S&P Global
Ratings

ESG Risks Negatively Influence Over US$4 Trillion Of Debt At Rated Companies In Asia-Pacific

Exploring Our ESG Credit Indicators For Rated Corporate And Infrastructure Entities In The Region

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This report does not constitute a rating action

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Asia-Pacific ESG Credit Indicators

Environmental And Governance Risks Feature Prominently In Our Corporate Credit Analysis

ESG In Asia-Pacific By The Numbers

57%

share of ratings in Asia-Pacific influenced by E, S or G risks

E risks are the biggest risk facing rated Asian companies, followed by G and S

U.S.$ 4 trillion

aggregate debt amount of rated companies in Asia-Pacific exposed to E, S or G risks

U.S.$ 2.8 trillion

aggregate debt amount of rated companies in Asia-Pacific exposed to E risks

Source: S&P Global Ratings.

- **ESG considerations have a negative influence on 57% of rated companies in Asia-Pacific**. These companies have a little over US$4 trillion in aggregated reported debt outstanding, or about two-thirds of the total debt of Asia-Pacific companies we rate.
- **Environmental (E) factors, particularly climate transition risk, have the greatest negative influence, affecting 40% of Asia-Pacific rated universe and $2.8 trillion of debt.** Our rated universe is skewed toward more environment-exposed sectors such as commodities and power utilities. This reflects an energy mix in Asia that often prioritizes productivity and cost efficiency over decarbonization targets. Some heavy manufacturing sectors, such as metals and autos, are also subject to increasingly stricter environmental regulations if they export to Europe or North America.
- **Governance (G) factors negatively influence about 22% of our rated entities but they are largely issuer-specific.** Governance factors influence more negatively the ratings of companies in emerging markets (Indonesia, India and China). That's because rated firms there are often small, family-owned businesses with below-average internal controls and transparency or include state-owned entities with weak parental oversight. Governance factors are more supportive of credit quality in Korea, Japan, Australia and New Zealand, with larger entities there having more-established control functions and governance structures.
- **Social (S) factors have relatively less negative influence (19%) on our credit analysis.** Such cases are generally in commodity and mobility sectors, which are sensitive to social capital and health and safety risks, respectively. Government-imposed price controls and community litigation risks often affects the profitability of mining companies. Transport cyclical and infrastructure, non-discretionary retail, and leisure were among the first hit by the pandemic.

Chart 1

Rated Asian Companies Are Concentrated Among Sectors Exposed To E Risks

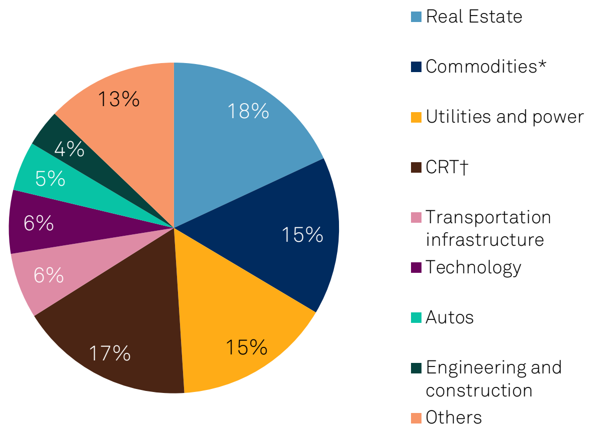
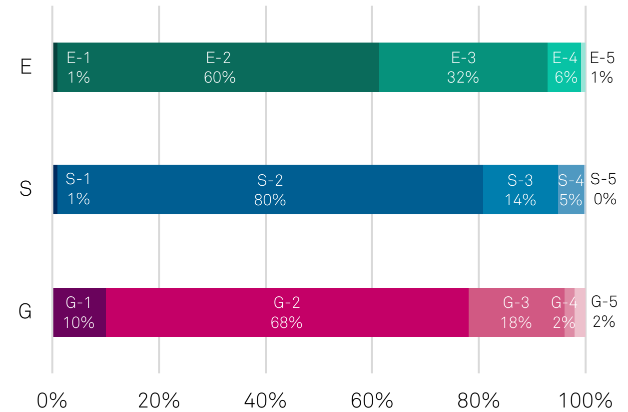


Chart 2

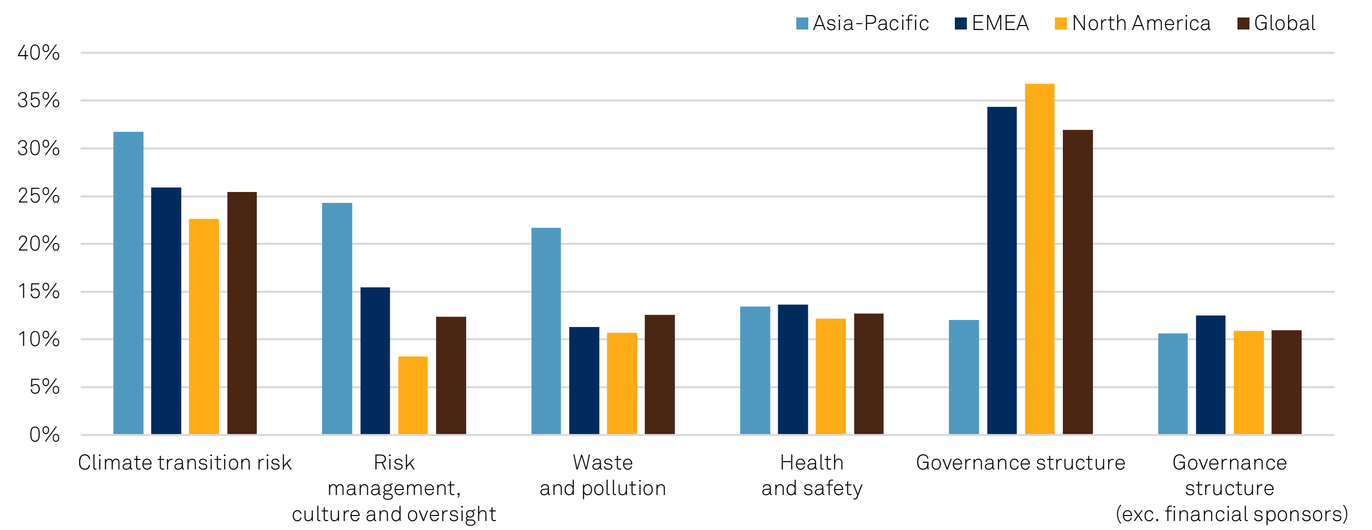
E Risks Influence Corporate Ratings In Asia-Pacific Most, Followed By G Risks And S Risks



Data as of March 16, 2022. Rated companies in Asia Pacific. Charts exclude rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators. 1. Sector distribution of rated companies. * Includes oil and gas, metals and mining, agribusiness and chemicals; †CRT -- Consumer, Retail, Telecom. Includes consumer products, retailing and restaurants, leisure, media and healthcare. 2. Distribution of ESG credit indicators for rated companies.

Chart 3

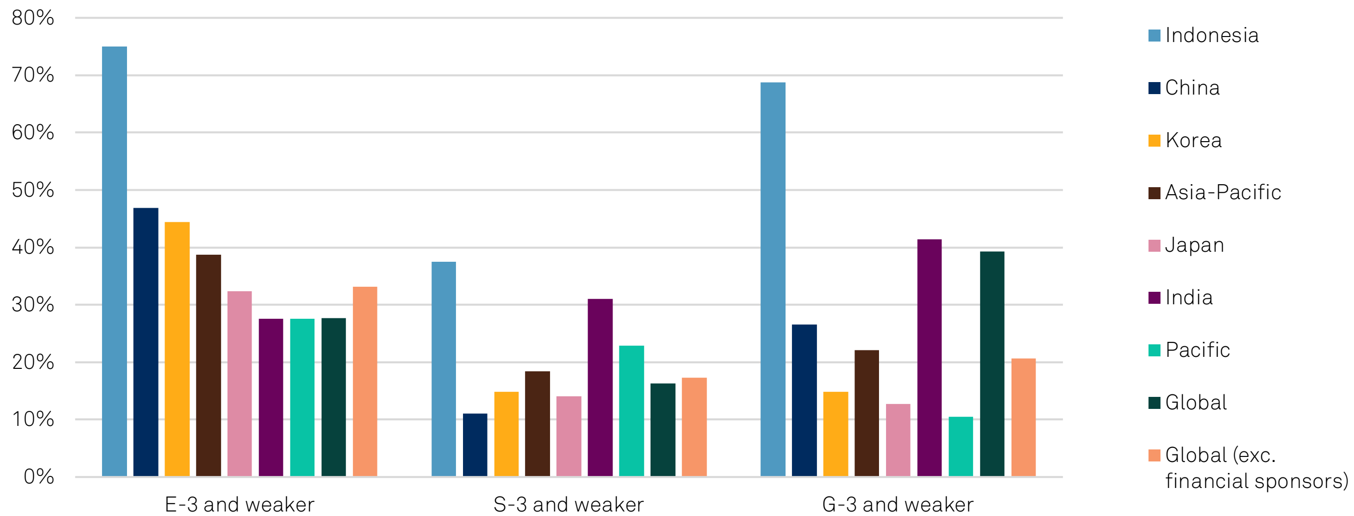
Climate Transition Risk, Risk Management, Culture And Oversight Are Key ESG Credit Factors



Data as of March 16, 2022. Rated companies in Asia Pacific. Charts exclude rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators. Percentage of rated companies influenced by the given ESG credit factors. "Governance structure excluding financial sponsors" removes rated companies globally which are controlled by financial sponsors and for which the "governance structure" credit factor is generally seen as a G limitation. Pacific includes rated companies in Australia and New Zealand.

Chart 4

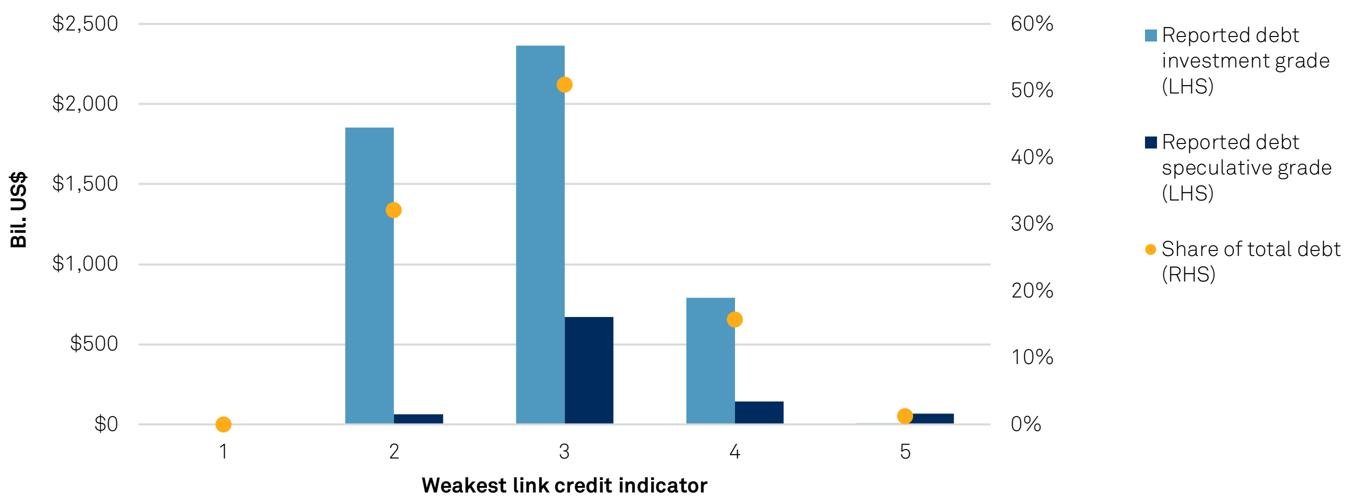
The Influence And Credit Impact Of E, S And G Risks Varies Significantly Across Asian Countries



Data as of March 16, 2022. Rated companies in Asia Pacific. Charts exclude rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators Distribution of ESG credit indicators for rated companies across countries and compared with global distribution. '3 and weaker' includes credit indicators of 3, 4 and 5. Pacific includes rated companies in Australia and New Zealand.

Chart 5

ESG Factors Negatively Influence Nearly US$4 Trillion Of Debt Outstanding, Most Of Which Is Investment-Grade

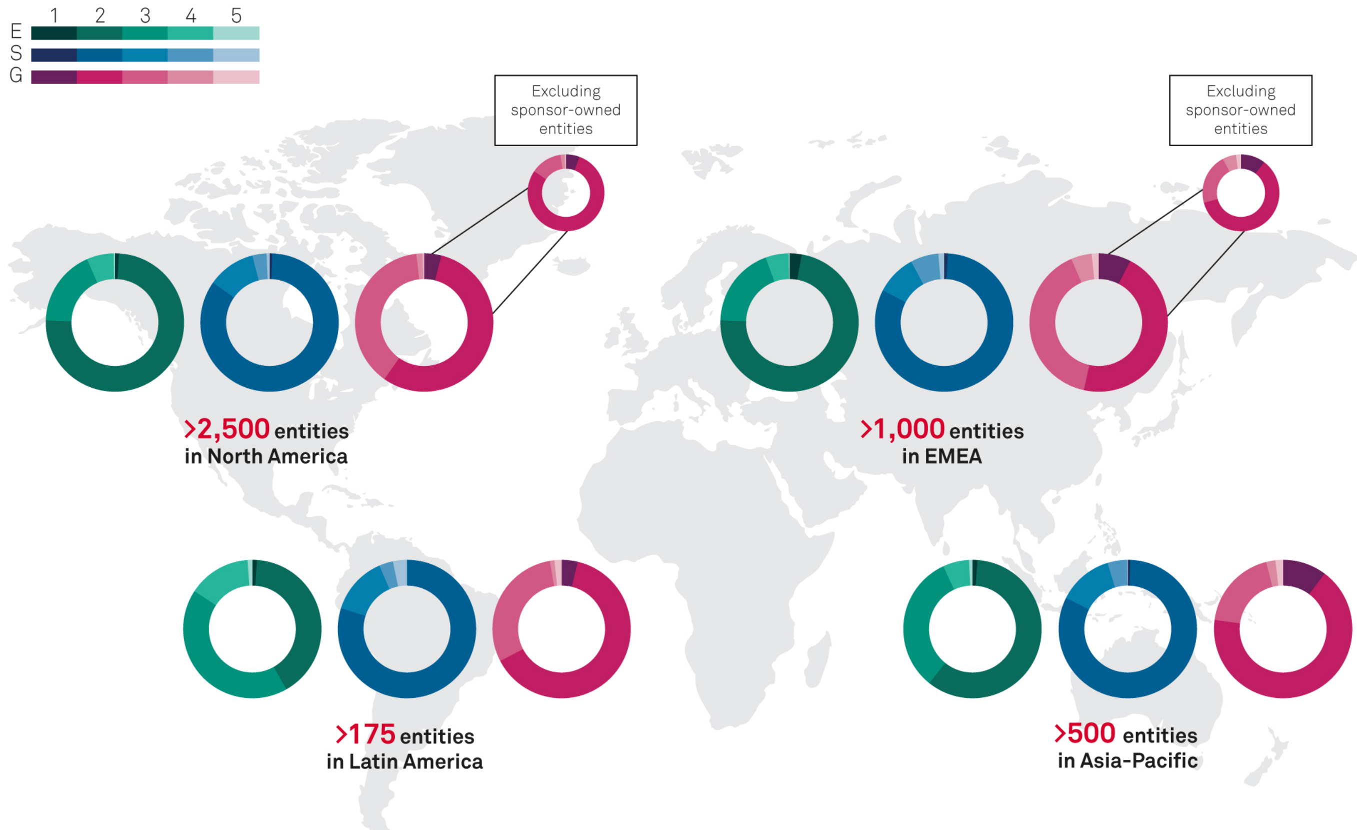


Data as of March 16, 2022 for rated companies in Asia Pacific. '**Weakest link credit indicator**' is defined as the weakest E, S or G credit indicator assigned to a given company. For example, the weakest link credit indicator of a company with E-2 / S-3 / G-4 or a company with an E-4 / S-4 / G-4 credit indicator will be '4'. The reported gross debt estimates in billion, US$ are aggregated across the credit indicator category. We add the debt of each company only once to avoid double counting within each weakest link credit indicator category. Aggregate reported debt excludes the debt at rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators. Investment grade includes companies rated 'BBB-' and above. Speculative grade includes companies rated 'BB+' and below. Source S&P Global Ratings, company financial statements.

In November and December 2021, S&P Global Ratings applied ESG credit indicators to more than 4,200 rated corporate and infrastructure entities in 26 ESG credit indicators sector report cards. The report cards express our opinion of how environmental, social, and governance (ESG) factors influence our credit rating analysis for specific sectors and at the entity level.

This report offers a high-level overview of these report cards and highlights our key takeaways for over 500 rated corporate and infrastructure entities in Asia-Pacific, with further insights on seven countries where the bulk of our rated corporate universe is located: China, India, Indonesia, Japan, Korea and Pacific (which covers Australia and New Zealand). We provide a consolidated, benchmarked, and quantitative view of ESG in credit ratings and a cross-country comparison of ESG factors. In addition, we quantify the amount of debt positively and negatively influenced by ESG factors. We also highlight key ESG trends we observe for rated entities in these countries, ESG credit factors that are most relevant to our credit analysis, and issuer specific ESG credit indicators and supporting paragraphs.

Global ESG Credit Indicators Distribution: Corporate And Infrastructure Entities



1 = Positive. **2** = Neutral. **3** = Moderately negative. **4** = Negative. **5** = Very negative. Our opinion of the influence of ESG factors on our credit rating analysis is reflected on a 1-5 scale. Sponsor-owned entities are minimal in Latin America and Asia-Pacific and have no substantial change in the G distribution of those regions. ESG--Environmental, social, and governance. Source: S&P Global Ratings.

How We Define Our ESG Credit Indicators

ESG credit indicators provide additional disclosure by reflecting our opinion of how material the influence of environmental, social, and governance (ESG) factors is on our credit rating analysis. The extent of the influence of these factors is reflected on an alphanumerical 1-5 scale where '1' is positive, '2' neutral, '3' moderately negative, '4' negative, and '5' very negative (see Table 1 and Appendix 1). ESG credit indicators are applied and updated after the rating has been determined. For a description of ESG credit factors, see Appendix 2.

Table 1

Environmental Credit Indicators*

Credit indicator	Definition
E-1	Environmental factors are, on a net basis§, a positive consideration in our credit rating analysis, affecting at least one analytical component†.
E-2	Environmental factors are, on a net basis§, a neutral consideration in our credit rating analysis.
E-3	Environmental factors are, on a net basis§, a moderately negative consideration in our credit rating analysis, affecting at least one analytical component†.
E-4	Environmental factors are, on a net basis§, a negative consideration in our credit rating analysis, affecting more than one analytical component† or one severely.
E-5	Environmental factors are, on a net basis§, a very negative consideration in our credit rating analysis, affecting several analytical components† or one very severely.

*Similar definitions apply to social and governance credit indicators. §"On a net basis" means that we take a holistic view on exposure to environmental factors and related mitigants. †Analytical components include criteria scores and subscores (including the key analytical elements to assess them). "Affecting" means leading to a different outcome for an analytical component or lower/higher headroom for an analytical component.

Environment

E factors influence mostly negatively our credit analysis of rated companies in Asia-Pacific. We have assigned credit indicators of E-3, E-4 or E-5 to nearly 40% of rated entities in the region. These reflect the negative influence (to differing degrees) that E factors have on rated companies' earnings stability, growth potential, profitability, capital structure, or access to funding.

The proportion of rated issuers exposed to E risks is much higher in Asia-Pacific than in North America and Europe. In both regions, E risks weigh on the credit quality of 25% of rated entities which a credit indicator of E-3, E-4 or E-5. In Asia-Pacific, about 55% of rated companies operate in sectors exposed to E risks such as commodities, automobiles, utilities and power, and real estate development.

Companies exposed to E risks in Asia-Pacific have close to US$2.8 trillion of debt outstanding. This is nearly half the total reported debt of rated firms in the region. Investment-grade issuers (rated BBB- or above) account for US$2.2 trillion, while speculative-grade entities (rated BB+ or below) account for about US$600 billion. This proportion excludes the debt outstanding of large state-owned entities closely linked to the sovereign such as Petroliam Nasional Bhd. in Malaysia or PT Perusahaan Listrik Negara (Persero) in Indonesia for which we have not yet assigned ESG credit indicators.

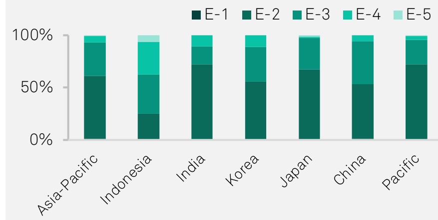
Higher-rated companies in Asia-Pacific are more flexible in managing E credit factors, in our view. These companies often have more predictable profitability, steadier cash flow, and stronger balance sheets. This gives them more capacity to invest and reposition their operations to sectors less exposed to E risks. They are also often larger with more diverse assets, which mitigates physical asset risk. Unlike weaker-rated entities, their access to funding is also more predictable, with multiple funding channels, instruments and currencies. This is likely to be a growing credit differentiator in sectors such as hydrocarbons, coal, fossil-fuel power generation or palm oil production.

Companies in the commodities and power sectors account for about half the US$2.8 trillion debt exposed to E risks. These are the sectors in which E risks are the highest and credit factors the most negative. They have the highest occurrence of E-4 or E-5 credit indicators, representing nearly US$900 billion of reported debt.

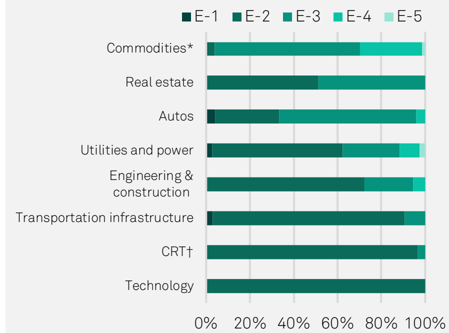
Rated companies in Indonesia (about 75% with a credit indicator of E-3, E-4 or E-5), China (about 50%) and Korea (about 44%) are the most exposed to E credit factors. This is because of the sector distribution of rated firms in those countries, where oil and gas, metals and mining, chemicals, automobile or power producers are large borrowers. In China, state-owned enterprises (SOEs) are more affected by E risks than privately owned enterprises (POEs) given their dominance in the commodity, and utility/power/infrastructure sectors. These sectors include all rated issuers with an E-4 credit indicator, the second weakest E credit indicator on our scale. Sector diversity is higher in the Pacific and India, with a greater share of consumer-focused sectors such as retail, pharma and technology companies.

Climate transition risk influences about one-third of all outstanding ratings. Climate transition risk influences the credit quality of all rated entities in the automobile sector, nearly 85% in the commodity sector and about 50% in the power generation sector, almost always negatively. Secular trends in those sectors (product substitution risks, heightened regulation, lower and more volatile returns on capital) are generally credit negative. But in our credit analysis, we increasingly focus on companies' own attributes: their geographic and product diversity, competitive positioning, profitability, and future capital spending decisions and requirements to mitigate E risks. These attributes can magnify climate transition risk (for hydrocarbon or coal producers, or automobile producers with limited means to transition their product base) or mitigate them (for larger Asian companies allocating capital to less carbon-intensive sectors).

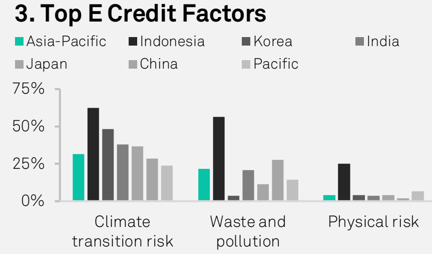
1. Distribution of E Credit Indicators



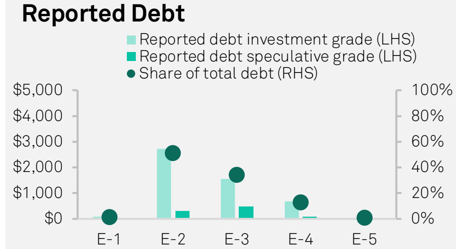
2. Sector Distribution



3. Top E Credit Factors



4. E Credit Indicators And Reported Debt



Data as of March 16, 2022. Rated companies in Asia-Pacific. Pacific includes rated companies in Australia and New Zealand. Charts exclude rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators. Pacific includes rated companies in Australia and New Zealand. **1.** Distribution of 'E' credit indicators for rated companies. **2.** Distribution of rated companies. * Includes oil and gas, metals and mining, agribusiness and chemicals; †CRT -- Consumer, Retail, Telecom. Includes consumer products, retailing and restaurants, leisure, media and healthcare. **3.** Percentage of rated companies influenced by the given ESG credit factors. **4.** Reported gross debt estimates in billion, US$ for rated companies and aggregated across the credit indicator category. LHS--left-hand scale. RHS--right-hand scale. Aggregate reported debt excludes debt at rated state-owned companies that have an 'almost certain' likelihood of government support.

Waste and pollution (22%), and physical asset risk (5%) are the other two E credit factors that we most often capture in the ratings of companies in Asia-Pacific. The former generally have a negative influence in commodities sectors (metals and mining, oil and gas, chemicals), and predominantly where we have a high share of such rated sectors (Indonesia, India and China). Physical asset risk features more heavily in our credit analysis of Indonesian companies and across sectors (commodities, autos, chemicals and power). This factor weighs on about a quarter of rated Indonesian companies. Single-asset concentration structurally exposes operations to weather-related disruptions (floods, droughts, typhoons), rising sea levels, and the risk of physical asset destruction as observed many times over the past decade. Entities with a narrower asset base generally have less predictable earnings quality, a credit feature we capture in our assessment of their scale, scope and diversity.

Rated companies in Asia-Pacific will remain exposed to E risks in the coming years because the transition of legacy business models is slow. We observe two main business strategies across the region. First, a desire to reduce investments in sectors exposed to E risks or allocate capital to emerging technologies. The global trading and investment companies (GTICs) in Japan, for example, have been selling down carbon-intensive assets such stakes in coal-fired power plants; automobile producers across the region are stepping up investments in new generation vehicles; and a growing number of renewable power producers are raising funds in India. Yet, the transformation of legacy business models will take years--if not decades--given the often-massive investment and cultural shift required. Resource-based operations are likely to still account for more than 30% of Japanese GTICs' earnings through the rest of the decade.

"Business-as-usual" is the second strategy. Despite the growth in renewable energy, fossil fuels (oil, gas or coal-based) will still account for the bulk of power generation across all major Asia-Pacific countries for the next two decades, especially in India, China and Southeast Asia. State-owned and private oil and gas companies, which are among the largest borrowers regionally, have also largely stuck with their legacy business models. They often allocate more than 90% of their capital spending to core hydrocarbon activities as they need to replenish reserves (BHP Group in Australia being an exception, currently divesting its oil and gas assets). We also believe that abnormally high profits generated by high commodity prices reduce the incentive or urgency for large energy, mining and agribusiness companies in the region to venture into sectors less exposed to E risks for now.

Summary Credit Indicator Statistics - Environment

	Asia-Pacific	China	India	Indonesia	Japan	Korea	Pacific*
'E' Credit indicator distribution ***(% of ratings)***							
E-1	1%	1%	0%	0%	0%	0%	0%
E-2	60%	52%	72%	25%	68%	56%	72%
E-3	32%	41%	17%	38%	30%	33%	23%
E-4	6%	6%	11%	31%	1%	11%	4%
E-5	1%	0%	0%	6%	1%	0%	1%
'E' Credit indicator and reported debt ***(Aggregated, Bil. US$)***							
E-1	$72	$72	$0	$0	$0	$0	$0
E-2	$3,037	$1,846	$104	$2	$698	$77	$177
E-3	$2,038	$1,097	$55	$7	$633	$141	$57
E-4	$761	$630	$51	$5	$12	$22	$12
E-5	$51	$0	$0	$0	$45	$0	$1
'E' Credit indicator and rating levels ***(Aggregated reported debt, Bil. US$)***							
E-3 and below -- Investment grade ratings	$2,228	$1,215	$64	$6	$641	$163	$59
E-3 and below -- Speculative grade ratings	$622	$511	$42	$7	$49	$0	$11
Key 'E' credit factors ***(% of ratings influenced)***							
Climate transition risk	32%	29%	38%	63%	37%	48%	24%
Waste and pollution	25%	28%	21%	56%	11%	4%	14%
Physical risk	12%	2%	3%	25%	0%	0%	7%
Natural capital	1%	0%	0%	6%	0%	0%	4%
Other environmental factors	1%	0%	10%	0%	0%	0%	1%

Statistics for rated companies as of March 16, 2022. China includes companies rated in China, Hong Kong and Macao. Pacific includes companies rated in Australia and New Zealand. Statistics exclude rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators. Investment grade -- Firms rated 'BBB-' and above; Speculative grade -- Firms rated 'BB+' and below. * Pacific includes rated companies in Australia and New Zealand.

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Social

S factors are neutral or net neutral credit considerations in our analysis of about 80% of rated companies rated in Asia-Pacific. S factors weighs on the credit quality of one in five rated companies in Asia-Pacific, which are assigned credit indicators of S-3, S-4 or S-5.

The proportion of rated issuers exposed to S risks is comparable across regions. S factors are net neutral for 83% of rated firms globally, 80% in Latin America, 82% in Europe, Middle East, and Africa, and 84% in North America. In all these regions, rated companies are more exposed to E and G risks than S risks.

Rated companies in Asia-Pacific exposed to S risks have about US$900 billion of debt outstanding. This is about 15% of the total reported debt of rated Asia-Pacific firms, a much lower proportion than the debt exposed to E risks. Investment-grade issuers account for about US$530 billion, while speculative-grade entities account for about US$370 billion. These debt figures exclude the debt outstanding of large state-owned entities closely linked to the sovereign such as Petroliam Nasional Bhd. in Malaysia or PT Perusahaan Listrik Negara (Persero) in Indonesia for which we have not yet assigned ESG credit indicators.

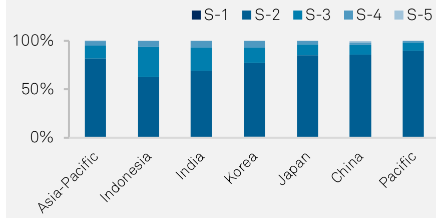
Rated companies in the commodities and mobility sectors account for about half the US$900 billion exposure. S considerations negatively influence ratings of mining companies given the impact of these activities on nearby communities and acute safety issues in the industry. Sectors such as transportation, retailing and restaurants, or gaming are highly exposed to mobility patterns and therefore sensitive to health and safety risk factors. They were among the most hit by the pandemic.

Rated companies in Indonesia (37% with a credit indicator of S-3, S-4 or S-5), India (31%) and Pacific (23%) are the most exposed to S risks. In Indonesia, that's because we rate a number of companies in the mining sector. But it is also because a growing number of entities across sectors are exposed to government-imposed price controls and regulations which affect their profitability and cash flow. In the Pacific and India, we rate numerous mobility-related companies such as airports, retailers and entertainment companies, whose credit quality has deteriorated following restrictions on mobility.

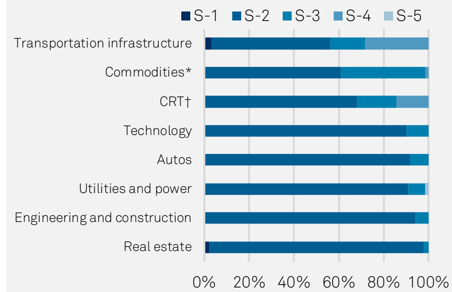
Health and safety is the S credit factor influencing most frequently rated companies in Asia-Pacific. This credit factor influences credit quality of two main groups of companies. First, those affected by restrictions on mobility. Between 2019 and 2021, revenues and profits fell 30% to 80% in sectors such as casino operators, discretionary retailers, airlines or airport operators, leading to weaker balance sheets and numerous downward rating actions--especially for those with a concentrated geographic footprint (such as Macao gaming companies) or high fixed costs. S risks are likely to stay prevalent in those sectors throughout 2023 and beyond as we project the recovery to pre-COVID-19 levels to be protracted. Companies with a more diversified geographic footprint have often been more resilient.

The second group is the commodities sector, especially miners. Health and safety considerations influence ratings negatively (to different degrees) for nearly 40% of rated companies in the sector.

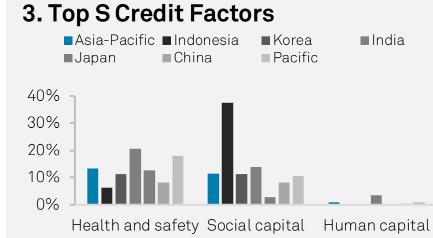
1. Distribution of S Credit Indicators



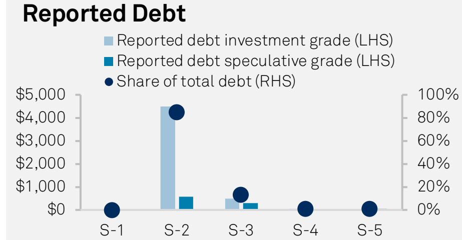
2. S Credit Indicators - Sector Distribution



3. Top S Credit Factors



4. S Credit Indicators And Reported Debt



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Social capital is a growing S credit consideration across the region. This risk factor is typically relevant for companies sensitive to government intervention, which, in Asia-Pacific, tends to be more negative than positive for credit quality. Issuers across sectors in Indonesia, for example, face a growing number of price controls imposed by the government amid energy and commodity price inflation. These impede the level and predictability of their earnings. China has been implementing more onerous anti-monopoly regulations, restrictions on advertising, and tighter rules on data privacy and security. It is also slowing online gaming approvals. Taken collectively, these regulations raise the cost of operations and reduce revenue growth potential for technology companies such as Alibaba Inc., Tencent Holdings Ltd. or Meituan. These headwinds underpin our assessment of an S-3 or weaker credit indicator on the sector.

Summary Credit Indicator Statistics - Social

	Asia-Pacific	China	India	Indonesia	Japan	Korea	Pacific*
'S' Credit indicator distribution *(% of ratings)*							
S-1	1%	1%	0%	0%	0%	0%	1%
S-2	80%	88%	69%	63%	86%	85%	76%
S-3	14%	9%	24%	31%	10%	11%	16%
S-4	5%	2%	7%	6%	3%	4%	7%
S-5	0%	0%	0%	0%	1%	0%	0%
'S' Credit indicator and reported debt *(Aggregated, Bil. US$)*							
S-1	$1	$0	$0	$0	$0	$0	$0
S-2	$5,070	$3,346	$168	$9	$1,062	$139	$184
S-3	$776	$279	$40	$5	$271	$99	$43
S-4	$67	$19	$3	$1	$10	$1	$20
S-5	$45	$0	$0	$0	$45	$0	$0
'S' Credit indicator and rating levels *(Aggregated reported debt, Bil. US$)*							
S-3 and below -- Investment grade ratings	$528	$179	$22	$0	$138	$99	$52
S-3 and below -- Speculative grade ratings	$360	$119	$21	$5	$187	$1	$11
Key 'S' credit factors *(% of ratings influenced)*							
Health and safety	13%	8%	21%	6%	13%	11%	18%
Social capital	11%	8%	14%	38%	3%	11%	10%
Human capital	1%	0%	3%	0%	0%	0%	1%
Other social factors	0%	0%	0%	0%	0%	0%	1%

Statistics for rated companies as of March 16, 2022. China includes companies rated in China, Hong-Kong and Macao. Pacific includes companies rated in Australia and New Zealand. Statistics excludes rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators. Investment grade -- Firms rated 'BBB-' and above; Speculative grade -- Firms rated 'BB+' and below. * Pacific includes rated companies in Australia and New Zealand.

Governance

G credit factors influence about 33% of rated companies in Asia-Pacific. Governance tends to influence credit profiles of companies in the region more negatively than negatively. 22% of rated companies have credit indicators of G-3, G-4 or G-5, while 10% with a credit indicator of G-1.

On average, rated companies in Asia-Pacific have stronger G credit indicators compared with other regions because of the lower proportion of sponsor-owned entities. The prevalence of sponsor-owned entities in Europe and North America skews the average G credit indicator to the downside in these regions. We assign a G-3 credit indicator to companies whose focus is on maximizing shareholder returns, which we consider as a moderately negative governance influence. Excluding these companies, the share of weaker rated companies with a credit indicator of G-3 or weaker in Asia-Pacific (22%) is marginally lower than in Europe (29%) but higher than in North America (15%).

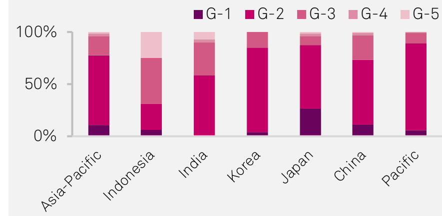
Rated entities exposed to G risks in Asia-Pacific have close to US$1.5 trillion of debt outstanding. This is about 25% of the total reported debt of rated Asia-Pacific firms. About half of this debt comes from investment grade issuers and half from speculative-grade entities. We observe, however, a correlation between rating levels and the average G credit indicator in Asia-Pacific, as in other regions. Governance appears as a moderately negative to very negative credit consideration for nearly 80% of rated speculative-grade companies in Asia-Pacific versus about 15% for companies we rate at the investment-grade level.

Country and company-specific attributes rather than sectoral trends underpin our G credit indicators. In Asia-Pacific, our average G credit indicator tends to be weaker in emerging markets such as Indonesia (70% of rated companies with a credit indicator of G-3, G-4 or G-5), India (41%) and China (27%). This reflects the frequent attributes of rated companies in those countries, which include smaller, family-owned companies with weaker oversight and internal controls or some highly leveraged state-owned companies with weak parental oversight. Companies rated in Japan, Korea and the Pacific tend to be larger, often widely held with well-established control functions and government structures.

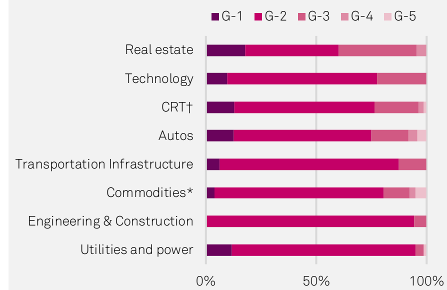
Risk management, culture and oversight is the most important G consideration in Asia-Pacific, positively or negatively influencing about 25% of rated companies. We view this G credit factor as generally positive for rated companies in Japan, Korea and select central SOEs in China. Those companies, which include most Japanese GTICs and a few large conglomerates in the region, generally have solid strategic planning and above average execution abilities, well-established internal controls, and predictable operational and financial policies with limited event risk. However, this credit factor negatively influences credit quality for 37% of rated companies in Indonesia, and 25% of rated companies in China and India. For these, expansion strategies have often been aggressive, funded with debt and/or outside of the core area of expertise. Financial management is often aggressive, with unhedged currency exposure to debt repayments or a high share of short-term debt and limited liquidity planning. Payment culture and willingness-to-pay issues also feature more frequently for rated firms in those countries.

Governance structure weighs our credit analysis of about 10% of rated companies in Asia-Pacific. This is often the case for family-owned companies with concentrated strategic and financial decision-making, or those with limited board independence on major strategic decisions or related-party transactions. In Indonesia and India, we rate numerous companies belonging to families with multiple other businesses. Complex group structures or event risk at sister companies during periods of refinancing can rapidly erode market confidence and ultimately lead to defaults.

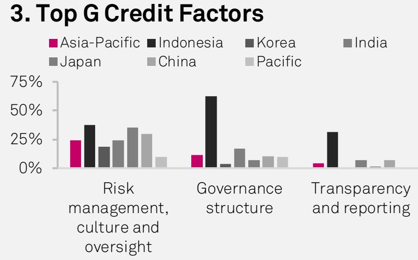
1. Distribution of G Credit Indicators



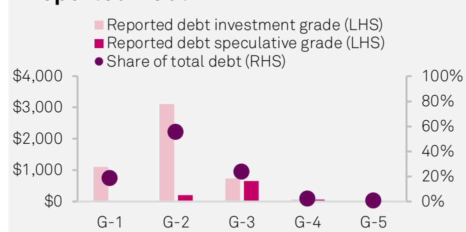
2. G Credit Indicators - Sector Distribution



3. Top G Credit Factors



4. G Credit Indicators And Reported Debt



Data as of March 16, 2022. Rated companies in Asia-Pacific. Pacific includes rated companies in Australia and New Zealand. Charts exclude rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators. **1.** Distribution of 'G' credit indicators for rated companies. **2.** Distribution of rated companies. * Includes oil and gas, metals and mining, agribusiness and chemicals; †CRT -- Consumer, Retail, Telecom. Includes consumer products, retailing and restaurants, leisure, media and healthcare. **3.** Percentage of rated companies influenced by the given ESG credit factors. **4.** Reported gross debt estimates in billion, US$ for rated companies and aggregated across the credit indicator category. LHS--left-hand scale. RHS--right-hand scale. Aggregate reported debt excludes debt at rated state-owned companies that have an 'almost certain' likelihood of government support.

Summary Credit Indicator Statistics - Governance

	Asia-Pacific	China	India	Indonesia	Japan	Korea	Pacific*
'G' Credit indicator distribution *(% of ratings)*							
G-1	10%	11%	0%	6%	27%	4%	5%
G-2	68%	62%	59%	25%	61%	81%	84%
G-3	18%	23%	31%	44%	8%	15%	10%
G-4	2%	3%	3%	0%	3%	0%	1%
G-5	2%	1%	7%	25%	1%	0%	0%
'G' Credit indicator and reported debt *(Aggregated, Bil. US$)*							
G-1	$1,105	$507	$0	$6	$532	$16	$31
G-2	$3,300	$1,980	$173	$2	$563	$204	$204
G-3	$1,404	$1,103	$19	$5	$221	$20	$11
G-4	$131	$42	$16	$0	$69	$0	$1
G-5	$18	$12	$2	$2	$3	$0	$0
'G' Credit indicator and rating levels *(Aggregated reported debt, Bil. US$)*							
G-3 and below -- Investment grade ratings	$808	$693	$15	$0	$68	$20	$1
G-3 and below -- Speculative grade ratings	$745	$464	$22	$7	$226	$0	$10
Key 'G' credit factors *(% of ratings influenced)*							
Risk management, culture and oversight	24%	30%	24%	38%	35%	19%	10%
Governance structure	11%	10%	17%	63%	7%	4%	10%
Other governance factors	1%	1%	7%	0%	0%	0%	1%
Transparency and reporting	4%	7%	7%	31%	1%	0%	0%

Statistics for rated companies as of March 16, 2022. China includes companies rated in China, Hong-Kong and Macao. Pacific includes companies rated in Australia and New Zealand. Statistics exclude rated state-owned companies that have an 'almost certain' likelihood of government support and on which we have not released ESG credit indicators. Investment grade -- Firms rated 'BBB-' and above; Speculative grade -- Firms rated 'BB+' and below. * Pacific includes rated companies in Australia and New Zealand.

China

Environmental and Governance Factors Feature Prominently In Our Corporate Credit Analysis

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- Environmental (E) and governance (G) considerations negatively influence our credit analysis of 47% and 26% of rated firms in China respectively.
- Rated Chinese firms exposed to E risks have about US$1.7 trillion of debt outstanding, or 48% of the reported debt at rated Chinese firms.
- Speculative-grade-rated companies in China are more exposed to E risks: 67% them have credit indicator of E-3 or more negative. State-owned enterprises (SOEs) also typically have more exposure to E risks given their dominance in the commodity, utility, power and infrastructure sectors.
- Chinese companies are the most exposed to climate transition risk (29% of companies affected) and waste and pollution risk (28%). China has an ambitious decarbonization policy target. We expect policy support for this green transition to mitigate the environmental-related credit risks, especially in terms of funding availability.
- Social (S) factors are neutral for 88% of rated issuers in China. Social capital-related credit factors negatively influence Chinese internet companies. These companies have been facing regulatory and societal pressure since 2021, in areas ranging from business practices to cyber security to data privacy.
- Chinese companies rated in the speculative-grade category are more exposed to G risks. More than 70% of speculative-grade entities have credit indicators of G-3 or more negative--about seven times higher than the proportion for investment-grade-rated companies.
- G risks influences more negatively privately owned companies (POEs; 34% of companies affected) than SOEs (12%). Governance structure, and transparency and reporting are the two most common factors for POEs. SOEs are more subject to governance risk related to less effective parental oversight or weak execution of strategy.

Chart 1

Rated Chinese Companies Are Concentrated Among Sectors Exposed To E Risks

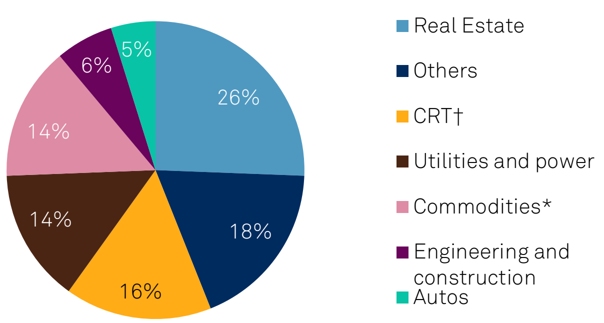
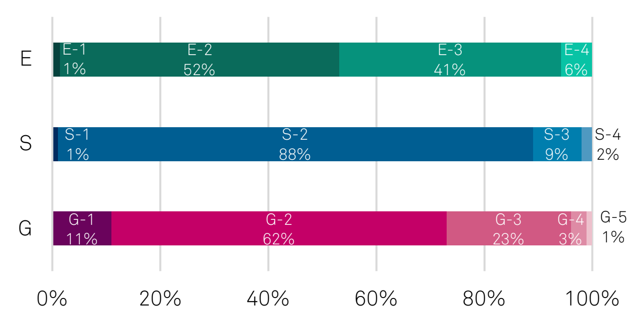


Chart 2

E Factors Have A More Negative Influence On Chinese Corporate Ratings, Followed By G Factors



Data as of March 16, 2022. Rated companies in China, Hong-Kong and Macao, excluding rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators. **1.** Sector distribution of rated companies. * Includes oil and gas, metals and mining, agribusiness and chemicals; †CRT -- Consumer, Retail, Telecom. Includes consumer products, retailing and restaurants, leisure, media and healthcare. **2.** Distribution of ESG credit indicators for rated companies.

Chart 3

Risk Management, Culture And Oversight And Climate Transition Risk Are Key ESG Credit Factors

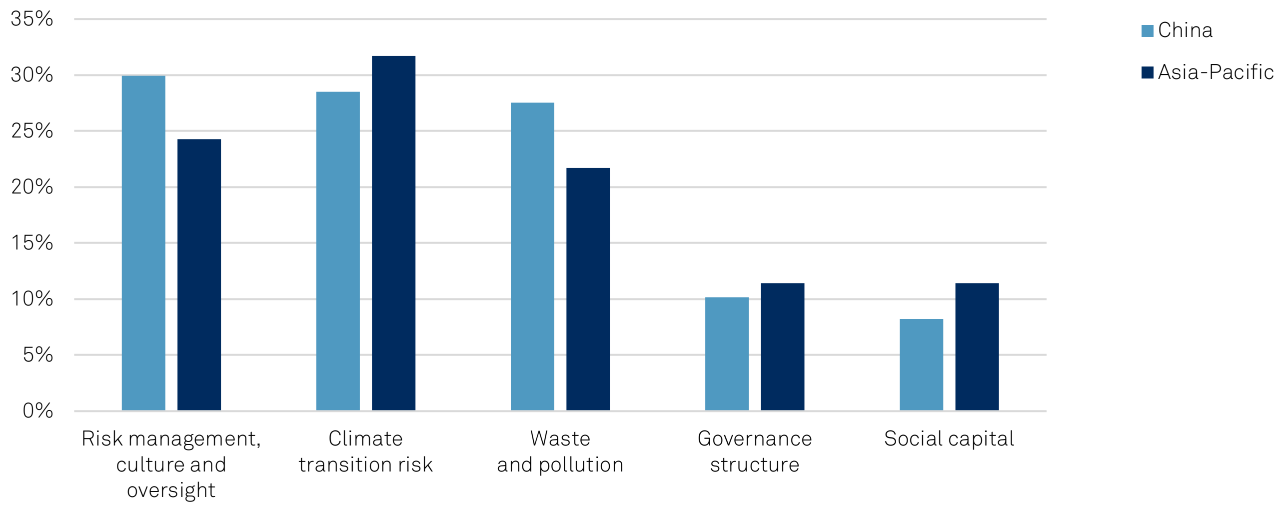


Chart 4

E And G Risks Feature More Negatively In China Than Elsewhere In Asia-Pacific

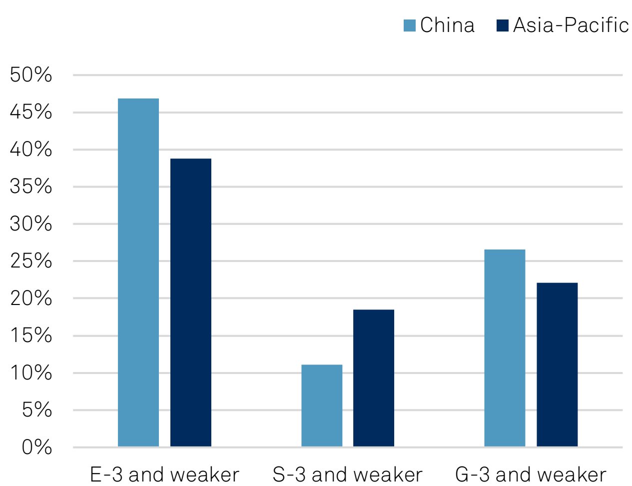
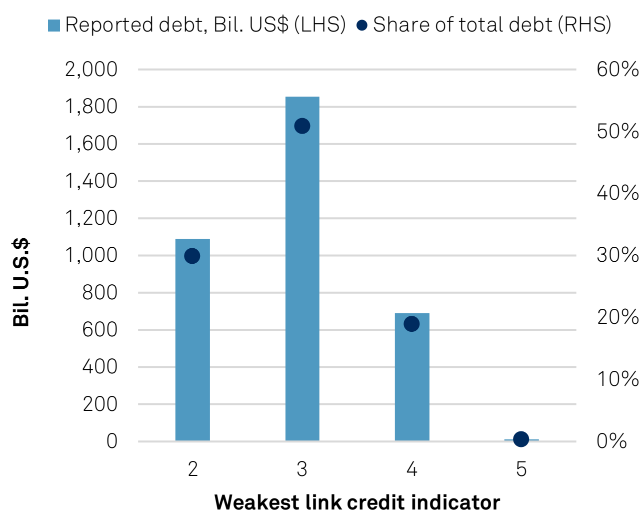


Chart 5

ESG Risks Influence Nearly US$2.5 Trillion Of Outstanding Debt At Rated Chinese Companies



Data as of March 16, 2022. Rated companies in China, Hong-Kong and Macao, excluding rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators. **3.** Percentage of rated companies influenced by the given ESG credit factors. **4.** Distribution of ESG credit indicators for rated companies. '3 and weaker' includes credit indicators of 3, 4 and 5. **5.** Distribution of rated companies based on their weakest link credit indicator. 'Weakest link credit indicator' is defined as the weakest E, S or G credit indicator assigned to a given company. For example, the weakest link credit indicator of a company with E-2 / S-3 / G-4 or a company with an E-4 / S-4 / G-4 credit indicator will be '4'. The reported gross debt estimates in billion, US$ are aggregated across the credit indicator category. We add the debt of each company only once to avoid double counting within each weakest link credit indicator category. Aggregate reported debt excludes the debt at rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators. Source S&P Global Ratings, company financial statements.

Environment

E factors have a more negative influence on Chinese corporate ratings than in the rest of Asia-Pacific. Firms facing at least moderate E risks (E-3, E-4, or E-5 credit indicators) account for 47% of rated issuers, compared with 39% in Asia-Pacific.

Rated Chinese firms exposed to E risks have about US$1.7 trillion of debt outstanding. This large figure represents nearly 48% of outstanding reported debt at rated Chinese firms. Firms rated in the speculative-grade category are more exposed to E risks, with 67% having credit indicators of E-3 or worse. This is because sectors most exposed to E risks tend to be more leveraged, have more debt outstanding, and therefore carry more weight in our rated universe in China.

Commodities and real estate sectors are stand-out sectors in this regard. E risks are generally neutral for technology and telecom sectors, but they still have a moderately negative impact on some individual firms. For example, 21Vianet Group Inc. sources less energy from renewable sources and its older data centers are less energy efficient than newer hyperscale facilities. Restrictions on data center capacity expansion in Chinese tier-1 cities because of power consumption concerns will likely push the company's new data centers outside of the cities.

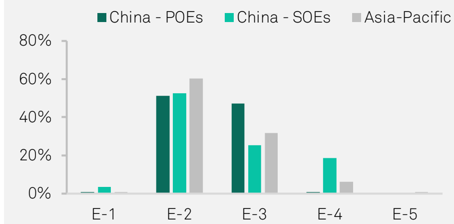
SOEs are more exposed to E risks than POEs. Among our rated issuers, 44% of SOEs are exposed to E risks versus 49% of POEs. However, 19% of SOEs have credit indicators of E-4 or worse, much higher than the 1% of POEs. This is due to SOEs' dominance in commodity, utility, power and infrastructure sectors. All rated issuers with an E-4 credit indicator, the second weakest E credit indicator on our scale, are in these sectors.

As in Asia-Pacific, issuers in China are more exposed to climate transition risk (29%). Climate transition risk is a particularly negative E credit factor for Chinese power generators, given their dependence on coal-fired generation, volatile fuel costs and lower utilization hours, and on oil and gas and coal mining companies. Transitioning to renewable energy capacity such as wind and solar will also entail significant spending. Auto manufacturers must invest heavily to meet increasingly stringent environment requirements at home and in export markets, accelerate the rollout of new electric vehicles and stay competitive.

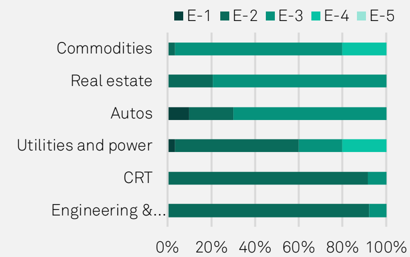
China issuers are also more exposed to waste and pollution risks (28%). The metals and mining sector and chemical sector are particularly exposed to this risk, given the high capital needs to reduce emissions. The real estate sector is also exposed to this risk, as building construction is energy-intensive and generates substantial waste and pollution. Agriculture commodity producers face high environmental risk, stemming from exposure to water use, climate change, and biodiversity.

China's climate ambitions may bring policy support to help mitigate environmental risks. Green transition is a policy priority for the Chinese government as it pushes companies to adjust their strategies and grow operations to sectors less exposed to E risks. Policy support for the green transition is likely to help. This includes direct government subsidies and improved bank and capital market access at longer tenors and lower costs, which we are already observing in the country. These policies may ease refinancing risks and moderate the deterioration in capital structures that may otherwise result.

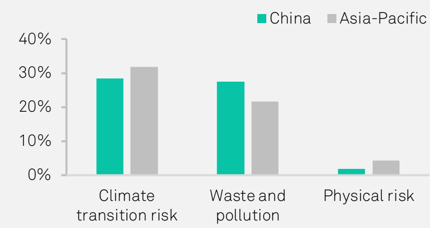
1. Distribution of E Credit Indicators



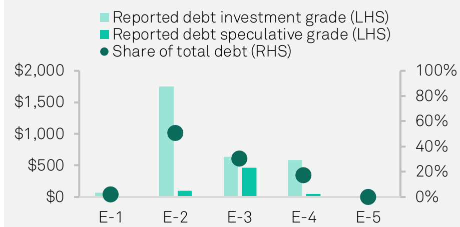
2. Sector Distribution



3. Top E Credit Factors



4. E Credit Indicators And Reported Debt



Data as of March 16, 2022. Rated companies in China, Hong-Kong and Macao, excluding rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators. POEs—Privately-owned companies; SOEs—State-owned companies. **1.** Distribution of E credit indicators. **2.** Distribution of rated companies. * Includes oil and gas, metals and mining, agribusiness and chemicals; †CRT -- Consumer, Retail, Telecom. Includes consumer products, retailing and restaurants, leisure, media and healthcare. **3.** Percentage of rated companies influenced by the given ESG credit factors. **4.** Reported gross debt estimates in billion, US$ for rated companies and aggregated across the credit indicator category. Source S&P Global Ratings, company financial statements. Aggregate reported debt excludes the debt at rated state-owned companies that have an 'almost certain' likelihood of government support.

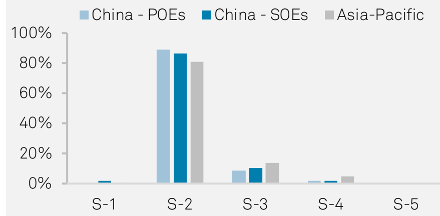
Social

S factors are neutral for most rated Chinese issuers. A total of 88% of rated issuers in China are assigned a neutral credit indicator of S-2, compared with 80% in Asia-Pacific. Rated companies exposed to S risks in China (S-3, S-4, or S-5) had about US$300 billion in debt outstanding, accounting for just about 8% of all rated issuers' debts, much less than the share of debt exposed to E risks (48%).

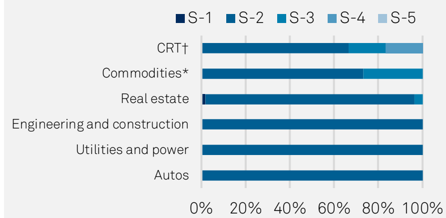
Social capital-related credit factors influence Chinese internet companies negatively. These firms are facing escalating regulatory and societal pressures since 2021, in broad ranging areas including wages, working conditions, business practices, cyber security, and data privacy. They have endured greater regulatory scrutiny and enforcement. Financial penalties from these actions could reduce the cash buffer of affected companies. Other consequences have included operating disruptions, revenue loss, more spending on research and development, and ultimately lower earnings predictability. Intensifying policy crackdowns could also hinder funding access. For example, data security concerns may lead to overseas listed firms being asked to delist or to restrictions being placed on the use of variable interest entities (VIE) structure.

Rated Chinese companies are also exposed to health and safety. These are common considerations in the mining sector given safety concerns. COVID-19 continues to affect issuers in the retail and leisure sectors. All rated issuers with a social credit indicator of S-4 face health and safety risks, and 75% of those entities are exposed to pandemic-related issues. Despite the comparatively lower amount of reported COVID-19 cases in China, rated issuers still face business disruption risks, as travel restrictions and social distancing measures hinder their ability to operate and their profitability.

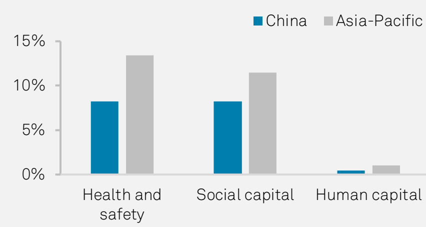
1. Distribution of S Credit Indicators



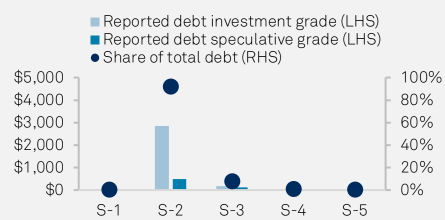
2. S Credit Indicators - Sector Distribution



3. Top S Credit Factors



4. S Credit Indicators And Reported Debt



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Governance

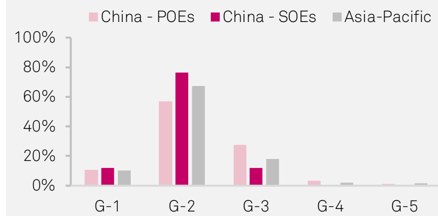
Chinese issuers are more negatively influenced by G factors than the average in Asia-Pacific. Among rated Chinese firms, 27% have governance credit indicators of G-3 or worse, higher than 22% for Asia-Pacific. Governance factors are neutral for 62% of Chinese corporates and positive (G-1) for 11%. Notably, all firms with a G-1 credit indicator are rated investment grade, as investment-grade-rated firms generally have sound financial oversight and risk management, good strategy execution and more transparent disclosures. Only 11% of investment-grade companies have G considerations that feature as moderately credit negative considerations (G-3). This contrasts with speculative grade, where over 70% have credit indicators of G-3 or weaker. The higher proportion of Chinese firms rated at the speculative-grade level (31%) versus Asia-Pacific (26%) helps explain the higher occurrence of G risks in China.

Risk management, culture and oversight quality influence nearly one in three rated Chinese corporates, largely negatively. Aggressive investment is not unusual among Chinese firms given the high economic growth in the past forty years. However, this has led to aggressive growth appetite or debt-funded expansion in high-risk non-core sectors, creating significant losses for some corporates. This is more common among speculative-grade-rated firms, but even highly rated investment-grade firms may face such risks. A notable example is Shanghai Electric, whose non-core subsidiary Shanghai Electric Communication Technology Co. Ltd (SECT) recorded a RMB7.4 billion impairment loss on its accounts receivables and inventories in the first half of 2021. This revealed deficiencies in the company's risk management and internal controls.

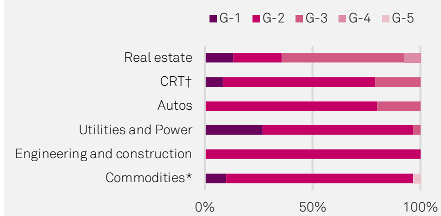
The quality of governance structures is another credit consideration for rated Chinese issuers. This is because a majority of Chinese POEs are owned by controlling shareholders, typically the founders' family members. Such governance structures often give controlling shareholders a disproportionate influence on board decisions that may not balance the interests of other shareholders or creditors. Boards of directors and management teams in China often lack independence. Related-party transactions have been conducted under the influence of controlling shareholders at the expense of other stakeholders. Loss of the "key man", particularly, the founder, have put companies at risk of business disruptions and weakened access to funding. SOEs face similar risks. Some unlisted, wholly local government owned SOEs have reporting standards falling below than their listed peers and don't broadly communicate their business strategies and financial policies to investors.

G risks are more pronounced for POEs than for SOEs. G credit factors weighs on the ratings of 34% of rated POEs versus 12% of rated SOEs. Governance structure and transparency are the most common risks for POEs. For example, property developers' wide use of joint ventures and off-balance sheet debt raises transparency risks, as do inadequate disclosure of financial guarantees. These risks will continue to weaken investors and lenders confidence, with refinancing challenges and defaults. The central government has raised scrutiny at both the central and local levels SOEs. Yet, some entities continue to lack effective oversight and internal controls, resulting in the interests of management prevailing at the expense of creditors and stakeholders. Weak execution of stated strategies is another common governance risk for smaller SOEs. This often manifest in slower growth and poor control of leverage.

1. Distribution of G Credit Indicators

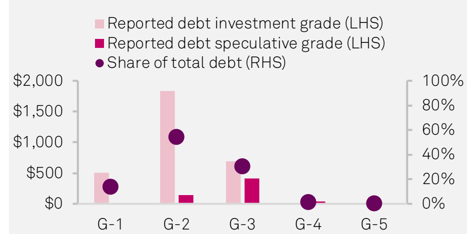


2. G Credit Indicators - Sector Distribution



3. Top G Credit Factors

4. G Credit Indicators And Reported Debt



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Indonesia

Environmental and Governance Factors Have A Direct Negative Influence On Most Rated Indonesian Companies

- Environmental (E) and governance (G) risks influence ratings on 75% and 69% of rated Indonesian companies respectively and largely negatively.
- E risks affect about twice as many rated Indonesian companies than elsewhere in Asia-Pacific. That's because of the tilt of rated entities to commodity and heavy manufacturing sectors.
- Indonesian companies exposed to E risks had about US$14 billion of debt outstanding, but the amount reaches a more significant US$63 billion if we include debt at large state-owned companies PT Pertamina and PT Perusahaan Listrik Negara.
- Indonesian companies are most exposed to climate transition risk (62%) and waste and pollution (56%). The often-limited scale, single mineral, or single asset concentration risk of rated Indonesian issuers often magnify E risks.
- Two-thirds of rated Indonesian companies are exposed to G risks, a major driver of defaults for domestic issuers in the past 20 years.
- Governance structure; risk management, culture and oversight; and transparency and disclosure are the three main G credit factors for rated Indonesian companies. That's due to often concentrated strategic and financial decision-making, aggressive expansion and financial policies, sometimes weak payment culture, and complex corporate structures with limited transparency.
- Social (S) factors are neutral for most issuers (63% of rated entities). But as inflation rises, the growing recurrence of price controls or regulations imposed by the government across sectors could start weighing on the competitive position, earnings predictability, and profitability of the corporate sector.

Chart 1

Rated Indonesian Companies Are Concentrated Among Sectors Exposed To E Risks

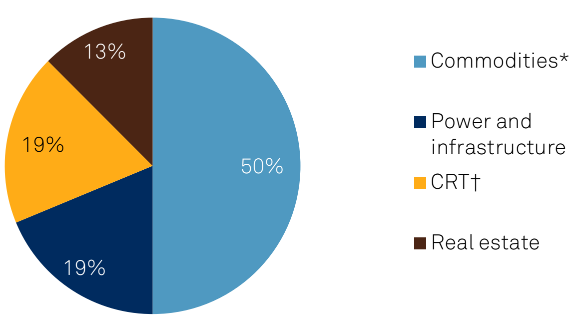

Chart 2

E, S And G Risks Influence Ratings On Indonesian Companies Largely Negatively

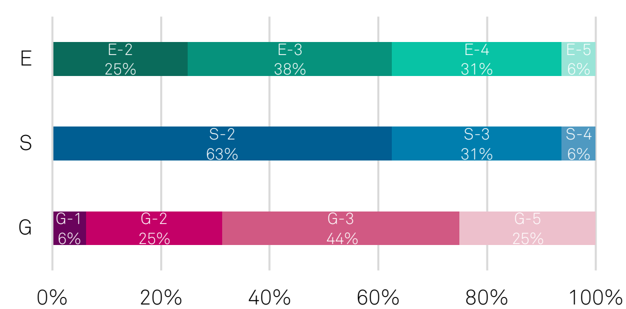

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Chart 3

Governance Structure, Climate Transition Risk Are Key ESG Credit Factors

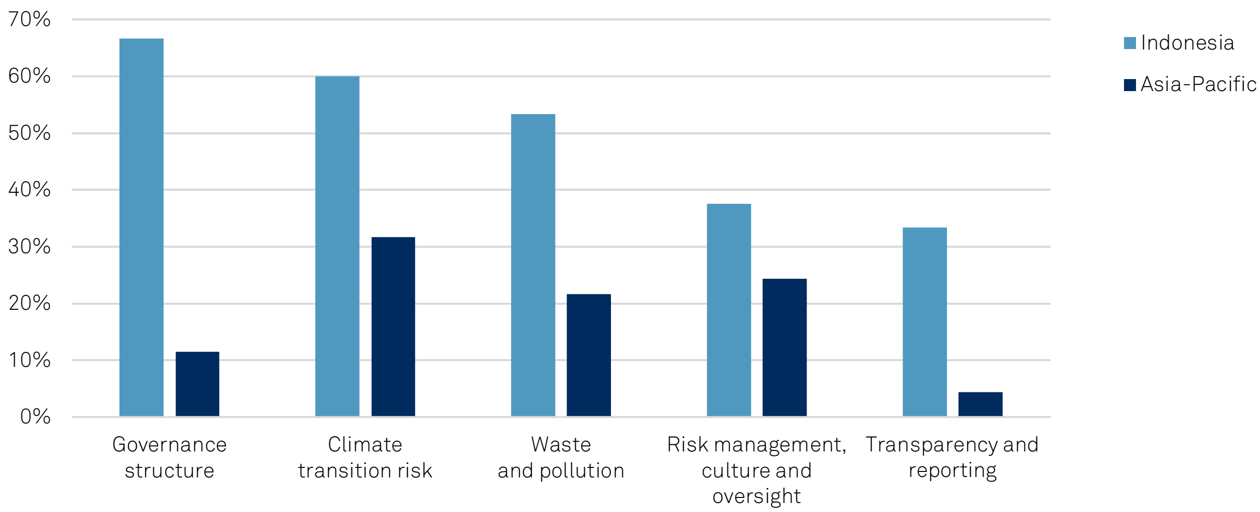


Chart 4

E, S And G Risks Feature More Negatively In Indonesia Than Elsewhere In Asia-Pacific

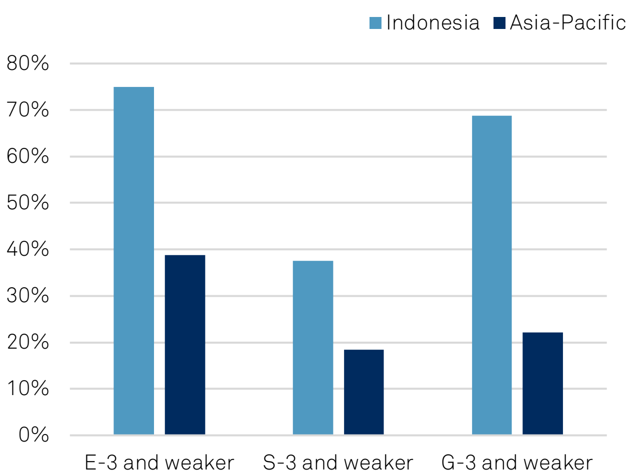
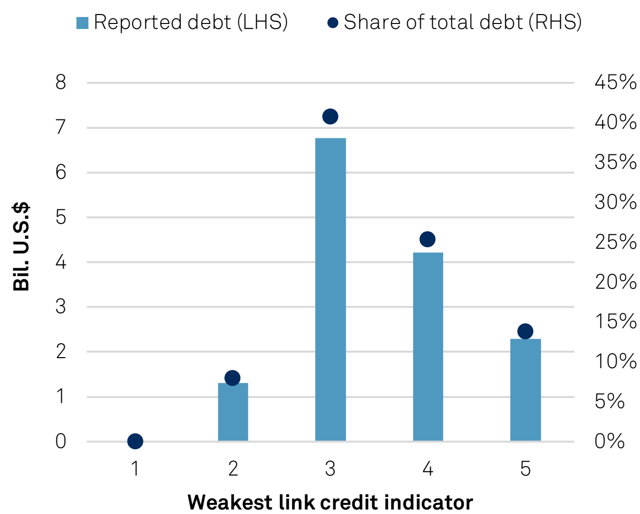


Chart 5

ESG Risks Influence Nearly 80% Of The Debt Outstanding At Rated Indonesian Companies



Data as of March 16, 2022. Rated companies in Indonesia. Charts exclude rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators. **3.** Percentage of rated companies influenced by the given ESG credit factors. **4.** Distribution of ESG credit indicators for rated companies. '3 and weaker' includes credit indicators of 3, 4 and 5. **5.** Distribution of rated companies based on their weakest link credit indicator. 'Weakest link credit indicator' is defined as the weakest E, S or G credit indicator assigned to a given company. For example, the weakest link credit indicator of a company with E-2 / S-3 / G-4 or a company with an E-4 / S-4 / G-4 credit indicator will be '4'. The reported gross debt estimates in billion, US$ are aggregated across the credit indicator category. We add the debt of each company only once to avoid double counting within each weakest link credit indicator category. Aggregate reported debt excludes the debt at rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators. Source S&P Global Ratings, company financial statements.

Environment

E risks negatively influence ratings on 75% of rated companies in Indonesia. That's twice the proportion in Asia-Pacific and is due to the tilt of the rated universe toward commodity producers (nearly 50% of rated companies).

Rated Indonesian firms facing E risks had US$14 billion of reported debt as of year-end 2021. These include firms with E credit indicators of E-3, E-4 or E-5. This figure reaches US$63 billion if we include the debt of state-owned energy company PT Pertamina and that of electricity producer PT PLN, two companies whose earnings profile and credit quality are influenced by climate transition risk as well.

Among E risks, Indonesian issuers are most exposed to climate transition risk, which affects 62% of them. These risks are more pronounced in our credit analysis of coal miners, oil and gas, and power generation. This is because of the effect of energy transition on long-term demand (hydrocarbons, coal) and less predictable earnings and returns amid heightened price volatility (hydrocarbons, coal and palm oil). Few of the large Indonesian coal producers have widened their commodity footprint over the years and so remain concentrated in this single commodity.

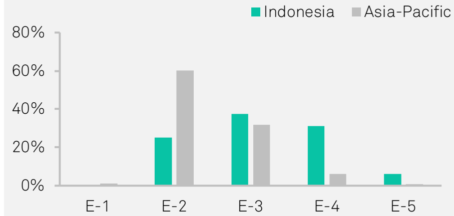
Indonesia's electricity generation is dependent on coal (about two-thirds of generation), exposing PLN to energy transition risk. Indonesia is contemplating a progressive carbon tax, but we expect relatively little impact in the next three years due to offsets and relatively low initial rates. Indonesia's regulatory mechanism, while weaker than regional regulated peers, mitigates the risk as it provides "cost-plus" returns. Announcements to discontinue the build-up of new coal power plants after 2025 depend on the emergence of economic baseload technologies and for now, we are observing a lack of concrete plans to decarbonize the generation mix.

Exposure to E risks will impede access to funding. Some international investors with ESG mandates have either divested or are no longer adding exposure to the mining, fossil-fuel based and palm oil sectors. This narrows funding channels and will ultimately mean higher financing costs over time. Domestic banks are picking up some of the financing slack left by foreign investors. But that will be insufficient given their limited lending capacity and the multi-billion spending and refinancing needs of these sectors over the next five years.

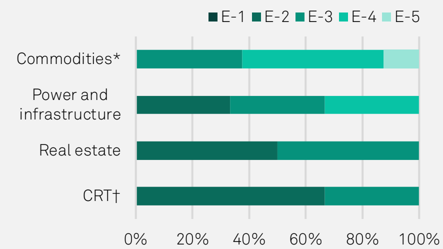
Waste and pollution (56%) and physical asset risk (25%) also weigh on corporate ratings in Indonesia, mostly in our assessment of an issuer's scale, scope and diversity. This risk is more pronounced in commodity sectors but is also relevant for issuers with a narrow asset base in power and manufacturing sectors (autos, chemicals, metals). Indonesian commodity firms tend to have above-average exposure to physical risk as they often operate one or a few large assets (mines, smelters or plantations) located in the same region, or because they are dependent on concentrated infrastructure to carry production to export markets. This asset concentration exposes them to weather-related disruptions (such as flooding or drought), and physical asset destruction. Such disruptions are occurring more frequently nowadays amid increasingly unpredictable weather patterns.

Indonesian issuers exposed to E risks are slow to change business models and corporate strategies. Few rated or listed commodity producers are diversifying earnings profiles--beyond some vertical integration into coal-fired power generation or downstream facilities--or expanding their scale to reduce physical risk. Depleting hydrocarbon reserves at oil producers PT Medco Energi and Pertamina limits capital available for diversification. Abnormally high profits generated by high commodity prices also reduce the incentive or urgency to venture into less E-exposed activities for now, in our view. PT Astra, a large Indonesian conglomerate, is bucking the trend with a moratorium on the growth of its palm oil segment. It has also been diverting additional capital into the infrastructure, real estate, construction and financial services segments while gradually reducing its exposure to its mining services operations.

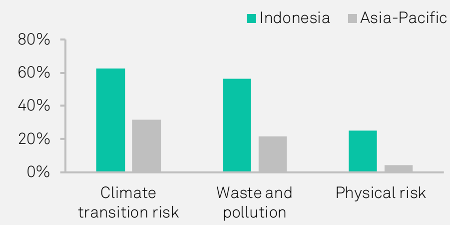
1. Distribution of E Credit Indicators



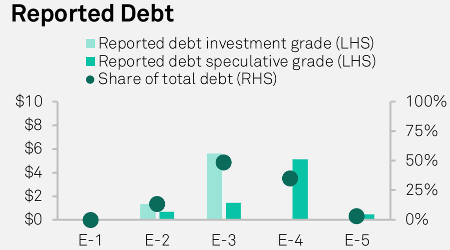
2. E Credit Indicators - Sector Distribution



3. Top E Credit Factors



4. E Credit Indicators And Reported Debt



Data as of March 16, 2022. Rated companies in Indonesia. Charts exclude rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators.
1. Distribution of E credit indicators for rated companies.
2. Distribution of rated companies. *Includes oil and gas, metals and mining, agribusiness, and chemicals. †CRT -- Consumer, Retail, Telecom. Includes consumer products, retailing and restaurants, leisure, media and light manufacturing. **3.** Percentage of rated companies influenced by the given ESG credit factors. **4.** Reported gross debt estimates in billion, US$ for rated companies and aggregated across the credit indicator category. LHS--left-hand scale. RHS--right-hand scale. Aggregate reported debt excludes debt at rated state-owned companies that have an 'almost certain' likelihood of government support, notably energy company PT Pertamina (Persero) and electricity company PT PLN.
Source: S&P Global Ratings, company financial statements.

Social

S factors are neutral for 63% and negative for 37% of rated Indonesian companies. While COVID-19 continues to affect mobility-related businesses in Indonesia like elsewhere in the region, S&P Global Ratings does not rate borrowers in the cyclical transportation, leisure and hospitality, or discretionary retail sectors. Mining companies are more exposed to social-related risks, including health and safety and community management. This is a moderately negative to negative credit consideration--often factored in our competitive position and profitability analysis in this sector.

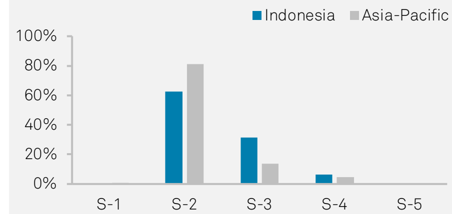
Rated Indonesian firms exposed to S risks had US$5 billion of total debt as of year-end 2021. These include firms with an S credit indicator of S-3, S-4 or S-5, largely from the mining sector. That's much smaller than the debt exposed to environmental risks. The debt figure is likely to be higher if we include PT Pertamina's debt, whose profitability and credit profile face headwinds from caps regularly imposed by the government on domestic fuel prices and which the company subsidizes with its own resources.

Social capital is by far the S credit factor to which rated Indonesian issuers are the most exposed (36% of rated companies). Those risks are more pronounced for commodity producers, especially for large-scale open-pit mining assets in Indonesia's outer islands, given the sector's labor intensity and its impact on communities. For companies we rate, the high single-mine or single mining contractor risk often magnifies the risk of cash flow disruption from social risks.

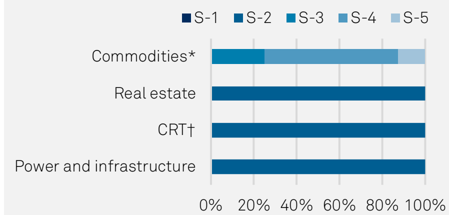
Multiplying price caps or regulations are increasingly relevant, and often negative, S credit considerations. Over the past decade, the government has imposed numerous regulations across sectors to develop value-add in the economy. But a growing number of price caps or export restrictions in the oil and gas, building materials or agricultural commodities sectors are now driven by affordability and social equality. These are generally a credit negative in our analysis of issuers' competitive position, profitability, earning profiles, cash flow volatility and liquidity and funding for the weaker issuers. A notable exception is electricity producer PT PLN, as timely subsidy payment and the company's key social role as the monopoly electricity distributor underpin its credit quality.

Health and safety credit factors only affect only about one in 20 rated issuers in Indonesia. The largely open-pit nature of the Indonesian mining industry, which has a record of adequate safety, underpins this figure, which is lower than for mining companies globally (40% of companies influenced by this credit factor).

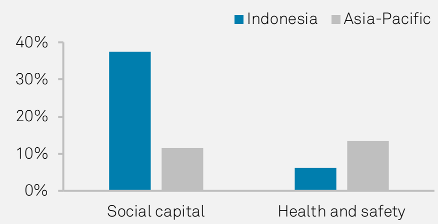
1. Distribution of S Credit Indicators



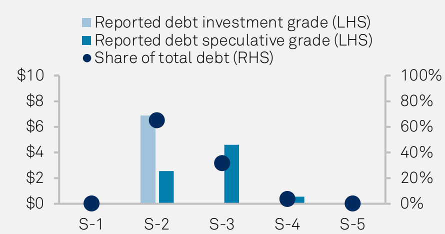
2. S Credit Indicators - Sector Distribution



3. Top S Credit Factors



4. S Credit Indicators And Reported Debt



Data as of March 16, 2022. Rated companies in Indonesia. Charts exclude rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators. **1.** Distribution of S credit indicators for rated companies. **2.** Distribution of rated companies. *Includes oil and gas, metals and mining, agribusiness, and chemicals. †CRT -- Consumer, Retail, Telecom. Includes consumer products, retailing and restaurants, leisure, media and light manufacturing. **3.** Percentage of rated companies influenced by the given ESG credit factors. **4.** Reported gross debt estimates in billion, US$ for rated companies and aggregated across the credit indicator category. LHS--left-hand scale. RHS--right-hand scale. Aggregate reported debt excludes debt at rated state-owned companies that have an 'almost certain' likelihood of government support, notably energy company PT Pertamina (Persero) and electricity company PT PLN. Source: S&P Global Ratings, company financial statements.

Governance

G factors have a negative influence on nearly 70% of rated Indonesian issuers, almost three times more than the Asia-Pacific average. G risk factors tend to be more company-specific unlike environmental or social credit factors, which tend to be concentrated to the commodities sector.

Governance factors have been a major driver of defaults in the Indonesian corporate sector over the past 20 years. G factors have manifested either directly (fraud, willingness to pay issues) or indirectly (rising related party risk, lack of financial oversight and control, overexpansion, or difficulties in refinancing). As a result, such factors percolate through our credit assessments of rated Indonesian companies in several ways. Most often in our management and governance credit modifier, in our liquidity and funding assessment, but also in our assessment of ownership and group credit quality for subsidiaries owned by unlisted parents.

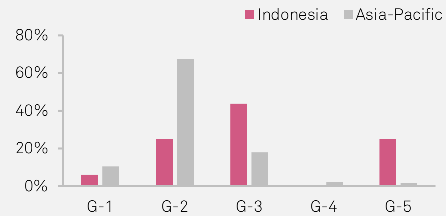
Indonesian issuers exposed to G risks had about US$9 billion in debt outstanding. These are Indonesian companies to which we assign a G-3, G-4 or G-5 credit indicator, excluding the debt of state-owned companies PT Pertamina and PT PLN.

The governance structure credit factor influences nearly 61% of Indonesian firms we rate. This is due to two reasons. First, the large majority are family-owned firms where ultimate strategic and financial decision-making is often concentrated. Boards of directors and management teams often lack independence, especially on major strategic decisions such as asset sales or spending cuts during a downturn. Second, many larger Indonesian corporates belong to families with multiple other businesses that are privately held, with limited financial information. This increases event risk during periods of refinancing. Transparency, reporting and related party transactions are of specific analytical interest for our credit assessment (influencing about one-third of rated entities), especially for vertically integrated issuers in the textile, palm oil, metals and mining, tire manufacturing or agribusiness sectors.

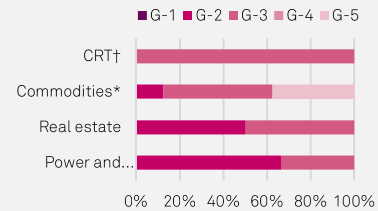
The risk management, culture and oversight credit factor influences about 38% of rated Indonesian companies. Two aspects are of special relevance. First, expansion strategies have often been ambitious, debt-driven, and sometimes in sectors where issuers had limited experience. The willingness to take on unhedged currency risk created numerous situations during periods of currency depreciation (2009, 2015, 2018) in which entities defaulted or near-defaulted despite being asset-rich or having sufficient near-term liquidity. Payment culture is also a relevant credit consideration. Indonesia's weak rule of law often disadvantages foreign creditors in a bankruptcy situation, and this may reduce the willingness to pay of entities with weaker governance standards.

State-owned companies remain exposed to G risks. Indonesian state-owned companies have been among the fastest growing entities in the country--with the average asset base of listed state-owned enterprises (SOEs) multiplied by more than five over the past decade, often funded with debt. The quality of governance structures has not kept up with the fast growth of the sector. Financial risk management and oversight has weakened amid fast rising, sometimes uncontrolled debt expansion. The multiplication of subsidiaries, in part driven by "SOE amalgamation" initiatives of the government in certain sectors, increased the number of corporate layers. This complicates the support process and timely decision-making in critical times where financial support within the SOE is most required. As a result, numerous defaults and cases of financial distress have occurred--even for very large, well-established SOEs--in sectors such as airlines, agribusiness, metals, and construction.

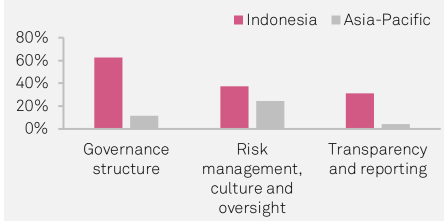
1. Distribution of G Credit Indicators



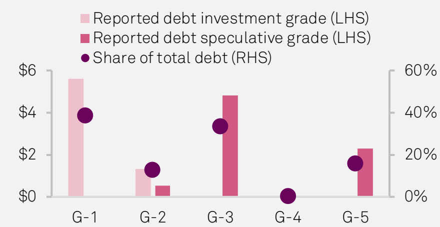
2. G Credit Indicators - Sector Distribution



3. Top G Credit Factors



4. G Credit Indicators And Reported Debt



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Source: S&P Global Ratings, company financial statements.

India

Governance And Environmental Factors Weigh Prominently On Indian Companies Ratings

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- Governance (G) factors influence 41% of rated Indian companies and largely negatively. This proportion is nearly twice as high as the average in Asia-Pacific.
- Risk management, culture and oversight (influencing 24%) and governance structure (17%) are the main G credit factors affecting issuer ratings. That's because of the prevalence of family-controlled entities, often concentrated decision-making, frequent related-party transactions, pledged shares, and aggressive financial policies.
- Environmental (E) and social (S) factors negatively influence 28% and 31% of rated Indian issuers respectively. But these issuers had a material US$107 billion in aggregated debt, nearly half of the outstanding debt of rated India companies.
- The main E risks are climate transition risk, influencing about 31% of rated entities, and waste and pollution (22%). This mainly reflects operating characteristics of the oil and gas, metals, mining, chemical and automobile producers.
- The main S risk is health and safety, given COVID-19's impact on the credit profiles of mobility-exposed sectors such as airports and retail, and the effect of this factor on mining companies.

Chart 1

Rated Indian Companies Have Moderate Concentration Among Sectors Exposed To E Risks

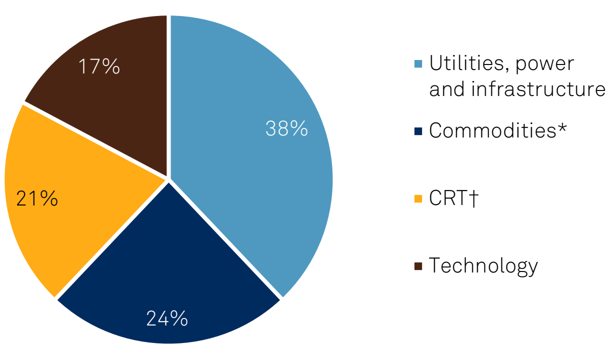

Chart 2

G Factors Have a More Negative Influence On Indian Companies Ratings, Followed By E and S

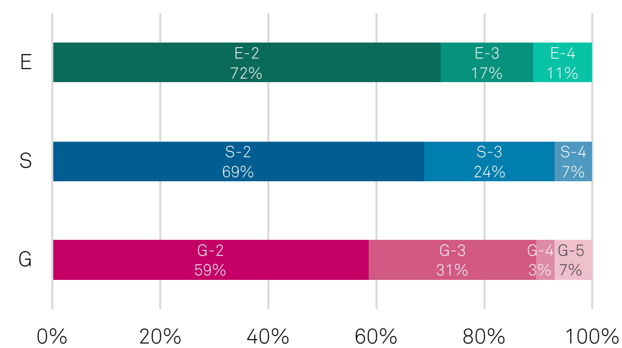

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Chart 3

Climate Transition Risk, Risk Management, Culture And Oversight Are Key ESG Credit Factors

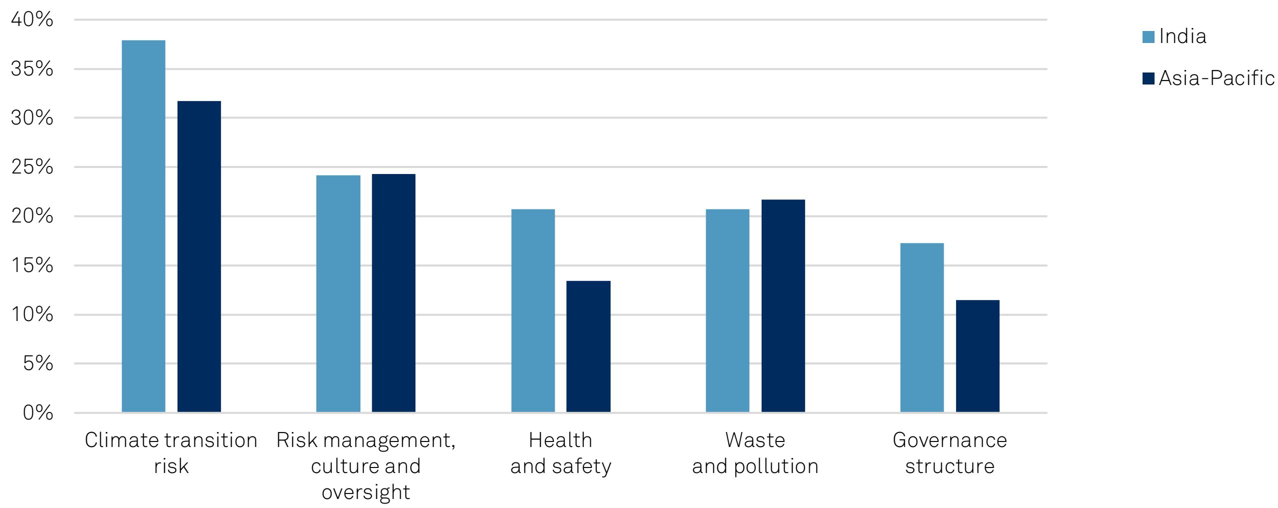


Chart 4

G And S Risks Feature More Negatively In India Than Elsewhere In Asia-Pacific

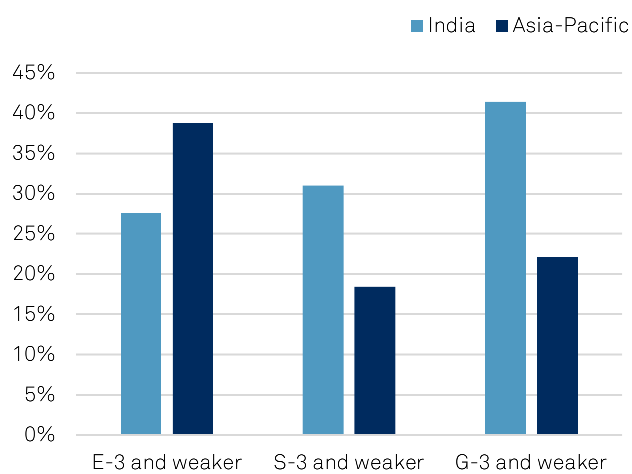
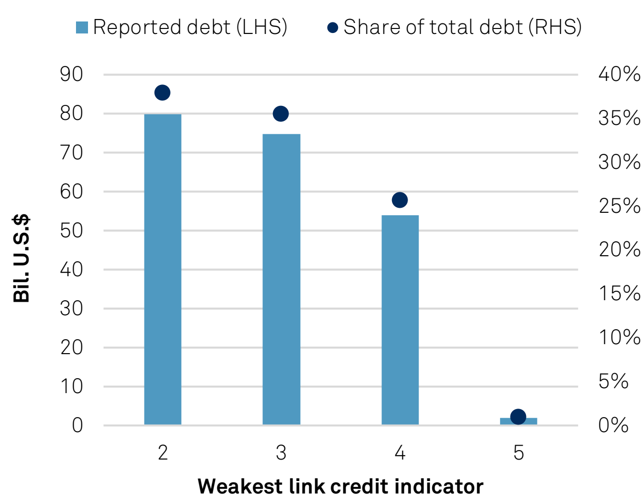


Chart 5

ESG Risks Influence Nearly US$130 Billion Of Outstanding Debt At Rated Indian Companies



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Environment

E factors influence one in four rated company in India, mostly in the commodity sector. That's below the Asia-Pacific average of 40% for two main reasons. First, 40% of rated issuers in India operate in sectors less exposed to E risks such as pharma, technology, telecoms, or consumer. Many rated Indian utilities are renewable developers. Fossil fuel-based power producers (such as NTPC Ltd.) also benefit from regulatory mechanisms with assured returns and full cost pass-through. We assign an E-2 credit indicator to renewable power generators rather than an E-1 to reflect the resource risk that results in weaker cash flows for many Indian projects. Wind projects have been consistently underperforming the 'P90' estimates --the level of electricity generation expected to be met in nine out of 10 years.

Other rated power utilities benefit from regulation that mitigates the credit impact of E risks. These include firms such as NTPC, Power Grid Corp., and NHPC Ltd. The central regulatory framework allows for full cost recovery, including capital expenditure (capex) for pollution control. Indian power utilities are not yet exposed to carbon taxes. Additional costs that result from law changes are also generally recoverable through regulated tariffs. However, priority dispatch for growing renewables capacity can weaken the competitive position of fossil-fuel generators, which still account for nearly 70% of electricity generation.

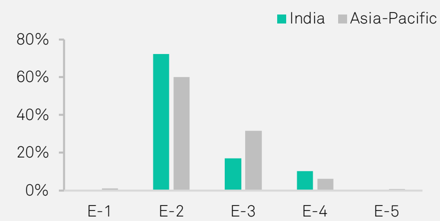
Rated Indian firms exposed to E risks have US$107 billion of debt outstanding. This represents nearly half of outstanding debt of all rated Indian companies. Issuers exposed to E risks tend to be large borrowers, such as Vedanta Resources Plc (Vedanta), Tata Motors Ltd., and Tata Steel Ltd.

Rated Indian firms are most exposed climate transition risk (31%) and waste and pollution (22%). These percentages are almost identical to the Asia-Pacific averages. These factors mostly affect commodity issuers (about 75%) and to a lesser extent automobile and power generators. The key environmental issue is carbon emissions from the transport and production of steel, metals and oil and gas. On waste and pollution, Vedanta has had its iron-ore and copper smelting operations disrupted for environmental reasons, including the suspension of its iron-ore mining license in the state of Goa under a ban on the industry. The credit impact was not significant. In the auto sector, Tata Motors lags peers on electrification, but this is yet to affect its competitive position.

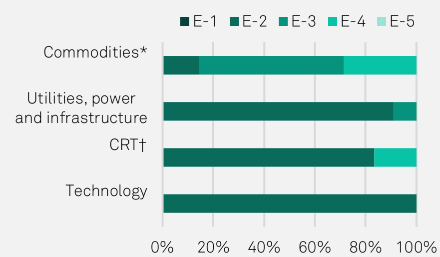
Business models are slow to change. Most issuers have acted to reduce carbon emissions, but progress remains limited. Tata Steel Ltd. is trialing carbon capture technology. Others, such as ONGC Ltd. are investing in renewable energy to reduce net carbon emissions. This remains small as a percentage of total capex. Notable transformations are Tata Motors Ltd. and Reliance Industries Ltd. Tata Motors aims to turn its luxury car unit--Jaguar Land Rover Automotive Plc.--into a fully electric vehicle company by 2030. We are not yet factoring in credit benefits of this strategy given the extended timeframe. But a record of growing market share or higher profitability could increase the relevance of E factors in our analysis. For Reliance Industries Ltd., the entry into telecoms diluted the negative influence of E factors on the rating and reduced the exposure of its earnings to commodity price volatility.

Most rated Indian companies have the flexibility to deal with E risks exposure. Out of US$107 billion of outstanding debt exposed to E risks, US$65 billion are from investment-grade-rated issuers. They generally have solid balance sheets and diverse, profitable, and well-established assets. They also often have adequate financial flexibility to increase spending and reduce E exposure. Of the US$45 billion in speculative grade, Vedanta alone accounts for about one-third. The company has committed to becoming net carbon neutral by 2050 by adopting renewable energy and turning its mining fleet into electric vehicles. At this rating level, however, liquidity and refinancing are more important drivers of credit quality.

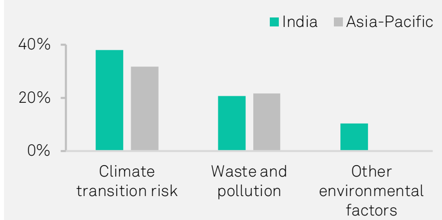
1. Distribution of E Credit Indicators



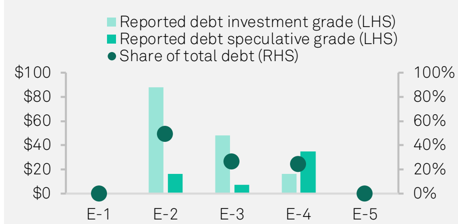
2. Sector Distribution



3. Top E Credit Factors



4. E Credit Indicators And Reported Debt



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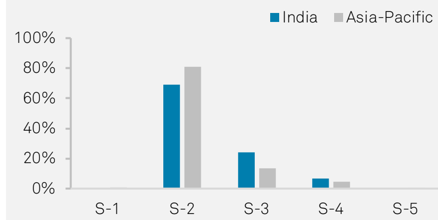
Social

S factors are neutral for 69% of rated Indian issuers. S considerations are almost always neutral in our credit analysis of firms in sectors such as telecom, pharmaceutical, chemicals, technology services, and utilities. Technology services present an interesting case, with some of our rated entities seeing above-average employee turnover, despite being leading brands in the sector. Indian IT majors have greater exposure to social risks due to geopolitical shifts and immigration policies given their reliance on offshoring (more than 50% of employees) to India. However, these issues have not negatively affected our credit analysis given their high and steady profitability, leading to an S-2 credit indicator.

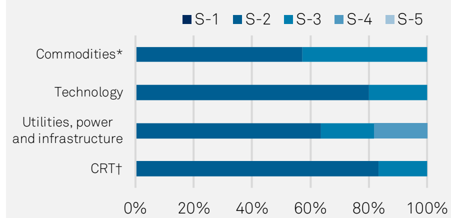
31% of rated Indian companies are exposed to S risks. These had aggregate outstanding debt of about US$45 billion, or 20% of total debt outstanding at rated companies. Of this, companies with an S-3 credit indicator account for about 95%, implying that S credit factors are only moderately negative in our credit analysis. Further, only 10% of total debt from companies with S-3 and S-4 scores is rated in the single 'B' rating category or lower. Some issuers with high exposure to mobility are not very large issuers (Future Retail and ANI Technologies).

Companies in the mobility and commodity sectors are the most exposed to S risks. Companies whose activity fell due to the pandemic include airport operators (Delhi International Airport Ltd., GMR Hyderabad International Airport Ltd.), retailers (Future Retail Ltd.), and a mobility-focused technology provider (ANI Technologies Pvt Ltd. through Ola). The recovery in the credit profiles of these entities also remains exposed to further COVID-related setbacks. Companies with mining operations are also exposed to health and safety but that related more to safety issues than mobility. Mining operations, by their nature, raise safety and social issues such as dust, accidents, and use of community facilities such as roads, among others. The mining operations of Tata Steel Ltd. and Vedanta Resources Ltd., which pose various social and health issues, lead to a lower assessment on social indicators for these entities.

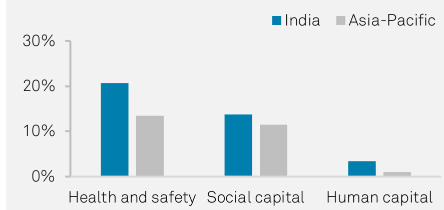
1. Distribution of S Credit Indicators



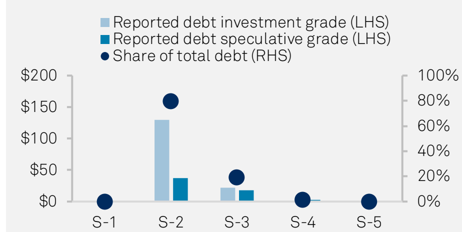
2. S Credit Indicators - Sector Distribution



3. Top S Credit Factors



4. S Credit Indicators And Reported Debt



Data as of March 16, 2022. Rated companies in India, excluding rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators.
1. Distribution of S credit indicators. **2.** Distribution of rated companies. * Includes oil and gas, metals and mining, agribusiness and chemicals; †CRT -- Consumer, Retail, Telecom. Includes consumer products, retailing and restaurants, leisure, media and healthcare.
3. Percentage of rated companies influenced by the given ESG credit factors. **4.** Reported gross debt estimates in billion, US$ for rated companies and aggregated across the credit indicator category. Source S&P Global Ratings, company financial statements. Aggregate reported debt excludes the debt at rated state-owned companies that have an 'almost certain' likelihood of government support.

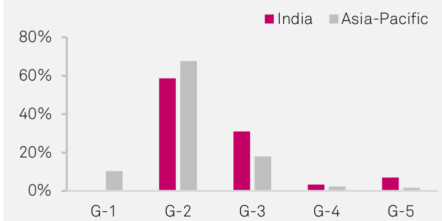
Governance

About 40% of rated Indian companies are exposed to G risks, almost double the average in Asia-Pacific. G credit factors are negative or very negative considerations in our credit analysis (assigned a G-4 or G-5) on one in ten Indian companies, nearly 2.5 times higher than the Asia-Pacific average. As with many other regions, G risks tend to be more company specific while E or S risks reflect sectoral compositions. Management and governance have been a major contributor to credit events in the Indian corporate sector, in the form of aggressive debt financing, accounting issues, and related party transactions. The prevalence of family-controlled governance structures, especially in relatively small companies, is a key differentiating factor.

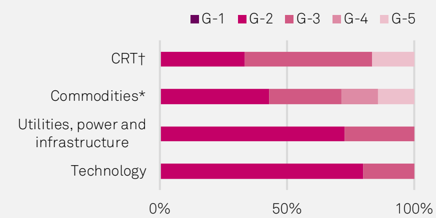
Risk management, culture and oversight (24%) and governance structure (17%) are the main G credit factors influencing Indian companies. In our analysis of Indian companies, the risk management, culture and oversight, and governance structure credit factors often correlate with the shareholding structure. Almost all entities with a G credit indicator of G-3 or weaker are family-controlled, with recurring instances of misalignment between majority shareholders and other stakeholder interests. Typical ways in which this has weakened credit quality include related-party transactions; share pledges; leverage at sister companies; or frequent corporate reorganizations. Transparency and reporting also affects about 7% of rated issuers. This includes unexpected changes in auditors, whistleblower incidents, and cases of complex corporate structures (e.g., for complex groups with numerous unlisted entities).

There is a strong correlation between governance and ratings. All entities with a G-4 or G-5 credit indicator are rated 'B' or lower. These entities represent about 9% of the aggregated outstanding debt of rated Indian corporates. About 70% of entities with a G-3 credit indicator are rated in the speculative-grade category and represent about 10% of the debt outstanding. For these companies, governance weaknesses are milder. They often have a family-controlled governance structure, but without a track record of material negative governance practices.

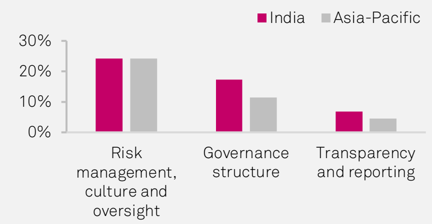
1. Distribution of G Credit Indicators



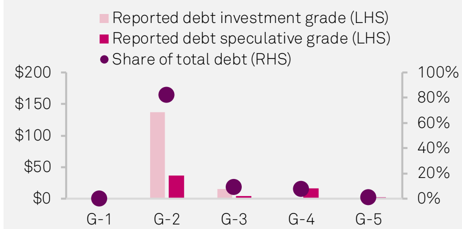
2. G Credit Indicators - Sector Distribution



3. Top G Credit Factors



4. G Credit Indicators And Reported Debt



Data as of March 16, 2022. Rated companies in India, excluding rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators. **1.** Distribution of G credit indicators. **2.** Distribution of rated companies. * Includes oil and gas, metals and mining, agribusiness and chemicals; †CRT -- Consumer, Retail, Telecom. Includes consumer products, retailing and restaurants, leisure, media, healthcare and automobiles. **3.** Percentage of rated companies influenced by the given ESG credit factors. **4.** Reported gross debt estimates in billion, US$ for rated companies and aggregated across the credit indicator category. Aggregate reported debt excludes the debt at rated state-owned companies that have an 'almost certain' likelihood of government support. Source S&P Global Ratings, company financial statements.

Australia and New Zealand

Environmental And Social Factors Have A Modest Impact On Our Credit Analysis Of Australian and New Zealand Rated Entities

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– Environmental (E), social (S), and governance (G) factors are respectively neutral (or net neutral) for our credit analysis on 72%, 76% and 84% of rated corporate and infrastructure companies in Australia and New Zealand.
– Rated sectors most exposed to ESG risks are commodities, airports, gaming, engineering and construction, and power generation.
– 28% of companies rated in Australia and New Zealand are exposed to E risks, representing about US$70 billion in outstanding debt. That's a lower share than in Asia-Pacific as a whole (about 39% of issuers affected).
– Climate transition risk and waste and pollution are the main E risks, influencing 24% and 14% of rated entities. Both are lower percentages than for Asia-Pacific.
– Social factors are neutral for three quarters of rated issuers. S risks feature more negatively in sectors exposed to mobility (airports and gaming and leisure) and to safety and labor and community relations issues (mining).
– Only 11% of rated entities are exposed to G risks, and the impact on these is generally moderately negative. This proportion is much lower than the 22% of Asia-Pacific rated companies.

Chart 1

Rated Australian And NZ Companies Have Moderate Concentration Among Sectors Exposed To E Or S Risks

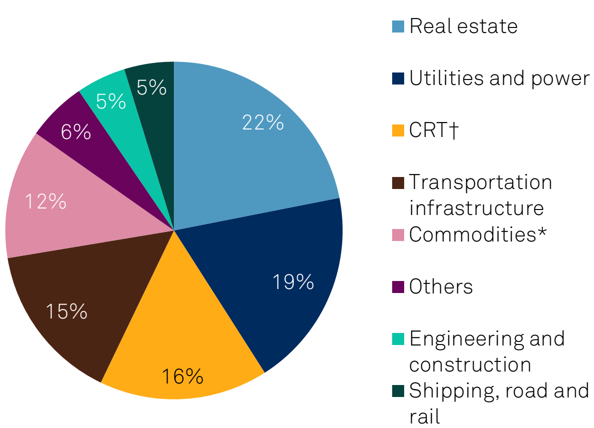
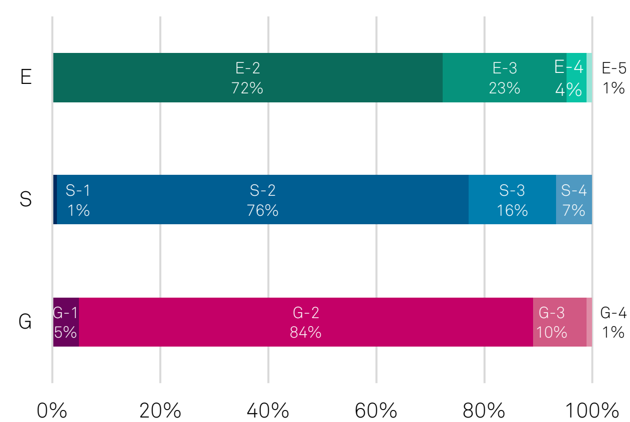


Chart 2

E And S Influence Our Corporate Ratings In Australian And NZ More Than G



Data as of March 16, 2022. Rated companies in Australia and New Zealand, excluding rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators. **1.** Sector distribution of rated companies. * Includes oil and gas, metals and mining, agribusiness and chemicals; †CRT -- Consumer, Retail, Telecom. Includes consumer products, retailing and restaurants, leisure, media and healthcare. **2.** Distribution of ESG credit indicators for rated companies.

Chart 3

Climate Transition Risk, Health And Safety Are Key ESG Credit Factors

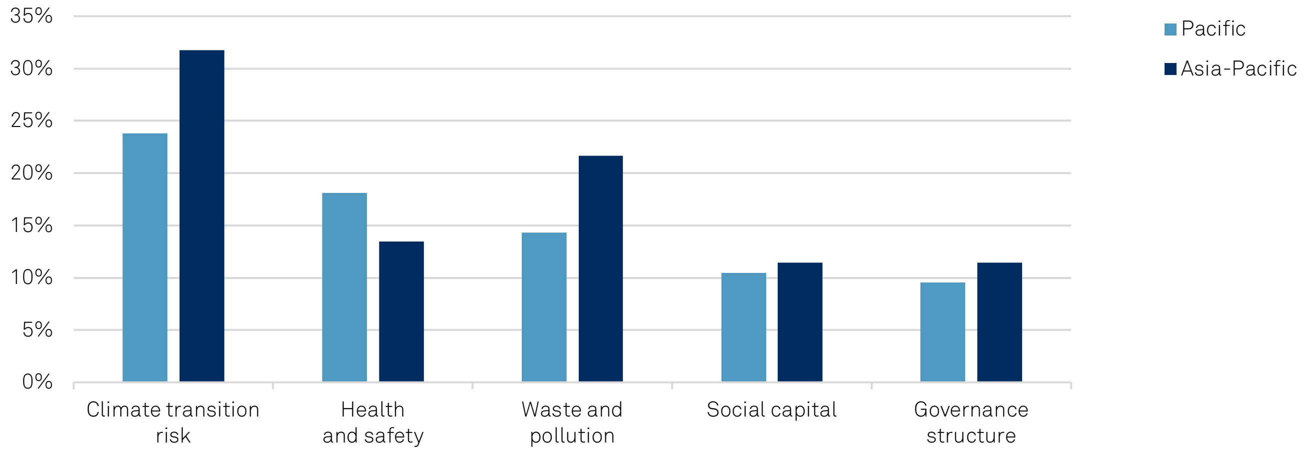


Chart 4

E And G Risks Feature Less Negatively In Australia and New Zealand Than Elsewhere In Asia-Pacific

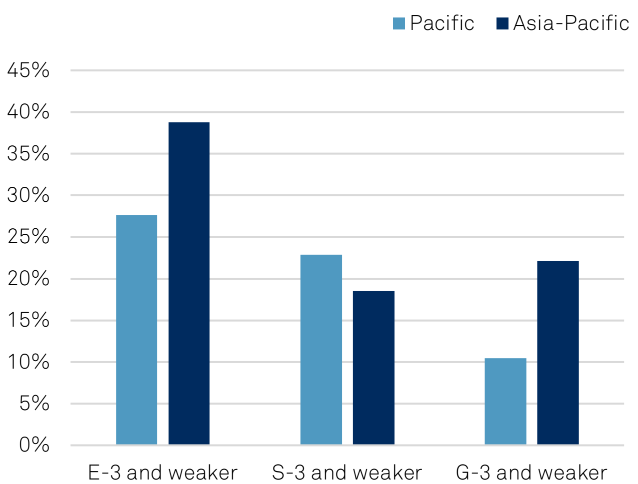
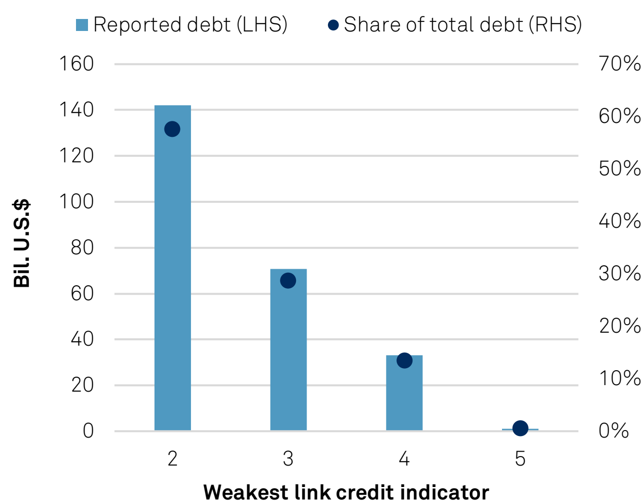


Chart 5

ESG Risks Influence About 40% Of The Debt At Rated Companies in Australia and New Zealand



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Environment

About 28% of rated companies in Australia and New Zealand are exposed to E risks. These companies operate in the oil and gas exploration and production, mining and power generation sectors, and in the transport of carbon-intensive fuels. That proportion is lower than in Asia-Pacific as a whole, where about 39% of rated issuers are exposed to E risks.

Rated issuers exposed to E risks had about US$70 billion in aggregated debt outstanding. These issuers include firms with E credit indicators of E-3, E-4 or E-5. Slightly more than 85% of this debt is in the investment-grade category with the balance being speculative grade.

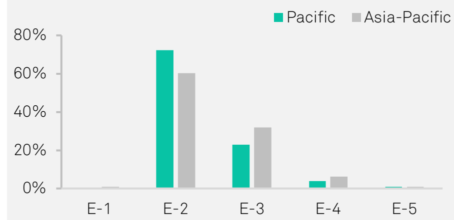
Climate transition risk is the most significant ESG credit factor, affecting about 25% of companies in Australia and New Zealand. The sectors most exposed to climate transition risk are mining, oil and gas, energy generation, and transportation (coal). Our E-4 credit indicator on Santos Ltd. and Woodside Petroleum Ltd. reflect their exposure to energy transition risks, environmental pressures and the likely long-term diminishing returns on capital and increasing price volatility facing the oil and gas industry--credit considerations we capture in our assessment of industry risk. In the metals and mining sector, our E-3 credit indicators on Newcrest Mining Ltd., South32 Ltd., and Fortescue Metals Group Ltd. among others, reflect the broader environmental exposure of the sector. This includes water and waste management as well as exposure and obligations in relation to future asset rehabilitation.

For coal and coal adjacent businesses, funding availability, increasing funding cost, and energy transition risks are increasingly becoming credit considerations. The E-4 credit indicator on coal miner Coronado Global Resources Inc. reflects its exposure to greenhouse gas emissions, and climate change effects more broadly. This is despite its predominant exposure to metallurgical coal over thermal coal.

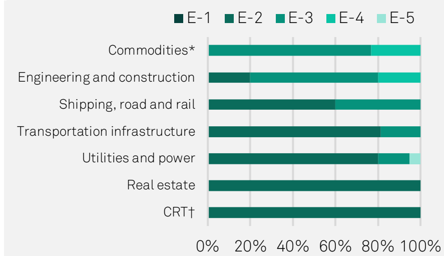
E credit factors are neutral to moderately negative for 86% of rated power producers in Australia and New Zealand--according to the composition of their generation portfolio. An exception is EnergyAustralia Holdings Ltd. Our E-5 credit indicator on the company reflects its concentration on coal and gas in its generation portfolio. Its aging coal-based generation assets include the Yallourn plant, which faces ongoing operating risks. Heavy rainfall translated into lower electricity production in 2021. We expect the company to spend about A$80 million on diverting river water and repairing cracks.

Waste and pollution is the second major E credit factor, influencing 14% of rated companies in Australia and New Zealand, and the third largest ESG factor overall. The sectors most exposed to this E risk are metals and mining, oil and gas, engineering and construction and building materials. Waste management and disposal is an important issue for companies in these sectors, especially with increasingly stringent environmental regulations and regulatory scrutiny in all states of Australia. Additionally, the material cost of landfill waste disposal in Sydney and increasingly Melbourne, can affect business profitability in the construction (such as CIMIC Group Ltd.) and waste management sectors. The E-3 credit indicators for the mining companies also generally capture their exposure to waste and pollution.

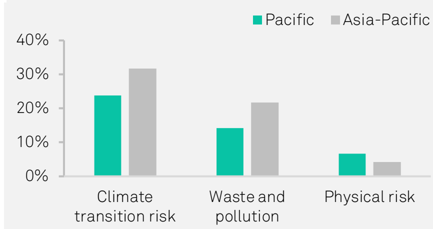
1. Distribution of E Credit Indicators



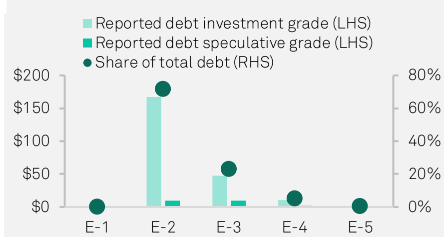
2. Sector Distribution



3. Top E Credit Factors



4. E Credit Indicators And Reported Debt



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Social

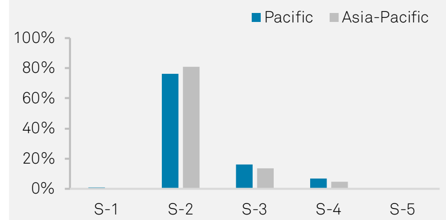
Social-related risk factors are neutral for three quarters of rated issuers across sectors in Australia and New Zealand. The proportion of issuers exposed to S risks (23%) is slightly higher than the 19% of Asia-Pacific issuers exposed to social credit risks.

Rated issuers exposed to S risks have about US$63 billion of debt outstanding. Of this debt, slightly more than 85% is in the investment-grade category with the balance in speculative grade. The sectors most exposed to S risks are airports, mining, oil and gas companies, and gaming/casinos.

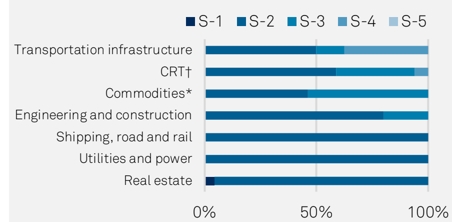
Health and safety is the most significant S credit factor, influencing nearly 18% of rated issuers. Airports is the largest sub sector affected, due to the pandemic. We assess most of the eight Australia and New Zealand airports as S-4 following the material decrease in air travel since March 2020. The slow recovery of international air travel--which we do not expect to recover to pre-pandemic levels until at least 2024--is affecting cash flow and in turn ratings and outlooks. While EBITDA initially dropped by well over 50% at most airports for at least six months and in some cases longer, the effect on ratings was somewhat mitigated by generally strong liquidity positions. The pandemic also affected Pacific gaming and entertainment venues, which were closed for several months during government-imposed lockdowns. The mining sector has exposure to health and safety risks through operational and physical on-site risks.

The social capital credit factor influences 10% of Australia and New Zealand issuers. Both the metals and mining and gaming sectors show exposure to social capital risk. For mining companies, the social credit risks include the inherent issues such as labor and community relations and mining-specific environmental regulations that we factor in our profitability assessment. In the gaming sector, the social risk captures changing societal expectations and negative effects on the end-consumer. For digital platforms operated by Tabcorp Holdings Ltd., customer privacy and data security present structural operational risks.

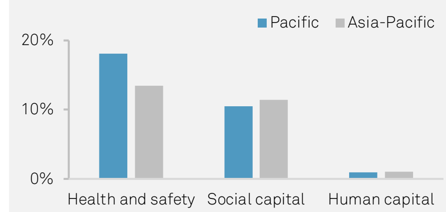
1. Distribution of S Credit Indicators



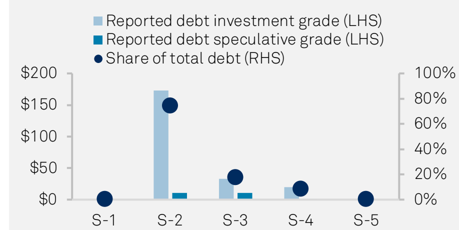
2. S Credit Indicators - Sector Distribution



3. Top S Credit Factors



4. S Credit Indicators And Reported Debt



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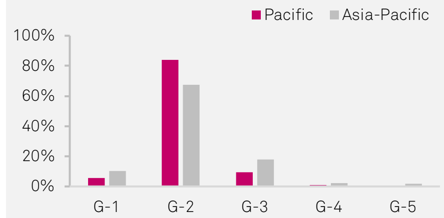
Governance

G factors are largely neutral for rated issuers in Australia and New Zealand. A total of 84% of issuers have a G-2 credit indicator; 11% of issuers have a G-3 or G-4 credit indicator, showing a moderately negative to negative influence on our credit analysis. As with most regions, governance considerations tend to be issuer-specific.

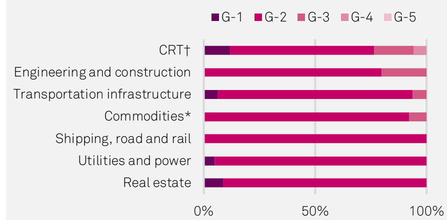
Governance structure and risk management, culture and oversight are the two credit factors that most influence our G assessment. Both influence about 10% of rated issuers in Australia and New Zealand. We typically assign a G-3 credit indicator to companies owned by financial sponsors, reflecting an ownership approach that tends to be more shareholder friendly than credit supportive. Such companies are typically governed by shorter investment mandates. In Australia and New Zealand, this includes companies such as TEG Pty Ltd. (Ticketek), Snacking Investments HoldCo Pty Ltd. (Arnott's), MYOB Invest Co Pty Ltd (MYOB), and Titan Acquisition Co New Zealand Limited (TradeMe).

In the case of Crown Resorts Ltd, the G-4 indicator reflects investigations into Crown's processes and suitability as a casino license holder, including allegations of money laundering, breach of gambling laws, and deficiencies in responsible gambling practices. These matters are captured in both of our governance structure and risk management, culture and oversight governance credit factors.

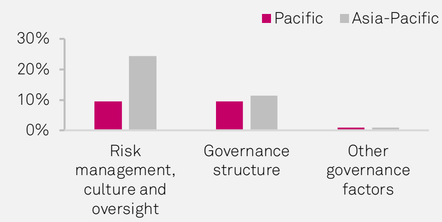
1. Distribution of G Credit Indicators



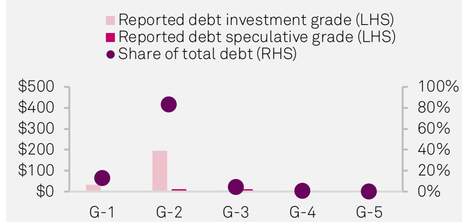
2. G Credit Indicators - Sector Distribution



3. Top G Credit Factors



4. G Credit Indicators And Reported Debt



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Japan

Half Of Outstanding Debt At Rated Japanese Companies Is Exposed To Environmental Risks Whereas Governance Risks Are Limited

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- 32% of rated Japanese companies are exposed to environmental (E) risks. They have about US$690 billion in debt outstanding, which is half the debt of all rated Japanese companies.
- Climate transition risk is the most influential E credit factor, affecting 37% of rated entities. This is more than the average in Asia-Pacific (32%) given the high proportion of rated Japanese companies in industries such as auto and auto suppliers, electric and gas utilities, and general trading and investment companies.
- Japanese companies' efforts to tackle climate transition risks are lagging those of global peers. A greater number of companies in North America and Europe have been adapting their strategies to global decarbonization trends more aggressively than most companies in Japan.
- Governance (G) factors are neutral for 61% of rated Japanese companies. G factors are positive in our credit analysis of 27% of rated Japanese companies and negative (to differing degrees) of 12% of rated issuers in the country.
- Social (S) credit factors are neutral for most issuers (86% of rated entities). Sectors most exposed to S risks are related to mobility such as railroads. Japanese electric power companies with nuclear power plant operations also face significant costs due to stringent nuclear safety requirements.

Chart 1

Rated Japanese Companies Have Some Concentration Among Sectors Exposed To E Risks

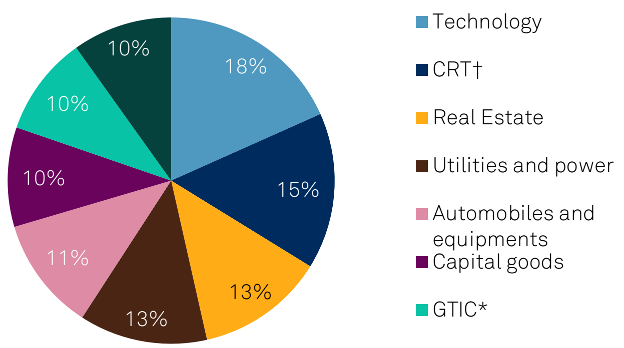
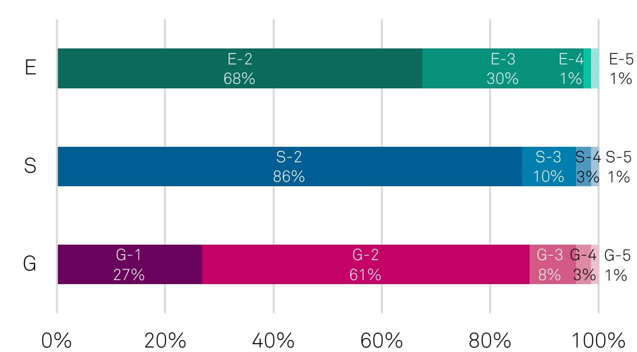


Chart 2

E Risks Influence Our Corporate Ratings More Negatively In Japan, While G Is Generally Positive



Data as of March 16, 2022. Rated companies in Japan, excluding rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators. **1.** Sector distribution of rated companies. * GTIC -- Global trading and investment companies; †CRT -- Consumer, Retail, Telecom. Includes consumer products, retailing and restaurants, leisure, media and healthcare. **2.** Distribution of ESG credit indicators for rated companies.

Chart 3

Climate Transition Risk, Risk Management, Culture And Oversight Are Key ESG Credit Factors

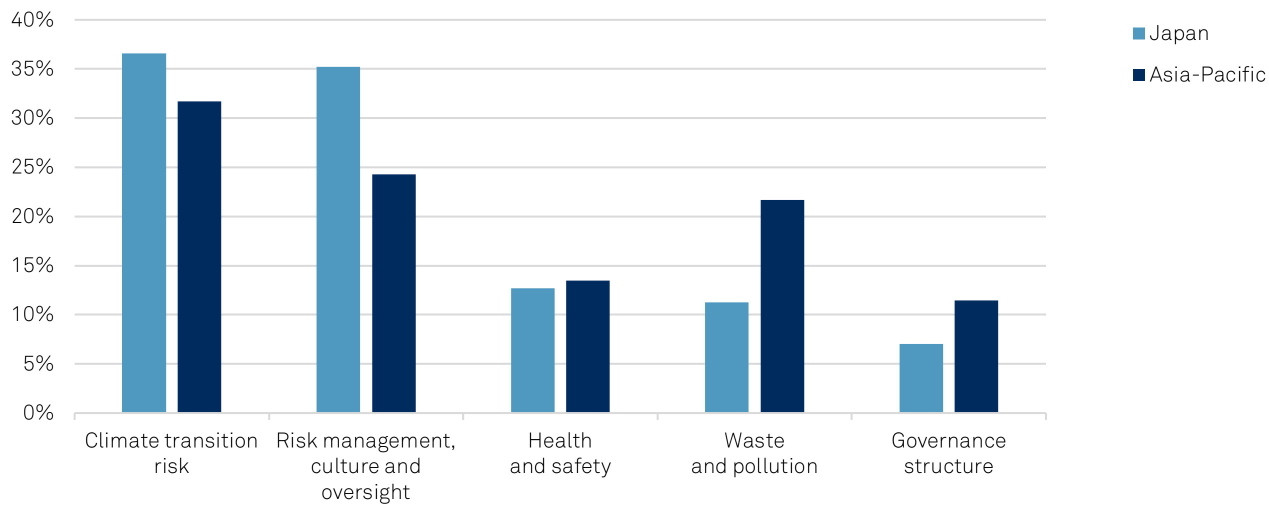


Chart 4

G Features More Positively In Japan Than Elsewhere In Asia-Pacific

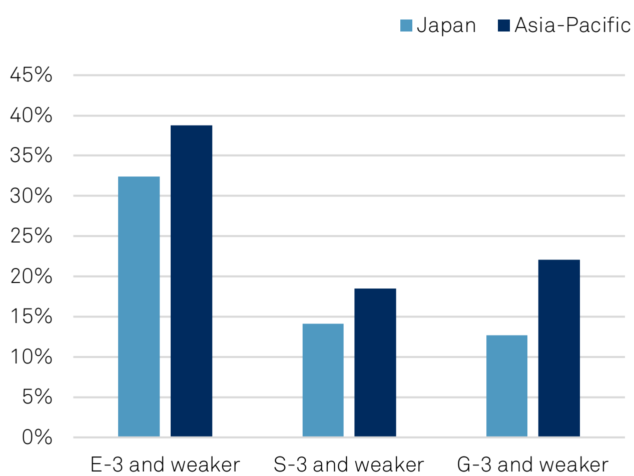
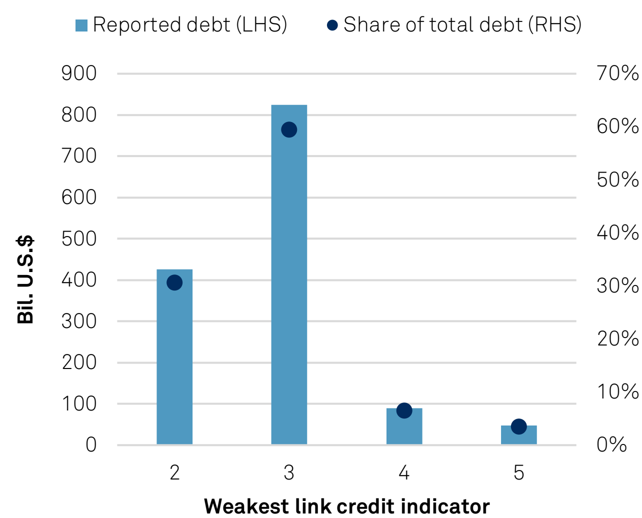


Chart 5

ESG Risks Influence US$1 Trillion Of Debt At Rated Japanese Companies, Mostly Due To E Exposure



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Environment

E factors weigh on our credit analysis of 32% of rated Japanese firms. This is slightly lower than Asia-Pacific overall (39%). Issuers exposed to E risks (E-3, E-4, E-5) are mainly general trading and investment companies (GTIC) or firms in the auto, auto parts, gas, and power generation sectors. INPEX Corp, for example, incurs E risks in its upstream oil and gas activities. Tokyo Electric Power Co. Holdings Inc. is the rated firm most exposed to E risks. That's because the Fukushima No.1 nuclear power plant accident in 2011 had broad environmental consequences and led to compensation, decontamination and decommissioning costs that continue to weigh on the company's balance sheet and credit quality.

Rated Japanese companies exposed to E risks have US$690 billion of debt outstanding, about half the debt of all rated companies in the country. That's because they are mostly large global firms in the auto, commodities, power, oil and gas and GTIC sectors that are also massive borrowers in capital and banking markets.

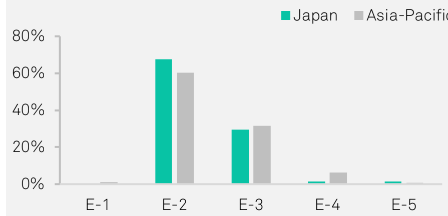
Climate transition risk (37%) is the most influential E credit factor in Japan. Japanese issuers' exposure to climate transition risk is higher than that of Asia-Pacific corporates in total (32%). This is because of the high proportion of Japanese rated issuers in industries with large exposure to climate transition risk, such as power utilities (13% of rated entities in Japan) and autos (11%). Japan's seven GTICs also have investment exposure to oil and gas, iron ore, and coal, with earnings contribution ranging from 20% to 50%.

Japanese issuers in sectors more exposed to climate transition risk are lagging global peers in their efforts to reduce these risks. In the auto sector and electric/gas sector, the average E credit indicator of rated Japanese issuers is lower than the global average. Japanese automakers, led by Toyota and Nissan, are accelerating investments in electrification. Increased investments are so far largely credit neutral, partly offset by reduced spending on combustion engine vehicles. Despite higher spending, both automakers also remain free cash flow positive through 2024 in our projections. However, some major U.S., European, and Chinese firms have been more aggressive in electric vehicle development. E credit factors influence positively the credit profiles of Tesla Inc. of the U.S. and Contemporary Amperex Technology Co. Ltd. (CATL) in China (a world leader in EV batteries).

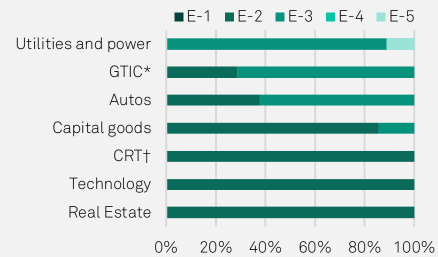
GTICs will remain exposed to E risks. GTICs' dependency on the resources sector is likely to stay high in the next two years, given elevated commodity and energy prices. However, GTICs have a history of portfolio rotation, and have started expanding into renewable energy, and IT digital services. Some larger GTICs, such as Mitsubishi Corp. and Mitsui & Co. Ltd., have stated greenhouse gas emission targets of net-zero in 2050. Solid credit quality also affords all seven rated GTICs significant financial flexibility to expand into sectors less exposed to longer-term E risks.

Japanese power generators are likely to remain dependent on fossil fuels for the next few years. That's in part due to less stringent regulatory regimes and only gradual changes in the country's energy mix. More than one-third of total power generation capacity at Electric Power Development Co. Ltd. and Chugoku Electric Power Co. Inc. is from coal. Regulatory pressure is unlikely to intensify since stable energy supply is also a focus for the Japanese government. Investment in renewable power and new technologies such as ammonia combustion are unlikely to cause significant change in their generation mix in the short term. This contrasts with a growing number of rated entities in North America or Europe for which global decarbonization is positively affecting credit analysis. Such entities include ExGen Renewables IV LLC in the U.S. and Orsted A/S in Denmark. Iberdrola S.A. in Spain is another example. It has rapidly expanded its renewable energy generation capacity while closing coal- and oil-fired power plants over the past few years.

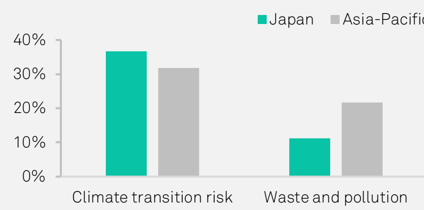
1. Distribution of E Credit Indicators



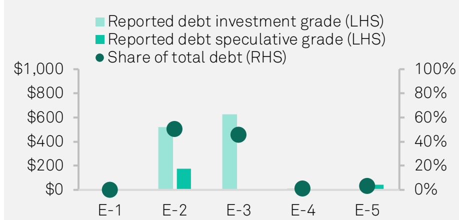
2. Sector Distribution



3. Top E Credit Factors



4. E Credit Indicators And Reported Debt



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Source S&P Global Ratings, company financial statements. Aggregate reported debt excludes the debt at rated state-owned companies that have an 'almost certain' likelihood of government support.

Social

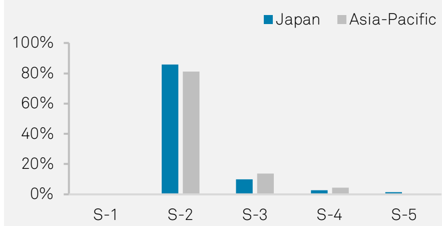
S factors are neutral for 86% of rated Japanese issuers. This is fairly in line with other Asia-Pacific countries.

Among rated entities, mobility-related sectors are the most exposed to S risks. Railroad operators East Japan Railway Co., the largest private railway operator in Japan, and Central Japan Railway Co. faced mobility restrictions and saw passenger revenue decline by 65% and 47% in 2020 respectively. Ratings on both companies remain on negative outlook as we don't anticipate traffic to recover to pre-COVID-19 levels until 2023. Social distancing policies and lockdowns have severely weakened Universal Entertainment Corp's earnings in Japan's gaming machine and the Philippines' casino operation.

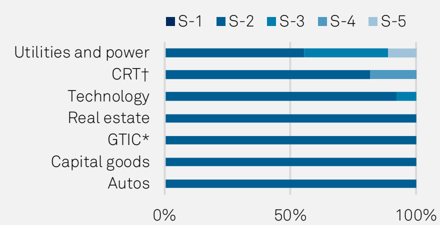
Outside of mobility-related sectors, S risk tends to be more company-specific. Some Japanese rated electric power companies also face volatile profits and an increased debt burden related to stringent nuclear safety requirements. Japan's favorable regulatory framework partially offsets this negative consideration. In the technology sector, investment holding company SoftBank Group is subject to strict regulations on privacy and data security of internet companies through its investee companies. The negative health effects of tobacco have resulted in a secular decline in traditional combustible cigarettes. This has eroded the profitability of Japan Tobacco Inc. It also heightens pressure on its competitive position since Japan Tobacco has been slow in expanding reduced-risk product categories relative to sector peers.

The most influential S factor in Japan is the health and safety credit factor. As the pandemic has shown, this factor weighs on global demand for travel and leisure. This has impaired company cash flow and leverage in affected sectors such as railroad and leisure. Japanese electric power companies with nuclear power plant operations face volatile profits and an increased debt burden related to stringent nuclear safety requirements, following the Fukushima No.1 nuclear power plant accident in 2011. Reactor operations remain exposed to litigation and operational risks as demonstrated by nuclear power plant suspensions at Shikoku Electric Power Co. Inc. and Kansai Electric Power Co., Inc.

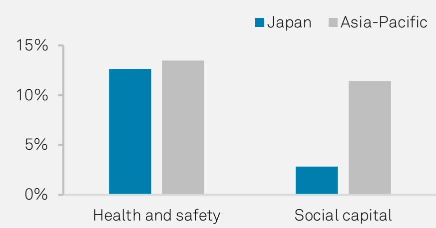
1. Distribution of S Credit Indicators



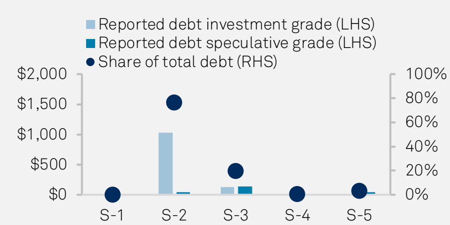
2. S Credit Indicators - Sector Distribution



3. Top S Credit Factors



4. S Credit Indicators And Reported Debt



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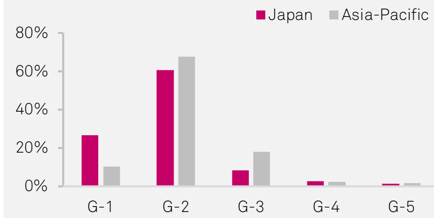
Governance

As with Pacific countries, Korea, and Singapore, G risks are less pronounced for rated Japanese companies. We assign a governance credit indicator of G-3, G-4 or G-5 to 12% of rated entities in the country. This is about half of the proportion in Asia-Pacific (22%). Conversely, governance is a positive attribute in our credit analysis for 27% of rated Japanese companies. Governance considerations tend to correlate to rating levels, with higher rated companies generally exhibiting better established governance practices, higher transparency, steadier strategic execution, and often better risk management and oversight. About 90% of rated Japanese companies have investment-grade level credit ratings ('BBB-' or higher), the highest level in Asia-Pacific along with Korea.

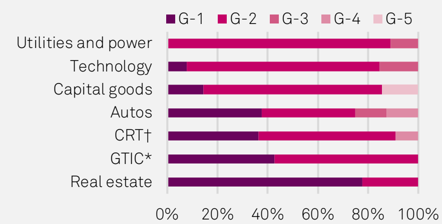
As in other Asia-Pacific countries, G risks in Japan tend to be company-specific rather than sector-specific. Issuers for which governance features negatively in our credit analysis include automobile manufacturer Nissan Motor Co. Ltd. (G-4) and Toshiba Corp (G-5). For the former, the previous management team's excessive efforts to raise market share damaged Nissan's profitability. In addition, sudden change in senior management in 2019 hurt the brand recognition. We regard Toshiba's governance as a very negative credit consideration. We attribute this to recent management turnover, uncertainties about the strategic direction, and a potential shift to more aggressive growth or shareholder remuneration policies, possibly damaging Toshiba's operational performance and financial standing.

The risk management, culture and oversight credit factor influences about 35% of rated companies, largely positively. We view management capability as a positive factor for the higher-rated Japanese companies. Most large, well-managed companies such as Toyota Motor Corp. have demonstrated robust risk management capabilities across their supply chains during the highly challenging period since 2020. We also assess nearly one-third of rated Japanese companies as having solid strategic planning and execution abilities, and sophisticated risk-management systems. In addition, Japan's major general trading and investment companies have a long track record of solid financial performance through constant efforts of 1) intensifying their customer base and global business partnerships, and 2) dynamic portfolio management by divesting or replacing low profitability businesses in a timely manner.

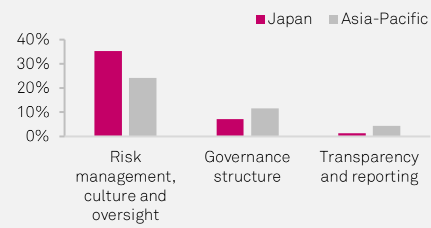
1. Distribution of G Credit Indicators



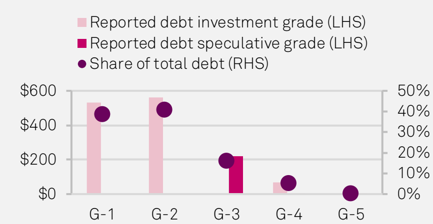
2. G Credit Indicators - Sector Distribution



3. Top G Credit Factors



4. G Credit Indicators And Reported Debt



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Korea

Environmental Factors Are Moderately Credit Negative For Rated Korean Issuers

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- 44% of the companies we rate in Korea are exposed to environmental (E) risks. These firms have US$163 billion in aggregated debt outstanding, about 70% of the reported debt of all rated Korean companies.
- Climate transition risk is the primary E credit factor, influencing 48% of rated Korean entities. This is higher than the average in Asia-Pacific (32%) because a large portion of rated Korean companies operate in sectors such as oil refining, petrochemicals, steel, and power generation.
- Social (S) risk factors are neutral for most Korean corporations (85% of rated entities). Health and safety and social capital are the main S credit factors, and both influence 11% of rated Korean companies. The history of labor strikes at domestic auto manufacturers can be a potential constraining factor. However, we have seen no major labor conflicts in recent years.
- Governance (G) factors are neutral for 81% of rated Korean firms. Risk management, culture and oversight is the main G credit factor, typically underpinning somewhat weaker governance assessments.

Chart 1

Rated Korean Companies Are Concentrated Among Sectors Exposed To E Risks

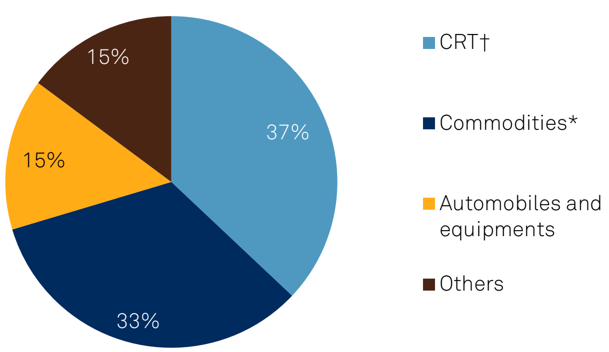

Chart 2

E Risks Influence Most Negatively Our Corporate Ratings In Korea, Followed By G Risks

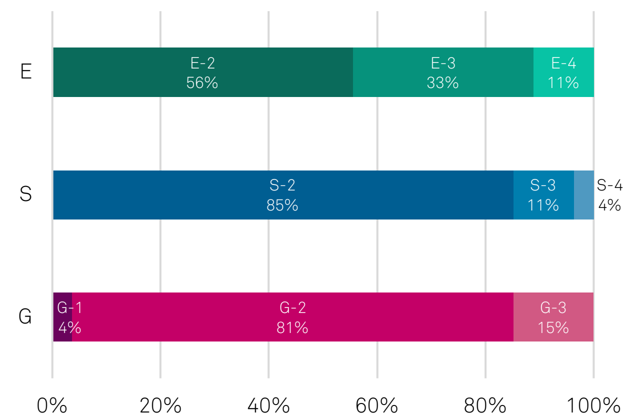

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Chart 3

Climate Transition Risk Is The Main ESG Credit Factor, Given Exposure To Auto, Commodities

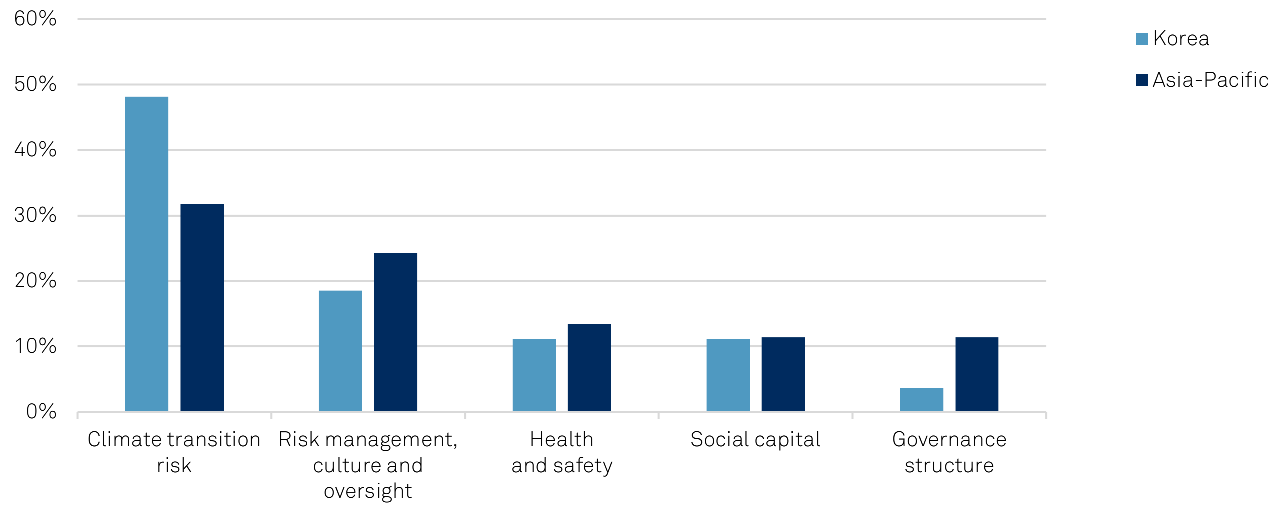


Chart 4

E Risks Features More Negatively In Korea Than Elsewhere In Asia-Pacific, G More Positively

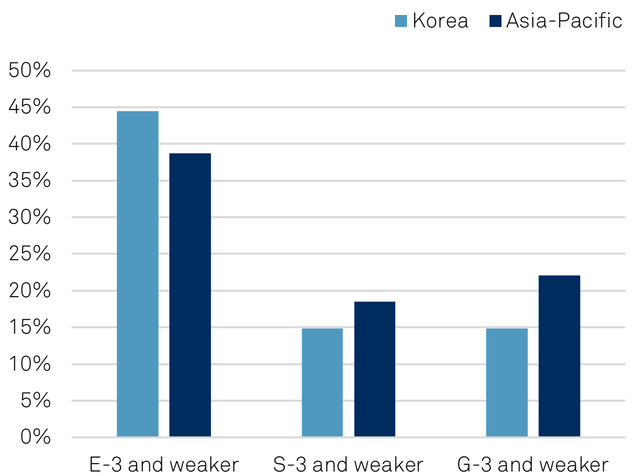
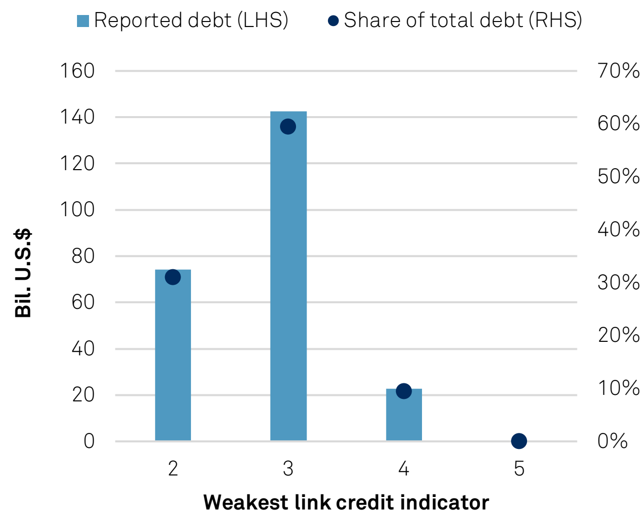


Chart 5

ESG Risks Influence About 70% Of The Outstanding Debt At Rated Koran Companies



Data as of March 16, 2022. Rated companies in Korea, excluding rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators. **3.** Percentage of rated companies influenced by the given ESG credit factors. **4.** Distribution of ESG credit indicators for rated companies. '3 and weaker' includes credit indicators of 3, 4 and 5. **5.** Distribution of rated companies based on their weakest link credit indicator. 'Weakest link credit indicator' is defined as the weakest E, S or G credit indicator assigned to a given company. For example, the weakest link credit indicator of a company with E-2 / S-3 / G-4 or a company with an E-4 / S-4 / G-4 credit indicator will be '4'. The reported gross debt estimates in billion, US$ are aggregated across the credit indicator category. We add the debt of each company only once to avoid double counting within each weakest link credit indicator category. Aggregate reported debt excludes the debt at rated state-owned companies that have an 'almost certain' likelihood of government support and on which we did not release ESG credit indicators. Source S&P Global Ratings, company financial statements.

Environment

Nearly half (44%) of the firms we rate in Korea are exposed to E risks. The tilt of large borrowers and the rated universe to the chemical, metals and mining, and auto and auto supplier sectors explains this high level, which is higher than in Asia-Pacific as a whole (39%). We assign an E-3 credit indicator to most companies in these sectors to reflect the costs related to carbon emission, which could result in weaker financial metrics. The majority of oil and refining companies that are further exposed to energy transition risks have E-4 credit indicators.

Rated Korean firms exposed to E risks have US$163 billion of debt outstanding. That's nearly 68% of the total debt outstanding at rated Korean firms. We rate all firms exposed to E risks (firms with an E-3, E-4 or E-5 credit indicator) at the investment-grade level ('BBB-' or above). Such issuers include the large chemical, metals and mining, commodity and auto companies, which are large domestic borrowers, operate in capital-intensive sectors and rely more on debt financing.

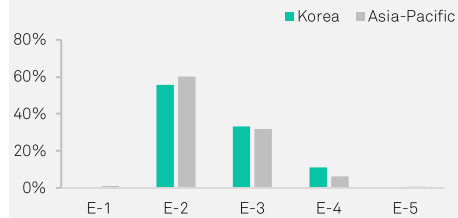
48% of rated Korean issuers are most exposed to climate transition risk. That proportion is higher than that of Asia-Pacific issuers (32%). Climate transition risks are more pronounced in our credit analysis of power generation, refining, petrochemical, and metals and mining issuers than in other sectors, given their material exposure to greenhouse gas emissions and other pollutants.

Refining, petrochemical and steel companies need to make sizable environment-related investments, which can weigh on credit quality. These companies are investing to upgrade their facilities to reduce pollution and expand to segments less exposed to E risks such as renewable energy and hydrogen. For example, we have taken several negative rating actions on oil refining and chemical producer SK Innovation. Its significant capital spending on electric vehicle (EV) battery capacity expansion has led to a deterioration in financial metrics without offsetting stronger profitability or product diversity.

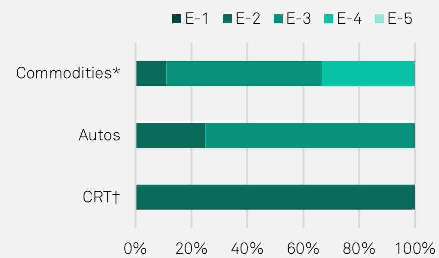
Like their global peers, automobile producers Hyundai Motor Co. and Kia Corp. face increasing environmental risks due to tightening emission regulations. The heavy investment needs and higher manufacturing cost of green cars could strain their credit profiles. Hyundai and Kia aim to increase their combined share of the global EV market to about 12% by 2030, compared with about 6% in 2021. While both companies are expanding their green vehicle offerings and product specifications, we note their branding and profitability is weaker than that of their top global peers.

Korean EV battery makers (LG Chem and SK Innovation) have a solid 50% share of the global market, excluding China. Sizable orders from global automakers and rapid capacity expansions up to 2025 support the demand for EV batteries. However, we do not consider these attributes to be credit-positive for these companies. Long-term profitability is untested amid rising supply and heavy investment and could weigh on their cash flow and leverage.

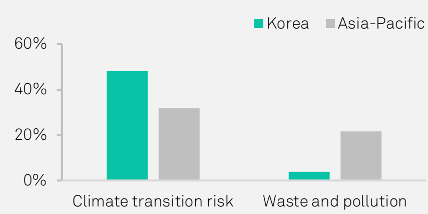
1. Distribution of E Credit Indicators



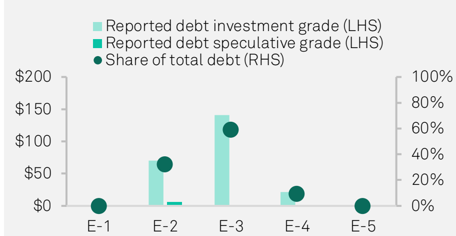
2. Sector Distribution



3. Top E Credit Factors



4. E Credit Indicators And Reported Debt



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Social

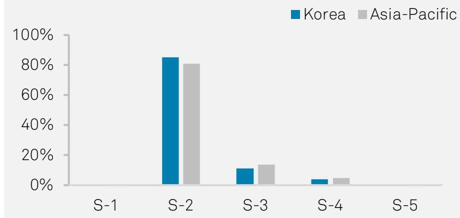
S factors are neutral for the majority of rated Korean issuers. About 85% of rated entities in the country--slightly higher than the proportion in Asia-Pacific (about 80%)--are assigned a neutral indicator of S-2. That said, auto and mining companies exposed to labor/community relations or quality issues are assigned S-3 credit indicators, while cyclical transport companies affected by COVID-19 have an S-4 credit indicator.

Korea's auto industry is exposed to more social risks than in other countries. As the application of new technology accelerates, the risk of reputational damage from unexpected quality issues becomes more critical for automakers to manage. For instance, we estimate that Hyundai Motor and Kia had almost US$5 billion in quality-related and product recall expenses in 2017-2020. Further, the automakers have experienced strikes at domestic plants for several years until 2019, with the most significant one during August 2017-January 2018 (which prevented the production of an estimated 91,000 vehicles). While labor relations have normalized, potential conflicts with relatively active labor unions are negative considerations in our ratings.

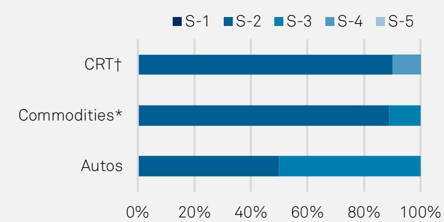
Health and safety weighs on 11% of rated Korean companies, especially those affected by COVID-19. The global downturn in air traffic has affected Hanjin International Corp's hotel business and its parent Korean Air Lines' airline operation. The recovery in the credit indicator of cyclical transport sector could take longer as we believe the traffic turnaround could be delayed beyond 2024.

Social capital (11%) is the main S credit factor in the mining sector. Social capital risks are more pronounced for the mining sector given the impact on local communities. Korea Mine Rehabilitation and Mineral Resources Corp. (KOMIR) has an S-3 credit indicator to reflect exposure to risk arising from social regulations, labor and community relations, and safety management.

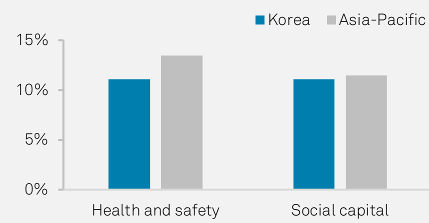
1. Distribution of S Credit Indicators



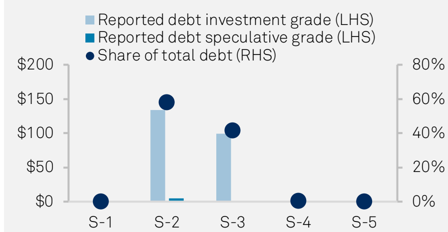
2. S Credit Indicators - Sector Distribution



3. Top S Credit Factors



4. S Credit Indicators And Reported Debt



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Governance

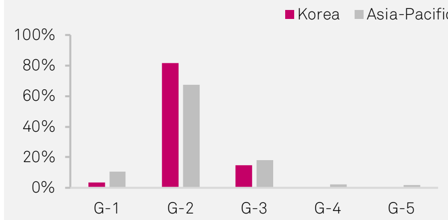
G factors are neutral for 81% of rated Korean firms and positive for about 4% of them. As in other countries in Asia-Pacific, governance tends to correlate with ratings levels. As more than 90% of rated Korean firms have an investment-grade level credit rating ('BBB-' or higher), governance factors are typically a neutral or marginally positive consideration in our credit rating analysis except for those entities with specific issues. Risk management, culture and oversight (influencing about 19%) and governance structure (about 4%) are the two main governance credit factors for Korean corporations.

Like elsewhere in Asia-Pacific, G risks tend to be company-specific in Korea. Although governance risks have not been a major credit issue for the Korean corporate sector over the past decade, direct and indirect factors such as legal disputes, fraud, and overexpansion have sometimes been negative considerations on our credit rating analysis.

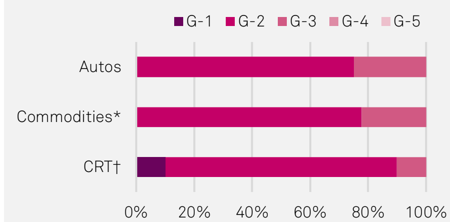
SK Innovation's G-3 credit indicator is due to the significant settlement amount following a legal dispute with LG Chem over a technology patent. Magnachip Semiconductor Corp.'s history of financial restatements and associated litigation is a governance weakness that limits the company's standing in credit markets and underpins our G-3 credit indicator. We have assigned a G-3 credit indicator on Hankook Tire to reflect bribes and fund embezzlement by a senior manager at the company, suggesting weaker oversight and internal controls. Management decisions to rapidly expand the overseas mining business of KOMIR have resulted in ongoing significant losses, a heavy debt load, and as such are the key factors underpinning our G-3 credit indicator.

Conversely, the steady execution of a well-defined strategy has enabled Samsung Electronics Co. Ltd. to maintain leading positions in its various business segments, underpinning our G-1 credit indicator on the company.

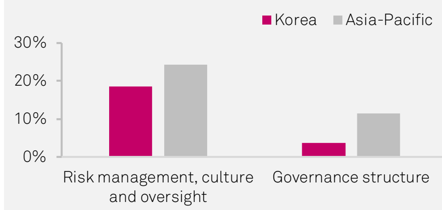
1. Distribution of G Credit Indicators



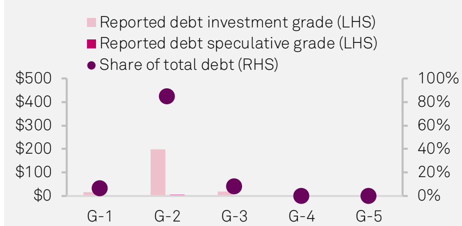
2. G Credit Indicators - Sector Distribution



3. Top G Credit Factors



4. G Credit Indicators And Reported Debt



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3. Percentage of rated companies influenced by the given ESG credit factors. **4.** Reported gross debt estimates in billion, US$ for rated companies and aggregated across the credit indicator category. Source S&P Global Ratings, company financial statements. Aggregate reported debt excludes the debt at rated state-owned companies that have an 'almost certain' likelihood of government support.

Appendix 1

In our ESG credit ratings criteria "Environmental, Social, And Governance Principles In Credit Ratings," Oct. 10, 2021, we articulate the principles that S&P Global Ratings applies to incorporate environmental, social, and governance (ESG) factors into its credit ratings analysis. In that criteria we define ESG factors as those ESG factors that can materially influence the creditworthiness of a rated entity or issue and for which we have sufficient visibility and certainty to include in our credit rating analysis. We note that when sufficiently material to affect our view of creditworthiness, ESG factors can influence credit ratings.

In our commentary "ESG Credit Indicator Definitions And Application," Oct. 13, 2021, we discuss the introduction of ESG credit indicators as a complement to our existing credit rating analysis. Whereas our ESG criteria seek to enhance transparency in how and where we capture ESG factors in credit ratings, our ESG credit indicators provide additional disclosure by reflecting our opinion of how material the influence (on a 1-5 scale) of ESG factors is on our credit rating analysis. We assess these indicators on a net basis, meaning that we take a holistic view of exposure to environmental, social and governance factors and related mitigants on the credit rating analysis. They are applied after the rating has been determined. They are not a sustainability rating or an S&P Global Ratings ESG evaluation.[1]

Accordingly, the application--or change--of an ESG credit indicator cannot in itself trigger a credit rating or outlook change. However, the impact of ESG factors on creditworthiness could contribute to a rating action, which in turn could lead to a change in the ESG credit indicator. Through the release of ESG credit indicators, we aim to further delineate and summarize the relevance of ESG factors to our credit analysis by isolating our opinion of their credit influence and separating it from the non-ESG factors affecting the credit rating.

The scale for environmental credit indicators is identical for social and governance credit indicators. It has a negative skew, which reflects our view that environmental, social and governance considerations (including risks outside of a company's control) have a negative influence more often than a positive one. An ESG credit indicator of 'E-2', 'S-2', or 'G-2' means that it is currently a neutral consideration in our credit rating analysis. This does not necessarily mean that ESG factors are not relevant, rather that they are currently not sufficiently material to alter the credit rating analysis or that positive ESG considerations are offset by ESG-related risks.

Also, entities may have identical ESG credit indicators, even if they diverge on ESG characteristics and performance. This may be the case because we only incorporate in our credit rating analysis those ESG factors that materially influence creditworthiness and for which we have sufficient visibility and certainty or because the differentiation in ESG characteristics is not in our view sufficiently material to warrant a different ESG credit indicator outcome.

[1] ESG credit indicators are separate and distinct from S&P Global Ratings ESG evaluations. An S&P Global Ratings ESG evaluation is not a credit rating or component of our credit rating methodology. Rather, the ESG evaluation considers the impacts and dependencies on the environment and society across the value chain for a wide range of stakeholders, regardless of current credit materiality. It indicates our view of an entity's relative exposure to observable ESG-related risks and opportunities, and our qualitative opinion of the entity's long-term sustainability and readiness for emerging trends and potential disruptions. (For more on ESG evaluations, see "Environmental, Social, And Governance Evaluation Analytical Approach," Dec. 15, 2020.)

Appendix 2

Below is a summary of our publication: "ESG Credit Factors: A Deeper Dive" published, Nov. 17, 2021.

Environmental factors: The environmental dimension describes how private and public entities interact with, influence, and respond to changes in the physical environment. Environmental analysis considers entities' exposure to physical and transition risks and how they preserve or deplete natural capital. The environmental perspective can include the positive and negative environmental impacts and dependencies generated in the provision of goods and services, when relevant to our credit rating opinion (for information on how we analyze these factors see "Criteria For ESG Principles In Credit Ratings," published Oct. 11, 2021). We identify the following environmental factors: Climate transition risk, physical risk, natural capital, waste and pollution, and other environmental factors.

Social factors: The social dimension describes how private and public entities manage and are affected by health and safety and how they develop, use, and preserve their human and social capital to secure their social license to operate or mandate to govern. The social perspective can include positive and negative social impacts and dependencies generated in the provision of goods and services, when relevant to our credit rating opinion (for information on how we analyze these factors see "Criteria For ESG Principles In Credit Ratings"). We identify the following social factors: Health and safety, social capital, human capital, and other social factors.

Governance factors: The governance dimension describes the organization and impact of decision-making at all levels of private and public entities. Governance considers the system of rules, procedures, statutory frameworks, and practices by which entities are directed and controlled, how they make decisions, comply with the law, and weigh and communicate the interests of the entity with stakeholders. This includes how the entity manages strategic risks and opportunities to navigate potential disruptions (for information on how we analyze these factors see "Criteria For ESG Principles In Credit Ratings"). We identify the following governance factors: Governance structure, risk management, culture and oversight, transparency and reporting, and other governance factors.

Environmental Credit Factors

Climate transition risk	Physical risk	Natural capital	Waste and pollution
Climate Transition Risk considers the implications of the world's transition to a low carbon and greener economy through a reduction in greenhouse gas emissions, shifts in public sentiment and consumer demand, changes in climate policy or legislation, or technological advancements which could lead to significant swings in demand and costs for or development of certain products and services.	**Physical Risk** associated with the environment can be characterized by events such as wildfires, floods, droughts, or hurricanes; or, exemplified by longer-term shifts in climate patterns such as increasing temperatures, rising sea levels, or increased weather variability. Physical risks also include other natural disasters that are not always climate-related such as earthquakes.	**Natural Capital** can be defined as the sum of the stock of renewable and non-renewable resources available in the world. This is made up of elements which include plants, animals, soils, minerals, water, and air. Biodiversity is a feature of living natural capital.	**Waste And Pollution** includes issues related to all waste products, wastewater and other pollutants, and air emissions other than greenhouse gas emissions. Waste And Pollution can be considered an element of Natural Capital.

Governance Credit Factors

Governance structure

Governance Structure refers to how an entity is set up to make decisions that weigh the interests of its stakeholders. The independence, composition, and effectiveness of decision-making bodies and the institutional setups of sovereign and local governments may be key considerations. This also may include turnover, skill sets, and key person risk associated with the management structure.

Risk management, culture, and oversight

Risk Management, Culture, And Oversight refers to how an entity makes and executes decisions or policies. This may include an entity's effectiveness in identifying, monitoring, selecting, and mitigating the risks it takes, and the extent to which these risks are contained within the entity's risk appetite. This factor may also consider alignment of the entity's culture to strategic vision and the entity's ability to set and achieve strategic goals within its capabilities.

Transparency and reporting

Transparency And Reporting considers the extent to which stakeholders have ready access to all relevant information about an entity, including its audited financial reports. This may include the quality, reliability, frequency, and timeliness of the entity's information disclosure and the standards of its jurisdiction.

Social Credit Factors

Health and safety

Health And Safety includes considerations such as risks and opportunities incurred across the life cycle of a product or service, or those associated with adherence to relevant health and safety regulations and voluntary codes; occupational health and safety, public health and safety issues, plus pandemics, wars, and conflicts. Health And Safety may be considered an element of either Social Capital (Public Health And Safety) or Human Capital (Employee Health And Safety).

Social capital

Social Capital includes considerations such as risks and opportunities related to how entities treat and respond to consumers, citizens, and communities through providing responsible, affordable products and services, including data privacy and security. Social capital factors can involve responses to socioeconomic and demographic issues.

Human capital

Human Capital includes considerations such as an entity's approach to treating employees through employment practices (hiring, recruitment, remuneration, development, retention, and related practices), and the working conditions it provides, including labor relations and employee health and safety. Human capital management throughout the value chain may materially influence credit through reputational impacts.

Appendix 3

ESG Credit Indicators – Rated Corporate And Infrastructure Entities In Australia and New Zealand

Country	Issuer	Industry	E	S	G	Comments	Factors
Australia	Adelaide Airport Ltd.	Transportation Infrastructure	E-2	S-4	G-2	Social factors are a negative consideration in our credit rating analysis of Adelaide Airport. Health and safety risks related to COVID-19, in addition to travel restrictions, both domestic and international, will continue to depress cashflows for Adelaide Airport over the next few years. Pre-pandemic, about 85%-90% of the traffic at the airport was related to domestic travel. In the fiscal year ended June 30, 2021, domestic and regional traffic was about 60% below pre-pandemic levels and international traffic was negligible.	Health And Safety
Australia	AGI Finance Pty Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of AGI Finance Pty Ltd. The company is a large gas transmission and distribution entity across two states in Australia. With strong industrial usage and residential demand for heating, gas demand is likely to remain secure for the foreseeable future. The ability of the current networks to take a modest mix of hydrogen and other technology, and cost advancement on hydrogen usage should reduce stranded asset risk.	N/A
Australia	Alumina Ltd.	Metals And Mining	E-3	S-3	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Alumina Ltd. This primarily reflects the company's 40% shareholding in the assets of Alcoa World Alumina and Chemicals (AWAC) assets, which are exposed to pollution and waste management risks, and mine rehabilitation and asset-retirement obligations. Social factors are also a moderately negative consideration, due to the inherent risks from environmental protection pressures, health and safety, labor and community relations, and mining-specific environmental regulations that can impact the group's competitive positioning and profitability. Despite its minority shareholding position, Alumina's governance is supported by a joint-venture agreement with Alcoa Corp. that ensures certain key decisions require Alumina's consent by a super-majority vote (at least 80% of the members appointed to the strategic council), including its dividend policy and scope of AWAC.	Waste And Pollution; Health And Safety; Social Capital
Australia	AMP Capital Shopping Centre Fund	Real Estate	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of the REIT AMP Capital Shopping Centre Fund.	N/A
Australia	AMP Capital Wholesale Office Fund	Real Estate	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of the trust AMP Capital Wholesale Office Fund.	N/A
Australia	APT Pipelines Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of APT Pipelines Ltd., the rated entity of the APA Group. The company's primary business is regulated and midstream gas pipelines with no commodity exposure and a majority of revenue from take-or-pay contracts.	N/A
Australia	Arc Infrastructure Pty Ltd.	Transportation Infrastructure	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Arc Infrastructure. The below-rail operator faces mainly indirect environmental risks because of exposure to mining products (primarily iron ore) transported on its network. Revenue is partially volume dependent, relying on Arc's ability to maintain ongoing operations of its rail tracks. Compliance requirements at the time of construction and periodic reporting mitigate risks from its rail network passing through areas such as nature reserves, pastures, and heritage sites.	Other Environmental Factors
Australia	Aristocrat Leisure Ltd.	Leisure	E-2	S-3	G-2	Social factors are a moderately negative consideration in our credit rating analysis of Aristocrat Leisure. Widespread casino closures during the pandemic materially impacted group EBITDA, which declined by about 32% in fiscal 2020. However, Aristocrat's digital gaming provided a material offset and as a result we believe Aristocrat was less impacted by the pandemic than its industry peers. Aristocrat faces ongoing regulatory and compliance risks given online gaming, which is largely unregulated, is exposed to future regulatory developments. In addition, slot machine and social gaming can have detrimental and lasting effects on the consumer.	Social Capital; Health And Safety
Australia	ATCO Gas Australia LP	Utility Networks	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of ATCO Gas Australia.	N/A

Australia	Aurizon Network Pty Ltd.	Transportation Infrastructure	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Aurizon Network. This is mainly because of the regulated nature of its below-rail operations. In addition, as much of the traffic on its network involves the shipping of coal, the company remains exposed to the long-term demand prospects of the coal sector. In the foreseeable future, we expect the high quality of Australian coal will support demand prospects, particularly from Asia.	Climate Transition Risk
Australia	Aurizon Operations Limited	Shipping, Road and Rail	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Aurizon Operations. As a coal-dominant rail operator, Aurizon Operations remains exposed to long-term demand prospects from both metallurgical and thermal coal, although some diversification into bulk cargo and associated services will support earnings. Global energy policies and climate transition risks may affect the demand, particularly for thermal coal, and hence influence the volumes carried by the rail network.	Waste And Pollution; Climate Transition Risk
Australia	Ausgrid Finance Pty Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Ausgrid Finance Pty Ltd. Ausgrid's internal safety and health management systems support its ability to provide safe and reliable service for its customers, despite the complexity associated with its system. Given most of the company's operations are in regulated electricity transmission and distribution, environmental factors do not have a direct impact on Ausgrid. This is because Ausgrid's pathway to integrate distributed energy networks and network reliance as a part of rapid energy transition means that their networks will continue to play a key role.	N/A
Australia	AusNet Services Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of AusNet Services Ltd. With 80% of its EBITDA derived from electricity transmission and distribution network operations, AusNet's environmental exposure is low and indirect. Its service area has bush fire risk that is controlled through careful vegetation management, rapid earth fault circuit limiters, and insurance coverage. About 20% of EBITDA is derived from gas distribution, which appears secure for the foreseeable future given the current economics of a possible alternative fuel, hydrogen. In addition, the gas networks are suitable to take a modest mix of hydrogen even today.	N/A
Australia	Australia Pacific Airports Corp. Ltd.	Transportation Infrastructure	E-2	S-4	G-2	Social factors are a negative consideration in our credit rating analysis of Australia Pacific Airport Corp and its main asset, Melbourne Airport. Health and safety issues due to COVID-19 has had a negative impact on the company's financial performance because of the drop in traffic at its airports and the resulting pressure on cash flow. While this extreme disruption is unlikely to be repeated, near-term risks persist. These risks could be magnified by any future local health requirements. Damage to balance sheet may take a few years to repair and will need strong, proactive management.	Health And Safety
Australia	Australian Gas Networks Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Australian Gas Networks Ltd. (AGN). AGN is a large gas distribution entity across multiple states in Australia. Strong industrial usage and the need to heat residences is likely to keep gas demand stable for the foreseeable future. The ability of the current networks to handle a modest mix of hydrogen and further technologies, as well as cost advancement on hydrogen usage, should reduce stranded asset risk.	N/A
Australia	Australian Postal Corp.	Shipping, Road and Rail	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Australian Post. Although the delivery of parcels and letters exposes Australia Post to increased GHG emissions, it has implemented various strategies, including electric vehicles for last-mile delivery, to limit its GHG emissions.	N/A
Australia	Australian Prime Property Fund Commercial	Real Estate	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of Australian Prime Property Fund--Commercial.	N/A
Australia	Australian Prime Property Fund Retail	Real Estate	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of Australian Prime Property Fund Retail.	N/A

Australia	BHP Group Ltd.	Metals And Mining	E-3	S-3	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of BHP, similarly to its mining peers. This is mainly due to the energy-intensive nature of the mining process and the continuing pressure on the mining industry to become more environmentally friendly. That said, the expected divestment of the petroleum business (operating assets in the deep-water of the Gulf of Mexico, Australia, and Trinidad and Tobago), announced in the summer of 2021, will have a moderately positive effect on the company's GHG footprint over time. Social factors are a moderately negative consideration, given the inherent health and safety risks to which miners are exposed. We note, though, that the company continues to have a good safety record. In the financial year (FY) 2021, the total recordable injury frequency rate was 3.7 per million hours worked, an 11% decrease compared with FY2020 and at the lower end of the FY2017-FY2021 range of 3.7-4.7. The company's practices in local communities are in line with industry standards.	Waste And Pollution; Health And Safety; Human Capital
Australia	BlueScope Steel Ltd.	Metals And Mining	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of BlueScope. This is due primarily to the elevated climate-transition risks associated with blast furnace operations given the company's high GHG emissions. That said, BlueScope's strategy is focused on a range of sustainability and decarbonization-led initiatives to reduce its environmental footprint and achieve net-zero emissions by 2050. BlueScope is increasing capacity in electric arc furnace steel production technologies, which have lower emissions than traditional blast furnaces. While BlueScope is subject to costs associated with the restoration and environmental rehabilitation of operational sites, we note the company intends to operate its sites for the foreseeable future thereby mitigating any near-term exposure. The company also plans to migrate its production technologies to more environmentally friendly processes as these technologies become commercially available.	Natural Capital; Physical Risk; Climate Transition Risk
Australia	Brambles Ltd.	Shipping, Road and Rail	E-2	S-2	G-2	ESG credit factors have an overall neutral influence on our credit rating analysis of Brambles. Brambles' circular "share and reuse" business model helps its customers to eliminate waste from their supply chains. The company's wood raw materials for pallets are from certified sustainable sources and collaborations with customers reduce empty transport miles and carbon emissions. Brambles achieved carbon neutral status across its own operations (scope 1 and 2) as of June 2021.	N/A
Australia	Brisbane Airport Corp. Pty Ltd.	Transportation Infrastructure	E-2	S-4	G-2	Social factors are a negative consideration in our credit rating analysis of Brisbane Airport Corporation. Airport traffic continues to be impacted by international border closures related to COVID-19 and periodic state-based lockdowns intended to protect public health and safety. Passenger traffic remains well below pre-pandemic levels and has led to a substantial weakening in cash flow. Given current vaccination rates and the recurrence of snap lockdowns across Australia, a recovery to pre-2020 conditions is likely to be protracted. Domestic traffic represents about 75% of the total that goes through the airport.	Health And Safety
Australia	BWP Trust	Real Estate	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of BWP Trust. The trust has demonstrated a strong record of management and governance, underpinned by solid strategic positioning, risk management, and operational effectiveness. All directors of the responsible entity are appointed by strategic shareholder Wesfarmers, benefitting from Wesfarmers' solid management and strong governance framework.	Governance Structure
Australia	Charter Hall Prime Office Fund	Real Estate	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of Charter Hall Prime Office Fund.	N/A
Australia	CIMIC Group Ltd.	Engineering & Construction	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of CIMIC Group Ltd. This primarily reflects the company's exposure to waste management and emissions pollution as a leading player in the E&C sectors, and its exposure to commodities mining, particularly coal, through its mining services operations. CIMIC's recent sell-down of 50% of its Thiess mining services operations has reduced the group's exposure to the coal mining sector. However, the acquirer of the 50% stake, Elliott Investment Management L.P., retains an option to put the Thiess stake back to CIMIC over the next few years.	Waste And Pollution
Australia	Coles Group Ltd.	Retail and Restaurants	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Coles. The retailer has a track record of prioritizing sustainable practices throughout its businesses. This is demonstrated by key initiatives in areas such as ethical sourcing, sustainable supply-chain procurement, and promoting a safe and fair work environment for Coles' large workforce. In our view, these measures will help maintain the company's positive brand perception, supporting its competitive position relative to that of peers.	N/A

Australia	Computershare Ltd.	Business Services	E-2	S-3	G-2	Social factors are a moderately negative consideration in our credit rating analysis of Computershare. We consider Computershare to be exposed to social risks surrounding the protection of confidential data, given the private and sensitive nature of information managed by the company. A data or cybersecurity breach could result in reputational, legal, and or financial damage that could undermine Computershare's credit quality. That said, our assessment of Computershare's management and governance acknowledges the company's record of instituting comprehensive policies and procedures to mitigate risks. We also consider Computershare to have a robust cybersecurity framework, which should help protect against cyber attacks.	Social Capital
Australia	Coronado Global Resources Inc.	Metals And Mining	E-4	S-3	G-3	Environmental factors are a negative consideration in our credit rating analysis of Coronado. While Coronado primarily focuses on metallurgical coal production, we expect the company will face similar climate transition risks as thermal coal companies over the medium term, given the GHG emission intensity from its products. Accordingly, adherence to strict and evolving environmental regulations will remain a key rating driver. Social factors are a moderately negative consideration. The company's improving trend in injury rates is comparable to peers'; however, in early 2020, a contractor died after a fatal tire-change incident. Coal mining is also a major source of economic activity in the regions where the company operates, underpinning the need to maintain strong community relationships. Governance is also a moderately negative consideration given EMG, a financial sponsor, has a controlling ownership share in Coronado. Our assessment of Coronado's financial risk profile as highly leveraged reflects corporate decision-making that prioritizes the interests of the controlling owner, in line with our view of the majority of rated entities owned by private-equity sponsors. Our assessment also reflects their generally finite holding periods and a focus on maximizing shareholder returns.	Climate Transition Risk; Natural Capital; Waste And Pollution; Social Capital; Governance Structure
Australia	Crown Resorts Ltd.	Leisure	E-2	S-3	G-4	Governance factors are a negative consideration in our credit rating analysis of Crown. This follows investigations into Crown's processes and suitability as a casino license holder, including allegations of money laundering, breach of gambling laws, and deficiencies in responsible gambling practices. We see a heightened risk that potential fines and sanctions could flow from the various reviews. That said, we believe there is a pathway for Crown to restore its standing among Australia's state-based gaming regulators. Crown acknowledges the scale of its governance failures and, under its Reform Agenda, has implemented actions to strengthen its governance, accountability, and compliance. Social factors are a moderately negative consideration in our credit rating analysis of Crown. Meanwhile, Crown's earnings and cashflows are significantly vulnerable to government-led COVID-19 casino closures due to health and safety risks.	Social Capital; Health And Safety; Risk Management, Culture And Oversight; Governance Structure
Australia	CSL Ltd.	Healthcare	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of CSL. The company has a proven track record of displaying strong market leadership, effective innovation, and successful execution of its operating strategy. CSL's post-acquisition transformation of its influenza vaccine business, Seqirus, from an EBITDA loss making business of about US$245 million in fiscal 2016 into a global leader is evidence of this. In fiscal 2021, Seqirus accounted for about 15% of group EBITDA. In addition, we believe CSL's strong operational capabilities and risk management expertise, as well as strict regulatory oversight of the industry, help to manage risks associated with plasma contamination, which we view as the major industry risk.	Risk Management, Culture And Oversight
Australia	CSR Ltd.	Building Materials	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of CSR. Although CSR's reported GHG emissions are lower than peers', CSR also has an indirect minority equity interest in the highly energy intensive Tomago aluminium smelter, which increases its exposure to environmental risks. In 2020, CSR announced the following sustainability targets for 2030: 50% of electricity generated by renewable energy, a 20% reduction in energy consumption per ton of saleable product and a 30% reduction in GHG emissions per ton of saleable product. In addition, the company continues to meet its financial obligations associated with legacy asbestos liabilities, which continue to decline with passage of time. We make debt adjustments of A$137 million to reflect this, noting that the company is in a net cash position on a reported basis.	Climate Transition Risk
Australia	Defence Housing Australia	Real Estate	E-2	S-1	G-2	Social factors are a positive consideration in our credit rating analysis of Defence Housing Australia (DHA). DHA's provision of housing to the Australian Defence Force (ADF) personnel is more credit supportive than other real estate operators, given it supports Australia's defense strategies. We expect DHA will remain the Australian government's primary provider of accommodations for ADF personnel. This role is reflected in our assessment of its solid competitive position and underpinned by a service agreement with Defence that supports a stable and secure revenue stream.	Social Capital

Australia	Dexus	Real Estate	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Dexus. In our view, Dexus has integrated ESG management practices within its core operations, development activities, and investment decisions. This is demonstrated by its reduction in emissions intensity across its office portfolio by 56% since fiscal 2008. Additionally, Dexus is on track to achieve its net-zero emissions target by the end of fiscal 2022. Achieving high ESG standards is likely to benefit Dexus' long-term performance by boosting income through higher rental rates; reduced operations and maintenance costs; and enhanced business reputation. The structural shift towards work-from-home/hybrid work arrangements is expected to alter long-term tenant office space demand. Despite this, we believe Dexus' high-quality office portfolio, solid market position, very well-diversified tenancy base, and flexible floor space offerings will underpin its ability to attract and retain tenants.	N/A
Australia	DEXUS Wholesale Property Fund	Real Estate	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of Dexus Wholesale Property Fund.	N/A
Australia	Emeco Holdings Ltd.	Capital Goods	E-3	S-2	G-3	Environmental and governance factors are a moderately negative consideration in our credit rating analysis of Emeco. This results from the company's fuel and carbon emissions associated with its heavy earthmoving rental equipment, and underlying commodity exposure to both thermal coal (16% of fiscal 2021 revenue) and metallurgical coal (24%). That said, we view the company's equipment as commodity agnostic and the company continues to increase its exposure to iron ore (19%) and gold revenue (34%). Furthermore, while Emeco has built a good track record of governance and operational effectiveness over the past four years, we note the company's distressed exchange via a scheme of arrangement in 2016/2017, which underpins our view that governance factors are a moderately negative consideration in our credit rating analysis.	Waste And Pollution; Risk Management, Culture And Oversight; Climate Transition Risk
Australia	Energy Developments Pty Ltd.	Power Generators	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Energy Developments Pty Ltd. The company has a carbon footprint through generation-only activity from landfill and coal mine gas and use of diesel in its remote energy operations. However, this exposure is offset to a degree because the company generates green credits. Although there is some cash flow stability due to about 80% contracted cash flows, declining prices and the expiry of green schemes are expected to negatively impact profitability over the next three to five years.	Climate Transition Risk
Australia	EnergyAustralia Holdings Ltd.	Power Generators	E-5	S-2	G-2	Environmental factors are a very negative consideration in our credit rating analysis of EnergyAustralia. The company will remain more exposed to climate transition risk over the next decade because of its predominantly coal- and gas-oriented generation base (54% coal, 30% gas) as well as costs associated with the scheduled retirement of the Yallourn coal plant in 2028. Exposure to flooding and end-of-life asset retirement costs and associated waste management also increase medium-term environmental risks.	Climate Transition Risk; Physical Risk
Australia	ETSA Utilities Finance Pty Ltd.	Utility Networks	E-2	S-2	G-1	Governance factors are a positive consideration in our credit rating analysis of ETSA Utilities Finance Pty Ltd. The company has a strong record of management and governance underpinned by management experience, its solid strategic planning and execution, and appropriate risk management.	Risk Management, Culture And Oversight
Australia	Fortescue Metals Group Ltd.	Metals And Mining	E-3	S-3	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Fortescue, due to the elevated climate transition risks associated with its mining activities and the high GHG emissions of its steel-producing customers. Material costs are also provisioned for the restoration and environmental rehabilitation of the operational sites. However, Fortescue is one of the leaders of the clean-energy transition and has established solar gas hybrid projects and committed to be carbon neutral by 2030 and targets zero scope 3 emissions by 2040. Social factors are also a moderately negative consideration. This reflects the inherent health and safety risks associated with mining, labor, and community relations, and mining-specific environmental regulations that can impact the group's competitive positioning and profitability. However, Fortescue is a large employer of indigenous Australians with a strong safety track record, which tempers these risks.	Climate Transition Risk; Waste And Pollution; Health And Safety; Social Capital
Australia	Genesis Care Pty Ltd.	Healthcare	E-2	S-3	G-2	Social factors are a moderately negative consideration in our analysis of Genesis Care. The oncology provider has been materially affected by COVID-19 in the past 18 months, as health and safety concerns affected demand for the group's services. We expect COVID-19-related issues to continue to affect the group's results until herd immunity is achieved, particularly in the U.S. In this regard, weaker COVID-19-related demand and strong market competition continues to hamper the company's turnaround efforts in its U.S. operations, which were acquired in early 2020.	Health And Safety

Australia	Goodman Australia Industrial Partnership	Real Estate	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis on Goodman Australia Industrial Partnership.	N/A
Australia	Goodman Australia Partnership	Real Estate	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis on Goodman Australia Partnership.	N/A
Australia	Goodman Group	Real Estate	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Goodman Group. Goodman continues to reduce its total energy usage and GHG emissions. The group achieved carbon neutrality for its global operations in fiscal 2021, ahead of its target of 2025. A new agreement to use 100% green power in its Australian operations was finalized at the start of fiscal 2021, increasing the group's energy usage from renewable sources to about 60% (as at June 2021) and progressing well with its 2025 global target of 100% renewable energy use.	N/A
Australia	GPT Group	Real Estate	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of GPT. GPT's efforts to reduce energy and water usage, lower its carbon footprint, and improve its waste management is likely to benefit its long-term performance by boosting income through higher rents, lower operations and maintenance costs, and enhanced business reputation. Compared with 2005 levels, 2020 water intensity fell 62%, energy intensity dropped 54%, carbon emissions declined 75%, and closed loop waste recovery improved to 33%. As a result, as of the year ended Dec. 31, 2020, GPT has cumulatively avoided 1.8 million tons of CO2 equivalent emissions and cumulatively saved A$249.5 million in energy costs since 2005.	N/A
Australia	GPT Wholesale Office Fund	Real Estate	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of GPT Wholesale Office Fund.	N/A
Australia	GPT Wholesale Shopping Centre Fund	Real Estate	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of GPT Wholesale Shopping Centre Fund.	N/A
Australia	Incitec Pivot Ltd.	Chemicals	E-3	S-2	G-2	Environmental credit factors are a moderately negative consideration in our credit rating analysis of Incitec Pivot Ltd. This reflects the adverse environmental impacts of chemicals (particularly ammonia and nitric acid), water consumption, waste generation, and GHG emissions. These risks are partially mitigated by the group's track record of sustainability and adherence to emission targets, including alignment with the U.N.'s Sustainable Development Goals.	Waste And Pollution; Climate Transition Risk
Australia	Investa Commercial Property Fund	Real Estate	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis on Investa Commercial Property Fund.	N/A
Australia	Legal Search Holdings Pty Ltd	Business Services	E-2	S-2	G-3	Governance is a moderately negative consideration in our credit rating analysis of Legal Search. This reflects primarily the ownership structure, with a majority shareholder holding approximately 60% of Legal Search's parent company. Additionally, the company's board lacks independence from management, which could prevent it from serving the interests of all stakeholders.	
Australia	MYOB Invest Co. Pty Ltd.	Technology	E-2	S-2	G-3	Governance is a moderately negative consideration in our credit rating analysis of MYOB. MYOB's financial risk profile is highly leveraged and reflects corporate decision-making that prioritizes the interest of the controlling owners, in line with our view of a majority of rated entities owned by private equity sponsors. Our assessment also reflects their generally finite holding periods and a focus on maximizing shareholder returns.	Governance Structure
Australia	Newcrest Mining Ltd.	Metals And Mining	E-3	S-3	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Newcrest. Containment and environmental safety of tailings management and mine site rehabilitation, and responsible use of cyanide in gold extraction processes, are potentially the most relevant environmental management issues for gold miners. We note that the company's Cadia mine experienced a tailings dam embankment slump in 2018, however this did not result in any environmental impact or injuries. Newcrest has committed to implement the recommendations of an independent review board to mitigate further risks. The company has set a goal of net-zero emissions (scope 1 and 2) by 2050 as well as a medium-term target of reducing GHG emissions per ton of ore treated by 30% by 2030 against its 2018 baseline. Social factors are also a moderately negative consideration in our rating analysis, given the significant inherent operational and safety risks associated with Newcrest's mining activities. The company's operations are also key to the communities in their respective regions. The company has good representation of local work forces, in particular at its Lihir, Papua New Guinea asset, and has a solid safety record.	Climate Transition Risk; Physical Risk; Natural Capital; Social Capital

Australia	NSW Ports Finance Co. Pty. Ltd	Transportation Infrastructure	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of NSW Ports.	N/A
Australia	Nufarm Ltd.	Chemicals	E-3	S-3	G-2	Environmental factors are a moderately negative consideration in our rating analysis on Nufarm Ltd. This reflects primarily the adverse climate transition risks and health and safety issues associated with herbicides. Social factors are also a moderately negative consideration, notably because of Nufarm's potential exposure to glyphosate (11% of gross margins). Despite glyphosate being subject to litigation in the U.S., Nufarm has not been subject to any lawsuits in any jurisdiction in which it operates.	Climate Transition Risk; Waste And Pollution; Health And Safety
Australia	Orica Ltd.	Chemicals	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Orica. This primarily reflects adverse climate-transition risks and health and safety issues associated with water consumption, waste generation, GHG emissions, and chemicals used to service the mining sector (particularly ammonium nitrate and nitrous oxide). This is partially mitigated by the group's track record of sustainability and adherence to emission targets, including alignment with the U.N.'s Sustainable Development Goals. The group has announced its ambition to achieve net zero Scope 1, Scope 2 and material Scope 3 emission sources by 2050. This builds on its commitment to reduce Scope 1 and 2 emissions by at least 40% by 2030.	Waste And Pollution; Climate Transition Risk
Australia	Pacific National Holdings Pty Ltd.	Shipping, Road and Rail	E-3	S-2	G-2	Environmental credit factors are a moderately negative consideration in our rating analysis of Pacific National. This reflects the substantial proportion of revenue that the company derives from coal haulage.	Climate Transition Risk
Australia	Perenti Global Ltd.	Engineering & Construction	E-3	S-3	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Perenti Global Ltd., given its exposure to fuel disposal, carbon emissions, and waste management associated with its heavy earthmoving mining services. Social factors are also a moderately negative consideration in our analysis. Perenti has material revenue exposure (about 44% of fiscal 2021 revenues) to higher-risk jurisdictions across Africa, as well as to underground mining (73% of fiscal 2021 revenues), which has higher health and safety risks. While having no material financial impact, previous substantial health and safety events can affect its social license to operate. That said, we believe the company is actively growing its exposure to lower-risk jurisdictions, in particular to North America, and strengthening its security and emergency management of its operations and workforce.	Waste And Pollution; Health And Safety
Australia	Perth Airport Pty Ltd.	Transportation Infrastructure	E-2	S-4	G-2	Social factors are a negative consideration in our credit rating analysis of Perth Airport. Passenger traffic at the airport has been severely impacted by the ongoing COVID-19 pandemic and border crossing restrictions that have reduced both international and domestic travel, which has pressured earnings and cash flows. While regional/intrastate traffic (about 30% of total traffic pre-COVID) has remained strong and is currently operating at more than 100% of the pre-COVID level, recovery for interstate domestic traffic (40% of the total pre-COVID) has been patchy and numbers have been immaterial for international traffic (the remaining 30% of the total pre-COVID).	Health And Safety
Australia	Port of Newcastle Investments (Financing) Pty Ltd.	Transportation Infrastructure	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Port of Newcastle Investments (Financing) Pty Ltd. This is because coal shipments constitute 96% of the port's trade volumes (80% thermal coal, 16% metallurgical) and around 60% of revenue.	Climate Transition Risk
Australia	QIC Property Fund	Real Estate	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of QIC Property Fund.	N/A
Australia	QIC Town Centre Fund	Real Estate	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of QIC Shopping Centre Fund.	N/A
Australia	QPH Finance Co. Pty. Ltd.	Transportation Infrastructure	E-2	S-2	G-2	ESG credit factors have no material influence on our credit rating analysis of QPH Finance Co and its main asset, Port of Brisbane.	N/A
Australia	Recycle and Resource Operations Pty Ltd.	Business Services	E-2	S-2	G-3	Governance factors are a moderately negative consideration for our rating analysis of Recycle and Resources Operations. The company has experienced multiple regulatory breaches over a number of years, which--though not financially material--reflect a history of operational problems. Environmental and social factors have no material influence on our credit rating analysis. Although the company operates in a highly regulated industry with exposure to environmental risks associated with the disposal of hazardous and nonhazardous waste, these risks are somewhat mitigated by the group's significant and growing recycling capabilities.	Risk Management, Culture And Oversight

Australia	Santos Ltd.	Oil And Gas	E-4	S-2	G-2	Environmental factors are a negative consideration in our credit rating analysis of Santos Ltd. Although Santos mostly focuses on producing and exporting LNG, we believe the company is materially exposed to broader energy transition risks and environmental pressures facing the oil and gas industry. Similar to industry peers, Santos is also facing heightened scrutiny on asset rehabilitation given the aging and depleting nature of its reservoirs and assets. The company's net-zero ambitions are somewhat more ambitious than peers with a target of net-zero (scope 1 and 2) by 2040, and 26%-30% by 2030. Santos' strategy has an emphasis on carbon capture storage (CCS) and hydrogen technologies, which is in line with that of global peers and will likely require significant capital investment. Santos' Moomba CCS project is well progressed and ready for a final investment decision.	Climate Transition Risk
Australia	Scentre Group	Real Estate	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of Scentre. The company has a strong track record of effective management and governance, underpinned by solid strategic positioning, risk management, and organizational effectiveness in managing and developing its retail assets. Environmental and social factors are an overall neutral consideration in our credit rating analysis on Scentre, noting that we consider the cash flow hits from COVID-19 to be significant but transitory. While COVID-19 has accelerated the adoption of e-commerce, we view this as a secular trend that was affecting the sector well before the pandemic and do not view this as a social risk but a general industry trend of changing consumer preferences.	Risk Management, Culture And Oversight; Governance Structure
Australia	SGSP (Australia) Assets Pty Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of SGSP (Australia) Assets Pty Ltd. The company's gas transmission pipelines do not benefit from cost recovery as regulated network assets do. Therefore, climate transition risk could have a higher adverse impact on the company. Currently, this risk is still not material in our view, as we expect gas will continue to play a vital role in the energy mix over the next several years in Australia.	N/A
Australia	Singtel Optus Pty Ltd.	Telecoms	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of Singtel Optus Pty Ltd.	N/A
Australia	Snacking Investments HoldCo Pty Ltd.	Consumer Products	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Snacking Investments HoldCo. Our assessment of the company's financial risk profile as highly leveraged reflects corporate decision-making that prioritizes the interests of the controlling owners, in line with our view of the majority of rated entities owned by private-equity sponsors. Our assessment also reflects their generally finite holding periods and a focus on maximizing shareholder returns.	Governance Structure
Australia	Snowy Hydro Ltd.	Power Generators	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Snowy Hydro. The company's balance sheet has weakened largely due to the commencement of the massive, multi-year Snowy 2.0 construction project, which is scheduled to be completed in 2026. Overall, Snowy Hydro's generation profile is dominated by installed hydroelectric power capacity of about 4,100 MW, with some wind/solar offtake supported by peaking gas fired generation, which is used under high market price conditions. Periodic exposure to hydrological conditions and bush fires are other physical risk factors that can disrupt operations, which is somewhat offset by the use of the gas capacity. We expect environmental risk to abate as the Snowy 2.0 project becomes less risky as construction progresses. Upon completion of Snowy 2.0, hydroelectric capacity will increase to about 6,000 MW.	Climate Transition Risk; Physical Risk
Australia	South32 Ltd.	Metals And Mining	E-3	S-3	G-2	Environmental factors are a moderately negative consideration in our rating analysis of South32. This reflects primarily the elevated climate-transition risks linked to its mining operations and the relatively high levels of GHG emissions. There are also associated costs provisioned for the restoration and environmental rehabilitation of the operational sites. That said, South32's environmental risks have improved somewhat following the divestment of the SAEC thermal coal asset in 2021. Social factors also are a moderately negative consideration. This primarily reflects the inherent health and safety risks associated with the group's mining activities, labor and community relations, and mining-specific environmental regulations. Nevertheless, the company's social strategy includes community initiatives and activities that aim to align with U.N. Sustainable Development guidelines. Employee safety also continues to improve, demonstrated by a downward trend in the total recordable injury frequency since 2016.	Climate Transition Risk; Waste And Pollution; Health And Safety; Social Capital

Australia	Southern Cross Airports Corp. Holdings Ltd.	Transportation Infrastructure	E-2	S-4	G-1	Social factors are a negative consideration in our credit rating analysis of Southern Cross Airports and its main asset, Sydney Airport. The airport, which has a high dependency on international passengers (about 40% of the total pre-COVID), has been severely impacted by the ongoing pandemic. We believe the pandemic is an extraordinary event that is unlikely to bring secular change to the industry. However, risk remains around additional outbreaks, which could result in future traffic disruption and require implementation of greater health and safety measures. Governance factors are a moderately positive consideration in our credit analysis of Sydney Airport. This reflects management's clear strategic planning and execution, its proactive approach to risk management, as well as willingness to adjust policies to reflect changing market conditions.	Health And Safety; Risk Management, Culture And Oversight
Australia	Stockland	Real Estate	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Stockland. While environmental factors don't materially influence our credit rating analysis, the carbon intensity of the group's residential development activities will remain a focus of the group's ESG management initiatives. From a social risk perspective, the provision of independent living units to the elderly can be subject to adverse consumer reaction due to the management fees charged. Stockland offers retirement living contracts and an array of product offerings to retirees, including land-lease arrangements, which should help mitigate these risks.	N/A
Australia	Tabcorp Holdings Ltd.	Leisure	E-2	S-3	G-2	Social factors are a moderately negative consideration in our credit rating analysis of Tabcorp Holdings. We believe wagering gambling, and to a lesser extent lotteries, can have lasting and negative effects on the end-consumer. The increased use of digital platforms has also raised the importance of customer privacy and data security. In our view, Tabcorp allocates significant resources to managing information technology to reduce the risk of digital breaches; the ability to prevent or limit breaches should benefit Tabcorp's reputation or customers' confidence in the security of their personal information. Governance factors are, on balance, a neutral consideration in our credit rating analysis. Aside from moderate regulatory penalties of A$45 million in 2017 involving breaches of anti-money laundering laws during 2010 and 2014, Tabcorp has generally displayed strong engagement with regulators and operated within its regulatory constraints.	Social Capital
Australia	TEG Pty Ltd	Leisure	E-2	S-4	G-3	Social factors are a negative consideration in our credit rating analysis of TEG. Health and safety measures following the pandemic have resulted in extensive social-distancing measures and sporadic lockdowns across its operating regions. A number of sporting and live entertainment events have been either cancelled or proceeded with significantly reduced capacity. This continues to materially affect TEG's earnings. Governance factors are a moderately negative consideration in our analysis of TEG. We view financial sponsor-owned companies with aggressive or highly leveraged financial risk profiles as demonstrating corporate decision-making that prioritizes the interest of the controlling owners; typically, these relationships have finite holding periods and a focus on maximizing shareholder returns.	Health And Safety; Risk Management, Culture And Oversight; Governance Structure
Australia	Telstra Corp. Ltd.	Telecoms	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our rating analysis on Telstra. The company is continuing to reduce its carbon footprint through a wide-ranging sustainability program, which is targeting a 50% reduction in absolute emissions by 2030. Telstra also maintains a comprehensive program to manage social risk factors associated with its operations, data security, and large workforce. Although Telstra has been subject to fines and penalties associated with its sales practices, including a A$50 million fine in 2020, these fines are immaterial from a credit perspective and not expected to materially impact the group's ongoing operations.	N/A
Australia	Thiess Group Holdings Pty Ltd.	Engineering & Construction	E-4	S-2	G-3	Environmental factors are a negative consideration in our credit rating analysis of Thiess Group Holdings Pty Ltd. The group has underlying commodity exposure to thermal coal (43% of fiscal 2020 revenues) and metallurgical coal (39%) through its mining services in Australia and Indonesia. The mining of thermal coal is subject to significant political and social pressure as an energy source and could weigh on its cashflows over the medium to long term. That said, the company is pursuing a diversification strategy with a focus on minerals and metals growth in low-risk jurisdictions such as Australia (about 65% of fiscal 2020 revenues) and North America, and establishing a stand-alone rehabilitation service offering. Social factors are a neutral consideration and reflect the company’s good safety record and strong community ties. Governance is a moderately negative consideration in our credit rating analysis of Thiess on the basis that we consider 50% owner Elliott Capital Management as a financial sponsor in this transaction given its finite expected holding period and focus on maximizing shareholder returns.	Waste And Pollution; Climate Transition Risk; Governance Structure

Australia	Transurban Finance Co. Pty Ltd.	Transportation Infrastructure	E-2	S-2	G-2	ESG credit factors have an overall neutral influence on our credit rating analysis of Transurban Finance. Following the cessation of New South Wales and Victorian state government imposed COVID lockdowns, traffic on most of the parent Transurban Group's Australian toll roads has recovered relatively quickly to near pre-COVID levels. Transurban manages its external relationships with governments, partners, users, and communities well, and this has helped to support and grow the business. Transurban's approach to social issues positions it better than peers.	N/A
Australia	Transurban Queensland Finance Pty Ltd.	Transportation Infrastructure	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of Transurban Queensland Finance (TQ). Its toll roads are managed by its parent, Transurban Group, therefore, TQ benefits from the operational experience and capability of its parent, a large international toll road owner and operator.	N/A
Australia	United Energy Distribution Holdings Pty Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of United Energy Distribution Holdings Pty Ltd. (UED). As an electricity distributor with a mainly suburban service area, UED's environmental exposure is relatively benign. Its suburban service area is generally not exposed to bushfire risks, and it is handled well through vegetation management.	N/A
Australia	Ventia Services Group Ltd.	Engineering & Construction	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis on Ventia. We view Ventia's exposure to environmental, social and governance risks to be broadly neutral in our rating assessment, with the company's 2021 revenue exposure well diversified across the defense and social infrastructure (42%), infrastructure services (27%), telecommunications (21%), and transport (11%) segments. While management of environmental risks as well as health and safety issues associated with its large workforce pose ongoing management challenges, we believe the group's operating and governance systems and processes effectively mitigate these risks.	N/A
Australia	Vicinity Centres	Real Estate	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating assessment of Vicinity Centres. While COVID-19 accelerated the adoption of e-commerce, we view e-commerce as a secular change that has been impacting the retail sector well before the pandemic and do not view this as a social risk but a general industry trend of changing consumer preferences. E-commerce growth will persist as a risk impacting real estate demand and asset redevelopment in the coming years. The disruption caused by mandated store closures were significant but transitory, with high-quality retail assets, such as those held by Vicinity, expected to recover quickly as economies reopen.	N/A
Australia	Victoria Power Networks (Finance) Pty Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have an overall neutral influence on the credit rating analysis of Victoria Power Networks (Finance) Pty Ltd. As an electricity distributor with a combination of city center and suburban service areas, the company's environmental exposure is limited. Its suburban service area can be exposed to bushfire risks during hot weather. The company generally manages this well through vegetation management and insurance coverage.	N/A
Australia	Voyage Australia Pty Ltd.	Telecoms	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of Voyage Australia.	N/A
Australia	Wesfarmers Ltd.	Retail and Restaurants	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis, largely driven by the company's strong track record of strategic positioning, risk management, and organizational effectiveness in managing its diverse business lines. In addition, environmental and social factors have an overall neutral consideration on our credit rating analysis of Wesfarmers. Wesfarmers actively focuses on reducing complexity in its supply-chain management and mitigating the risk of partnerships with unethical suppliers. Its sustainability focus is illustrated through objectives to increase the use of renewable electricity across its retail portfolio and reduce carbon-emission intensity in its non-retailing businesses.	Risk Management, Culture And Oversight; Other Governance Factors
Australia	Woodside Petroleum Ltd.	Oil And Gas	E-4	S-2	G-2	Environmental factors are a negative consideration in our credit rating analysis of Woodside Petroleum Ltd. While Woodside primarily focuses on producing and exporting LNG, we believe the company is materially exposed to broader energy-transition risks and environmental pressures facing the oil and gas industry. In line with peers, Woodside also faces heightened scrutiny on asset rehabilitation given the aging and depleting nature of its reservoirs and assets. Woodside's net-zero ambitions are largely in line with peers with a net zero (scope 1 and 2) target by 2050, and 30% by 2030. Woodside's strategy has an emphasis on CCS and hydrogen technologies, which is in line with global peers and will likely require significant capital investments.	Climate Transition Risk

Australia	Woolworths Group Ltd.	Retail and Restaurants	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Woolworths. We believe the company has an emphasis on reducing its environmental footprint, ethical sourcing, and sustainable supply chain procurement, and expanding its range of healthier food basket choices. This positions Woolworths well to meet shifting consumer preferences and expectations for more sustainable practices. This is in line with our expectation that the company will seek to maintain a positive brand perception, which supports its competitive position relative to peers. Woolworths' recent demerger of Endeavour Group will also help to reduce the group's exposure to social risks associated with problem gambling.	N/A
Australia	Worley Ltd.	Engineering & Construction	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Worley Ltd. Worley's significant exposure to the hydrocarbon supply chain exposes the group to material energy transition risks. However, the company is growing its presence in the energy-transition and circular-economy markets, which would support the energy transition and sustainability targets of its customers. Accordingly, we expect the group's customer and contract base to continue to migrate toward more sustainable projects over the medium to long term. Worley sourced about 13.5% of its revenues from energy transition, circular economy, environmental, social, water, and transition materials work in fiscal 2021. The company is targeting net zero scope 1 and 2 emissions by 2030, and net zero scope 3 by 2050. These targets are fairly aggressive compared with the wider corporate issuer landscape.	Climate Transition Risk
New Zealand	Auckland International Airport Ltd.	Transportation Infrastructure	E-2	S-4	G-2	Social factors are a negative consideration in our credit rating analysis of Auckland Airport. The airport's passenger traffic, particularly international passengers (about 55% of the total before COVID-19), has been severely impacted by the ongoing pandemic. This has led to a significant deterioration in earnings and cash flow. Domestic traffic had recovered to up to 70%-80% of the pre-COVID level as of June 30, 2021. However, potential lockdowns because of a future spread of the virus could disrupt this improvement. International passenger numbers remain minimal because of continued international border closures.	Health And Safety
New Zealand	Chorus Ltd.	Telecoms	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Chorus. That said, we view Chorus' environment risk as somewhat lower than the average telecom company, with the company nearing completion of its 11-year fiber-to-premises network rollout. Chorus expects the ongoing migration to a fiber-based network to reduce electricity consumption by 30%-40% and decrease technician service requirements and associated vehicle emissions.	N/A
New Zealand	Christchurch International Airport Ltd.	Transportation Infrastructure	E-2	S-3	G-3	Social factors are a moderately negative consideration in our credit rating analysis of Christchurch International Airport (CIAL). Government imposed international border restrictions following the onset of COVID-19 dramatically curtailed international passenger levels. We anticipate these restrictions will weigh on the airport's metrics for the near term as a recovery for international traffic to pre-pandemic levels is likely to be protracted. Domestic travel has recovered faster than at Australian peers. Governance factors are moderately negative too, as CIAL's use of local banks for refinancing debt has meant that this process is often slower than peers, increasing potential market risk.	Health And Safety; Risk Management, Culture And Oversight
New Zealand	Contact Energy Ltd.	Power Generators	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Contact Energy. While Contact Energy has exposure to thermal power through a small amount of gas-fired generation, there is no material influence from environmental factors on our rating analysis of the company given that most of its portfolio is hydroelectric and geothermal power, which have minimal greenhouse gas emissions. This results in Contact Energy generally having higher profitability and low leverage levels compared to peers.	Climate Transition Risk; Natural Capital
New Zealand	Fonterra Co-operative Group Ltd.	Agribusiness and Commodities	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Fonterra given its exposure to increasingly stringent regulations inherent in the agriculture and commodity food industry. Fonterra has a significant environmental footprint encompassing GHG emissions generated by energy use and the biological emissions of cows, health and biodiversity of land and waterways, farming efficiencies and sustainability, and managing waste discharge. In addition, we believe the WPC80 botulism scare in 2013 that resulted in mass precautionary product recalls by Fonterra and its affected customers highlights the risks associated with failure to maintain strict food safety and operational measures. The company is working with shareholder farmers to actively address environmental factors. Fonterra's cooperative structure introduces an additional layer of complexity to its governance and its management faces close scrutiny over its performance.	Physical Risk; Waste And Pollution

New Zealand	Genesis Energy Ltd.	Power Generators	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Genesis Energy. As one of New Zealand's four largest generator-retailers, Genesis Energy has relatively more environmental exposure due to its thermal assets, and its 46% stake in the Kupe oilfield, than peers that focus mainly on hydroelectric power. Emissions reduction targets will help the company as it transitions to renewable energy and actively reduces baseload thermal capacity over the next five to 10 years.	Climate Transition Risk
New Zealand	Goodman Property Trust	Real Estate	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis on Goodman Property Trust	N/A
New Zealand	Kiwi Property Group Ltd.	Real Estate	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis on Kiwi Property Group Ltd.	N/A
New Zealand	Mercury NZ Ltd.	Power Generators	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Mercury. Mercury derives 100% of its generation from renewable sources relative to overall renewable levels of 85% across New Zealand. Its main environmental objectives are managing lake water levels and temperatures, and dam conditions.	Climate Transition Risk; Physical Risk
New Zealand	Meridian Energy Ltd.	Power Generators	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Meridian Energy. Meridian is a 100% renewable generator-retailer (hydro/ wind), compared to the 85% renewable capacity across New Zealand. Its main environmental challenges are managing its dam levels and conditions, particularly during periods of water shortages. New windfarm development underway will help diversify these risks.	Climate Transition Risk; Physical Risk
New Zealand	New Zealand Post Ltd.	Shipping, Road and Rail	E-2	S-2	G-2	ESG credit factors have an overall neutral influence on our credit rating analysis of New Zealand Post. Although the delivery of parcels and letters exposes New Zealand Post to increased GHG emissions, this is largely mitigated by the electric vehicle fleet used for last-mile delivery and other environmental initiatives.	N/A
New Zealand	Pactiv Evergreen Inc.	Packaging	E-3	S-2	G-3	Environmental factors are a moderately negative consideration in our credit rating analysis of Pactiv Evergreen Inc. We view some of Pactiv's core plastic packaging businesses, particularly containers within its foodservice business, as having a higher regulatory and substitution risk when compared to other substrates over the long term as concerns about waste and pollution rise among customers and consumers. We view plastic packaging, with its limited recyclability and overall low recycling rates, as having a larger pollution impact compared to other substrates. In addition, governance is a moderately negative consideration. We view Pactiv's majority ownership by a single individual and its highly leveraged financial risk profile as demonstrating corporate decision-making that prioritizes the interests of the controlling owners, typically with a focus on maximizing shareholder returns.	Waste And Pollution; Governance Structure
New Zealand	Port of Tauranga Ltd.	Transportation Infrastructure	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of Port of Tauranga.	N/A
New Zealand	Powerco Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of Powerco Ltd.	N/A
New Zealand	SKYCITY Entertainment Group Ltd.	Leisure	E-2	S-3	G-2	Social factors are a moderately negative consideration in our credit rating analysis of SkyCity. The company's earnings and cashflows have been materially affected by government-led COVID-19 casino closures due to health and safety risks. That said, we believe SkyCity is better placed relative to global peers due to its domestic focus with the company recovering much faster than global gaming peers from pent-up demand. This reflects the company's strong market positions and entrenched domestic mass-market earnings, with fiscal 2021 earnings above our expectations. Skycity's casino operations are also subject to regulatory risks associated with addressing problem gambling.	Social Capital; Health And Safety
New Zealand	Spark New Zealand Ltd.	Telecoms	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of Spark New Zealand Ltd.	N/A
New Zealand	Titan AcquisitionCo New Zealand Ltd. (Trade Me Group)	Media and Entertainment	E-2	S-3	G-3	Governance factors are a moderately negative consideration for Trade Me Group, as is the case for most rated entities owned by private-equity sponsors. We believe the company's highly leveraged financial risk profile points to corporate decision-making that prioritizes the interests of the controlling owners. This also reflects private-equity sponsors' generally finite holding periods and focus on maximizing shareholder returns. We also consider social risks to be a moderately negative consideration in our analysis of Trade Me. We believe the company is exposed to potential cyber security and privacy risks associated with its online classifieds and online marketplaces in line with other global peers. That said, we consider that these risks continue to be well managed, supported by the group's significant investment in cyber security over the past two years.	Other Social Factors; Governance Structure

New Zealand	Transpower New Zealand Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of Transpower New Zealand Ltd.	N/A
New Zealand	Vector Ltd.	Utility Networks	E-2	S-2	G-2	ESG credit factors have no material influence on our credit rating analysis of Vector Ltd.	N/A
New Zealand	Wellington International Airport Ltd.	Transportation Infrastructure	E-2	S-3	G-2	Social factors are a moderately negative consideration in our credit rating analysis of Wellington Airport, reflecting the impact of COVID-19. Predominantly a domestic airport (85% of total traffic), Wellington will continue to see steady ramp-up of domestic travel as it benefits from strong control of the COVID-19 outbreak in New Zealand. The airport's international network is largely short-haul to Australia and recovery for international traffic is therefore dependent initially on a Trans-Tasman travel bubble, but we expect this to remain volatile due to ongoing quarantine and border control measures in Australia and New Zealand.	Health And Safety

ESG Credit Indicators – Rated Corporate And Infrastructure Entities In China

Issuer	Industry	E	S	G	Comments	Factors
21Vianet Group Inc.	Telecoms	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of 21Vianet. Relative to peers, the company sources less energy from renewable sources and its relatively older data centers are less energy efficient than newer hyperscale facilities. Restrictions on data center capacity expansion in Chinese tier-1 cities because of power consumption concerns will likely push the company's new data centers outside of cities.	Physical Risk; Climate Transition Risk
Alibaba Group Holding Ltd.	Media and Entertainment	E-2	S-3	G-2	Social factors are a moderately negative consideration in our credit rating analysis of Alibaba. Its use of aggressive market tactics--such as forced exclusivity agreements--has put the company at odds with China's State Administration of Market Regulation (SAMR), leading to greater scrutiny both within and outside from market regulators. The company has been fined RMB18 billion (US$2.8 billion) for violations of China's anti-monopoly law but has since vowed to end the market practice and conform strictly to all local rules and regulations.	Social Capital
Aluminum Corp. of China Ltd.	Metals And Mining	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Aluminum Corp. of China Ltd. (Chalco). This is due to the Chinese government curbing production during wintertime to control emissions. The majority of the company's electricity consumption comes from coal-fired power, but the proportion of hydro, wind, and solar have been increasing and account for about 20% now. Chalco has had a generally good environmental protection record in the past 10 years. The company has developed its own technology for red mud ecological restoration, reducing pollution. Its emissions of sulfur dioxide and nitrogen oxide have been declining in the past five years.	Climate Transition Risk
Anhui Conch Cement Co. Ltd.	Building Materials	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Conch. Our assessment primarily reflects the above-average climate transition risk for the cement manufacturing industry. China's tightened control over environmental protection is likely to clear out small-scale cement producers, increase industry consolidation, and benefit market leaders such as Conch. The cement industry in China could, however, be exposed to evolving carbon dioxide regulations, as the country has started rolling out a carbon-trading scheme. Carbon dioxide pricing for heavy industry may come soon, though we believe the financial impact will initially be insignificant given the lower carbon price in China than other regions and Conch's ability to bear additional costs. Conch's carbon emissions of 840 kilograms (kg) per ton of clinker produced in 2020 (down 1.7% from 2017) is better than the 2020 national average of 870.8 kg per ton.	Climate Transition Risk
AVIC International Holding Corp.	Aerospace and Defense	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis on AVIC International. About 20% of the company's gross profit exposure is to the aviation business, 40% electronics, and 25% retail. The company has similar environmental risk exposure as peers in these major business segments. While the electronics manufacturing business could face increasingly stringent emissions standards, we believe AVIC International's satisfactory research and development (R&D) capability and continuous investments on energy conservation and emissions reduction will help it meet industry standards and regulations.	N/A
BAIC Motor Corp. Ltd.	Autos	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis on BAIC Motor Corp. Ltd. This is in line with the industry. As a core subsidiary and the key profit driver of Beijing Automotive Group (BAG), BAIC strictly aligns with group ESG initiatives. The company complies with the new energy vehicle (NEV) credit requirement for emissions reduction. As with BAG, the company is transforming its NEV business. Its NEV sales under its proprietary Beijing Brand declined 36% during the first half of 2021 amid intensifying competition. However, NEV sales at BAIC should gradually improve as product rollouts by Beijing Benz and Beijing Brand accelerate over the next two years. As such, BAIC will likely spend 5%-8% of its annual revenue on capital expenditures (capex) and research and development (R&D; mainly for NEV), which aligns with Chinese peers' average, to stay competitive.	Climate Transition Risk
Baoshan Iron & Steel Co. Ltd.	Metals And Mining	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis for Baoshan, on par with its steelmaking peers. Over 95% of Baoshan's facilities are blast furnaces, which are more carbon-intensive than electric arc furnaces. The company spends 20%-25% of maintenance capex on environmental upgrades, leading to reductions in the emission of pollutants, such as sulfur dioxide and nitrogen oxide. Along with its parent, China Baowu Steel Group Co. Ltd, Baoshan is the first steelmaking group in China to announce targeting a carbon peak, by 2023, and carbon neutrality by 2050. The company has been taking measures to reduce energy consumption, using green energy, carbon capturing, and innovating hydrogen metallurgy to achieve decarbonization.	Climate Transition Risk

Beijing Automotive Group Co. Ltd.	Autos	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis on Beijing Automotive Group Co. Ltd. (BAG). This is in line with the industry. BAG was one of the top 10 NEV players in China in 2020 and it complies with the NEV credit requirement for emissions reduction. However, sales volume of BAIC BluePark New Energy Technology, the company's major NEV producing subsidiary, declined 19.5% in the first nine months of 2021 amid intensifying competition. BAG's NEV sales should gradually pick up as it is accelerating new NEV model rollouts and launching high-end proprietary NEVs such as the Arcfox at BluePark. It is also localizing NEV models at Beijing Benz. As such, BAG will likely spend 5%-8% of its annual revenue on capex and R&D, which aligns with Chinese peers' average, to stay competitive.	Climate Transition Risk
Beijing Capital Group Co. Ltd.	Real Estate	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Beijing Capital Group (BCG). The company's involvement and aggressive growth appetite in multiple segments have stretched its financial resources and continue to hinder delivery of its deleveraging target. About 40% of the company's EBITDA relates to property development, exposing it to increasing risk over carbon emissions and green building standards and potentially affecting its profitability. The remaining 60% of its EBITDA is in infrastructure, utilities, environmental protection, and financial securities-related segments, which we view as less affected by or exposed to environmental risks. We think support from environmental segments that offer solutions to pollution and waste treatment offset the company's overall environmental risk from property development. BCG has begun emphasizing that water and environmental services will become its core business segment and growth driver, while property development's contribution to EBITDA may gradually decline due to slower performance.	Waste And Pollution; Risk Management, Culture And Oversight; Transparency And Reporting
Beijing Capital Land Ltd.	Real Estate	E-3	S-2	G-3	Environmental and governance factors are moderately negative considerations in our credit rating analysis of Beijing Capital Land (BCL). No ESG factor presents a significantly higher risk for the company than for its peers. The company faces environmental factors in line with the industry, where regulations may lead to higher cost. However, BCL's relatively weak ability to execute its strategy--evidenced by slower growth than peers and consistently high leverage that may persist for the next two-to-three years--could point to slightly weaker governance than other state-owned peers.	Waste And Pollution; Risk Management, Culture And Oversight
Beijing Construction Engineering Group Co. Ltd.	Engineering & Construction	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our rating analysis of Beijing Construction Engineering Group Co. Ltd. The company derives around 80%-85% revenue from engineering and construction (E&C), and the rest from property development (about 5%), building materials (5%), and other areas. Within E&C, the company mainly engages in building (about 60% of E&C revenue by our estimate) and infrastructure construction (about 40% of E&C revenue). It has similar exposure to environmental factors as E&C peers. Its newly listed subsidiary, which engages in environmental restoration projects, could have good growth prospects. However, it is relatively small. We believe the company's revenue mix will remain largely stable in the next 24 months.	N/A
Beijing Easyhome Investment Holding Group Co. Ltd.	Retail and Restaurants	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Beijing Easyhome. The company will continue to face higher risk of disruption if it loses key personnel because of its privately owned status and frequent related party transactions, some involving high-risk investments. Nevertheless, balancing this is management's demonstrated expertise in all aspects of the company's core business as one of the two dominant furniture shopping mall operators in China. We expect its exposure to social risk to be in line with that of sector peers because it has managed to maintain an occupancy rate of over 90% even at the height of the COVID-19 pandemic. This is mainly because management has taken proactive measures and effectively limiting drops in occupancy with offers of temporary discounts to tenants.	Risk Management, Culture And Oversight
Beijing Environment Sanitation Engineering Group Co. Ltd.	Business Services	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of Beijing Environment Sanitation Engineering Group.	N/A
Beijing Gas Group Co. Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of Beijing Gas Group Co. Ltd.	N/A
Beijing New Building Materials Public Ltd. Co.	Building Materials	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Beijing New Building Materials (BNBM). The company is less exposed to environmental risk than the broader building material industry as greenhouse gas (GHG) emissions in gypsum board production is significantly lower than in cement. Gypsum board contributes to around 70% of the company's annual gross profit while the rest mainly comes from waterproof materials and coating. The production of gypsum board is beneficial to resource recycling, as the raw material consists of desulfurized gypsum, an industrial byproduct. In addition, the manufacturing process does not involve mining. Moreover, the gypsum board industry benefits from supportive industrial policies in China as environmentally friendly and innovative materials.	Climate Transition Risk

Beijing State-Owned Assets Management Co. Ltd.	IHC	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of BSAM. Banks, non-bank financial institutions, and financial investments account for about 70% of its portfolio value. The remaining industries includes urban and cultural development projects and technology, which do not have significant environmental or social risks. Dynagreen Environmental Protection, a builder and operator of municipal waste-to-energy plants in China, accounts for about 14% of BSAM's portfolio. However, we do view Dynagreen as contributing materially to BSAM's environmental risk factors.	N/A
Bright Food (Group) Co. Ltd.	Consumer Products	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Bright Food Group Co. Ltd. The company has been expanding overseas through acquisitions at its subsidiary Bright Food International over the past few years, and now aims to improve business operations and realize synergies from these assets. It has limited experience in tracking, adjusting, and executing strategies for its overseas assets.	Risk Management, Culture And Oversight
Car Inc.	Shipping, Road and Rail	E-2	S-3	G-4	Governance factors are a negative consideration in our credit rating analysis of CAR. Higher depreciation costs from Beijing Borgward Automobile (Borgward) cars, accounting for 35% of CAR's rental fleet, hurt EBIT interest coverage ratios. These cars, which are no longer in production, were purchased from Borgward, a related party of CAR's previous shareholder UCAR Inc., between 2019 and 2020. Additionally, our assessment of the company's financial risk profile as highly leveraged reflects corporate decision-making that prioritizes the interests of MBK Partners, in line with our view of most rated entities owned by private-equity sponsors. Social factors are now a moderately negative consideration for the credit rating analysis on CAR. The company's car rental business is exposed to major health incidents and travel restriction risks. The disruptions caused by sudden lockdowns and restrictions as a result of sporadic COVID-19 outbreaks can create uncertainty for the company's operations.	Risk Management, Culture And Oversight; Other Governance Factors
CAS Holding No.1 Ltd.	Telecoms	E-2	S-2	G-2	ESG credit factors have had no material influence on our credit rating analysis on CAS Holding No. 1.	N/A
CDB Aviation Lease Finance Designated Activity Co.	Airlines and Aircraft Leasing	E-2	S-2	G-2	ESG credit factors have an overall neutral influence on our credit rating analysis of CDB Aviation. Like other aircraft leasing companies, its revenues and earnings have been hurt less by the pandemic than those of its customer airlines. Its exposure to environmental risk factors is limited by its fairly young (less than five years old, compared with the global aircraft fleet age of about 11 years) aircraft fleet age, which positions it well to address fleet modernization needs of airlines. Also, we consider CDB Aviation to be a core subsidiary of its parent CDB Financial Leasing Co. Ltd., and we accordingly equalize CDB Aviation's rating and outlook with that of its parent.	N/A
Central China Real Estate Ltd.	Real Estate	E-3	S-2	G-3	Environmental and governance factors are moderately negative considerations in our credit rating analysis of Central China Real Estate (CCRE). The company has made some recent changes to its leadership team, but its long record of operation in Henan Province tempers its governance risk. It also faces comparable exposure to environmental and social risk as its industry peers. In addition, the company is using prefabricated construction in residential development, with the aim of reducing energy-related carbon dioxide emissions.	Waste And Pollution; Risk Management, Culture And Oversight
China Aluminum International Engineering Corp. Ltd.	Engineering & Construction	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of China Aluminum International Engineering Corp. Ltd. The company has been diversifying its project mix in the past few years. Gross profit from nonferrous metals projects declined to 30% in 2020 from around 40% in 2017 and is likely to further shrink as the company continues to expand in infrastructure and municipal construction. As of June 30, 2021, its industrial projects, mainly consisting of nonferrous E&C, accounted for only 26% of total order backlog, versus 33% in 2018.	N/A
China Baowu Steel Group Corp. Ltd.	Metals And Mining	E-3	S-2	G-2	Environmental factors are a moderately negative consideration ion our credit rating analysis for Baowu. This is on par with its steel making peers. Baowu is the world's largest steelmaking group and over 95% of its facilities are blast furnaces, which are more carbon intensive than electric arc furnaces. The company spends 20%-30% of maintenance capex on environmental upgrades, leading to a reduction in the emission of pollutants, such as sulfur dioxide and nitrogen oxide. It is the first steelmaking group in China to announce targeting a carbon peak, by 2023, and carbon neutrality by 2050. It has been taking measures to reduce energy consumption, using green energy, carbon capturing, and innovating hydrogen metallurgy to achieve decarbonization.	Climate Transition Risk
China Dili Group	Business Services	E-2	S-2	G-5	Governance factors are a very negative consideration in our credit rating analysis of Dili. We believe the company bears greater governance risks than its peers given its history of conducting related-party transactions, which have the potential to lead to large operational and financial fluctuations. For example, Dili granted a RMB2 billion revolving loan to a connected party, which may weaken the company's own liquidity profile. Other governance factors constraining it are a past distressed exchange and a restructuring of its assets. The Dai family remains Dili's	Risk Management, Culture And Oversight; Governance Structure

					controlling shareholder, and a family member occupies the role of CEO and executive director of the board.	
China FAW Group Co. Ltd.	Autos	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of China FAW Group Co. Ltd. This is in line with the industry. NEV sales only accounted for 2%-3% of the company's total sales in prior years. With an increasing strategic focus on NEV, FAW will accelerate the rollout of such models through its proprietary brands and joint ventures over the next few years. With increasing focus on NEVs, we believe FAW will spend 5%-8% of annual revenue on capex and R&D over the next two years. We believe these efforts will help the company to gradually comply with the NEV credit requirement in China over the next two to three years and achieve its targeted 20% NEV penetration by 2025.	Climate Transition Risk
China General Nuclear Power Corp.	Power Generators	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of China General Nuclear Power. Safety is key to maintaining the nuclear power business franchise. CGNPC upkeeps the plants well, and its safety record is satisfactory and generally above the industry. Third-generation nuclear technology with higher safety standards is applied to all its new builds.	N/A
China Gold International Resources Corp. Ltd.	Metals And Mining	E-3	S-3	G-2	Environmental and social factors are moderately negative considerations in our credit rating analysis of CGI. This is consistent with its mining peers. Apart from investment in energy conservation and emissions reduction, the company has been tailing storage facilities to manage environmental risks. It practices paralleled mining and reclamation, in which it restores vegetation and preserves biological diversity while mining. CGI has had no environmental incidents since its establishment. Gold and copper are its major products; all its revenue comes from China. The company has maintained good relationships with communities, governments, and regulators and a good safety record. We are not aware of notable health and safety incidents over the past five years.	Waste And Pollution; Climate Transition Risk; Health And Safety; Social Capital
China Hongqiao Group Ltd.	Metals And Mining	E-3	S-2	G-5	Governance factors are a very negative consideration in our credit rating analysis of Hongqiao. A short-seller report in 2017 delayed its release of 2016 annual report by over a year. The company was only able to publish a rebuttal eight months after the short-seller report. Although Hongqiao has been reporting in a timely manner since 2018, we will continue to monitor its market communication and financial reporting. Environmental factors are a moderately negative consideration in our credit rating analysis of Hongqiao due to government curbs on production during winter to control emissions, especially in Shandong. Yet Hongqiao is relocating 2 million tons, one-third of its capacity, Yunnan, which will deploy hydro power instead of coal-fired power in Shandong. The relocation will be completed by the end of 2022. However, this may subject the company to more volatile power supply.	Governance Structure; Risk Management, Culture And Oversight; Transparency And Reporting; Climate Transition Risk
China Huadian Corp. Ltd.	Power Generators	E-4	S-2	G-2	Environmental factors are a negative consideration in our credit rating analysis of China Huadian. The transition to a low-carbon economy could mean declining utilization and margins for the company’s 94-gigawatt coal power fleet, which makes up 57% of its total installed capacity. The company may also face potential costs associated with carbon trading, as well as large capital investments to meet its target of 60% clean energy capacity by 2025.	Climate Transition Risk
China Huaneng Group Co. Ltd.	Power Generators	E-4	S-2	G-2	Environmental factors are a negative consideration in our credit rating analysis of China Huaneng Group. China's decarbonization initiatives will lead to lower utilization hours for the company’s 128 GW of coal-fired generation over the medium term and increase the risk of additional costs from carbon trading. The company's target to transition to clean energy by installing around 90 GW of wind and solar capacity over 2021-2025 will also entail significant investment needs.	Climate Transition Risk
China Longyuan Power Group Corp. Ltd.	Power Generators	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of China Longyuan. The company is the largest wind energy operator in the world. It is likely to be a major contributor to China’s decarbonization efforts and to continue expanding its renewables capacity aggressively over the next five years. However, its cash flow is currently negatively impacted by the material backlog in receipt of renewable subsidies from the government.	N/A
China Mengniu Dairy Co. Ltd	Consumer Products	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of China Mengniu Dairy Co. Ltd.	N/A
China Metallurgical Group Corp.	Engineering & Construction	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of China Metallurgical Group Corp. The company has been diversifying its project mix in the past few years. Revenue exposure to the metallurgical industry (mainly steel) declined to around 20% in 2020 from 30% in 2015 and is likely to further decline as the company continues to expand in infrastructure, housing, and municipal construction. This is evidenced by declining new orders from the metallurgical	N/A

					industry, which accounted for 15% of total new E&C orders in 2020, versus 18% in 2018.	
China Minmetals Corp.	Metals And Mining	E-3	S-3	G-2	Environmental and social factors are moderately negative considerations in our credit rating analysis on China Minmetals. This is similar to that of its peers. Metals, trading, engineering and construction, and finance and real estate account for about 20%, 20%, 50%, and 10% of the company's revenue respectively in 2020. The company's environmental exposure mainly comes from its metals business. The company has reduced its energy consumption in the past three years and has a good record of mine safety. Its diversified mining assets mitigate social risks in any single mining asset. Although Minmetal’s Las Bambas copper mine has been facing transportation blockages due to local community activism, the mine only contributes to less than 5% of the company’s total revenue.	Waste And Pollution; Climate Transition Risk; Health And Safety; Social Capital
China Modern Dairy Holdings Ltd. (CMD)	Agribusiness and Commodities	E-3	S-2	G-2	Environmental credit factors are a moderately negative consideration in our rating analysis on CMD. In addition to the above-average environmental risk for the agricultural sector, stemming from exposure to water use, climate change, and biodiversity, Chinese raw milk producer CMD has higher product and geographic concentration than peers. It only produces raw milk, and the production sites are only in China.	Physical Risk
China National Bluestar (Group) Co. Ltd.	Chemicals	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of China National Bluestar (Group) Co. Ltd. The chemical industry faces increasingly stringent environmental standards. Alongside its parent ChemChina, Bluestar was one of the first state-owned enterprises in China to be inspected by authorities for safety and pollution incidents, though it is unlikely that material credit impact will arise from rectification work. Bluestar's overseas subsidiaries are also targeting lower emissions and a transition into renewable energy sources to mitigate their exposure to climate transition risks in the longer run. Bluestar's wide range of products from material science, life science, and environmental science, which accounted for around 60%, 20%, and 10% of 2020 revenue, respectively, diversify its environmental risk exposure, compared to pure-play petrochemical peers.	Waste And Pollution; Climate Transition Risk
China National Chemical Corp. Ltd.	Chemicals	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of China National Chemical Corp. Ltd. (ChemChina). This is because the chemical industry faces increasingly stringent environmental standards. Agriculture, oil refining, chemicals, and tires accounted for around 40%, 30%, 10%, and 10% of its revenue, respectively, in 2020. ChemChina was one of the first state-owned enterprises in China to be inspected by the authorities for safety and pollution incidents, though it is unlikely that material credit impact will arise from it. Social factors are an overall neutral consideration, although we recognize ChemChina's social role because it is government owned. Notably, it should contribute to the modernization of China's agriculture industry by promoting better use of crop protection products to reduce farmland contamination, which supported the US$43 billion acquisition of Syngenta AG in 2017.	Climate Transition Risk; Waste And Pollution
China National Gold Group Co. Ltd.	Metals And Mining	E-3	S-3	G-2	Environmental and social factors are moderately negative considerations in our credit rating analysis of CNG. This is consistent with its mining peers. Mining and refining accounted for 20% and 35% of its revenue in 2020, respectively, while the remaining came from trading. As the only central state-owned gold miner in China, CNG has been complying with environmental regulations. It has standardized waste discharge systems and prioritized an eco-friendly production process to reduce pollutants and energy waste. The company has 26 mines that met the national standards for green mines. CNG has maintained good relationships with communities, governments, and regulators and a good safety record. It spends about RMB1 billion on environmental protection and safety every year. Although there were a few environmental and safety incidents in the past five years, they did not affect CNG’s credit quality.	Waste And Pollution; Climate Transition Risk; Health And Safety; Social Capital

China National Offshore Oil Corp.	Oil And Gas	E-4	S-2	G-1	Environmental risks are a negative consideration in our credit rating analysis of China National Offshore Oil Corp. (CNOOC Group). The global oil and gas industry faces increasing adoption and transition to renewable energy to address climate change. This will likely have broad implications for hydrocarbon demand and prices for oil and gas producers. As a national oil company, CNOOC Group's role is to meet China's growing energy demand, which mitigates product substitution risk some peers face. Refining & chemical, gas & power, and upstream accounted for 70%, 15% and 10% of its revenue, respectively, in 2020, though upstream contributed over half of the company's gross profit. Oil and gas accounting for around 80% and 20%, respectively, of its upstream production currently, and the company targets 30% of output coming from natural gas by 2025. Offshore wind projects are a major initiative in the company's pursuit of renewable energy given its offshore resources and expertise in offshore engineering. Governance factors are a moderately positive consideration in our credit analysis as the company has good record of executing its strategy and achieving targets. However, as the company will play an increasingly important role in China's energy transition, this could translate into rising instances of government-led and policy-driven strategic, investment or financial decisions impacting credit quality, and to a reassessment of its governance processes and mechanisms.	Climate Transition Risk; Governance Structure
China National Petroleum Corp.	Oil And Gas	E-4	S-2	G-1	Environmental factors are a negative consideration in our credit rating analysis of China National Petroleum Corp. (CNPC). This is because the global oil and gas industry faces increasing adoption and transition to renewable energy to address climate change. This will likely have broad implications for hydrocarbon demand and prices for oil and gas producers. CNPC is a national oil company in China. The company plays a key role in ensuring a secure supply of energy to meet growing domestic demand, which mitigates product substitution risk some peers face. Marketing, trading, and refining & chemical accounted for 30%, 30%, and 15% of CNPC's revenue, respectively, in 2020. Although the upstream business accounts for a smaller proportion of the company's revenue, it typically contributes over half of the company's profit. CNPC's natural gas production first exceeded that of oil in 2020 as China continues to push for natural gas consumption as a cleaner fuel. The company targets near-zero emissions by 2050, 10 years ahead of the national target, mainly through the development of wind, solar, and geothermal energy. Governance factors are a moderately positive credit consideration as the company has a good record of executing its strategy and achieving targets. However, as the company will play an increasingly important role in China's energy transition, this could translate into rising instances of government-led and policy-driven strategic, investment, or financial decisions impacting credit quality, and to a reassessment of its governance processes and mechanisms.	Climate Transition Risk; Governance Structure
China Oil and Gas Group Ltd.	Utility Networks	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of China Oil and Gas Group Ltd. This assessment largely reflects the company's potential to deviate from its strategic plans and engage in more opportunistic investment, as seen in a previous acquisition for its upstream business.	Risk Management, Culture And Oversight
China Petrochemical Corp.	Oil And Gas	E-4	S-2	G-2	Environmental risks are a negative consideration in our credit rating analysis of China Petrochemical Corp. (Sinopec Group). The global oil and gas industry faces increasing adoption and transition to renewable energy to address climate change. This will likely have broad implications for hydrocarbon demand and prices for oil and gas producers. Sinopec Group's role as a national oil company is to meet China's growing energy demand, which mitigates product substitution risk some peers face. As the largest downstream oil player in China, the refining, marketing, and chemical businesses account for over half of its revenue and profit. In its upstream operations, oil and gas accounted for around 60% and 40%, respectively, of its production in 2020. Gas will grow at about 10% per annum in the next two to three years while oil production will remain largely flat on rising gas consumption in China as a cleaner fuel. The company targets carbon neutrality by 2050, 10 years ahead of national target, mainly through the development of hydrogen (first grey, then blue, and ultimately green hydrogen), leveraging its extensive refining capacity and hydrogen refilling and battery charging and changing stations using its existing wide gas stations network.	Climate Transition Risk

China Petroleum & Chemical Corp.	Oil And Gas	E-4	S-2	G-2	Environmental risks are a negative consideration in our credit rating analysis of China Petroleum & Chemical Corp. (Sinopec Corp.). The global oil and gas industry faces increasing adoption and transition to renewable energy to address climate change. This will likely have broad implications for hydrocarbon demand and prices for oil and gas producers. As a national oil company, Sinopec Corp.'s role is to meet China's growing energy demand, which mitigates product substitution risk some peers face. As the largest downstream oil player in China, its refining, marketing, and chemical businesses account for over half of its revenue and profit. In its upstream operations, oil and gas accounted for around 60% and 40%, respectively, of its production in 2020. Gas will grow at about 10% per annum in the next two to three years while oil production will remain largely flat on rising gas consumption in China as a cleaner fuel. The company targets carbon neutrality by 2050, 10 years ahead of national target, mainly through the development of hydrogen (first grey, then blue, and ultimately green hydrogen), leveraging its extensive refining capacity and hydrogen refilling and battery charging and changing stations, using its existing wide gas stations network.	Climate Transition Risk
China Railway Construction Corp. Ltd.	Engineering & Construction	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of China Railway Construction Corp. Ltd. The company is a diversified E&C contractor with exposure to various types of projects: transport infrastructure and building construction each account for around a third of total new orders, while municipal works and other projects make up the remainder. We estimate the company has small exposure (less than 10% new orders contribution) to renewable energy & environmental protection E&C projects, and minimal exposure to projects with heavy pollution risks.	N/A
China Railway Group Ltd.	Engineering & Construction	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of China Railway Group Ltd. CRG. The company's project mix is diversified across railway (15%-20% of revenue), highway (15%-20% of revenue), as well as municipal and building construction (50%-55%). We view its environmental risk exposure to be in-line with the industry average.	N/A
China Resources Gas Group Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of China Resources Gas Group Ltd.	N/A
China Resources Land Ltd.	Real Estate	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of China Resources Land (CR Land). The company has stronger management practices and governance than most peers in the sector. Despite CR Land's status as a central SOE, industry professionals form its management and plan its strategy operations. As a result, the company has consistently maintained its top position in the sector and grown its rental business with prudent and consistent financial management. It has exposure to environmental and social risks on par with peers in the sector in China.	Waste And Pollution
China SCE Group Holdings Ltd.	Real Estate	E-3	S-2	G-3	Environmental and governance factors are moderately negative considerations in our credit rating analysis of China SCE. The company is exposed to environmental risks in line with those of sector peers, for whom regulation may lead to higher cost. Meanwhile, governance factors constraining it are its board structure and the strong influence of its controlling shareholder and chairman, Wong Chiu Yeung, who owns 50% of China SCE. The company's strategy to expand its investment property portfolio has increased its leverage, but we continue to view its overall financial policy as sound.	Waste And Pollution; Risk Management, Culture And Oversight
China Southern Power Grid Co. Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of China Southern Power Grid Co. Ltd. Managing grid reliability is becoming more challenging with the company's increasing intake of wind and solar power because these sources are intermittent. CSG plays a significant role in dispatching renewable energy in China and helping the government achieve its goal of having 25% of primary energy sourced from renewables by 2030. It has constructed multiple long-distance ultra-high voltage transmission lines to dispatch renewable energy to consumption bases in the east.	N/A
China State Construction Engineering Corp. Ltd.	Engineering & Construction	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of China State Construction Engineering Corp. Ltd. It has 60% of revenue exposure to civil and building E&C (e.g., residential, social housing, industrial, public buildings), 20%-25% to infrastructure E&C, and 15%-20% to property development businesses. The company will likely maintain current revenue exposure over the next two years based on the stable new contract mix during the first eight months of 2021. We believe environmental factors are neutral to the company given its heavy exposure to E&C businesses mitigates the environmental risk in relation to the property development businesses.	N/A

China State Construction International Holdings Ltd.	Engineering & Construction	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of China State Construction International Holdings Ltd. It strictly aligns with the ESG initiatives of its ultimate parent, China State Construction Engineering Corp. Ltd. During the first half of 2021, the company had 55% of revenue exposure to civil and building E&C projects (e.g., social housing, hospitals, and schools) in mainland China and 41% of exposure mainly to infrastructure construction as well as civil and building (e.g., housing and hospital projects) in Hong Kong and Macau. The revenue exposure will likely remain stable in the next 24 months. We believe it has similar exposure to environmental risks as E&C peers.	N/A
China Three Gorges Corp.	Power Generators	E-1	S-2	G-2	Environmental factors are a positive consideration in our credit rating analysis of China Three Gorges. The company's 55 GW of installed hydropower capacity is a material contributor to China's decarbonization efforts. It accounts for nearly 20% of the country's hydroelectric power generation. This sector is strongly supported by government regulation as the large hydro projects also address significant flooding, irrigation, and river routing issues. CTG also invests heavily in non-hydro renewables, which contribute 30% of its EBITDA.	Climate Transition Risk
China Tourism Group Corp. Ltd. (CTG)	Retail and Restaurants	E-2	S-3	G-2	Social factors are a moderately negative consideration in our credit rating analysis on CTG. The company's travel retail, hotel, and travel agency businesses are exposed to major health incidents and traffic restriction risks. CTG has managed COVID-19 disruptions much better than peers. This is in part because it benefits from its outsized exposure to China, which experienced fewer disruptions relative to other markets. In addition, the company successfully shifted duty-free shopping to online, leveraging its good supplier relationships.	Health And Safety
China Vanke Co. Ltd.	Real Estate	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Vanke. The company faces comparable environmental risks in property development to those of its peer property developers. However, it has a long record of managing its development process. Vanke has a stable and experienced management team. It also has a long record of prudent financial management and transparent communication while achieving strategic and operational goals.	Waste And Pollution
China VAST Industrial Urban Development Co. Ltd.	Real Estate	E-3	S-2	G-4	Governance factors are a negative consideration in our credit rating analysis of VAST. Constraints on its governance are its board structure and the strong influence of its controlling shareholder, the Wang family, who hold a 44.08% stake. The company has also demonstrated a lack of planning and indecisiveness in managing its debt maturities, which has caused its liquidity to tighten at times. Environmental factors are a moderately negative consideration. However, the company has exposure to environmental and social risks in line with sector peers.	Risk Management, Culture And Oversight; Governance Structure; Other Governance Factors; Waste And Pollution
China Water Affairs Group Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of China Water Affairs Ltd.	N/A
CIFI Holdings (Group) Co. Ltd.	Real Estate	E-3	S-2	G-3	Environmental and governance factors are moderately negative considerations in our credit rating analysis of CIFI and are in line with those of most of its peers. The company faces similar social risks to other peers in China's property development sector. CIFI's fast-churn business model produces environmental issues in meeting increasingly stringent requirements in emissions and waste management, particularly in safety management risk. This is also the case for peers who employ the same business model.	Waste And Pollution; Risk Management, Culture And Oversight
CITIC Group Corp.	IHC	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of CITIC Group. This is based on our view that governance and transparency in the Chinese banking industry is relatively weak, as well as some deficiency we see in the group's strategy execution.	Transparency And Reporting
CK Infrastructure Holdings Ltd.	Utility Networks	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of CK Infrastructure Holdings Ltd. The company has a strong risk culture as part of the larger CK Hutchison group.	Risk Management, Culture And Oversight
Contemporary Amperex Technology Co. Ltd.	Autos	E-1	S-2	G-2	Environmental factors are a positive consideration in our credit analysis of Contemporary Amperex Technology Co. Ltd.. The company has strong readiness to handle electrification during the ongoing energy transition in the auto industry. The company has 80%-90% revenue exposure to EV-battery manufacturing. It is also the global battery leader, and had 30% of global market share and 50% in China in the first eight months of 2021. In addition, the company is one of the leading Chinese battery recyclers. This should enable it to prepare for the emerging battery retirement issues in the industry over the long term.	Climate Transition Risk; Waste And Pollution

Country Garden Holdings Co. Ltd.	Real Estate	E-3	S-3	G-3	Social, environmental, and governance factors are moderately negative considerations in our credit rating analysis of Country Garden. This puts it in line with its peers that have a family controlling ownership, a short record of disciplined growth, and a focus on property development, in which environmental regulations may result in higher cost. The company has moderately higher exposure to social factors than industry peers because of high-profile, construction-related accidents in 2018 that caused reputational damage. Since then, it has enhanced its safety measures and standards, including control measures, site supervision, material sourcing, and hiring of third-party inspectors. However, the record of these new measures remains short, and additional fatalities have been reported over the last 12 months.	Waste And Pollution; Health And Safety; Risk Management, Culture And Oversight; Transparency And Reporting
CRRC Corp. Ltd.	Capital Goods	E-1	S-2	G-2	Environmental factors are a positive consideration in our credit rating analysis of CRRC. The company has the dominant share of the domestic railway equipment market. This is beneficial to the company because of government policies on replacing highway commodity transportation with railway transportation as well as promotion of urban mass transit to reduce GHG emissions from highways and cities. Additionally, CRRC's new energy-related businesses, and particularly its wind power equipment businesses, are expanding fast with a strengthening market position. The company has minimal exposure to diesel engines and its locomotives are mostly electric driven.	Climate Transition Risk
Dalian Wanda Commercial Management Group Co. Ltd	Real Estate	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Wanda Commercial. Overall, we view its governance factors as in line with those of domestic peers. However, an historically aggressive, acquisition-fueled overseas expansion and a recent rationalization of assets indicate significant influence of its major shareholder. Environmental and social factors are an overall neutral consideration. Following a full unwinding of its development activities since 2019, its exposure to environmental factors is comparable with that of the broader real estate operator industry. Rental business now contributes more than 95% of its EBITDA. The company faces fewer safety issues than property developers, though it is exposed to shifts in consumer behavior and economic trends. Tempering this is its good geographic diversity across China.	Risk Management, Culture And Oversight
Dexin China Holdings Co. Ltd.	Real Estate	E-3	S-2	G-5	Governance factors are a very negative consideration in our credit rating analysis because the delay in Dexin's release of audited results may lead to some financing tightening, if the company does not remediate this in a timely matter. Weaker information transparency and reporting would also damage its reputation and lower market confidence. Environmental factors are moderately negative considerations in our credit rating analysis of Dexin. The company faces elevated exposure to environmental risks from property development activities. Environmental and social risks it faces are comparable to those of industry peers.	Waste And Pollution; Risk Management, Culture And Oversight
Dongfeng Motor Group Co. Ltd.	Autos	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis on Dongfeng Motor Group Co. Ltd. (DFG). This is in line with the industry. In the first half of 2021, DFG's NEV sales accounted for only 3%-4% of its total sales. To maintain competitiveness, its joint venture with Nissan and Honda will accelerate electrification initiatives and target 10 to 20 new NEV model rollout in China over the next few years. In addition, the launch of a premium NEV proprietary brand--Voyah--should also help the company to gradually catch up with the NEV credit requirement. As such, we anticipate the company will spend 7%-10% of annual revenue on its capex and R&D to enhance its NEV capabilities and product upgrade over the next two years.	Climate Transition Risk
eHi Car Services Ltd.	Shipping, Road and Rail	E-2	S-3	G-2	Social factors are now a moderately negative consideration for the credit rating analysis on eHi. The company's car rental business is exposed to major health incidents and travel restriction risks. The disruptions caused by sudden lockdowns and restrictions as a result of sporadic COVID-19 outbreaks can create uncertainty for the company's operations.	Health And Safety
ENN Energy Holdings Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have no material influence in our credit rating analysis of ENN Energy Holdings Ltd.	N/A
Foxconn Industrial Internet Co. Ltd.	Technology	E-2	S-2	G-2	ESG credit factors have no material influence on our rating analysis on electronic manufacturer and assembler FII.	N/A
Fufeng Group Ltd.	Consumer Products	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Fufeng Group Ltd. Three of the seven executive directors on the board are from the founding family. The executive directors from the founding family may have high influence on board decisions and this may not balance the interest of stakeholders.	Governance Structure
Geely Automobile Holdings Ltd.	Autos	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis on Geely Automobile Holdings Ltd. This reflects above-average energy transition risks embedded in our auto industry risk. Geely Auto's new energy vehicle sales moderately underperformed compared with peers in China in the last 18 months and only contributed 6% to total sales (including mild hybrid) in the first nine months of 2021. In our view, its new pure electric Sustainable Experience	Climate Transition Risk

					Architecture and various electric vehicle (EV) tie-ups with partners have growth potential.	
Gemdale Corp.	Real Estate	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Gemdale. The company faces environmental risk comparable with that of its industry peers. Social and governance factors are an overall neutral consideration in our rating analysis. The listed company has a diversified ownership structure with limited influence from any single shareholder compared with other privately-owned peers, and a team of professional executives with a lengthy track record manage it.	Waste And Pollution
Golden Eagle Retail Group Limited	Retail and Restaurants	E-2	S-2	G-2	ESG credit factors have had no material influence on our credit rating analysis of Golden Eagle.	N/A
Greenland Holding Group Co. Ltd.	Real Estate	E-3	S-2	G-3	Environmental and governance factors are moderately negative considerations in our credit rating analysis of Greenland. The company faces comparable environmental and social risks to peers in the property development and engineering and construction (E&C) industry, where environmental regulations may lead to higher costs across the industry. Greenland generates about 80% of its earnings from property development and 20% from other business, mainly E&C and trading. Weak internal controls and mismanagement of subsidiaries has historically caused multiple construction delays, poor acquisition decisions, and repayment risks. This could continue to hurt investor confidence and access to capital markets. However, an experienced management team and government control partly mitigate these risks.	Waste And Pollution; Risk Management, Culture And Oversight
Greentown China Holdings Ltd.	Real Estate	E-3	S-2	G-3	Environmental and governance factors are moderately negative considerations in our credit rating analysis of Greentown. It faces environmental and social risks consistent with those of industry peers. Its governance risk is also in line with that of peers. Despite management changes in recent years, we think the company's shareholder and board structure is stable and expect it to consistently implement the company's strategies.	Waste And Pollution; Risk Management, Culture And Oversight
Guangdong Energy Group Co. Ltd.	Power Generators	E-4	S-2	G-2	Environmental factors are a negative consideration in our credit rating analysis of Guangdong Energy. While the company is investing in renewable energy, it faces risks due to its predominately coal-fired power capacity, which represents about half of gross profit and two-thirds of controlled capacity. This is likely to lead to lower utilization rates compared with the clean power capacity that is increasing in the region. The Guangdong provincial government is prioritizing offshore wind, distributed solar, gas-fired, and imported hydroelectric power as generation alternatives to coal, which it has historically relied on.	Climate Transition Risk
Guangdong Hengjian Investment Holding Co. Ltd.	IHC	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Guandgong Hengjian. About 27% of the company's portfolio is invested in the regulated and unregulated utility sectors, with an additional 8% in auto original equipment manufacturing, steel manufacturing, and airlines. All these sectors have meaningful climate transition risk. We expect the company to largely maintain the above sector composition in its portfolio over the next two years.	Climate Transition Risk
Guangdong Provincial Communications Group Co. Ltd.	Transportation Infrastructure	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of Guangdong Provincial Communications. Its revenue in the first half year had risen to 10% above pre-COVID level, despite the year-on-year 43% drop in the same period in 2020, mainly due to the toll moratorium amid COVID outbreak.	N/A
Guangyang Antai Holdings Ltd.	Metals And Mining	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Guangyang Antai. This is consistent with its steelmaking peers. The company employs fully blast furnaces for crude steel output, which are more carbon intensive than electric arc furnaces. It has complied with national environmental standards.	Climate Transition Risk
Guangzhou R&F Properties Co. Ltd.	Real Estate	E-3	S-2	G-4	Governance factors are a negative consideration in our credit rating analysis of R&F. Constraints are its board structure and the strong influence of its controlling shareholders Li Sze Lim and Zhang Li, who also act as co-chairmen, owning 29.0% and 27.5%, respectively. Tight liquidity in 2020 temporarily disrupted R&F's access to capital markets, reflecting weaker risk management and culture relative to peers. This loss of market confidence extended into 2021, affecting its outlook for refinancing. Divestment of R&F's property management service business to its major shareholders also raised governance concerns. Environmental factors are a moderately negative consideration. However, the company faces environmental and social risks in line with sector peers.	Risk Management, Culture And Oversight; Waste And Pollution
Haidilao International Holding Ltd.	Retail and Restaurants	E-2	S-2	G-2	ESG credit factors have had no material influence on our credit rating analysis of Haidilao.	N/A

Health and Happiness (H&H) International Holdings Ltd.	Consumer Products	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of Health and Happiness International Holdings Ltd.	N/A
Hopson Development Holdings Ltd.	Real Estate	E-3	S-2	G-3	Environmental and governance factors are moderately negative considerations in our credit rating analysis of Hopson. The company's environmental exposure reflects overall increasing regulatory standards for environmental protection in the developer sector that will result in potentially higher costs and lower margins. As a family-owned developer, Hopson has a board whose composition is heavily influenced by the controlling Chu family, which dictates the company strategy, including its recent entrance into financial investments and trading. Hopson had very slow asset turnover previously, but in recent years the controlling family sped up the property sales to be more on par with those of peers. The company also has a more consistent strategy on rental income, which now accounts for more than 10% of property sales revenue. Social factors have had no material influence on our credit rating analysis.	Waste And Pollution; Governance Structure; Risk Management, Culture And Oversight
Huaneng Power International Inc.	Power Generators	E-4	S-2	G-2	Environmental factors are a negative consideration in our credit rating analysis of Huaneng Power International (HPI). With coal power capacity of 90 GW, HPI faces significant risks under China's drive toward a low-carbon economy. HPI's large coal power capacity could face lower utilization hours and margins, as well as additional costs to improve efficiency and meet carbon emissions quotas. The company also targets increases in wind and solar capacity by around 45 GW over 2021-2025, which will mean increased capex levels.	Climate Transition Risk
Huayuan Property Co. Ltd.	Real Estate	E-3	S-2	G-4	Governance factors are a negative consideration in our credit rating analysis of Huayuan. Constraints on governance are the company's history of abrupt changes in strategic plans and financial management policies. Very high leverage and tight liquidity also reflect weak risk management relative to peers. Environmental factors are a moderately negative consideration. However, Huayuan faces exposure to environmental and social risks that is in line with sector peers.	Governance Structure; Waste And Pollution
Inner Mongolia Yili Industrial Group Co. Ltd.	Consumer Products	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of Inner Mongolia Yili Industrial Group Co. Ltd.	N/A
JD.com Inc.	Retail and Restaurants	E-2	S-3	G-2	Social factors are a moderately negative consideration in our credit analysis of JD.com. The company is subject to regulatory risk. We believe the government can add new rules as to how the business may operate or could subject some of JD.com's past practices to fines. JD.com is also subjected to data privacy risk as an online operator that manages the account information of more than 500 million customers.	Social Capital
Jiangsu Shagang Group Co. Ltd.	Metals And Mining	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Shagang. This is consistent with its steelmaking peers. Compared with other Chinese steelmakers, Shagang employs a higher proportion of less carbon-intensive electric arc furnaces, accounting for 20%-25% of its total capacity. Its key environmental indicators, including unit energy consumption, unit sulfur dioxide emission, and unit water usage, have been much lower than national standards in the past five years. Shagang also controls Global Switch Holdings Ltd., which operates data centers globally. Although data centers are heavy power users, we see Global Switch as having a better environmental profile than its peers due to its better energy efficiency. Global Switch accounted for only 3% of Shagang's revenue in 2020 but about 15% of gross profit due to its higher margins.	Climate Transition Risk
Jiangsu Zhongnan Construction Group Co. Ltd.	Real Estate	E-3	S-2	G-3	Environmental and governance factors are moderately negative considerations in our credit rating analysis of Zhongnan. The company faces comparable environmental and social risks to its industry peers. Its application of new precast concrete technology shortens its construction cycle, saves energy, and reduces waste and emissions. That said, it generates about 15% of its EBITDA from its engineering and construction business, which brings higher risks related to health and safety management. Zhongnan's governance is up to standard but increasing partnership with off-balance-sheet joint venture partners raises concerns about its financial transparency.	Waste And Pollution; Risk Management, Culture And Oversight; Transparency And Reporting; Health And Safety
Jinjiang International Holding Co. Ltd.	Leisure	E-2	S-4	G-2	Social factors are a negative consideration in our credit rating analysis of Jinjiang. This is mainly due to COVID-19-related health issues, which have a considerable effect on the company's business operations and revenues, resulting in elevated leverage since the onset of the pandemic in 2020. However, recovery is on the cards because China has better control of COVID-19, and we expect Jinjiang's non-China operations to largely return to normal in 2022-2023, considering progress in vaccinations and resumption of travel. Given Jinjiang is a state-owned enterprise in Shanghai, government appointees collectively direct its board and governance. Environmental factors have an overall neutral influence on our rating analysis as Jinjiang progresses an ongoing transition to a franchise business model.	Health And Safety

Jinke Property Group Co. Ltd.	Real Estate	E-3	S-2	G-3	Environmental and governance factors are moderately negative considerations in our credit rating analysis of Jinke. We expect the developer will face environmental concerns given its adoption of a fast-churn development model. Its focus on operating efficiency means environmentally friendly materials and processes may not be its top priority. It faces social risk in line with sector peers, while governance factors constraining it are its board structure and the strong influence of its controlling shareholder.	Waste And Pollution; Governance Structure
Johnson Electric Holdings Ltd.	Autos	E-2	S-2	G-2	Environmental factors have an overall neutral influence on our credit rating analysis of Johnson Electric. Although the auto industry faces increasing energy transition risk, the company's diversified product offerings, which have mostly been electrified, will help it to sustain earnings growth through this period. Its strength in EV components, such as cooling fans and battery thermal management systems, has also helped it outgrow the market by 3 to 9 percentage points over the past five years.	Climate Transition Risk
Kunlun Energy Co. Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of Kunlun Energy Co. Ltd.	N/A
KWG Group Holdings Ltd.	Real Estate	E-3	S-2	G-5	Governance factors are now a very negative consideration in our credit rating analysis because the delay in releasing audited results may lead to some debt acceleration if KWG does not manage to remediate it in time. Weaker information transparency and reporting would also damage the company's reputation and reduce market confidence. Environmental factors are moderately negative considerations in our credit rating analysis of KWG. We view property development in general as having higher environment risk than other industries. The company has accelerated its expansion in recent years but continues to maintain high safety standards in construction and the workplace. It also partners with well-known developers in joint venture projects to ensure product quality.	Waste And Pollution; Risk Management, Culture And Oversight; Transparency And Reporting
Landsea Green Properties Co. Ltd.	Real Estate	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Landsea because the controlling family dominates the board. The company's leading position in the niche market for green residential property development in China supports its competitive advantage through product differentiation and stronger brand recognition, despite Landsea's modest operating scale. This further supports Landsea's low-asset model and project management segment, enhancing its return on capital. However, current government policy restricting price limits Landsea's ability to charge premium prices, constraining its profitability.	Waste And Pollution; Climate Transition Risk; Governance Structure
Li & Fung Ltd.	Business Services	E-2	S-2	G-2	ESG credit factors have no material influence on our credit rating analysis of Li & Fung.	N/A
Lianyungang Port Group Co. Ltd.	Transportation Infrastructure	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit analysis of Lianyungang Port. This assessment reflects Lianyungang Port's weaker disclosure standards as an unlisted company. It also factors in limited disclosure on progress of the Jiangsu Port Group consolidation, which is a key driver for the current rating.	Transparency And Reporting
Logan Group Co. Ltd.	Real Estate	E-3	S-2	G-4	Governance factors are now a negative consideration in our credit rating analysis, because previously undisclosed guaranteed debt harms the credit profile of Logan in terms of liquidity and leverage. Moreover, weaker information transparency and reporting would damage the company's reputation and reduce market confidence. Environmental factors are moderately negative considerations in our credit rating analysis of Logan. The company mainly operates in property development, where environmental regulations may lead to higher costs. Given its large exposure to urban redevelopment projects, mainly in the Greater Bay Area, Logan faces social risks along with advancement of its projects, especially for redevelopment of old villages. These developments require consensus with many owners and could easily arouse social disputes. That said, the company has developed a specialized team for overall planning, negotiation, and relationship maintenance. We have not observed any serious disputes arising from these projects in the past.	Risk Management, Culture And Oversight; Transparency And Reporting; Waste And Pollution
Longfor Group Holdings Ltd.	Real Estate	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Longfor. However, the company faces comparable environmental and social risks to industry peers. It has a better governance framework than the industry average, particularly among privately-owned Chinese developers. This is due to a long listing history and consistent execution of corporate strategies with prudent risk management. This is despite, as founder and chairwoman, Madam Wu Yajun's personal reputation potentially affecting the company.	Waste And Pollution
Meituan	Media and Entertainment	E-2	S-4	G-2	Social factors are a negative consideration in our credit rating analysis of Meituan. The company is more exposed to social factor than peers and has been fined several times for modest sums for its business practices. We also note the increased focus on delivery rider safety and compensation. Tight delivery requirements have caused riders to take excessive risk and, rider compensation is seen by many as being too low. It is possible--or maybe even likely--that the	Human Capital; Social Capital

					government will mandate changes on both fronts at a time when the company's rating cushion is relatively low.	
Metallurgical Corp. of China Ltd.	Engineering & Construction	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of the Metallurgical Corp. of China Ltd. It has been diversifying its project mix in the past few years. Revenue exposure to the metallurgical industry (mainly steel) declined to around 20% in 2020 from 30% in 2015 and is likely to further trend down as the company continues to expand in infrastructure, housing, and municipal construction. This is evidenced by declining new orders from the metallurgical industry, which accounted for 15% of total new E&C orders in 2020, versus 18% in 2018.	N/A
Midea Group Co. Ltd.	Consumer Products	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of Midea Group Co. Ltd.	N/A
Nanjing Yangzi State-Owned Assets Investment Group Co. Ltd.	Engineering & Construction	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of Nanjing Yangzi State-Owned Assets Investment Group Co. Ltd.	N/A
Nexteer Automotive Group Ltd.	Autos	E-3	S-2	G-3	Environmental factors are a moderately negative consideration in our credit rating analysis on Nexteer Automotive Group Ltd. This reflects above-average energy transition risks embedded in our auto industry risk. Nexteer mainly focuses on steering systems, which do not face material disruption risks amid the electrification trend. It is working closely with major customers to deliver products for their new EV models. Regarding governance factors, the company had major product recalls more than five years ago. There have been no similar incidents in recent years.	Risk Management, Culture And Oversight; Climate Transition Risk
Poly Development Holding Group Co. Ltd.	Real Estate	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Poly Development. No ESG factor presents a significant higher risk for the company than for its peers, and its elevated environmental risk is in line with that of the industry as a whole. It has a relatively strong governance structure and strategy planning process given its central SOE background. The company also has a strong management team, which will likely help it carry out its strategy and remain one of the largest players in the industry.	Risk Management, Culture And Oversight; Waste And Pollution
Power Construction Corp. of China	Engineering & Construction	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis on PCCC. It has about 15%-20% revenue and 10%-15% gross profit exposure to thermal power E&C and operation business, which has a relatively large environmental impact. But we believe the exposure will continue to decline due to a structural decline in coal demand and the company's continuous expansion in other end markets. We also believe this exposure is mitigated by the company's 10%-20% revenue and gross profit exposure to renewable energy projects, making its environmental risk largely in line with global E&C peers. We believe the company's gross profit exposure to hydro and hydraulic projects (which generate clean energy but with potential biodiversity concerns) will remain around 15% in the next few years, while the company will further expand into infrastructure construction, which currently accounts for 35%-45% of the company's revenue and gross profit.	N/A
Qingdao Conson Development (Group) Co. Ltd.	Leisure	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit analysis of Qingdao Conson Development. As an unlisted company, we believe its reporting standards are below those of listed peers we rate. In addition, the company is wholly owned by a local government, so its business strategies and financial policies are not widely communicated to the market.	Transparency And Reporting
Radiance Group Co. Ltd.	Real Estate	E-3	S-2	G-3	Environmental and governance factors are moderately negative considerations in our credit rating analysis of Radiance Group Co. The company faces environmental and social risks in line with sector peers. As a Chinese developer focusing on residential housing development, environmental risk arises from green gas emissions, as well as waste and pollution, especially during building construction. Governance factors constraining Radiance are its board structure and the strong influence of controlling shareholder Lam Ting Keung and his wife, who own 84% of the company through parent Radiance Holdings (Group) Co. Ltd.	Waste And Pollution; Risk Management, Culture And Oversight
Radiance Holdings (Group) Co. Ltd.	Real Estate	E-3	S-2	G-3	Environmental and governance factors are moderately negative considerations in our credit rating analysis of Radiance Holdings (Group) Co. The company faces environmental and social risks in line with sector peers. As a Chinese developer focusing on residential housing development, environmental risk arises from green gas emissions, as well as waste and pollution, especially during building construction. Governance factors constraining it are its board structure and the strong influence of controlling shareholder Lam Ting Keung and his wife, who own 84% of the company.	Waste And Pollution; Risk Management, Culture And Oversight

Red Star Macalline Group Corp. Ltd.	Real Estate	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Red Star, because the company has a limited record demonstrating its board is sufficiently independent of management. Previous inquiries from the Shanghai Stock Exchange regarding bad debt provisions and related-party transactions also point to weaker reporting and transparency than real estate operator peers. Although pandemic-related lockdowns affected its mall operations, recovery was fairly quick, such that employment and health and safety risks in these facilities were largely unimpacted. Average occupancy in the first half of 2021 rebounded to 93%, from 90.2% in the same period in 2020.	Risk Management, Culture And Oversight
Road King Infrastructure Ltd.	Real Estate	E-3	S-2	G-3	Environmental and governance factors are moderately negative considerations in our credit rating analysis of Road King. The company faces environmental and social risks in line with sector peers. Governance factors constraining it are weaker strategy execution than peers and a need to adjust to changes in industry fundamentals. The company's growth has lagged that of similarly rated peers in past years, despite solid overall market expansion. It is also yet to demonstrate a strategy to mitigate deteriorating profitability, one of its past strengths.	Waste And Pollution; Risk Management, Culture And Oversight
S.F. Holding Co. Ltd.	Shipping, Road and Rail	E-2	S-2	G-2	ESG credit factors have had no material influence on our credit rating analysis of SF Holding.	N/A
Seazen Group Ltd.	Real Estate	E-3	S-2	G-3	Environmental and governance factors are moderately negative considerations in our credit rating analysis of Seazen. Despite an expanding portfolio of shopping malls, the company still has a significant exposure to property development activities, giving exposure to similar environmental and social risks as other developers. For the first half of 2021, residential development income accounted for 95% of revenue while the rest came from rental income from its shopping mall business. Its governance remains relatively constrained by the strong influence of its chairman, Wang Xiaosong, given his high controlling stake. However, strong compliance requirements as a result of a dual listing in both China and Hong Kong temper the risk. Its former chairman was arrested several years ago on charges unrelated to company business and operations. Hence, we do not consider this a negative consideration for its governance.	Waste And Pollution; Risk Management, Culture And Oversight
Seazen Holdings Co. Ltd.	Real Estate	E-3	S-2	G-3	Environmental and governance factors are moderately negative considerations in our credit rating analysis of Seazen Holdings. Despite an expanding portfolio of shopping malls, the company still has a significant exposure to property development activities, giving it exposure to similar environmental and social risks as other developers. For the first half of 2021, residential development income accounted for 95% of revenue while the rest came from shopping mall tenants. Its governance remains relatively constrained by the strong influence of its chairman, Wang Xiaosong, given his high controlling stake. However, strong compliance requirements because of a dual listing in both China and Hong Kong temper the risk. Its former chairman was arrested several years ago on charges unrelated to company business and operations. Hence, we do not consider this a negative consideration for its governance.	Waste And Pollution; Risk Management, Culture And Oversight
Semiconductor Manufacturing International Corp.	Technology	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of Semiconductor Manufacturing International.	N/A
Shandong Energy Group Co. Ltd.	Metals And Mining	E-4	S-3	G-2	Environmental factors are a negative consideration in our credit rating analysis of Shandong Energy given it is a coal producer. Coal and trading accounted for about 20% and 70% of Shandong Energy's revenue in 2020, respectively. However, coal accounted for nearly 70% of its gross profit. The majority of the company's operations are in China, while Australia accounts for about 15% of its coal production. Yet, as a major state-owned coal producer and industry consolidator in China, we believe Shandong Energy will maintain its competitive strength in the next five years as China's coal demand plateaus. However, China's carbon-reduction targets pose long-term demand risk to the company. Social factors are a moderately negative consideration in our credit rating analysis, given safety concerns of the mining industry, especially it has a higher proportion of underground mines than open-pit mines. The company had two accidents in 2020, causing 11 deaths. However, the impact on credit quality was limited. Shandong Energy has less inherent risks from labor and community relations compared with global peers given its state-owned status.	Climate Transition Risk; Waste And Pollution; Health And Safety

Shandong Gold Group Co. Ltd.	Metals And Mining	E-3	S-3	G-2	Environmental and social factors are moderately negative considerations in our credit rating analysis of SDG. This is consistent with its mining peers. Gold refining and mined gold accounted for 60% and 20% of the company's revenue in 2020, respectively. All the company's mines have met the national or provincial standards for green mines. SDG has maintained good relationships with communities, governments, and regulators, and has a good safety record. We are not aware of notable health and safety incidents over the past five years. However, two accidents at local mines (not owned by Shandong Gold) have led to safety inspections and production halts at the company's mines in Shandong Province. Although the suspension was relatively short-lived, around six months, it caused significant loss of operating cash flow. We do not view this to have had a major influence on SDG's credit quality due to its temporary nature, yet it highlights the potential impact from environmental or social issues even it is not directly related to the company.	Waste And Pollution; Climate Transition Risk; Health And Safety; Social Capital
Shanghai Construction Group Co. Ltd.	Engineering & Construction	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Shanghai Construction Group Co. Ltd. Shanghai Construction derives around 80% of revenue from E&C, and the rest from property development (about 5%), industrial products, equipment trading, and other areas. Within E&C, the company is mainly focused on civil building (about 25% of total revenue), public facilities (20%), municipal and industrial buildings (10%), as well as landscape and decoration projects. We believe the revenue exposure to end markets will remain largely stable in the next two to three years and the company's environmental risk exposure is in-line with the industry average.	N/A
Shanghai Electric (Group) Corp.	Capital Goods	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of SEC. While governance factors do not materially influence the rating, the recent incident of potential loss in a 40%-owned subsidiary in non-core businesses from overdue receivables reflects group deficiencies in risk management and internal control. Meanwhile, SEC's exposure to environmental factors are largely in line with capital goods industry peers. The company has about 10% revenue exposure to thermal power equipment business, which faces structural decline. Nevertheless, revenue from its renewable energy and environmental protection businesses is double thermal-related revenue, mitigating climate transition risk. SEC's industrial and other equipment businesses' environmental exposure is around average for the global capital goods sector.	Risk Management, Culture And Oversight
Shanghai Electric Group Co. Ltd.	Capital Goods	E-2	S-2	G-3	Shanghai Electric is the listing platform of the majority of SEC's businesses and accounts for more than 80% of SEC's overall assets and revenue. We view Shanghai Electric as a core subsidiary of SEC. Similar to SEC, governance factors are a moderately negative consideration in our credit rating analysis of Shanghai Electric. While governance factors do not materially influence the rating, the recent incident of potential loss in a 40%-owned subsidiary in non-core businesses from overdue receivables reflects group deficiencies in risk management and internal control. Meanwhile, Shanghai Electric's exposure to environmental factors are largely in line with capital goods industry peers. The company has about 10% revenue exposure to thermal power equipment business, which faces structural decline. Nevertheless, revenue for its renewable energy and environmental protection businesses is double thermal-related revenue, mitigating climate transition risk. Shanghai Electric's industrial and other equipment businesses' environmental exposure is around average for the global capital goods sector.	Risk Management, Culture And Oversight
Shanghai Huayi (Group) Co.	Chemicals	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Shanghai Huayi (Group) Co. Across the chemical industry, companies face tightening environmental standards. Shanghai Huayi has been investing to manage its emissions and waste and complies with national regulations. Its investments will unlikely have a significant impact on credit metrics. The company's coal chemicals business, which we estimate accounted for 40% of its gross profit in 2021, is susceptible to the global energy transition. This will likely cause uncertainty on costs of raw materials coal for this segment in the longer run.	Climate Transition Risk; Waste And Pollution
Shanghai International Port (Group) Co. Ltd.	Transportation Infrastructure	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of SIPG. We note though that as of the end of 2020, the company has replaced 90% of the traditional diesel rubber-tired gantry (RTG) cranes with diesel-electricity hybrid RTG cranes, which have higher energy efficiency and lower noise and carbon emissions. Liquefied natural gas powers 95% of the dedicated tractor trucks running in terminals. The new Yangshan Terminal IV, which is fully automated, achieves near-zero emissions through an electric cargo handling system.	N/A
Shanghai Lingang Economic Development (Group) Co. Ltd.	Real Estate	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of Shanghai Lingang Economic Development.	N/A

Shenergy (Group) Co. Ltd.	Power Generators	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Shenergy (Group). Of the company's installed capacity, 55% is coal-fired generated. Despite having above-industry emission and efficiency standards, the company will likely experience increased utilization pressure compared with peers in the renewables sector. The overall environmental risk of the company is mitigated by its less carbon-intensive gas distribution business, which makes up nearly half of the company's gross profit.	Climate Transition Risk
Shenzhen Expressway Co. Ltd.	Transportation Infrastructure	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Shenzhen Expressway (SZE). The national toll moratorium in 2020, during the initial outbreak of COVID-19, temporarily affected SZE's toll revenue. However, traffic quickly bounced back once lockdowns were eased. In 2020, despite disruption from the toll-free period, the company's EBITDA increased by 2% due to opening of the Outer Ring Expressway.	N/A
Shenzhen International Holdings Ltd.	Transportation Infrastructure	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of Shenzhen International Holdings.	N/A
Shenzhen Investment Holdings Co. Ltd.	IHC	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Shenzhen Investment Holdings Co. Ltd. (SIHC). Around 50% of company's portfolio value is concentrated on financial institutions including Ping An Insurance (Group) Company of China Ltd. and securities firms. Such investees have limited exposure to environmental and social risk factors. SIHC will increase its investments in construction projects related to the Guangdong-Hong Kong-Macau Greater Bay Area over the next three to five years. However, this is unlikely to significantly increase its exposure to environmental risk factors.	N/A
Sinochem International Corp.	Chemicals	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Sinochem International Corp. The chemical industry is facing tighter environmental standards and a push to lower carbon emissions. Main uncertainties stem from the company's ability to fully transition to cleaner or renewable energy sources. The company has set longer-term goals aimed at mitigating such risks, which includes carrying out projects to increase efficiency of energy use, as well as lowering carbon emissions by raising natural gas in its energy mix. Near-term risks are relatively manageable, supported by its record in recent years in meeting emission limits set by authorities. As part of its 2030 sustainability target, the company aims to continuously reduce its carbon emission intensity from 2018 levels. Greenhouse gas emissions per ton of product was 1.49 in 2020, a 13% drop from the year before.	Waste And Pollution; Climate Transition Risk
State Development & Investment Corp.	IHC	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of SDIC. The company makes very detailed plans for investments and disposals, striking a good balance between policy guidance and investment return. It has a strong risk management system and a positive track record of choosing prudent growth paths, helping it to maintain its leverage profile. SDIC also has a management team with good width and breadth that can withstand key personnel changes. The Chinese government has increased regulatory scrutiny across sectors over the past 12 months. At state-owned companies, we believe this could translate into rising instances of government-led and policy-driven strategic, investment, or financial decisions affecting credit quality. This could lead us to reassess SDIC's governance processes and mechanisms.	Risk Management, Culture And Oversight
State Grid Corp. of China	Utility Networks	E-2	S-2	G-1	Governance factors are a positive consideration in our credit rating analysis of State Grid Corp. of China. We consider the company to have strong governance given its experienced management and consistently high level of strategic execution on domestic and international projects. Projects overseas are handled by State Grid International Development.	Risk Management, Culture And Oversight
State Power Investment Corp. Ltd.	Power Generators	E-4	S-2	G-2	Environmental factors are a negative consideration in our credit rating analysis on State Power Investment Corp. Despite a cleaner capacity mix than major independent power producer peers, SPIC still has a sizeable coal power fleet of 77 GW. This could face lower utilization hours and margins because of China's decarbonization goals.	Climate Transition Risk
Studio City Co. Ltd.	Leisure	E-2	S-4	G-2	Social factors are a negative consideration in our credit rating analysis of Studio City. As a casino operator, Studio City faces health and safety concerns. The company still faces severe business disruptions from COVID-19 in Macau, as travel restrictions and social distancing measures continue to hamper recovery. A full recovery in EBITDA might only happen in 2023. Increased regulations to address social risks, which could introduce volatility in gaming revenue and profitability, could also have a negative impact on the company.	Social Capital; Health And Safety
Sunac China Holdings Ltd.	Real Estate	E-3	S-2	G-3	Environmental and governance factors are moderately negative considerations in our credit rating analysis of Sunac. It has some exposure to environmental risks, and we consider those it faces in line with peers'. Overall governance is in line with industry peers', although historically aggressive expansion and large corporate acquisitions point to material influence from its largest shareholder, Sun Hongbin. Social factors are an overall neutral consideration in our credit rating analysis.	Waste And Pollution; Risk Management, Culture And Oversight

Syngenta Group Co. Ltd.	Chemicals	E-2	S-3	G-2	Social factors are a moderately negative consideration in our credit rating analysis of Syngenta Group. The agricultural chemicals sector--including crop-protection chemicals and seeds and traits--is facing growing public scrutiny of the impact on human health, which in some cases has resulted into litigation. For example, in 2020, some lawsuits were filed in various courts in the U.S. by plaintiffs with reference to Paraquat. In June 2021, subsidiary Syngenta AG reached a settlement agreement with some claimants paying $187.5 million. In addition to the financial impact of potential litigations, the increasing awareness on food safety could lead to shifts in consumer preferences toward food products grown without the use of crop-protection chemicals.	Health And Safety
Tencent Holdings Ltd.	Media and Entertainment	E-2	S-3	G-2	Social factors are a moderately negative consideration in our credit rating analysis of Tencent. The company faces increasing regulatory and societal pressure to reduce minors' exposure to online games. New game approvals have slowed or stopped completely as regulators are figuring how best to achieve this. The impact of such actions are likely to only have a modest impact on Tencent's gaming revenues, given that minors (aged under 12) represent 0.3% of its China game grossing receipts.	Social Capital
Tencent Music Entertainment Group	Media and Entertainment	E-2	S-3	G-2	Social factors are a moderately negative consideration in our credit rating analysis of Tencent Music Entertainment (TME). Recent actions by Chinese regulators highlights the increasingly difficult operating environment for Chinese internet and media companies. TME's large market share in the online music segment and master agreements with music labels have drawn increased scrutiny from regulators. Subsequently, the company has moved to exit those exclusive agreements. At the same time, regulators are tightening the implementation of data security laws, which could increase TME's cost of obtaining and maintaining user data or limit its ability to collect useful information for its algorithms.	Social Capital
Times China Holdings Ltd.	Real Estate	E-3	S-2	G-3	Environmental and governance factors are moderately negative considerations in our credit rating analysis of Times China. It faces comparable environmental and social risks to industry peers. A pioneer in urban renewal projects in Guangdong Province, the company has established the segment as a key development strategy and is working on a strong project pipeline. Times China faces social risks along with advancement of these projects, which generally require consensus with many owners and could arouse social disputes. That said, we consider the risks manageable as policies have been refined in recent years to provide clearer guidance on the approval process, consent solicitation, compensation, and establishment of joint companies to protect owners' interests. Times China has also developed a specialized team to address challenges in planning and negotiation. We have not observed serious disputes arising from these projects in the past.	Waste And Pollution; Risk Management, Culture And Oversight
Tingyi (Cayman Islands) Holding Corp.	Consumer Products	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of Tingyi.	N/A
Towngas China Co. Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of Towngas China Co. Ltd.	N/A
Vipshop Holdings Ltd.	Retail and Restaurants	E-2	S-3	G-3	Social and governance factors are moderately negative considerations in our credit rating analysis of Vipshop. The company is subject to regulatory risk. It was fined about RMB3 million by the government for anti-competitive business practices. On governance, Chairman and CEO Eric Shen exercises significant control over key corporate decisions, with 56% voting control through super voting shares. While he has only about a 12% shareholding in the company, he has considerable influence in key matters such as electing directors, approving mergers and acquisitions, and other major business transactions.	Social Capital; Governance Structure
Wanhua Chemical Group Co. Ltd.	Chemicals	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Wanhua Chemical Group Co. Ltd. The chemical industry is facing more stringent environmental standards and a push to lower carbon intensity. In January 2021, Wanhua pledged to support China's national goal to reach carbon emission peak by 2030 and carbon neutrality by 2060. Wanhua keeps track and discloses its gas and water pollutant emissions (such as sulfur dioxide, nitrogen oxide, and particulate matters) on a yearly basis. Emissions of these pollutants from its operations were well within the approved limits in recent years. Wanhua is likely to further invest in new projects that integrate production processes of different business lines to improve energy efficiency and recycle its residue and emissions.	Waste And Pollution; Climate Transition Risk
Weibo Corp.	Media and Entertainment	E-2	S-3	G-3	Social factors and governance factors are a moderately negative consideration in our credit rating analysis of Weibo. Chinese Internet companies face meaningful regulatory pressure in areas ranging from business practices to cyber security to data privacy. Last year, Weibo was fined for inadequate content moderation. The company could lose advertisers if it can't sufficiently adapt to the government's potentially shifting view on content. On governance, SINA's majority control over Weibo's board could result in decisions that favor the parent company over Weibo's other stakeholders. Of Weibo's seven board members, five directors are either	Social Capital; Risk Management, Culture And Oversight

					currently on SINA's management team or are former directors or management of SINA.	
Weichai Power Co. Ltd.	Capital Goods	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Weichai. The company's engine and auto businesses, which account for two-thirds of its revenue, face increasing climate transition risks, which could potentially affect its competitive position. That said, we believe Weichai is well prepared given solid research and development (R&D) capabilities and new product roll-outs. To prepare for the potential phase-out of diesel engines over the long term, Weichai is exploring clean-energy powertrain solutions, including hydrogen power, fuel cell, and electrification via internal R&D as well as acquiring technology innovators both domestically and abroad. We estimate that Weichai's R&D spending ratio will increase to 3.5%-4.0% in the next two to three years, from about 3% in the last two years.	Climate Transition Risk
WH Group Ltd.	Agribusiness and Commodities	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit analysis of WH Group. As WH Group is a wholesaler, producer, and retailer of meat products, it faces above-average environmental risks (including climate, water, and biodiversity). WH Group also operates large facilities with sizable amounts of animal waste, which must be managed carefully.	Physical Risk
WuXi AppTec Co. Ltd.	Healthcare	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of WuXi AppTec.	N/A
Xiaomi Corp.	Technology	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Xiaomi. The founder and co-founder control over 75% of voting rights. Both also have key roles on the board and in senior management, exercising strong influences on the company's strategy, decision-making, and risk management.	Risk Management, Culture And Oversight
Xinhu Zhongbao Co. Ltd.	Real Estate	E-3	S-2	G-3	Environmental and governance factors are moderately negative considerations in our credit rating analysis of Xinhu Zhongbao. Its exposures to environmental and social risk are largely in line with those of sector peers. The company does not have very clear internal controls for debt growth, in our view. Its leverage, measured by debt to EBITDA, has been high relative to peers' due to material capital needs for its property development and financial investment segments. Partly offsetting these are its investment portfolio of stakes in financial institutions and technology startup companies, which provides dividend income and increasing capitalization opportunities. Its investment portfolio includes some listed companies that can be monetized to reduce leverage if needed.	Waste And Pollution; Risk Management, Culture And Oversight
Yanfeng International Automotive Technology Co. Ltd.	Autos	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Yanfeng International Automotive Technology Co. Ltd. (YFI). As a supplier that focuses on interior auto products, we see YFI as less exposed to climate transition risks amid global push for electrification. Meanwhile, the company has been actively launching innovative products with enhanced focus on electrification and mobility. This allows the company to obtain more new orders from EV customers, in our view.	Climate Transition Risk
Yangzhou Economic and Technological Development Zone Development Corp.	Engineering & Construction	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Yangzhou Economic and Technological Development Zone Corp. The company's environmental risk profile reflects the nature of the industry in which it operates. Partially offsetting this negative bias is the company's near-term focus on environmental improvement projects, especially along the Yangtze River as part of the government's environmental mandate.	Natural Capital
Yankuang Energy Group Co. Ltd.	Metals And Mining	E-4	S-3	G-2	Environmental factors are a negative consideration in our credit rating analysis of Yankuang Energy. As a major state-owned coal producer in China, we believe Yankuang Energy will maintain its competitive strength in the next five years as China's coal demand plateaus. However, China's carbon-reduction targets pose long-term demand risk to the company. Social factors are a moderately negative consideration in our credit rating analysis of Yankuang Energy given safety concerns of the mining industry. Nevertheless, we regard Yankuang Energy as having high safety standards compared with domestic peers. The company had zero fatalities in the past three years. Yankuang Energy has less inherent risks from labor and community relations compared with global peers given its status as a core subsidiary of a state-owned parent. Excluding the 60% revenue from trading, nearly 80% of the remaining 40% revenue came from China in 2020 while overseas revenue, mainly from Australia, only accounted for around 20%.	Climate Transition Risk; Waste And Pollution; Health And Safety

Yanlord Land Group Ltd.	Real Estate	E-3	S-2	G-3	Environmental and governance factors are moderately negative considerations in our credit rating analysis of Yanlord. Environmental and social risks that the company faces are generally in line with those of industry peers. Governance factors constraining it are its board structure and the strong influence of controlling shareholder Zhong Sheng Jian, the company chairman and CEO, who owns 71.55% of the company's shares.	Waste And Pollution; Risk Management, Culture And Oversight
Yuexiu Transport Infrastructure Ltd.	Transportation Infrastructure	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Yuexiu Transport Infrastructure. A national toll moratorium in 2020 that temporarily affected the company's toll revenue led to a 19% drop in EBITDA that year. Traffic and revenue quickly bounced back later in 2020. As of first half of 2021, the company has seen gross profit rise 18% compared to pre-pandemic levels.	N/A
Zhaojin Mining Industry Co. Ltd.	Metals And Mining	E-3	S-3	G-2	Environmental and social factors are moderately negative considerations in our credit rating analysis of Zhaojin Mining. This is consistent with its mining peers. The company has 11 gold mines that met the national standards for green mines. Zhaojin Mining has maintained good relationships with communities, governments, and regulators, and has a good safety record. We are not aware of notable safety incidents over the past 10 years. However, two accidents at local mines (not owned by Zhaojin Mining) have led to safety inspections and production halts at the company's mines in Shandong Province. Although the suspension was relatively short-lived, around six months, it caused significant loss of operating cash flow. We do not view this to have had a major influence on the company's credit quality due to its temporary nature, yet it highlights the potential impact from environmental or social issues even it is not directly related to the company.	Waste And Pollution; Climate Transition Risk; Health And Safety; Social Capital
Zhejiang Expressway Co. Ltd.	Transportation Infrastructure	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Zhejiang Expressway Co. In the first half of 2020, its toll revenue was hit hard by the moratorium during the pandemic and slumped 50%, but had risen to 120% of the pre-COVID performance in the same period of 2021.	N/A
Zhejiang Geely Holding Group Co. Ltd.	Autos	E-3	S-2	G-3	Environmental factors are a moderately negative consideration in our credit rating analysis on Zhejiang Geely Holding Group Co. Ltd. This reflects above-average energy transition risks embedded in our auto industry risk. While 99%-owned subsidiary Volvo Car has fared relatively well in NEV sales, 41%-owned subsidiary Geely Auto's NEV sales moderately underperformed peers since 2020. The company is catching up by launching its new SEA pure electric vehicle platform, and various EV tie-ups with partners have market potential going forward. Regarding governance factors, its public disclosures regarding businesses and investment apart from Geely Auto and Volvo Cars are less transparent than listed peers.	Governance Structure; Transparency And Reporting; Climate Transition Risk
Zhongsheng Group Holdings Ltd.	Retail and Restaurants	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of Zhongsheng.	N/A
Zijin Mining Group Co. Ltd.	Metals And Mining	E-3	S-3	G-2	Environmental and social factors are moderately negative considerations in our credit rating analysis of Zijin. About 60% of Zijin's revenue in 2020 came from gold refining. However, mined gold and copper each contributed 30%-40% of the company's gross profit. Its environmental exposure mainly relates to the use of sodium cyanide in the production process, discharge of wastewater, and emission of waste gas. Currently, Zijin Mining has 13 mines classified as national-level green mines and it had no major incidents in the last 10 years. In 2020, the company established an ESG committee at the board level to oversee related practices. Its social exposure mainly related to the inherent risk of mining activities including labor and community relations, and uncertainties in mining-related regulation changes, especially those assets located overseas. Zijin's overseas operations consist of primarily a higher-margin mining business and contribute to about 40% of the company's gross profit.	Climate Transition Risk; Waste And Pollution; Health And Safety; Social Capital
Zoomlion Heavy Industry Science and Technology Co. Ltd.	Capital Goods	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Zoomlion. As a construction machinery producer, Zoomlion faces increasingly stringent regulations on GHG emissions and fuel efficiency. We believe Zoomlion is well positioned to meet these requirements supported by solid technology capability and rising R&D spending. The company has also launched pure electric prototypes of key products.	N/A
Baosteel Resources International Co. Ltd.	Metals And Mining	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis on Baosteel Resources. It mainly acts as the offshore resources trading and mining acquisition platform for its parent China Baowu Steel Group. Although the company has owned an iron ore mine in West Australia since 2014, it remains undeveloped. All the company's revenue comes from sales of iron ore, coke, and shipping. As a highly strategic subsidiary of its parent, we see the company's ESG exposure as being the same as its parent's.	Climate Transition Risk
Bao-Trans Enterprises Ltd.	Metals And Mining	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis on Bao-Trans. Its primary businesses are overseas iron ore procurement, trading, financing, and shipping for its parent Baoshan Iron and Steel Co. Ltd. As a	Climate Transition Risk

					core subsidiary of its parent, we see the company's ESG exposure as being the same as its parent's.	
Beijing Enterprises Holdings Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of BEHL. The company's natural gas distribution business is environmentally-friendly and is in line with the Chinese government's long-term carbon emission reduction policy. The government also supports the environment-protection industry (wastewater treatment and waste-to-energy projects). BEHL places strong emphasis on safety standards for its gas distribution business. The company's associate company, China Gas, was involved in a few safety incidents in recent years but BEHL proactively helped China Gas improve its safety standards after the incidents.	N/A
Bright Food International Ltd.	Consumer Products	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Bright Food International. The company was assembled through several acquisitions across several continents. Its parent made the company the holding platform for almost all its international assets. Bright Food International's role is to improve business operations and realize potential synergies. The company has limited experience in its role of tracking, adjusting, and executing strategies for overseas assets. Environmental and social factors have no material influence on our credit rating analysis.	Risk Management, Culture And Oversight
Castle Peak Power Co. Ltd.	Power Generators	E-3	S-2	G-1	Environmental factors are a moderately negative consideration in our credit rating analysis of Castle Peak Power Company. While most of its power generation is still coal fired, the company has undertaken the development of a gas-fired power plant and Floating Storage and Regasification Unit (FSRU) to import LNG to help the group meet its announced net zero emissions targets. Also, governance factors are a positive consideration in our credit rating analysis given the company's transparent disclosure and risk culture as part of the CLP group.	Risk Management, Culture And Oversight; Climate Transition Risk
China Jinmao Holdings Group Ltd.	Real Estate	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Jinmao. The company's exposure to environmental and social risks is generally in line with that of other Chinese developer peers. Uncertainty over its governance is increasing, in our opinion, though it remains a well-managed state-owned enterprise (SOE), with Sinochem Corp. still the controlling shareholder, with 35.2% ownership and most seats on its board. The merger of Sinochem and ChemChina may redefine Jinmao's future role within the enlarged group. This could have knock-on effects on the company's governance structure.	Waste And Pollution
China Merchants Port Holdings Co. Ltd.	Transportation Infrastructure	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of China Merchants Port Holdings.	N/A
China Mobile Ltd.	Telecoms	E-2	S-2	G-1	Governance factors are a positive consideration in our credit rating analysis of China Mobile. The company has a solid record of strategic and operational execution, a highly experienced management team, and prudent approach to risk. These factors support our view that its governance is stronger than that of its large Chinese corporate peers. The company became the leader in the mobile market during the transition to 4G. We expect the company to maintain that lead going into 5G.	Risk Management, Culture And Oversight
China Overseas Grand Oceans Group Ltd.	Real Estate	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of China Overseas Grand Oceans (COGO). As COGO is an SOE, the composition of its board is not influenced by a controlling family but by its parent, China Overseas Land & Investment Ltd. (COLI), which has some of the strongest governance practices in the sector. However, when compared with COLI, we don't consider this a very positive consideration, given COGO's shorter track record and less established market position. COGO's exposure to environmental risk is in line with that of its peers, with the property industry as a whole facing higher risk as increasing environmental regulation leads to higher cost.	Waste And Pollution
China Overseas Land & Investment Ltd.	Real Estate	E-3	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of China Overseas Land & Investment (COLI). The company has strong governance practices as a large, central state-owned company and because of its long record as a publicly listed company in Hong Kong. It has an effective board with adequate and diverse expertise to oversee strategy and operations. Its reporting of nonfinancial information is also substantially more granular and transparent than peers'. Environmental factors are a moderately negative consideration in our credit rating analysis of COLI and are in line with those of its Chinese developer peers. The company faces environmental risks in waste and pollution and strives to reduce the negative impact of its business activities with proper sewage treatment and waste management. However, overall, its environmental factors are line with those of peers.	Governance Structure; Risk Management, Culture And Oversight; Waste And Pollution

China Resources Power Holdings Co. Ltd.	Power Generators	E-4	S-2	G-2	Environmental factors are a negative consideration in our credit rating analysis of China Resources Power. Government-influenced national decarbonization trends will lead to lower utilization hours for CR Power's large coal power fleet. Aggressive renewables plans will also entail significant investment needs and there is the potential for costs associated with carbon trading.	Climate Transition Risk
China South City Holdings Ltd.	Real Estate	E-3	S-2	G-3	Environmental and governance factors are moderately negative considerations in our credit rating analysis of CSC. It has exposure to environmental and social risks in line with other property developer peers. This follows its shift from trade center operations to a fast-churn business model focused on property sales. Governance factors constraining it are its board structure and the strong influence of controlling shareholder Cheng Chung Hing and his family, who together hold a 35.83% stake in the company.	Waste And Pollution; Risk Management, Culture And Oversight
China Travel Service (Holdings) Hong Kong Ltd. (CTS HK)	Retail and Restaurants	E-2	S-3	G-2	Social factors are a moderately negative consideration in our credit rating analysis on CTS HK. The company's travel retail, hotel, and travel agency businesses are exposed to major health incidents and traffic restriction risks. CTS HK has managed COVID-19 disruptions much better than peers. This is in part because it benefits from its outsized exposure to China, which experienced less disruptions relative to other markets.	Health And Safety
CITIC Ltd.*	IHC	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of CITIC. This is based on our view that governance and transparency in the Chinese banking industry is relatively weak, as well as some deficiency we see in the group's strategy execution.	Transparency And Reporting
CK Asset Holdings Ltd.	Real Estate	E-3	S-2	G-1	Governance factors are a moderately positive consideration in our credit analysis of CK Asset. Supporting its strong governance is transparent disclosure of strategic and operational goals. The company has an experienced and professional board and management team. It also has good internal control, demonstrated by its record of financial prudence. Environmental factors are a moderately negative consideration. In property development, its major business, the company faces comparable environmental risks to those of peer property developers. In proactively managing such risks, the company has implemented various energy-saving practices, using environmentally friendly air conditioner refrigerants, and adopted waste-management plans.	Other Environmental Factors; Risk Management, Culture And Oversight
CK Hutchison Group Telecom Holdings Ltd.	Telecoms	E-2	S-2	G-2	ESG credit factors have had no material influence on our credit rating analysis on CK Hutchison Group Telecom.	N/A
CK Hutchison Holdings Ltd.	Telecoms	E-2	S-2	G-1	Governance factors are a positive consideration in our credit rating analysis of CK Hutchison. The company has an experienced and professional management team and has a long record of execution and achieving strategic and operational goals. Environmental and social factors are an overall neutral consideration in our credit rating analysis of CK Hutchison. Although exposed to various degrees of environmental risks, the company has a diversified business portfolio in telecommunications, infrastructure and utilities, retail, and ports. It proactively manages such risks using renewable power sources and cleaner fuel such as natural gas. It also adopts water recycling and electronic waste reduction programs.	Risk Management, Culture And Oversight
CLP Holdings Ltd.	Utility Networks	E-3	S-2	G-1	Environmental factors are a moderately negative consideration in our credit rating analysis of CLP Holdings Ltd. While the company has firm targets to eliminate coal-fired power across its portfolio, it faces challenges in Australia as well as a lower cash leverage ratio in the near term as it works to convert its Hong Kong fleet from coal to gas. Also, governance factors are a moderately positive consideration in our credit rating analysis given the company's record of execution and transparent disclosure.	Risk Management, Culture And Oversight; Climate Transition Risk
CLP Power Hong Kong Ltd.	Utility Networks	E-3	S-2	G-1	Environmental factors are a moderately negative consideration in our credit rating analysis of CLP Power Hong Kong Ltd. While a 100% electricity transmission and distribution company, a high proportion of its majority owned generation subsidiary Castle Peak Power's installed capacity is coal fired. It has undertaken construction of gas-fired capacity as part of the group's announced net zero emissions targets, so its cash leverage ratio might come under pressure prior to completion of the move from coal to gas. Also, governance factors are a moderately positive consideration in our credit rating analysis given the company's transparent disclosure and risk culture as part of the CLP group.	Risk Management, Culture And Oversight; Climate Transition Risk

CNOOC Ltd.	Oil And Gas	E-4	S-2	G-1	Environmental risks are a negative consideration in our credit rating analysis of CNOOC Ltd. The global oil and gas industry faces increasing adoption and transition to renewable energy to address climate change. This will likely have broad implications for hydrocarbon demand and prices for oil and gas producers. As a national oil company, CNOOC's role is to meet China's growing energy demand, which mitigates the product substitution risk some peers face. The company is a pure upstream player with oil and gas accounting for around 80% and 20% of its production currently. It targets 30% of output coming from natural gas by 2025 and non-fossil fuel energy to account for more than half of its business by 2050. Offshore wind projects are a major initiative in the company's pursuit of renewable energy given its offshore resources and expertise in offshore engineering. Capital expenditures (capex) in renewable energy will account for 5%-10% of total capex by 2025. Governance factors are a moderately positive consideration in our credit analysis as the company has good record of executing its strategy and achieving targets. However, as the company will play an increasingly important role in China's energy transition, this could translate into rising instances of government-led and policy-driven strategic, investment or financial decisions impacting credit quality, and to a reassessment of its governance processes and mechanisms.	Climate Transition Risk; Governance Structure
COFCO (Hong Kong) Ltd.	Agribusiness and Commodities	E-3	S-2	G-2	Environmental credit factors are a moderately negative consideration in our credit rating analysis of COFCO. The company engages in commodity trading, processing, and packaged foods businesses. The commodity trading and processing parts of the business expose the company to higher environmental risk (including climate, water, and biodiversity) that could cause a high degree of profit volatility. Even though COFCO has established goals to ensure sustainability, including reducing water intensity by 10% by 2025 and achieving full supply chain traceability for Brazilian soybeans by 2023, there haven't been more concrete actions or carbon reduction commitments.	Physical Risk
Fosun International Ltd.	IHC	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Fosun. Its portfolio consists of sectors that do not have large exposures to environmental or social risks. These industries include pharmaceuticals, consumer, and insurance. Shanghai Fosun Pharmaceutical Co., Ltd. is Fosun's largest investment by far, accounting for 20% of its portfolio value. Its other investments are fragmented across the remaining industries.	N/A
Goodman Hong Kong Logistics Partnership	Real Estate	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Goodman HK. The company's commitment to 100% renewable energy use by 2025 (part of Goodman Group's 2030 Sustainability Strategy) should balance its exposure to high energy and power requirements for data center tenants, which will account for about 20% of its total asset value by 2023. Goodman has established a governance framework with a strong record of working within its investment guidelines and has shown consistently strong financial management and operational execution. It faces comparable social risks to industry peers.	N/A
Greenland Hong Kong Holdings Ltd.	Real Estate	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Greenland HK. This reflects that the company faces comparable environmental risks to its industry peers.	Waste And Pollution
Hero Asia Investment Ltd.	Power Generators	E-2	S-2	G-2	ESG factors have no material influence in our credit rating analysis of Hero Asia Investment.	N/A
HK Electric Investments Ltd.	Power Generators	E-3	S-2	G-1	Governance factors are a positive consideration in our credit rating analysis of Hong Kong Electric Investments. The company's disclosures are transparent, and it has as strong history of project execution.	Risk Management, Culture And Oversight; Climate Transition Risk
Hong Kong and China Gas Co. Ltd. (The)	Utility Networks	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of The Hong Kong and China Gas Co. Ltd.	N/A
Hong Kong Telecommunications (HKT) Ltd.	Telecoms	E-2	S-2	G-2	ESG credit factors have had no material influence on our credit rating analysis of Hong Kong Telecommunications.	N/A
Hongkong Electric Co. Ltd.	Power Generators	E-3	S-2	G-1	Environmental factors are a moderately negative consideration in our credit rating analysis of Hong Kong Electric (HKE). The company's generation sources include coal-fired capacity that is in the process of being replaced by gas plants as part of the Hong Kong Government's green energy initiative. Governance factors are a positive consideration in our credit rating analysis of HKE. The company's disclosures are transparent, and it has as strong history of project execution.	Risk Management, Culture And Oversight; Climate Transition Risk

Hongkong Land Holdings Ltd.	Real Estate	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of Hongkong Land (HKL). HKL has strong governance over its operations, supported by a long operating history and requirements to comply with listing rules for the London Stock Exchange and secondary listings in Singapore and Bermuda. Its board is effectively run with seven independent directors and another five executive directors. Despite Jardine Matheson Group's controlling ownership, HKL is independently managed such that its operations and financial performance are independent of its parent's influence. The extent of COVID-19's impact on the company remains to be seen, and the effect on its office portfolio should be gradual due to its well-staggered lease maturities, well-diversified tenant base, and a flight to high quality assets. HKL's property rental business faces environmental risks such as greenhouse gas emissions. However, the company is proactively cutting emissions with reduced electricity consumption. Most buildings in its portfolio in Hong Kong's central business district are green certified.	Governance Structure
Huayi Group (Hong Kong) Ltd.	Chemicals	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Huayi Group (Hong Kong) Ltd. The company is primarily a financing vehicle of its parent Shanghai Huayi, therefore its ESG exposure reflects that of the parent. Across the chemical industry, companies face tightening environmental standards. Huayi has been investing to manage its emissions and waste and has complied with national regulations in recent years. We do not see such investments as having a significant impact on the company's credit metrics. Huayi's coal chemicals business, which we estimate accounted for 40% of its gross profit in 2021, is susceptible to the global energy transition. This will likely cause uncertainty on costs of raw materials coal for this segment in the longer run.	Waste And Pollution; Climate Transition Risk
Hutchison Port Holdings Trust	Transportation Infrastructure	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of Hutchison Port Holdings Trust. The company has a strong risk culture as part of the larger CK Hutchison group.	Risk Management, Culture And Oversight
IFC Development Ltd.	Real Estate	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of IFC. The company benefits from strong shareholder support both financially and in its management, underpinning IFC's healthy, stable leverage profile and its resilience to downcycles. Major shareholders Sun Hung Kai Properties Ltd. and Henderson Land Development Co. Ltd. are two of Hong Kong's largest property companies. Both have long operating histories and have contributed their extensive expertise to IFC's management and operations. Despite single-asset concentration, physical risk is limited due to IFC's well-built structure and sound property management, which has been tested in the past.	Risk Management, Culture And Oversight; Governance Structure
Jardine Matheson Holdings Ltd.	Retail and Restaurants	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of Jardine. The company has a strong management team, with good depth and breadth across business lines that reduce the risk of significant disruption if key personnel are lost. The team has considerable expertise, experience, and a record of success. The company also has a long record of setting consistent strategies and achieving its goals.	Risk Management, Culture And Oversight
Kowloon Motor Bus Co. (1933) Ltd. (The)	Shipping, Road and Rail	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of KMB. We anticipate tighten regulations for GHG emissions and other environmental footprints. This will likely raise costs and accelerate investments on fleet upgrades or infrastructure such as charging stations for electric buses.	Climate Transition Risk
Lenovo Group Ltd.	Technology	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of Lenovo Group.	N/A
Link Real Estate Investment Trust	Real Estate	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of Link REIT. The company's board has strong independence and a background of diversity, and these support its strategy of geographic expansion. Its management team has also demonstrated solid skills and expertise, delivering stable growth since listing and through economic cycles. Link REIT's financial and operational disclosure also goes beyond local regulation and aligns with international best practices.	Risk Management, Culture And Oversight; Transparency And Reporting; Governance Structure
Nan Fung International Holdings Ltd.	Real Estate	E-3	S-2	G-3	Environmental and governance factors are moderately negative considerations in our credit rating analysis of Nan Fung. The company faces comparable environmental and social risks to its industry peers in property development. It generates roughly about 70% of its earnings from property development, 20% from rentals, and 10% from hotel and property management. We also believe the company maintains a good governance structure with three independent board directors following privatization. That said, the company's ownership is concentrated, and it has a large investment portfolio. In addition, its property development business is at times uneven and volatile.	Waste And Pollution; Risk Management, Culture And Oversight; Transparency And Reporting
Power Assets Holdings Ltd.	Utility Networks	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of Power Assets Holdings Ltd. The company has a strong risk culture as part of the larger CK Hutchison group.	Risk Management,

						Culture And Oversight
Sinochem Hong Kong (Group) Co. Ltd.	Real Estate	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Sinochem Hong Kong. The company is primarily a financing vehicle of its parent, Sinochem Group. Therefore, ESG exposure reflects that of its parent. Sinochem Group's chemical and real estate businesses, which constituted about 28% and 42% of its gross profit in 2020, respectively, are facing more stringent environmental standards, as well as a push to lower carbon emissions. Sinochem Group's oil and gas businesses, which contributed 26% of gross profit last year, also faces long-term demand risks due to energy transition toward renewable energy to address climate change.	Climate Transition Risk
State Grid International Development Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of State Grid International Development Ltd.	N/A
Sun Hung Kai Properties Ltd.	Real Estate	E-3	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of Sun Hung Kai Properties (SHKP). Supporting its strong governance is independent board representation, clear succession plans, transparent disclosures, and stable operations through individual legal cases involving key directors in the past. Consistent efforts to provide premium-quality products are reflected in its strong pricing power and brand recognition. Environmental factors are a moderately negative consideration in our credit rating analysis of SHKP. Its major business, property development, faces comparable environmental risks to those of peer property developers. However, it aims to strike a balance between project development and environmental conservation. Its development of 46,500 square meters of wetlands as part of a massive residential development is a first of its kind for Hong Kong.	Risk Management, Culture And Oversight; Waste And Pollution
Swire Pacific Ltd.	Real Estate	E-2	S-3	G-2	Social factors are moderately negative considerations in our credit rating analysis of Swire. It faces moderately higher exposure to social factors than real estate peers because of its nonproperty businesses, particularly from its associate company, an airline operator severely impacted by travel curbs due to the pandemic. Environmental and governance factors are an overall neutral consideration. Environmental exposure is balanced by its core real estate operation (rental income contributing more than two-thirds of EBITDA) and should not negatively affect our credit rating analysis, despite exposure to climate transition risk and water and waste issues through aviation (unconsolidated) and beverage (consolidated) businesses.	Climate Transition Risk; Waste And Pollution; Social Capital
Thevelia Holdings Ltd.	Business Services	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Thevelia, as it is for most rated entities owned by private-equity sponsors. Thevelia is wholly owned by BPEA. We believe the company's highly leveraged financial risk profile points to corporate decision-making that could prioritize the interests of the controlling owners. This also reflects private-equity sponsors' generally finite holding periods and focus on maximizing shareholder returns. Environmental and social factors have no material influence on our rating analysis, largely due to the service-oriented nature of Thevelia's business operations in corporate and trust services.	Governance Structure
Urban Renewal Authority	Real Estate	E-3	S-1	G-1	Social and governance factors are a moderately positive considerations in our credit rating analysis of Urban Renewal Authority (URA). URA is a government-related entity set up under Hong Kong's urban redevelopment ordinance. URA key's objective of tackling urban decay and housing supply, a key social issue in Hong Kong, underpins the social importance of its role within the city's government. By taking a key role in revitalizing old districts, it also helps tackle the housing shortage in the city, while also improving the health and safety of neighborhoods. Strong management and governance standards due to its status as a statutory body undertaking key housing policies also support its stronger governance. Environmental factors are a moderately negative consideration. The company's environmental risks are largely in line with those of sector peers. It faces slightly less environmental risk related to land use, since it focuses on redeveloping old buildings in urban districts, although it faces similar exposure to regulations on emissions and waste.	Waste And Pollution; Health And Safety; Social Capital; Governance Structure; Risk Management, Culture And Oversight
Vistra Group Holdings (BVI) I Ltd.	Business Services	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Vistra, as it is for most rated entities owned by private-equity sponsors. Baring Private Equity Asia Pte. Ltd. has majority ownership in Vistra. We believe Vistra's highly leveraged financial risk profile points to corporate decision-making that could prioritize the interests of the controlling owners. This also reflects private-equity sponsors' generally finite holding periods and focus on maximizing shareholder returns. However, Vistra does not have a record of distributing significant dividend. Environmental and social factors have no material influence	Governance Structure

					on our rating analysis, largely due to the service-oriented nature of Vistra's business operations in corporate and trust services.	
Yuexiu Real Estate Investment Trust	Real Estate	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Yuexiu REIT. Despite a satisfactory operating track record, the REIT failed to execute its financial strategy to maintain low leverage. This renders its governance weaker than that of some state-owned peers. The REIT faces environmental and social risks comparable with those of the broader real estate operator industry. It consistently carries out environmentally friendly asset enhancements. Guangzhou International Finance Center, which contributes over 50% of its revenue, has a LEED Platinum certificate. Its Grade A offices showed resilience with an over 92% occupancy rate during COVID-19 lockdowns. This offsets downward pressure on rental income. Its hotel operations rebounded following containment of COVID-19 in China, helping to ease employment and health and safety concerns.	Governance Structure
Melco Resorts (Macau) Ltd.	Leisure	E-2	S-4	G-2	Social factors are a negative consideration in our credit rating analysis of Melco. As a casino operator, Melco faces health and safety concerns. Melco still faces severe business disruptions from COVID-19 in Macau and the Philippines, as travel restrictions and social distancing measures amid resurgences of infection continue to hamper recovery. A full recovery in EBITDA might only happen in 2023. Increased regulations to address social risks, which could introduce volatility in gaming revenue and profitability, could also have a negative impact on the company.	Social Capital; Health And Safety

ESG Credit Indicators – Rated Corporate And Infrastructure Entities In India

Issuer	Industry	E	S	G	Comments	Factors
Adani Electricity Mumbai Ltd.	Utility Networks	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Adani Electricity Mumbai Ltd. (AEML). This reflects the significant control of the founder family and limited record of financial discipline at parent Adani Transmission. However, the presence of the Qatar Investment Authority as a significant minority shareholder helps mitigate some of these governance risks. As a regulated electricity distribution company, AEML is not significantly exposed to environmental risks. Meanwhile, competitive tariffs and customer service levels lead to manageable social risks.	Risk Management, Culture And Oversight; Governance Structure
Adani Ports and Special Economic Zone Ltd.	Transportation Infrastructure	E-2	S-3	G-3	Social and governance factors are moderately negative considerations in our credit rating analysis of APSEZ. It's more exposed to social and governance risks than peers. The Adani family's connection with the controversial Carmichael coal project in Australia (notwithstanding APSEZ divested Bowen Rail Operations Pte Ltd. in March 2021) and investments into now junta-controlled Myanmar (albeit small at around US$290 million which Adani announced it will dispose by June 2022) pose reputational risk that could push up the cost of funding and diminish investor appetite. The company's aggressive, growth-oriented management is also reflected in our negative assessment of its financial policy, given the significant influence of the founder family.	Social Capital; Governance Structure; Risk Management, Culture And Oversight
ANI Technologies Pte. Ltd.	Technology	E-2	S-3	G-3	Social factors are a moderately negative consideration in our credit rating analysis of ANI Tech. The company is exposed to evolving regulatory issues across its countries of operations, which could constrain its profitability. We expect the regulatory oversight of the ride-hailing industry to continue to evolve and strengthen, potentially affecting ANI Tech. Governance factors are also a moderately negative consideration, mainly due to the ownership structure of the company, which is similar to other tech start-up companies before public listing. In our view, ANI Tech's high level of ownership by private equity firms could influence the composition of the board, which may prioritize the interest of the controlling shareholders.	Social Capital; Human Capital; Risk Management, Culture And Oversight
Bharti Airtel Ltd.	Telecoms	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Bharti Airtel. The equivalent of about 20% of Bharti Airtel's adjusted debt, as of fiscal year ended March 31, 2021, was made up of provisions related to regulatory litigation. We are seeing an improvement in the stance of India's government to support telecom operators after years of litigation and regulatory uncertainty. The reforms recently announced include moratoriums on regulatory dues and spectrum payments to reduce cash flow pressure on telecom operators, and enhanced predictability of spectrum auction schedule.	N/A
Delhi International Airport Ltd.	Transportation Infrastructure	E-2	S-4	G-3	Social factors are a negative consideration in our credit rating analysis of Delhi International Airport (DIAL). The pandemic-related drop in passenger traffic has strained the airport's financials and profitability. Ongoing travel restrictions with caps on domestic flights, muted international traffic, and consumer apprehension regarding air travel exposes the company to sharply lower cash flow. We expect DIAL's total passengers to be about 39 million in fiscal 2022 (ending March 31, 2022), about 58% of pre-COVID levels. Domestic traffic, which contributes about 70% of the traffic mix, is likely to recover to pre-COVID levels by fiscal 2024. Also, the airport is near the National Capital Region's central business and residential districts, which can result in operating restrictions to reduce noise and congestion. Governance factors are also a moderately negative consideration. This reflects challenges in DIAL's strategic planning, given past delays in formulating strategies.	Health And Safety; Social Capital; Risk Management, Culture And Oversight
Future Retail Ltd.	Retail and Restaurants	E-2	S-3	G-5	Governance factors are a very negative consideration in our credit rating analysis of Future Retail. The entrepreneurial ownership structure and significant influence of the Biyani family led to aggressive financial policies, including pledging of company shares for promoter-level debt. Weak internal controls and risk management also led to sharp and rapid deterioration in the company's credit profile. Social factors are a moderately negative consideration in our credit rating analysis of Future Retail. At the peak of the COVID-19 pandemic in India, the company's sales were down by almost 60%. However, online sales provided some cushion. With the improvement in consumer sentiment, we expect a gradual recovery for the retail segment in India. Environmental factors have had no material influence on our credit rating analysis of Future Retail.	Health And Safety; Governance Structure; Transparency And Reporting
Genpact Ltd.	Technology	E-2	S-2	G-2	ESG factors have had no material influence on our rating analysis of Genpact.	N/A

Geophysical Substrata Ltd.	Oil And Gas	E-3	S-2	G-5	Governance factors are a very negative consideration in our credit rating analysis of Geophysical Substrata Ltd. The company's entrepreneurial ownership, complex group structure with multiple unlisted companies, and frequent and sizable transactions with related parties outside the rated group accounts for our view. In fiscal 2021 the company paid a dividend of about US$130 million (equivalent to 140% of net income) to its promoter shareholder, funded through debt raised at subsidiary, iEnergizer Ltd. The concentrated ownership makes such credit-negative transactions possible. Environmental factors are a moderately negative consideration in our credit rating analysis of Geophysical Substrata. About 30% of its revenues are generated by contract drilling and oil field services operations, and its information technology services producing 70% of revenues.	Governance Structure; Transparency And Reporting; Climate Transition Risk
Glenmark Pharmaceuticals Ltd.	Healthcare	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Glenmark. Glenmark has an entrepreneurial ownership structure as Mr. Glenn Saldanha and family (through trusts) own about 47% of the company. In general, we view family-controlled entities as having the risk of shareholder interest being prioritized over other stakeholders. However, we have not seen evidence of any negative influence from the owners, and the company has been generally prudent on shareholder distributions. There have been instances of less-than-ideal strategy execution over the years (for instance, underperformance relative to market guidance during the exclusivity opportunity of the Zetia drug in 2017-2018). However, in recent times, the company's track record has improved. It was the first company in India to receive regulatory approval in the country to launch Fabiflu, a drug for treating mild COVID-19 infections at the peak of the pandemic. The company also has a good track record in Abbreviated New Drug Application approvals with a success rate of about 70%, higher than that of many peers. Environmental and social factors have had no material influence on our credit rating analysis of Glenmark.	Other Governance Factors
GMR Hyderabad International Airport Ltd.	Transportation Infrastructure	E-2	S-4	G-2	Social factors are a negative consideration in our credit rating analysis of GMR Hyderabad International Airport (GHIAL). The pandemic-related drop in passenger traffic has strained the airport's financials. Travel restrictions with caps on domestic flights, muted international traffic, and consumer apprehension regarding air travel during the pandemic expose GHIAL to sharply lower cash flow. We expect GHIAL to serve about 12.3 million total passengers in fiscal 2022 (ending March 31, 2022), about 57% of pre- COVID levels. Domestic traffic, which contributes about 80% of the traffic mix, would likely recover to pre-COVID levels by fiscal 2024. That said, it is less exposed to potential operating restrictions to reduce noise and congestion than peers, given it is further away from central business and residential districts.	Health And Safety
Greenko Energy Holdings	Power Generators	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Greenko Energy Holdings. Greenko has an operational portfolio of more than 7.5 GW, which is 100% from renewable sources. It has at least 1 GW capacity each in wind, hydro, and solar projects, and geographically diversified projects across India. Cash flows benefit from the must-run status of renewable energy in India, which largely insulates the company from unexpected drops in the demand for power. Historically, the company has production volume levels that fail to exceed 90% when assessed over a one-year period, which indicates resource risk.	Climate Transition Risk; Other Environmental Factors
HCL Technologies Ltd.	Technology	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of HCL Technologies. The founding Nadar family owns about 60% of the company, but we regard it as professionally run with key executive positions held by industry professionals. Governance processes, oversight, and disclosure are adequate. The board is mostly independent, with the family having three board members out of a total of 13. We believe the Nadar family has a record of balancing its interests as a majority shareholder with creditors with a predictable growth strategy and consistently conservative financial policies with immaterial debt.	N/A
Infosys Ltd.	Technology	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Infosys. The influence of the founding families is limited, in our view, given their 13% ownership of the company. The board is composed mostly of independent directors. Infosys' management has stabilized since 2018, with no substantial turnover. The company's standing in the equity market appears to have recovered after an independent investigation by the company's audit committee and the U.S. Securities and Exchange Commission, which both cleared the company of alleged accounting irregularities highlighted in late 2019 through a whistleblower complaint.	N/A

Jubilant Pharma Ltd.	Healthcare	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Jubilant Pharma. The company is controlled by the Bhartia family, who owns about 51% of Jubilant's parent company--Jubilant Pharmova Ltd. In general, we view family-controlled entities as having the risk of shareholder interest being prioritized over other stakeholders, but we note the company has been generally prudent on shareholder returns from the business. In our view, recent corporate reorganizations have raised questions about the consistency of management strategy. For instance, the company recently announced the realignment of the active pharmaceutical ingredients (API) and related research and development business from Jubilant Pharma (contributing to about 10% of revenue) with the contract research organization at Jubilant Pharmova level. This was right after the demerger of the life science ingredients business of the group initiated in 2019. While the scale of the API transaction is small and the realignment was aimed at improving operating efficiency, we view it to be marginally negative to creditors of Jubilant Pharma, given the small loss of revenue without offsetting compensation. Environmental and social factors have had no material influence on our credit rating analysis of Jubilant Pharma.	Other Governance Factors
NHPC Ltd.	Power Generators	E-2	S-3	G-2	Social factors are a moderately negative consideration in our credit rating analysis of NHPC. NHPC is tasked by the government to build and operate large hydroelectric projects in challenging and highly sensitive geographic areas, and its credit profile is impacted by social risk. For example, the development of its Subansiri project has faced delays since 2011, largely because of social unrest and protests around ecological concerns in the area. Project delays and associated cost overruns (which cannot be recovered until projects are commissioned) have pressured NHPC's capital cost structure and cash flows.	Social Capital
NTPC Ltd.	Power Generators	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of NTPC. The company faces two key environmental risks as a predominantly thermal power producer. First, an increasing government push for renewables could limit future growth. Second, the prioritization of renewables projects could weaken its competitive position. However, regulated returns on existing commissioned capacity with long-term power purchase agreements over the life of the assets partly insulate NTPC from the risk. We expect NTPC to recover any additional carbon tax or emissions costs through tariffs. NTPC is also working on realigning its generation mix, although it remains unclear how the company will achieve this.	N/A
Oil and Natural Gas Corp. Ltd.	Oil And Gas	E-4	S-2	G-2	Environmental factors are a negative consideration in our credit rating analysis of Oil and Natural Gas Corp. Ltd. (ONGC). The company is exposed to long-term energy transition and climate change risks. Though the company has a stated objective of achieving 10 GW of installed renewable capacity by 2040, this does not materially mitigate its environmental risks at this point. Its offshore focus (with 65% of exploration and production revenues in India) magnifies the exposure to events such as a large oil spill or fire. ONGC has faced a few fires and pollution incidents in its India operations over the past few years (for instance, the accident on the company's barge in May 2021 off Mumbai during cyclone Tauktae). But we view these as one-off or isolated incidents rather than an indication of systemic deficiencies in the company's approach to environmental hazards. Social and governance factors have no material influence on our credit rating analysis of ONGC.	Climate Transition Risk; Waste And Pollution
Power Grid Corp. of India Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of Power Grid Corp. of India Ltd.	N/A
Rain Carbon Inc.	Chemicals	E-3	S-2	G-3	Environmental factors are a moderately negative consideration in our credit rating analysis of Rain Carbon Inc. The company's operations rely on the calcination and coal tar distillation processes, which emit hazardous gases, including sulfur dioxide. Environmental concerns have also tightened the supply of green petroleum coke (GPC), a key input for calcining (e.g., import restrictions in India, International Maritime Organization regulation in 2020 on use of low-sulfur marine fuel). Rain Carbon also generates about 40% of its revenues in countries such as the U.S. and Canada, where emission standards and environmental regulations are likely to become more stringent in the coming years. The company's upcycling of GPC and its growing number of initiatives globally to reduce its environmental footprint partly offset its structural exposure to environmental risk. The flue-gas desulfurization system in its calcining operations at three plants in the U.S. and two in India removes over 98% of sulfur dioxide from their air emissions. We believe Rain Carbon is ahead of its peers in the industry on emission control. The company has also implemented waste-heat systems that produce electricity or steam at its sites at Chalmette, Lake Charles, Vishakapatnam, Castrop-Rauxel, Duisburg, Norco, and Zelzate. Governance factors are also a moderately negative consideration given Rain Carbon's entrepreneurial ownership and the strong influence of its parent company, Rain Industries Ltd., which is 41% owned by the Reddy family members. However, we have not seen evidence of any negative influence arising from this structure and Rain Carbon has an independent management and board of directors.	Waste And Pollution; Risk Management, Culture And Oversight; Climate Transition Risk

Reliance Industries Ltd.	Oil And Gas	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Reliance Industries Ltd. (RIL). The company's exposure to environmental risk has reduced over the past five years with its diversification into the telecommunications sector in India. On a blended basis, RIL's exposure to the telecommunications sector, which has low environmental risk, partially offsets the climate, pollution, and physical asset risk exposure in its refinery and petrochemical operations. We project downstream oil to account for about 40% of RIL's EBITDA over the next two years, with EBITDA from the telecom sector growing to about 50%.	Waste And Pollution; Climate Transition Risk
ReNew Power Ltd. Restricted Group	Power Generators	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of ReNew Power Ltd. Restricted Group (ReNew RG). ReNew RG's relatively small portfolio of 712 MW is entirely from renewable sources but is significantly less diversified compared to larger corporate peers. Cash flows also benefit from the must-run status of renewable energy in India. This status largely insulates the company from unexpected drops in the demand for power. However, production volume levels of around 90% when assessed over a one-year period indicate resource risk.	Climate Transition Risk; Other Environmental Factors
ReNew Power Pte. Ltd.	Power Generators	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of ReNew Power. ReNew's operational portfolio of more than 5 GW is 100% from renewable sources, with wind and solar projects geographically diversified across India. Cash flows benefit from the must-run status of renewable energy in India, which largely insulates the company from unexpected drops in the demand for power. However, production volume levels of around 90% when assessed over a one-year period indicate resource risk.	Climate Transition Risk; Other Environmental Factors
Summit Digitel Infrastructure Pvt Ltd.	Telecoms	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Summit Digitel Infrastructure. Its parent, Brookfield Infrastructure Partners LP, actively participates in the management of Summit and has three out of four board seats, giving rise to the risk of shareholder interests being prioritized over other creditors, in our view.	Governance Structure
Tata Motors Ltd.	Autos	E-4	S-2	G-2	Environmental factors are a negative consideration in our analysis of Tata Motors' credit profile, underpinned by our assessment of an E-4 at Jaguar Land Rover Automotive PLC (JLR), which has historically contributed about 80% of Tata Motor's EBITDA. JLR's average CO2 emission for its European fleet is at the higher end relative to peers at about 135g/km in 2020. The financial impact of high CO2 emissions on profitability has been modest (less than £100 million of provisions for non-compliance in 2021). In 2021, JLR joined an emissions pool to deliver compliance in the U.K. and EU. The company has not been affected by the diesel manipulation scandal like some of its European peers. We see JLR lagging behind its peers in the electrification of its product line-up, which the company intends to address in the next few years through Project Reimagine. Under the project, JLR intends to be a fully electric vehicle company by 2030.JLR vehicle production is currently about 34% internal combustion engine, 54.9% mild hybrid/hybrid, 8.3% plug-in hybrid electric vehicles, and 2.9% battery electric. Tata Motors' Indian operations are compliant with the more stringent BS-VI emission norms that took effect in April 2020. Tata Motors has also taken the lead in the electric vehicle market in the country with about 70% share of the current domestic market, and it has raised about US$1 billion in equity by monetizing its EV business. Social and governance factors have no material influence on the rating.	Climate Transition Risk
Tata Power Co. Ltd.	Power Generators	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Tata Power. This is related to its exposure to its coal generation business Coastal Gujarat Power Ltd. (CGPL). Low fixed unregulated tariffs for CGPL expose the company to higher cash flow volatility and potential losses when coal prices increase significantly. Nevertheless, the company's regulated T&D businesses (60% of earnings) with a cost pass-through mechanism and continuing growth in its renewables segment provide cash flow stability.	Climate Transition Risk
Tata Steel Ltd.	Metals And Mining	E-3	S-3	G-2	Environment and social factors are moderately negative factors in our analysis of Tata Steel's credit profile. As a steel producer, the company uses blast furnaces at both its Indian and European operations, which are energy intensive and high on carbon emissions. Emission regulations are likely to come under greater scrutiny for its European operations (about 35% of installed capacity) in the next few years. The company is trialing a five-ton per day carbon capture facility at its Jamshedpur plant, which will be expanded if the results are positive; we view this offsetting measure as marginal. The company's captive iron-ore and coal mining operations (which provide 100% and 30% respectively of annual requirement for the Indian operations) present social risks comparable to other mining peers.	Climate Transition Risk; Waste And Pollution; Health And Safety

UPL Corp. Ltd.	Chemicals	E-2	S-3	G-3	Social factors are a moderately negative consideration in our credit rating analysis of UPL Corp. Ltd. With herbicide products constituting nearly 45% of the company's total fiscal 2021 revenue, the sector--including crop-protection chemicals and seeds and traits--is facing greater focus and growing public scrutiny of the impact on human health and the environment. Governance factors are also a moderately negative consideration in our credit rating analysis. We view the company's governance as somewhat below the level of investment-grade peers regionally, given the recent headlines surrounding the auditor change and whistleblower incident.	Waste And Pollution; Climate Transition Risk; Health And Safety; Risk Management, Culture And Oversight
Vedanta Resources Ltd.	Metals And Mining	E-4	S-3	G-4	Environment factors are a negative consideration in our credit analysis of Vedanta. About 15% of the company's EBITDA comes from oil and gas production, a segment that faces energy transition risk, waste and pollution, and physical asset risks. Vedanta has had its iron-ore and copper smelting operations disrupted for various reasons, including environmental ones. The iron-ore mining license suspension was, however, industry wide in the Indian state of Goa. The copper business contributed $200 million-$300 million in EBITDA annually while the iron ore business in Goa contributed about $50 million per year when it was suspended in 2018. Governance factors are also a negative consideration. Decision-making is concentrated with the controlling Agarwal family, which has prioritized debt-funded growth over conservative financial policies. The fully debt funded privatization of Vedanta Resources and increase in ownership of Vedanta Ltd. illustrate the company's leverage appetite. Together, the two transactions have added about $2.6 billion of debt as of September 2021 at the Vedanta Resources level. The company's corporate structure is also complex. Debt is concentrated at Vedanta Resources and debt servicing is highly reliant on dividend streams from Vedanta Ltd. and Hindustan Zinc Ltd. (HZL), with significant dividend leakage, especially of HZL dividends, due to the sizable minority interests, which exacerbate the impact of the corporate structure. Social factors are a moderately negative consideration in our assessment, reflecting inherent risks from Vedanta's mining operations, similar to other miners.	Waste And Pollution; Physical Risk; Health And Safety; Risk Management, Culture And Oversight
Wipro Ltd.	Technology	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Wipro. The founding Premji family owns about 73% of the company but we regard the company as professionally run with key executive positions held by industry professionals. Governance processes, oversight, and disclosure are adequate. Two-thirds of the board are independent directors, with the family having two board members out of a total of nine. We believe the Premji family has a record of balancing its interests as a majority shareholder with creditors with a predictable growth strategic and consistently conservative financial policies with immaterial debt.	N/A

ESG Credit Indicators – Rated Corporate And Infrastructure Entities In Indonesia

Issuer	Industry	E	S	G	Comments	Factors
Geo Energy Resources Ltd. (GERL)	Metals And Mining	E-4	S-3	G-5	Governance factors are a very negative consideration in our credit rating analysis of GERL. This is indicated by the company's inability to execute its growth strategy amid depleting reserves, resulting in elevated refinancing risk previously, given the put option under its notes. We also considered management's willingness to repurchase bonds at significant discounts to par value. Environmental factors are a negative consideration. Nearly 100% of the company's assets, revenue, and profits come from thermal coal, which exposes it to the long-term decline in thermal coal demand. In the next five to 10 years, however, the risk from energy transition is limited in Asia given that coal remains an affordable energy source for developing countries. GERL's concentration to two mines also exposes the company to physical risk and adverse weather conditions. Operations at one of its mines halted for a week in June 2019 due to prolonged flooding, while rainy conditions at the jetty affected the quality of the coal that year. The affected coal resulted in provision for inventory write-off as well as inventory loss written off amounting to 30% of coal inventory in 2019. Social factors are moderately negative due to the company's exposure to social capital risk of potentially displacing local communities and the release of hazardous waste to local communities in the rural areas of Indonesia. Nonetheless, GERL has a sound safety record with no major injuries or fatalities.	Climate Transition Risk; Physical Risk; Waste And Pollution; Social Capital; Risk Management, Culture And Oversight
PT Aneka Tambang Tbk. (ANTAM)	Metals And Mining	E-3	S-4	G-3	Social factors are a negative consideration in our credit rating analysis of ANTAM, higher than the broader mining industry. The company's nickel mining operations, which account for about 25% of Indonesia's output, is exposed to frequently changing export regulations. The exposure to regulatory developments had disrupted the company's operations and cash flows in the past, beyond what we would typically expect for more diversified miners. Previous bans on the import of unprocessed ore and export ban on nickel have led to double-digit drops in production and cash flows. Environmental factors are a moderately negative consideration, which is consistent with most of its mining peers. Governance factors are also a moderately negative consideration, given the company's majority ownership by Indonesia state-owned mining company, Mining Industry Indonesia, whose interests may be in prioritizing debt servicing at the parent level and not be necessarily aligned with the rest of the shareholders.	Waste And Pollution; Social Capital; Governance Structure
PT Astra International Tbk.	Retail and Restaurants	E-3	S-2	G-1	Environmental factors have a moderately negative consideration in our credit rating analysis of Astra. Nearly half of its EBITDA are in operations exposed to climate transition risks and waste and pollution. Its coal mining and mining contracting business (about 2.7% and 39.7% of PT Astra's 2020 EBITDA, respectively) are exposed to the long-term decline in thermal coal demand and to the objective of target reduction of greenhouse gas emissions in many countries. Astra is also exposed to palm oil (10% of 2020 EBITDA), whose production yields could be affected by changing weather patterns. To offset its high exposure to environment risks, Astra has been gradually diversifying its earnings into areas such as infrastructure. We project those businesses will contribute about 20% of EBITDA within the next five to 10 years from approximately 7% in 2020. The company has also implemented a moratorium on the expansion of its palm oil operations. We see limited liquidity or refinancing risk related to environmental and social factors, given Astra's sizable cash balance, minimal short-term debt, and our expectations of parent support in the event of liquidity stress. Governance factors are a moderately positive consideration in our credit analysis of Astra. Majority shareholder Jardine Matheson exerts solid operating oversight over Astra, including the nomination of key personnel at the parent level and at several of its key operating subsidiaries. Jardine Matheson also exerts robust financial oversight over Astra's conservative funding policies. This includes board approvals for even small investments, the use of modest debt, and foreign-currency hedging of U.S. dollar-denominated liabilities. We regard Astra's transparency and that of its operating subsidiaries as above average compared with other Indonesian companies in terms of frequency and disclosure levels. Social factors have had no material influence on our credit rating analysis of Astra.	Risk Management, Culture And Oversight; Governance Structure; Waste And Pollution; Climate Transition Risk

PT Bayan Resources Tbk. (Bayan)	Metals And Mining	E-4	S-3	G-3	Environmental factors are a negative consideration in our credit rating analysis for Bayan, given the company's single commodity concentration to thermal coal and the long-term decline in thermal coal demand. In the next five to 10 years, however, the risk from energy transition is limited in Asia given coal remains an affordable energy source for developing countries. Bayan's single-mine concentration in East Kalimantan also exposes the company to physical risk and adverse weather conditions because it is dependent on barging down the river to transport coal to seaports. Barge transport may not be possible during dry seasons, and that could affect sales volume. For instance, the company declared force majeure on some customer contracts due to the low water levels in the first quarter of 2019. A similar situation occurred in the third quarter of 2019, albeit for a shorter duration. It resulted in lower-than-anticipated sales volumes of 5.9 million metric tons compared with its run-rate of 8 million metric tons for the 12 months to June 30, 2019. The construction of a road to transport coal, which is expected to be completed next year, will reduce reliance on the smaller rivers. Governance factors are a moderately negative consideration, due to the company's concentrated ownership with founder Dato' Low Tuck Kwong holding 54% of the company. We view this as a risk as the company could prioritize distribution of significant dividend payments over cash accumulation. However, this is partially mitigated by the presence of other large shareholders, including Korea Electric Power Corp. (20%) and power generation company PT Sumber Suryadaya Prima (10%). We also recognize that in certain years when coal prices and cash flows weakened, Bayan suspended dividends. Social factors are also a moderately negative consideration due to the company's exposure to social capital risk of potentially displacing local communities or releasing hazardous waste that could harm local communities in the rural areas of Indonesia. Bayan has a sound safety record with no cases of accidents.	Climate Transition Risk; Physical Risk; Waste And Pollution; Social Capital; Governance Structure
PT Bumi Resources Tbk. (Bumi)	Metals And Mining	E-4	S-3	G-5	Governance factors are a very negative consideration in our credit rating analysis of Bumi. In particular, our assessment of Bumi's governance credit indicators reflects our view of the company's mounting debts and increasing likelihood of debt restructuring over the next 12 months. Bumi's high indebtedness is a result of the company's history of a default and distressed exchange in 2017, which were driven by its past aggressive acquisition policy and loans extended to related and third parties, and asset impairments. Nevertheless, the company has improved its governance practice and increased transparency over the past decade. Bumi complies with Indonesia's rules and regulations on governance practice for a publicly listed company and adopts international governance standards. In addition, as part of an improvement in internal controls, Bumi has appointed an independent party, KPMG, to conduct full cash monitoring and debt-servicing capability, including review of all payments to lenders, third parties, and related parties. Environmental factors are a negative consideration. Bumi's thermal coal operations, like those of other thermal coal producers, are threatened by declining demand and price volatility due to the transition from fossil fuels to renewable energy. Bumi's geographical concentration in East and South Kalimantan exposes the company to physical risk and adverse weather conditions, including flooding during the rainy season, which could disrupt operations and consequently earnings generation. The company has adopted international environmental standards and practices to minimize the environmental impacts from its mining operations. Social factors are a moderately negative consideration. We consider Bumi's open-pit mining operations to be easier and safer to operate than higher-risk underground mining. The company's occupational safety and health standards have prevented major accidents and safety violation in the past five years. Bumi has not had any infraction against indigenous communities in recent years, and the company is developing a roadmap to implement human rights due diligence in accordance with UN Guiding Principles on Business and Human Rights.	Climate Transition Risk; Waste And Pollution; Social Capital; Governance Structure; Risk Management, Culture And Oversight; Transparency And Reporting
PT Cikarang Listrindo Tbk.	Power Generators	E-4	S-2	G-2	Environmental factors are a negative consideration in our credit rating analysis of PT Cikarang Listrindo. The company is likely to remain a fossil fuel-based power producer with capacity that is 75% natural gas and the remainder coal. We believe the company will continue to face higher asset concentration and lack of fuel diversity compared to peers. That said, Cikarang's fuel exposure is in line with the country's energy policy and electrification plans to provide low-cost energy. We do not envisage any carbon tax or environmental fines that could hurt the company's earnings quality in the medium term.	Climate Transition Risk

PT Gajah Tunggal Tbk.	Autos	E-2	S-2	G-5	Governance factors are a very negative consideration in our credit rating analysis of PT Gajah Tunggal Tbk. (PTGT). The company has a history of default and distressed exchanges. However, we recognize that the company has improved its management of refinancing. For instance, its recent refinancing exercise in June 2021 was more than a year ahead of the bond maturity, and the company also benefited from supportive lending relationships, albeit largely limited to domestic banks. We also consider the company's rising related party exposure, with limited transparency. Revenues from related parties, especially in export markets, have doubled as a proportion of revenues to about 22%, since 2015, and those revenues have lengthy payment terms. Recent asset acquisition from related parties have also reversed the company's positive discretionary cash flow generation amid rising short-term debt. Environmental credit factors have no material influence on our rating analysis on a net basis. While tire production produces CO2 emissions that are higher relative to other parts of car manufacturing, current regulation has not yet introduced costs that have a significant detrimental impact to credit metrics or the rating. Furthermore, over 80% of its tires are sold in the replacement market and we view tires as a necessary component of the vehicle, regardless of the type of engine propelling the vehicle. Social factors also have no material influence on our credit analysis of PTGT.	Risk Management, Culture And Oversight; Climate Transition Risk; Transparency And Reporting; Governance Structure
PT Japfa Comfeed Indonesia Tbk.	Agribusiness and Commodities	E-3	S-2	G-3	Environment factors are a moderately negative consideration in our credit rating analysis of PT Japfa. The company generates nearly 90% of its EBITDA from vertically integrated poultry operations. That expose its earnings profile to environmental risks and physical risks, including water usage arising from its poultry business, and adverse weather conditions, which could cause volatility in raw material cost for its feed business. This could trigger high profit volatility and we embedded this risk in our agribusiness and commodity foods industry risk analysis. Governance factors are also a moderately negative consideration in our credit rating analysis of PT Japfa. The company is exposed to controlling ownership risk. The founding Santosa family, through its 77% beneficial ownership of parent company, Japfa Ltd., owns about 42% of PT Japfa, with Handojo Santosa assuming the roles of president director of PT Japfa and chairman of Japfa Ltd. This ownership risk is partially mitigated by having independent commissioners account for more than half of the board.	Waste And Pollution; Physical Risk; Governance Structure
PT Kawasan Industri Jababeka Tbk. (Jababeka)	Real Estate	E-3	S-2	G-3	Environmental risk factors are a moderately negative consideration in our credit rating analysis of Jababeka. Property development and land sales have formed 40%-45% of revenue on average over the past three years. The company's exposure to industrial estates poses some pollution risks, but we view this to be mitigated by its efforts to treat wastewater and limit air pollution from its industrial estates. Jababeka also owns and operates a gas-fired power plant (34% of revenue on average). While electricity generation is exposing the company to longer-term energy transition risks from fossil fuels, the 20-year off-take agreement with state-owned electricity distributor, PT Perusahaan Listrik Negara (Persero), also adds stability to Jababeka's cash flow. Governance factors also are a moderately negative consideration in our credit rating analysis of Jababeka. The company's shareholder dispute in 2019 highlighted some weaknesses in governance structure. The lawsuits have been resolved. While the incident did not affect the company's operations and cash flow and its standing in credit markets at the time given the lack of near-term refinancing requirement, a reemergence of similar issues could have a more significant credit implication for the company's liquidity amid approaching maturity on its 2023 U.S. dollar bond.	Waste And Pollution; Governance Structure; Risk Management, Culture And Oversight; Climate Transition Risk
PT Medco Energi Internasional Tbk.	Oil And Gas	E-4	S-3	G-3	Environmental factors are a negative consideration in our credit analysis of PT Medco Energi Internasional Tbk. (Medco) because the company's exploration and production operations are located in shallow waters and located near rural communities across Indonesia. This exacerbates the risks of oil or gas spills, waste disposals, and greenhouse gas emissions. Still, we tend to consider positively Medco's large portion of contracted gas revenues to domestic state-owned entities such as PT Pertamina (Persero), PT Perusahaan Gas Negara Tbk., and Indonesian national power company PT Perusahaan Listrik Negara. Social factors have a moderately negative impact on our credit analysis as we see potential for friction with surrounding communities, which could hurt operational uptime. Governance factors also have a moderately negative influence in our credit analysis because of the opaqueness of past related-party transactions. Medco's record of related-party transactions highlights the controlling Panigoro family's influence in corporate decisions. We believe this poses a risk because the family's interests may not be necessarily aligned with the rest of the shareholders.	Climate Transition Risk; Waste And Pollution; Health And Safety; Social Capital; Transparency And Reporting

PT Pakuwon Jati Tbk.	Real Estate	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Pakuwon Jati, due to the concentration of ownership by the Tedja family. The family has 68.7% ownership in the company and family members are present in the board as well as key management positions. That said, the company's financial policies have been consistent, with conservative financial management and moderate dividends despite significant positive free operating cash flows. The company also has a track record of adequate internal controls and transparency of disclosures. Environmental and social factors are overall neutral consideration in our credit rating analysis of Pakuwon Jati. The company has about half of its revenue and profit from its investment property portfolio (which we view as having less environmental-related risks than property development) when other rated peers in Indonesia generally have less than 20%.	Governance Structure
PT Profesional Telekomunikasi Indonesia	Telecoms	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of PT Profesional Telekomunikasi Indonesia.	N/A
PT Sawit Sumbermas Sarana Tbk. (SSMS)	Packaging	E-5	S-2	G-5	Governance factors are a very negative consideration in our credit analysis of PT Sawit Sumbermas Sarana Tbk. (SSMS). This is because we view the influence of the controlling ownership by private company PT Citra Borneo Indah (CBI) and the opaqueness around the operational and financial performance of CBI as a governance deficiency. However, we understand that SSMS may implement management changes at the CBI level to address this deficiency. The existing cross-default clauses between SSMS and its parent has resulted in SSMS having to divert its operating cash flows to support the operations at CBI and sister company PT Citra Borneo Utama (CBU), which operates a large palm oil refinery. We expect SSMS' parent and CBU to remain dependent upon SSMS for cash support until CBU achieves sustainable profitability. This will weigh on SSMS' liquidity position, in our view. We also understand that SSMS continues to explore funding options in an effort to improve the financial adequacy of the operating subsidiaries within the group.Environmental factors are also a very negative consideration in our credit rating analysis of this Indonesia-based palm oil company. The fight against deforestation had led to a ban on palm oil-based biofuels in Europe and more scrutiny on palm oil companies' environmental practice. This resulted in a loss of large European customers for SSMS and the need for the company to redirect its crude palm oil to the refining operations held by CBU. We understand that SSMS has sought external consultants to explore whether it can address CBU's product compliance, with a view of regaining acceptance by European customers. SSMS' plantations are all located in Central Kalimantan, exposing the company to physical risks such as drought, flood, or other natural disasters.	Physical Risk; Natural Capital; Climate Transition Risk; Governance Structure; Risk Management, Culture And Oversight; Transparency And Reporting
PT Vale Indonesia Tbk	Metals And Mining	E-3	S-3	G-2	Environmental and social factors are a moderately negative consideration in our credit rating analysis of PT Vale Indonesia (PTVI), in line with those of mining peers. PTVI's nickel ore processing and nickel-in-matte operations emit sulfur dioxide and use energy intensively--including high-speed diesel, high-sulfur fuel oil, and coal. However, the company is reducing environmental impact by investing in hydroelectric plants, which supply one-third of its energy, and in waste management and processing facilities. Moreover, its parent company, Vale S.A., is committed to be self-sufficient in clean energy production by 2030, which includes PTVI's operations. Indonesia usually heavily intervenes and regulates the mining companies, which in our view, can affect PTVI's credit quality. For example, the controlling shareholders (Vale and Sumitomo Metal Mining) were obliged to sell about a 20% stake in PTVI in 2020, which can reduce investments in the latter due to greater uncertainties.	Waste And Pollution; Social Capital

ESG Credit Indicators – Rated Corporate And Infrastructure Entities In Japan

Issuer	Industry	E	S	G	Comments	Factors
Aeon Co. Ltd.	Retail and Restaurants	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Aeon. As one of the two largest retailers in Japan, Aeon has exposure to various social factors we consider for our analysis. However, these factors are either immaterial or offset within its large and diversified business portfolio. For example, while COVID-19 pandemic is a large social factor for retailers, the company enjoyed diversification benefits because of its size. Its retail business could withstand the impact as steady food retailing largely offset a slump in sales of discretionary items such as apparel. We estimate food retail accounts for about 70% of its consolidated revenue.	N/A
Aeon Mall Co. Ltd.	Real Estate	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Aeon Mall. We view potential negative impacts on the company as well managed within the Aeon group, a leading retailer conglomerate in Japan.	N/A
AGC Inc.	Technology	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of AGC. However, it has some exposure to environmental risk because of its dealings with the auto and chemical industries, which are greenhouse gas emitters. The earnings impact of this is manageable, in our view. On the other hand, the company's increasing exposure to life science business, a social consideration, is somewhat positive from a social risk standpoint. This exposure comes through its contract development and manufacturing organization business for pharmaceutical ingredients.	N/A
Aisin Corp.	Autos	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Aisin. This is due to increasingly stringent greenhouse gas regulations the industry faces. Demand for its core products, automatic transmissions (ATs), will likely peak over the next two to three years amid a rapid increase in demand for electric vehicles. Aisin aims by 2030 to raise its sales proportion of products related to electrification to more than 60%. However, we believe the profitability of such products, including e-Axel, will remain lower than that for ATs over the next one to two years. We expect R&D costs to remain high because the company intends to address electrification and next-generation CASE (connectivity, autonomous, sharing/subscription, and electrification) technologies.	Climate Transition Risk
Ajinomoto Co. Inc.	Consumer Products	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of Ajinomoto Co. Inc. We consider the company to have a record of formulating strategies that focus on its competencies and align with market conditions. In addition, management has proved capable of monitoring, adjusting, and managing strategies during execution. The company clarifies specific numerical targets such as return on invested capital, sales growth, and unit price growth in its strategic plan. We think its targets, from short term to long term, are mostly achievable. This is because the company has a record of effective management, as seen in the restructuring of its North America's frozen foods and its animal nutrition business, for example.	Risk Management, Culture And Oversight
Bridgestone Corp.	Autos	E-2	S-2	G-1	Environmental factors have an overall neutral influence on our credit rating analysis for Bridgestone Corp. As a global tiremaker, climate transition carries low substitution risk as its products are independent of the vehicle propulsion system. In addition, about 75% of the tire market relates to replacement tires. However, tiremaker carbon dioxide emissions are higher than those of many auto companies. Bridgestone therefore aims to reduce its carbon dioxide emissions by 50% in 2030 from 2011 levels and to be carbon neutral by 2050. Meanwhile, Bridgestone has an edge in lightweight and low-rolling resistance tires (through its "Enliten" technology) for electric vehicles. The company plans to increase the proportion of sales of tires that adopt the technology to overall consumer replacement tire sales to approximately 90% by 2030. Governance factors are a positive consideration. Bridgestone has strong organizational management capabilities with a centralized governance system at headquarters. Its capability in managing global subsidiaries' capital expenditures and acquisitions from headquarters is notable.	Risk Management, Culture And Oversight; Climate Transition Risk
Canon Inc.	Technology	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Canon. The company has meaningful exposure to social risk because of its office copiers and printing machines businesses, which have been hurt by the COVID-19 pandemic. However, its relatively diversified business lines, including a world-leading camera business, and its strategic focus on health care will offset the impact.	N/A
Casio Computer Co. Ltd.	Consumer Products	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Casio Computer Co. Ltd. Casio has exposure to social risk, because of its very high dependence on the watch business for profit. This business sells highly discretionary items and generates about 80% of operating profit. However, we believe strong customer loyalty, driven by its key G-Shock brand, will underpin the company's earnings and offset the risk. As evidence of this, although other watchmakers floundered because of COVID-19, the company secured about 20% operating margin in fiscal 2020 in its watch business.	N/A

Central Japan Railway Co.	Transportation Infrastructure	E-2	S-3	G-2	Social factors are a moderately negative consideration in our credit rating analysis of Central Japan Railway. The company, Japan's second largest private railway operator saw passenger revenue declined 65% in fiscal 2020. Due to the prolonged pandemic, passenger revenue remains weak. Although we do not foresee similar extreme disruption in the near future, passenger revenue is unlikely to recover to the pre-pandemic level in fiscal 2022. Moreover, travel may not fully recover because of the shift to conducting business online. This could negatively affect the company's mainstay long-haul bullet train business, from which it had generated around 90% of passenger revenue. We believe that safety risk will remain limited for the company given its robust record on safe operations. Environmental factors are an overall neutral consideration, as so far we have not seen strong government support from an environmental-policy perspective for railway transportation in Japan, unlike in European countries, despite Japan aiming to reduce greenhouse gas emissions by 46% by 2030.	Health And Safety
Chugoku Electric Power Co. Inc.	Power Generators	E-3	S-3	G-2	Environmental and social factors are moderately negative considerations in our credit rating analysis of Chugoku Electric. As Japan's No. 6 regulated electric power company, dominant in its operational region, coal-fired plants (including power received from other companies) account for about 40% of its total power supply. Given the higher reliance than domestic peers on coal, we view the company's environmental exposure is somewhat high. However, we believe that the negative impact is partially mitigated by a favorable regulatory framework and its regional monopolistic business franchise. Also, if idled or new nuclear reactors start operations, we believe the company can reduce its reliance on coal. We consider the increased utilization of nuclear power to be critical if the government's net zero emissions goal is to be met by 2050. We also believe nuclear power plant operations will need to meet quite stringent safety-related requirements, following the Fukushima No.1 nuclear accident in 2011.	Climate Transition Risk; Waste And Pollution; Health And Safety
Denso Corp.	Autos	E-2	S-2	G-1	Environmental factors have an overall neutral influence on our credit rating analysis of Denso Corp. We consider Denso to be better positioned on climate transition risk than industry peers, thanks to the significantly higher proportion of electrification products in its portfolio. Mobility electronics and electrification products combined account for around 40% of total sales. It supplies advanced electronics and electrification products to most global leading auto OEMS; these products are more profitable than conventional ones. Denso has established production sites and research and development bases for electrification products globally. Governance factors are a positive consideration, supported by strong organizational effectiveness and advanced strategically ties with Toyota Motor, which has robust group governance capabilities. Thanks to these factors, the company secured solid EBITDA margin of about 10% during the COVID-19 pandemic.	Risk Management, Culture And Oversight; Climate Transition Risk; Governance Structure
East Japan Railway Co.	Transportation Infrastructure	E-2	S-3	G-2	Social factors are a moderately negative consideration in our credit rating analysis of JR East. The company, the largest private railway operator in Japan, saw passenger revenue decline by 47% in fiscal 2020. It remains weak in fiscal 2021. In our view, travel may not fully recover because of the shift to conducting business online. We believe weak passenger demand will continue to negatively affect JR East's retail and hotel operation business, which accounts for around 20%-30% of total EBITDA. We believe that safety risk will remain limited for the company given its robust record on safe operations. Environmental factors are an overall neutral consideration, as so far we have not seen strong government support from an environmental-policy perspective for railway transportation in Japan, unlike in European countries, despite Japan aiming to reduce greenhouse gas emissions by 46% by 2030.	Health And Safety
Electric Power Development Co. Ltd.	Power Generators	E-3	S-3	G-2	Environmental and social factors are moderately negative considerations in our credit rating analysis of J-Power, Japan's key power generator and transmission and distribution operator. Of its total power generation capacity, 40% comes from coal, which is higher than at many domestic peers. On the other hand, we believe that the company's high exposure of renewables (hydroelectric, wind, and thermal), accounting for around 40% of total capacity, and its power transmission facilities across Japan somewhat mitigate this. We also view the favorable regulatory framework in Japan as a partial mitigant. We consider the increased utilization of nuclear power to be critical if the government's net zero emissions goal is to be met by 2050. We also believe nuclear power plant operations will need to meet quite stringent safety-related requirements, following the Fukushima No.1 nuclear accident in 2011.	Climate Transition Risk; Health And Safety
Fast Retailing Co. Ltd.	Retail and Restaurants	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of Fast Retailing. We view the company to be highly capable of tracking, adjusting, and controlling the execution of its strategy. It has a strong record of successful and fast turnarounds after occasional missteps. This is most notably evidenced by its pricing strategy from 2014 to 2017, when the company brought back customer traffic by adjusting its pricing strategy, following a substantial decline in footfall after mark-ups. We also consider Fast Retailing's operational and supply chain initiatives have helped the company quickly adapt to a rapidly changing environment.	Risk Management, Culture And Oversight

Frontier Real Estate Investment Corp.	Real Estate	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of Frontier Real Estate Investment. We view the REIT's risk management, culture, and oversight favorable and supported by its operational framework. The Japan-based REIT has strong records managing risk in its commercial properties through master-lease contracts. This kept the company's rental revenue stable through weakness in the leasing market caused by the COVID-19 pandemic. The company's market leadership is supported by its sponsorship by Mitsui Fudosan, a Japanese real estate company. The strict regulatory framework under which Japanese REITs operate lead environmental and social factors to be an overall neutral consideration in our analysis.	Risk Management, Culture And Oversight
Fujifilm Holdings Corp.	Technology	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of Fujifilm. We believe the company is highly capable of developing and executing strategies. Its business portfolio, for example, has remained viable for a long time. Fujifilm has grown new businesses as it absorbs the loss of profits from its photo film business, formerly a core unit, and falling earnings of its document business. In addition, the company has transformed its portfolio without incurring a heavy financial burden. We see this as an indication of strong risk management. Environmental and social factors have an overall neutral influence on our credit rating analysis of Fujifilm. The company is exposed to social risks. However, supported by its diversified business portfolio, Fujifilm's exposure to the health care sector will underpin its competitiveness and offset the negative impact on the document business, which is exposed to the prevalence of remote working.	Risk Management, Culture And Oversight
Fujitsu Ltd.	Technology	E-2	S-2	G-2	ESG factors have an overall neutral influence on our rating analysis. Fujitsu has strategically shifted its focus to systems integration and network infrastructure for enterprises from technology and consumer electronics, since spinning off several hardware businesses. The company is now less affected by consumer preferences, a key social risk. However, we believe Fujitsu, like peers, faces challenges in securing sufficient talent to meet the demands of rapidly developing digitalization.	N/A
Hitachi Ltd.	Capital Goods	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Hitachi. It strategically withdrew from the thermal power generation equipment business before the environmental concerns grew. The company has shifted its focus to the power-grid business to meet the rising demand for renewable energy. This will help stabilize and strengthen the company's earnings capacity over the medium term, in our view. Regarding social risks, we consider Hitachi to be potentially exposed to issues related to global recruitment and staffing in its information technology services and manufacturing departments. However, we believe that the company can manage these issues, given its strong record and operational capability.	N/A
Honda Motor Co. Ltd.	Autos	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Honda Motor Co. Ltd. This is due to increasingly stringent greenhouse gas regulations the industry faces. Honda intends to accelerate its shift into battery EVs and fuel cell vehicles, and aims to remove internal combustion engine vehicles from its product lineup by 2040. We expect realizing such change will keep Honda’s R&D expenses high. The company plans to spend ¥5 trillion in total on R&D over the next six years, which is around 20% higher than its spending in the previous 6 years.	Climate Transition Risk
Inpex Corp.	Oil And Gas	E-4	S-2	G-2	Environmental factors are a negative consideration in our credit rating analysis of Inpex Corp. As Japan's flagship oil and gas company, Inpex operates in a sector that is among the most exposed to the energy transition from fossil fuels to cleaner energy sources such as hydrogen and renewables. This transition could weigh on long-term oil prices. We view Inpex's exposure to environmental risks as comparable to global peers'. Under Japanese government policy, Inpex is promoting more environmentally friendly natural gas developments with carbon capture, utilization, and storage (CCUS). It is also enhancing renewable energy and aims to develop hydrogen business. We believe this could contribute to the company target of reducing net carbon intensity by 30% by 2030 and net zero carbon emissions by 2050 (scope 1 and 2).	Climate Transition Risk
Itochu Corp.	GTICs	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of Itochu. The company has been ahead of its peers in realigning its portfolio to focus on non-resource businesses. By substantially reducing less-profitable group companies, the company has achieved higher profitability. Environmental factors are an overall neutral consideration. Most Japanese general trading and investment companies have exposure to oil and gas, iron ore, and coal. However, Itochu has less exposure (below 30%) than peers. We expect this to decline further given the company’s focus on food, consumer goods, realty, information technology, and financial businesses. The company’s goal of a 40% reduction in greenhouse gas emissions by 2030 compared with 2018 levels is achievable, in our view. This is because it aims to expand its renewable energy, battery, and hydrogen/ammonia businesses.	Risk Management, Culture And Oversight

Japan Metropolitan Fund Investment Corp.	Real Estate	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of Japan Metropolitan Fund Investment Corp. We view favorably its risk management, culture, and oversight. The company has strong records of market leadership and strategic planning and execution capability, as one of largest and most diversified REITs. This is supported by its sponsorship by Mitsubishi Corp, a general trading and investment company. The strict regulatory framework under which Japanese REITs operate lead environmental and social factors to be an overall neutral consideration in our analysis.	Risk Management, Culture And Oversight
Japan Prime Realty Investment Corp.	Real Estate	E-2	S-2	G-2	ESG factors have an overall neutral influence in our credit rating analysis of Japan Prime Realty Investment. The strict regulatory framework under which Japanese REITs operate helped the company develop a compliance culture. However, its governance slightly lags leading peers, but we consider it sufficient for managing its business operations.	N/A
Japan Real Estate Investment Corp.	Real Estate	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of Japan Real Estate Investment. We view favorably its risk management, culture, and oversight. The company has strong records of market leadership and strategic planning and execution capability. It is Japan's leading office REIT, and is sponsored by real estate company Mitsubishi Estate. The strict regulatory framework under which Japanese REITs operate lead environmental and social factors to be an overall neutral consideration in our analysis.	Risk Management, Culture And Oversight
Japan Tobacco Inc.	Consumer Products	E-2	S-4	G-1	Social factors are a negative consideration in our credit rating analysis of Japan Tobacco Inc. (JT). The negative health effects of tobacco have resulted in a secular decline in market volume for traditional combustible cigarettes. Japan's combustible tobacco market by volume peaked in 1996 and has been declining at a compound annual rate of 5% since. Having said that, JT's efforts to introduce alternatives to combustible cigarettes have been slow, accounting for less than 5% of its tobacco revenue and lagging those of peers such as Philip Morris International's mid-20%. Industry risks, related to ongoing litigation and regulatory risks, are also a factor. Governance factors are a moderately positive consideration in our credit rating analysis. The company's management, which has ample expertise and experience, has demonstrated strong capabilities in planning and implementing strategy and in operating the organization. As the Japanese market shrinks, JT has been steadily expanding overseas into countries such as the U.K., Russia, Iran, and Taiwan, mainly through large acquisitions.	Risk Management, Culture And Oversight; Health And Safety
Jera Co. Inc.	Power Generators	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Jera. We think Japan's largest power generation company is better positioned than peers because its exposure to coal is slightly lower and to LNG is much higher than the industry average. We also believe that the impact is partially mitigated by its manageable plan for transitioning away from coal, as well as by the favorable regulatory framework under which it operates. Jera aims to shut down the coal power plants it considers inefficient by 2030 and to achieve carbon neutrality by 2050. It generates over 80% of its total electricity output from LNG, and only about 20% from coal. Jera is also developing renewable power plants both domestically and overseas, focusing on offshore wind power projects.	Climate Transition Risk
Komatsu Ltd.	Capital Goods	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of Komatsu. As one of the leading global construction and mining machinery makers, we believe its management has strong strategic planning and execution abilities, and a sophisticated risk-management system. It has successfully reduced market volatility risk through inventory management and by increasing after-sales services. Environment and social factors are a neutral consideration. It is exposed to regulations on the reduction of carbon dioxide emissions and environmental sustainability. However, we observe that the company has steadily increased sales of hybrid construction equipment, which emits less carbon dioxide. It also focuses on mining equipment for copper and other metals; this reduces its dependence on thermal coal. In terms of social factors, the company has been working to improve productivity and safety through its "Smart Construction" solutions technology, although profit contributions from this have so far been limited.	Risk Management, Culture And Oversight
Marubeni Corp.	GTICs	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Marubeni. Japanese general trading and investment companies have exposure to oil and gas, iron ore, and coal. Marubeni's exposure to these businesses is not high for the sector, accounting for about 30% of earnings. However, it has higher exposure than peers to coal-fired power generation, mainly in Southeast Asia. An acceleration of decarbonization and stricter environmental regulations to address climate change could be detrimental to the sustainability of Marubeni's business operations. However, we believe Marubeni can reduce environmental risk through its action plan leading up to 2030. Marubeni aims to halve its exposure to carbon dioxide emissions, from about 1 million tons in fiscal 2019, by 2030.	Waste And Pollution; Climate Transition Risk

Mitsubishi Corp.	GTICs	E-3	S-2	G-1	Environmental factors are a moderately negative consideration in our credit rating analysis of Mitsubishi Corp. More than 50% of its net profit comes from resource businesses such as gas, copper, and metallurgical coal. This is a higher proportion than for most peers, notwithstanding the company's growing focus on renewable energy and information technology digital services. It has the reasonable aim of expanding its renewable power generation capacity to 6.6 gigawatts in fiscal 2030, from 3.3GW in fiscal 2019. It is also working to reduce exposure to businesses with high greenhouse gas emissions, such as coal power generation. Governance factors are a moderately positive consideration in our credit rating analysis. The management team has solidified its customer base and global business partnerships, while constantly divesting or replacing businesses that show low profitability.	Risk Management, Culture And Oversight; Waste And Pollution; Climate Transition Risk
Mitsubishi Electric Corp.	Capital Goods	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Mitsubishi Electric Corp. The company's offers products and solutions for coping with social risks exacerbated by the pandemic, as well as to meet new demand in factory automation. In terms of governance factors, especially from a risk-management standpoint, recent improper testing on air conditioning for railcars had a negative impact on earnings. However, we take a view that the direct negative impact on its earnings will be limited, given that the contribution of these products is limited.	N/A
Mitsubishi Estate Co. Ltd.	Real Estate	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of Mitsubishi Estate. The company has strengths in strategic planning and execution, and risk management culture. These strengths are reflected in its city development projects in prime real estate areas of Tokyo. We also believe the company can cope with the effects of changing consumer preferences, which have led to changes such as the move toward flexible office spaces, after COVID-19. Environment and social factors are a neutral consideration in our credit rating analysis. The company, as office building operator, has good capability to cope with changing demand from its tenants, which have begun paying more attention to carbon dioxide emissions, by offering spaces in Tokyo's business district with 100% renewable energy.	Risk Management, Culture And Oversight
Mitsubishi Heavy Industries Ltd.	Capital Goods	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Mitsubishi Heavy Industries. The company has relatively high exposure to its coal-fired thermal power generation system business and turbo chargers for gasoline vehicles. This could negatively affect its earnings over the midterm. These businesses accounted for about 17% of its consolidated sales in fiscal 2020. This percentage does not include the revenue from gas turbines, which emit less carbon dioxide than coal-fired systems, but are a form of thermal power. We forecast that the company's focus on reducing carbon emissions in the thermal power and turbo chargers businesses, as well as enhancing carbon capture and storage business, and shifting to hydrogen power systems, will take a long time to have a meaningful positive impact on earnings.	Climate Transition Risk
Mitsubishi Motors Corp.	Autos	E-3	S-2	G-3	Environmental factors are a moderately negative consideration in our credit rating analysis of Mitsubishi Motors Corp. This is due to the increasingly stringent greenhouse gas regulations the industry faces. We believe Mitsubishi Motors' R&D expenses-to-sales ratio will likely remain at around 5% over the next one to two years, given its aim to increase electric vehicle sales to 50% by 2030 from 10% today. In this category, it mainly aims to increase sales of plug-in hybrid electric vehicles (PHEV). The company's established PHEV technology and its technology use and development alliance with Nissan and Renault mean it likely can achieve its target, in our view. A partial mitigant is Mitsubishi Motors' exposure to ASEAN countries (historically over 50% of its operating profits) with relatively moderate environmental regulations. Meanwhile, governance factors are a moderately negative consideration. We have observed steady improvement in governance since a data manipulation case in 2016. However, we will continue to monitor the company's efforts to enhance risk management and its efforts to stabilize profitability.	Risk Management, Culture And Oversight; Climate Transition Risk
Mitsui & Co. Ltd.	GTICs	E-3	S-2	G-1	Environmental factors are a moderately negative consideration in our credit rating analysis of Mitsui. Japanese general trading and investment companies have exposure to oil and gas, iron ore, and coal. For Mitsui, about 60% of earnings comes from such businesses, the highest proportion among peers. An acceleration of decarbonization and stricter environmental regulations to address climate change could be detrimental to the sustainability of Mitsui's business operations. The company has a net-zero emission target for 2050, with a halving of greenhouse gas emissions by 2030, compared with 2020 levels. Also, Mitsui is shifting to renewable energy, aiming for it to account for 30% of its power generation capacity in 2030 from 15% in fiscal 2020, while developing next-generation fuel sources. Governance factors are a moderately positive consideration for Mitsui. The company has long been a market leader, with solid financial performance, dynamic portfolio management, and sound risk management capabilities.	Risk Management, Culture And Oversight; Waste And Pollution; Climate Transition Risk

Mitsui Fudosan Co. Ltd.	Real Estate	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of Mitsui Fudosan. The company has strengths in long-term strategic planning and execution and risk-management culture. These strengths are reflected in its development of multiple landmarks and complex projects, mainly in the Tokyo metropolitan area. Environmental and social factors are a neutral consideration in our analysis. We also believe the company can cope with the effects of changing consumer preferences, which have led to changes such as the move toward flexible office spaces, given its sophisticated office development capability and know-how. Social distancing requirements have hit its earnings from retail facilities and hotels, as they have peers'. However, we believe that the company can mitigate the impact because of its market position and focus on high-end properties, as well as its relatively small exposure to these businesses.	Risk Management, Culture And Oversight
NEC Corp.	Technology	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of NEC Corp. The company has strategically shifted its focus to systems integration and network infrastructure for enterprises from consumer electronics, such as personal computers and mobile phones. It is now less affected by rapidly shifting consumer preferences, a key social risk. However, we believe NEC, like peers, faces challenges in securing talent with the requisite skills to meet rapidly developing digitalization.	N/A
Nippon Accommodations Fund Inc.	Real Estate	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of Nippon Accommodations Fund. We view favorably its risk management, culture, and oversight. The REIT has a sufficient record in market leadership, as a top-tier residential REIT in Japan, backed by sponsorship from real estate company Mitsui Fudosan. Environmental and social factors are an overall neutral consideration in our analysis.	Risk Management, Culture And Oversight
Nippon Building Fund Inc.	Real Estate	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of Nippon Building Fund. We view favorably its risk management, culture, and oversight. The JREIT has strong track records of market leadership and strategic planning and execution capabilities. Its market leadership is supported by sponsorship from Mitsui Fudosan. Environmental and social factors are an overall neutral consideration in our analysis.	Risk Management, Culture And Oversight
Nippon Steel Corp.	Metals And Mining	E-3	S-2	G-2	Environment factors are a moderately negative consideration in our credit rating analysis of Nippon Steel. As leading blast furnace and steelmaker in Japan, Nippon Steel faces challenges to reduce CO2 emissions in line with global peers. We think that the company has maintained a technological advantage in reducing CO2 emissions through the steelmaking process. However, we forecast headwinds in this area will become more severe for the company over the midterm. The company is increasing its focus on the development of new technology that is more environmentally friendly by reducing the weight of end products and by making high-end goods, including high-tensile steel. However, we think this will take time to benefit earnings.	Climate Transition Risk
Nippon Telegraph & Telephone Corp.	Telecoms	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of NTT. Its strong managerial expertise and strategic planning and execution capability have helped it to maintain a long-standing leading position in the telecom market in Japan. NTT's strategic planning capability is also demonstrated in its high ability to foresee technological trends and developments. For example, it is working on 6G-related advanced technology, a key to the future success of the telecom industry.	Risk Management, Culture And Oversight
Nissan Motor Co. Ltd.	Autos	E-3	S-2	G-4	Environmental factors are a moderately negative consideration on our credit rating analysis on Nissan Motor. This is due to the increasingly stringent greenhouse gas regulations the industry faces. Nissan aims to reduce emissions by 40% in fiscal 2022 compared with fiscal 2000 levels and to sell only EVs by the early 2030s. We believe R&D expenses could pressure earnings despite company efforts to raise the proportion of electrification components commonly used with alliance partners. Governance factors are a negative consideration in our credit rating analysis for the issuer. Profitability and brand recognition were seriously damaged by the previous management team's excessive efforts to raise market share. We will continue to monitor the progress of its business reformation plan, which runs through fiscal 2023. We are also focused on the company's efforts to stabilize its management and rebuild the alliance with Renault and Mitsubishi Motors.	Risk Management, Culture And Oversight; Governance Structure; Climate Transition Risk
Nomura Research Institute Ltd.	Technology	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Nomura Research Institute. The company's business is potentially exposed to risks such as classified information leaks and cyberattacks. However, we believe the company can manage these risks appropriately through strengthened in-house training and its staff.	N/A

Okinawa Electric Power Co. Inc.	Power Generators	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Okinawa Electric. Japan's smallest regulated electric power company has higher exposure to fossil fuels than peers. Its coal-fired plants account for about 40% of its total power supply, oil 15%, and LNG 20%. The impact of this is partially mitigated by a manageable plan for transitioning away from coal, as well as by a favorable regulatory framework. Okinawa Prefecture's isolated network and low demand mean the development of large-scale renewable power plants or other highly efficient power plants would be difficult. We therefore deem it is unlikely that the Japanese government would urge Okinawa Electric to rapidly change the composition of its power generation sources. Okinawa Electric has a clear goal to achieve carbon neutrality by 2050.	Climate Transition Risk
Olympus Corp.	Healthcare	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Olympus Corp. We believe Olympus has strengthened its governance by enhancing its legal and compliance functions, as well as by reviewing its quality and regulatory response functions. The company has steadily built up a strong record of compliance in recent years. Therefore, we think its governance, which was historically weaker, is now in line with the industry average. Past governance issues severely hurt earnings performance, because of regulatory fines and litigation costs stemming from an accounting scandal involving the company. In terms of social risks, the company's mainstay endoscope business will receive benefits from increasing demand for early diagnosis and less invasive therapies. This could reduce potential risks of pricing pressure from its hospital customers.	N/A
Omron Corp.	Capital Goods	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Omron. The company's management focuses on seeking a sustainable portfolio by addressing societal needs. We expect the company will maintain solid customer base and stable profits post-COVID-19 thanks to strong competitiveness in its focus areas. The company offered new products and services during COVID-19 that met demand in the areas of industrial automation and health care.	N/A
Osaka Gas Co. Ltd.	Utility Networks	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Osaka Gas Co. Ltd. Japan’s second-largest regulated gas utility company has high exposure to LNG in line with industry peers. However, the impact is partially mitigated by a manageable plan for reducing carbon dioxide emissions and favorable regulatory framework, in our view. The Japan Gas Association, which Osaka Gas is a part of, have announced it aims for carbon neutrality by 2050 by utilizing carbon-neutral methane and through the direct use of hydrogen. We observe that Osaka Gas is leading the industry by focusing on developing biomass, wind, and solar power facilities domestically and overseas.	Climate Transition Risk
Panasonic Corp.	Technology	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Panasonic. The company is exposed to social risks such as product safety and labor-intensive manufacturing processes. Since its supply chain and sales network spread globally, Panasonic has some exposure to a potential impact from natural disasters, in our view. However, we believe that any effects from these environmental and social considerations would be temporary. In addition, we think such effects could be absorbed by the company's diversified supply chain and established product safety management.	N/A
Rakuten Group Inc.	Technology	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Rakuten. The company has a high-risk appetite for its industry. Our view reflects its strong pursuit of growth, as seen in its recent huge investment in entering the full-line mobile network operator business in Japan. It did so under the leadership of Hiroshi Mikitani, the group's founder, chairman, and largest shareholder. Environmental and social factors have an overall neutral influence on our rating analysis.	Risk Management, Culture And Oversight
Recruit Holdings Co. Ltd.	Business Services	E-2	S-2	G-2	ESG credit factors have an overall neutral influence in our rating analysis of Recruit Holdings. Its staffing business accounts for about a quarter of its consolidated EBITDA. This business faces social risks related to human capital management, in part because of variations in related regulations by country. Sudden regulatory change or insufficient compliance awareness could result in substantial fines or penalties for the company. However, we believe the company has a long record of complying with regulations. Moreover, its mainstay online-based human resource matching system gives the company less exposure to such risk than traditional players in the industry.	N/A
Renesas Electronics Corp.	Technology	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Renesas Electronics Corp. As a key semiconductor manufacturer for auto industry use, the company faces environmental risks, such as those related to greenhouse gas emissions and the water supply. However, we think the company can manage the impact through its manufacturing process. Moreover, its energy-efficient products and solutions, such as low-power microprocessors and microcontrollers, are a positive factor that partially offsets for the risks outlined above, in our view.	N/A

Ricoh Co. Ltd.	Technology	E-2	S-3	G-2	Social factors are a moderately negative consideration in our credit rating analysis of Ricoh. The company's operational performance in its office copier and printing machine businesses has been damaged by the trend toward home working arrangements during the COVID-19 pandemic. Its office printing business accounted for more than 60% of its consolidated operating profit in fiscal 2020, before the pandemic's effects were felt. Environmental and governance factors have had no material influence on our rating analysis.	Health And Safety
Seven & i Holdings Co. Ltd.	Retail and Restaurants	E-2	S-2	G-2	ESG credit factors are an overall neutral consideration in our credit rating analysis of Seven & i Holdings. We think the impact on the company’s credit quality of environmental risks arising from its fuel retailing business is limited. Although the acquisition of U.S. convenience store and gas station chain Speedway is likely to raise exposure to fuel sales in the company's business mix, it is sufficiently low, compared with that of peers. We forecast that the acquisition of Speedway will push up the proportion of the company's gasoline sales to EBITDA to 15% or so, from about 5% before the acquisition.	N/A
Sharp Corp.	Technology	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit analysis of Sharp. We assess its risk management standards and operational effectiveness as somewhat weaker than regional peers because its record shows financial performance has been vulnerable to market changes. Internal control systems have steadily improved under the Taiwan-based Hon Hai group, but in our view, they remain insufficient, as seen in the recent incident of accounting fraud at an overseas subsidiary. Environmental and social risk factors have an overall neutral influence on our credit analysis.	Risk Management, Culture And Oversight
Shikoku Electric Power Co. Inc.	Power Generators	E-3	S-3	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Shikoku Electric. One of Japan’s regulated electric power companies, it is dominant in the region in which it operates. It has industry-average exposure to coal and LNG. Shikoku Electric's coal-fired plants accounted for 25% of the total power supply in fiscal 2020. The company operates a nuclear power plant, which contributes to lower carbon dioxide emissions, but it faces issues related to uranium waste disposal. This negative consideration is partially offset by Japan's favorable regulatory framework. We consider the increased utilization of nuclear power to be critical if the government’s net zero emissions goal is to be met by 2050. Social factors are also a moderately negative consideration. The company faces volatile profits and an increased debt burden related to stringent nuclear safety requirements, following the Fukushima No.1 nuclear power plant accident in 2011. Reactor operations remain exposed to litigation and operational risks.	Climate Transition Risk; Waste And Pollution; Health And Safety
Shizuoka Gas Co. Ltd.	Utility Networks	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis on Shizuoka Gas Co. Ltd. Japan’s fourth-largest regulated gas utility company has high exposure to LNG in line with leading industry peers. This impact is partially mitigated by its manageable transition plan under the favorable regulatory framework. Japan Gas Association, which Shizuoka Gas is a part of, has announced its aims to be carbon neutral by 2050 by utilizing carbon-neutral methane and through direct use of hydrogen. Shizuoka Gas is gradually focusing on developing renewable power plants, such as biomass and solar power, domestically and overseas.	Climate Transition Risk
SoftBank Group Corp.	IHC	E-2	S-3	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Softbank Group. Its largest shareholder (29% ownership) is Masayoshi Son, the growth-focused founder, chairman of the supervisory board, and CEO. He will continue to exert meaningful influence on the company's corporate culture and financial policy, in our view. On the other hand, we consider SoftBank Group's management to have strengths in execution. We also acknowledge that the company has been enhancing its governance structure in recent years, including by increasing the ratio of external members on its board of directors to 55.5% and hiring a chief risk officer. Startup technology companies, on which SoftBank Group has focused its investment in recent years, occasionally fail to develop rigorous governance systems as they rapidly expand their businesses and operating scope. The emergence of the issue at WeWork at the end of 2019 led to a sharp decline in the value of SoftBank Group's investment assets, partially hindering stable growth in its investment fund business. However, as Softbank Group has promptly introduced a more sophisticated investment policy, we regard the enhancement of its risk management as in progress. Social factors are also a moderately negative consideration. Although Softbank Group has been reducing its exposure to Chinese internet companies by diversifying its investment portfolio, the company still has significant exposure to them. Its investment in China-based Alibaba Group Holding Ltd. accounts for about 30% of its investment portfolio as of Sept. 30, 2021, following a decline of about 50% year-on-year in the price of Alibaba's shares. We believe SoftBank is exposed to social risk related to regulatory scrutiny on privacy and data security issues for internet companies, and the issues around anti-trust in China that its investee faces.	Governance Structure; Social Capital

Sojitz Corp.	GTICs	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Sojitz. Japanese general trading and investment companies have exposure to oil and gas, iron ore, and coal. Sojitz also has exposure to mining and chemical businesses, which together accounted for about 40% of the company's consolidated net profit in fiscal 2020, ended March 2021. We expect the company to realize its target of reducing the thermal coal and oil assets on its books to zero by 2030, and coking coal by 2050. Also, Sojitz's natural resources projects are smaller than peers', so we see less risk related to stranded assets.	Waste And Pollution; Climate Transition Risk
Sony Group Corp.	Technology	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Sony Group. The company manages consumer- and product-related impacts through a business strategy that emphasizes timely and effective technological innovation. The company is focused on its game business and is downsizing the uncompetitive TV and mobile communications businesses. Environmental impacts have increasing importance for Sony's global supply chain. Flooding in Thailand in 2011 and a series of earthquakes in Japan over the past five years have forced Sony to temporarily halt factory production. Therefore, the company aims to build a more diversified supply chain and further globalize its manufacturing operations. We believe Sony can minimize the impact from potential natural disasters through these measures.	N/A
Sumitomo Corp.	GTICs	E-3	S-2	G-2	Environmental factors are moderately negative consideration in our credit rating analysis of Sumitomo. The company has exposure to natural resources business, including fossil fuels. These businesses will likely account for over 30% of its net profit in fiscal 2021. In addition, Sumitomo's power generation business, which contributes less than 10% of its consolidated profits, has high exposure to coal. That said, we believe the company will reduce the proportion of business related to natural resources and coal-fired thermal power generation on its books by investing in areas with less exposure to environmental risk. Its long-term plan includes a target to achieve zero production from thermal coal mines by 2030, and to reduce the proportion of coal-fired power business on its books to zero by the late 2040s. Moreover, a well-diversified business portfolio, which includes consumer business, real estate, and media and digital business, mitigates the negative impact of environmental factors. We believe that the sum of these businesses will continue to account for around 25% of net profit in fiscal 2021. We forecast the contributions of these businesses will increase further over the next one to two years.	Waste And Pollution; Climate Transition Risk
Sumitomo Electric Industries Ltd.	Capital Goods	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Sumitomo Electric Industries. The company's customers in its mainstay wire-harness business for automotive are well-diversified across gasoline, hybrid, or electric vehicle manufactures. Accordingly, we believe that the company is well positioned to handle rapidly changing environmental regulatory risk. In addition, the company offers a wide variety of products, including promising electric cables for the growing cutting-edge renewable power transmissions market.	N/A
Suntory Holdings Ltd.	Consumer Products	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Suntory Holdings Ltd., Japan's largest alcoholic and beverage company. Social risks related to sugary beverages such as carbonated drinks, which face volume pressure in mature markets such as the U.S. and Europe, are offset by its strong presence in healthier categories, including mineral water, ready-to-drink tea, and coffee. We also believe Suntory's exposure to soda drinks is relatively small, at about 10%-15% of total sales. In addition, Suntory has increased usage of environmentally friendly bottles and preservation of forests with natural water sanctuaries, creating a sustainable supply of mineral water. These activities are well known to its consumers in Japan.	N/A
Takeda Pharmaceutical Co. Ltd.	Healthcare	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Takeda Pharmaceutical. Takeda, a global pharmaceutical company, has strong pipelines for rare diseases. This could have a somewhat positive impact on the social issue of health and safety. On the other hand, the company is partially affected by regular price revisions in the U.S. market, as are peers. About half of Takeda's total revenue is from the U.S.	N/A
TDK Corp.	Technology	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of TDK. The company, which produces electronics components, has exposure (about 20% of its consolidated revenue) to the auto industry, which faces environmental challenges. However, we believe this negative impact is partially offset by the positive impact of its strategic focus on product lines for 5G artificial intelligence products and solutions and its environmentally friendly battery business.	N/A

Tokyo Electric Power Co. Holdings Inc.	Power Generators	E-5	S-5	G-3	Environmental factors are a very negative consideration in our credit rating analysis of Tepco Holdings, Japan's largest regulated utility company. The Fukushima No.1 nuclear power plant accident in 2011 has caused unprecedented environmental concerns across Japan, and the burden on the company itself is immense. Strongly backed by the Japanese government and industry, the company has agreed to contribute 8 trillion yen to the decommissioning project over the next 30-40 years. Even though the company has dramatically changed its management and business operations, we think it will carry the burden for a long time. Social factors are also a very negative consideration. The company continues to bear a colossal financial burden from compensation to Fukushima locals, who suffered from the meltdowns. The company's mission to remove radioactive contaminants and to compensate damage is also critical to the Japanese government, which aims for the recovery and revitalization of Fukushima. Governance factors are a moderately negative consideration in our credit rating analysis of the company. The company has considerable risk of litigation related to the accident and has huge off-balance-sheet liabilities, although it has steadily stabilized operations and earnings since 2011.	Waste And Pollution; Climate Transition Risk; Transparency And Reporting; Health And Safety
Tokyo Gas Co. Ltd.	Utility Networks	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Tokyo Gas Co. Ltd. Japan's leading regulated gas utility company has high exposure to LNG in line with industry peers. The risk is partially mitigated by manageable transition plan under the favorable regulatory framework. Japan Gas Association, which Tokyo Gas is a part of, aims for carbon neutrality by 2050 by utilizing carbon-neutral methane and through direct use of hydrogen. The company has taken leadership in developing new technology, in areas such as the reduction of hydrogen production costs and better utilization of carbon dioxide. Tokyo Gas aims to expand its solar and wind power generation domestically and overseas under its long-term business plan.	Climate Transition Risk
Toshiba Corp.	Capital Goods	E-2	S-2	G-5	Governance factors are a very negative consideration in our credit rating analysis of Toshiba. We believe that deficiencies in Toshiba's governance undermine its credit quality. The company has experienced management turmoil, exacerbated by its complex relationship with shareholders, including activists. Since April 2021, there have been frequent changes in management. In addition, the spin-off plan had been recommended by a strategic committee of external directors and the board of directors had agreed to it. However, it was rejected at the shareholders meeting. We consider this is as evidence that the board, including external directors, cannot manage conflicts of interest between different stakeholders. Environmental and social factors are an overall neutral consideration in our credit rating analysis. The company has withdrawn from overseas nuclear business, which had significantly damaged its creditworthiness over the past several years. We believe that the company's key businesses, including water systems, elevators and escalators, and transmission and distribution, will contribute to sustainable operations and earnings.	Risk Management, Culture And Oversight
Toyo Corp.	Business Services	E-3	S-2	G-3	Environmental factors are a moderately negative consideration in our credit rating analysis of Toyo. This is based on Toyo's significant exposure to auto supplier Aisin Corp., which faces increasingly stringent greenhouse gas regulations. Therefore, Toyo's business performance could be negatively affected if Aisin face a difficulty in coping with rapid electrification across the industry. Governance risks are a moderately negative consideration. The company is unlisted and owned by its founder family. Also, we believe the company has less management depth and breadth than major peers, such as Aisin and Denso.	Governance Structure; Climate Transition Risk
Toyota Industries Corp.	Autos	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Toyota Industries Corp. We view the entity, a forklift maker and auto supplier, as better positioned on climate transition risk than industry peers. Toyota Industries' sales exposure is about 30% to the automobile sector and 70% to the capital goods sector. The company aims to expand sales of electrification products in a range of segments, including auto parts (car air-conditioning compressors) and forklifts. Its target of increasing electrification products to over 70% by 2030 (from 43% in 2020) is achievable, in our view. Moreover, we think Toyota Industries benefits from joint development with Toyota Motor of inverters and converters for electric and hybrid vehicles.	Climate Transition Risk
Toyota Motor Corp.	Autos	E-3	S-2	G-1	Environmental factors are a moderately negative consideration in our credit rating analysis on Toyota Motor Corp. The company is focusing on making more environmentally friendly vehicles amid stringent emissions targets globally. Toyota's key target is to reduce global average carbon dioxide emissions (TtW, tank to wheel) from new cars by 30% or more in 2025, compared to 2010 levels. We believe the target is challenging, but achievable. In fiscal 2020, 20%-25% of Toyota's total sales, around 2 million, were of hybrid vehicles. Toyota aims to sell 8 million electric vehicles in 2030, including 2 million that are powered by either fuel cells or batteries. Governance factors are a positive consideration for the issuer. A strength for Toyota is its ability to manage across group organizations, which can be seen in its results as a leading company in the global auto sector. In addition, Toyota demonstrated its robust supply chain resilience amid the pandemic.	Risk Management, Culture And Oversight; Climate Transition Risk

					Toyota's EBITDA margin was the highest among the major global auto OEMs in fiscal 2020	
Toyota Tsusho Corp.	GTICs	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Toyota Tsusho. Most Japanese general trading and investment companies have exposure to oil and gas, iron ore, and coal. However, exposure to natural resources is limited at 10% of consolidated net profits for Toyota Tsusho. Most of its resource business is related to electric vehicles, involving elements such as lithium and rare earths, so we believe Toyota Tsusho is less exposed to environmental risk than most Toyota Motor group companies, its key business partners. Overall, Toyota Tsusho's well-diversified business portfolio, which is mainly focused on renewable energy, electronics, food and consumer services, and logistics, could mitigate its environmental risk. Such businesses account for around 50% in total of net profit.	N/A
Universal Entertainment Corp.	Leisure	E-2	S-4	G-4	Social factors are a negative consideration in our credit rating analysis of Universal Entertainment. Social distancing policies and lock downs have severely weakened company earnings in Japan and the Philippines. In both countries, the company registered operating losses of more than ¥2 billion in January-June 2021. In addition, regulations for gaming machines in Japan are being tightened in a bid to reduce gambling addiction, which is another negative factor, in our view. In the Philippines, its casino resort operation business began with the completion of a facility in 2019, but has been significantly damaged by the pandemic. Governance factors are also a negative consideration. Litigation cases against its former chairman and founder have been incurring expenses of billions of yen annually. We believe these expenses will remain a significant financial burden during a difficult period following the pandemic.	Governance Structure; Risk Management, Culture And Oversight; Social Capital; Health And Safety

ESG Credit Indicators – Rated Corporate And Infrastructure Entities In Korea

Issuer	Industry	E	S	G	Comments	Factors
Doosan Bobcat Inc.	Capital Goods	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of Doosan Bobcat.	N/A
E-MART Inc.	Retail and Restaurants	E-2	S-2	G-2	ESG credit factors have had no material influence on our credit rating analysis of E-MART.	N/A
GS Caltex Corp.	Oil And Gas	E-4	S-2	G-2	Environmental factors are a negative consideration in our credit rating analysis on GS Caltex Corp. (GSC). The company has material exposure to greenhouse gas emissions, pollution, and waste generation. It is making efforts to manage these risks by tracking and disclosing energy consumption, greenhouse gas (GHG) emission levels, air pollutants, water usage, and other waste generation. GSC is also focusing on improving the energy efficiency of its manufacturing processes and reducing pollution generation by recycling waste materials. The company reduced its CO2 emission to 7,788,786 tonnes of CO2 equivalent (tCO2eq) in 2020 from 7,986,536 tCO2eq in 2018.	Climate Transition Risk
Hanjin International Corp.	Leisure	E-2	S-4	G-2	Social factors are a negative consideration in our credit rating analysis of Hanjin International. Asset concentration exposes the company to health and safety concerns: Its only asset is a hotel/office complex in Los Angeles. COVID-19 has had a significant impact on its hotel operations, leaving occupancy rates significantly lower than expected.	Health And Safety
Hankook Tire & Technology Co. Ltd.	Autos	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Hankook Tire & Technology Co. Ltd. The CEO and major shareholder of the parent company was indicted for embezzlement in 2020. He remains registered as director and CEO of the company. Environmental and social factors have an overall neutral influence on our credit rating analysis of Hankook Tire. Although the company is subject to various laws and regulations related to greenhouse gas emissions, we believe tire businesses are somewhat less exposed to energy transition risks than other auto parts businesses. This is because we view tires as necessary components of vehicles, regardless of factors such as engine type. The requirements for tire durability and fuel economy performance will likely increase further in our view.	Risk Management, Culture And Oversight; Climate Transition Risk
Hanwha Total Petrochemical Co. Ltd.	Chemicals	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Hanwha Total Petrochemical Co. Ltd. (HTC). Its environmental risk is largely in line with its industry peers. The company runs integrated cracking units in South Korea to produce both ethylene and aromatics products. The company has several targets and initiatives related to greenhouse gas (GHG) emissions, pollution, and waste. These have been formulated by the company to make sure it meets industry and regional standards. In 2019, HTC had a chemical vapor leakage in one of its styrene monomer (SM) units, which resulted in a government-ordered force majeure of its SM production facilities for a few months. After the accident, the company enhanced safety measures, and operations stabilized in early 2021.	Climate Transition Risk
Hyundai Glovis Co. Ltd.	Shipping, Road and Rail	E-2	S-2	G-2	ESG credit factors have had no material influence on our credit rating analysis of Hyundai Glovis.	N/A
Hyundai Mobis Co. Ltd.	Autos	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Hyundai Mobis Co. Ltd. As an auto parts manufacturer, the company is exposed to increasing energy transition risk embedded in the auto industry. As a captive auto parts supplier under Hyundai Motor Group (HMG), we believe the company is likely to play an important role in supporting HMG's environmental strategy to expand its lineup of green cars and increase investment in hydrogen fuel cells over the next five to 10 years. As such, the company's R&D costs and capital expenditure will likely remain high. We also believe the profitability of its electrification products will likely remain lower than its traditional products at least over the next one to two years.	Climate Transition Risk
Hyundai Motor Co.	Autos	E-3	S-3	G-2	Environmental and social factors have a moderately negative impact on our analysis on Hyundai Motor Co. The company is aggressively expanding its lineup of more environmentally friendly vehicles with the goal of 8%-10% market share (excluding Kia) by 2040 in the global green auto market. There are some questions about whether Hyundai can make the necessary investments to achieve its goal without harming profitability and key credit measures. In terms of social considerations, the company has a history of labor strikes. While labor relations are currently peaceful, future flare ups could occur. Additionally, Hyundai has had sizable recalls in recent years related to power trains. If the company continues to have significant recalls, this could affect be detrimental to the brand.	Climate Transition Risk; Social Capital; Health And Safety

Hyundai Steel Co.	Metals And Mining	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis on Hyundai Steel. Steel production generates a lot of GHG emissions and other pollutants. Hyundai Steel operates both blast furnaces and electric arc furnaces, and hence is materially exposed to environmental risk. The company has been making efforts to reduce its environmental impact by reusing approximately 90% of the byproducts (i.e., steel scrap) from the steel manufacturing process. The company also applies stricter emission standards and has reduced its air pollutant emissions by investing in more environmentally friendly facilities and improving production efficiency.	Climate Transition Risk
KCC Corp.	Building Materials	E-2	S-2	G-2	ESG factors have overall neutral influence on our credit rating analysis of KCC. The largest building materials manufacturer in South Korea mainly produces light building materials including paint, PVC windows, insulation materials, and gypsum boards. Regarding environmental factors, we believe the company's business portfolio, with high exposure to light building materials (operating profit from interior/exterior building materials accounted 53%, paint 40% in 2020), largely offsets the negative assessment at the industry level, compared with other building material peers with exposure to cement and heavy materials.	Climate Transition Risk
Kia Corp.	Autos	E-3	S-3	G-2	Environmental and social factors have a moderately negative impact on our analysis on Kia Corp. Along with Hyundai Motor, it is are aggressively expanding its lineup of more environmentally friendly vehicles with the goal of 6%-7% market share by 2025 in the global green auto market. There are questions about whether Kia can make the necessary investments to achieve its goal without harming profitability and key credit measures. In terms of social considerations, Hyundai Motor and Kia have a history of labor strife. While labor relations are currently peaceful, future flare ups could occur. Additionally, Hyundai and Kia have had sizable recalls in recent years related to powertrains. If the companies continue to have significant recalls, this could be detrimental to the brands.	Climate Transition Risk; Social Capital; Health And Safety
Korea Mine Rehabilitation and Mineral Resources Corp.	Metals And Mining	E-3	S-3	G-3	Environmental and social factors are a moderately negative consideration in our credit rating analysis of KOMIR. The company is a global miner and has waste and pollution risks related to its operations. The company plans to dispose of most of its overseas mining projects, which could mitigate some of these risks. KOMIR, formed through a merger between KORES and MIRECO, also carries out mine damage reclamation and environmental restoration. The company historically spent South Korean won (KRW) 50 billion-KRW100 billion per year on mine damage restoration projects. Its social risk exposures mainly because of social regulations, labor and community relations, and safety management. Governance factors are also a moderately negative consideration. The company had rapidly expanded its business in the past to serve government policy goals. However, it has often failed to achieve its financial objectives, resulting in higher debt.	Waste And Pollution; Social Capital; Risk Management, Culture And Oversight
KT Corp.	Telecoms	E-2	S-2	G-2	ESG credit factors have had no material influence on our credit rating analysis of KT Corp.	N/A
LG Chem Ltd.	Chemicals	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of LG Chem Ltd. The company is exposed to tighter regulation and increased scrutiny on greenhouse gas emissions and pollution in its petrochemical segment (46% of operations), and plans to reduce GHG emissions 75% by 2050 compared with business-as-usual cases. However, LG Chem is well positioned to take advantage of the environmental trend to electrification and batteries through its growing electric vehicle (EV) battery segment (41% of revenues). LG Chem is one the largest producers of EV batteries, which remain a key focus for the company.	N/A
LG Electronics Inc.	Technology	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of LG Electronics.	N/A
Magnachip Semiconductor Corp.	Technology	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of Magnachip. The company has a history of litigation due to restatements of the company's financial statements for fiscals 2011-2013, which were completed in early 2015. Magnachip is in the process of merging with an investment vehicle formed by an affiliate of Wise Road Capital Ltd. The transaction is subject to shareholder and regulatory approvals, causing some uncertainty regarding it.	Risk Management, Culture And Oversight
NAVER Corp.	Media and Entertainment	E-2	S-2	G-2	ESG credit factors have no material influence on our credit rating analysis of NAVER.	N/A
Posco	Metals And Mining	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis on Posco. Steel production generates a lot of greenhouse gas emissions and other pollutants. As a global steelmaker operating blast furnaces, its environmental exposure is largely in line with other blast-furnace based steel producers. Given its environmental exposure, Posco tracks and discloses key environmental metrics such as energy consumption, GHG emission levels, air pollutants, water usage, and waste generation. The company also aims to reduce its carbon emissions by 50% by 2040 and to become carbon-free by 2050. To achieve this, Posco plans to incrementally adopt hydrogen-based steelmaking.	Climate Transition Risk

Samsung Electronics Co. Ltd.	Technology	E-2	S-2	G-1	Governance factors are a moderately positive consideration in our credit rating analysis of Samsung Electronics. Our assessment reflects its ability and strategy to successfully develop new technology and products, enabling Samsung to maintain leading positions in its various business segments. In addition, management has demonstrated deep expertise and experience in the technology industry with a strong operational track record.	Risk Management, Culture And Oversight
SK Broadband Co. Ltd.	Telecoms	E-2	S-2	G-2	ESG credit factors have had no material influence on our credit rating analysis of SK Broadband.	N/A
SK E&S Co. Ltd.	Power Generators	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of SK E&S. The company's environmental risk profile is driven by its exposure to a mix of fossil fuel businesses. This includes city gas (55%-60% of revenue) and LNG power generation business (35%-40% of revenue) in South Korea and overseas upstream businesses (less than 5%). The company's exposure to upstream business, given its ownership in an Australian gas field and a U.S. shale gas development play, adds to environmental risks.	Climate Transition Risk
SK Geo Centric Co. Ltd.	Chemicals	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of SKGC. The company is materially exposed to greenhouse gas emissions and pollutants, and has a set of operational standards to mitigate these risks, putting its risk profile largely in line with peers. SKGC and its parent SK Innovation plan to reduce greenhouse gas emission by about 8% compared to business-as-usual cases by 2025.	Climate Transition Risk
SK Hynix Inc.	Technology	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of SK Hynix.	N/A
SK Innovation Co. Ltd.	Oil And Gas	E-4	S-2	G-3	Environmental factors are a negative consideration in our credit rating analysis of SK Innovation Co. Ltd. The company is materially exposed to environmental factors as a refining and petrochemical company. It is making efforts to reduce greenhouse gas emissions, but the results will take time to materialize. For example, the company announced a net-zero target that includes greenhouse gas emission reduction by about 8% compared to business-as-usual case by 2025. This initiative will require significant investments before it is in a position to offset our existing environment concerns. Governance factors are a moderately negative consideration in our analysis. In this area, a meaningful legal dispute on a technology patent required a significant sum to settle.	Climate Transition Risk; Risk Management, Culture And Oversight; Governance Structure
SK Telecom Co. Ltd.	Telecoms	E-2	S-2	G-2	ESG credit factors have had no material influence on our credit rating analysis of SK Telecom.	N/A
S-Oil Corp.	Oil And Gas	E-4	S-2	G-2	Environmental factors are a negative consideration in our credit rating analysis of S-Oil Corp. The company is a major refinery and petrochemical producer in South Korea, and has a material exposure to greenhouse gas emissions, pollution, and toxicity. Regarding this, S-Oil has kept emissions intensity lower than the legal standards and is making efforts to minimize carbon emissions by 2030, following the government's emissions-reduction pledges. In terms of its business portfolio, the company plans to increase its petrochemical exposure through its investment in the Shaheen Project, which will increase petrochemicals among its production volume to 25% by 2026, from the current level of 12%. In the long run, S-Oil also plans to expand into more-environmentally friendly business areas such as hydrogen and fuel cells.	Climate Transition Risk

ESG Credit Indicators – Other Rated Corporate And Infrastructure Entities

Location	Issuer	Industry	E	S	G	Comments	Factors
Cambodia	NagaCorp Ltd.	Leisure	E-2	S-4	G-3	Social factors are a negative consideration in our credit rating analysis of NagaCorp, as gambling operations are exposed to ongoing regulatory risks and compliance outcomes. Government actions to address social risks, including health and safety, can also introduce volatility in gaming revenue and profitability. This volatility was evident when the group experienced casino closures during the pandemic in 2020 and 2021. Due to the closures from April to July 2020, and its sole exposure to a single casino complex in Cambodia, NagaCorp's revenue and EBITDA dropped 50% and 61% in 2020, respectively. Governance factors are a moderately negative consideration, as the founder-owner has the effective say on group strategy, while the board lacks major representation of independent directors (three out of seven). As such, NagaCorp has maintained sizable dividend payouts, with at least a 60% payout ratio over the past several years.	Social Capital; Health And Safety; Risk Management, Culture And Oversight; Governance Structure
Malaysia	Axiata Group Bhd.	Telecoms	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Axiata. The company's geographically diversified operations have enhanced its earnings stability and somewhat reduced its exposure to regulatory risks, which we view as moderate. Axiata faced tax claims from Nepal's government despite initially getting clearance, and eventually paid 23.4 billion Nepalese rupees in settlement. But this payment was less than 10% of the company's adjusted EBITDA in 2020, and we view it as a one-off and it settled all pending litigations in Nepal. Axiata is also rated above the sovereign rating of Indonesia, despite significant exposure to the Indonesian market.	N/A
Malaysia	Empire Resorts Inc.	Leisure	E-2	S-4	G-3	Social factors are a negative consideration in our credit rating analysis of Empire Resorts. Nearly all of the company's operations come from gaming operations, which are exposed to ongoing regulatory risks and compliance outcomes. Government actions to address social risks, including health and safety, have introduced volatility into gaming revenue and profitability; the group closed its casinos during the pandemic in 2020 and 2021. Due to the closures between April and August 2020, Empire Resorts' revenue dropped 60% for the year. Governance factors are a moderately negative consideration, due to the presence of a controlling major shareholder, Kien Huat group, which could influence decision-making in the other Genting group companies, including related-party transactions with other entities owned by Chief Executive Tan Sri Lim Kok Thay that are not rated by S&P Global Ratings. Given the founding family's controlling stake in Genting, the group has a history of related-party transactions, such as Kien Huat's stake sale of Empire Resorts to Genting Malaysia and the sale of Genting Hong Kong's private jet to Resorts World Las Vegas. In addition, Empire Resorts does not publicly announce its dividends policy. Comparable gaming peers suspended their dividend programs to preserve cash and manage leverage ratios.	Social Capital; Health And Safety; Governance Structure
Malaysia	Genting Bhd.	Leisure	E-2	S-4	G-3	Social factors are a negative consideration in our credit rating analysis of Genting, as gaming operations are exposed to ongoing regulatory risks and compliance outcomes. Government actions to address social factors, including health and safety, can also add volatility in gaming revenue and profitability; the group had to cope with casino closures during the pandemic in 2020 and 2021. Due to substantially fewer inbound tourists, and Genting's Malaysia and Singapore assets being closed for three months, its revenue and EBITDA dropped 47% and 65% in 2020, respectively, resulting in a slower recovery in credit metrics. Governance factors are a moderately negative consideration, due to the presence of a controlling major shareholder, Kien Huat group, which could influence decision-making in the other Genting group companies, including related-party transactions with other entities owned by Chief Executive Tan Sri Lim Kok Thay that are not rated by S&P Global Ratings. Given the founding family's controlling stake in Genting, the group has a history of related-party transactions, such as Kien Huat's stake sale of Empire Resorts to Genting Malaysia and the sale of Genting Hong Kong's private jet to Resorts World Las Vegas. In addition, Genting does not publicly announce its dividends policy; it paid 2020 interim dividends, despite its casino closures due to the pandemic, while comparable gaming peers suspended their dividend programs to preserve cash and manage leverage ratios.	Social Capital; Health And Safety; Governance Structure

Malaysia	Genting Malaysia Bhd.	Leisure	E-2	S-4	G-3	Social factors are a negative consideration in our credit rating analysis of Genting Malaysia, as much of its operations are exposed to ongoing regulatory risks and compliance outcomes. Government actions to address social factors, including health and safety, can also add volatility to gaming revenue and profitability, after the group closed its casinos during the pandemic in 2020 and 2021. Genting Malaysia closed its operations between March and June, while an interstate travel ban was implemented during the same period. Coupled with closures in its U.S. and U.K. assets, its revenue and EBITDA declined 57% and 93% in 2020, respectively. Governance factors are a moderately negative consideration, due to the presence of a controlling major shareholder, Kien Huat Group, which could influence decision-making in the other Genting group companies, including related-party transactions with other entities owned by Chief Executive Tan Sri Lim Kok Thay that are not rated by S&P Global Ratings. Given the founding family's controlling stake in Genting, the group has a history of related-party transactions, such as Kien Huat's stake sale of Empire Resorts to Genting Malaysia and the sale of Genting Hong Kong's private jet to Resorts World Las Vegas. In addition, Genting does not publicly announce its dividends policy; it paid 2020 interim dividends, despite its casino closures due to the pandemic, while comparable gaming peers suspended their dividend programs to preserve cash and manage leverage ratios.	Social Capital; Health And Safety; Governance Structure
Malaysia	MISC Bhd.	Shipping, Road and Rail	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis for MISC, comparable to its global shipping peers, because the shipping sector is exposed to existing regulation toward tighter sulfur emissions and meeting the standards on ballast water management (BWT). We see the further tightening of emission standards as a risk over the next five to 10 years. In 2020, the company switched to low-sulfur fuel and LNG for 100% of its fleet and retrofitted a number of vessels with scrubbers. In addition, rising bunker cost is contained by the nature of its time-charter fixed-cost contracts, whereby the charterer typically pays the fuel bill. We estimate that approximately 90% of MISC's LNG revenue and 65% of its petroleum and chemical tanker revenue are under time-charter contracts. All of MISC's vessels are equipped with BWT plans (13 vessels were retrofitted in 2020). Social and governance factors have no material influence on our credit analysis of MISC.	Climate Transition Risk
Malaysia	Telekom Malaysia Bhd.	Telecoms	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Telekom Malaysia. The company has close ties with the government through its shareholdings and ongoing public-private partnerships. We view the company's role in improving national connectivity as having mixed credit implications. While such ties have helped Telekom Malaysia maintain relevance and dominance in fixed line with about 70% subscriber market share in fixed broadband, the government had also taken steps to improve the nation's connectivity, at the expense of Telekom Malaysia's near-term earnings. The government mandated a cut in the wholesale broadband access prices that Telekom Malaysia could charge retail telecom operators in June 2018. This resulted in Telekom Malaysia making a provision of Malaysia ringgit 169.2 million for the estimated impact. This was about 5% of its reported EBITDA that year, an amount that Telekom Malaysia's modest leverage (debt to EBITDA at 1.4x in 2020) could easily absorb.	N/A
Malaysia	Tenaga Nasional Bhd.	Power Generators	E-2	S-2	G-2	ESG factors have an overall neutral influence on our credit rating analysis of Tenaga. The company is the largest vertically integrated utility in Malaysia. However, most of its operations are in regulated electricity transmission and distribution. Therefore, Tenaga's environmental exposure is low and indirect. The company's networks will continue to play a key role for the country, no matter how rapidly the energy transition takes place.	N/A
Mongolia	Mongolian Mining Corp.	Metals And Mining	E-4	S-3	G-4	Environmental factors are a negative consideration in our credit rating analysis of MMC. Metallurgical coal accounts for over 80% of MMC's sales volume and washed thermal coal less than 20%. Although metallurgical coal demand in its end market, China, remains strong, the country's peaking steel production and carbon reduction targets pose demand risks to MMC within the next 10 years. Governance factors are a negative consideration. The company's operations are based in Mongolia, which we assessed as having a less robust legal and regulatory frameworks. Besides, the company may face disruption to operations upon losses of key personnel due to limited management breadth. Social factors are a	Climate Transition Risk; Waste And Pollution; Health And Safety; Social Capital; Governance Structure

						moderately negative consideration for the company, as they are other global miners. This mainly stems from social cohesion and safety management.	
Pakistan	Pakistan Water and Power Development Authority	Power Generators	E-2	S-3	G-5	Governance factors are a very negative consideration in our credit rating analysis of WAPDA. This is because of delays in the company's information disclosures and accounting choices that do not reflect its underlying business. WAPDA does not consolidate its other business lines, or the large Neelum Jhelum 969 MW project held in an SPV, in its accounts. A weak regulatory framework under which government interventions occur also introduces cash flow risk. All strategic and investment decisions are made at the state level. Social factors are a moderately negative consideration for the credit rating. WAPDA faces a degree of social risk due to ongoing construction for large and complicated hydroelectric power projects, which can be difficult to execute.	Social Capital; Risk Management, Culture And Oversight; Transparency And Reporting
Philippines	Manila Electric Co.	Utility Networks	E-2	S-3	G-2	Social factors are a moderately negative consideration in our credit rating analysis of Manila Electric Co. High tariffs for power distribution utilities in the Philippines mean that upward revisions of tariffs could be challenging amid economic uncertainty. This could lead to continued delays in the regulatory setting process for distribution utilities. However, the regulated nature of business, which includes a cost pass-through system, mitigates the risk to cash flows.	Social Capital
Philippines	PLDT Inc.	Telecoms	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of PLDT. As a telecom operator concentrated in the Philippines, PLDT's physical assets are exposed to natural disasters. However, PLDT takes significant measures to mitigate such climate risks, such as improving the climate resiliency of its infrastructure to reduce the impact of such events and has insurance coverage against physical damage. For example, to a large extent, PLDT buries its fiber networks and erects towers that can withstand wind loads in excess of 220 kilometers per hour.	Physical Risk
Singapore	Avation PLC	Airlines and Aircraft Leasing	E-2	S-4	G-2	Social factors are a negative consideration in our credit rating analysis of Avation. In particular, we consider the COVID-19 pandemic in our assessment of broader social risk factors, and whether it has materially hit the company's creditworthiness. This was evident when some of Avation's airline customers underwent administration and restructuring. We estimate that approximately 25% of Avation's airline customers (measured by net book value) are facing severe financial difficulties, or are more at risk, due to the prolonged impact from the pandemic. This led to a decline of approximately 10% in leasing income and 30% in cash flow from operations for fiscal year ended June 2021, a phenomenon magnified by the company's high single customer concentration and smaller scale than global peers. Environmental factors are an overall neutral consideration. We believe aircraft lessors are better positioned, although they are indirectly affected by the pressure on their customer airlines to reduce greenhouse gas. Furthermore, Avation's aircraft fleet is relatively young, with an average age of 4.8 years, and the company owns more fuel-efficient turboprops. Governance factors have no material influence on our credit rating analysis of Avation.	Health And Safety
Singapore	BOC Aviation Ltd. (BOCA)	Airlines and Aircraft Leasing	E-2	S-2	G-2	ESG credit factors have an overall neutral influence on our credit rating analysis of BOCA. Aircraft lessors' earnings and cash flow in 2020 were affected by the pandemic-driven steep downturn in the airline industry. Yet, BOCA's large size, well diversified client portfolio enabled more revenue, profit and cash flow resilience than smaller peer lessors and their airline customers. BOCA's revenue and operating cash flow increased 4% and 11%, respectively, in 2020, compared with the high double-digit declines of most of its customer airlines. BOCA's portfolio of aircraft is one of the youngest among rated global lessors at 3.7 years on average. This, along with its focus on new-generation and fuel-efficient planes, mitigates the pressure on customer airlines to reduce greenhouse gas emissions. Governance factors have no material influence on our credit rating analysis of BOCA.	N/A

Singapore	Frasers Centrepoint Trust	Real Estate	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Frasers Centrepoint Trust (FCT). Singapore's retail sector will likely continue to face near-term headwinds as consumer sentiment remains subdued, e-commerce trends accelerate, and international travel remains restricted. We expect FCT's rental income to stay fairly resilient despite these trends, given it predominantly operates suburban retail malls near transportation nodes and densely populated residential precincts. It also has a largely nondiscretionary tenant mix (about 55% of its gross rental income is derived from what it considers "essential services") that are less sensitive to substitution risk from e-commerce platforms. Tenant sales rebounded quickly to pre-pandemic levels when restrictions lifted. The REIT's occupancy remained high at above 95% during the period.	N/A
Singapore	Frasers Logistics & Commercial Trust	Real Estate	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Frasers Logistics & Commercial Trust (FLCT). The REIT has a strong focus on incorporating green initiatives in its investment properties. We view this to be in line with some of the global peers. The acceleration of e-commerce trends will bolster FLCT's logistics segment, which forms 55%-60% of the REIT's portfolio value and revenue. This also mitigates the softer conditions in the remainder of FLCT's portfolio in the office and business parks segments, stemming from remote working arrangements.	N/A
Singapore	GLP Pte. Ltd. and GLP China Holdings Ltd.	Real Estate	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of GLP. Real estate developments are likely to contribute above 50% of GLP's EBITDA in 2021 and 2022, despite its strategy to reduce that to about 30% of EBITDA by the end of 2023. The company had a fifth of its buildings green certified by end of 2020. The high contribution from real estate development activities exposes the company to wastewater and air pollution risk. We have embedded this risk in our real estate development industry risk analysis. Social and governance factors have had no material influence on our credit rating analysis of GLP.	Waste And Pollution
Singapore	Grab Holdings Inc.	Technology	E-2	S-3	G-3	Social factors are a moderately negative consideration in our credit rating analysis of Grab Holdings. The company has been involved with regulatory issues in multiple countries in Southeast Asia related to antitrust and unfair business practices. Given these issues are still in a nascent stage in the region, we expect the regulatory oversight will continue to evolve and strengthen, potentially affecting Grab Holdings. Governance factors are also a moderately negative consideration due to some negative risk management. The company was fined by the Competition and Consumer Commission of Singapore in 2018 for infringing competition laws, following the acquisition of Uber in Southeast Asia during the same year.	Social Capital; Human Capital; Risk Management, Culture And Oversight
Singapore	IBC Capital Ltd. (Goodpack)	Packaging	E-2	S-2	G-3	Governance factors are a moderately negative consideration in our credit rating analysis of IBC Capital Ltd. (Goodpack). This is the case for most rated entities owned by private-equity sponsors. Kohlberg Kravis Roberts & Co L.P. owns 74% of Goodpack. We believe the company's highly leveraged financial risk profile points to corporate decision-making that prioritizes the interests of the controlling owners. This also reflects the generally finite holding periods and a focus on maximizing shareholder returns. However, Goodpack does not have a record of paying significant dividends historically. Environmental and social factors have no material influence on our credit analysis of Goodpack. We view transportation equipment leasing companies' environmental risk as generally less than that of the transportation companies. This is especially so for Goodpack because its business model is based on returnable and reusable intermediate bulk containers. Goodpack's containers are made from high tensile galvanized steel, which are reusable throughout its lifespan of approximately 20 years, thus eliminating waste disposal.	Governance Structure

Singapore	Singapore Post Ltd. (SingPost)	Packaging	E-2	S-3	G-3	Social factors are a moderately negative consideration in our credit analysis of Singapore Post Ltd. (SingPost). International border closures have resulted in higher air freights for international postal volume and accommodation expenses for foreign employees, eroding SingPost's EBITDA margin to 10% for the fiscal year ended March 31, 2021, from 16% the year before. . In our view, prolonged margin erosion could narrow its rating headroom, especially when SingPost is pursuing an international expansion strategy. Governance factors are also a moderately negative consideration in our credit rating analysis of SingPost. Frequent changes in the management team and board of directors in the past resulted in inconsistent business strategies and some shortfalls in business oversights. This led to a write-off on its U.S. business in 2019 and sizable fines for the service quality shortfalls in 2018-2019. While SingPost has taken measures to improve its service quality controls, transparency, and governance practice in the past five years, the change in CEO in early 2021 could add uncertainty to its strategic direction and operational oversight during the transition. It remains to be seen how SingPost will navigate the pandemic, change in leadership, and pursue its growth strategy simultaneously.	Waste And Pollution; Other Social Factors; Human Capital; Risk Management, Culture And Oversight
Singapore	Singapore Power Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of Singapore Power Ltd.	N/A
Singapore	Singapore Technologies Engineering Ltd.	Aerospace and Defense	E-2	S-3	G-2	Social factors are a moderately negative consideration in our credit analysis of Singapore Technologies Engineering (ST Engineering). The company's commercial aerospace business, which represents 30%-35% of revenues, is directly exposed to aircraft utilization and new aircrafts orders, which suffered during the COVID-19 pandemic. Despite the company's robust orderbook, slow recovery in the aerospace business will constrain ST Engineering's earnings from returning to pre-pandemic level until at least 2023, in our view. Compared with aircraft manufacturers, ST Engineering's creditworthiness is less exposed to environmental risks, and some of its businesses benefit from increasing environmental concerns. For example, the company's passenger-to-freight conversion business aligns with the principles of a circular economy that promote waste reduction and recycling. Its patented cleaning technology in gas turbine engines increases energy efficiency and helps with carbon reduction. Mitigating climate change also provides growth opportunity for ST Engineering's environmental engineering business, such as constructing desalination plant or waste-to-energy facility. However, we estimate these businesses account for less than 10% of the company's total revenues.	Climate Transition Risk; Waste And Pollution; Health And Safety
Singapore	Singapore Telecommunications Ltd. (Singtel)	Telecoms	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Singtel. The company's adjusted EBITDA declined 9% in the fiscal year ended March 31, 2021, partly due pandemic-induced travel restrictions that weighed on its prepaid and high-margin roaming revenues. We are observing signs of recovery in fundamental operating conditions in the first half ended September 2021 as reported EBITDA climbed 16.3% year-on-year, excluding Australia's National Broadband Network migration revenues and pandemic-related support schemes from the Singapore government. Singtel has faced fines for incidents such as data breaches and misleading claims, but the amounts are not large. For example, in fiscal 2020, Singtel paid fines amounting to less than 1% of its adjusted EBITDA. Also, we do not see material repercussions to Singtel's business because of these incidents.	N/A
Singapore	SMRT Corp. Ltd.	Transportation Infrastructure	E-1	S-1	G-2	Environmental and social factors are positive considerations in our credit rating analysis of SMRT. SMRT provides essential mass transport services for affordable and cleaner transport in Singapore. We believe SMRT benefits from strong government support, given the sociopolitical importance of increasing system coverage and service reliability. Also, SMRT is a key company for achieving the government’s environmental objectives, as seen in policies related to the environment, such as the city state's very high license fees for private vehicles ownership. SMRT is highly dependent on timely receipt of government grants given the lack of flexibility and sensitive nature of fare increases.	Climate Transition Risk; Waste And Pollution; Social Capital
Singapore	SP PowerAssets Ltd.	Utility Networks	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of SP PowerAssets Ltd.	N/A

Singapore	Temasek Holdings (Private) Ltd.	IHC	E-2	S-2	G-2	ESG factors are an overall neutral consideration in our credit rating analysis of Temasek. Temasek's highly diversified portfolio has limited exposure to sectors facing environmental or social risks, with financial services (about 24% of net portfolio value); telecommunications, media, and technology (21%); transportation and industrials (19%); consumer and real estate (14%); and life sciences and agri-food (10%) being the main sectors as of March 31, 2021. Temasek aims to reduce the net emissions from its portfolio companies to half of the 2010 level by 2030. It also encourages portfolio companies to embrace sustainable ways of doing business, such as establishing an effective carbon emission plan, by sharing best practices related to measurement and disclosure. As a private and unlisted company, Temasek's disclosure of financial information is not on par with that of listed companies with similar ratings. Temasek discloses financial information only annually and on a consolidated basis. However, the content has been improving in recent years, with more public disclosure of unconsolidated financial information.	N/A
Singapore	Vena Energy Capital Pte. Ltd.	Power Generators	E-1	S-2	G-2	Environmental factors are a positive consideration in our credit rating analysis of Vena Energy Capital. As a pure renewables developer with assets across seven countries in Asia and a total operational portfolio of 1.9 GW (as of June 2021), the Vena group benefits from its diverse portfolio of a large number of projects. The projects include both wind and solar assets, all under fixed price, long-term power purchase agreements with a wide group of counterparties. This contractual structure provides highly stable and visible revenue.	Climate Transition Risk
Taiwan	Chunghwa Telecom Co. Ltd.	Telecoms	E-2	S-2	G-1	Governance factors are a positive consideration in our rating analysis of Chunghwa Telecom. The company has strong management and corporate governance, with clear operating goals and measures of achievement.	Risk Management, Culture And Oversight
Taiwan	Far EasTone Telecommunications Co. Ltd.	Telecoms	E-2	S-2	G-2	ESG credit factors have had no material influence on our ratings analysis of Far EasTone.	N/A
Taiwan	Formosa Chemicals & Fibre Corp.	Chemicals	E-3	S-3	G-2	Environmental and social factors are moderately negative considerations in our rating analysis of the Formosa companies, including Formosa Chemicals & Fibre Corp. Pressure for the companies to lower their carbon emissions from in-house coal-fired power generation should increase costs in the long-term. Heightened regulatory risk for safety, pollution, and water usage could also affect the companies' credit protection measures. This is because of their high asset concentration in the Mai-Liao complex. However, the companies have made efforts to minimize safety and pollution risk, and there have been no major regulatory events over the past few years.	Waste And Pollution; Climate Transition Risk; Physical Risk; Health And Safety; Social Capital
Taiwan	Formosa Petrochemical Corp.	Chemicals	E-3	S-3	G-2	Environmental and social factors are moderately negative considerations in our rating analysis of the Formosa companies, including Formosa Petrochemical Corp. Pressure for the companies to lower their carbon emissions from in-house coal-fired power generation should increase costs in the long-term. Heightened regulatory risk for safety, pollution, and water usage could also affect the companies' credit protection measures. This is because of their high asset concentration in the Mai-Liao complex. However, the companies have made efforts to minimize safety and pollution risk, and there have been no major regulatory events over the past few years.	Waste And Pollution; Climate Transition Risk; Physical Risk; Health And Safety; Social Capital
Taiwan	Formosa Plastics Corp.	Chemicals	E-3	S-3	G-2	Environmental and social factors are moderately negative considerations in our rating analysis of the Formosa companies, including Formosa Plastics Corp. Pressure for the companies to lower their carbon emissions from in-house coal-fired power generation should increase costs in the long-term. Heightened regulatory risk for safety, pollution, and water usage could also affect the companies' credit protection measures. This is because of their high asset concentration in the Mai-Liao complex. However, the companies have made efforts to minimize safety and pollution risk, and there have been no major regulatory events over the past few years.	Waste And Pollution; Climate Transition Risk; Physical Risk; Health And Safety; Social Capital

Taiwan	Hon Hai Precision Industry Co. Ltd.	Technology	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of Hon Hai. This is despite the company's enormous operating scale and large labor force, mostly in China, which presents challenges managing employees and their safety and could lead to a negative public perception. The company continues to improve its working conditions, increase automation, and expand its geographic diversity and thus minimize such risks.	N/A
Taiwan	Nan Ya Plastics Corp.	Chemicals	E-3	S-3	G-2	Environmental and social factors are moderately negative considerations in our rating analysis of the Formosa companies, including Nan Ya Plastics Corp. Pressure for the companies to lower their carbon emissions from in-house coal-fired power generation should increase costs in the long-term. Heightened regulatory risk for safety, pollution, and water usage could also affect the companies' credit protection measures. This is because of their high asset concentration in the Mai-Liao complex. However, the companies have made efforts to minimize safety and pollution risk, and there have been no major regulatory events over the past few years.	Waste And Pollution; Climate Transition Risk; Physical Risk; Health And Safety; Social Capital
Taiwan	Taiwan Semiconductor Manufacturing Co. Ltd.	Technology	E-2	S-2	G-1	Governance factors are a positive consideration in our credit rating analysis of Taiwan Semiconductor. The company has demonstrated its strong management with clear goals for business and technology development and a good record of executing these strategies. We believe the company has been managed well through constant high investment. It has high standards in managing all operational risks, such as earthquakes, as well as issues related to high water and electricity consumption.	Risk Management, Culture And Oversight
Taiwan	Taoyuan International Airport Corp.	Transportation Infrastructure	E-2	S-4	G-2	Social factors are a negative consideration in our credit rating analysis of Taoyuan Airport. The company has material exposure to health and safety as reflected by the COVID-19 pandemic impact on passenger levels. Taoyuan Airport fully relies on demand for international air services without any domestic lines. Therefore, recovery will be slower than it is for regional peers with moderate domestic demand. Nevertheless, indirect government support through subsidies and strong cargo demand partly offset the above risk.	Health And Safety; Social Capital
Taiwan	Vanguard International Semiconductor Corp.	Technology	E-2	S-2	G-2	ESG factors have had no material influence on our ratings analysis of Vanguard. We believe the company has been managed well. It has high standards in managing all operational risks, such as earthquakes, as well as issues related to high water and electricity consumption.	N/A
Taiwan	Wan Hai Lines Ltd.	Shipping, Road and Rail	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Wan Hai. This is given more stringent environmental regulations regarding GHG and sulfur emissions in the container shipping industry. To comply with IMO 2020 regulations, Wan Hai has used more expensive low-sulfur fuel, which might pressure its profitability. However, higher fuel surcharges could help the company recover related costs. In addition, compared to long-haul peers, Wan Hai's ability to comply with the new regulations in terms of financing will be limited because 90% of its fleet is smaller vessels for which it would be more inefficient to install sulfur-removing scrubbers.	Climate Transition Risk
Thailand	Advanced Info Service Public Co. Ltd.	Telecoms	E-2	S-2	G-2	ESG factors have had no material influence on our credit rating analysis of Advanced Info Service.	N/A
Thailand	EGAT International Co. Ltd.	Power Generators	E-2	S-2	G-2	ESG factors have no material influence on our credit rating analysis of EGAT International Company Limited (EGATi). We view EGATi's ESG risks as an extension of its parent EGAT's.	N/A

Thailand	PTT Exploration and Production Public Co. Ltd.	Oil And Gas	E-4	S-2	G-2	Environmental credit factors are a negative credit consideration in our credit rating analysis of PTT Exploration and Production Public Co. Ltd. (PTTEP). The company is the sole oil and gas exploration and production subsidiary of Thailand-based energy conglomerates PTT Public Co. Ltd. and its activities are exposed to energy transition, climate change, and waste and pollution issues. About 90% of the company's producing assets are offshore, with single-asset concentration to the Bongkot field (about 30% of production), which creates moderately higher risks associated with waste and pollution than for onshore operators. PTTEP has a record of sound operating performance and absence of material spills over the past decade (since the Montara incident in 2009). PTTEP's oil and chemical spill rate has been well below 1 metric ton per million ton of petroleum production since 2014, which remains well below international benchmarks. Social and governance risk factors have no material influence on our credit analysis of PTTEP. We regard PTTEP's governance practices to be sound. As a member of the largest state-owned group in Thailand, PTTEP faces substantial government and public scrutiny, which strengthens its governance structures and transparency.	Climate Transition Risk; Waste And Pollution
Thailand	PTT Global Chemical Public Co. Ltd.	Chemicals	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of PTT Global Chemical Public Co. Ltd. (GC). Refinery and petrochemical operations contribute about 15% and 55%-65%, respectively, of the company's EBITDA in our base case for the next two years. With 70%-75% of earnings generated in Thailand, GC's operations and earnings capability will see a delayed impact from the energy transition, due to slow adoption of renewable energy in Asia, as compared with in Europe or the U.S. GC's diversified portfolio, ranking from ethylene, polyethylene, aromatics, and particularly green chemicals business (currently about 5% of GC's EBITDA), can mitigate some of the energy transition risks for now. The company's strategy to diversify further downstream and away from oil price volatility has increased GC's leverage, most recently with its US$5 billion acquisition of Allnex Holding GmbH, an industrial coating producer. GC's goal to cut cumulative greenhouse gas emission by 20% by 2030, from the base year in 2012, is broadly consistent with the country's goal.	Waste And Pollution; Climate Transition Risk
Thailand	PTT Public Co. Ltd.	Oil And Gas	E-4	S-2	G-2	Environmental factors are a negative consideration in our credit rating analysis of PTT Public Co. Ltd. (PTT). As the largest integrated energy company in Thailand with about 80% of its EBITDA coming from hydrocarbon productions, PTT faces energy transition risks. Recent sizable investments made by the company or its operating subsidiaries in renewable energy capacity, electric vehicles-related businesses, and life science are in line with its strategy to reduce its exposure to hydrocarbons. With about 2x debt-to-EBITDA ratio through 2023, PTT's balance sheet has some financial flexibility to accommodate such investments. So far, benefits from such investments are yet to meaningfully materialize. The company's plan toward cleaner energy has led to a spike in leverage at consolidated subsidiaries (refinery expansion of its subsidiary Thai Oil PCL or the recent acquisition of Allnex Holding GmbH by PTT Global Chemicals PCL). PTT and its group companies have a solid record in health and safety, with a rapid response to infrequent accidents, such as the pipeline explosion in 2020, which had immaterial operating and financial consequences for the company.	Climate Transition Risk
Thailand	Ratch Group Public Co. Ltd.	Power Generators	E-3	S-2	G-2	Environmental factors are a moderately negative consideration in our credit rating analysis of Ratch. The company uses natural gas as the source of 70% of its fuel. This is a bridge fuel as the company transitions from fossil fuels to renewables. However, Ratch's proposed acquisition of a 45.5% stake in PT Paiton Energy (930 MW equity capacity in a coal-fired plant in Indonesia) would increase its exposure to coal to about 20% of capacity, delaying energy transition efforts. About 15% of Ratch's capacity is renewables and its target of 25% by 2025 can potentially improve carbon exposure and fuel diversity. Earnings are supported by robust long-term contracts without volume and fuel price risks.	Climate Transition Risk

Thailand	Thai Oil Public Co. Ltd.	Oil And Gas	E-5	S-2	G-2	Environmental factors are a very negative consideration in our credit rating analysis of Thai Oil Public Co. Ltd. The increasingly stringent global emission standards to address climate change and the need to preserve the competitiveness prompted Thai Oil to upgrade its outdated refining facilities. The Clean Fuel Project will increase the yields of cleaner, higher-value products and lower the proportion of fuel oil to 0% from 7%. The project will also increase the production of petrochemical feedstocks, enabling Thai Oil to diversify into the petrochemical sector and thereby contribute toward energy transition. However, the Clean Fuel Project's sizable, mostly debt-funded investment (nearly US$5 billion) will keep the company's debt-to-EBITDA ratio close to 13x in 2021 and about 8x in 2022, weighing on its stand-alone creditworthiness. Thailand's shift to electric vehicles over the next 15 years threatens Thai Oil's refinery operations because nearly 85% of the company's refined products are sold in Thailand.	Climate Transition Risk; Waste And Pollution