Generic Scorecard – Denmark

Companies

Updates - Q4 - 2025

1. Executive Summary

1.1. Updates 2025

Statistical valuation models require ongoing monitoring and regular recalibration to maintain their validity and predictive accuracy. Their long-term relevance depends on continuous adaptation to evolving macroeconomic conditions and company-specific factors.

Following the COVID crisis, the interpretation of filed financial statements has shifted—particularly for companies that previously received local government support. As such support has diminished, these models must be updated to accurately reflect the financial realities of these types of companies.

Also, current developments at the European and national levels now make such model adjustments necessary: After years of historically low bankruptcy rates, a significant increase in corporate insolvencies has been observed since 2023 – a trend that further intensified in 2024. In Denmark, the number of insolvencies increased dramatically.

Against this backdrop, updates the existing valuation models appears not only advisable but necessary. This will enable the adequate representation of current risk factors and allow the models to be adapted to the changing conditions. The aim is to maintain a high level of predictive accuracy even under the current volatile conditions and provide a solid basis for credit risk decisions.

1.2. Creditsafe Denmark Generic Scorecard Overview

In response to evolving macroeconomic conditions, Creditsafe Group Analytics has internally updated the generic scorecards used for companies that have filed financial statements. Creditsafe is continuously working on improving its credit scores, using the latest knowledge in the field of statistical scoring methods, and optimizing and maximizing the deployment of the ever-expanding database. This enables more relevant data from different processes and ensures that Creditsafe is utilising the most up to date and relevant information available for the Danish market. By this, the way companies are scored is improved making better and more predictive assessments about a growing number of companies, even in cases where less information is available.

1.3. Scorecards and Segmentation

The essential concept behind Creditsafe's scoring approach is to accurately predict business behaviour (in terms of their good/bad performance over the next 12 months) using a set of characteristics that clearly identify why a business is high or low risk.

To increase the discriminative power of the scorecard solution, segmentation was conducted. The aim of the segmentation was to define a set of sub-populations that, when modelled individually and combined, rank risk more effectively than a single model on the overall population. The main base for the segmentation has been the size of the company in terms of the total assets level. Except this, two scorecards where financial accounts do not exist has been developed (either the company is newly established or a specific scorecard for companies where public financials don't exist like sole trader etc.).

Companies with financial accounts – Updates 2025

1. Micro
2. Small
3. Medium
4. Large

Companies without financial accounts – no updates 2025

1. New – companies who have not yet filed their accounts
2. Other companies where financials don't exist (sole trader etc.)

1.4. Individual PD (probability of default) versus score 1-100

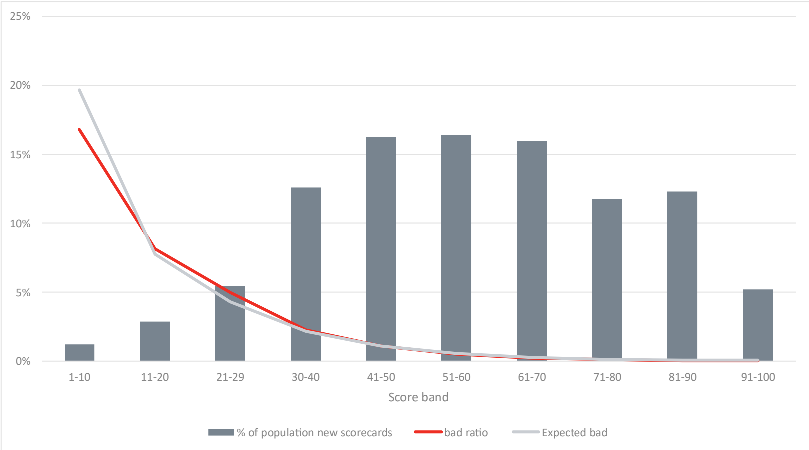
Creditsafe's scorecard provide a score between 1 and 100 representing the highest and lowest risk respectively. This scale was produced using the probability of default (PD) output from development and is a simple representative way for customers to accept or decline credit applications. With the launch of the new scorecard the Creditsafe score will be accompanied with a PD which is produced for each company based on individual combination of characteristics. The conversion will still be created from the PD but since the PD will be kept at a company level, instead of matching the scores, there will be a range of PD per score.

1.5. Summary of Results

Population matrix for companies with filed accounts – updates 2025

A-D	Min PD	Max PD	Minimum	Maximum	bad ratio	% population
A	0,001%	0,19%	71	100	0,07%	29%
B	0,19%	0,77%	51	70	0,36%	32%
C	0,78%	3,24%	30	50	1,62%	29%
D	3,24%	99,99%	1	29	7,44%	10%

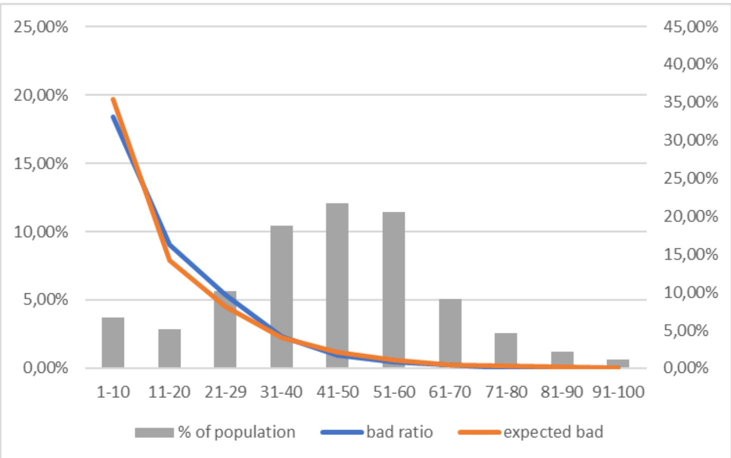
Population distribution for companies with filed accounts - updates



Population matrix for **other companies – no updates 2025**

Score band	PD Min	PD Max	Min score	Max score	bad ratio	% of population
A	0,001%	0,19%	71	100	0,01%	7,93%
B	0,19%	0,77%	51	70	0,40%	29,60%
C	0,78%	3,24%	30	50	1,59%	40,48%
D	3,24%	99,99%	1	29	10,20%	21,99%

Population distribution for other companies - no updates

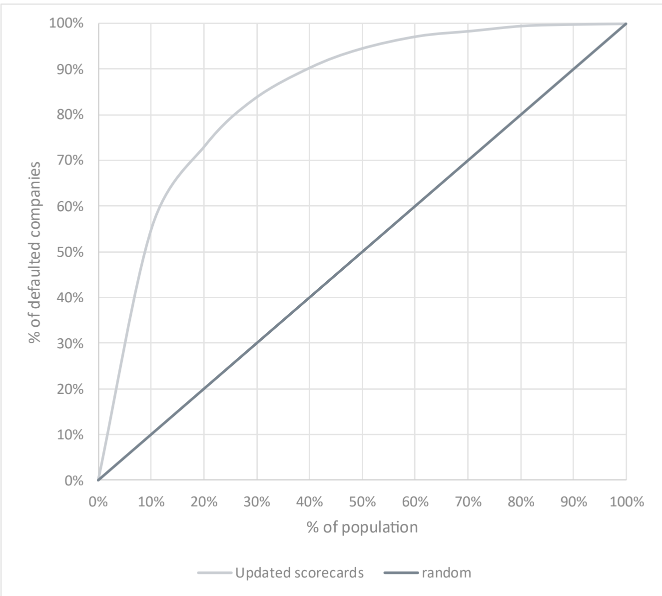


Predictive power – Gini coefficient

The Gini coefficients demonstrate strong discriminatory power across all segments of the Danish company population. To further ensure the robustness of the scorecards, Creditsafe performed an out-of-time validation, which confirmed that all attributes remained within tolerance and delivered an acceptable level of predictive accuracy.

Creditsafe continuously monitors and validates its scorecards to maintain their reliability. Following recent updates, the overall Gini coefficient for companies with filed financials is 71%, as shown in the graph below.

The original scorecards were developed prior to the COVID crisis, using financial data as one of the key components. However, due to increased insolvency rates and other post-COVID effects, their predictive power has declined. In particular, the reduction in government support has significantly impacted the financial dynamics of many companies. As a result, Creditsafe Group Analytics has updated the scorecards to better reflect the realities of 2025 and improve their predictive performance.



Migration analysis companies with financial accounts – Updates 2025

The table below shows the migration between score ranges for the updated scorecards of companies with financials, compared to the previous version.

	New score									
Old score	A - 91-100	A - 81-90	A - 71-80	B - 61-70	B - 51-60	C - 41-50	C - 30-40	D - 21-29	D - 11-20	D - 1-10	Total
A - 91-100	18,8%	26,4%	22,1%	24,0%	8,4%	0,3%	0,0%	0,0%	0,0%	0,0%	100,0%
A - 81-90	0,4%	23,6%	15,4%	12,9%	33,3%	14,2%	0,3%	0,0%	0,0%	0,0%	100,0%
A - 71-80	0,0%	13,8%	13,6%	15,8%	13,1%	30,9%	12,7%	0,1%	0,0%	0,0%	100,0%
B - 61-70	0,0%	0,5%	11,2%	27,1%	17,0%	13,3%	25,8%	4,9%	0,2%	0,0%	100,0%
B - 51-60	0,0%	0,3%	7,1%	21,2%	36,9%	8,4%	12,6%	11,5%	2,0%	0,1%	100,0%
C - 41-50	0,0%	0,0%	0,2%	5,9%	24,0%	50,1%	7,3%	6,2%	5,6%	0,7%	100,0%
C - 30-40	0,0%	0,0%	0,0%	1,7%	5,9%	34,3%	47,6%	4,7%	3,6%	2,1%	100,0%
D - 21-29	0,0%	0,0%	0,0%	0,0%	1,1%	6,8%	43,3%	37,8%	7,4%	3,5%	100,0%
D - 11-20	0,0%	0,0%	0,0%	0,0%	0,1%	1,2%	12,6%	49,2%	32,6%	4,2%	100,0%
D - 1-10	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	1,9%	10,4%	44,6%	42,9%	100,0%

In general, the migration indicates a decrease in score levels, as illustrated above. For example, 26.4% of companies who previously had a score in the 91–100 range have now dropped to the 81–90 range.

2. Data Preparation & Population Design

2.1. Sample Design

The scorecards were developed from a generic sample of Danish data extracted from the Creditsafe data pool. The selection of the sample definition satisfied the following:

- The generic sample was created to recognise economically active companies. There are sufficient businesses to develop a robust scorecard.
- Each business had a 12 months' exposure period; this is sufficient for business performance to be reliably assigned.
- The window covers a full year to avoid seasonality.
- The sample window is recent enough to be representative of the future Danish population.

The scorecard development sample for companies without financial accounts was created taking business information from 1st January 2016 to 31st December 2018, giving 36 months of information. A 12-month outcome period was then used from 1st January 2019 to 31st December 2019 to assign the good/bad population.

For companies with filed financial accounts the scorecards were an update has been made with business information from 1st January 2020 to from 31st December 2023, giving 36 months of historical information from that point in time. A 12-month outcome period was then used from 1st January 2024 to 31st December 2024 to assign the good/bad population.

2.2. CS Danish Default Definition

The performance definition defined for the Danish scorecard development as below. The performance definition is designed to clearly identify why a business is high or low risk.

Bad	Bankruptcy Forced liquidation Reconstruction
Good	None of the above status definitions

3. Scorecard Development

Modelling Methodology

Stepwise Logistic Regression has been used to develop the scorecard. This is the preferred methodology within Creditsafe. Logistic Regression has the benefit of outputting a predicted probability of good; this enables the creation of an accurate score to bad rate prediction.

Checking Business Logic

Even if a variable has predictive power, it is still necessary to check that its relationship with the outcome is logical and as expected. The first check on business logic therefore will be performed during the univariate analysis, discarding the variables that are not suitable from a business perspective.

It is necessary however to perform another overall check the model resulting from the regression. If the analysis had been performed correctly the model should be predictive and correct from a mathematical point of view. It is still necessary to check its validity from the business point of view.

It is necessary to check that the score points given to the characteristic attributes are assigned in a way that is consistent with the corresponding bad rate of all the characteristic attributes defined for a given characteristic. Particular attention is given to the sign of the score point i.e., minus sign appears where a plus sign is expected and vice versa.

Scorecard Calibration

The output from the logistic model produces individual PDs for each of the companies and each of the models, respectively. These PDs have been transformed into a 1-100 Creditsafe score using points double the odds principles. This value was chosen to allow the score and PD to match at the point required, as well as matching the score distribution expected by the Danish market. This score is a direct representation of the underlying PD. The following table details the relevant PD in relation to the Creditsafe 1-100 score:

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Score		Min		Max	Band	Score		Min		Max	Band
100	>	0,0100%	<=	0,0262%	A	50	>	0,7752%	<=	0,8304%	C
99	>	0,0262%	<=	0,0280%	A	49	>	0,8304%	<=	0,8894%	C
98	>	0,0280%	<=	0,0300%	A	48	>	0,8894%	<=	0,9527%	C
97	>	0,0300%	<=	0,0322%	A	47	>	0,9527%	<=	1,0203%	C
96	>	0,0322%	<=	0,0345%	A	46	>	1,0203%	<=	1,0928%	C
95	>	0,0345%	<=	0,0370%	A	45	>	1,0928%	<=	1,1703%	C
94	>	0,0370%	<=	0,0396%	A	44	>	1,1703%	<=	1,2532%	C
93	>	0,0396%	<=	0,0425%	A	43	>	1,2532%	<=	1,3420%	C
92	>	0,0425%	<=	0,0455%	A	42	>	1,3420%	<=	1,4369%	C
91	>	0,0455%	<=	0,0488%	A	41	>	1,4369%	<=	1,5385%	C
90	>	0,0488%	<=	0,0523%	A	40	>	1,5385%	<=	1,6471%	C
89	>	0,0523%	<=	0,0561%	A	39	>	1,6471%	<=	1,7632%	C
88	>	0,0561%	<=	0,0601%	A	38	>	1,7632%	<=	1,8874%	C
87	>	0,0601%	<=	0,0644%	A	37	>	1,8874%	<=	2,0201%	C
86	>	0,0644%	<=	0,0690%	A	36	>	2,0201%	<=	2,1619%	C
85	>	0,0690%	<=	0,0740%	A	35	>	2,1619%	<=	2,3135%	C
84	>	0,0740%	<=	0,0793%	A	34	>	2,3135%	<=	2,4755%	C
83	>	0,0793%	<=	0,0849%	A	33	>	2,4755%	<=	2,6484%	C
82	>	0,0849%	<=	0,0910%	A	32	>	2,6484%	<=	2,8331%	C
81	>	0,0910%	<=	0,0976%	A	31	>	2,8331%	<=	3,0303%	C
80	>	0,0976%	<=	0,1046%	A	30	>	3,0303%	<=	3,2407%	C
79	>	0,1046%	<=	0,1121%	A	29	>	3,2407%	<=	3,4653%	D
78	>	0,1121%	<=	0,1201%	A	28	>	3,4653%	<=	3,7048%	D
77	>	0,1201%	<=	0,1287%	A	27	>	3,7048%	<=	3,9602%	D
76	>	0,1287%	<=	0,1379%	A	26	>	3,9602%	<=	4,2324%	D
75	>	0,1379%	<=	0,1478%	A	25	>	4,2324%	<=	4,5224%	D
74	>	0,1478%	<=	0,1584%	A	24	>	4,5224%	<=	4,8313%	D
73	>	0,1584%	<=	0,1697%	A	23	>	4,8313%	<=	5,1602%	D
72	>	0,1697%	<=	0,1819%	A	22	>	5,1602%	<=	5,5101%	D
71	>	0,1819%	<=	0,1949%	A	21	>	5,5101%	<=	5,8824%	D
70	>	0,1949%	<=	0,2089%	B	20	>	5,8824%	<=	6,2780%	D
69	>	0,2089%	<=	0,2239%	B	19	>	6,2780%	<=	6,6985%	D
68	>	0,2239%	<=	0,2399%	B	18	>	6,6985%	<=	7,1449%	D
67	>	0,2399%	<=	0,2571%	B	17	>	7,1449%	<=	7,6186%	D
66	>	0,2571%	<=	0,2755%	B	16	>	7,6186%	<=	8,1210%	D
65	>	0,2755%	<=	0,2952%	B	15	>	8,1210%	<=	8,6535%	D
64	>	0,2952%	<=	0,3163%	B	14	>	8,6535%	<=	9,2173%	D
63	>	0,3163%	<=	0,3389%	B	13	>	9,2173%	<=	9,8139%	D
62	>	0,3389%	<=	0,3631%	B	12	>	9,8139%	<=	10,4448%	D
61	>	0,3631%	<=	0,3891%	B	11	>	10,4448%	<=	11,1111%	D
60	>	0,3891%	<=	0,4169%	B	10	>	11,1111%	<=	11,8144%	D
59	>	0,4169%	<=	0,4467%	B	9	>	11,8144%	<=	12,5559%	D
58	>	0,4467%	<=	0,4786%	B	8	>	12,5559%	<=	13,3369%	D
57	>	0,4786%	<=	0,5128%	B	7	>	13,3369%	<=	14,1586%	D
56	>	0,5128%	<=	0,5494%	B	6	>	14,1586%	<=	15,0221%	D
55	>	0,5494%	<=	0,5886%	B	5	>	15,0221%	<=	15,9286%	D
54	>	0,5886%	<=	0,6306%	B	4	>	15,9286%	<=	16,8788%	D
53	>	0,6306%	<=	0,6755%	B	3	>	16,8788%	<=	17,8738%	D
52	>	0,6755%	<=	0,7237%	B	2	>	17,8738%	<=	18,9140%	D
51	>	0,7237%	<=	0,7752%	B	1	>	18,9140%	<=	99,9900%	D