could pose risks to financial stability.

The Banque de France's tests for French banks and insurers published in May 2021 highlighted only moderate financial impact arising from climate change risks over a 30 year scenario, aided by the use of benign macroeconomic assumptions used over the period and the use of a 'dynamic balance sheet' approach, whereby participants were allowed to shift portfolios out of more environmentally sensitive sectors over the 30 year forecast. The Bank of England is following with similar testing in June, with results expected in 2022. The tests will not, at this stage, force participants to hold additional capital. However, they will help to deepen environmental risk knowledge, identify business model vulnerabilities, highlight data gaps and help to quantify the size of potential problems. Fitch's view is that regulatory climate change prudential capital charges will eventually follow.

Climate change stress tests have already been announced for Australia, Brazil, Canada, Hong Kong and Singapore, but information flow is dynamic and we expect more countries to follow. Under the Biden administration, which has prioritized climate change and environmental policies, we believe U.S. financial regulators will also turn their attention to this front.

Spotlight: New Social Risks for Financial Institutions

The global pandemic-related health crisis, in which disadvantaged social groups and regions paid the heaviest price, placed the issue of social inequality at the center of political and media discourse. Fitch's assessment is that this experience will invigorate efforts to shift to a more sustainable and equitable economy, with financial institutions being encouraged to play a role in this transition.

In markets where authorities tend to be more interventionist, we are already seeing the introduction of new interest rate caps and floors to protect more vulnerable borrowers (e.g. Mexico, Panama, Peru) or requirements for lenders to finance particular sectors without appropriately pricing in risk. This is noted broadly across countries where governments rushed to roll out 'Covid-19 support loans' to SMEs in the early days of the pandemic; we expect widespread rescheduling of such loans.

Covid-19 loans extended by banks under the government-guaranteed schemes is an area where negative reputational risks could materialise if banks are seen to be employing heavy-handed recovery tactics. Authorities will be mindful of balancing a push to boost consumer protection against a drive to ensure that lenders continue to maintain the flow of finance to underbanked segments of the population. Whether the financial sector meets the needs of the underbanked population is increasingly a question for regulators and politicians; fallout for the sector will largely depend on political and economic responses to address these social issues.

Related Research

ESG. RS Compendium:
Structured Finance & Covered Bonds

ESG Sector Heat Maps:
Structured Finance & Covered Bonds

Templates Compendium:
ESG Sector Template Compendium

The Environmental and Social risk analysis applies to the pool of assets serving as collateral, while the Governance risk analysis applies to transaction or program level considerations.

Evaluating ESG Risks in Structured Finance

Defining ESG credit relevance for structured finance (SF) transactions and covered bonds (CVB) programs implies analyzing several moving parts – issuer, collateral, and structural features. Fitch has categorized, templated and classified ESG credit risks at a sector level (ABS, CMBS, RMBS, CVB) and then scored them for individual SF transactions and CVB programs. The Environmental and Social risk categories focus on the pool of assets serving as collateral while the Governance category generally covers transaction or program-level considerations.

Within SF and CVB, Fitch has assigned ESG Relevance Scores to all global international scale ratings of:

- ABS (including SME CDOs); 1,094 transactions
- CMBS (including CRE CLOs and CRE CDOs); 724 transactions
- RMBS transactions; 2,886 transactions
- CVB programs (including Multi-Issuer Cedulas Hipotecarias "MICH"); 117 CVB and MICH in total

The following asset classes currently have not been assigned an ESG RS:

- CLOs, (including Broadly Syndicated Loans and Middle Market Loans);
- CDOs (such as SF CDOs, Real Estate SF CDOs, TRUPS CDOs);
- Credit-linked and insurance-linked notes'
- ABCPs; and
- Transactions where the note ratings are a result of a direct credit link to another rated entity (not CVBs)

Fitch has created unique ESG templates for CMBS and RMBS as well as 15 separate subsector templates for ABS and three for CVB, depending on the collateral type. These templates consider five Environmental; five Social and four Governance issues, shown in the table below.

Structured Finance and covered bonds governance general issues are different from other sector templates, highlighting the importance of asset isolation and timely payment for SF or payment continuity for CVB.

Clearly some general issues do not apply to all SF and CVB asset classes, e.g. GHG Emissions and Air Quality are irrelevant for RMBS and CMBS. An illustration of which general issues Fitch considers relevant for each asset is highlighted in the table below. SF and CVB governance general issues differ greatly from other sector templates due to the importance of asset isolation and timely payment for SF or payment continuity for CVB. Therefore, the general and sector-specific issues have been tailored with consideration of the nuances within structured finance and are uniform for all the SF and CVB templates.

Sector-Specific ESG Factors for Major Structured Finance Asset Classes

<table>
<tr><th>ENVIRONMENTAL</th><th>CMBS</th><th>RMBS</th><th>Resi Covered Bonds</th><th>ABS Secured</th><th>ABS Unsecured</th></tr>
<tr><td>GHG Emissions & Air Quality</td><td>Regulatory risks, fines, or compliance costs from building emissions standards (including energy consumption) and related reporting standards</td><td colspan="2">n.a.</td><td>Regulatory risks, fines, or compliance costs related to emissions, energy consumption and/or related reporting standards</td><td>n.a.</td></tr>
<tr><td>Energy Management</td><td>n.a. - included in sustainable building practices</td><td colspan="2">n.a.</td><td>Assets' energy/fuel efficiency and impact on valuation</td><td>n.a.</td></tr>
<tr><td>Water & Wastewater Management</td><td>n.a. - included in sustainable building practices</td><td colspan="4">n.a.</td></tr>
<tr><td>Waste & Hazardous Materials Management; Ecological Impacts</td><td colspan="3">Environmental site risk and associated remediation/liability costs; sustainable building practices, including Green building certificate credentials</td><td colspan="2">n.a.</td></tr>
<tr><td>Exposure to Environmental Impacts</td><td colspan="5">Asset, operations and/or cash flow exposure to extreme weather events and other catastrophe risk, including but not limited to flooding, hurricanes, tornadoes, and earthquakes</td></tr>
<tr><th colspan="6">SOCIAL</th></tr>
<tr><td>Human Rights, Community Relations, Access & Affordability</td><td>Low income housing; GSE/agency issued or provision for social good</td><td>Accessibility to affordable housing</td><td>Accessibility to affordable housing; GSE/agency issued or provision for social good; services for underbanked and underserved communities</td><td>n.a.</td><td>Risk-based pricing/repricing, social programs, services geared to underbanked/underserved communities and impact on accessibility and affordability</td></tr>
<tr><td>Customer Welfare: Fair Messaging, Privacy & Data Security</td><td>n.a.</td><td colspan="2">Compliance risks including fair lending practices, mis-selling, repossession/foreclosure/recovery practices, borrower/consumer data protection (data security)</td><td colspan="2">Compliance with consumer protection related regulatory requirements, such as fair/transparent lending, data security, and safety standards</td></tr>
<tr><td>Labor Relations & Practices</td><td>Labor practices and employee (dis)satisfaction, especially for hotels and healthcare properties; tenant safety and wellbeing</td><td colspan="2">n.a</td><td>Labor practices and employee (dis)satisfaction, especially for hotels and healthcare properties; tenant safety and wellbeing</td><td>n.a</td></tr>
<tr><td>Employee Wellbeing</td><td colspan="5">n.a</td></tr>
<tr><td>Exposure to Social Impacts</td><td>Sustained structural shift in secular preferences affecting consumer trends, occupancy trends, etc.</td><td colspan="2">Macroeconomic factors and sustained structural shifts in secular preferences affecting consumer behavior and underlying mortgages and/or mortgage availability</td><td colspan="2">Macroeconomic factors and sustained structural shifts in secular preferences affecting consumer behavior</td></tr>
<tr><th colspan="6">GOVERNANCE</th></tr>
<tr><td>Rule of Law, Institutional & Regulatory Quality</td><td colspan="5">Jurisdictional legal risks; regulatory effectiveness; supervisory oversight; foreclosure laws; government support and intervention</td></tr>
<tr><td>Transaction & Collateral Structure</td><td colspan="5">Asset isolation; resolution/insolvency remoteness; legal structure; structural risk mitigants; complex structures</td></tr>
<tr><td>Transaction Properties & Operational Risk</td><td colspan="5">Counterparty risk; origination, underwriting and/or aggregator standards; borrower/lessee/sponsor risk; originator/servicer/manager/operational risk</td></tr>
<tr><td>Data Transparency & Privacy</td><td colspan="5">Transaction data and periodic reporting</td></tr>
</table>

n.a.: not material to credit ratings in the sector

Example of Structured Finance ESG Relevance Scores Navigator

FitchRatings

Stratton Mortgage Funding 2020-1 plc

SF ESG Navigator
RMBS

Credit-Relevant ESG Derivation

Stratton Mortgage Funding 2020-1 plc has 3 ESG rating drivers and 4 ESG potential rating drivers

- Stratton Mortgage Funding 2020-1 plc has exposure to accessibility to affordable housing which, in combination with other factors, impacts the rating.
- Stratton Mortgage Funding 2020-1 plc has exposure to compliance risks including fair lending practices, mis-selling, repossession/foreclosure practices, consumer data protection (data security) which, in combination with other factors, impacts the rating.
- Stratton Mortgage Funding 2020-1 plc has exposure to transaction data and periodic reporting which, in combination with other factors, impacts the rating.
- Stratton Mortgage Funding 2020-1 plc has exposure to macroeconomic factors and sustained structural shifts in secular preferences affecting consumer behavior and underlying mortgages and/or mortgage availability but this has very low impact on the rating.
- Stratton Mortgage Funding 2020-1 plc has exposure to jurisdictional legal risks; regulatory effectiveness; supervisory oversight; foreclosure laws; government support and intervention but this has very low impact on the rating.
- Stratton Mortgage Funding 2020-1 plc has exposure to asset isolation; resolution/insolvency remoteness; legal structure; structural risk mitigants; complex structures but this has very low impact on the rating.

Showing top 6 issues

			Overall ESG Scale
key driver	0	issues	5
driver	3	issues	4
potential driver	4	issues	3
not a rating driver	2	issues	2
	5	issues	1

Environmental (E)

General Issues	E Score	Sector-Specific Issues	Reference	E Scale
GHG Emissions & Air Quality	1	n.a.	n.a.	5
Energy Management	1	n.a.	n.a.	4
Water & Wastewater Management	1	n.a.	n.a.	3
Waste & Hazardous Materials Management; Ecological Impacts	2	Environmental site risk and associated remediation/liability costs; sustainable building practices including Green building certificate credentials	Asset Quality; Financial Structure; Surveillance	2
Exposure to Environmental Impacts	2	Asset, operations and/or cash flow exposure to extreme weather events and other catastrophe risk, including but not limited to flooding, hurricanes, tornadoes, and earthquakes	Asset Quality; Financial Structure; Surveillance	1

Social (S)

General Issues	S Score	Sector-Specific Issues	Reference	S Scale
Human Rights, Community Relations, Access & Affordability	4	Accessibility to affordable housing	Asset Quality; Financial Structure; Surveillance	5
Customer Welfare - Fair Messaging, Privacy & Data Security	4	Compliance risks including fair lending practices, mis-selling, repossession/foreclosure practices, consumer data protection (data security)	Asset Quality; Operational Risk; Surveillance	4
Labor Relations & Practices	1	n.a.	n.a.	3
Employee Wellbeing	1	n.a.	n.a.	2
Exposure to Social Impacts	3	Macroeconomic factors and sustained structural shifts in secular preferences affecting consumer behavior and underlying mortgages and/or mortgage availability	Asset Quality; Financial Structure; Surveillance	1

Governance (G)

How to Read This Page
ESG scores range from 1 to 5 based on a 15-level color gradation. Red (5) is most relevant and green (1) is least relevant.

The Environmental (E), Social (S) and Governance (G) tables break out the individual components of the scale. The right-hand box shows the aggregate E, S, or G score. General Issues are relevant across all markets with Sector-Specific Issues unique to a particular asset class. Scores are assigned to each sector-specific issue. These scores signify the credit-relevance of the sector-specific issues to the transaction's or program's overall credit rating. The Reference box highlights the factor(s) within which the corresponding ESG issues are captured in Fitch's credit analysis.

The Credit-Relevant ESG Derivation table shows the overall ESG score. This score signifies the credit relevance of combined E, S and G issues to the transaction's or program's credit rating. The three columns to the left of the overall ESG score summarize the transaction's or program's sub-component ESG scores. The box on the far left identifies some of the main ESG issues that are drivers or potential drivers of the transaction's or program's credit rating (corresponding with scores of 3, 4 or 5) and provides a brief explanation for the score.

Classification of ESG issues has been developed from Fitch's sector ratings criteria. The General Issues and Sector-Specific Issues draw on the classification standards published by the Sustainability Accounting Standards Board (SASB).

CREDIT-RELEVANT ESG SCALE - DEFINITIONS

All transaction presale reports contain an ESG relevance score navigator (see above) outlining any ESG risks that influence the ratings. ESG considerations are also outlined in the press release that accompanies the presale.

ESG Relevance Scores in Structured Finance Ratings: Key Facts and Findings

The initial analysis of Fitch's SF and CVB portfolio conducted in October 2019 generated over 67,000 individual 'E', 'S' and 'G' scores for publicly-rated SF transactions and CVB programs. Results at the time showed that 18% of Fitch's SF and 19% of its CVB ratings are influenced by 'E', 'S' or 'G' factors (one or more scores of '4' or '5'), with just under 2% of SF ratings having a single 'E', 'S' or 'G' sub-factor that by itself led to a change in the rating (score of '5'). This number is significantly higher in CVBs, standing at 18% for the current ratings.

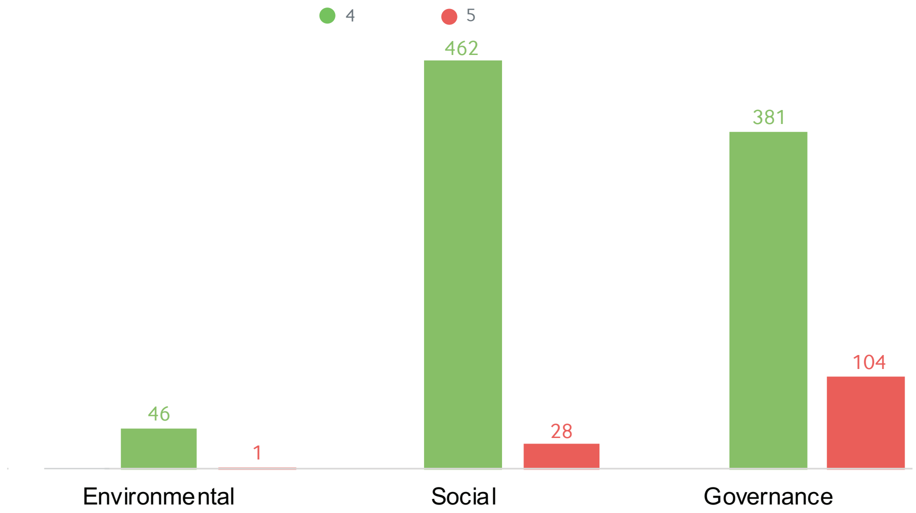
Significant variances by asset class and by region reflect different collateral types and sector-specific rating criteria. Of the 18% of transactions that received elevated scores, 16% were negative impact scores and 2% received positive ESG relevance scores (a much higher percentage than other asset classes).

Interestingly, SF and CVBs continue to have the most varied mix of both positive and negative elevated scores among the sectors rated by Fitch. The case studies hereafter provide some illustrations of how the scoring works.

Social Continues Prominence: The credit impact of Social factors can be difficult to isolate; however, given the predominantly consumer-based assets involved, the impact across SF is significant, accounting for just over 50% of all elevated Relevance Scores. Within ABS, elevated scores continue to be the result of pending litigation related to U.S. student loan transactions whilst in RMBS the positive impact came from transactions involving government-backed collateral. Previously in CMBS, the effect of structural shifts in consumer preferences impacting retail properties led to the assigning of elevated scores. However, Fitch has since revised this view as the structural shift is more aligned with consumer convenience, which would not be considered an ESG factor.

Given the predominantly consumer-based assets involved, Social factors have a significant credit impact across structured finance.

ESG Elements for all SF & CVB Driving Issuer Credit Impact



Source: Fitch Ratings, sas at 31 March 2021

Governance Relevance as Expected: Given the importance of Governance overall, each of the four Governance General Issue sub-factors are deemed at least minimally relevant to each SF transaction and CVB program and assigned a baseline score of '3'. While most Governance scores are assigned at this baseline, approximately 9% of SF transactions and 18% of CVB programs receive at least one elevated Governance score.

Approximately 9% of SF transactions and 18% of CVB programs receive at least one elevated Governance score.

Distinct Regions, Asset Classes, Factors and Drivers: ESG factors are most impactful in EMEA SF, where 32% of scored EMEA transactions receive at least one elevated score, followed by LatAm with 23% of transactions and North America with 16%. APAC transactions are least impacted by ESG factors, with only 5% elevated. Among the transactions with elevated scores within EMEA, '4' is the most commonly assigned score, RMBS the most common sector, and Social the most common factor. The most impactful factors within this subset relate to affordability and material concentration of interest-only loans, both of which have a negative credit impact, and government-backed collateral, which has a positive credit impact.

Environmental factors are set to gain more importance in Fitch's SF and CVB asset assumptions and ratings, but this will only become apparent in the longer term once a more homogeneous set of historical data becomes available. Currently, environmental factors have had low relevance for SF and CVB ratings. Within US RMBS and CMBS portfolios, catastrophe risk and LEED (Leadership in Energy & Environmental Design) Certification, respectively, are already considered.

ABS transactions are least impacted by ESG factors, given the relatively short tenures of ABS transactions, including those for auto, equipment, and credit cards.

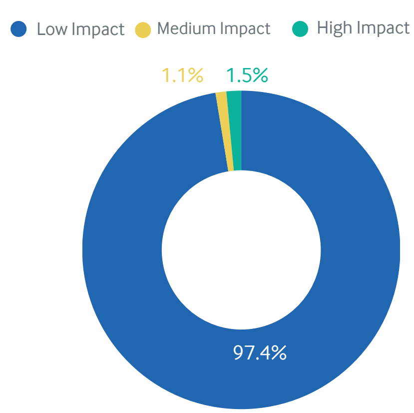
What Are the Main Takeaways for Each Asset Class?

ABS

Fitch's analysis showed that the scored ABS portfolio, comprising 14 sub-sectors, was least impacted by ESG factors, with only 2.7% of transactions at 31 March, 2021 assigned an elevated score. This is largely attributable to the relatively short tenures of ABS transactions, including those for auto, equipment, and credit cards, coupled with a benign economic environment.

Fitch more frequently observed higher scores in seasoned SF transactions, including ABS, where the bulk of elevated scores were the result of Consumer Financial Protection Bureau (CFPB) litigation related to U.S. student loans. The remaining elevated scores were generally driven by regulatory risk-related factors identified in EMEA and LatAm rated transactions.

ESG Relevance to Transaction/Program Portfolio ABS



Source: Fitch Ratings. as at 31 March 2021

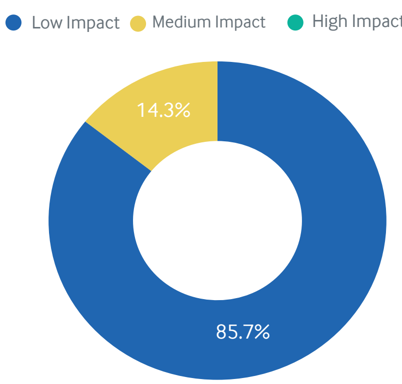
Covered Bonds

Of 105 CVB (including MICH transactions) programs rated by Fitch at 31 March, 2021, 18% received at least one elevated score, driven primarily by Governance factors observed in southern European programs. Spanish and some Portuguese programs rated by Fitch lack liquidity protection mechanisms, limiting the maximum achievable uplift Fitch can assign above the bank's Issuer Default Rating by three to six notches.

This had a direct impact on the rating despite available overcollateralization and resulted in the programs being assigned a Relevance Score of '5' for Transaction & Collateral Structure within the Governance category. These scores are likely to lower once the EU Covered Bond Directive is enacted and transposed into national law as it includes mandatory 180-day liquidity coverage. Elevated scores also related to programs that Fitch rates on a limited uplift approach due to a lack of internal or external data. Positive elevated scores were assigned to residential mortgage programs whose assets have a track record of lower loss rates.

Of 105 Covered Bonds (including MICH transactions) programs rated by Fitch, 19% receive at least one elevated score, driven primarily by Governance factors observed in southern European programs.

ESG Relevance to Transaction/Program Portfolio CVB

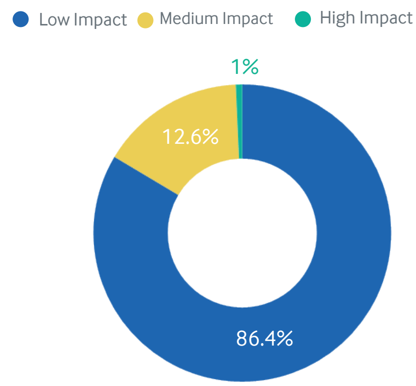


Source: Fitch Ratings, as at 31 March 2021

CMBS

A shift to online shopping initially led us to assign ESG.RS of '4' or '5' to 75 CMBS transactions with secondary shopping mall exposure. However, we are revisiting the approach as we believe the shift to be driven more by consumer convenience than an underlying intention to 'do good / do no harm'. With this adjustment, elevated scores within CMBS will likely drop to 5% of total transactions from approximately 14%.

ESG Relevance to Transaction/Program Portfolio CMBS



Source: Fitch Ratings, as at 31 March 2021

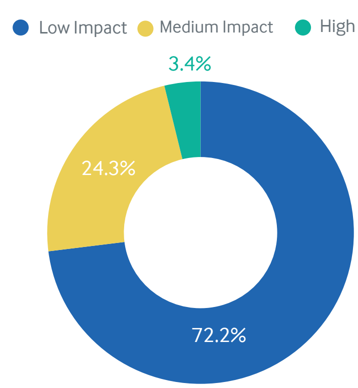
RMBS

27% of RMBS transactions scored globally have an elevated score assigned to at least one factor.

27% of RMBS transactions scored globally have an elevated score assigned to at least one factor. Elevated scoring was driven by a diverse set of factors across the broad ESG categories but was observed to be most heavily influenced both negatively and positively by social factors and secondarily by governance factors.

The impact was most closely tied to ESG risks identified in legacy transactions in the U.S. and EMEA, most of which closed between 2003 and 2007. APAC had few elevated scores and fewer legacy considerations, with the majority of APAC's elevated scores occurring in RMBS transactions.

ESG Relevance to Transaction/Program Portfolio RMBS



Source: Fitch Ratings, as at 31 March 2021

Case Studies in Structured Finance and Covered Bonds

SF and CVBs have a varied mix of both positive and negative elevated scores. The case studies below provide illustrations of how the scoring works.

RMBS: Catastrophe Risk

When assigning ratings to U.S. RMBS transactions and as captured in criteria, Fitch incorporates adjustments to its loan loss expectations to reflect catastrophe risk.

Fitch licensed AIR Worldwide Corporation's CATRADER natural catastrophe model to estimate residential property damage under 10,000 different disaster scenarios for each county in the U.S. Fitch uses CATRADER output to estimate the probability of different levels of property loss due to natural disasters. Fitch uses the estimated property losses to reduce each loan's current property value when projecting credit losses. While most U.S. RMBS transactions do not have high catastrophe risk and are scored at a baseline of '3' for Exposure to Environmental Impacts, transactions receiving property value haircuts between 1.5-2.0% are scored a '4' and those above 2.0% are scored a '5'.

In the case of SoFi Mortgage Trust 2016-1, the pool is heavily concentrated in California (77.5%), with 44.3% in the San Francisco Bay area. The application of Fitch's U.S. RMBS catastrophe risk analysis resulted in a catastrophe risk loss adjustment of approximately 1.9% for this transaction. Fitch therefore assigned a transaction-level ESG score of '4' for Exposure to Environmental Impacts.

RMBS and CVB: NHG Mortgages (Netherlands)

Green Storm 2016 B.V. is a true sale securitization of prime Dutch residential mortgage loans originated and sold by Obvion N.V., wholly owned by Cooperatieve Rabobank U.A. Fifty percent of the mortgages in the pool consist of NHG (Nationale Hypotheek Garantie) mortgages and the eligibility criteria of the transaction includes provisions so that the assets meet the criteria to fulfil requirements of the Green Bond Principles. Assets relate to the top 15% of the Dutch residential mortgage market in terms of energy efficiency, or that have shown at least a 30% improvement in energy efficiency.

A high percentage of the securitized assets has the benefit of an NHG guarantee (a public mortgage loan insurance scheme in the Netherlands), which has a positive impact on the pool's credit profile. A high positive ESG.RS score of '+4' was assigned due to accessibility to housing and affordability given a high proportion of NHG loans which, in combination with other factors, has affected the rating.

The portfolio's credit characteristics are comparable to previous STORM transactions rated by Fitch. In our credit analysis, we do not differentiate between energy and non-energy efficient borrowers as no available historical data provides evidence of better performance for these loans. As such, the environmentally-friendly mortgage pool did not warrant a high Environmental ESG score.

ABS: U.S. Student Loans

National Collegiate Student Loan Trust 2003-1 has been assigned an ESG.RS of '5' for "Customer Welfare - Fair Messaging, Privacy & Data Security" due to an action filed by the Consumer Financial Protection Bureau (CFPB) against the National Collegiate Student Loan Trust (NCSLT).

This transaction is one of 12 from the trust that all scored a '5' for the same factor. In September 2017, the CFPB filed an action against the NCSLTs for illegal student loan debt collection. If the proposed judgment settling all matters is confirmed, it may result in the NCSLTs making an aggregate payment of at least USD19.1 million within 10 days of the effective date of the judgment. Should this result in a lump sum one-time cost being charged to the trust as a senior cost, it may impair the ability of some of the trusts, depending on the number of trusts affected, to pay senior interest in a timely fashion, resulting in an event of default for the notes.

Case Studies (cont.)

As a result, the rating has been capped at 'BBBsf' for the transactions. As this constraint is a key driver of the rating, it warrants an ESG relevance score of '5'.

In September 2017, CFPB took action against NCSLT and their debt collector, Transworld Systems, Inc., for illegal student loan debt collection lawsuits. According to the CFPB, consumers were sued for private student loan debt that the companies couldn't prove was owed or was too old to sue over. These lawsuits relied on the filing of false or misleading legal documents. As a consequence of the CFPB's proposed judgement on the case, Fitch capped the ratings on these transactions at 'BBBsf' and placed all transaction notes with ratings of 'Bsf' or above on Rating Watch Negative.

U.S. Single Borrower CMBS: LEED Certificate Buildings

Hudson Yards 2019-30HY Mortgage Trust, Commercial Mortgage Pass-Through Certificates have an ESG Relevance Score of '+4' for Waste & Hazardous Materials Management; Ecological Impacts. The transaction is secured by 30 Hudson Yards, a Class A property that was constructed in 2019. The property, located in the Hudson Yards area of Manhattan, NY, was designed to achieve a LEED Core & Shell Gold certification, which has a positive impact on the credit profile and is relevant to the ratings in conjunction with other factors.

The LEED certificate demonstrates that the building was designed and built using strategies aimed at achieving energy savings, water efficiency, CO2 emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impact. These factors have a positive effect on the property quality and are attractive to tenants and buyers.

Fitch's CMBS Large Loan Rating Criteria takes property quality into account in lower operating cost and deferred maintenance assumptions as well as in the ability to capture relatively higher rents. Additionally, the criteria foresee downward adjustments to the DSCR hurdles and upward adjustments to the LTV hurdles through stronger recoveries in down markets due to the flight-to-quality associated with high-quality assets. These adjustments may be made at each rating category or to the 'AAAsf' rating only.

Spotlight: Data and Disclosure are Key for Green Mortgage Analysis

A standardized definition of environmentally sustainable buildings could be a preliminary step towards assessing the relative credit performance of green mortgages, which could ultimately be incorporated into RMBS and CVB analysis. However, establishing the necessary data sets would take time and require greater disclosure by originators.

Fitch does not differentiate between mortgages secured on energy efficient and non-energy efficient homes when rating covered bonds and RMBS. This is due to the lack of historical and loan-by-loan data evidencing differences in performance. If environmental considerations were shown to improve collateral and borrower quality, they could flow through to lower credit enhancement or overcollateralization levels for particular ratings.

Depending on the design of standardized green mortgages and the information available on loan portfolio composition, aggregate vintage data on green and non-green mortgages may be sufficient to assess the relative performance of loans originated by specific lenders. However, detailed loan-by-loan EPC disclosure, combined with borrower payment behavior, would be needed to draw robust conclusions on the broader green mortgage sector.

Evaluating ESG Risks in Public Finance

Related Research

ESG. RS Compendium:
US Public Finance
International Public Finance

ESG Sector Heat Maps:
Public Finance & Infrastructure

Templates Compendium:
ESG Sector Template Compendium

Governance is the most influential ESG risk factor across the overall public finance ratings portfolio.

Given the nature of public finance entities, Environmental, Social and Governance risks generally have a lower level of direct impact on credit than other asset classes analyzed by Fitch.

Fitch assesses 14 ESG factors for public finance entities that are not tax-supported such as U.S. revenue-supported and not-for-profit entities and government-related entities outside of the U.S. These are the same factors assessed for Corporates and Financial Institutions. Fitch globally assesses a modified set of 15 ESG factors for tax-supported entities such as regional and local governments, including U.S. states. These reflect fundamental differences in the types of ESG factors that affect the credit profile of tax-supported entities, such as Human Rights and Political Freedoms, Public Safety and Security, and Creditor Rights.

Governance is the most influential ESG risk factor across the overall public finance ratings portfolio. Some of the most visible credit rating actions over the past few years have focused on Governance issues, including those on Argentine local and regional governments, the State of Illinois, the Virgin Islands Water and Power Authority and several local and regional governments in Ukraine.

Social and Environmental risks are of similar importance in terms of credit impact for public finance issuers. Planning to anticipate or resolve Social and Environmental impacts is usually within the control of public finance entities' management, provided the financial wherewithal exists to support this effort. Consequently, most credits have been able to manage these risks effectively, although recent rating actions on several Texas public power issuers highlight the credit impact of unanticipated severe weather events.

The most impactful elements within Social and Environmental categories are:

- Biodiversity and natural resource management and demographics for tax-supported entities;
- Exposure to environmental impacts and labor relations and practices for revenue-supported U.S. public finance issuers.

Sector-Specific ESG Factors for Major U.S. Public Finance Sectors (Non-Tax Supported)

ENVIRONMENTAL	Health Care	Public Power	Higher Education
GHG Emissions & Air Quality	Emissions from operations		
Energy Management	Energy use in operations	Fuel used to generate energy and serve load	Energy management and use in operations
Water & Wastewater Management	Water use in operations	Water used by hydro plants or other generating plants; effluent management	Water use, consumption; availability of resources
Waste & Hazardous Materials Management; Ecological Impacts	Management of medical waste	Impact of waste from operations	Land planning and development; project development and construction
Exposure to Environmental Impacts	Business disruption from climate change; environmental impacts changing human health requirements	Plants' and networks' exposure to extreme weather events	Exposure to extreme weather events that disrupt operations (e.g. damage to physical assets)
SOCIAL			
Human Rights, Community Relations, Access & Affordability	Low-income patient access	Product affordability and access	Relationships with local communities; access and affordability
Customer Welfare - Fair Messaging, Privacy & Data Security	Data privacy; care quality and safety outcomes; controlled substance management; pricing transparency	Quality and safety of products and services; data security	Data security and privacy; fair marketing of cost and educational outcomes
Labor Relations & Practices	Impact of labor negotiations and employee (dis)satisfaction; recruitment and retention of skilled healthcare workers	Impact of labor negotiations and employee (dis)satisfaction	Impact of labor negotiations and employee (dis)satisfaction; employee recruitment and retention; workforce diversity
Employee Well-being	Worker safety and accident prevention	Worker safety and accident prevention	Worker safety and accident prevention
Exposure to Social Impacts	Social pressure to contain healthcare spending growth; sensitive political environment with impactful legislative changes	Social resistance to major projects that leads to delays and cost increases	Social- or consumer-driven changes impacting demand and/or public support
GOVERNANCE			
Management Strategy	Strategy development and implementation		Management's effectiveness in executing strategy and mission components; ability to manage through a cycle
Governance Structure	Board independence and effectiveness; ownership concentration	Governing body independence and effectiveness; degree of political or external influence	Board independence and effectiveness in fiduciary and strategic efforts; ownership concentration; span of control
Group Structure	Complexity, transparency and related-party transactions		
Financial Transparency	Quality and timing of financial disclosure		Quality, timeliness, frequency, reliability level of detail, and scope of financial disclosure

Sector-Specific ESG Factors for Local and Regional Governments and U.S. States (Tax Supported)

ENVIRONMENTAL

GHG Emissions & Air Quality	Emissions and air pollution as constraints on economy and revenue growth; enforcement/compliance with governmental/regulatory standards
Energy Management	Impact of energy resources management on economy and governmental operations, including enforcement/compliance with governmental/regulatory standards
Water Resources & Management	Water resource availability impacts on economy and governmental operations, including enforcement of governmental/regulatory standards
Biodiversity and Natural Resource Management	Impact of natural resources management on economy and governmental operations
Natural Disasters & Climate Change	Impact of extreme weather events and climate change on economy, governmental operations and policy related to natural disasters treatment

SOCIAL

Human Rights and Political Freedoms	Policy framework on social stability and human rights protection
Human Development, Health and Education	Impact of health and education on economic resources and governmental operations
Labor Relations & Practices	Impact of labor negotiations and employee (dis)satisfaction
Public Safety and Security	Impact of public safety and security (including cyber security) on business environment and/or economic performance
Population Demographics	Impact on economic strength and stability (labor force supply, household income, population and aging, etc.)

GOVERNANCE

Political Stability and Rights	Impact of political pressure or instability on operations; tendency toward unpredictable policy shifts
Rule of Law, Institutional & Regulatory Quality, Control of Corruption	Government effectiveness; control of corruption; regulatory quality; management practices and their effectiveness; respect for property rights
International Relations and Trade	Trade agreements and impact on economy and revenue growth
Creditor Rights	Willingness to service and repay debt; exposure to outstanding or pending litigation
Data Quality and Transparency	Limitations on the quality and timeliness of financial data, including transparency of public debt and contingent liabilities

ESG Relevance Scores In Public Finance Ratings: Key Facts And Findings

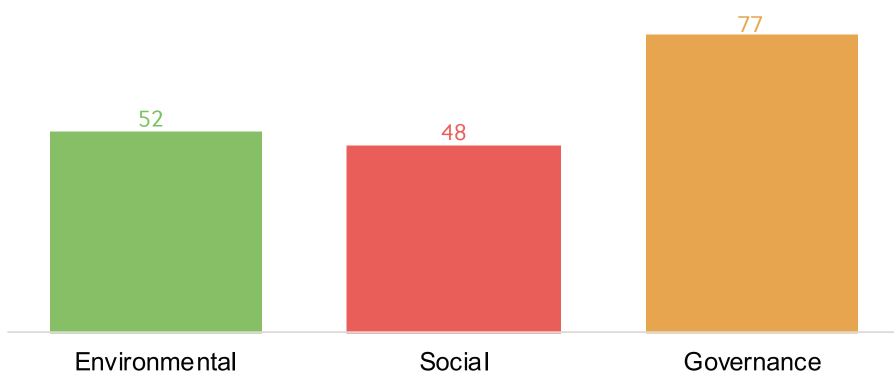
As of 31 March, 2021, Fitch's ESG Relevance Scoring for almost 2,000 USPF issuers shows that 7% of ratings featured at least one elevated ESG Relevance Score ('4' or '5'). The percentage of USPF issuers with an elevated ESG Relevance Score ranges from 3% for local governments to 14% for states.

Environmental factors have had a relatively low influence in USPF ratings, mainly due to the U.S. federal government's financial support to areas affected by hurricanes, floods, wildfires and other high-cost weather events. However, greater relevance was observed in 1Q21 due to the impact of severe weather in Texas on public power utilities' ratings and with the introduction of ESG Relevance Scores for the U.S. Community Development and Social Lending sector that noted the rating impact of environmental issues in certain Community Development and Social Lending projects.

For state and local governments, elevated ESG scores were largely concentrated within the Social and Governance risk elements and mostly related to below-standard features that work asymmetrically and negatively affect ratings.

Elevated ESG Relevance Scores in the revenue sectors were also most significant in Governance risk elements, but were followed closely by almost equal observations of Environmental and Social impacts. Ratings exhibited sensitivity to environmental impacts, customer welfare, shifts in consumer demand, political influence, affordability/access considerations, and cost drivers associated with regulatory requirements or consent orders. Social impact sensitivity included positive ESG Relevance scores for many of the 34 U.S. Community Development and Social Lending transactions for Customer Welfare - Fair Messaging, Privacy & Data Security and/or Human Rights, Community Relations, Access & Affordability.

USPF - ESG Elements Driving Issuer Credit Impact



Source: Fitch Ratings, as at 31 March 2021

The analysis of ESG Relevance Scores for the 407 public finance issuers outside of the U.S. shows that ESG risks have more influence on the Local and Regional Governments' (LRG) rating decisions, with 20% of LRGs having ESG Relevance Scores of '4' or '5'. These cases mostly relate to Governance and, in particular, political instability and rights, rule of law, and creditor rights. This is often a risk cited for emerging-market countries.

Environmental risk is also a key factor, relating primarily to biodiversity and natural resource management, which affects LRGs with tax bases concentrated in natural resource exploration. This could often lead to revenue concentration and volatility, which are important rating drivers and negatively influence the stability of revenue flow.

Fitch generally did not identify ESG issues that impact the current ratings for Government-Related Entities (GREs) outside the U.S. The majority of these ESG scores were assessed at '3', likely due to the government support of the GREs, which mitigates ESG issues.

Spotlight: Labor Relations and Employee Wellbeing in Public Finance

Labor Relations

Local governments, hospitals, colleges and universities are highly labor-intensive, so undue pressure derived from the relationship between management and the workforce can create overall financial stress that could affect ratings. This relationship is cooperative and flexible enough for most rated public finance entities that it does not affect the rating, resulting in a Relevance Score of '3'. However, Fitch identified labor relations and practices as strained enough to yield a Relevance Score of '4' in a limited number of cases within both U.S. and International Public Finance, indicating that the entity's ability to adjust spending could become constrained enough to lead to a rating change.

In a handful of cases, labor pressure has been sufficiently severe to result in strikes or work stoppages. Many states prohibit public sector strikes for some or all classes of employees, so these are unusual. Labor contracts subject to binding arbitration can create a similar level of expenditure pressure on rated entities, since the ultimate control over labor settlements is out of the hands of management.

The bargaining framework and status of actual contractual agreements, however, are only inputs into Fitch's analysis of the impact of labor on ratings; they do not fully determine the assessment. Fitch believes the level of cooperation among the parties and their demonstrated commitment to sound financial operations are the most important indicators of a government's ability to make the adjustments necessary to maintain rating stability.

Employee Wellbeing

Healthcare staff have faced unprecedented pressures during the coronavirus pandemic, with job dissatisfaction and nursing shortages potentially leading to longer-term staffing and expense pressures at hospitals globally. Hospitals and healthcare systems' ability to maintain adequate staffing and provide for employee safety and wellbeing during the pandemic has become more critical than ever.

Cost-cutting, insufficient supply of personal protection equipment, greater work stress and demands, and environmental safety issues as a result of the pandemic have escalated these concerns. Employees in patient-facing roles are enduring difficult conditions, leading to burnout, labor strikes, demand for higher wages and loss of staff. Fitch believes these issues could negatively affect labor relations and present longer-term challenges in attracting, hiring and retaining healthcare staff.

Related Research

ESG. RS Compendium:
[Infrastructure]

ESG Sector Heat Maps:
[Public Finance & Infrastructure]

Templates Compendium:
[ESG Sector Template Compendium]

Some of the most visible credit rating actions over the past couple of years for infrastructure issuers have focused on governance.

Evaluating ESG Risks in Project Finance

ESG Relevance Scores assigned for Project Finance ratings at a level of '4' or '5' occur most frequently in the Governance Risk category, with the most significant factor within this category being Management Strategy. This factor considers analysts' view on the operational implementation of the strategy based on the project sponsor's strength, experience and ability to manage risks.

Additional Governance Risks within a transaction, which are also common to corporate sectors, include: governance structure; group structure; and financial transparency. The most visible recent credit rating actions that focused on governance included actions on coal export terminals, Grupo Aeroportuario de la Ciudad de Mexico and the Miami-Dade County Expressway Authority.

The Social Risk category contains the second highest count of '4' or '5' ESG Relevance Scores, with labor relations and practices and exposure to social impacts demonstrating equal amounts of impact to project finance ratings. The transportation sector is the most prevalent sector where labor relations are identified as having the most impact on credit ratings. The other categories of social impact are: human rights, community relations, access and affordability; customer welfare - fair messaging, privacy and data security; and employee wellbeing.

The Environmental Risk category has the lowest impact on credit ratings in the project finance portfolio. Environmental factors assessed by the analytical team for project finance transactions fall under the following five broad categories: GHG emissions and air quality; energy management; water and wastewater management; waste and hazardous materials management, ecological impacts; and exposure to environmental impacts. Environmental risk exposure is more prevalent for projects that are scored under the energy criteria and is the main driver for high Environmental scores overall within the Project Finance portfolio.

In certain subsectors, several Environmental factors are irrelevant to the credit rating. For example, under the project finance power transmission criteria, categories that are currently irrelevant include GHG Emissions & Air Quality, Water and Wastewater Management, Waste and Hazardous Materials Management, and Ecological Impacts.

Sector Specific ESG Factors for Major Project Finance Sectors

ENVIRONMENTAL	Gas Pipelines & Midstream	Power Transmission	Thermal Power	Hydro	Solar Wind	Transportation
GHG Emissions & Air Quality	Emissions from operations	n.a.	Emissions from operations		n.a.	Emissions of assets or users
Energy Management	Energy use in operations		Fuel used to generate and serve load	n.a.		Energy consumption by assets or users
Water & Wastewater Management	n.a.		Water use in operations; effluent management	Water used to generate electricity	Water use in operations	
Waste & Hazardous Materials Management; Ecological Impacts	Operations proximity to environmentally sensitive areas; ecological impact of operating incidents and spills.	n.a.	Waste disposal; ash management; pollution incidents	Ecological impacts on wildlife, agriculture and people from hydro power construction, operations, and water resource management	Management of ecological impacts, including hazardous waste	Waste disposal; pollution incidents
Exposure to Environmental Impacts	Exposure to extreme weather events, resulting in loss of revenues, increased costs, and project construction delays					
SOCIAL						
Human Rights, Community Relations, Access & Affordability	Pipelines traversing indigenous lands or other politically sensitive regions	Transmission lines traversing indigenous lands or other politically sensitive regions	Product affordability and access; operating proximity to areas of conflict or indigenous lands	Product affordability and access; operating proximity to areas of conflict or indigenous lands		Product affordability and access
Customer Welfare - Fair Messaging, Privacy & Data Security	n.a.					User safety; data security
Labor Relations & Practices	Impact of labor negotiations and employee (dis)satisfaction; quality of contractors					
Employee Well-being	Worker safety and accident prevention					
Exposure to Social Impacts	Social resistance to major projects or operations that leads to delays and cost increases and/or unfavorable regulatory regimes					
GOVERNANCE						
Management Strategy	Operational implementation of strategy informed by sponsor strength/experience and ability to effectively manage risks; involvement of local parties					
Governance Structure	Board independence and effectiveness; ownership concentration; ring-fencing					
Group Structure	Complexity, transparency and related-party transactions					
Financial Transparency	Quality and timeliness of financial disclosure; reliability, level of detail and scope of information (informed by data sources, use of expert reports)					

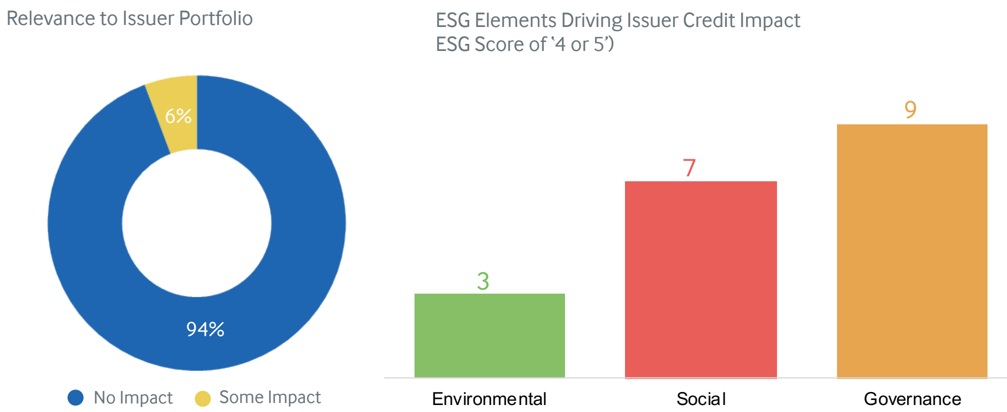
n.a.: not material to credit ratings in the sector

ESG Relevance Scores in Project Finance Ratings: Key Facts and Findings

ESG factors impact 6% of project finance ratings, mostly in transport.

ESG factors impact 6% of project finance ratings. There are 19 issuers with scores of '4' or '5' in a portfolio of 335 issuers rated publicly on the international scale. Social and Governance issues represent the majority of these scores of '4' or '5', particularly in the transportation sector.

ESG Relevance in Fitch's Project Finance Portfolio



Source: Fitch Ratings, as at 31 March 2021

Case Study in Infrastructure: Australian Coal Terminals

Fitch rates the debt of three coal export terminals in Australia: Newcastle Coal Infrastructure Group Pty Limited (NCIG; 'BBB-'/Stable, affirmed on 18 September 2020); Dalrymple Bay Finance Pty Limited (DBF; 'BBB-'/Stable, affirmed on 24 March, 2021); and North Queensland Export Terminal Pty Ldt., formerly known as Adani Abbot Point Terminal (AAPT; 'BB+/Stable, affirmed on 22 September 2020 following a downgrade from 'BBB-' on 31 March 2020). Fitch assigns scores of '4' to NCIG and DBF for Governance – Management Strategy, indicating that the factor is "Relevant to the rating; not a key rating driver but has an impact on the rating in combination with other factors" while AAPT's prior '4' score for Management Strategy was moved to '5', indicating that management strategy concerns had escalated to being "Highly relevant to the rating; a key rating driver."

Each of the Fitch-rated terminals has the need, to varying degrees, to refinance their debt issues as they mature. Over the past several years, many financial institutions have announced policies to reduce or eliminate investment in certain aspects of the coal sector. The restrictions vary, with some applying to only thermal coal, coal mines, and/or coal-fired power plants. Some restrictions are broader, covering all coal sectors (such as metallurgical coal used for making steel), with a few also including coal transportation infrastructure such as rail and ports. These policies have the potential to increase the refinancing risk for the coal terminals by limiting their sources of finance. This imposes a requirement on the terminal owners and management to have strategies in place to mitigate that risk.

There are some differences among the three Fitch-rated terminals. NCIG's throughput is predominantly thermal coal, which Fitch views as having somewhat higher risk, while DBF and AAPT ship mostly metallurgical coal. However, NCIG has a number of partially amortizing debt issues, meaning that their refinancing task is reducing over time, while DBF and AAPT have all bullet debt maturities with no amortization. Fitch monitors ongoing refinancing requirements for each issuer, focusing in particular on managements' strategy for upcoming maturities and any potential reduction in their lender bases.

Evaluating ESG Risks in Sovereign Ratings

Consistent with its rating criteria, Fitch assesses the relevance of ESG factors to sovereign creditworthiness in a two-step process:

- First, Fitch looks at the intersection of ESG factors with its Sovereign Rating Model (SRM), which is the agency's proprietary multiple regression rating model. This model employs 18 quantitative variables, several of which are based on three-year centered averages and accordingly include one year of forecasts, to produce a score equivalent to a Long-Term Foreign-Currency Issuer Default Rating.
- Second, Fitch assesses the relevance of any judgments made at the most recent rating review in its Qualitative Overlay (QO). This is Fitch's forward-looking qualitative framework designed to allow for adjustment to the SRM output to assign the final rating, reflecting factors within the rating criteria that are not fully quantifiable and/or not fully reflected in the SRM.

ESG is more relevant and material for the ratings of sovereigns than for all other Fitch asset classes. All sovereigns are assigned the highest overall ESG score of '5' on the Fitch-wide Credit Relevant ESG scale, driven by the Governance category. Governance has long been an integral part of Fitch's sovereign credit analysis, a fact underscored by the composite of the World Bank's Governance Indicators (WBGI) having the largest weight (20%) of any variable in Fitch's SRM. Accordingly, political risk and other Governance factors have been frequent drivers of sovereign rating actions since Fitch initiated coverage of sovereign ratings in the mid-1990s.

ESG Relevance Scores do not make value judgments on whether a sovereign engages in good or bad ESG practices. They do not assess a sovereign's "greenness," "social responsibility" or rank the quality of its standards of "governance". Instead, they draw out which 'E', 'S' and 'G' risk elements influence the credit rating decision.

Related Research

ESG. RS Compendium:
Sovereign

Templates Compendium:
ESG Sector Template Compendium

Governance has long been an integral part of Fitch's sovereign credit analysis, underscored by the composite of the World Bank's Governance Indicators (WBGI) having the largest weight (20%) of any variable in Fitch's Sovereign Rating Model.

Sovereign ESG Relevance Scoring

ENVIRONMENTAL

GHG Emissions & Air Quality	Emissions and air pollution as a constraint on GDP growth
Energy Management	Management of energy resource endowments affecting exports, government revenues and GDP
Water & Wastewater Management	Water resource availability and management as a constraint on GDP growth
Biodiversity and Natural Resource Management	Management of natural resource endowments affecting exports, government revenues and GDP
Exposure to Environmental Impacts	Likelihood of and resilience to shocks

SOCIAL

Human Rights and Political Freedoms	Social stability, voice and accountability, regime legitimacy
Human Development, Health and Education	Impact of human development, health and education on GDP per capita and GDP growth
Employment and Income Equality	Impact of unemployment and income equality on GDP per capita, GDP growth and political and social stability
Public Safety and Security	Impact of public safety and security on business environment and/or economic performance
Population Demographics	Population decline or aging; rapidly rising youth population; pensions sustainability

GOVERNANCE

Political Stability and Rights	Political divisions and vested interests; geo-political risks including conflict, security threats and violence; policy capacity: unpredictable policy shifts or stasis
Rule of Law, Institutional & Regulatory Quality, Control of Corruption	Government effectiveness, control of corruption, rule of law, regulatory quality
International Relations and Trade	Trade agreements, membership of international organizations, bilateral relations; sanctions or other costly international actions
Creditor Rights	Willingness to service and repay debt
Data Quality and Transparency	Availability, limitations and reliability of economic and financial data, including transparency of public debt and contingent liabilities

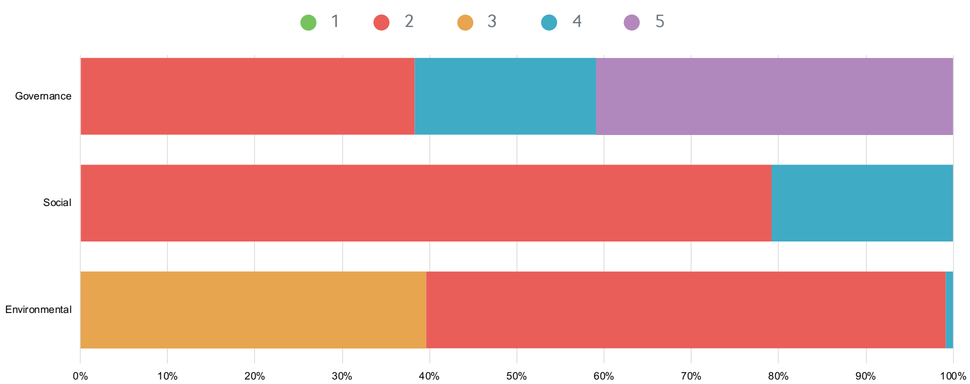
A challenge Fitch faced in creating a Sovereign ESG Relevance Score template was defining the breadth of the ESG elements and how to apply them in practice. Factors such as 'governance' are not precisely defined for sovereigns and are potentially elastic concepts for these entities.

Fitch decided to include all political risks within its definition of Governance as they are included in the WBGI. However, Fitch's analysts do not stretch their view of Governance to include the quality of design or coherent application of economic policies, as this can reflect legitimate policy choices as well as the economic pre-conditions that countries face.

ESG Relevance Scores in Sovereign Ratings: Key Facts and Findings

The analysis of Fitch's portfolio of 119 Fitch-rated sovereigns shows that 'E', 'S' or 'G' factors affect the ratings of every single sovereign. The highest score of '5' ("highly relevant to the rating, a key rating driver with a high weight") has been assigned to at least two ESG issues ("Political Stability and Rights" and "Rule of Law, Institutional and Regulatory Quality, Control of Corruption") across all sovereigns, for Governance factors, as indicated below.

All ESG Elements -Total Overall Scoring Distribution*



Source: Fitch Ratings, as at 31 March 2021

Governance is King but Social Factors are Also a Rating Driver

Governance is the most influential ESG category. Five sovereigns have a third score of '5' for "Creditor Rights," as willingness to service and repay debt is highly relevant to their ratings, as highlighted by recent default events. Other sovereigns score '4' for this governance factor. Ten sovereigns score '4' for "International Relation and Trade (with others scoring '3').

Social factors also have an important influence on sovereign ratings. Although no sovereigns currently have any social factors scored as a '5', all have one or more social factors scored as a '4'. This reflects the "Human Rights and Political Freedoms" General Issue, which maps out of the "Voice and Accountability" indicator, which is one of six components of the composite WBGI in Fitch's sovereign rating model.

Across the portfolio there are five other social element scores of '4': two for "Human Development, Health and Education" due the adverse impact on public finances as a result of managing the impact of the coronavirus crisis; two for "Demographic Trends" due to aging and falling populations hindering medium-term growth potential or the sustainability of public finances; and one for "Employment and Income Inequality".

Environmental Factors of Lesser Rating Relevance

In general, environmental factors are a lesser influence on current ratings, with only five sovereigns having one Environmental element scored as a '4' and none at '5', but all of them have at least three Environmental factors scored as '3'. All five scores of '4' relate to "Energy Management". Two other sovereigns have a score of '3' for Water Resources and Management.

Spotlight: Climate Change 'Stranded Assets' Are a Long-Term Risk for Some Sovereigns

International policy commitments to limit climate change by cutting greenhouse gas (GHG) emissions, a rapid decline in the cost of renewable energy and social change will lead to a marked decline in the demand for coal, oil and then gas over the coming decades. This will render some of these natural resource and production infrastructure as 'stranded assets' that will never be fully utilised. For the most-exposed sovereigns and those that do not adequately prepare for it, climate change stranded-asset risk is likely to lead to rating downgrades as the effects become clearer, closer and more material.

As demand for fossil fuels declines, major exporters will face a loss of GDP, government revenue and export receipts in the absence of offsetting trends, such as economic diversification. Over time, this will lead to higher government debt, lower assets and higher net external debt, other things being equal. Coal will face a more rapid and complete loss of market than oil and particularly gas. Excess potential global supply (i.e. stranded assets) will weigh on prices, potentially compounding the loss of revenue from lower volumes. High-cost producers will be squeezed out first. Sovereigns with strong balance sheets and potential to diversify their economies are better-placed for the energy transition. Political instability and rising financing costs could amplify challenges in some cases.

The Inevitable Policy Response (IPR) Forecast Policy Scenario (FPS) developed by the UN PRI and others envisions a drop in coal output to 15% of its current level by 2050, to 52% for oil, and to 88% for gas. This would be a material shock. If oil prices are unchanged in real terms, the shock to oil revenue would be slightly lower but similar to what occurred in 2013-2016 and again in 2018-2020. The much slower pace of the change would give sovereigns more capacity to adjust, but it would be permanent.

The 20 sovereigns with the highest ratio of net fossil fuel exports to GDP suffered a median net downgrade of 1.6 notches from 2015-2020. But two defaulted and a further three were downgraded by at least four notches. A simulation on Fitch Ratings' SRM suggests the fairly direct effects could lead to a fall in the SRM output by around one rating notch by 2040 and by two to three notches by 2050 for a major oil exporter.

Scenarios can be a useful tool to help understand what could happen, but ratings aim to focus on what will or is likely to happen. The more uncertain are future events, the more circumspect we will be in taking forward-looking rating actions. While ratings are forward-looking and can factor in secular shifts, they typically place more weight on current developments than uncertain long-term projections. We expect climate change stranded-asset risks to build up over time and trigger more rating changes as the effects emerge.

Climate Change 'Stranded Assets' Are a Long-Term Risk for Some Sovereigns (cont.)

Climate Change Stranded-Asset Risk Heatmap

	Net fossil fuel exports (% GDP) 2019	Fossil fuel rents (% GDP) 2018	O/w coal	O/w gas	Fossil fuel exports (% total exports of goods & services) 2019	O/w coal	O/w gas	Fossil fuel tax receipts (% govt rev) 2019[1]	Oil & gas reserves (% world total) 2019	Coal (% electricity generation) 2019	Diversification potential 2019[2]
Rep. of Congo	45	52	0	2	52	0	0	64	0.1	0	8
Kuwait	41	43	0	1	76	0	4	73	3.8	0	54
Angola	37	26	0	1	95	0	3	60	0.3	0	13
Azerbaijan	35	29	0	4	74	0	7	45	0.8	0	57
Qatar	33	21	0	5	66	0	41	77	5.9	0	62
Iraq	32	46	0	0	78	0	0	93	5.7	0	9
Oman	28	29	0	2	55	0	8	78	0.3	0	61
UAE	27	17	0	1	33	0	3	56	4.6	0	81
Gabon	25	21	0	0	58	0	0	39	0.1	0	17
Saudi Arabia	23	29	0	1	66	0	2	64	11.5	0	56
Kazakhstan	21	18	1	2	59	1	5	28	1.6	72	65
Mongolia	16	11	9	0	41	36	0	12	n.a.	92	54
Russia	15	14	1	4	53	4	9	39[a]	11.4	16	58
Norway	13	8	0	3	39	0	15	0[b]	0.6	0	97
Nigeria	12	10	0	1	85	0	11	41	2.4	0	24
Bahrain	9	4	0	2	19	0	1	72		0	63
Ghana	7	5	0	0	20	0	0	8	0.2	0	45
Colombia	5	5	1	0	41	11	0	8[a]	0.1	5	56
Bolivia	5	3	0	2	27	0	26	17		0	22
Ecuador	4	7	0	0	36	0	0	31[a]	0.1	0	34
Australia	2	2	1	1	15	13	0	1	0.6	56	93
Mozambique	-1	9	4	4	30	23	5	6	0.6	0	25

Footnote 1: General government (GG), including royalties and state-owned energy company dividends unless otherwise stated. (a)central government. (b) GG but hydrocarbon receipts are transferred straight to the SWF, which then provides a transfer to the government based on the return on its assets; if the GG and SWF budgets were consolidated fossil fuel receipts would be 20% of total revenues.

Footnote 2: Average of World Bank rankings for Governance and Doing Business

Source: Fitch Ratings UNCTAD, World Bank, BP and Ember (2020)

Related Research

ESG. RS Compendium:
Supranationals

Templates Compendium:
ESG Sector Template Compendium

Evaluating ESG Risks in Supranationals

Fitch assigned ESG Relevance Scores to 26 multilateral development banks (MDBs) in December 2020, which accounts for the bulk of supranational institutions. Fitch has applied scores only to entities that have been assigned an intrinsic rating. This excludes supranational administrative bodies, the ratings of which are driven by support from member states. The scores of the supranational financial guarantors are derived from the Insurance criteria.

Fitch assesses a set of 15 ESG factors for supranationals, 5 in each risk category ('E', 'S' and 'G'). The environmental and social factors assessed for supranationals are the same as those assessed for Corporates and Financial Institutions, Public Finance entities that are not tax-supported, and Structured Finance transactions. However, there are some differences to governance factors assessed, for example "Policy Status and Mandate Effectiveness," which is a unique governance issue for supranational issuers.

Governance is a material factor for all supranationals, with the rating of all MDBs influenced by at least one 'G' factor.

All supranational ratings are influenced by at least one ESG factor, but the incidence of ESG factors as a key rating driver on the rating of supranational institutions is low. Fitch Ratings notes only three instances of an individual ESG factor being a key rating driver for the rating (i.e. having a score of '5') and all three are related to governance issues.

Supranational ESG Relevance Scoring

ENVIRONMENTAL

GHG Emissions & Air Quality	n.a.
Energy Management	n.a.
Water & Wastewater Management	n.a.
Biodiversity and Natural Resource Management	n.a.
Exposure to Environmental Impacts	Impact of extreme weather events and climate change on assets and corresponding risk appetite and management

SOCIAL

Human Rights, Community Relations, Access & Affordability	Lending to borrowers with limited or no access to other external sources of finance; extension of concessional loans or grants; credit protection schemes
Customer Welfare, Product Safety, Privacy & Data Security	n.a.
Labour Relations & Practices	Restrictions on recruitment based on nationality and quotas
Employee Wellbeing	n.a.
Exposure to Social Impacts	Counter-cyclical mandate and development role; social pressure to provide support at times of crisis

GOVERNANCE

Management Strategy (Operational Execution)	Lack of predictability and/or risk around the execution of strategy
Governance Structure	Board independence and effectiveness, ownership composition, degree of political or external influence, control of one member-state over the management of the institution
Rule of Law, Institutional & Regulatory Quality	Supranationals are neither subject to bank regulation nor supervised by an external authority; all supranationals are given a score of '4'
Financial Transparency	Quality and frequency of financial reporting and auditing processes, detail and scope of information, medium-term financial forecast
Policy Status and Mandate Effectiveness	Inherent obligor risk concentration; effectiveness of preferred creditor status; access to liquidity support from central bank

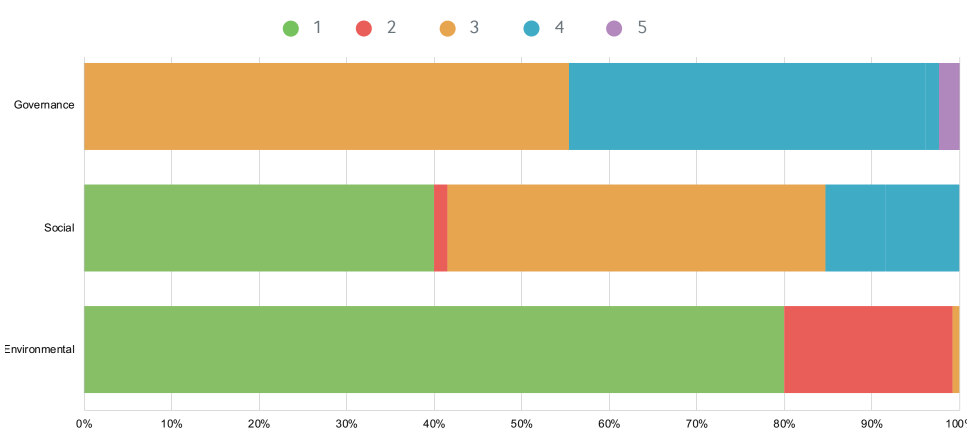
ESG Relevance Scores in Supranational Ratings: Key Facts and Findings

The scores show that all supranational issuers' ratings are influenced by at least one 'G' factor, as each MDB is assigned a score of '4' or more for 'Rule of Law, Institutional and Regulatory Quality.' There are only three instances where an ESG factor is a key rating driver (i.e. having a score of '5'); all are related to 'Governance' issues. Fifteen issuers have a score of '4' or more for at least one social factor, but there are no scores of '4' or more on environmental factors.

The main governance issues that influence MDBs are risks associated with the execution of strategy, such as:

- Difficulties predicting MDB strategy changes;
- An absence of independent, regulatory oversight related to the fact that MDBs are not subject to banking regulations;
- Governance structure, which reflects the influence of certain members on MDB boards;
- Operational constraints linked with MDBs' mandate.

Issuer Scoring By 'E', 'S' and 'G' Factors (% of issuers per score level)



Source: Fitch Ratings, as at 31 March 2021

Social factors are more relevant to supranational ratings than environmental factors; there are MDBs with scores of '4' or more for three of the five social risk categories, and 60% of individual social risk elements score '3' or more, indicating they are relevant to the rating. However, less than 20% score '4' or more, indicating that the majority of relevant social risks are not that material.

Elevated social scores typically reflect constraints related to the public missions of MDBs, such as providing funding to poor and sometimes insolvent countries – though this can enhance their public policy role and have a positive impact on the rating. Eleven issuers have a positive score of '4' on "Community Relations; Access and Affordability," reflecting the benefit they receive from external resources earmarked to provide concessional loans and/or to mitigate the risk of lending to very weak borrowers, as part of their public mission.

Environmental factors are generally not relevant to MDBs' ratings. The only environmental risk element that receives a score of '2' or more is 'Exposure to Environmental Impacts' (EIM). This reflects the exposure of some institutions to countries facing extreme weather conditions and climate change. Only one MDB has a score of '3' (minimal or low impact) in the 'E' category, for EIM.

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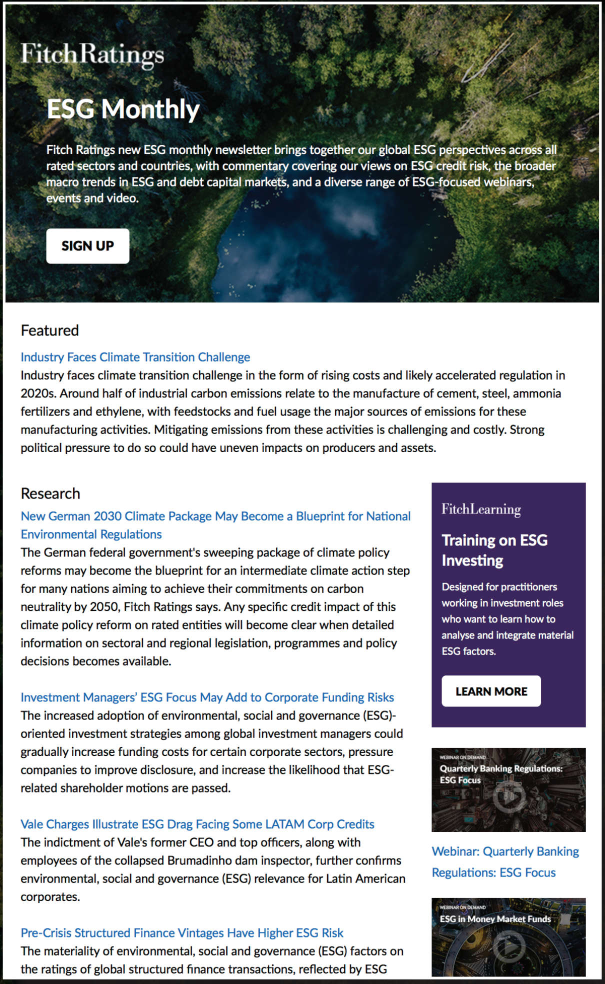

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Industry Faces Climate Transition Challenge
Industry faces climate transition challenge in the form of rising costs and likely accelerated regulation in 2020s. Around half of industrial carbon emissions relate to the manufacture of cement, steel, ammonia fertilizers and ethylene, with feedstocks and fuel usage the major sources of emissions for these manufacturing activities. Mitigating emissions from these activities is challenging and costly. Strong political pressure to do so could have uneven impacts on producers and assets.

Research

New German 2030 Climate Package May Become a Blueprint for National Environmental Regulations
The German federal government's sweeping package of climate policy reforms may become the blueprint for an intermediate climate action step for many nations aiming to achieve their commitments on carbon neutrality by 2050, Fitch Ratings says. Any specific credit impact of this climate policy reform on rated entities will become clear when detailed information on sectoral and regional legislation, programmes and policy decisions becomes available.

Investment Managers' ESG Focus May Add to Corporate Funding Risks
The increased adoption of environmental, social and governance (ESG)-oriented investment strategies among global investment managers could gradually increase funding costs for certain corporate sectors, pressure companies to improve disclosure, and increase the likelihood that ESG-related shareholder motions are passed.

Vale Charges Illustrate ESG Drag Facing Some LATAM Corp Credits
The indictment of Vale's former CEO and top officers, along with employees of the collapsed Brumadinho dam inspector, further confirms environmental, social and governance (ESG) relevance for Latin American corporates.

Pre-Crisis Structured Finance Vintages Have Higher ESG Risk
The materiality of environmental, social and governance (ESG) factors on the ratings of global structured finance transactions, reflected by ESG

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