

Default Rates in the German Economy

2015

Market analyses
April 2016



Management Summary

1.

In 2015, the empirical default rate in the German economy fell for the second consecutive year. 44,955 out of a total of 2.8 million German companies went into default during the past business year, equivalent to a ratio of 1.60%. At the same time, the default rate fell more quickly than over the previous one-year period (from 1.79% in 2013 to 1.72% in 2014).

2.

The fall in the default rate was more pronounced in the group of companies with annual revenues of more than EUR 20 million, i.e. companies of relevance to capital markets. The rate in this group fell from 0.60% in 2014 to 0.45% in 2015, the lowest in eight years. Since 2013 (0.86%), the default rate for this sub-group has nearly halved. Although the year-on-year default rates fell in each business size category, larger companies recorded a stronger decrease in default rates. The largest enterprises (sales >EUR 250 million) were also the most stable: in 2015, only 0.04% of companies in this category went into default (2014: 0.16%).

3.

Breaking down the country-wide number of defaults according to federal states, companies in the city states of Berlin (2.30%) and Bremen (1.86%) were once again – as in the previous year – subject to a specifically high risk of default. Businesses were most stable in the south and southeast of the country: only 1.39% of all companies in Bavaria and 1.20% of all companies in Thuringia went into default in 2015.

4.

The default risks were once again, like in 2014, specifically high for enterprises in the transport and logistics industries (default rate in 2015: 2.50%). Companies in the primary and basic industries, by contrast, had the lowest default rate with only 0.89%.

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5.

In 2016, the German economy should continue to benefit from generally favorable conditions. The GDP is expected to grow by 1.6%, roughly equivalent to the annual growth rate for 2015. The benign economic conditions are projected to cause another slight fall in the default rate. For 2016, we expect an empirical default rate of 1.58% for German enterprises.

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1. Definitions and data pool

This analysis aims to outline the current risk situation of German enterprises based on the empirical default rates. The study builds on data from the Creditreform Business Database that contains facts and figures for the about three million active businesses (companies and self-employed individuals) that are domiciled in Germany and about those companies that are either insolvent or considered to represent credit risks. The database provides a full representation of the corporate sector in Germany and is considered to represent the most comprehensive database of German companies worldwide. It features up-to-date information about corporate finances, levels of financial strength and organizational characteristics. Data include headcounts and sales revenue figures as well as information about the type of business activity, the legal structure of the company in question and court records of negative entries (see the Appendix for a more detailed list).

This analysis is based on a definition of default events that complies with the criteria of Basel III. Accordingly, a business is considered to be in default when (i) insolvency proceedings have been opened against the business itself; (ii) consumer insolvency proceedings have been opened against one or several of its executives; or (iii) an arrest order or an affidavit have created a situation under which the company is regarded as having defaulted. We also refer to these criteria collectively as 'hard negative entries'. An enterprise is also in default when it must be assumed on the basis of the Creditreform information that it is highly unlikely to meet its payment obligations. Thus, this definition of a default – which is also used by banks – goes further than the official statistics

which only record the number of insolvencies, for example by including companies that have run up arrears of 60 or 90 days.

This analysis is focused on one-year default rates. For the purposes of this analysis, companies were in default when either defaulted payments or hard negative entries were recorded for them on 31 December 2015, after they had been classified as solvent one year earlier (on 31 December 2014). At the end of 2015, approx. 2.8 million enterprises were classified as active businesses in Germany. These are companies that actively engage in trade activities and in the financial markets. All groups and sub-groups that are introduced on the following pages, no matter by which structural characteristics they may be defined are representative samples.

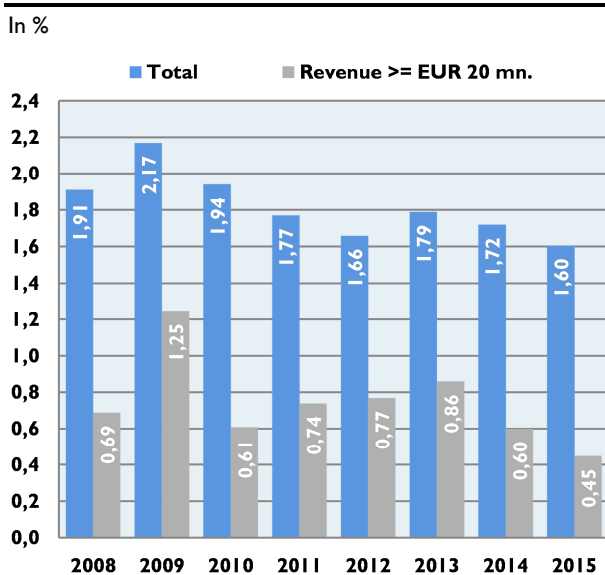
2. Defaults in Germany

The German economy continued to grow in 2015, albeit at a modest pace. GDP grew by 1.7% in real terms, which meant that the real GDP growth rate exceeded the long-term average of 1.3% for the second consecutive year (2014: 1.6%). The growth of the economy was mainly driven by an increase in household consumption, but government spending also provided a certain stimulus. Net exports, on the other hand, made only a negligible contribution to the growth rate. Investment activities continued to be somewhat subdued. While household consumption benefited from the continuously positive development of the labor market and increasing real incomes, the hopes for a recovery of investment activities that had been raised in the first six months of the year eventually failed to materialize. The falling contribution of net exports mainly reflects the rising domestic demand for imported goods. At the same time, the demand for German goods in

some key emerging markets declined as their economies slowed down.

The generally robust health of the German economy is reflected by the fall of the default rates (see Fig. 1). 44,955 out of the 2.8 million active businesses in Germany went into default in 2015, a ratio of only 1.60%. The default rate therefore fell a little more rapidly than in 2014, when it went down from 1.79 to 1.72%. The trend towards falling default rates, which has been in evidence since 2009, continued and hardened in 2015.

Fig. 1: Development of the default rates



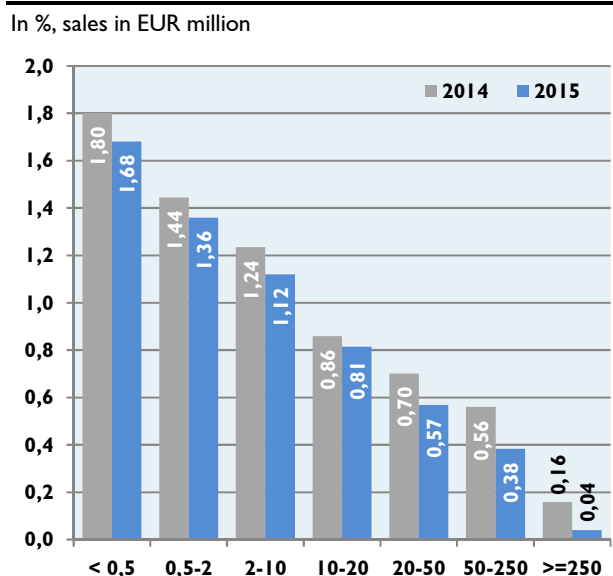
Source: Creditreform Rating

The fall in the default rate was disproportionately steep in the group of companies with annual revenues of more than EUR 20 million, i.e. companies of relevance to capital markets. After the default rate in this group had already fallen to 0.60% in 2014 (from 0.86% in 2013), it decreased even further in 2015 to 0.45%, the lowest rate in eight years.

While the default rate fell for companies of all sizes, there appear to be significant differences, as larger companies tend to display lower

default rates (see Fig. 2): 1.68% of Germany's very small businesses (with annual sales of less than EUR 500,000) went into default in 2015, but only 0.38% of medium-sized enterprises (annual sales between EUR 50 and 250 million) and 0.04% of large corporations (annual sales of more than EUR 250 million).

Fig. 2: Default rates by company size



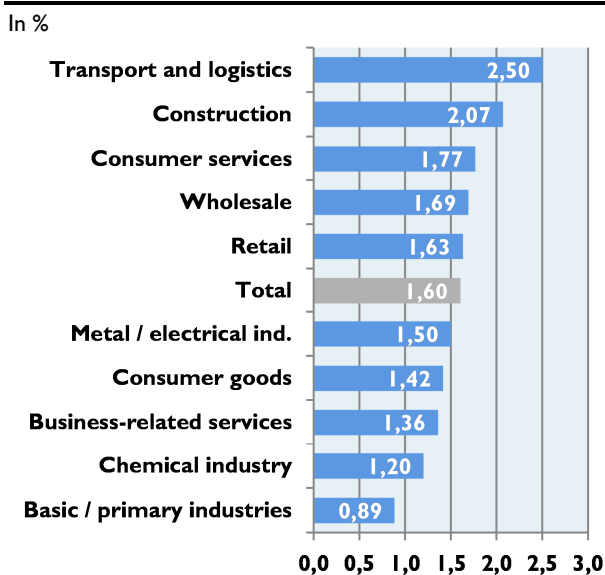
Source: Creditreform Rating

The default rates declined most significantly in the group of companies with relevance for the capital market. Only 0.57% of medium-sized companies (annual sales between EUR 20 and 50 million) and 0.38% of large enterprises (annual sales between 50 and 250 million) went into default in 2015, falling from 0.70% and 0.56% respectively in 2014. It must be taken into account, however, that the total number of enterprises in these size categories is relatively small, which is why the statistical figures tend to be more volatile.

Default risks vary from industry to industry. As in 2014, the transport and logistics industry recorded the largest default rates (see Fig. 3): One in forty enterprises went into default in

2015 (default rate: 2.50%). Companies in the construction industry (2.07%) and providers of consumer-related services (1.77%) were also subject to a higher-than-average default risk. On the other hand, default risks were relatively low in the chemical industry (1.20%) and for providers of business-related services (1.36%). Companies from the basic and primary industries were the relatively safest in 2015: their industry's default rate of 0.89% was the lowest of all.

Fig. 3: Default rates by industry

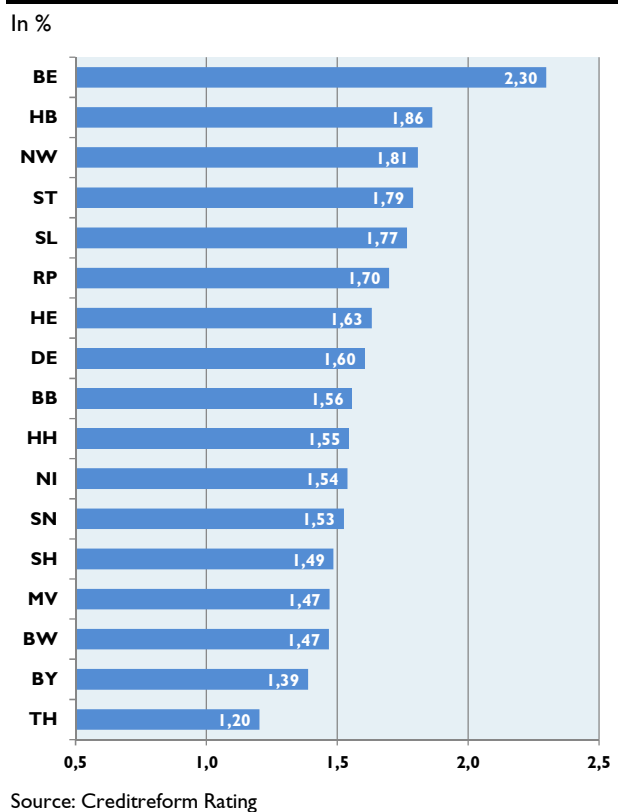


Source: Creditreform Rating

The default risk also varies from region to region. Businesses that are domiciled in the city states of Berlin and Bremen go more frequently into default than businesses elsewhere (see Fig. 4). Berlin recorded the highest default rate in 2015 (2.30%), with Bremen (1.86%) and North Rhine-Westphalia (1.81%) following behind at some distance. Businesses in Saxony-Anhalt (1.79%) and the Saarland (1.77%) were also subject to a higher-than-average default risk. In Germany's south and southeast, by contrast, businesses are more stable. Only 1.47% of the businesses that were domiciled in Baden-

Wuerttemberg went into default, in Bavaria only 1.39%. Enterprises in Thuringia were even more stable: their default risk of 1.20% was the lowest in Germany.

Fig. 4: Default rates by federal states



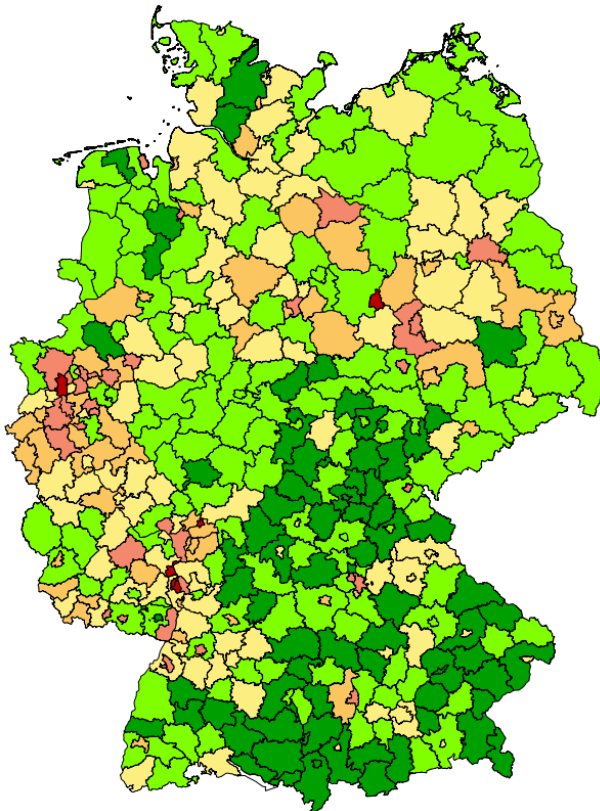
Source: Creditreform Rating

Breaking down the regional differences to the level of individual cities and districts, it appears that the three districts with the lowest default rate for 2015 were all located in Bavaria (see Fig. 5). The district of Upper Allgaeu topped the list of German cities and counties (with a default rate of 0.56%), followed by Kronach (0.67%) and Donau-Ries (0.74%). The highest default rates are equally concentrated in a single federal state: Ludwigshafen (2.91%), Frankenthal (2.96%) and Worms (3.07%) are all located in the state of Rhineland-Palatinate. Overall, it appears that rural regions show a better risk structure than cities and towns. This, however, is just a rule of thumb, as a closer look at the statistics for the

20 largest German cities can reveal. The 2015 default rates for Bonn (1.51%) and Leipzig (1.46%), for example, were significantly lower than the nationwide average. This list is topped by Muenster, where only 1.44% of businesses went into default. At the other end of the scale, Wuppertal (2.34%) and Duisburg (2.68%) have relatively high default rates.

Fig. 5: 2015 default rates by districts

In %



< 1,20%	1,50% - 1,74%	2,00% - 2,49%
1,20% - 1,49%	1,75% - 1,99%	>= 2,50%

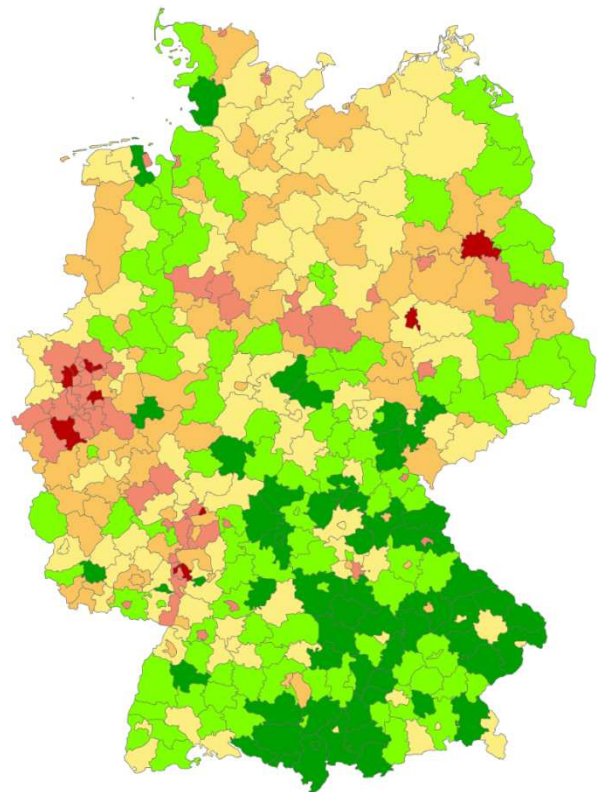
Source: Creditreform Rating

While the average default risk may have fallen across Germany (and the rate declined in 65.4% of all cities and districts), there were still significant geographical differences (see Fig. 6). The situation improved most significantly in Herne and Suhl, where the default rates fell to 2.27% (2014: 3.07%) and 0.90% (2014: 1.65%)

respectively over the past year. In some cities, however, the default risks defied the trend and increased. This is what happened in Augsburg (2.14% in 2015, from 1.39% in 2014) and Worms (2015: 3.07%, 2014: 2.07%).

Fig. 6: 2014 default rates by districts

In %



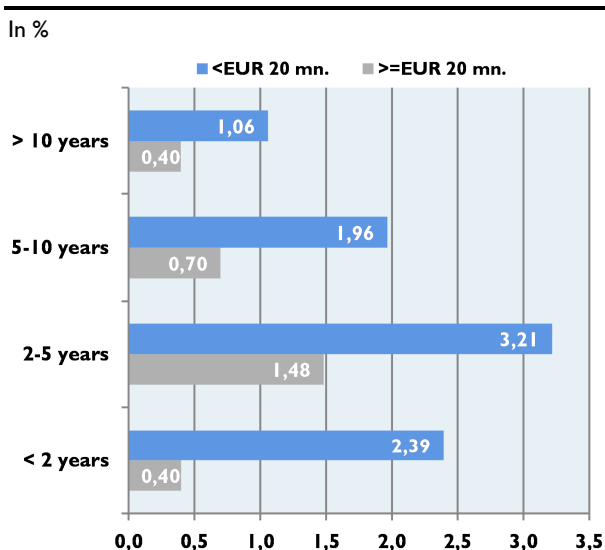
< 1,20%	1,50% - 1,74%	2,00% - 2,49%
1,20% - 1,49%	1,75% - 1,99%	>= 2,50%

Source: Creditreform Rating

Significantly different default risks are also in evidence for companies from different age groups. Recently established businesses are in principle subject to a higher default risk than companies that have been around for longer periods (see Fig. 7). The highest default risks were recorded for young enterprises that have successfully managed their market entry phase and are now challenged to establish themselves permanently. Young enterprises with annual

sales of less than EUR 20 million had a default rate of 3.21%, substantially higher than start-ups (2.39%) and the average value for all active companies (1.60%).

Fig. 7: Default rates by company age



Source: Creditreform Rating

It also appears that enterprises with annual sales of at least EUR 20 million are subject to relatively lower default risks, with default rates that can be less than half as high as those of smaller enterprises. Only 0.70% of “established enterprises” with annual sales of more than EUR 20 million went into default in 2015, and only 0.40% of “long established companies” (> 10 years). For smaller enterprises these rates were significantly higher at 1.96% and 1.06% respectively. The default risks of smaller enterprises (with annual sales of less than EUR million) nevertheless fell in 2015 across virtually all age categories, as they did for their larger peers. The sole exception was provided by businesses that were launched between two and five years ago. For these enterprises, the 2015 default rate rose slightly to 1.48% (2014: 1.42%).

3. Outlook

A successful credit management requires a comprehensive evaluation of the customer portfolio risk structure. The empirical default rates that have been calculated by Creditreform Rating provide a potent instrument for performing representative risk and default benchmark analyses as well as realistic assessments of business potentials.

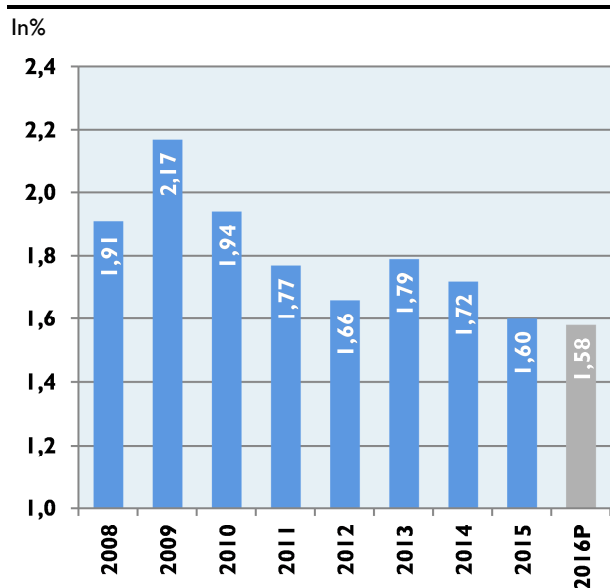
This study has shown that the overall risk situation in the German business landscape has improved over the past year. The default rate continued the downward trend that was established in 2009. The results also show, however, that this overall picture needs differentiation and qualification. The individual default risks of any given enterprise are mainly determined by its structural characteristics: the industry, its age and perhaps most importantly its size. Across all age groups, larger enterprises have significantly lower default rates than their smaller peers (annual sales of less than EUR 20 million). An adequate determination of individual customer portfolio risks must therefore be based on a comprehensive analysis of the portfolio structure.

The benign economic perspectives for Germany hold out the promise of a further improvement of the overall risk situation in 2016. The German economy started well into the new year and should be capable of exceeding the growth rate from the latter half of 2015 (both Q3 and Q4: 0.3% quarter-on-quarter) in the first three months. Growth continues to be mainly driven by domestic demand. The total sales of German retailers in January and February exceeded the previous year’s sales (year-on-year) by 2.0% in real terms. At the same time, the manufacturing industry also had a good start into the new year. Total output in February may have fallen slightly

(by 0.5% month-on-month), but only after January's output had increased significantly by 2.3% (month-on-month). In the second quarter, the economy is expected to cool down a little, as indicated by the ifo business expectations index. The German economy has shaken off some of its earlier pessimism, but the ifo index in early spring (Apr-16: 100.4 points) is still much lower than the figure from last December (104.6 points; Apr-15: 103.2 points). A recent fall of incoming orders in the manufacturing industry also points towards a slower growth. After the order volume early in the year had only increased by 0.5% (month-on-month), incoming orders in February fell by 1.2%.

scenario, we also expect the trend of falling default rates to continue, albeit at a slower pace. We forecast the empirical default rate of German-domiciled businesses to drop slightly to 1.58%.

Fig. 8: Forecast for the default rate in 2016



Source: Creditreform Rating

Overall, however, we expect that the generally favorable conditions of the past year – high levels of consumer spending, a robust labor market and low interest rates – will continue to prevail throughout 2016. It therefore looks likely that the German economy will continue to grow and that its growth rate will roughly match the previous year's level (forecast for 2016: 1.6%, growth rate in 2015: 1.7%). Under such a

Appendix

Data pool and definitions of the individual industries

The Creditreform Business Database contains up-to-date information about corporate finances and levels of financial strength. Each quarter, a dataset is created and archived for all active businesses in Germany. This data pool allows detailed and customized analyses of the developments in selected enterprises and industries. Information about individual businesses that is collected and selectively available in the database includes the following:

- Full business address, federal state (code), district (code) and post code
- Date of establishment, headcount and total sales, legal form, credit information
- Ownership / shareholder structure, size of individual shareholdings and other information about the partners / founders (incl. their number, age and sex)
- Court records of negative characteristics
- Five-digit industry code ("WZ") according to the Classification of Economic Activities, released by the German Federal Statistics Office in 2008.

Based on the aforementioned Classification of Economic Activities of the German Federal Statistics Office, we established industry clusters for the purpose of our comparative analyses (see Fig. 7).

Fig. 9: Classification of industry clusters based on the WZ Code (2008)

BRANCHENAGGREGATE	WZ 2008
Construction	41-43
Chemical industry	20-22
Retail	47
Wholesale	46
Basic and primary industries	01-09, 19, 23
Consumer goods	10-18, 31-32
Consumer services	55-56, 79, 86-93, 95-96
Metal and electrical industries	24-30
Business-related services	61-63, 69-74, 77-78, 80-82
Transport and logistics	49-53

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