

## **DATASET INFORMATION**

The dataset pertains to the bankruptcy prediction of Polish companies and was sourced from the Emerging Markets Information Service (EMIS). EMIS is a database that gathers information on emerging markets globally. The dataset encompasses two categories of companies:

1. Bankrupt companies, which were assessed from 2000 to 2012.
2. Still operating companies, evaluated from 2007 to 2013.

Five distinct classification scenarios were established based on the forecasting period. Each scenario is associated with a different prediction window:

- 1<sup>st</sup> Year: This scenario considers financial data from the first year of the forecasting period and the corresponding class label indicating bankruptcy status after five years. It comprises 7,027 instances (financial statements), with 271 representing bankrupted companies and 6,756 representing firms that did not go bankrupt within the forecasted period.
- 2<sup>nd</sup> Year: In this case, the dataset includes financial rates from the second year of the forecasting period and predicts bankruptcy status after four years. There are 10,173 instances, with 400 representing bankrupted companies and 9,773 representing firms that remained solvent.
- 3<sup>rd</sup> Year: This scenario analyses financial data from the third year of the forecasting period and predicts bankruptcy status after three years. The dataset consists of 10,503 instances, with 495 representing bankrupted companies and 10,008 representing non-bankrupt firms.
- 4<sup>th</sup> Year: For this case, the dataset encompasses financial rates from the fourth year of the forecasting period and predicts bankruptcy status after two years. There are 9,792 instances, with 515 representing bankrupted companies and 9,277 representing non-bankrupt companies.
- 5<sup>th</sup> Year: Finally, this scenario examines financial data from the fifth year of the forecasting period and predicts bankruptcy status after one year. The dataset contains 5,910 instances, with 410 representing bankrupted companies and 5,500 representing firms that did not go bankrupt within the following year.

## **ATTRIBUTE INFORMATION**

- Attr1: net profit / total assets
- Attr2: total liabilities / total assets
- Attr3: working capital / total assets
- Attr4: current assets / short-term liabilities
- Attr5: [(cash + short-term securities + receivables short-term liabilities) / (operating expenses depreciation)] \* 365
- Attr6: retained earnings / total assets
- Attr7: EBIT / total assets
- Attr8: book value of equity / total liabilities
- Attr9: sales / total assets
- Attr10: equity / total assets
- Attr11: (gross profit + extraordinary items + financial expenses) / total assets
- Attr12: gross profit / short-term liabilities
- Attr13: (gross profit + depreciation) / sales
- Attr14: (gross profit + interest) / total assets
- Attr15: (total liabilities \* 365) / (gross profit + depreciation)
- Attr16: (gross profit + depreciation) / total liabilities
- Attr17: total assets / total liabilities
- Attr18: gross profit / total assets
- Attr19: gross profit / sales
- Attr20: (inventory \* 365) / sales
- Attr21: sales (n) / sales (n-1)
- Attr22: profit on operating activities / total assets
- Attr23: net profit / sales
- Attr24: gross profit (in 3 years) / total assets
- Attr25: (equity share capital) / total assets
- Attr26: (net profit + depreciation) / total liabilities
- Attr27: profit on operating activities / financial expenses
- Attr28: working capital / fixed assets
- Attr29: logarithm of total assets
- Attr30: (total liabilities cash) / sales
- Attr31: (gross profit + interest) / sales
- Attr32: (current liabilities \* 365) / cost of products sold

- Attr33: operating expenses / short-term liabilities
- Attr34: operating expenses / total liabilities
- Attr35: profit on sales / total assets
- Attr36: total sales / total assets
- Attr37: (current assets inventories) / long-term liabilities
- Attr38: constant capital / total assets
- Attr39: profit on sales / sales
- Attr40: (current assets inventory receivables) / short-term liabilities
- Attr41: total liabilities / ((profit on operating activities + depreciation) \* (12/365))
- Attr42: profit on operating activities / sales
- Attr43: rotation receivables + inventory turnover in days
- Attr44: (receivables \* 365) / sales
- Attr45: net profit / inventory
- Attr46: (current assets inventory) / short-term liabilities
- Attr47: (inventory \* 365) / cost of products sold
- Attr48: EBITDA (profit on operating activities depreciation) / total assets
- Attr49: EBITDA (profit on operating activities depreciation) / sales
- Attr50: current assets / total liabilities
- Attr51: short-term liabilities / total assets
- Attr52: (short-term liabilities \* 365) / cost of products sold)
- Attr53: equity / fixed assets
- Attr54: constant capital / fixed assets
- Attr55: working capital
- Attr56: (sales cost of products sold) / sales
- Attr57: (current assets inventory short-term liabilities) / (sales gross profit depreciation)
- Attr58: total costs / total sales
- Attr59: long-term liabilities / equity
- Attr60: sales / inventory
- Attr61: sales / receivables
- Attr62: (short-term liabilities \* 365) / sales
- Attr63: sales / short-term liabilities
- Attr64: sales / fixed assets
- Class: did not get bankrupt (0) or got bankrupt (1)