

## **COMPETITIVENESS AND BUSINESS EXCELLENCE OF LARGE CROATIAN COMPANIES WITH A SPECIAL FOCUS ON STOCK MARKET VALUE**

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**Abstract:** *Competitiveness is one of the most significant challenges faced by companies to position themselves in the market and achieve excellence, thereby differentiating themselves from the competition. The Republic of Croatia is a developing country with a majority of small companies in its company structure. In terms of profits and employee numbers, large companies dominate the industry and economy as a whole. This paper aims to provide a theoretical basis and investigate the structure of companies in the Republic of Croatia, with a special focus on large companies listed on the stock exchange. Large companies are the carriers of the economy and have a significant influence on industry and investors who invest in stocks. The paper is based on stock trading data from the Zagreb Stock Exchange, with a special review and analysis of companies listed on the leading market. The results show the price range and business scope of the observed shares. Limitations of the research include a small sample size for the leading stock market and geographical limitations due to Croatia's small market size. Future research should include an analysis of other companies listed on the stock exchange, as well as a comparison of large companies and stock market operations with countries in Eastern Europe and the European Union. Large companies have a significant impact on global economies, and this study's findings can contribute to a better understanding and increased participation by stakeholders and potential investors in company operations available on the stock exchange.*

**Key words:** *Competitiveness, Development, Enterprise, Stock, Investment.*

**JEL classification:** *L26, O16.*

### **INTRODUCTION**

Achieving competitiveness and business excellence is one of the biggest challenges for companies in today's global economy. Due to various external macroeco-

conomic factors, such as the COVID-19 pandemic, the introduction of the euro as a new currency, and the war in Ukraine, companies in Croatia have had to make important strategic decisions over the past few years to reduce their impact or use these challenges as opportunities for further development. Achieving excellence in such an uncertain environment is a real challenge for companies. Croatia is one of the post-transition economies that recently joined the European Union. Over the past few decades, Croatia has experienced an economic transformation emphasizing free market structures. This transformation was accompanied by privatization and development of the financial system. With rising efficiency of financial intermediaries, the stock market has experienced significant growth, making it an important issue for scholars and practitioners (Novak, 2021).

In order to achieve a unique market position and achieve excellence, it is necessary for companies to have an organized system of successful strategic action, as well as strategic management of the costs and finances of the company globally.

In the overall structure of companies in the Republic of Croatia, small companies dominate numerically, but with regard to the number of employees, average net salaries, as well as business results and scope of operations, large companies dominate, with special reference to companies that are listed and issue their shares on the Zagreb Stock Exchange. This work provides a theoretical overview of the role of large companies and a view of their development from different author's perspectives. The second goal of the work is to present and analyse the state and level of stock market operations on the domestic stock exchange.

## LITERATURE REVIEW

The goal of the company's strategy is to improve operations and achieve a competitive advantage in new market conditions. The characteristics of modern business that are becoming more and more pronounced and have an increasing influence on the company are: new trends, globalization, market positioning, market share, turbulent market, etc. The roles of strategy in the company are: accurate and quick judgment of a certain situation, analysing facts in order to identify opportunities and threats in the company's environment, as well as strengths and weaknesses in the company, recommend specific courses of action, and sharpen analytical skills, as well as connect theory and practice and improve communication skills. A company achieves a sustainable competitive advantage when an attractive number of customers prefer its products to those of the competition and when the basis of these preferences is permanent.

For a company, one of the most important indicators that enable development and prosperity in the future are investments. In today's economy, more and more emphasis are placed on intangible values, and this paper analyses the importance of investing in shares, and how the level of investment can affect the growth and development of a company. In the rest of the text, an overview of previous research related to stock market operations, innovations, strategies, and the competitiveness and excellence of companies is given.

According Szabo and Bihary paper research and brings conclusion for long term period that holding stocks is more profitable and better option than holding money on bank account (Szabo & Bihary, 2023.). Nametala et.al. explore that artificial intelligence has an increasing influence and importance in defining and implementing strat-

egies related to stock markets. Artificial intelligence is a growing trend in the world and according to this work it should be considered that the predictors of the classical form of business and modern factors based on the application of artificial intelligence differ. (Nametala, 2023.) According Lepori's paper an account is given of how illness of employees of stock exchange institutions have an impact on the final business result, success and excellence of operations. Research is conducted on New York professionals. (Lepori, 2023.) Liang, Williams & Chong Xiao in the paper analyses and conducts research on the impact of innovations on the supply chain in stock markets. „Market signals about customers appear more important when information asymmetry is greater, when suppliers face greater competitive threats, and when suppliers are financially unconstrained.” (Liang, Williams, & Chong Xiao, 2021.) Yarba & Yassa made next research elements: „this paper investigates investment behaviour across public and privately held firms using a novel firm-level dataset. The results reveal that stock market listing spurs growth significantly in terms of sales, employment and assets for manufacturing firms.” (Yarba & Yassa, 2022.) According Xie et. al. “paper provides evidence on the role of foreign analysts in improving the informativeness of stock prices for corporate managers. Cross-sectional analyses indicate that the positive effect of foreign analysts on managerial learning is more pronounced for firms in developed economies, firms with better financial positions, firms in less competitive industries, and firms with less foreign ownership.” (Xie, 2022.)

According Ozkan the „role of expected growth is assumed to have a positive relation with expected stock returns.” The main goal of this paper is to research influence of expected investment growth on stock returns. (Ozkan, 2021.) Caneo and Kristjanpoller in their paper research that „largest eigenvalue is clearly dominant and that its associated eigen portfolio presents a co-movement with the market while the number of dominant components is contrary to market volatility.” (Caneo & Kristjanpoller, 2019.) Huang and Fang in their paper are focused on heterogeneity and investments of corporations. According their paper and research conclusion is that „rationally valued stocks, corporate investment is positively correlated with valuation and has no consistent relationship with market sentiment.” Because of that changes in market sentiment can make reduction of the reliance of managers' investment decisions on valuation. (Huang & Fang, 2021.)

According Thakurata the core of research was optimal portfolio choice in developing countries, based on stock market entry costs and on the other side human capital investments. (Thakurata, 2021.) De Franco in paper Stock Picking in the US Market and the Effect of Passive Investments conduct research in order to „provide evidence about the alleged structural changes in the US equity markets that have dramatically reduced the potential for stock picking strategies to work. Greater competition and ease to trade have made investors eager to revisit their choice of manager (overall a positive thing) but also to chase past winners.” (De Franco, 2021.)

According Chhimwal, Bapat. & Gaurav retail domestic investors prefers small cap stocks and enterprises which require lack knowledge. „In addition, industry heterogeneity determines investment decisions. Firm-specific and macroeconomic factors that influence investment decisions differ across industries. Finally, government policies and reforms also play a key role in attracting investors.” (Chhimwal, Bapat, & Gaurav, 2021.) Achleitner et. al. present empirical evidence about investments of two

of most relevant investment areas of world, Germany and Hong Kong. Findings of this paper are „mainly attributable to industrial policies pursued by Chinese and Gulf investors, which mirror the different political and economic goals in these two regions.” (Achleitner, 2021.) According Khan et. al. all development and modernisation decisions of enterprise should be based on level of investments. (Khan, 2021.)

Li, Wang and Yu in their paper research topic of expected growth of investments and their returns on stock market. They analyse investment plans, growth, market return, investments based on neoclassical model. (Li, Wang, & Yu, 2021.) Artikis et. al. in their paper named „Asset Growth and Stock Returns in European Equity Markets: Implications of Investment and Accounting Distortions” investigate effect of company growth on stock market (based on balance sheets). Authors found that investment growth is higher in countries with higher market efficiency. (Artikis, 2022.) Parveen et. al. in their paper research cognitive biases of enterprises (managers and entrepreneurs) that influence the decisions of the investors in the stock market. (Parveen, 2020.)

According Alhassan and Naka stock liquidity is one of most important elements that determines stock investment. (Alhassan & Naka, 2019.) Shahbaz et. al. made research green economy and stock prices, based on parameters of energy and stock market. Clean energy and sustainable development should be in modern days important parameter for each business. (Shahbaz, 2021.) Wang in his paper „investigates the role of stock market valuation and cross-country arbitrage in shaping foreign direct and indirect investments, contingent upon a country’s stage of development.” (Wang, 2019.)

## METHODOLOGY

The research methodology refers to the analysis of trading in company securities on the Zagreb Stock Exchange. The Zagreb Stock Exchange has existed informally since June 15, 1907, when it operated as part of the then Chamber of Commerce under the name ‘Section for Securities and Commodity Trading’ and achieved excellent results already in the first week of operation. In the area of trade, there are three types of markets offered: leading. Official and regular market. In the area of trading, the stock exchange offers several types of securities, including the following: equity securities (shares and certificates of deposit), ETFs, debt securities (bonds: municipal bonds, corporate bonds; money market instruments), and structured products (index certificates and turbo certificates). With regard to trading models, the stock exchange offers: continuous trading modality, trading modality for low liquid stocks, modality. continuous auctions, auction modality, block transaction, OTC transaction).

In the area of securities trading, for research purposes, all types of securities are analysed in two trading modalities: CT Continuous trading modality and CTLL Trading modality for low-liquid stocks.

## RESULTS AND DISCUSSION

This research deals with the fundamental indicators of operations on the Zagreb Stock Exchange. The Zagreb Stock Exchange has a long tradition, but considering the size of the market, there is not a very large number of companies on it, and many of those on the stock exchange are not traded at all. In the continuation of the paper, a table with the basic indicators of the stock market turnover is presented first.

**Table 1.** Turnover statistics in million Euro

Period	Equity Instruments	Debt Instruments	Structured Products	EFT	Total Turnover	No. of Trades
2023-04	82,80	8,47	0	2,00	93,27	26,696
2022	366,01	16,59	0	10,14	392,74	81 722
2021	300,85	30,21	0	6,02	337,08	91 599
2020	378,44	33,93	0	2,91	415,28	122 103
2019	358,58	38,83	0	0	397,41	108 260
2018	281,58	97,22	0	0	378,80	92 650
2017	426,16	59,56	0	0	485,73	181 205
2016	413,95	92,05	6,89	0	512,89	133 177
2015	364,64	66,74	10,52	0	441,90	177 943
2014	378,45	95,01	11,79	0	485,26	201 607
2013	398,73	76,47	1,19	0	476,39	237 154

**Source:** Zagreb stock exchange (Zagreb Stock Exchange, 2023.)

Table 1. Shows equity instruments, debt instruments, structured products, EFT (exchange-traded funds), total turnover and number of trades. According to the table, in the observed early period from 2013 to 2023, the number of trades decreases in principle. The highest level of trading was in 2013. The year when the number of recorded trades was 237,154, which compared to 2022 was almost three times the volume of trade. Total turnover was generally at the highest level in the period 2013-2016, and in 2016 it was the highest compared to the observed period. Trading with EFT took place only in the period 2020-2023, and there were no recorded trades in the previous period, structured products were traded only until 2106, after that year there were no trades.

In addition to the amount and statistical indicators on the volume of business, the following table shows the market types and the share of companies by each modality on the Zagreb Stock Exchange. The data refer to the distribution in 2023.

**Table 2.** Market types and the share of companies in each modality on the Zagreb Stock Exchange

Type of market	Trading modality	Company number	Share in a particular modality (%)
Market leader	CT	6	100%
	CTILL	0	0%
Official market	CT	49	100%
	CTILL	0	0%
Regular market	CT	49	56,32%
	CTILL	38	43,67%

**Source:** author

Table 2. shows three types of markets on the Zagreb Stock Exchange: market leader, official market and regular market. Market leaders are companies from the stock exchange that have the highest turnover, the largest amounts of business and the best

performance. The official market is the one on which the trading year is regularly conducted, and the regular market is the list of all companies listed on the stock exchange.

In addition to the division of the market, there are also two types of trading, the so-called Trading modality, and it consists of two types: CT (modality of continuous trade) and CTILL (modality for low-liquid shares). CT modality on the leader market is 100%, as well as on the official market. The only difference is on the regular market, where the CT modality makes up 56.32% of companies, while the CTILL modality makes up 43.67% of companies on the stock exchange.

In view of the above, this table confirms the statement that a large part of the companies on the stock exchange is inactive, and that no trade is conducted, which means that on average, only half of the companies on the Zagreb Stock Exchange are continuously traded. In addition to the division and structure of companies that are on the stock exchange, the continuation of the paper also states the division of companies according to the sector classification by industry branches, in the rest of the text follows table 3. Number of companies within the sector according to sector classification.

**Table 3.** Number of companies within the sector according to sector classification

Sector designation	Sectoral classification	Number of companies within the sector	% of companies in each sector
A	Agriculture, forestry and fishing	1	0,9%
CA	Production of food products, beverages and tobacco products	9	8,1%
CB	Production of textiles, clothing, leather and related products	3	2,7%
CC	Production of wood and paper products, printing	1	0,9%
CE	Production of chemicals and chemical products	1	0,9%
CI	Production of computers and electronic and optical products	1	0,9%
CJ	Production of electrical equipment	1	0,9%
CL	Production of transport equipment	33	30%
F	Construction	3	2,7%
G	Wholesale and retail trade; repair of motor vehicles and motorcycles	5	4,6%
H	Transportation and storage	9	8,1%
I	Activities of providing accommodation and preparing and serving food	19	17,2%
JA	Publishing activities, film and sound recording activities, and program broadcasting activities	1	0,9%
JB	Telecommunications	1	0,9%
K	Financial activities and insurance activities	12	10,9%
L	Real estate business	2	1,8%
MA	Legal, accounting, management, architectural activities and engineering, as well as technical testing and analysis	8	7,2%
R	Art, entertainment and recreation	1	0,9%

**Source:** author

Table 3. shows 18 different sectors in accordance with the sector classification of activity and the number of listed companies belonging to a certain sector branch. The largest number of companies, 33 of them, belong to the sector CL- Production of transport equipment, followed by sector I- Activities of providing accommodation and preparing and serving food with 19 companies, and the third most represented sector with 12 companies is K- Financial activities and insurance activities. As many as seven sectors count only one belonging company.

In the rest of the text, Tables 4 and 5 are shown, which provide an overview of the stock market indices on the Zagreb Stock Exchange. Table 4 shows the statistics of stock market indices for the period 2021-2023. The stock index of the Zagreb Stock Exchange is Crobex (Crobex, Crobex tr, Crobex prime, Crobex 10, Crobex 10tr).

**Table 4.** Annual statistics of stock market indices

Period	CROBEX	CROBEX tr	CROBEX prime	CROBEX 10	CROBEX 10tr
2023-04	2.230,85	1.623,72	1.277,05	1.281,93	1.361,42
2022	1.979,88	1.415,96	1.149,64	1.156,15	1.222,39
2021	2.079,35	1.441,05	1.220,29	1.262,31	1.293,33
2020	1.739,29	1.179,89	1.048,11	1.087,81	1.087,33
2019	2.017,43	1.348,37	1.164,17	1.199,89	1.175,42
2018	1.748,81	1.129,13	1.000,00	1.017,07	-
2017	1.842,87	1.161,71	-	1.076,86	-
2016	1.994,84	1.222,89	-	1.158,18	-
2015	1.689,63	1.010,22	-	989,28	-
2014	1.745,44	1.009,78	-	1.007,14	-
2013	1.794,28	-	-	994,85	-
2012	1.740,39	-	-	971,56	-
2011	1.740,21	-	-	976,16	-
2010	2.110,93	-	-	1.154,30	-

**Source:** Zagreb stock exchange

According to Table 4., only complete data for two indices (Crobex and Crobex 10) are presented on the stock exchange for the period from 2010-2023. The Crobex stock market index had the highest value in 2023.

Table 5 shows the indices and provides an analysis according to sector affiliation of Zagreb stock exchange stocks (Crobex plus, Crobex industry, Crobex construct, Crobex nutris, Crobex transport and Crobex truiust). The analysed period is the last ten years, from 2013-2023.

**Table 5.** Sector indice analysis per year

Period	Crobex plus	Crobex industry	Crobex construct	Crobex nutris	Crobex transport	Crobex turist
2023-04	1.631,48	1.416,78	519,63	771,12	1.578,81	4.036,99
2022	1.360,86	1.048,52	554,21	726,50	1.234,04	3.526,57
2021	1.230,38	1.121,90	478,85	773,75	809,49	3.591,00
2020	1.104,30	950,45	698,94	623,36	-	3.477,97
2019	1.108,73	870,48	432,14	689,01	750,13	3.456,83
2018	947,63	853,81	496,32	498,62	791,07	3.538,52
2017	1.082,17	1.130,91	535,23	470,10	1.280,65	3.623,65
2016	1.181,83	1.192,90	517,70	856,31	1.077,12	3.271,93
2015	969,58	965,06	480,09	782,23	889,38	2.559,02
2014	940,18	910,74	499,03	805,73	1.262,35	2.068,44
2013	987,83	1.106,90	787,26	879,75	1.169,80	1.155,00

**Source:** Zagreb stock exchange

According to the index of individual sectors from table 5, the most significant and successful stock exchange index is in the tourism sector, ie Crobex turist. The lowest index is the one for the construction sector Crobex construct.

Table 6. below is an overview of market capitalization for the period 2010-2023.

**Table 6.** Market capitalisation in million Euro

Period	Equity Instruments	Debt Instruments	Total Market Cap	No. of Trades
2023-04	19.622,08	17.890,10	37.520,91	26.696
2022	18.020,30	16.329,87	34.357,65	81.722
2021	18.495,23	17.857,76	36.361,38	91.599
2020	18.230,68	17.722,38	35.956,65	122.103
2019	19.640,78	15.371,70	35.012,48	108.260
2018	17.618,76	13.378,46	30.997,22	92.650
2017	18.349,82	12.983,08	31.332,89	181.205
2016	19.004,43	11.842,48	30.846,92	133.177
2015	16.315,37	10.484,27	27.028,48	177.943
2014	16.084,22	9.995,31	26.161,37	201.607
2013	15.046,03	8.531,20	23.590,77	237.154
2012	16.386,98	8.227,92	24.614,90	273.553
2011	16.756,55	7.186,70	23.943,25	347.220
2010	18.164,86	6.697,40	24.862,27	281.875

**Source:** Zagreb stock exchange

Table 6. Shows equity and debt instruments, total market capital and number of trades. Market capitalization is constantly increasing over time, while the number of



trades was the highest in 2011.

## CONCLUSION

This paper provides an overview and analysis of the main indicators of companies in the Republic of Croatia that are listed on the Zagreb Stock Exchange. Based on the survey, an overview of business on the stock exchange, type and structure of companies according to modality, number and structure of companies according to industrial sector, overview of stock market indices and market capitalization in the period of the last ten years was given. With this research, it can be concluded that a large number of companies are not listed on the Zagreb Stock Exchange, that a large part of the trade is inactive and that there are no transactions. In accordance with the industrial distribution, many branches of industry do not have a representative number of companies, so that it would even be possible to make an analysis of stock market operations according to a particular branch of industry. Therefore, it can be concluded that the main limitations of this work are the small sample of companies and the large share of companies that are listed on the stock exchange but are not active.

In order to be able to obtain more relevant data for more detailed research in the future and future recommendations, it would be good to analyse a larger geographical stock market location, in a way to analyse the stock market operations of several countries in the region or a larger part of Eastern Europe. In order to increase the competitiveness of the entire economy, it is necessary to develop and strengthen both large companies listed on the stock exchange, as well as medium and small ones, through strategic actions, innovation and investment investments.

## LITERATURA

- Achleitner, A. K. (2021.). Foreign Direct investments in the German Stock Market from China and the Gulf States. *Credit and Capital Markets/ Kredit und Kapital*, v.54, issue 4, str. 563.-587.
- Alhassan, A., & Naka, A. (January, vol. 65 2019.). Corporate Future Investments and Stock Liquidity: Evidence from Emerging Markets. *International Review of Economics and Finance*, str. 69-83.
- Artikis, P. G. (April, vol. 73 2022.). Asset Growth and Stock Returns in European Equity Markets: Implications of Investment and Accounting Distortions. *Journal of Corporate Finance*.
- Caneo, F., & Kristjanpoller, W. (July, v. 26, iss. 3 2019.). Improving Statistical Arbitrage Investment Strategy: Evidence from Latin American Stock Markets. *International Journal of Finance and Economics*, str. 4424-4440.
- Chhimwal, B., Bapat, V., & Gaurav, S. (v. 47, issue 5 2021.). Investors' Preferences and the Factors Affecting Investment in the Indian Stock Market: An Industry View. *Managerial Finance*, str. 723-744.
- De Franco, C. ( February, v. 22 2021.). Stock Picking in the US Market and the Effect of Passive Investments. *Journal of Asset Management*,, str. 1-10.
- Huang, B., & Fang, X. (June, vol. 57, issue 8 2021.). Market Sentiment, Valuation Heterogeneity, and Corporate Investment: Evidence from China's A-share Stock Market. *Emerging Markets Finance and Trade*, str. 2230-2245.
- Khan, I. ( v. 13, issue 2 2021.). The Impact of Heuristic Biases on Investors' Investment Decision in Pakistan Stock Market: Moderating Role of Long-Term Orientation. *Qualitative*

*Research in Financial Markets*, str. 252-274.

- Lepori, G. M. (January, v. 70 2023.). Acute Illness Symptoms among Investment Professionals and Stock Market Dynamics: Evidence from New York City. *Journal of Empirical Finance*, str. 165-181.
- Li, J., Wang, H., & Yu, J. (January, vol. 117 2021.). Aggregate Expected Investment Growth and Stock Market Returns. *Journal of Monetary Economics*, str. 618-638.
- Liang, L., Williams, R., & Chong Xiao, S. (December, v. 10, iss. 4 2021.). Stock Market Information and Innovative Investment in the Supply Chain. *Review of Corporate Finance Studies*, str. 856-894.
- Nametala, C. A. ( February, v. 61, iss. 2 2023.). Use of Econometric Predictors and Artificial Neural Networks for the Construction of Stock Market Investment Bots. *Computational Economics*, str. 743-773.
- Novak, I. (2021). CROBEX AND INDUSTRY PERFORMANCE IN THE CASE OF CROATIA: EVIDENCE FROM WAVELET COHERENCE. (S. Jakupović, Ur.) *Economy and Market Communication Review – Časopis za ekonomiju i tržišne komunikacije*, XI(1), 176. doi:<https://doi.org/10.7251/EMC2101176N>
- Ozkan, N. (October, v. 207 2021.). Expected Investment Growth and Stock Returns in an Emerging Market. *Economics Letters*, str. 1-4.
- Parveen, S. (September, vol. 20, issue 3, 2020.). Exploring Market Overreaction, Investors' Sentiments and Investment Decisions in an Emerging Stock Market. *Borsa Istanbul Review*, str. 224-235.
- Shahbaz, M. (December, vol. 104. 2021.). Relationship between Green Investments, Energy Markets, and Stock Markets in the Aftermath of the Global Financial Crisis. *Energy Economics*.
- Szabo, D. Z., & Bihary, Z. (June 2023.). The Riskiness of Stock versus Money Market Investment with Stochastic Rates. *Central European Journal of Operations Research*, v. 31, iss. 2, , str. 393-415.
- Thakurata, I. ( May, v. 73 2021.). Human Capital Investments: A Developing Country Model. *International Review of Economics and Finance*, str. 175-195.
- Wang, L. (May, vol. 40 2019.). Stock Market Valuation, Foreign Investment, and Cross-Country Arbitrage. *Global Finance Journal*, str. 74-84.
- Xie, L. e. (June, v. 64 2022.). Foreign Analysts and Managerial Investment Learning from Stock Markets. *Journal of Multinational Financial Management*.
- Yarba, I., & Yassa, A. D. (March, v. 22, iss. 2 2022.). Does Stock Market Listing Boost or Impede Corporate Investment? . *Borsa Istanbul Review*, str. 285-294.
- Zagreb Stock Exchange*. (25. April 2023.). Dohvačeno iz <https://zse.hr/hr/cijene-vrijednosnih-papira/36>

