TRIBRating CREDIT RESEARCH

German SMEs will face higher credit risk in 2020

Credit risks in Germany are increasing among SMEs, especially in the manufacturing sector

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Executive summary

- Even though Germany narrowly avoided a technical recession in 2019[1], economic activity is still considerably weak as we expect GDP to grow by only +0.6% in 2020. In this environment, credit risk will most likely increase and be at top of mind for companies, lenders and investors.
- Our standardized credit risk assessment **(TRIB**Bot[2]) for roughly 22,000 German SMEs and MidCaps shows that median credit risk significantly decreased with the economic expansion in recent years but started to show the first signs of a trend reversal in recent quarters. In Q3 2018, the credit risk, i.e. the risk that a company may not be able to repay the loans granted or not completely, increased slightly for the first time since 2015, while at the same time, GDP showed the first decline in years (-0.1% q/q).
- Looking at the GDP development in 2019, Germany's economic output contracted again in Q2 2019 by -0.2% q/q, confirming the ongoing slowdown throughout 2019. Although SMEs are generally sensitive to economic downturns and are getting increasingly exposed, as a result of ongoing structural changes in various sectors, the subsequent amplitude of the increase in credit risk in Q3 and Q4 2019 signals not only a reaction to the weak economic environment but a general trend reversal. We expect the credit risk of SMEs to continue to rise in 2020. Overall, we expect business insolvencies to rise by +3% in 2020 after being stable in 2019.
- Looking at sectors, the increase in credit risks was primarily limited to sectors that already had an above-average credit risk in the first place. Automotive suppliers have seen the biggest increase by far. The companies in this sector are exposed not only to growing political and economic risks but also to major structural changes, which has driven up their overall credit risk disproportionately. On the contrary, credit risk declined 2019 in the computers & telecom and construction sectors despite the generally negative cyclical trends. These sectors have been profiting the most from the still very robust consumer spending and strong construction activity in Germany.

Germany will remain the Eurozone laggard in terms of economic growth

Even though the German economy narrowly avoided slipping into a recession in 2019, this is hardly any reason to celebrate. In view of the cautious outlook for global trade and the automotive industry, and lingering elevated political uncertainty surrounding trade and Brexit, mini GDP growth rates can be expected at best in the coming quarters. Leading indicators point only to a tentative stabilization in industry so that the risk of another negative quarterly GDP growth reading or a technical recession remains elevated in 2020. Only the more pronounced acceleration in global trade in 2021 will put the German economy on a more robust footing. Domestic demand will continue to be the backbone of the German economy. Private consumption and investment in

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[1] As defined by the German Federal Statistical Office, a drop in GDP in two consecutive quarters.
[2] **TRIB**Bot is a new internal AI-based computation tool for the standardized analysis and assessment of credit risks.

construction will remain the key drivers of economic growth in 2020 and 2021, but gradually loose some steam in line with the slowing labor market. Fixed investment will

largely stagnate in 2020 and stage a gradual recovery only in 2021 as export growth is picking up more markedly again.

Fiscal policy will remain very supportive, but a larger stimulus package is only likely if the German economy experiences a more pronounced setback. After the German GDP growth of +0,6% in 2019 we also expect GDP growth of only +0.6% in 2020, about half the rate for the Eurozone as a whole, after which it should rise to +1.1% in 2021.

A weakening economy drives up credit risks of SMEs

Changes in the macroeconomic environment tend to impact companies' creditworthiness in very different ways. Ultimately, the impact depends on the origin and extent of the changes relative to a company's sector, individual positioning and financial situation. Our SME rating methodology, which is also the basis for the standardized credit assessment approach used in this analysis, starts with the sector risk assessment, which is determined by the sector outlook (expectations about a given sector's performance) and sector volatility (a sector's sensitivity to changes in the business cycle).

On an individual basis, economic uncertainty usually affects a company's order intake and order backlog first. As SMEs tend to have less diversified income streams and are usually positioned farther down the value chain, they are regularly more exposed to cyclical downturns, facing an immediate impact on their credit risk through declining revenues and profits, diminishing financial flexibility and generally more limited access to funding. In short, it is safe to assume that a weakening economy will affect SMEs' credit risk sooner than later.

Increase in credit risk of SMEs since early 2019

The analysis and assessment of credit risks of SMEs and MidCaps in this study is based on an AI-based standardized credit risk assessment (**TRIB**Bot), which estimates the credit quality of small and medium-sized companies on a weekly basis.

The **TRIB**Bot, developed by Euler Hermes Rating, is based on the unique combination of a comprehensive set of proprietary (e.g. Euler Hermes) and open data and information on SMEs and MidCaps; the specific algorithm developed and owned by Euler Hermes Rating and the **TRIB**Rating methodologies for assessing credit risks of European SMEs and MidCaps. **TRIB**Bot shows a high discriminatory power and historical robustness and thus represents a new and unique tool for the analysis and assessment of credit risks.

TRIBBot follows the framework of the country-specific rating methodologies used by **TRIB**Rating and is thus based on the rating factors and their weightings defined in these methodologies[3].

The three broad factors in assessing credit risks of SMEs are the sector risk, the business risk and the financial risk. The **sector risk** is determined by assessing the sector volatility and sector outlook. We put considerable importance on the assessment of sector volatility since each sector responds differently to fluctuations associated with economic, market or innovation cycles. The **business risk** is determined by assessing the SME's competitive position and concentration risk, which we view as the main sub-factors for identifying SMEs' business risk. The **financial risk** is an important factor for the assessment of SME credit risks. Sub-factors of the financial profile include size, profitability, leverage, capitalization and interest coverage. Once the three broad rating factors and their sub-factors have been assessed, the factors are weighted in the scorecard as shown below.

[3] https://tribrating.com/methods

In addition, the methodology includes four **notching adjustments** that address other rating factors, which are not fully scalable and so cannot be included in the rating grid. Notching adjustments are made for liquidity, debt structure, strategic and operational management as well as governance and financial policy. The notching adjustments can either lower the final rating, have no rating impact or – in very rare cases – improve the final rating.

Figure 1: Main TRIBBot factors and weightings (Germany)

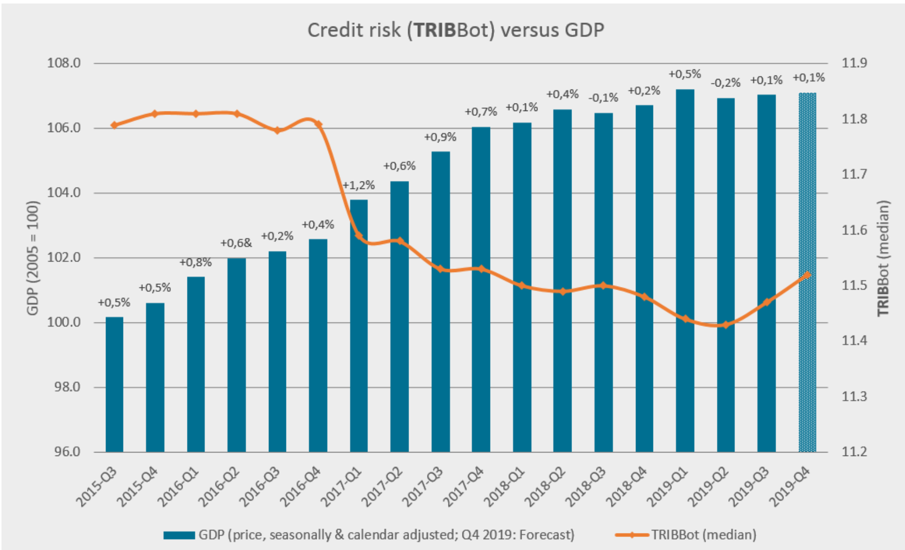
Broad factors	Factor weighting	Sub-factors	Sub-factors weighting
Sector profile	**12.5%**	Sector volatility	7.5%
		Sector outlook	5%
Business profile	**17.5%**	Competitive position	10%
		Concentration risk	7.5%
Financial profile	**70.0%**	Size	5%
		Profitability	10%
		Leverage	27.5%
		Capitalisation	22.5%
		Coverage	5%

Sources: Euler Hermes Rating

The results of this study are based on an analysis of the median **TRIB**Bot of roughly 22,000 German SMEs and MidCaps with sales volumes typically ranging from EUR 10 million to EUR 500 million. The quantitative and qualitative information for the **TRIB**Bot assessment is processed automatically by the algorithm without any discretionary adjustments based on the factors and weightings described above. GDP is not an individual component of the **TRIB**Bot and thus has no immediate impact on the credit risk assessment.

The computed values of **TRIB**Bot can be mapped directly to the global rating scale from AAA to D and are described in detail in the **TRIB**Rating methodologies. For example, a **TRIB**Bot result of ≤ 4.5 corresponds to a rating of AA or higher and a **TRIB**Bot of ≥ 16.5 corresponds to a rating of CCC or lower. A **TRIB**Bot result between 10.5 and 13.5 corresponds to the BB range.

Figure 2: Credit risk of SMEs and MidCaps in Germany (TRIBBot)



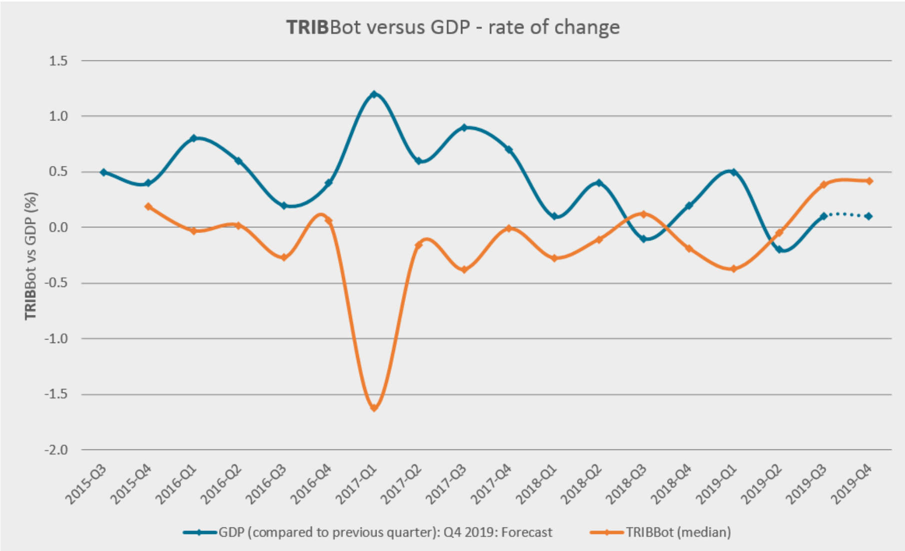
Sources: Euler Hermes Rating, German Federal Statistical Office

The overall credit risks of SMEs and MidCaps in Germany, as measured by the median **TRIB**Bot, generally moved contrary to the GDP during the observation period. Companies' median credit risk declined considerably from mid-2015 to early 2018 as GDP continuously increased. The development of the **TRIB**Bot over this period corresponds to an improvement in the median credit risk assessment of the SMEs and MidCaps from BB to BB+. Especially in Q1 2017, when Germany's economic output climbed

+1.2% quarter-on-quarter, the median **TRIB**Bot showed the biggest decline. This trend noticeably slowed down from mid-2017 onwards, followed by a slowdown in economic growth in 2018. In Q3 2018, the median **TRIB**Bot posted the first increase in SMEs' credit risk since 2015, when GDP shrank -0.1% q/q.

In Q2 2019, economic output in Germany shrank again by -0.2% q/q and subsequently the country only narrowly avoided a technical recession by showing a slight growth of +0.1% q/q in Q3. In contrast, the median **TRIB**Bot surprisingly displayed the sharpest increase in SMEs' credit risk in the observation period, indicating a trend reversal. Due to this trend reversal of **TRIB**Bot in Q3 and Q4 2019, the median credit risk assessment of SMEs and MidCaps returned from BB+ to BB. Based on current developments, we expect that the median credit risk of the companies will continue to increase in 2020.

Figure 3: Changes in credit risk in Germany



Sources: Euler Hermes Rating, German Federal Statistical Office

The trend reversal in the development of SMEs' credit risk in Q3 and Q4 2019 seems to reflect the expectation of the ongoing cyclical slowdown and more pessimistic sentiment in the German economy in general and the manufacturing sector in particular, because the companies' median credit risk according to **TRIB**Bot includes qualitative and also forward-looking factors such as the sector outlook. Since some sectors in Germany certainly have received a more negative outlook from analysts compared to previous years, these assessments find their way into the actual credit risk assessment during the **TRIB**Bot calculation.

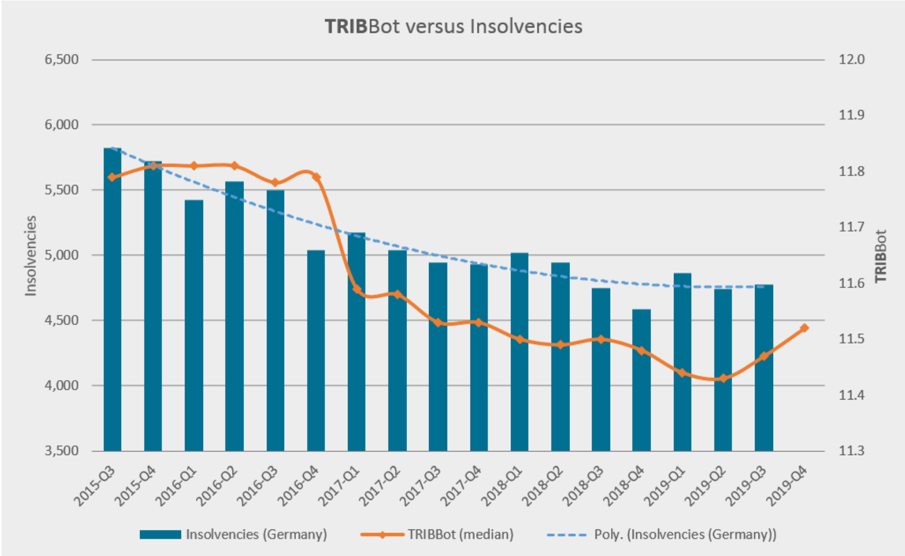
Business insolvencies are likely to rise by +3% in 2020

Taking a closer look at the development of business insolvencies in Germany also supports the perception of a trend reversal and rising credit risk in the upcoming quarters. As the following graph shows, the number of insolvencies seems to have bottomed out in 2018, slowly starting to rise throughout 2019.

In fact, August 2019 was the first month to see an increase in insolvencies on a year-on-year basis (+0.6% y/y)[4], mirroring the recent development of our **TRIB**Bot assessments. After a decade of declines to record low levels, business insolvencies should see a +3% rebound to 19,950 cases in Germany in 2020, due the weaker economic outlook in particular for the industrial sector and notably the supply chain of the automotive industry, following a noticeable increase in major insolvencies in 2019.

[4] German Federal Statistical Office

Figure 4: Development of business insolvencies

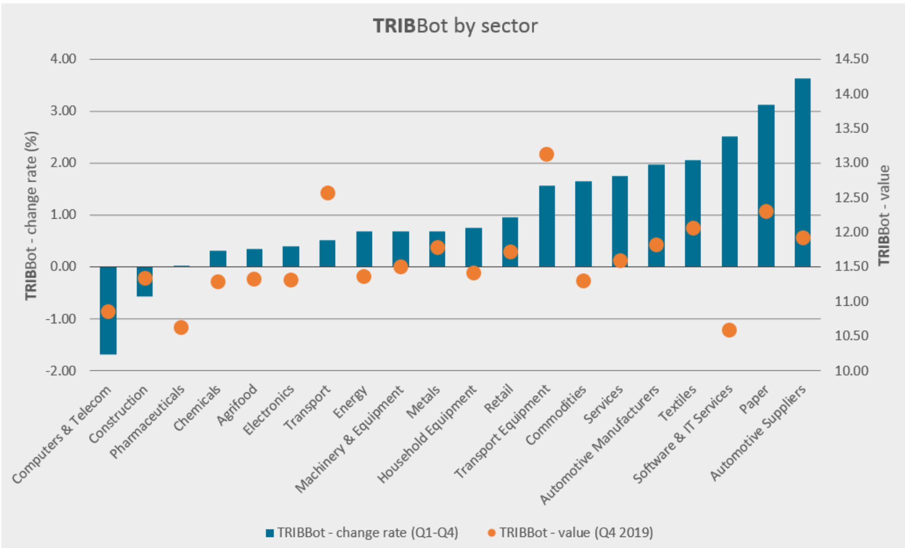


Sources: Euler Hermes Rating, German Federal Statistical Office

SMEs in the manufacturing sector register the highest rise in credit risk

There are clear differences in how the credit risks of SMEs have developed in different sectors. Figure 5 shows the **TRIB**Bot-based development of credit risk over three quarters in 2019 (Q1-Q4) by sector as well as the absolute credit risk assessment of the relevant sectors.

Figure 5: Sector-specific credit risk of SMEs in Germany



Sources: Euler Hermes Rating

The increase in credit risk in 2019 has been limited predominantly to sectors that already had an above-average credit risk relative to other sectors. Automotive suppliers saw the biggest increase by far. The companies in this sector are exposed not only to growing political and economic risks but also to major structural changes, which drove up their overall credit risk disproportionately. These risks have a slightly smaller impact on automotive manufacturers as they can probably offset part of the risks through their positioning and greater diversification.

The increase in credit risk was also fueled by the papers, textiles, services, commodities, and transport sectors. It came as a slight surprise that credit risk also increased faster than average in software and IT services, although the absolute risk level is still much lower than the overall for German SMEs. In contrast, credit risks declined in computers & telecom and construction despite the generally negative cyclical trends. Those sectors have been profiting the most from the still very robust consumer spending and the undiminished construction activity in Germany. The protracted usage of unconventional monetary policy tools by the European Central Bank but also globally – with the net number of central banks in easing mode at its highest level since 2009 – helped to stabilize business confidence and supported an acceleration of credit growth (and hence domestic-oriented sectors). We expect the decoupling between supply and demand will prevail in 2020 on the back of the very expansionary stance of monetary and fiscal policies, which primarily benefit domestic demand. Domestic driven companies (services and construction for example) will outperform those companies generating profits abroad or relying on globally integrated supply chains. This decoupling will impact non-residential investment, which will turn out to be less resilient than consumption in developed economies as a result of being exposed to protectionism and persistently high uncertainty.

Figure 6: Sector specific risk profile (median) of SMEs in Germany

Sector	TRIBBot (Q4 2019)	Sector risk	Business risk	Financial risk
Software & IT Services	**10.6**	12.0	11.0	10.4
Pharmaceuticals	**10.6**	11.4	10.7	10.5
Computers & Telecom	**10.9**	13.8	11.4	10.3
Chemicals	**11.3**	14.3	11.2	10.7
Commodities	**11.3**	12.2	11.3	11.2
Energy	**11.3**	12.3	11.6	11.1
Electronics	**11.3**	13.4	11.5	10.9
Agrifood	**11.3**	10.2	12.0	11.2
Construction	**11.4**	13.8	11.4	10.9
Household Equipment	**11.4**	12.0	11.4	11.0
Machinery & Equipment	**11.5**	14.1	11.4	11.0
Services	**11.6**	12.2	11.5	11.5
Retail	**11.7**	12.0	12.0	11.5
Metals	**11.8**	14.3	11.8	11.3
Automotive Manufacturers	**11.8**	12.1	12.0	11.8
Automotive Suppliers	**11.9**	12.7	12.0	11.7
Textiles	**12.0**	12.7	12.0	11.7
Paper	**12.3**	12.4	12.0	11.9
Transport	**12.6**	14.5	12.1	12.1
Transport Equipment	**13.1**	12.0	13.1	13.3

Sources: Euler Hermes Rating

The table above (figure 6) shows the three main subfactors by sector for Q4 2019, adding up to the final **TRIB**Bot assessment respectively, as shown earlier in figure 1. The score ranges from 1 to 21 (for not-insolvent companies) with scores higher than 10.5 representing a credit risk corresponding to the risk of Non-Investment Grade Assets. Each of the subfactors consists of various subfactors itself that determine the outcome.

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