SCOPE | Ratings

Automotive and Commercial Vehicle Manufacturers Rating Methodology

Corporates

19 December 2025

Table of contents

1. Introduction

This methodology is the latest update of the Automotive and Commercial Vehicle Manufacturers Methodology, which details Scope's approach to rating automotive and commercial vehicle manufacturers and complements the General Corporate Rating Methodology, superseding it in event of conflict, inconsistency or ambiguity.

The updated methodology does not have an impact on outstanding ratings.

This updated version introduces the following non-material changes:

- Renaming of the rating factor "market shares" to "market positioning";
- Editorial changes.

2. Scope of application

This methodology describes our key considerations in determining the credit quality and ratings of companies in this sector. The different issuer-specific and rating-relevant characteristics laid out in this methodology must not be seen as a predetermined ranking or scorecard. We apply the underlying criteria on an issuer-specific level in an opinion-driven way.

We define automotive and commercial vehicle manufacturers, or original equipment manufacturers (OEMs), as companies that generate most of their revenue and EBITDA from the development, production and sale of i) light vehicles, including passenger cars and light commercial vehicles; and ii) medium-duty or heavy-duty commercial vehicles, including buses and trucks.

This methodology does not apply to companies that supply components to automotive or commercial vehicle manufacturers. The credit risks of automotive suppliers are instead covered in the Automotive Suppliers Rating Methodology.

The methodology provides further clarity on the analytical treatment of financial services (captive finance) provided by the manufacturer to capture their potential impact on their parent company's credit quality and issuer rating.

Lastly, captive finance subsidiaries with banking status and, in most instances, regulated financial services entities will be rated under Scope's Financial Institutions methodology.

3. The automotive and commercial vehicle manufacturer industry

The automotive manufacturer industry is global. Most participants operate in multiple locations including large markets such as Western Europe, North America, China, Asia ex-China and South America. The market for medium-duty and heavy-duty commercial vehicles has specific regional characteristics, with the largest share of revenue and operating profit generated in Western Europe, North America, South America and Japan.

The automotive manufacturer industry is highly concentrated: the design, development, production and sales of passenger cars and light commercial vehicles are in the hands of a few companies. The market is nonetheless extremely competitive. Sales incentives, mostly in the mass-market/volume segment, are the norm, and the broad customer base limits pricing power. The segment for medium-duty and heavy-duty commercial vehicles is also very concentrated, given the consolidated landscape of commercial vehicle manufacturers in Europe, where the top three account for over 60% of the market.

Automotive production is highly cyclical and depends on general economic conditions, as indicated by consumer confidence, disposable income, unemployment rates, availability of financing (including the level of interest rates) and GDP growth. As a result, OEMs' cash flow can be very volatile due to the risk of negative volume developments. Increasingly stringent regulation on pollutant and greenhouse gas emissions has also led to substantial investments in R&D. Tougher emission standards are also being implemented in emerging markets. In the EU, meeting the 2021 CO_2 emissions target of 95g/km for the fleet average of new vehicles was challenging for manufacturers. Carmakers addressed this issue by electrifying vehicle powertrains (mild hybrids, full hybrids, plug-in hybrids, electric vehicles), reducing vehicle weights and producing a higher share of compact vehicles with lower emissions. The EU's decision in October 2022 to target zero carbon emissions from cars and vans by 2035 will pose an even greater challenge as it implies *de facto* ban on the sale of internal combustion engines after 2035. This will hasten the transition to an all-electric automotive market and the prioritisation of investment in electrification. On top of this, vehicle safety regulations have also increased R&D needs.

The medium and heavy-duty commercial segment is even more vulnerable to the economic cycle than the passenger car segment. Commercial vehicle sales occur early on in the cycle, and reductions in both industrial production and GDP ultimately lead to a decline in the transportation of goods. Weak business prospects, including low transportation volumes, reduce replacement demand quickly, resulting in order deferrals. This risk of falling volumes means cash flow risks are greater in this sub-segment.

Global demand in the passenger car industry is supported by long-term secular trends such as rising middle-class and disposableincomes in emerging markets and a low level of motorisation (measured by car density per capita). Other demand drivers are: replacement demand (measured by the average age of the car fleet); availability of credit; level of interest rates; and lending practices. Low gas prices can support demand for larger vehicles such as the more profitable sport utility vehicles (SUVs), while higher prices can lead to the opposite. State intervention measures such as import tariffs or local content requirements can limit demand, but measures such as scrappage schemes can provide (timely) support when end-market demand is weak.

Mature automotive markets such as Europe still struggle with overcapacity. In the last few years, European automakershave changed production set-ups and adjusted capacity by closing down or downsizing plants. While this leads to higher utilisation rates, the industry remains hindered by overcapacity.

Given the sector's economic importance and high political and social sensitivity, exit barriers are high. Furthermore, government intervention, other than import tariffs or local content requirements, effectively limit supply-side adjustments. Competition is also fierce, exacerbated by sales incentives, resulting in an imbalance of demand production and ultimately constraining operating profits. The pressure on costs is amplified by ever-shorter product renewal and innovation cycles.

Commercial vehicle manufacturers are expected to generate a substantial part of future revenue in emerging markets, notably in India and China. However, any positive volume developments and top-line growth from entering these markets are partly offset bythe need to adapt products to local markets, mainly for local emissions rules and quality standards. In addition, Asian markets arestill dominated by domestic manufacturers, resulting in intense pricing pressure.

Entry barriers to the industry have historically been substantial. Automakers need to make considerable investments in production, development, distribution and branding to maintain operations in this global industry. However, the accelerating shift from internal combustion engines to electric is transforming the competitive landscape and lowering entry barriers, as illustrated by the success of Tesla's disruptive strategy and the rapid emergence of electric vehicle competitors from China.

Some manufacturers maintain finance operations to support retail marketing and sales and to fund wholesale business (dealer stock). Such operations (captive finance) may be run by fully owned subsidiaries, joint ventures with financial institutions, or regulated entities with a bank licence.

Parameters that contribute to an investment grade rating:

- Sustainable market share in specific product categories or geographic regions
- Strong brand position and customer awareness
- Balanced product portfolio, ranging from entry-level to premium cars, supporting predictable operating results
- Presence in a broad range of different end-markets
- Strong liquidity and high financial flexibility supported by either cash, liquid investments or committed credit lines, typically with a buffer for withstanding adverse changes in economic conditions and pronounced downturns
- Rare use of share buybacks or transformative M&A

Parameters that contribute to a non-investment grade rating:

- Limited and negatively trending market shares
- Modest competitive position with a limited product portfolio
- Weak product pipeline
- Limited geographic diversification
- Less predictable and more volatile operating earnings and cash flows as a result of a limited or weak product pipeline
- Moderate or limited financial flexibility

Factors restraining OEMs from achieving ratings in the highest investment grade categories are a high cyclicality, a high share of fixed costs, and a low resilience of operating profits to changes in sales volumes (high operating leverage).

4. Information/Data sources

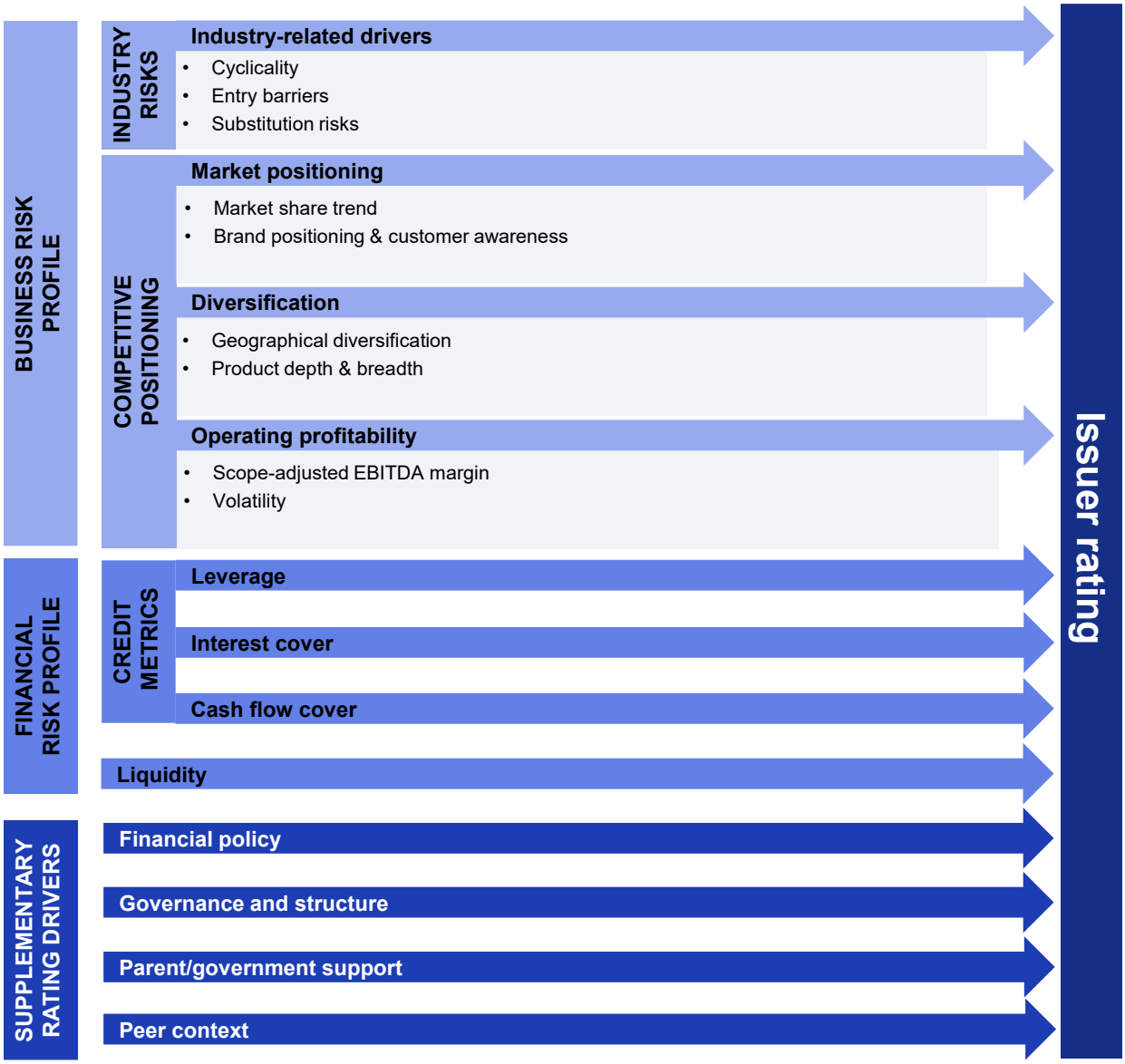
In the analytical process Scope typically takes into account the following sources of information. Not all of the listed information will be considered for every rated entity. Moreover, Scope may consider additional sources of information if necessary.

- Audited financial statements
- Unaudited interim financials
- Press releases
- Presentations and information from conference calls/Capital Market Days
- Financial forecasts/budgeting of the rated entity, if available/accessible
- Research on the industry, rated entity and relevant jurisdictions
- Data from external data providers, e.g. consensus estimates, debt placements
- Management meeting (in case of issuer participation)
- Loan documentation, e.g. debt prospectuses, bank loan agreements
- Valuation reports from external assessors
- Scope internal data, e.g. spreading of historical financials and detailed forecasts for the next few years, peer group data, credit views on the captive finance business

5. Key components

We apply our rating methodology for automotive and commercial vehicle manufacturers as outlined in Figure 1. This methodology should be read in conjunction with the General Corporate Rating Methodology, which provides factors common to all industries such as management, liquidity, legal structure, governance and country risks. The following business risk and financial risk indicators are non-exhaustive and may overlap; some may not apply to certain corporates. We may add issuer-specific rating factors. A rated entity's business model determines the applicable indicators. No rating driver has a fixed weight in the assessment. Please refer to the General Corporate Rating Methodology for more detail.

Figure 1: General rating grid on automotive and commercial vehicle manufacturers



5.1 Business Risk Profile

5.1.1 Industry-related drivers

Three elements constitute our assessment of the industry fundamentals of automotive and commercial vehicle manufacturers:

1. Cyclicality
2. Entry barriers
3. Substitution risks

Cyclicality

To minimise the need for rating variations due to economic cyclicality, we include possible negative economic impacts in the ratings whenever possible. The automotive and commercial vehicle manufacturer industry has a high cyclicality. Demand for passenger cars and light commercial vehicles is strongly tied to macroeconomic conditions and subject to the risk of substantial fluctuations, including a sudden contraction in production in an economic downturn. Government intervention, including tax incentives for vehicle purchases such as in China in 2009, 2015 and 2022, or scrappage schemes implemented during the 2009 recession ('cash for clunkers' in the US, 'Abwrackprämie' in Germany, 'prime à la casse' in France), can partly mitigate negative volume effects triggered by changing economic conditions. Median EBITDA in the industry collapsed by over 45% during the 2009 recession, a clear sign of the industry's high cyclicality. As road transportation accounts for 60%-80% of global freight traffic, fluctuations in the commercial vehicle segment are closely correlated with the volume of goods transported. The commercial vehicle industry is even more cyclical than the light vehicle segment, exhibiting substantial swings in volumes and operating cash flow. Its median EBITDA fell by more than 60% during the 2009 recession.

Entry barriers

The barriers to enter the oligopolistic market for automotive and commercial vehicle manufacturing are high. Substantial investment is needed in property, plant and equipment (capex) and R&D. Capex and R&D typically represent about 10% of revenue in the industry and are primarily spent on new model developments, improvements of technologies that reduce emissions (notably CO_2), product enhancements, or the development of materials that reduce vehicleweight (such as carbon fibre). The industry's transformation has also led OEMs to direct most of their investment budgets towards electrification, software and digitalisation. Establishing and maintaining a global distribution network creates substantial entry barriers in addition to the considerable investment needed to build a strong brand to create customer awareness. However, the shift from internal combustion engines to electric vehicles is transforming the competitive landscape and could lower some longstanding entry barriers because electric vehicles are much less complex to manufacture. This risk is already reflected in the rapid growth of new pure manufacturers of electric vehicles (EV) that are capable of challenging incumbent players which have built their decades-long expertise on internal combustion engine technology which is now under threat in mature markets due to stricter environmental regulations.

Substitution risks

We assess the threat of substitutes to this industry as medium. Other modes of transport such as rail or air travel cannot easily replace the independence and flexibility provided by individual vehicles. However, recent industry activity in electric and connected cars as well as software and digitalisation may transform the traditional automaker into a technological player in the medium term. The expansion of mobility services and the gradual shift from car ownership to car use ('car as a service') will also change the industry.

Figure 2: Industry risk assessment matrix for automotive and commercial vehicle manufacturers

Cyclicality \ Entry barriers	Low	Medium	High
High	CCC/B	B/BB	**BB**/BBB
Medium	B/BB	BB/BBB	BBB/A
Low	BB/BBB	BBB/A	A/AA

Based on the high cyclicality and high (but softening) barriers to entry, the automotive and commercial vehicle manufacturer industry is assessed at BB/BBB. In combination with a medium substitution risk, the final industry risk assessment is BB. This assessment is an exception ('lex specialis') to the rule laid out in the General Corporate Rating Methodology, which would lead to a BBB assessment. The industry risk assessment is the starting point for the business risk profile assessment but does not represent a cap to the business risk profile overall.

5.1.2 Competitive positioning

According to our General Corporate Rating Methodology, the competitive position of an automotive and commercial vehicle manufacturer is assessed through the following drivers:

1. Market positioning
2. Diversification
3. Operating profitability

Market positioning

We determine an OEM's market position by assessing two factors:

i) Brand positioning and customer awareness

ii) Market share trend over time

Our analysis starts with the assessment of an OEM's brand positioning, i.e. market penetration, brand strength and customer awareness of its brand. This is primarily related to an OEM's exposure to the premium or the mass market segments. A strong brand position helps a manufacturer stand out by emphasising unique features, such as performance, reliability, luxury, or innovation. Moreover, brand positioning is linked to customer loyalty. In particular, a strong standing in the premium segment is a key driver for a strong market position. Pricing, including sales incentives and discounts in the premium segment, is closely linked to the product cycle. However, pricing competition is less intense in this segment than in the mass market, enabling auto manufacturers with a core exposure to the premium segment or those with a wide product range to generate above-average industry margins. A strong brand positioning also supports stronger resilience against cyclical downturns and protects against a significant erosion of market shares and cash flow. In contrast, a weak brand positioning does not protect an OEM's cash flows against changes in consumer preferences and could amplify adverse effects from cyclical downturns.

The assessment is supplemented by our view about an OEM's market share development over time. An OEM's ability to generate operating profit and cash flow from ongoing operations is closely linked to its market position, as measured by its market share in a specific product category or geographic region. Market share is affected by general demand, the product cycle (including product launches), automotive facelifts and the average age of the model range. In essence, the contraction or expansion of market share over time mirrors an OEM's ability to offer attractive products and is a good indication of its overall competitive position. The analysis of market share likewise implicitly includes an assessment of an OEM's ability to design appealing products.

While it appears intuitive to measure an automaker's market share against the global volume of light-vehicle sales, we focus our market share analysis on certain product sub-categories or on geographic regions. This avoids an inconsistent blending

of different product types, for example, blending mass-market entry-level vehicles with high-margin premium cars, luxury cars or SUVs.

Among commercial vehicle manufacturers, we expect market shares to remain relatively stable for the top manufacturers given the sub-sector's high degree of consolidation. The same is true, in our view, of North America, based on the fairly stable distribution of historical market shares and high customer stickiness. Market shares and product positioning are different in emerging markets. Western commercial vehicle manufacturers still only play a minor role in emerging markets, and commercial vehicle markets in emerging regions are more fragmented, leading to more intense competition.

Our analysis of the trends in and resilience of market shares in specific product segments or geographic regions (see Figure 3) is supplemented by our analysis of the product range.

Key considerations are:

- Future product launches including product renewal cycles and facelifts
- Mix of vehicles
- Number of products with alternative powertrains such as electrified vehicles or hydrogen-powered vehicles
- Degree of product differentiation including features such as fuel efficiency; active safety (radar, drive control, cameras); passive safety; digitalisation/connectivity with interfaces to consumer electronics such as smartphones; over-the-air software updates; autonomous driving capabilities and comfort features such as infotainment.

Figure 3: Market positioning by rating category

	AA and above	A	BBB	BB	B	CCC and below
Brand positioning	Outstanding brand positioning across entire portfolio	Strong positioning of (mainly premium) brands across entire portfolio		Average brand positioning across entire portfolio		Weak brand positioning
Two-year change in market share (percentage points)	> 1.5	1.5 to 0.75	0.75 to 0	0 to -0.75	-0.75 to -1.5	Decrease > 1.5

Diversification

Diversified operations across key geographic areas and a broad range of products help mitigate the risk of a single segment disproportionately impacting an OEM's cash flow. A company's diversification determines its ability to offset cash flow volatility arising from economic cycles and industry dynamics and consequently supports the stability and reliability of cash flow.

We measure the geographic diversification of an automotive and/or commercial vehicle manufacturer based on its presence in the key automotive markets: Europe, North America, China, Asia ex-China and South America. We believe that a presence in both mature and emerging markets is crucial. Mature markets such as North America and Europe provide a floor to earnings, while above-average growth in regions such as China supports long-term growth. For commercial vehicle manufacturers, however, a substantial revenue exposure in the fragmented Chinese and Indian markets is not necessarily credit-positive, due to the difficult market conditions as well as pricing pressure from domestic manufacturers.

A well-diversified segmentation of products across a wide breadth and depth of vehicle categories is a positive rating driver. This would be enhanced by a good variety of brands or types for each vehicle category. For example, a concentration of sales in only one brand, consequently targeting only one customer group, makes OEMs vulnerable to shifts in demand and consumer preferences. In this respect, medium-duty or heavy-duty commercial vehicle makers are inherently limited in diversification. We view a well-diversified portfolio with low operational risks as positive for diversification.

Figure 4: Diversification by rating category

		AA and above	A	BBB	BB	B	CCC and below
Geographical		Strong presence in all key markets	Strong presence in at least three key markets	Solid presence in at least two key markets	Presence in at least one key market	Presence in one key market	High dependence on local/domestic market
Product	**Breadth**	Portfolio covering a majority of passenger car categories		Portfolio combining both passenger cars & commercial vehicles, but mainly exposed to passenger cars	Portfolio combining both passenger cars & commercial vehicles, but mainly exposed to commercial vehicles	Exposure to one segment and a few vehicle categories	
	Depth	Very comprehensive product offering	Products targeting a combination of premium, mid-price and entry-level groups		Products targeting mostly premium, mid-price and entry-level groups		Very narrow product offering

Operating profitability

For this industry, the EBITDA margin is the main indicator of operating profitability, efficiency and cash flow stability. Our calculation of EBITDA margins focuses on operating profitability in the industrial (manufacturing) division and excludes earnings from financial services operations (captive finance). Our assessment uses actual and forecasted EBITDA.

EBITDA margins vary depending on the manufacturer's business segments and product portfolio. OEMs with excellent market position (mainly global manufacturers of premium-branded cars) can sell at higher prices and consequently report EBITDA margins of over 16%, whereas companies with a weaker market position, e.g. entry-level vehicle producers, exhibit single-digit EBITDA margins.

Operating profits are likewise influenced by manufacturing efficiencies across products (such as commonality for electronics, sensors, chassis, drivetrain and other components) or by platform strategies such as Volkswagen's MQB/MLB/MEB platforms, Mercedes-Benz's platforms for modular rear-wheel architecture and modular front-wheel architecture, or Renault-Nissan's CMF architecture. Operating profitability in the industry is also influenced by the product mix, sales incentives, as well as costs related to product launches, product renewals or facelifts. Further negative impacts on earnings can result from changes in raw material costs and foreign exchange movements.

We adjust the reported EBITDA of the industrial division for capitalised development costs.

In our profitability assessment, we adjust for items that a company has reported and deemed exceptional or non-recurring only if both the following conditions are met:

i) Events giving rise to the item have not occurred in the preceding five years. If, for example, an issuer views restructuring expenses as exceptional, we would only adjust our measure of profitability (EBITDA) if any such items have not been expensed in the preceding five years.

ii) The item is material. We would view as material an amount that exceeds 20% of EBITDA excluding the item. For example, if an issuer reports an expense of EUR 2 and an EBITDA of EUR 5 after deducting this EUR 2 expense, we would adjust for this expense. This is because the item represents more than 20% (EUR 2/(EUR 2+EUR 5)) of EBITDA before adjustment.

Our analysis also considers the volatility of operating margins. High margin volatility is typically associated with a limited ability to pass on higher costs or adjust the cost base in the event of significant changes in demand (volumes). OEMs with high margin volatility could also be affected by a similarly high volatility in their operating cash flow, which could limit their access to external financing. In contrast, OEMs with more variable cost structures, the ability to reduce operating costs in a

timely manner through productivity and efficiency measures, and the ability to adapt to market conditions during downturns tend to have low margin volatility.

We would typically base our assessment on margin fluctuations over an extended period of time, including (a) stress period(s), e.g. 2020, when demand for new vehicles in major markets declines significantly. For example, we would typically classify operating profitability as high, medium or low based on the EBITDA margin range or a deviation of the EBITDA margin on a standalone basis and compared to the margin profile of the relevant peer group.

Figure 5: Operating profitability by rating category

Profitability	AA and above	A	BBB	BB	B	CCC and below
EBITDA margin (%)	> 16	12 to 16	8 to 12	5 to 8	2 to 5	< 2
Margin volatility	Low		Medium		High	

5.2 Financial risk profile

Our assessment of an automotive or commercial vehicle manufacturer's financial risk profile follows the general guidance presented in our General Corporate Rating Methodology. We focus on recent and forward-looking financial data, including (but not limited to) key parameters like leverage, interest cover and cash flow. Liquidity is also assessed and is central to our analysis of non-investment grade issuers.

The financial risk profile indicates a company's financial flexibility and viability in the short to medium term. A company with a strong financial risk profile is more likely to be resilient to economic downturns, adverse industry dynamics, unfavourable regulation or an unexpected loss of a revenue source. The ability to retain financial flexibility during an economic downturn is a rating driver for automotive and commercial vehicle manufacturers as it indicates an ability to invest at all phases of the economic cycle.

5.2.1 Credit metrics

Our general assessment of credit metrics (e.g. leverage, interest cover and cash flow cover) is outlined in the General Corporate Rating Methodology.

Given the strong cyclicality of the automotive industry, and the significant cash flow volatility over a business cycle, we are mindful of the phase in the cycle when assessing credit metrics. The credit metrics outlined in the General Corporate Rating Methodology provide an indication of ratios that are expected to be maintained in a mid-cycle scenario under normal conditions.

We adjust financial information for material impacts on credit metrics, subject to analytical consideration. Our analysis of the credit metrics of automotive and commercial vehicle manufacturers is based on the financial reporting for the industrial segment. We typically adjust reported debt for factors such as operating lease obligations (unless already reported as financial debt in the application of IFRS 16), unfunded pension obligations, guarantees to subsidiaries, factoring and securitisation. If the industrial unit provides financial services and such activities are accounted for in the industrial segment, we would seek more information. If cash balances reported under financial services are unrestricted and can be accessed by the entire reporting group to service debt obligations, we would consider deducting these funds when determining Scope-adjusted debt (SaD).

5.2.2 Financial services operations (captive finance)

Most automotive companies provide financial services (captive finance operations) to support their dealer network and retail sales. Such services have become a competitive advantage and a powerful commercial tool for automotive and commercial vehicle manufacturers.

We define a captive finance operation as a unit that provides various types of financing (e.g. loans and financial services) and related services to the end-customers (retail) and/or the dealers (wholesale) of the parent company. Its purpose is to support the business development, sales and profitability of the parent company. Therefore, its mission is closely linked to or even fully aligned with the parent's strategy.

Captive finance operations can be structured either as a separate legal entity or as a division, segment or business unit of the parent company or wider group. Operations set up as a separate legal entity can be wholly owned or majority controlled, or jointly owned, usually with a large financial institution.

A captive finance company can be subject to banking regulation (e.g. a separate legal entity with a banking licence) or operate as a non-banking financial institution (e.g. leasing company or financial services provider). It could also have a mix of regulated and non-regulated activities depending on the jurisdiction.

As our financial risk profile assessment is based on the industrial operations, the potential risks stemming from the captive finance operations are not directly taken into account. Therefore, we evaluate separately any such incremental risks that may affect the parent company's rating.

To assess the potential impact of captive finance operations on the parent's credit quality (Positive/Neutral/Negative), we first determine whether those operations are material and/or strategic for the parent or group, using the following guidelines:

Degree of strategic importance of the captive finance operation	Definition
Core	Is integral to the parent/group's identity and strategy
	Is critical to the parent/group's objectives
High strategic importance	Plays a key role in the parent/group's strategy and business objectives
Limited strategic importance	Plays a minor role in the parent/group's strategy and business objectives
Non-strategic	Plays no role in the parent/group's strategy and business objectives

Materiality assessment	Degree	Example of metrics
Level of integration	High/Significant/Limited	Illustrated by shared strategy, management, branding or resources (e.g. systems, marketing, finance, funding)
Share of group revenues/earnings/assets	High/Significant/Limited	Earnings metrics: operating profit, EBITDA, profit before tax, net income
Penetration rate	High/Significant/Limited	Percentage of the group's products financed or leased via the captive finance operation

If the captive finance operation has core or high strategic importance to the parent and the operation is considered of high materiality as per the guidance, we assess its potential impact on the parent's credit profile through an assessment of the captive finance activities and the potential risk that could arise and affect the parent, using the criteria detailed below (subject to the available information and disclosure):

- Portfolio quality (e.g. a history of write-offs, trend in credit loss ratios, reserve ratios for future potential losses on receivables)
- Underwriting standards and general lending policies
- Trend in penetration rate (number of own vehicles financed or leased via the captive finance operation)
- Capitalisation and leverage
- Portfolio concentration or diversification
- Residual value risks
- Maturity mismatch of assets and liabilities
- Foreign currency risks from mismatches between assets and liabilities
- Funding, including access to diversified sources
- Profitability (e.g. return on equity)

A significant risk or sustained deterioration observed following the assessment may put pressure on the captive finance operation's credit profile and by extension on its parent company's credit quality. We reflect the estimated impact on the parent's credit quality under 'peer context' within the supplementary risk drivers.

The captive finance operation may need to strengthen its equity base, for example, due to weaker financial performance or the need to increase assets to accommodate business growth. This may require an equity injection by the parent company or another group member.

For a regulated entity, capital adequacy requirements determine the capital need. For example, EU banks have to comply with requirements on Common Equity Tier 1, the Tier 1 capital ratio and the total capital ratio.

For a non-regulated entity, management strategy on capitalisation (if applicable) may determine the capital need or it may be derived from a targeted minimum equity ratio commensurate with the capital adequacy standards for financial institutions. We consider that crossing the analytical threshold of a 7%-8% equity ratio on a sustained basis would trigger the need for a capital increase by the parent or other group entities.

The gap between the actual and the targeted equity ratio determines the additional capital need, which we treat as an increase in Scope-adjusted debt for the industrial business. If the parent is committed to providing a specific amount of capital or it regularly injects equity to fund the captive finance company's asset growth, this capital outflow would be reflected in the parent's financial figures as a use of cash, with the corresponding impact on Scope-adjusted debt. In all cases, we would then assess to what extent the increase in Scope-adjusted debt could alter the parent's financial risk profile and issuer rating.

The captive finance company could also meet equity needs by issuing subordinated debt or suspending/reducing dividend payments to the parent company.

If the captive finance operation is viewed as having limited materiality or non-strategic importance, we assume it would have no impact on the parent's credit profile.

5.2.3 Liquidity

We adjust our method for assessing liquidity and financial flexibility described in the General Corporate Rating Methodology when considering the financial services operations of automotive and commercial vehicle makers:

i) The liquidity coverage ratio would exclude financial maturities from captive finance operations and only include financial maturities of the industrial segment.

ii) The liquidity coverage ratio would include cash balances reported by the captive finance segment if the whole group can accessthe funds within a few business days and these funds are not subject to typical limitations. These can include: cash collateral received as surety for credit risks from derivative transactions; cash held by subsidiaries that are subject to foreign exchange controls, capital controls or similar legal restrictions; cash collateral provided to other parties; and cash situated in subsidiaries in jurisdictions where the repatriation of these funds requires government approval and the issuer cannot control the timing of the approval.

5.3 Supplementary rating drivers

5.3.1 Financial policy

Our assessment of financial policy as part of the supplementary rating drivers is described in the General Corporate Rating Methodology.

5.3.2 Governance and structure

Our assessment of governance and structure as part of the supplementary rating drivers is described in the General Corporate Rating Methodology.

5.3.3 Parent/government support

Our assessment of parent support is described in the General Corporate Rating Methodology. When assessing the credit quality of automotive and commercial vehicle manufacturers that may benefit from parent/government support, we incorporate the owner's capacity and willingness to support the entity when under financial stress. In terms of the rating impact, all options are possible, from the full equalisation of the rated entity's standalone credit assessment with that of the parent (name equality, debt guarantees or other supportive factors in the case of high strategic importance) to no notching from the parent's rating. When assessing parent support related to a government shareholder, we apply our Government Related Entity Methodology.

For captive finance operations that are a separate legal entity, we may assign an issuer rating to the captive finance entity, based on support considerations, in accordance with our General Corporate Rating Methodology. The assessment of parental support incorporates, inter alia, the captive's strategic importance for the parent and the existence of formal

support agreements, explicit guarantees or other commitments (e.g. profit and loss transfer agreements[1] in Germany). In cases where the General Corporate Rating Methodology is deemed not applicable, an issuer rating could be assigned under our Financial Institutions Rating Methodology.

We may also assign a rating to the debt instruments issued by captive finance entities, based on the existence of explicit or implicit guarantees by the parent company. Providing that the parent's issuer rating is investment grade, debt instruments issued by a captive finance entity would be equalised with the parent's rating if they are i) senior unsecured and ii) unconditionally and irrevocably guaranteed by the parent company.

5.3.4 Peer context

Our ratings reflect additional considerations in a peer group context, with the aim of ensuring consistency across the rating spectrum, with both credit-positive and credit-negative implications.

These considerations particularly reflect potential negative implications of a captive finance unit for the overall credit quality of an automotive or commercial vehicle manufacturer. An example is when the leverage of the captive finance entity is unusually high (debt to equity consistently exceeding 10 to 1) or if the lending portfolio has substantial concentration risks. Negative trends affecting key considerations of the risks for captive finance operations could be a further reason to adjust the parent's credit rating.

We analyse captive finance operations as described in section 5.2.2 and reflect our findings with one of the following modifiers:

- Positive impact: zero notches
- Neutral impact: zero notches
- Negative impact: one notch down or more

A positive impact is still limited to zero notches because a notch uplift would require the captive finance operation to have a very strong credit profile , which would make the parent's credit profile much better than just considering the benefit provided in terms of diversification, which we would have already reflected in the parent's business risk profile. Such a scenario is unlikely.

When the impact is negative, we could apply several negative notches to reflect the higher risks (e.g. the captive finance entity's weak fundamentals combined with considerable capital needs).

5.4 Environmental, social and governance (ESG) assessment

Credit-relevant environmental and social factors are implicitly captured in the rating process, while corporate governance is explicitly captured at the 'governance and structure' analytical stage (see 5.3.2).

The rating analysis focuses on credit quality and credit assessment drivers. An ESG factor is only credit-relevant when it has a discernible and material impact on the issuer's cash flow, and, by extension, its overall credit quality. If material, we explicitly highlight any such factor. Credit-relevant ESG drivers are mostly of a qualitative nature. Hence, identified ESG rating factors are based on an opinion in a relative context (factors are ordinal rather than cardinal).

ESG-related factors can be credit-positive, credit-negative or credit-neutral. Such factors need be assessed through either qualitative judgement or through quantitative measures.

Credit-relevant ESG factors can directly and indirectly affect all elements of the business risk profile, financial risk profile and supplementary rating drivers.

The General Corporate Rating Methodology provides further detail on how ESG factors and supplementary rating drivers are incorporated in the credit analysis. The automotive and commercial vehicle manufacturers industry is seeing the impact of broader ESG awareness, creating ESG risks not only directly but also indirectly through the value chain.

Climate transition risk is a key environmental issue for the global automotive and commercial vehicle manufacturers industry. Business models are being transformed and product offerings reshuffled to comply with the increasingly stringent greenhouse gas/pollutant emissions regulations across the globe as well as to avoid fines. These changes and the associated decarbonisation commitments are requiring significant capex and R&D investment. At the same time, the accelerating shift to electrification will continue to put pressure on profitability due to the higher production costs for hybrid and electric vehicles than those powered by internal combustion engines. The industry is also striving to optimise the use of natural resources (e.g. water and energy), reduce product waste, use more green power (notably in manufacturing) and expand the circular economy (recycled and secondary materials).

[1] Under German Law, a profit and loss transfer agreement (PLTA) obliges the parent company to compensate for any net loss incurred by the subsidiary under German GAAP.

Product innovation also plays a key role in the energy transition (e.g. alternative drivetrain and battery technologies and software) while product safety remains a prerequisite for certain technological breakthroughs (e.g. driverless cars). The main social factors impacting the industry include the massive workforce transformation (reskilling and upskilling) imposed by the transition to electric vehicles and the oversight of the various tiers of the supply chain for securing sourcing and ensuring responsible and ethical business practices. Automotive and commercial vehicle players are also under more scrutiny to adhere to labour laws and respect human rights, especially when procuring critical raw materials (e.g. cobalt, nickel and lithium) in emerging countries.

The automotive industry is also highly exposed to regulatory risks. This has been illustrated over the last decades by several antitrust issues (e.g. the EUR 2.9bn fine imposed by the European Commission on European truck producers in 2016 for price fixing and cartel activities) and legal proceedings (e.g. diesel software manipulation). Regulatory requirements can also shape the automotive industry, as shown by the EU's decision to effectively ban the sale of cars and vans powered by internal combustion engines from 2035.

Automotive companies also face reputational risks, which could have severe consequences for brand perception and possibly affect their business activity as well.

6. Issuer rating

The final issuer rating is based on our analysis of the business risk profile, financial risk profile and supplementary rating drivers. The rating committee decides on the relative importance of each rating driver. The business risk profile and financial risk profile are generally weighted equally for companies perceived as crossovers between investment grade and non-investment grade. The business risk profile is typically emphasised for investment-grade companies, while the financial risk profile is mostly the focus of ratings assigned to companies that are perceived as having high yield credit profiles. However, the latter also depends on the financial risk profile. Less focus is granted to strong financial risk profiles of companies showing a weak/vulnerable business risk profile (in the B or low BB category) since for such companies, the financial risk profile is subject to higher volatility. This takes into account that the credit rating of companies with business risks that reflect weak or moderate credit quality should not be bolstered by a temporary strong financial risk profile. Hence, the weighting between the business risk and financial risk profiles is adapted to each issuer's business model and market(s).

7. Additional methodology factors

For more details on our rating Outlooks for corporate issuer ratings, long-term and short-term debt ratings, the recovery analysis see the General Corporate Rating Methodology.

8. Appendix

8.1 Related documents

For more information, please refer to the following documents:

- General Corporate Rating Methodology
- Automotive Suppliers Rating Methodology
- Government Related Entity Rating Methodology
- Credit Rating Definitions

Contacts

Gennadij Kremer
+49 69 6677389-84
g.kremer@scoperatings.com

Lucas Pozza
+49 30 6677389-49
l.pozza@scoperatings.com

Sebastian Zank, CFA
+49 30 27891-225
s.zank@scoperatings.com

Scope Ratings GmbH

Lennéstraße 5, D-10785 Berlin
Phone: +49 30 27891-0
Fax: +49 30 27891-100
info@scoperatings.com

Scope Ratings UK Limited

52 Grosvenor Gardens
London SW1W 0AU
Phone: +44 20 7824 5180
info@scoperatings.com

Bloomberg: RESP SCOP
Scope contacts
scoperatings.com

Disclaimer