



Business Failure Risk Score

BFRS v2.1

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What is Business Failure Risk Score?

The Equifax Business Failure Risk Score (BFRS2) predicts the likelihood that a company will cease business, voluntary or involuntary, with loss for the creditors, within the next 12 months.

The Business Failure Risk Score uses statistical probabilities to classify companies into a risk classification from 1001 to 1650. This scale is based on the chance of a business experiencing the above definition of "bad" failure over the next 12-month period. The Business Failure Risk scoring model utilizes the power of Equifax's vast database containing information on more than three million Canadian businesses including firmographics, public records, inquiry, industry and small business banking trade data.

Availability of the Business Failure Risk Score

The Business Failure Risk Score (BFRS2) 'scoreable' rate is ~98%. Business Failure Risk Scores are not available on businesses that fall into the following categories:

• Online and Offline (batch): No Hit (BFRS = 0)

Business branch locations will be scored based on the information of the headquarter location. Companies with no trade data available will be scored based on public records, firmographics and other data attributes.

The BFRS2 score is available online via a system-to-system (STS) link as an ancillary product to the Canadian Business Credit Report in Full File Fixed (FFF), XML formats, as well as via our internet portal.

See Appendix A for a list of all reject and reason codes.

What Does the Business Failure **Risk Score Predict?**

The Business Failure Risk Score model is based upon the observed characteristics of more than two million businesses in the Equifax commercial database and the relationship these characteristics have to the probability of a company experiencing failure over a period of 12 months.

The system helps predict business failure when there is loss to creditors whether it is a result of a formal closing (bankruptcy filing) with legal notification or an informal closing without legal notification.

A business is considered to have failed (failure) if it:

- legally becomes bankrupt or is in assignment or receivership with unpaid debt or
- ceases to operate without paying its creditors even if no legal notice is issued.

When a business shuts down but has met its debt obligations in full, then it is not regarded as a business failure.

When a business shuts down but has met its debt obligations in full, then it is not regarded as a business failure. As previously mentioned, the Business Failure Risk Scoring model assigns a scale of risk from 1001 to 1650, where a 1001 represents businesses that have the highest probability of failure, and a 1650 which represents businesses with the lowest probability of failure. This number provides a direct relationship between the score and the level of risk. The marginal odds of being good doubles for each 40 point increase. For example, a business that scores a 1340, on a marginal basis, is half as risky as a business that scores a 1300. This score enables a customer to utilize granular cut-offs to drive their automated decision-making process.

Since this score helps to predict the probability of failure it may be combined with other delinquency scores to develop a comprehensive overview encompassing the complete credit risk of a firm.

Refer to Appendix B for BFRS2 performance details.

How is the Business Failure **Risk Score Calculated?**

The Business Failure Risk Score models were developed using state-of-the-art statistical and modeling techniques to select and weight the data elements that are most predictive of severe delinquency. The resulting Business Failure Risk Score models are a mathematical equation that consists of a series of variables and coefficients (weights) that have been calculated for each variable.

The selection of the variables and the calculation of corresponding weights for each model are the result of extensive data analysis. In developing the models, Equifax evaluated a combination of "good" and "bad" performing businesses in the Equifax commercial database.

Data is collected from two time periods we designate as an observation window and a performance window. The observation window defines the sample used in the model and all identification and characteristic data are collected from this time period. The performance window defines the length of time the accounts are tracked to examine their payment behavior.

Equifax analyzed this information and identified the data elements, which are statistically the most significant factors for predicting severe delinquency. Only Equifax, with its access to a vast database of Canadian businesses, is uniquely qualified to demonstrate this impact.

Sample data elements used in the model include:

- Small business banking trade payment performance
- Industry trade payment performance
- Public record data (suits, liens, or judgments)
- · Inquiry data
- Firmographic data

What is the BFRS2 Risk Class and how is it Calculated?

In order to provide customers with high level indication of the credit risk level using a failure probability, Equifax introduced the BFRS2 Risk Class which aggregates the BFRS2 raw score (from 1001 to 1650) into five classes (5 to 1). This makes it easier for the more risk tolerant companies to make informed credit adjudication decisions based on demographic, legal and credit information that they get on their clients.

Like the BFRS2 score, the BFRS2 Risk Class predicts the likelihood that a company will cease business, voluntary or involuntary, with loss for the creditors, within the next 12 months. This score aggregate does not replace the need for the more granular BFRS2 score, which is designed for the more risk sensitive customers who need to, define stricter decision trees and need to comply with stricter, acceptable risk standards.

For a more detailed analysis and interpretation of the BFRS2 Risk Class, please refer to Appendix C.



Appendix A

Reason, Reject and Segment Codes

Reason Codes

Reason Code	Description
60	Collection Records on File History
61	Credit File Age
62	Number of Credit Inquiries
63	Balance of Trades on File History
64	Legal Suits or Judgement Records on File History
65	Delinquent Balance Amount on File History
66	Credit Utilization
67	Credit Limit

Reject Codes

Reject Code	Description
01	Public Administration Company
09	Subject is an Individual
10	All Information for this Company on All Products is Suppressed
11	Credit Reports for this Company are Suppressed
12	Information for this Company Marked for Deletion by Purge Process
13	Province or Territory Code Not Available

Segment Codes

Segment Code	Description
90	Presence of Public Records or Bankruptcy on File History
91	No Public Records or Bankruptcy on File history

Appendix B

BFRS2 Performance Projection Table

Min Score	Max Score	Number of Goods	Number of Bads	Total Population	Bad Ratio	Odds of goods to one bad
1000	1024	1,029	1,159	2,188	52.97%	0.89
1025	1049	1,547	125	1,672	7.48%	12.38
1050	1099	14,755	284	15,039	1.89%	51.95
1100	1149	14,230	129	14,359	0.90%	110.31
1150	1199	30,121	183	30,304	0.60%	164.60
1200	1249	64,405	253	64,658	0.39%	254.57
1250	1299	140,011	245	140,256	0.17%	571.47
1300	1349	306,535	292	306,827	0.10%	1,049.78
1350	1399	717,018	202	717,220	0.03%	3,549.59
1400	1449	783,367	92	783,459	0.01%	8,514.86
1450	1499	982,086	34	982,120	0.00%	28,884.88
1500	1549	604,549	3	604,552	0.00%	201,516.33
1550	1599	55,970	0	55,970	0.00%	
1600	1649	252	0	252	0.00%	

Appendix C

BFRS2 Risk Class Performance Projection Table

Risk Bucket	Min Score	Max Score	Number of Goods	Number of Bads	Bad Ratio	Total Population	Odds of goods to one bad
5	1000	1025	1,152	1,178	50.56%	2,330	1.0
4	1026	1060	9,553	297	3.02%	9,850	32.2
3	1061	1150	21,262	226	1.05%	21,488	94.1
2	1151	1400	1,270,890	1,175	0.09%	1,272,065	1,081.6
1	1401	1650	2,412,706	125	0.01%	2,412,831	19,301.6
No Hits							

Appendix D

BFRS2 Performance Metrics

Model	KS	GINI	AUROC	Bads at 10%	Bads at 20%
Overall	0.74 (0.50)	0.8889 (0.6497)	0.9445 (0.8249)	0.8364 (0.5105)	0.9080 (0.6949)
No BOP	0.65 (0.62)	0.802 (0.7879)	0.901 (0.894)	0.7057 (0.6939)	0.8351 (0.8190)
ВОР	0.79 (0.03)	0.9215 (-0.11)	0.9607 (0.4444)	0.7891 (0.0906)	0.9168 (0.1665)

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