The influence of financial and non-financial factors on the share price of Lithuanian manufacturing companies, listed in NASDAQ Baltic in 2005 – 2021 analysis

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Summary

Analyzed problem - what measurable financial and non-financial factors of the company's internal and external environment can be analyzed to find relationships with share price?

Goal of the thesis - To identify significant relationship between financial or non-financial factors of the analyzed companies and their stock price in the market.

Objectives:

1. To examine the results of research conducted by other authors presented in the scientific literature and to identify the mathematical models most often used for the assessment of relationships.;

2. Using the multiple linear regression method to identify variables significant to the share price in the case of analyzed companies.;

3. To discover and compare the causal relationships between the selected financial and non-financial factors and the share price of the analyzed companies..

Review of literature analysis

- For company owners, to increase the company's value and attractiveness in the market, one of the directions is increasing the shareholders' capital or raising the share price.;

- It was found that the multiple linear regression method (for financial indicators) is mostly used to search for relationships with the stock price;

- Granger causality analysis (for macroeconomic factors) is also often used to establish relationships.;

- The analysis considers that information reaches market participants at different points in time, and investors react to the news at different speeds.

Lithuanian companies, listed on the NASDAQ OMX Baltic stock exchange, which according to their activities are classified as C. Manufacturing business branch

A sample of internal and external environmental factors – 34

**Observation period** – 2005y – 2021y, quarterly data

Dependent variable Y - the company's share price on the last trading day of the quarter. $Y_{(t+1)}$ – share price on the last trading day of the following month. $Y_{(t+2)}$ – share price after 2 months after the close of the quarter.

Independent variables X - the company's financial indicators (liquidity, financial leverage, profitability, market value, turnover), the number of company employees and the country's macroeconomic indicators (GDP, interest rate, export, CPI).

Y_1 – AB „Auga Group"
Y_2 – AB „Grigeo"
Y_3 – AB „Linas"
Y_4 – AB „Pieno žvaigždės"
Y_5 – AB „Rokiškio sūris"
Y_6 – AB „Snaigė"
Y_7 – AB „Utenos trikotažas"
Y_8 – AB „Vilkyškių pieninė"
Y_9 – AB „Vilniaus baldai"
Y_{10} – AB „Žemaitijos pienas"

A correlation is observed between the analyzed companies
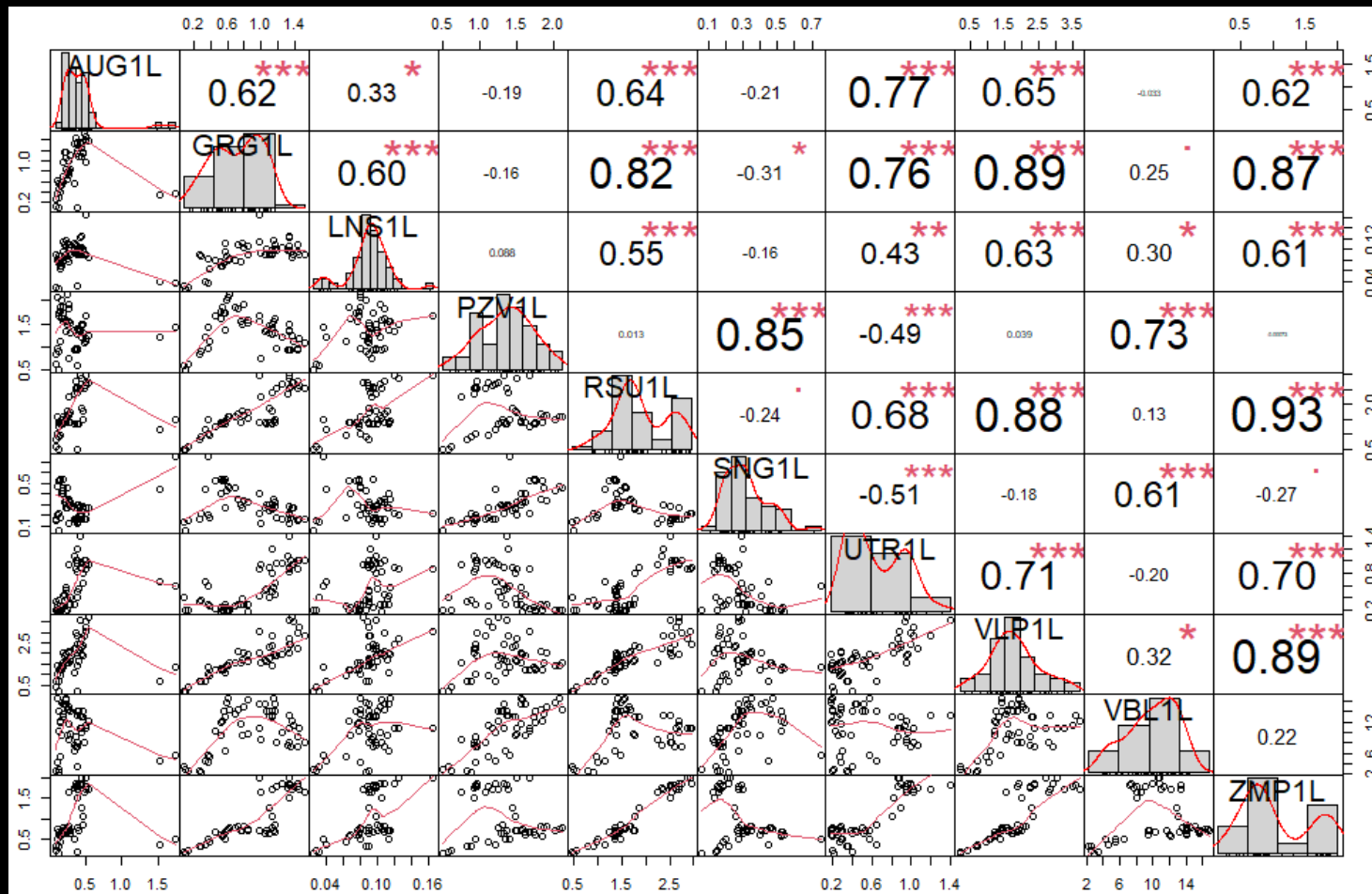
Multiple linear regression analysis

A multiple linear regression model is created:

$$Y\_lm \leftarrow lm(y0 \sim x1 + x2 + ... + x34, data = Ydata)$$

- Regressors whose VIF criterion indicating multicollinearity is too high is rejected for each company.;

- The stepwise method selects the essential regressors for the model according to the AIC criterion;

- The analysis is repeated with Y_(t+1) and Y_(t+2), representing the company's share price in months 1 and 2, respectively, after the close of the quarter (on the last trading day of the month).

Results of multiple linear regression analysis

The most common statistically significant factors for the share price among companies:

- Net asset value per share (NAVPS);

- Interest rate;

- Dividends paid, per share;

- Consumer price index;

- Number of employees.

Results of multiple linear regression analysis

Insights

- There is no common trend among all analyzed companies;

- The share price of milk processing companies was statistically significantly affected by the dividends paid per share;

- The analyzed financial and non-financial factors best explain the company's share price 1 month after the quarter close;

Granger causality analysis

Factors determining the share price that occur most often among companies:

- Consumer price index;
- ROA;
- EPS;
- Net profitability;
- Gross profitability;
- Operating profitability;
- ROE;
- Long-term debt to equity ratio;
- Long-term debt ratio;
- Turnover of fixed assets.;
- Interest rate.

Conclusions

Usually, in order to explain the changes in the share price in the market, the analysis of the relationship of the company's financial ratios with the share price is often taken into account.

The literature also contains a number of scientific studies that reveal that changes in the stock exchange can be explained by changes in the economic situation of the country where the company operates, or more precisely by changes in macroeconomic indicators (such as GDP, interest rate, CPI, exports, etc.).

The results of the multiple linear regression analysis revealed that the share price of the analyzed companies is significantly affected by different financial and non-financial factors. It was observed that in almost all linear regression models created for companies, macroeconomic indicators interest rate and CPI were included as statistically significant.

Conclusions

A clear general trend between companies was also not observed in the results of the Granger causality analysis.

For this reason, it is possible to conclude that different financial and non-financial factors affect the market share price of companies operating in the same business branch, so the identification of significant variables is possible only by individually assessing the situation of each company.

The research results provide useful information for business owners who seek to make effective financial management decisions and increase the value of the company.

The conducted research revealed what measurable financial and non-financial factors could be analyzed in order to identify the factors influencing the share price in the case of a specific company.