

The Change Of Share Prices Of Companies From Different Sectors In The Period Of The COVID-19 Pandemic

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Abstract – The Macedonian stock market was not unaffected by the global level crisis that was present as a result of the COVID-19 pandemic. The share prices of the companies that are listed on the stock exchange started to change the value but not in the same direction because all companies from different sectors were not affected in the same way by the COVID-19 pandemic.

The institutional capital market index MBI-10 in 2020 as a result of the COVID-19 pandemic had a decrease of 22.43% in March of 2020 and this decrease continued until the beginning of 2021 when the increasing trend began and at the annual level increased to 30.8%. If we analyze it on the basis of the component structure, the prices of all shares that are components of the stock market index have increased annually. From a structural point of view, five of the ten companies that are the elements of MBI-10 are commercial banks, while the other five are from other sectors, which shows that we have a high level of sectoral concentration.

In the Macedonian Stock Exchange, 94 companies are listed, the paper will analyze the impact of the COVID-19 pandemic on the changes in the prices of their shares in the period of the pandemic and post-pandemic, as well as whether all sectors were affected in the same way. Based on the analysis of the financial statements of companies listed on the Stock Exchange, even though there have been difficult years, some companies have managed to achieve high profits in 2020 and 2021.

Keywords – Share, Stock Market, COVID-19, MBI 10, Capital Market.

I. INTRODUCTION

The operation of the Macedonian Stock Exchange in 2020 was influenced by factors from the international and domestic character which led to its partial decline and affected its process of trading securities.

In 2020, the economy of the Republic of North Macedonia had a decline in Gross Domestic Production of 4.4%, which represented the largest decline in the economy in the last 2 decades. (Ministry of Finance, 2021)

The pandemic caused by the COVID-19 virus has changed the way of life and caused serious problems in the operation of many companies and businesses.

The initial shock was felt as early as March when the world stock markets began to record large losses, which was further intensified due to the fears caused by the lockdown strategy adopted by most of the countries with the intention of stopping the spread of the COVID-19 virus.

In the Republic of Northern Macedonia, the first numbers of people infected with COVID-19 were published in February.

Although the world was facing the pandemic and uncertainty, the shares of high-tech companies from the pharmaceutical, biotech, and energy activities, global companies related to new ways of production, and renewable sources were breaking records, globally 2020 was the best year for IPOs in a long time.

Changes in the international environment during 2021, although the pandemic was not over, were a sign of the economic recovery from the pandemic, which took place at a faster pace compared to previous crises. The government undertook stimulus measures in response to the pandemic, which together with the decrease of preventive health measures and the process of immunization of the population allowed the global economy to achieve growth, which is estimated to be the highest in the last forty years.

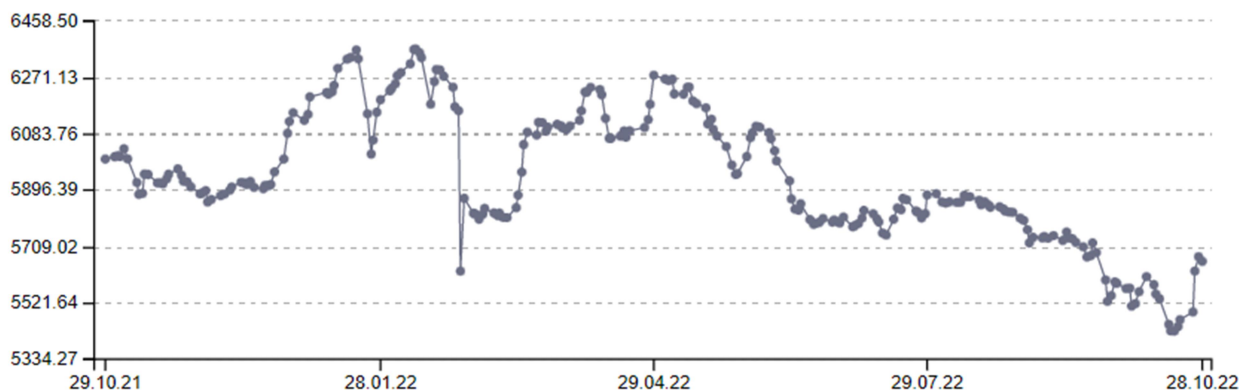
Since the beginning of 2022, the global economy has faced another strong and unexpected shock of a non-economic nature, which is Russia's military invasion of Ukraine followed by the introduction of severe economic sanctions against Russia by Western countries, the cessation of gas deliveries to Europe, disrupted supply chains, the emergence of new waves of COVID19. The pandemic lasted longer than expected, with the main challenges to the country's economic recovery stemming from disrupted global supply chains and rising commodity prices on world markets, which began to become more prominent in the second half of the year.

II. THE MACEDONIAN STOCK EXCHANGE DURING THE PERIOD OF COVID-19

The information related to the viral infection COVID-19 as well as the events of COVID-19 at the beginning of 2020 contributed to influencing the conditions of the Macedonian Stock Exchange, where a significant drop in MBI-10 was observed. In just one month, as the indexes of the stock markets in the region also decreased, the index of the Macedonian stock market also changed. The upward trend of MBI-10 was interrupted in March, when the value of the index recorded significant price fluctuations, at the end of March 2020 it was 22% lower compared to the end of February. After the temporary decrease of the value in March, the index recorded growth in April and ended the year with an increase in the value of the MBI10 index on 30.12.2020 it was 4,704.85 index points, which means an increase of 1.20% compared to the value of the index reached on 30.12.2019. (Macedonian Stock Exchange, 2021)

The Capital Market Index (MBI-10) followed a positive upward trend in 2021 and on an annual basis increased by 30.79% compared to the previous year in the same period. The lowest value of the index in 2021 was reached at the beginning of the year, the first days of January, and the highest at the end of the year, on 30.12. (MSE, 2021). From the point of view of the structure, all the stocks that make up the index have recorded growth on an annual basis. Otherwise, the composition of the index itself shows a fairly high level of sector concentration, given that five of its ten components are banks.

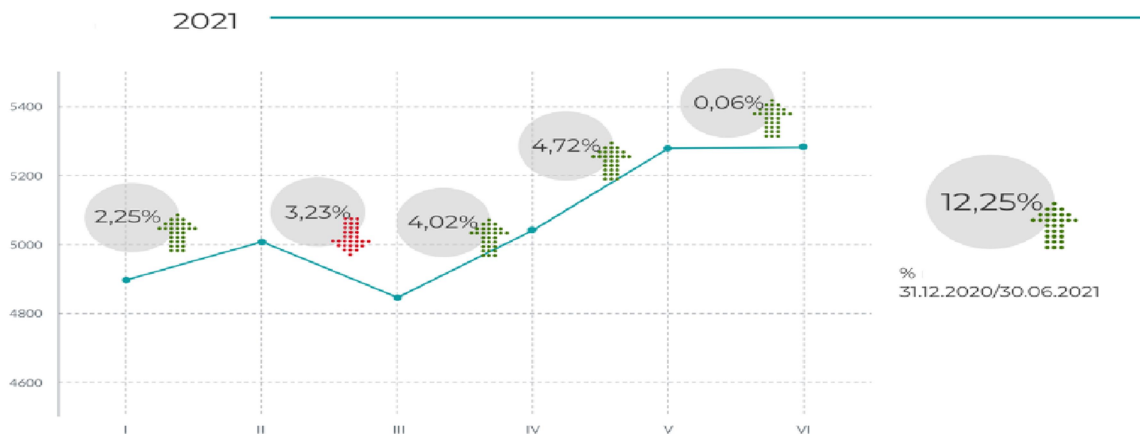
Graph 1. Index value MBI-10



Source: (Macedonian Stock Exchange, 2022)

The Macedonian capital market reacted in the same way as the world capital markets reacted, it was influenced by the high uncertainty, especially with the outbreak of the Russian-Ukrainian military conflict, because of that situation investors were initially restrained from investing in the Macedonian capital market.

Graph 2. MBI index in first semester in year 2021



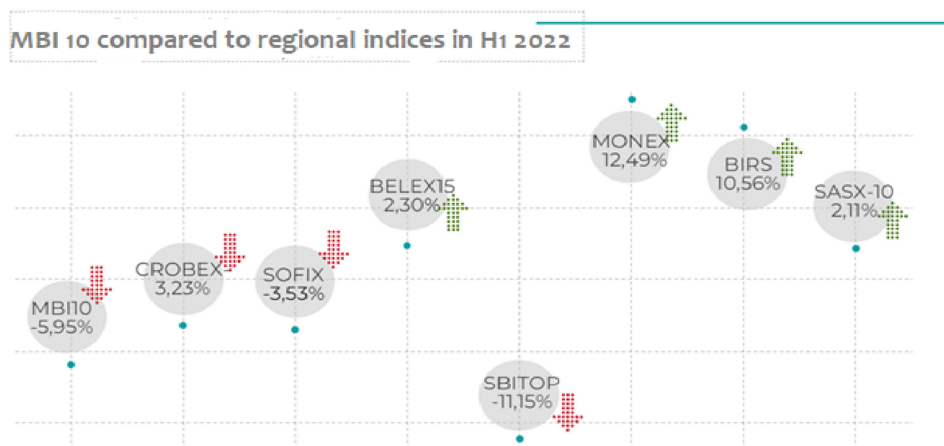
Source: (Macedonian Stock Exchange, 2021)

The MBI-10 index in 2021, when the COVID-19 pandemic was not yet over, at the beginning of the first quarter, had a decrease of 3.23%, but what is most significant in the last period there was an increase, although in a small percentage of only 0.06%. On an annual level, compared to the same period in 2020, there was an increase of 12.25% (graph 2). Economic effects of the events in Ukraine in the first quarter of 2022, contributed to reducing the value of the Macedonian stock market index MBI-10 which decreased by 5.1% in the second quarter of 2022, compared to the previous quarter it decreased by 0.9 and reduced to 5,787 index points. This situation also contributed to a decrease in the total stock market turnover, which recorded a quarterly drop of 26.4%, as a result of the reduced turnover based on block transactions and stock trading.

As for the stock market indexes from the region, both the first and the second quarter of 2022 were followed by an average decrease of 4.8%, compared to the previous quarter's drop of 3.0%, the exception of this situation was the Bosnian index where there was a slight increase. Also, the volatility indices of the bond and stock markets, i.e. the indexes ¹ MLOVE and VIX on a daily basis, recorded an average upward change of about 17% (30% in the previous quarter), which continues to point to increased uncertainty in the global capital markets.

¹The MLOVE index (Merrill Lynch Option Volatility Estimate) shows the implied volatility of the US Treasury markets. The VI Index (Volatility Index) is constructed based on the derived volatility of options on the S&P 500 index.

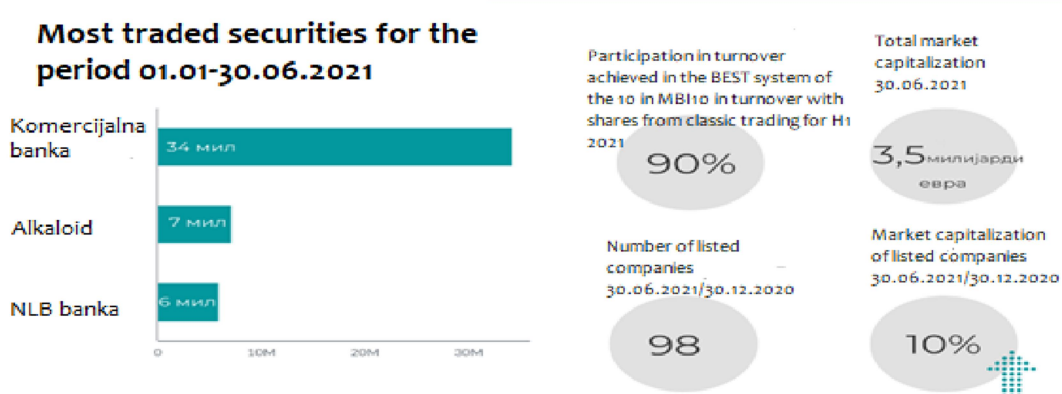
Graph 3. MBI-10 compared to regional indices in 2022



Source: (Macedonian Stock Exchange, 2022)

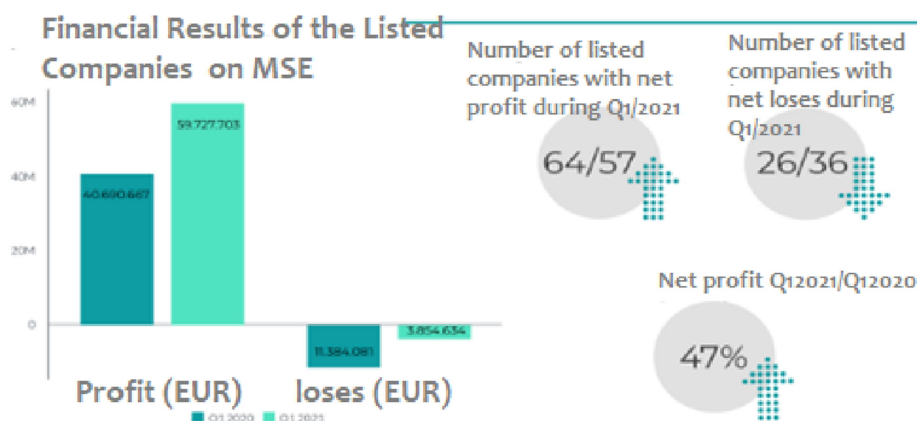
During the first half of 2021, the financial results of the listed companies were announced for the first quarter of 2021. The financial reports should be submitted by the listed companies by the end of July at the latest. Out of 98 listed companies, 64 registered a profit, 26 a loss, 4 companies did not submit a financial report, and 4 companies are long-term suspended from listing. The total displayed profit of listed companies in Q1 2021 has increased by about 47% compared to the same period in 2020 (graph no. 4)

Graph. 4. Most traded stocks in the first semester of 2021



Source: (Macedonian Stock Exchange, 2021)

Graph 5. Financial Results of the listed companies Q1 2021



Source: (Macedonian Stock Exchange, 2021)

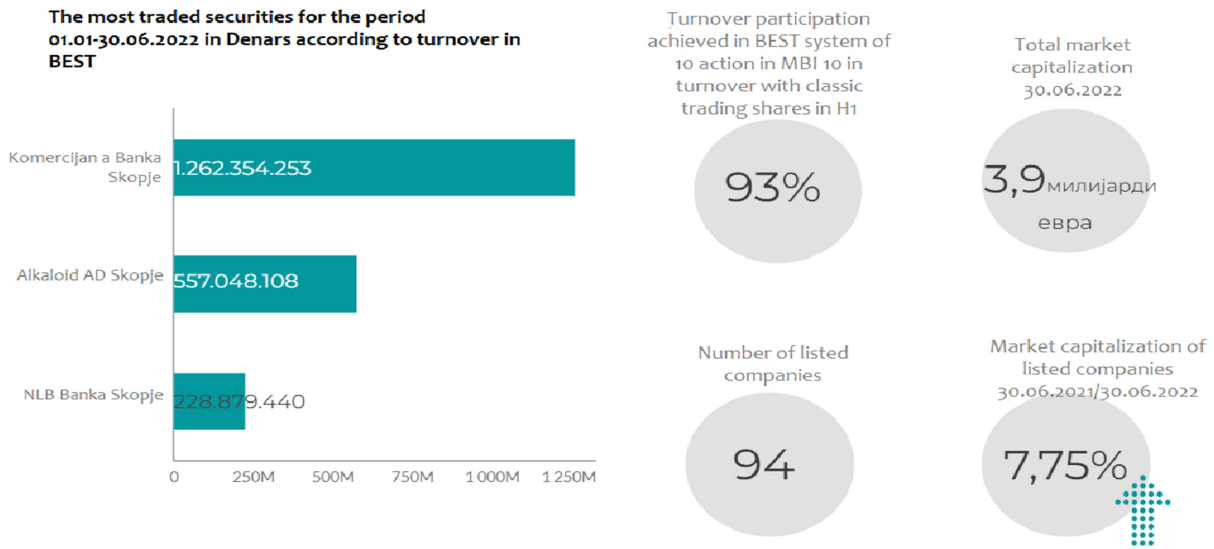
The share of the turnover realized in the SEETS² system of the ten shares from the index in the total turnover of shares in the classic trading in the first half of 2021 is 90%. The most traded securities in this period were the shares of *Komercijalna Banka*, with a total turnover of 34 million euros, followed by the shares of *Alkaloid* with a total turnover of about 7 million euros, and the shares of *NLB Banka AD Skopje* with a total turnover of about 6 millions of euros.

And in 2022, the most traded securities are the shares of the three joint-stock companies, as was the situation in 2021: the shares of *Komercijalna Banka*, compared to the previous year, the turnover was reduced by 14 million euros, compared to the previous year, the turnover of the shares issued by *Alkaloid AD* was increased by about 2 million euros, while the turnover with the shares of *NLB Banka* was reduced by 3 million euros, but the concentration of classic stock trading in these shares is still high and amounts to 93% compared to 2021, it increased by 3%.

In the first half of 2021, there is an upward trend in the prices of all shares that are elements of the MBI10 index, it should be noted that the constituent elements of the index are mainly companies from the banking sector, namely 4 (*Stopanska Banka Skopje*, *NLB Banka*, *Komercijalna Banka*, *Stopanska Banka Bitola*), and two companies are from pharmaceutical business (*Alkaloid Skopje* and *Replek Skopje*). In the first half of 2022, the securities issued by two banks: *Komercijalna Banka* and *NLB Banka*, as well as the shares of *Alkaloid*, covered 93% of the turnover.

² On April 25th, 2001, electronic trading was introduced on the Stock Exchange - trading, using the Stock Exchange Electronic Trading System (SEETS).

Graph 6. Most traded shares in the first semester of 2022

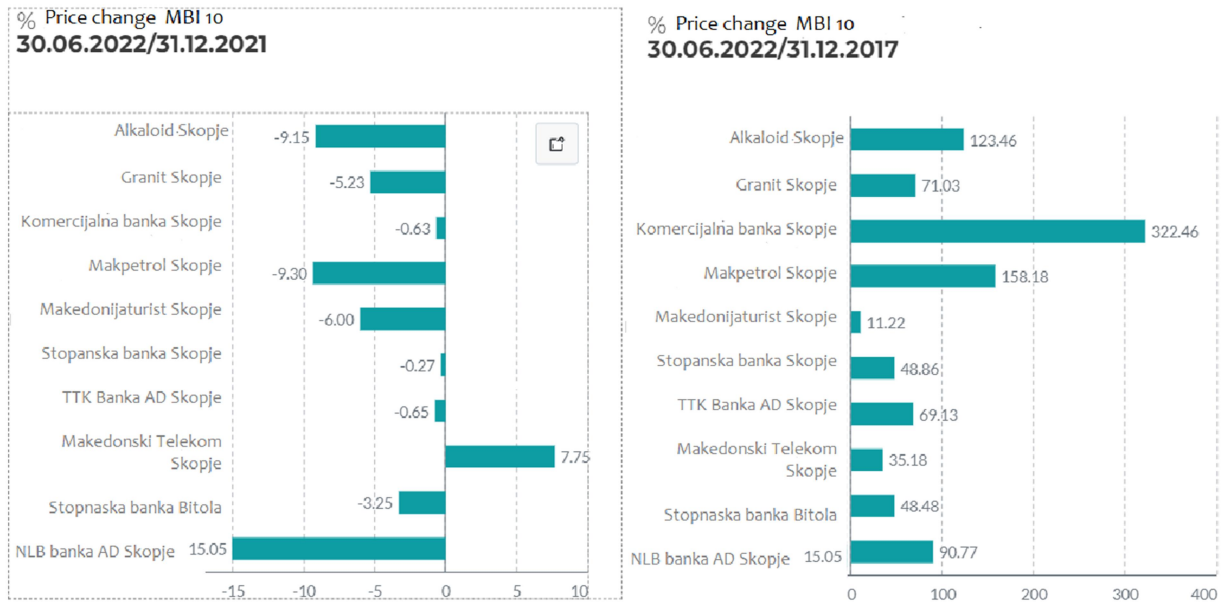


Source:

(Macedonian Stock Exchange, 2022)

Graph 7 shows the price movements of the most liquid shares on the Macedonian Stock Exchange in the first six months of 2022. Based on the analysis of the price movement compared to 2021, for the first half of the year, we have a decrease in the share prices of nine companies that are components of MBI 10, the decrease is from 0.27% of the shares of Stopanska Banka Skopje to 15.05% of the prices of the shares issued by NLB Banka Skopje. Only the shares of Makedonski Telekom AD Skopje recorded an increase of 7.75%³

Graph. 7 Price movements of the most liquid shares on the Macedonian Stock Exchange 2021/2022



Source: (Macedonian Stock Exchange, 2022)

III. THE CHANGE OF SHARE PRICES OF COMPANIES FROM DIFFERENT SECTORS IN THE PERIOD OF THE COVID-19 PANDEMIC

Hospitality and tourism, construction, trade and production, road transport, air traffic and culture are the sectors most affected by the COVID-19 pandemic worldwide. Companies operating in these sectors have experienced temporary shutdowns or economic activity shutdowns, movement restrictions and border closures, a serious risk of bankruptcy, and severe downturns with negative consequences for employment, service provision, and the availability of raw materials. (Internation Labour Organization, 2021)

At the end of the second quarter of 2020, the shares of 100 companies were listed on the Official Market of the Macedonian Stock Exchange, while at the end of the second quarter of 2019, the number of listed companies was 103. Three companies were delisted due to initiated bankruptcy proceedings.

But in terms of performance compared to the same time period from 2019, the following results were achieved by the companies that published a financial report for the first quarter by sector:

Table 1. Financial results according to the activity of the companies for the period 2019-2020

Activities	Q1 2019		Q1 2020	
	profit	Loss	profit	loss
Banking and insurance	8	2	8	2
Industry	26	15	25	16
Trade	8	4	7	5
Oil trade	2	0	1	1
Pharmacy	2	0	2	0
Construction	3	0	3	0
Catering	1	3	1	3
Services	9	9	8	9
Agriculture	3	2	3	2
in total	62	35	58	38

Source: (Securities and Exchange commission of the Republic of North Macedonia, 2020)

Compared by sector, there were no changes in the banking and insurance sector for the period before the COVID-19 pandemic, and on an annual basis, in the first quarter of 2019, 62 companies made a profit, while in 2020, for the same quarter, 58 companies have a fairer financial result, they are decreasing for the 3 companies with a positive financial result in the trade sector and the industrial sector.

Table 2. Financial results according to the activity of the companies for the period 2019-2020

Activities	2019		2020		2021	
	Net profit	Net loss	Net profit	Net loss	Net profit	Net loss
Economy	63	35	57	29	66	20
Banking	8	0	8	0	8	0
Insurance	2	0	4	0	4	0
in total	73	35	69	29	78	20

Source: (Macedonian stock exchange, 2020, 2021, 2022)

From the beginning of 2020 until the end of the year, the shares of the banking sector belonged to the group of the ten most liquid securities, with the exception of the shares of Komercijalna Banka, Stopanska Banka Skopje, Stopanska Banka Bitola, NLB Banka, TTK Banka, and UNI Banka, Alkaloid from the pharmaceutical sector as well as Makpetrol. Makpetrol is a company that deals with the supply of oil and oil derivatives and Granit from the construction sector, among the most liquid listed shares, were the bonds for denationalization⁴.

The number of companies whose shares are listed on the Official Market on 31.03.2022 is 94 companies and has decreased by 4.08% compared to the first quarter of 2021, when it was 98 joint-stock companies, also some of the companies due to non-fulfillment of the conditions for listing the shares the stock market contributed to their number decreasing.

Companies from the pharmaceutical and construction sectors, whose securities are listed on the stock exchange, finished the quarter with a profit, and the profit also dominates among companies from the banking and insurance, industry and trade sectors. In contrast to them, the hospitality and services sectors were the most affected by COVID-19, these companies mostly ended the quarter with a loss.

In conditions of difficult operations as a result of the not yet unfinished Covid pandemic, reinforced by the effects of the war in Ukraine, some companies in the Republic of North Macedonia from several key industrial and service sectors managed to record good results in the first quarters of 2022. Banks achieved 45% higher revenues compared to the previous year with the same time period last year, and they comprise about 40% of the overall profit of all companies participating in the Macedonian Stock Exchange. Their financial results were not affected by the number of infected persons during these periods. According to the analysis made on the movement of the price of the shares of the Komercijalna Banka in 2020 influenced by the number of people infected with Covid 19 in 2020, there is a correlation of -0.0567, i.e. the price movement is inversely related to the number of infected people and there is no high level of dependence between them, the impact is only 5.6% in reverse.

On the Macedonian Stock Exchange, there are also shares whose prices have not changed at all during 2020, from the beginning to the end they remained the same, such is the case with the company Makppromet from the industry activity where Covid-19 did not affect at all.

Table 3. Coefficient of correlation of the companies who are listed in Macedonian Stock Exchange in year 2020.

Company	Activity	Coefficient of correlation
Komercijalna Banka	Banking sector	-0.0567
Alkaloid	pharmaceutical activity	0.146
Granit	construction	0.04
Makpetrol	oil trade	0.026
Makedonijaturist	service-tourist activity	-0.65
Stopanska Banka AD Skopje	Banking sector	-0.087
TTK Banka	Banking sector	-0.27
Macedonian Telekom AD	Telecommunications	-0.078
Stopanska Banka Bitola	Banking sector	-0.05
NLB Banka	Banking sector	0.47
Replek	pharmaceutical activity	0.80

Source: author's calculations

⁴ The issuer is the government of the Republic of North Macedonia issues bonds for the settlement of obligations based on the compensation that is given in the form of bonds in the denationalization procedure

The prices of the shares issued by Komercijalna Banka⁵ during 2020 had an increase of 10.6%, while in 2021, the prices of these shares increased by 58.9% on an annual basis, although the pandemic was not yet over, since the beginning of 2022 to 30.06.2022, where the analysis of share prices was made, we have a decrease of 0.9%. If we analyze the influence of the number of infected people in 2020 on the share prices of Komercijalna Banka, we have a negative correlation of -0.0567, which implies that as the number of people infected with COVID-19 increases during that period, the share prices in 2020 also decrease, the change the number of infected follows the change in share prices by 5.56%.

The prices of the shares issued by Alkaloid⁶ during 2020 had an increase of 10%, it was affected by the pandemic of COVID-19 because it is a pharmaceutical company, while in 2021, the prices of these shares increased by 37.65% on an annual basis because the pandemic was not over yet, from the beginning of 2022 to 30.06.2022 where the stock price analysis was done, we have a decrease of 8.46%. If we analyze the influence of the number of infected people in 2020 on the prices of Alkaloid's shares, we have a positive correlation of 0.146, which implies that there is a dependence, i.e. as the number of people infected with COVID-19 grows during that period, the prices of the shares also grow, the change in the number of the infected follows the change in share prices by 14.6%.

The prices of shares issued by Granit⁷ during 2020 had a decrease of 0.083% although it is a company from an activity that was most affected such as construction, in 2021, the prices of these shares increased by 25.2% on an annual basis since the beginning of 2022 to 30.06.2022, where the analysis of share prices was made, we have a decrease of 5.78%. If we analyze the influence of the number of infected people in 2020 on the prices of Granit's shares, we have a positive correlation of 0.04, which implies that there is a weak dependence on the number of people infected with COVID-19 and the share prices .

The prices of the shares issued by Makpetrol⁸ Skopje increased by 6.22% during 2020, while in 2021, the prices of these shares increased by 5.85% on an annual basis, even though the pandemic was not yet over. from the beginning of 2022 to 30/06/2022, where the analysis of share prices was made, we have a decrease of -8.97%, even though the prices of energy oil have increased, which is also the company's activity. If we analyze the influence of the number of infected people in 2020 on the share prices of Makpetrol Skopje, we have a weak correlation of 0.026, which implies that there is a low level of dependence, that is, as the number of people infected with COVID-19 increases during that period, the share prices increase of Makpetrol Skopje.

The prices of the shares issued by Makedonijaturist⁹ Skopje, during 2020, have decreased by 22.41%, the company belongs to the tourism and hospitality industry, which was among the most affected activities by the COVID-19 pandemic, while in 2021, the prices of these shares of year-on-year increased by 15.47% even though the pandemic was not yet over, some of the business ban measures were lifted, from the beginning of 2022 to 30.06.2022 where the stock price analysis was done, we have a decrease of 4.19 %. If we analyze the influence of the number of infected people in 2020 on the share prices of Macedonia Tourist Skopje, we have a weak correlation of 0.065, which implies that there is a low level of dependence, that is, as the number of people infected with COVID-19 increases during that period, the prices of the shares of Makedonijaturist Skopje.

The prices of the shares issued by Stopanska¹⁰ Banka Skopje decreased by 4.67% during 2020, while in 2021, the prices of these shares increased by 19.76% on an annual basis, although the pandemic was not yet over, from from the beginning of 2022 to 30.06.2022, where the analysis of share prices was made, we have a decrease of 0.03%. If we analyze the influence of the number of infected people in 2020 on the share prices of Stopanska banka Skopje, we have a negative correlation of -0.086, which implies that there is a low level of dependence, that is, as the number of people infected with COVID-19 increases during that period, the prices decrease of the shares of Stopanska Banka Skopje.

The prices of the shares issued by TTK Banka Skopje¹¹, during 2020, there was a decrease of 13.14%, while in 2021, the prices of these shares increased by 5.53% on an annual basis, although the pandemic was not yet over, from the beginning of 2022 until

⁵ <https://www.mse.mk/mk/stats/symbolhistory/KMB>

⁶ <https://www.mse.mk/mk/stats/symbolhistory/ALK>

⁷ <https://www.mse.mk/mk/stats/symbolhistory/GRNT>

⁸ <https://www.mse.mk/mk/stats/symbolhistory/MPT>

⁹ <https://www.mse.mk/mk/stats/symbolhistory/MTUR>

¹⁰ <https://www.mse.mk/mk/stats/symbolhistory/STB>

¹¹ <https://www.mse.mk/mk/stats/symbolhistory/TTK>

30.06.2022, where the analysis of share prices was made, there are no changes. If we analyze the influence of the number of infected people in 2020 on the prices of TTK banka Skopje shares, we have a negative correlation of -0.027, which means that there is a low level of dependence, that is, as the number of people infected with COVID-19 increases during that period, the prices decrease of the shares of TTK Bank Skopje.

The prices of shares issued by Makedonski Telekom Skopje¹² decreased by 0.19% during 2020, while in 2021, the prices of these shares increased by 9.87% on an annual basis, although the pandemic was not yet over, from from the beginning of 2022 to 30.06.2022, where the analysis was made, the share prices are increasing by 8.7%. If we analyze the influence of the number of infected people in 2020 on the prices of the shares of Makedonski Telekom Skopje, we have a negative correlation of -0.078, which means that there is a low level of dependence, that is, as the number of people infected with COVID-19 increases in that period, the prices decrease of the shares of Makedonski Telekom Skopje.

The prices of shares issued by Stopanska banka Bitola¹³ during 2020 decreased by 8.25%, while in 2021, the prices of these shares increased by 7.23% on an annual basis, although the pandemic was not yet over. , from the beginning of 2022 until June 30, 2022, share prices have decreased by 3.23%. If we analyze the influence of the number of infected people in 2020 on the share prices of Stopanska banka Bitola, we have a negative correlation of -0.05, which means that there is a low level of dependence, that is, as the number of people infected with COVID-19 increases during that period, the prices decrease of the shares of Stopanska banka Bitola.

The prices of shares issued by NLB Bank Skopje¹⁴ increased by 7.03% during 2020, while in 2021, the prices of these shares increased by 58.27% on an annual basis, although the pandemic was not yet over. it was the biggest increase in share prices, especially from the banking sector, from the beginning of 2022 to 30/06/2022, share prices decreased by 14.48%. If we analyze the influence of the number of infected people in 2020 on the share prices of NLB banka Skopje, we have a positive correlation of 0.47, which implies that there is a low level of dependence, that is, as the number of people infected with COVID-19 grows during that period, so do the prices of shares of NLB banka Skopje.

The prices of the shares issued by Replek¹⁵, during 2020, had an increase of 35%, it was affected by the pandemic of COVID 19 because it is a company from the field of pharmacy, while in 2021, the prices of these shares on an annual level decreased by 2.1% even though the pandemic was not yet completed, from the beginning of 2022 to 30.06.2022, where the analysis of stock prices was made, we have a decrease of 15.55%. If we analyze the influence of the number of infected people in 2020 on the prices of the shares of Replek AD, we have a positive correlation of 0.8, which implies that there is a high level of dependence, that is, as the number of people infected with COVID-19 grows during that period, the prices also grow. of the shares.

IV. CONCLUSION

The participating companies of the Macedonian Stock Exchange were not affected in the same way by the situation created for the period of 2020 with the pandemic of COVID-19, as well as by the impact of the martial law in Ukraine that occurred at the beginning of March in 2022. Even in the conditions of difficult operations and a pandemic that is not yet over, they managed to achieve good results, the banks in the first quarters managed to achieve profits 45% higher than in 2021 in the same period, which means that the three largest banks in the Republic of North Macedonia include about 40% of the overall profit of all listed companies on the stock exchange.

Although the most affected were companies from service activities as well as from construction, where some capital investments remained unrealized due to more expensive inputs, based on the analysis that was made of these companies for the time period before and after the COVID-19 situation, it can be concluded that prices do not suffer the same impact . And in the three years that were the subject of analysis, it was seen that the companies that are traded mainly on the Macedonian Stock Exchange are in the largest share of the banking sector, which achieved high revenues, even though it was a period of crisis and uncertainty.

¹² <https://www.mse.mk/mk/stats/symbolhistory/TEL>

¹³ <https://www.mse.mk/mk/stats/symbolhistory/SBT>

¹⁴ <https://www.mse.mk/mk/stats/symbolhistory/TNB>

¹⁵ <https://www.mse.mk/mk/stats/symbolhistory/REPL>

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