Creditsafe Sweden

Generic scorecard B2B

Executive Summary

Group Analytics

Updates- Q2 2024

1. Executive Summary

1.1.   Creditsafe Sweden Generic Scorecard Overview

In order to improve and increase Creditsafe's presence in the Swedish marketplace a new generic suite of scorecards have been developed internally by Creditsafe Group Analytics.

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 and more relevant data from different processes and ensures that Creditsafe is utilising the most up to date and relevant information available for the Swedish 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.

During 2024 an update has been made where active historical payment remarks (both public and private claims) for the board of directors has been included in the scorecards. For newly established companies, smaller companies and for companies without any turnover this update increases the predictive power of the scorecards. Also, for the individual company this will decrease the uncertainty when the underwriting process take place.

1.2.   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 economic activity within the company expressed as the size of turnover from the last filed account (micro, small, medium and large). Except this, a specific segment for companies without any turnover has also been created, where the economic activity is uncertain, and another segment for newly established companies has been produced where the company has not yet filed any account.

Limited company scorecards;

1. New – companies who haven't yet filed their accounts, age up to 24 months
2. 0 Turnover – companies with financial accounts but have a turnover value of 0
3. Micro companies based on size of turnover
4. Small companies based on size of turnover
5. Medium companies based on size of turnover
6. Large companies based on size of turnover

creditsafe

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

Creditsafe's scorecards 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 their 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.

1.4 Summary of Results

Total population matrix

Score band	Min PD	Max PD	Total %	Bad Ratio
80-100	0,0001%	0,25%	26%	0,20%
60-79	0,25%	0,87%	47%	0,69%
40-59	0,87%	2,92%	20%	2,42%
15-39	2,92%	12,39%	6%	5,21%
1-14	12,39%	99,99%	1%	44,05%
Total			100%	1,56%

Total Population Gini

The Gini coefficients represent excellent discrimination across all segments of the Swedish company population. To provide further comfort around the robustness of the scorecard, Creditsafe validated the scorecards using an out of time validation technique. The results showed that all attributes were within tolerance with and acceptable level of accuracy. Creditsafe continuously monitor and validate the scorecards to keep them robust.

The overall Gini of the total Swedish population increased from 73,8 to 76,2.

The updated scorecards identify 68,1% of bads in the highest-risk 10%, compared to 64,4% without directors payment remarks as a variable.
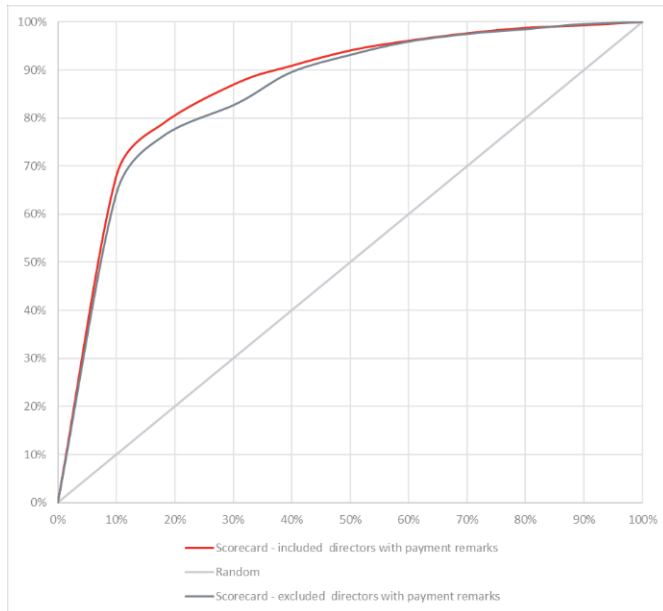
2. Data Preparation & Population Design

2.1 Sample Design

The scorecards were developed from a generic sample of Swedish 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 SE population.

The new scorecard development sample was created taking business information from 1st June 2019 to 31st May 2021, giving 24 months of information. A 12-month outcome period was then used from 1st June 2021 to 31st May 2022 to assign the good/bad population.

2.2. Default Definition

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

Defaults	Ltd
Bad	• Bankruptcy (including applications) • Forced Liquidation • Distraint • 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.

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. The following table details the relevant PD in relation to the Creditsafe 1-100 score.

Score	Min PD	Max PD	Post policy PD	Band	Score	Min PD	Max PD	Post policy PD	Band
100	0,0001%	0,0734%	0,0734%	A	50	1,5014%	1,5957%	1,5957%	C
99	0,0734%	0,0781%	0,0781%	A	49	1,5957%	1,6959%	1,6959%	C
98	0,0781%	0,0831%	0,0831%	A	48	1,6959%	1,8022%	1,8022%	C
97	0,0831%	0,0884%	0,0884%	A	47	1,8022%	1,9151%	1,9151%	C
96	0,0884%	0,0940%	0,0940%	A	46	1,9151%	2,0348%	2,0348%	C
95	0,0940%	0,1000%	0,1000%	A	45	2,0348%	2,1619%	2,1619%	C
94	0,1000%	0,1064%	0,1064%	A	44	2,1619%	2,2968%	2,2968%	C
93	0,1064%	0,1132%	0,1132%	A	43	2,2968%	2,4398%	2,4398%	C
92	0,1132%	0,1204%	0,1204%	A	42	2,4398%	2,5916%	2,5916%	C
91	0,1204%	0,1281%	0,1281%	A	41	2,5916%	2,7525%	2,7525%	C
90	0,1281%	0,1362%	0,1362%	A	40	2,7525%	2,9231%	2,9231%	C
89	0,1362%	0,1449%	0,1449%	A	39	2,9231%	3,1039%	3,1039%	D
88	0,1449%	0,1541%	0,1541%	A	38	3,1039%	3,2955%	3,2955%	D
87	0,1541%	0,1640%	0,1640%	A	37	3,2955%	3,4986%	3,4986%	D
86	0,1640%	0,1744%	0,1744%	A	36	3,4986%	3,7136%	3,7136%	D
85	0,1744%	0,1855%	0,1855%	A	35	3,7136%	3,9414%	3,9414%	D
84	0,1855%	0,1974%	0,1974%	A	34	3,9414%	4,1825%	4,1825%	D
83	0,1974%	0,2099%	0,2099%	A	33	4,1825%	4,4377%	4,4377%	D
82	0,2099%	0,2233%	0,2233%	A	32	4,4377%	4,7076%	4,7076%	D
81	0,2233%	0,2375%	0,2375%	A	31	4,7076%	4,9932%	4,9932%	D
80	0,2375%	0,2526%	0,2526%	A	30	4,9932%	5,2951%	5,2951%	D
79	0,2526%	0,2687%	0,2687%	B	29	5,2951%	5,6142%	5,6142%	D
78	0,2687%	0,2858%	0,2858%	B	28	5,6142%	5,9513%	5,9513%	D
77	0,2858%	0,3040%	0,3040%	B	27	5,9513%	6,3072%	6,3072%	D
76	0,3040%	0,3234%	0,3234%	B	26	6,3072%	6,6830%	6,6830%	D
75	0,3234%	0,3440%	0,3440%	B	25	6,6830%	7,0795%	7,0795%	D
74	0,3440%	0,3658%	0,3658%	B	24	7,0795%	7,4976%	7,4976%	D
73	0,3658%	0,3891%	0,3891%	B	23	7,4976%	7,9382%	7,9382%	D
72	0,3891%	0,4138%	0,4138%	B	22	7,9382%	8,4024%	8,4024%	D
71	0,4138%	0,4401%	0,4401%	B	21	8,4024%	8,8912%	8,8912%	D
70	0,4401%	0,4681%	0,4681%	B	20	8,8912%	9,4054%	9,4054%	D
69	0,4681%	0,4979%	0,4979%	B	19	9,4054%	9,9462%	9,9462%	D
68	0,4979%	0,5295%	0,5295%	B	18	9,9462%	10,5144%	10,5144%	D
67	0,5295%	0,5631%	0,5631%	B	17	10,5144%	11,1111%	11,1111%	D
66	0,5631%	0,5988%	0,5988%	B	16	11,1111%	11,7372%	11,7372%	D
65	0,5988%	0,6368%	0,6368%	B	15	11,7372%	12,3937%	12,3937%	D
64	0,6368%	0,6772%	0,6772%	B	14	12,3937%	13,0814%	13,0814%	E
63	0,6772%	0,7201%	0,7201%	B	13	13,0814%	13,8013%	13,8013%	E
62	0,7201%	0,7657%	0,7657%	B	12	13,8013%	14,5542%	14,5542%	E
61	0,7657%	0,8142%	0,8142%	B	11	14,5542%	15,3409%	15,3409%	E
60	0,8142%	0,8658%	0,8658%	B	10	15,3409%	16,1620%	16,1620%	E
59	0,8658%	0,9205%	0,9205%	C	9	16,1620%	17,0182%	17,0182%	E
58	0,9205%	0,9787%	0,9787%	C	8	17,0182%	17,9101%	17,9101%	E
57	0,9787%	1,0405%	1,0405%	C	7	17,9101%	18,8382%	18,8382%	E
56	1,0405%	1,1062%	1,1062%	C	6	18,8382%	19,8027%	19,8027%	E
55	1,1062%	1,1760%	1,1760%	C	5	19,8027%	20,8039%	20,8039%	E
54	1,1760%	1,2502%	1,2502%	C	4	20,8039%	21,8420%	21,8420%	E
53	1,2502%	1,3289%	1,3289%	C	3	21,8420%	22,9169%	22,9169%	E
52	1,3289%	1,4126%	1,4126%	C	2	22,9169%	24,0285%	24,0285%	E
51	1,4126%	1,5014%	1,5014%	C	1	24,0285%	99,9999%	25,1763%	E