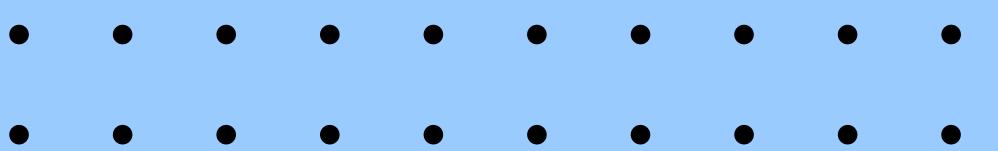


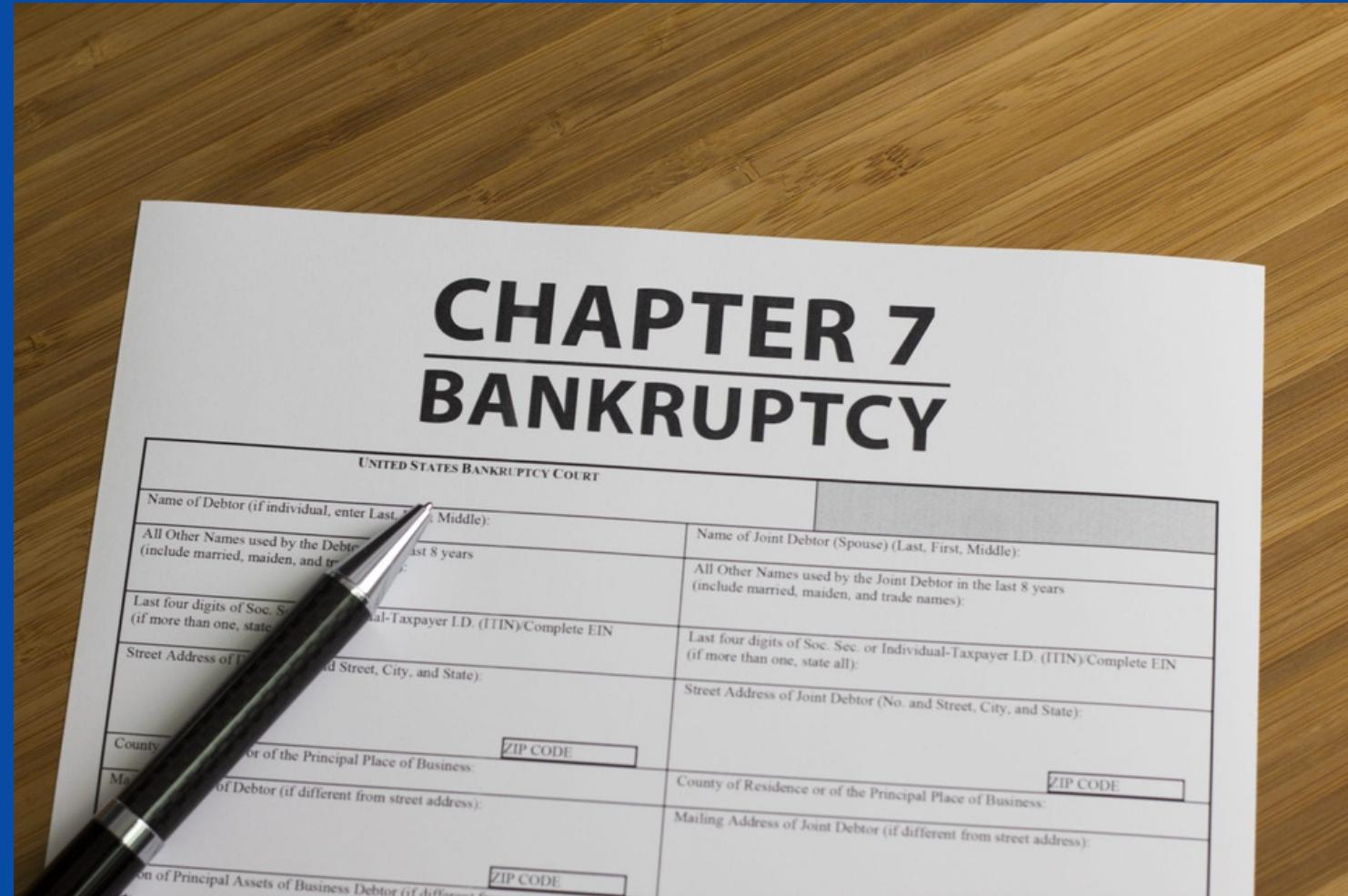


COMPANY BANKRUPTCY PREDICTION



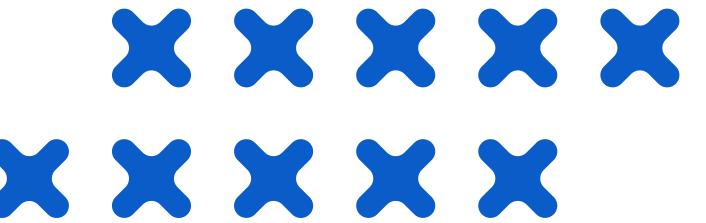
CORPORATE RESTRUCTURING ADVISORY MARKET

Corporate restructuring advisory market is estimated at US\$ 24.1 billion in 2023



CAGR of 6.3% reach US\$ 44.5 billion by 2033

- COVID-19, and Inflation may drive the market

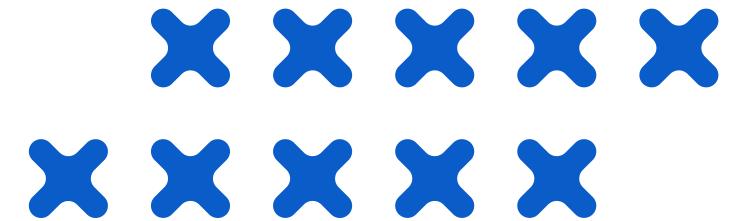


**MULTIPLE FACTORS TO
ANALYSE**

TOO MANY PITFALLS!

**ENORMOUS VARIETY
OF METHODS**





THE GOAL:

- **BUILD A ROBUST MODEL THAT CAN BE USED TO PREDICT A COMPANY BANKRUPTCY BASED ON CERTAIN FINANCIAL METRICS**

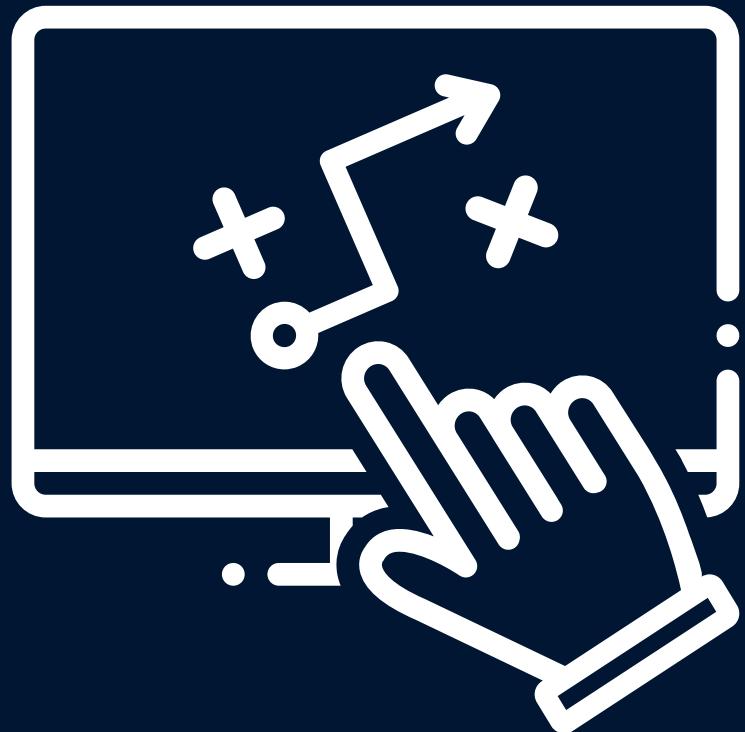


DATA

For modeling, we used the following dataset:

- Taiwan Economic Journal for the years 1999 to 2009

and to see what insight can be generated during data exploration and which model is able to predict company bankruptcy most accurately.



HOW DID WE DO IT

1

Data cleaning

2

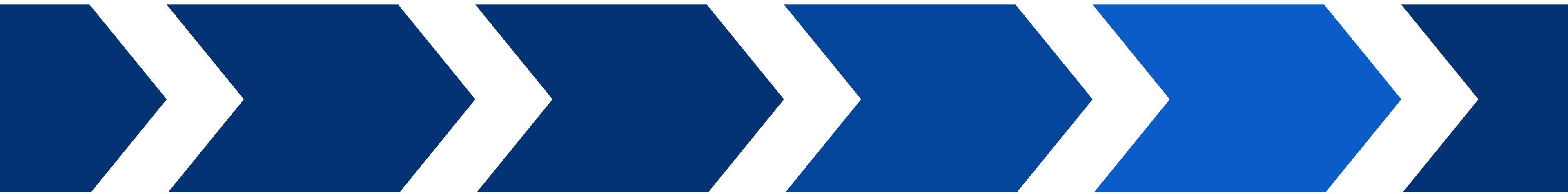
Data preparation

3

Model building
and verification

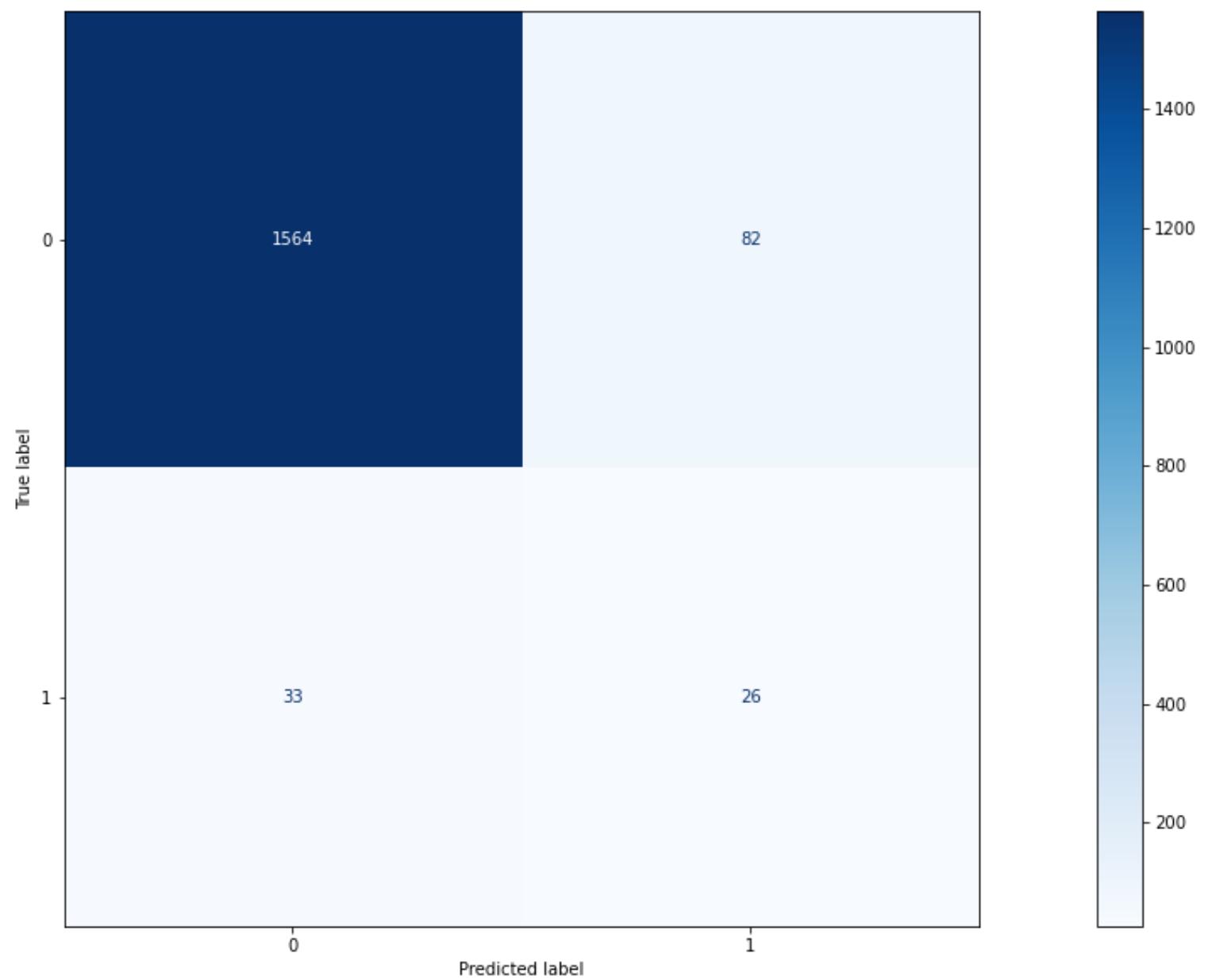
4

Further
recommendations



MODEL PERFORMANCE

The best-performing model shows an accuracy of 93% but still was able to detect only 26 cases of bankruptcy.



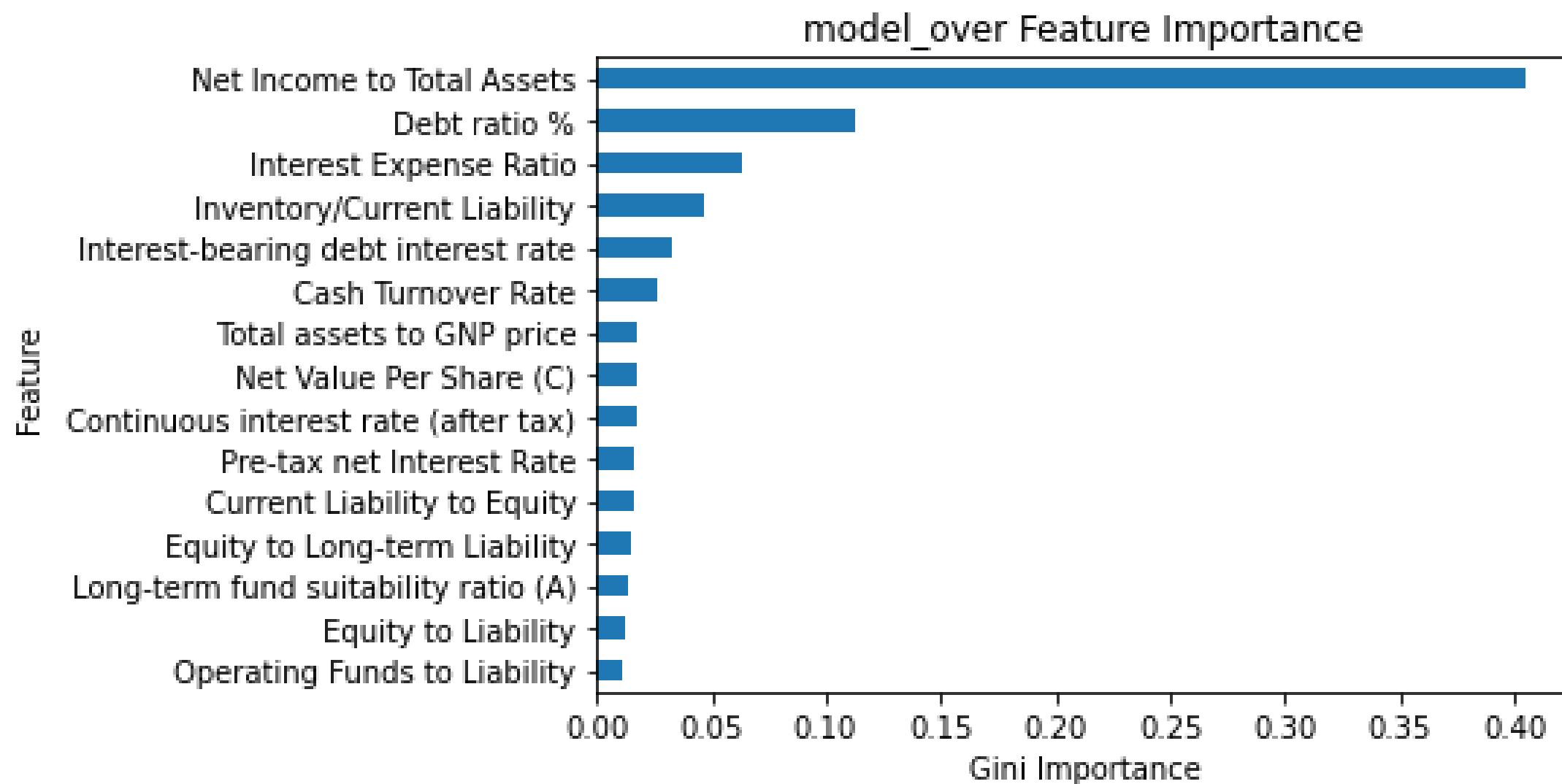
PROBLEMS

- **Strongly unbalanced dataset: 6599 non-bankrupts vs 220 bankrupts**
- **95 multi-collinear features**



CONCLUSIONS

It was found that further investigations are needed, using features revealed by the feature importance analysis.
It is difficult to build a robust model based on existing data.



BUSINESS RECOMENDATION

Most important features:

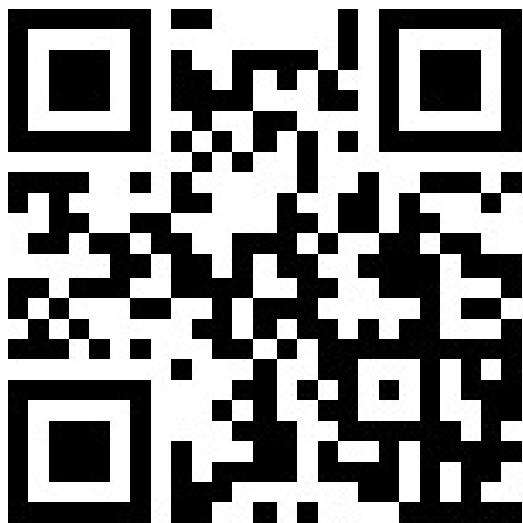
- Net Income to Total Assets
- Debt Ratio
- Inventory to Current Liability
- Interest Expense Ratio
- Cash Turnover Rate
- Total Assets Price
- Net Value per Share
- Net (after tax) Continues Interest Rate
- Current Liability to Equity
- Operating Funds to Liability



We suggest further data collection and getting a more balanced dataset.



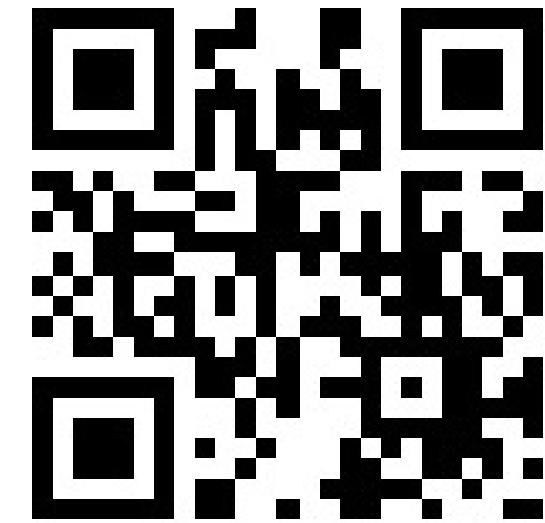
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Thank you.