

Project: *Polish Companies Financial Data*

The dataset is about financial indicators of Polish companies. The data was collected from Emerging Markets Information Service. The data contains financial rates from 1 year of the forecasting period. The prediction value is represented by the Net Profit/Inventory Ratio. The data contains 1748 instances (financial indicators) and 44 variables such as:

N = 1748

P = 43

Y= Net Profit/Inventory

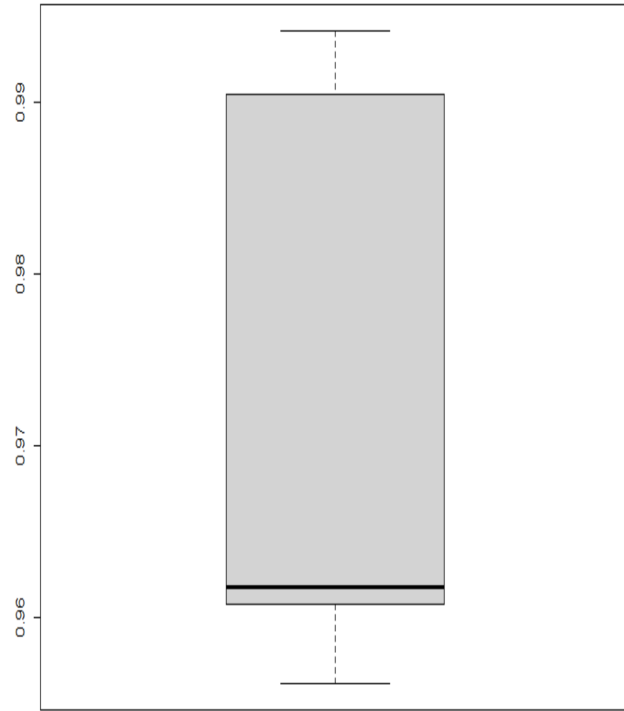
X1 net profit / total assets
X2 total liabilities / total assets
X3 working capital / total assets
X4 current assets / short-term liabilities
X5 retained earnings / total assets
X6 EBIT / total assets
X7 book value of equity / total liabilities
X8 sales / total assets
X9 equity / total assets
X10 equity / total assets
X11 (gross profit + extraordinary items + financial expenses) / total assets
X12 gross profit / short-term liabilities
X13 total assets / total liabilities
X14 gross profit / total assets
X15 gross profit / sales

X16 (inventory * 365) / sales
X17 profit on operating activities / total assets
X18 net profit / sales
X19 gross profit (in 3 years) / total assets
X20 (equity - share capital) / total assets
X21 (net profit + depreciation) / total liabilities
X22 profit on operating activities / financial expenses
X23 working capital / fixed assets
X24 (current liabilities * 365) / cost of products sold
X25 operating expenses / short-term liabilities
X26 operating expenses / total liabilities
X27 profit on sales / total assets
X28 total sales / total assets
X29 constant capital / total assets
X30 profit on sales / sales

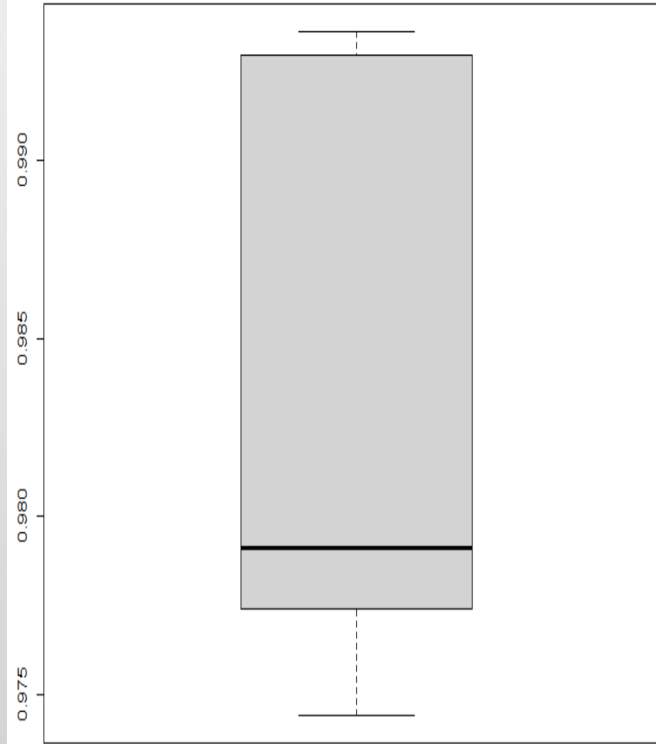
X31 (current assets - inventory - receivables) / short-term liabilities
X32 total liabilities / ((profit on operating activities + depreciation) * (12/365))
X33 profit on operating activities / sales
X34 rotation receivables + inventory turnover in days
X35 (receivables * 365) / sales
X36 (inventory * 365) / cost of products sold
X37 current assets / total liabilities
X38 short-term liabilities / total assets
X39 equity / fixed assets
X40 constant capital / fixed assets
X41 working capital
X42 total costs / total sales
X43 sales / inventory

R-Squared

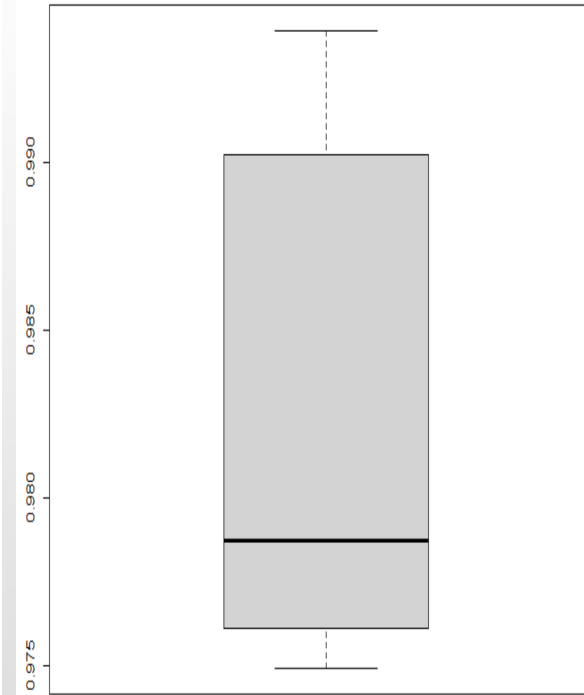
Elastic Net Train



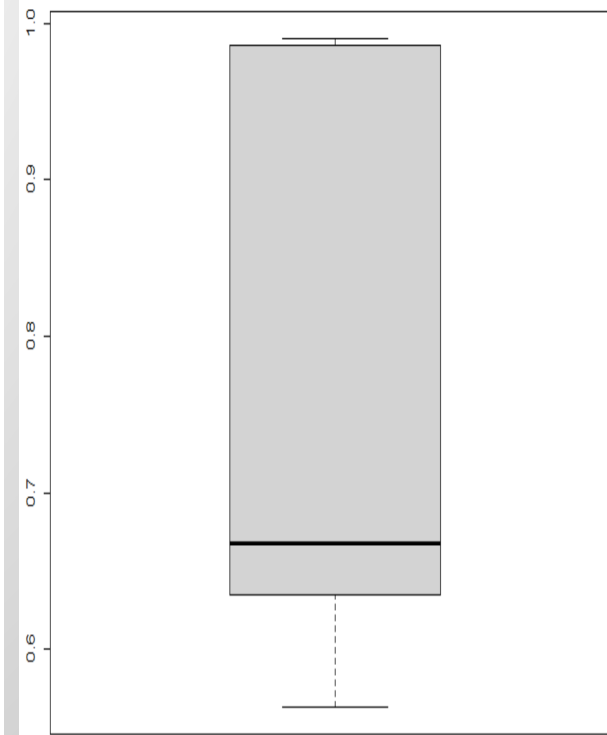
Random Forest Train



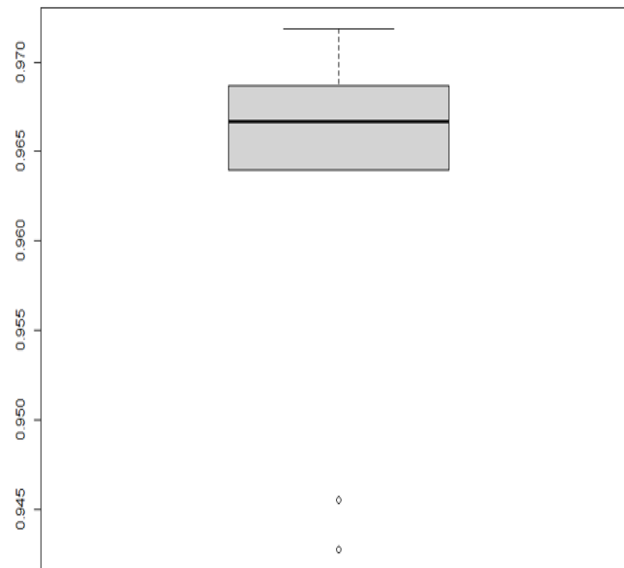
Lasso Train



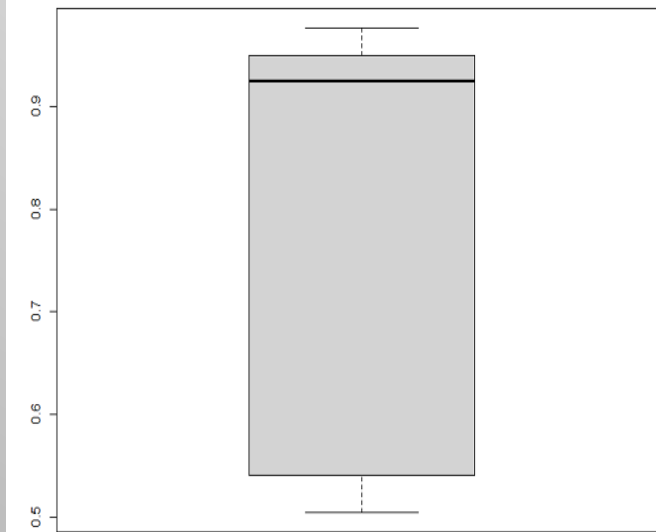
Ridge Train



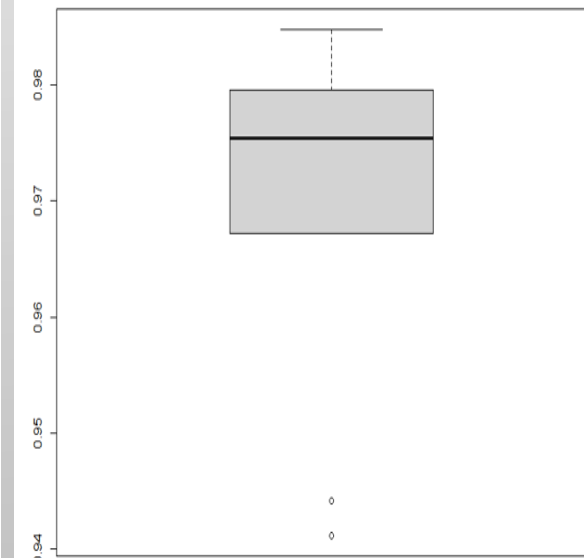
Elastic Net Test



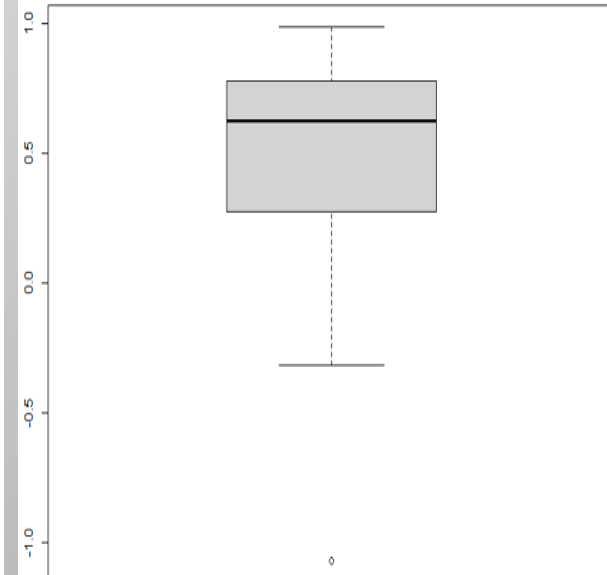
Random Forest Test

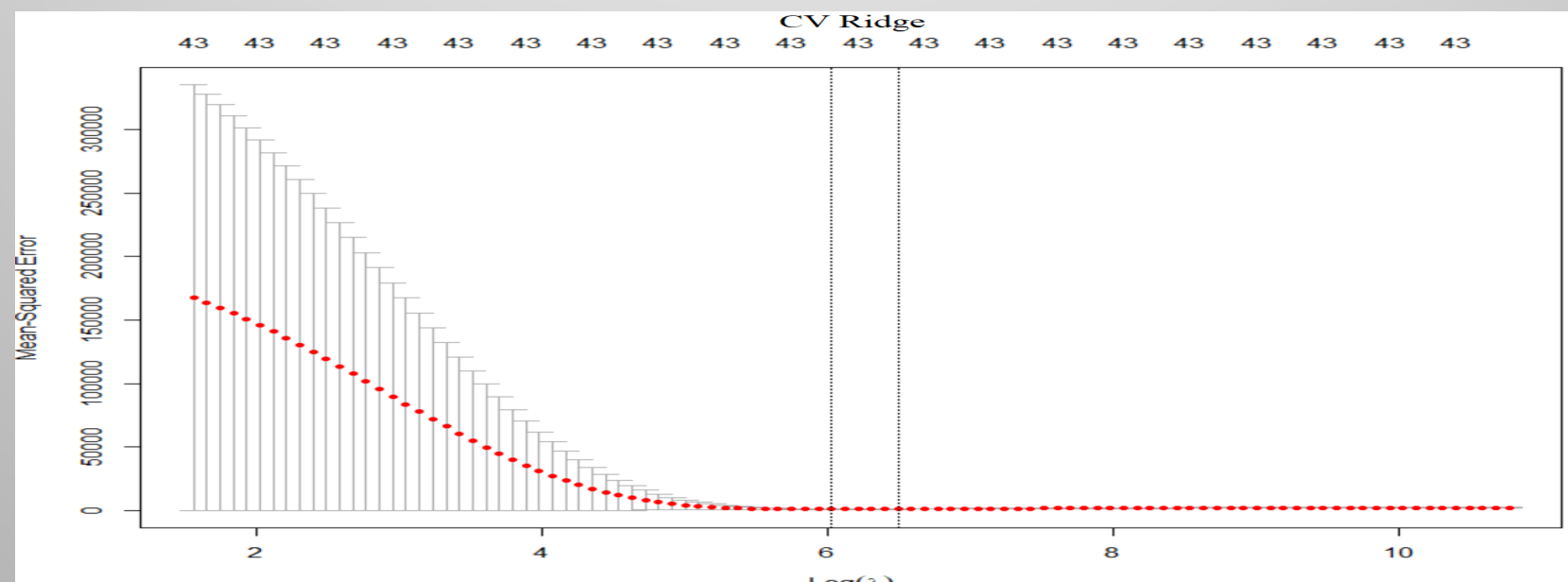
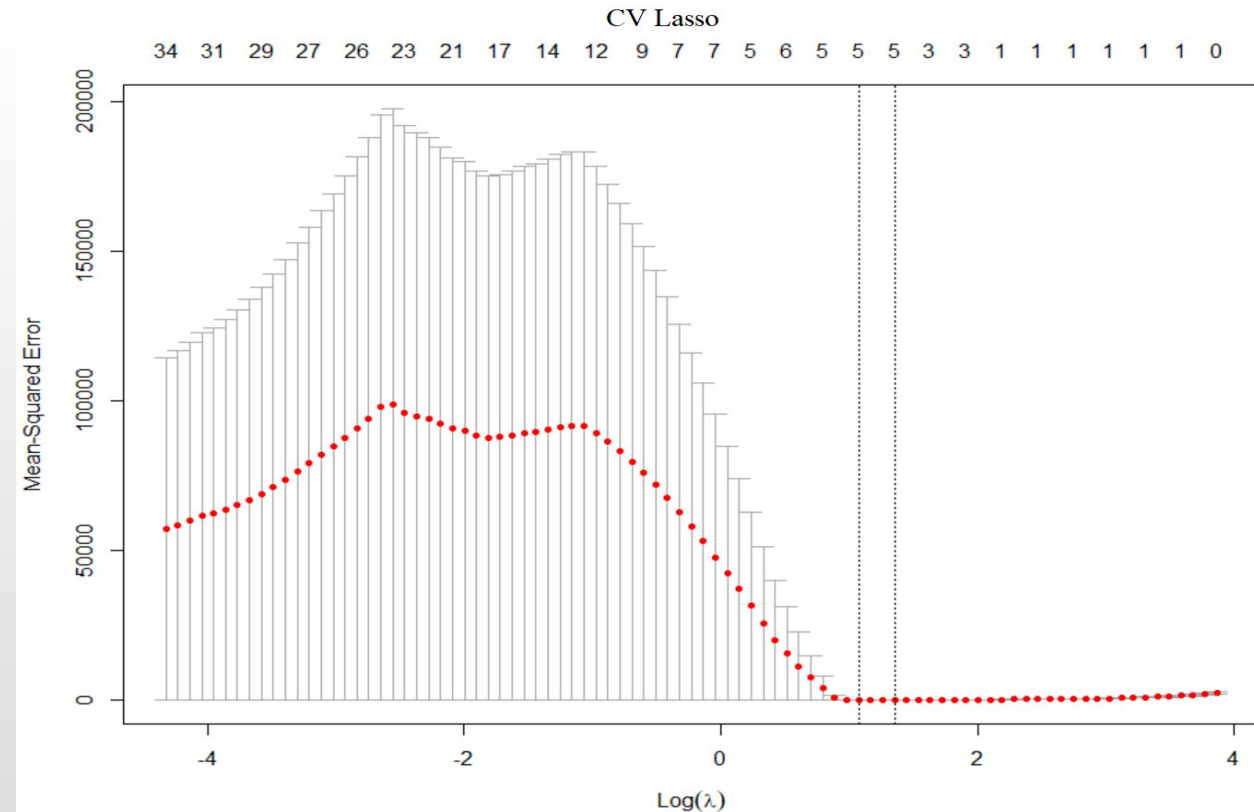
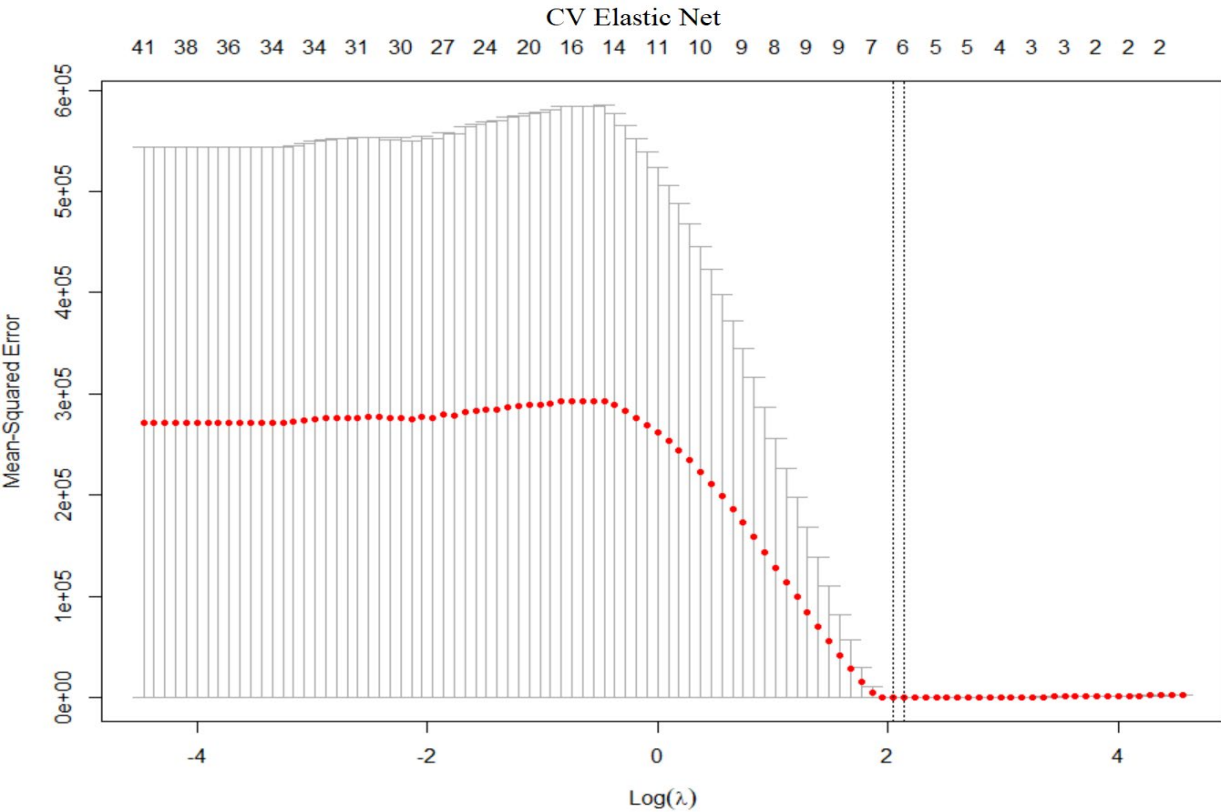


Lasso Test

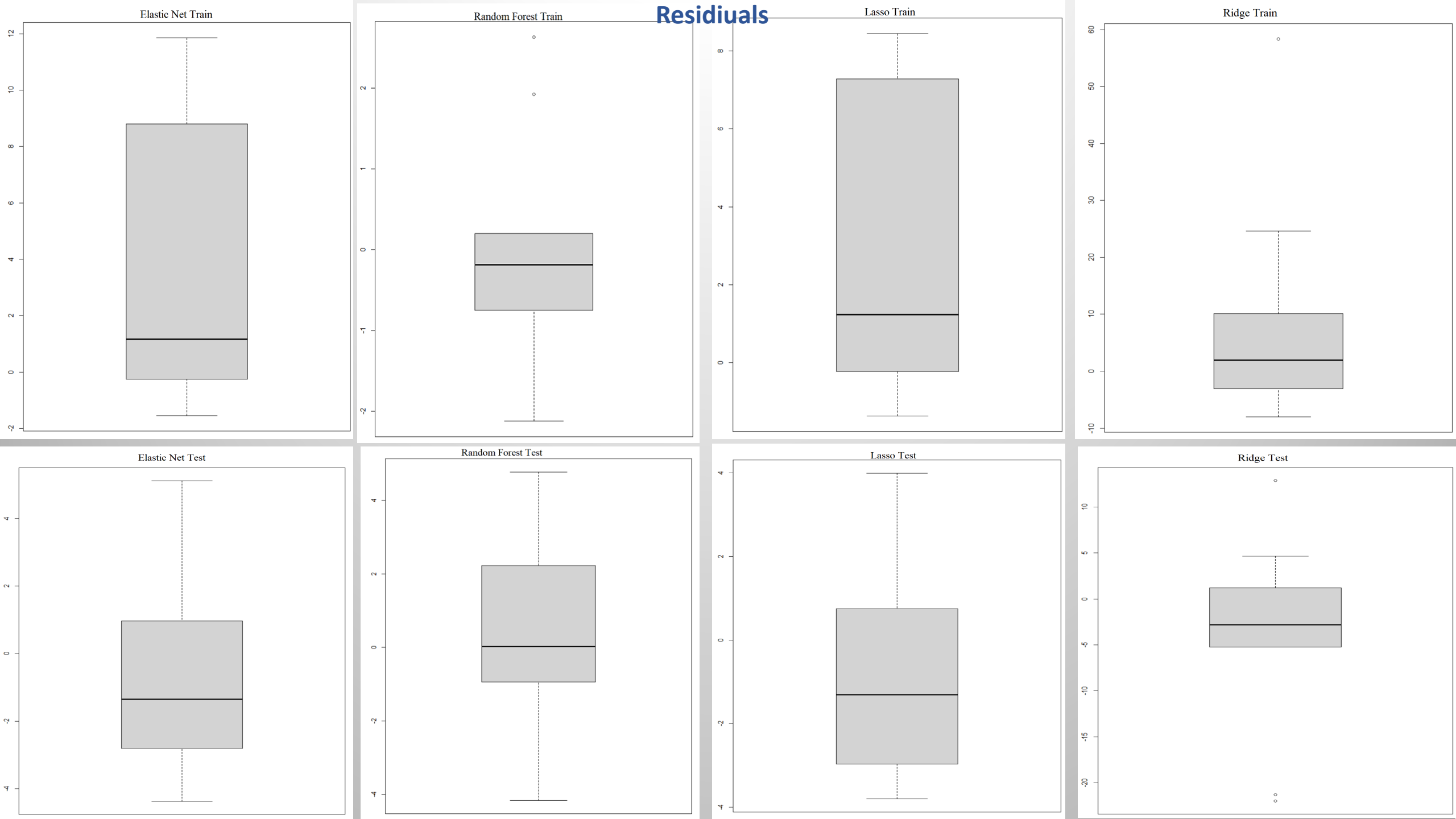


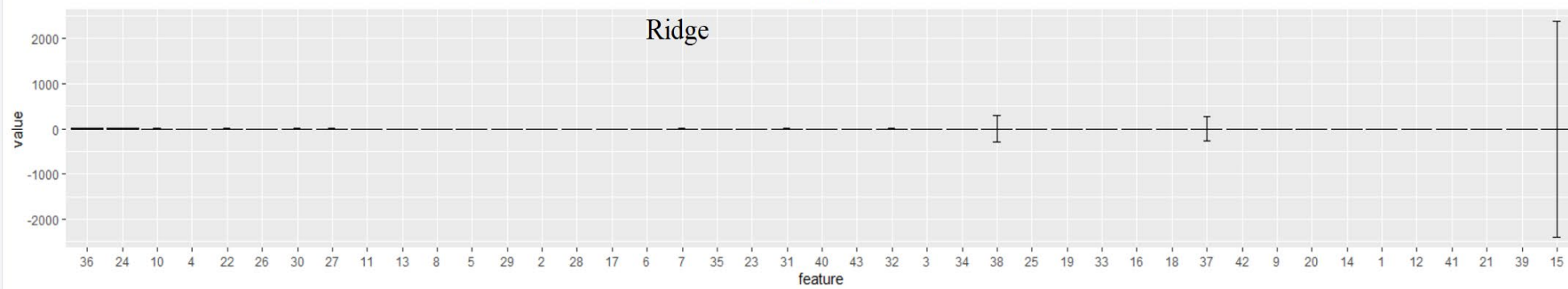
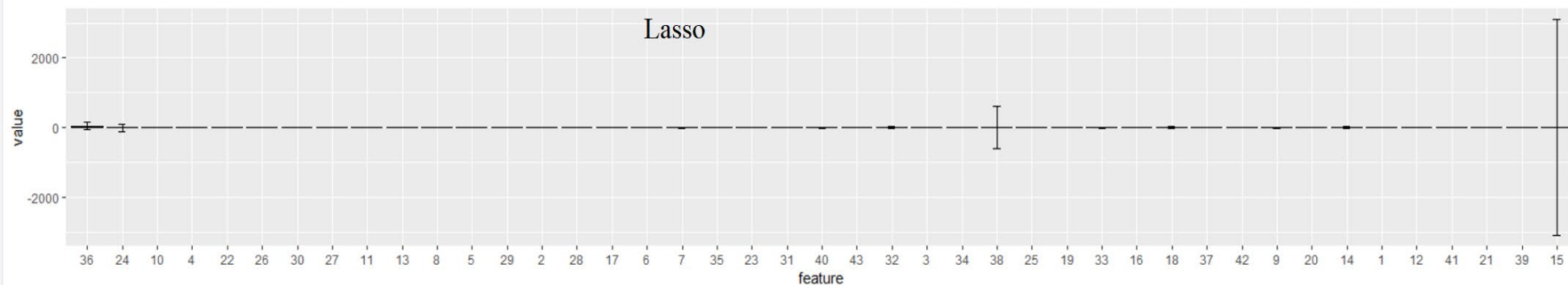
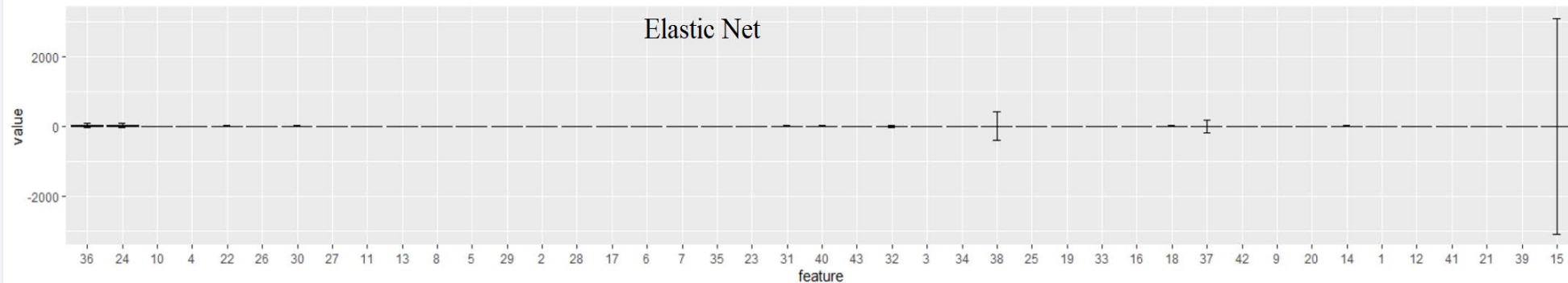
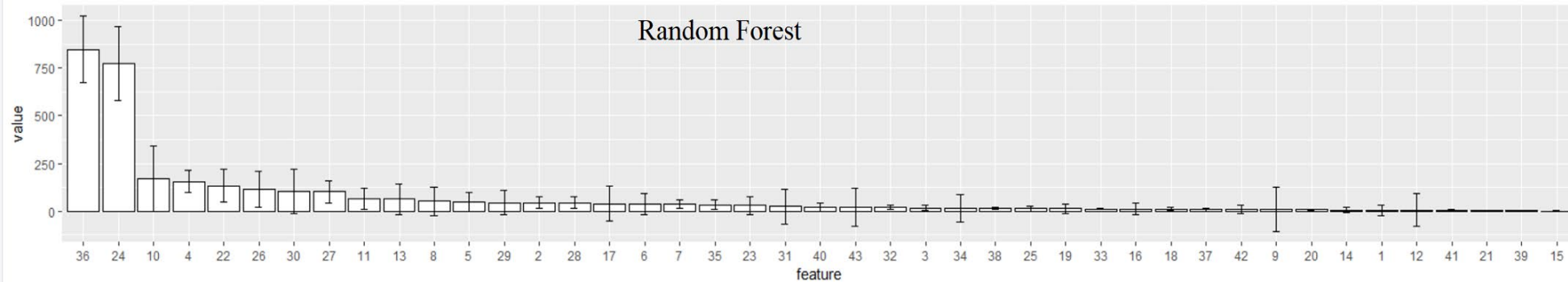
Ridge Test





Residuals





Top 10 Features:

*X36 (inventory * 365) / cost of products sold*

*X24 (current liabilities * 365) / cost of products sold*

X10 equity / total assets

X4 current assets / short-term liabilities

X22 profit on operating activities / financial expenses

X26 operating expenses / total liabilities

X30 profit on sales / sales

X27 profit on sales / total assets

X11 (gross profit + extraordinary items + financial expenses) / total assets

X13 total assets / total liabilities

Model	Performance Time	R-Squared Train IQR (25 th – 75 th Per.)	R-Squared Test IQR (25 th – 75 th Per.)	Residuals Train IQR (25 th – 75 th Per.)	Residuals Test IQR (25 th – 75 th Per.)
Elastic Net	2.009886 secs	(0.96, 0.99)	(0.963, 0.968)	(0, 9)	(-3, 1)
Lasso	1.799148 secs	(0.977, 0.99)	(0.968, 0.979)	(0,7)	(-3, 1)
Ridge	1.498025 secs	(0.64, 0.98)	(0.25, 0.75)	(-3, 10)	(-5,2)
Random Forest	80.97502 secs	(0.977, 0.996)	(0.55, 0.95)	(-0.5, 0.5)	(-1, 2)