The stock market as a barometer of the future state of economic activity on the example of pre-emerging countries

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Abstract: The article considers whether the stock market could be as a barometer of the future state of economic activity. The study was conducted on the example of a group of pre-emerging countries (frontier markets). The article partially fills the gap in the literature on the subject. Research on the links between the stock market and the real economy can be found in developed and even emerging markets. However, there is a lack of research on this topic in the area of pre-emerging markets. That is why this article is devoted to the group of pre-emerging markets. Accordingly, the article examined the relationship between the situation on the stock market in year T and the future real rate of change in GDP, private consumption and investment in year T + 1. Firstly, a strong positive correlation was noted between the rate of return on the stock index in the year T and the real rate of GDP and its components in the year T + 1. Secondly, there is a consumer effect in the stock markets of all pre-emerging countries. There is also an investment effect in most of the countries studied. The strength of both effects is similar. Thirdly, participants in the pre-emerging stock markets are trying to confront reality with expectations. They welcome data on better than expected change in economic growth. Fourthly, negative links between the rate of return on equity markets and inflation were observed in the group of countries studied.

Keywords: stock market, stock returns, real activity

1. Purpose of the article and research methodology

The aim of the article is to investigate whether the stock market could play a role as a barometer of the future state of economic activity on the example of a group of pre-emerging countries. Certain research hypotheses have also been verified, including is it true that higher returns on equity markets in pre-emerging countries are obtained in the year before the real GDP recovery than before it cools. Moreover, the view verified that high returns from the equity markets of

pre-emerging countries can be expected in the so-called surprise effect and much lower rates of return can be expected in the so-called disappointment effect.

The view as to whether it is true that in the equity markets of pre-emerging countries we deal with the occurrence of both the investment effect and the consumption effect was also verified. The strength of both effects was then tested.

The article fills the gap in the literature on the subject. Research on the links between the stock market and the real economy can be found within developed markets as well as emerging markets. However, there is no research on this in the area of frontier markets. Accordingly, the article examines the relationship between the situation on the stock market in year T and the future real changes in GDP, private consumption and investments in year T + 1 in the group of frontier markets. Research in individual pre-emerging countries (frontier markets) was conducted in 2005–2019. Comparative research between the group of developed, emerging and frontier markets was conducted in the years 2003–2019.

The pre-emerging countries (frontier markets) include: Estonia, Croatia, Lithuania, Romania, Ukraine, Slovenia, Bulgaria, Bosnia and Herzegovina, Kazakhstan, Mauritius, Botswana, Bahrain, Kuwait, Oman, Jordan, Lebanon, Kenya, Morocco, Nigeria, Tunisia, Sri Lanka, Vietnam, Bangladesh, Jamaica, Panama, and Trinidad and Tobago. In addition to the group of pre-emerging countries they also include: Ivory Coast, Senegal, Zimbabwe and Serbia. However, due to the lack of complete macroeconomic data, the last four countries were not included in the research.

On the one hand, the question is whether the economic situation on the stock market can be used to forecast such macroeconomic variables as GDP, consumption or investments. On the other hand, the question is whether it is possible to obtain high rates of return on the stock market by using macroeconomic data on GDP and inflation.

The macroeconomic data was taken from the IMF and World Bank databases and the stock index data from the database from the Stooq website. Selected quantitative tools, such as arithmetic mean and correlation coefficients, were used for the research.

2. Relationships between the stock market and GDP in literature

Research on the relationship between the rate of return on the stock market and changes in GDP has been undertaken in the literature. In foreign literature, the leading representative of this research trend is P. Mauro (2000). This author has researched both developed and emerging markets. His research shows that there are positive relationships between the economic situation on the stock market and changes in GDP. M. Binswanger (2000) reached similar conclusions.

In recent years, research on the relationship between the stock markets and the real economy has been performed, among others, by B. Cornell (2010), J. R. Ritter (2005), F. Gong and R. S. Mariano (1997), and A. A. Enisan and A. O. Olufisayo (2009).

B. Cornell proved that US stock investors discount the future economic growth in the US. On the other hand, J. R. Ritter examined the relationship between the average annual GDP growth rate per capita in the years 1900–2002 and the geometric average annual rate of return on the stock market index in a given country in the same period. He came to the conclusion

that this relationship is not very strong. Other researchers, F. Gong and R. S. Mariano, using their preferred research methods (e.g. VAR), failed to discover strong links between macroeconomic factors and the situation on the South Korean stock market. On the other hand, A. A. Enisan and A. O. Olufisayo showed that the development of the stock market can support economic growth in Africa.

In Poland, E. Łon (2006) studied the relationship between the situation on the stock market and the real activity of the economy, studying both developed and emerging markets. Moreover, he examined the relationship between the stock market and economic activity on the example of the Polish economy. His research shows that the stock market is a barometer of the future state of the economy. There is some time shift. The stock market is one year ahead of the real economy. Research in this area in Poland was also conducted, among others by: W. Dębski (2008, pp. 10–15), A. Kasprzak-Czelej (2012) and H. Wiśniewski (2014, pp. 7–40). All these authors came to similar conclusions as E. Łon about positive connections between the situation on the stock market and the future real economy.

3. Three categories of stock markets

Given the point of view of the stock market investor, the investment bank Morgan Stanley distinguishes three groups of countries (markets). These are developed markets, emerging markets and frontier markets. In its statistics, this bank distinguishes 23 developed countries, 26 emerging countries and 30 frontier countries.

Table 1. List of countries forming the three categories of stock markets as of the end of May 2020

Developed markets	Emerging markets	Frontier markets
Austria	Argentina	Estonia
Belgium	Brazil	Croatia
Denmark	Chile	Lithuania
Finland	Colombia	Romania
France	Mexico	Ukraine
Germany	Peru	Slovenia
Ireland	China	Bulgaria
Italy	India	Bosnia and Herzegovina
Netherlands	Indonesia	Serbia
Norway	South Korea	Kazakhstan
Portugal	Malaysia	Mauritius
Spain	Pakistan	Botswana
Sweden	Philippines	Bahrain
Switzerland	Taiwan	Kuwait

UK	Thailand	Oman
Australia	Saudi Arabia	Jordan
Hong Kong	Qatar	Lebanon
Japan	United Arab Emirates	Kenya
New Zealand	Egypt	Morocco
Singapore	South Africa	Nigeria
Canada	Czech Republic	Tunisia
USA	Poland	Ivory Coast
Israel	Hungary	Senegal
	Greece	Zimbabwe
	Russia	Sri Lanka
	Turkey	Vietnam
		Bangladesh
		Jamaica
		Panama
		Trinidad and Tobago

S o u r c e: Database of the Morgan Stanley.

The analysis of this division leads to the conclusion that the division criterion is mainly the level of GDP per capita. Developed countries are very rich countries whose share in world GDP exceeds 50%. Moreover, the level of GDP per capita in developed countries is very high (Figure 1). And emerging countries are not as rich as developed countries. However, they show a dynamic increase in welfare and are trying to catch up with developed countries in terms of GDP per capita. Frontier countries are also a group of rapidly developing countries, although poorer than emerging countries. Frontier countries want to catch up with the group of emerging countries in terms of GDP per capita.
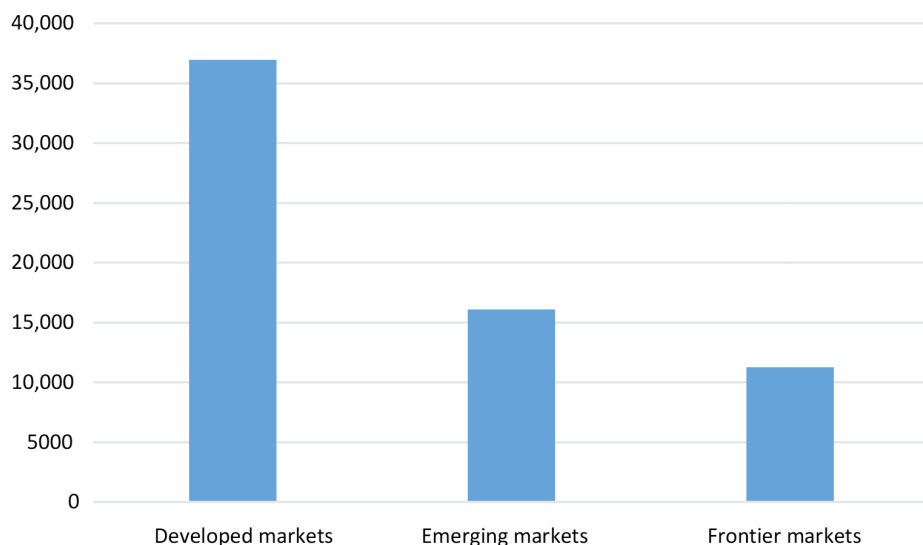
Figure 1. Median GDP per capita in the three groups of countries in USD in 2019

S o u r c e: Database of the IMF.

Thus, in emerging and frontier countries, GDP per capita is significantly lower than in developed countries. Nevertheless, it is in emerging and frontier countries that a higher growth rate of the welfare level can be expected. The convergence theory says that in the long run the level of GDP per capita will equalize (Barro, 1990; Malaga, 2004). For this to happen, the poorer countries must develop faster than the richer countries.

Therefore, it is expected that the convergence processes will lead in the future to an equalization of the level of wealth between the groups of countries. Therefore, investors who place their capital in emerging and frontier countries are particularly interested in the economic situation on local equity markets.

It is worth noting that in developed countries we are dealing with highly developed equity markets. These are countries with an established market tradition, where stock exchanges have existed for a long time, often from even the nineteenth century. In contrast, in emerging and frontier countries, the history of stock markets is shorter. The capitalization of companies in emerging and frontier markets in relation to domestic GDP is much lower than in developed markets (Figure 2).
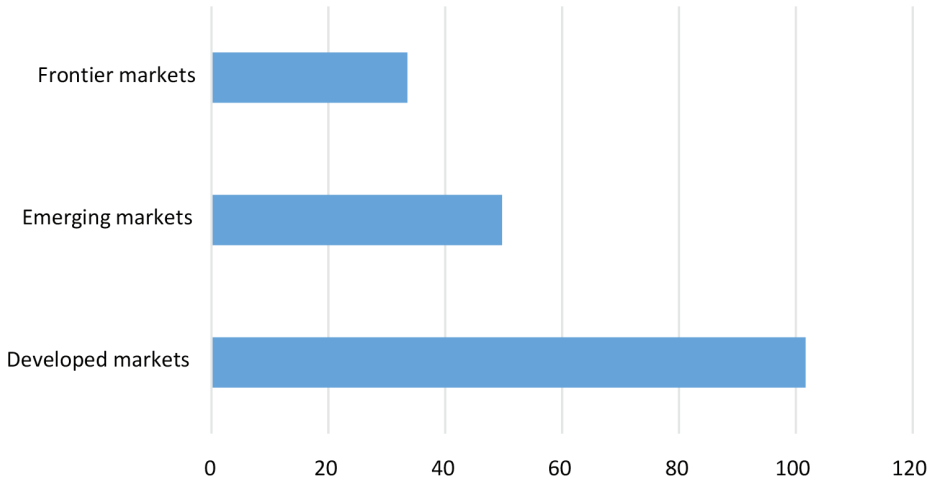
Figure 2. Stock market capitalization by country group in 2019

S o u r c e: Database of the IMF.

It is also worth noting that equity market returns in emerging and frontier countries are higher than in developed countries. On the other hand, however, investing in the equity markets of poorer countries is very risky (Figure 3).
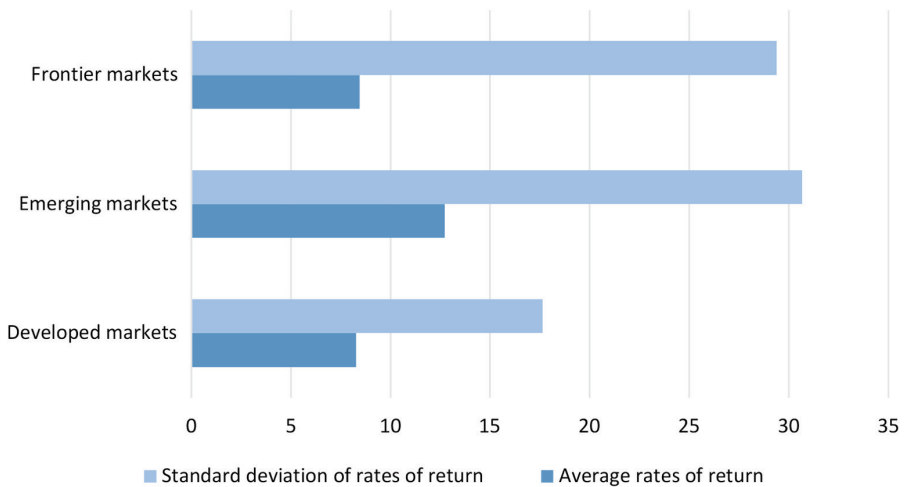

Figure 3. Average and standard deviation of returns on equity markets, 2003–2019

S o u r c e: Database of the Morgan Stanley.

Analyzing the situation in the equity markets of frontier countries, we can observe rapidly changing trends in recent years. It is worth using the so-called frontier premium, i.e. the difference between the rate of return on the equity markets of frontier countries and the rate of return on the equity markets of developed countries. The frontier premium shows the relative strength of frontier markets relative to developed markets. When this premium is positive in a given year, it means that investing in the equity markets of frontier countries is more profitable than investing in the equity markets of developed countries. When the premium is negative, it is more profitable to invest in the equity markets of developed countries.

Observing the behaviour of the frontier premium in the years 2003–2019, we can see that its positive nature continued until 2007 (Figure 4). Since the outbreak of the financial crisis in 2008, the frontier premium was usually negative. This meant that frontier markets were characterized by a relative weakness compared to developed markets in recent years.
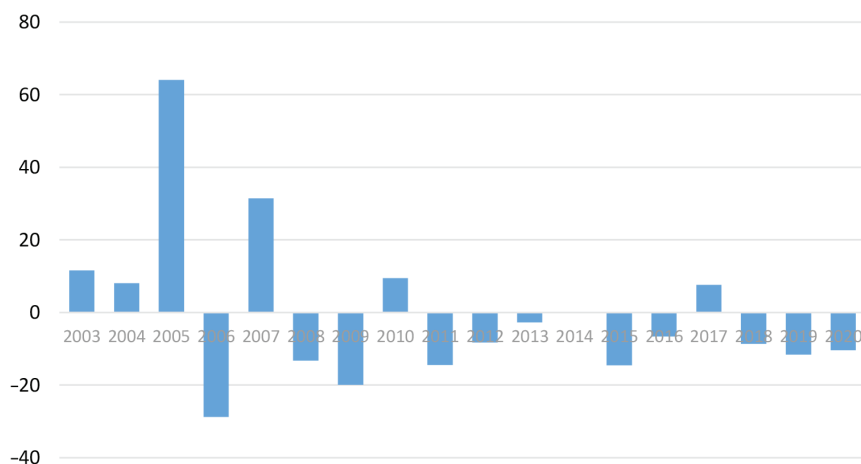

Figure 4. Frontier premium in 2003–2019 (in %)

S o u r c e: Database of the Morgan Stanley.

It is worth noting that the group of pre-emerging markets is very diverse not only in terms of indicators such as GDP per capita, but also other indicators such as: stock market capitalization and investment fund assets to GDP (Figures 5 and 6).
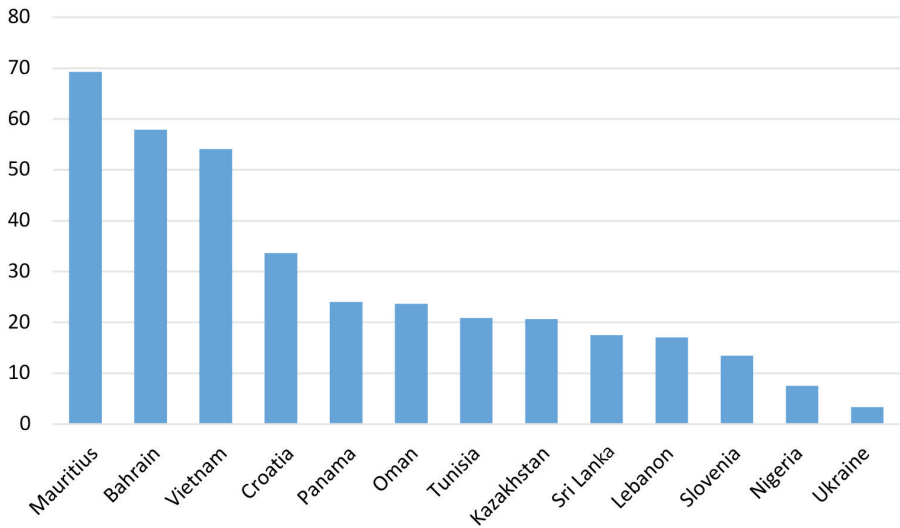
Figure 5. Equity market capitalization to GDP in selected frontier countries in 2018 (in %)

S o u r c e: Database of the IMF.

Countries with a relatively high ratio of equity market capitalization to GDP in the ana-
lyzed period were: Mauritius (69.25%), Bahrain (57.92%) and Vietnam (54.1%). The re-
maining group of countries recorded much lower levels of this indicator (below 50%).
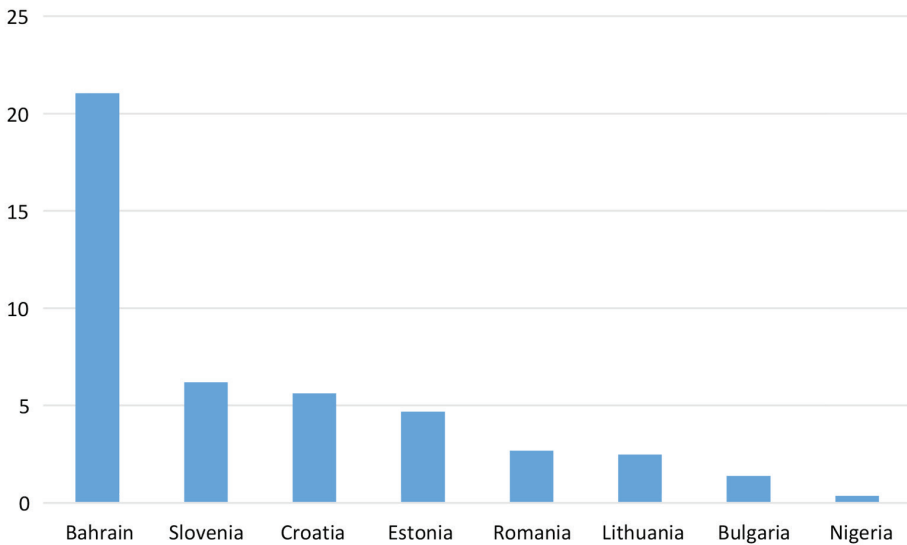

Figure 6. Mutual Fund Assets to GDP in Selected Frontier Countries in 2017 (in %)

S o u r c e: Database of the IMF.

Also, in terms of the ratio of mutual funds assets to GDP, there are large differences between individual frontier countries (Figure 6). The highest level of this indicator was recorded in Bahrain (21%). In other cases, the level of this ratio was very low and did not exceed 10%.

The frontier stock markets will be the subject of more detailed research later in this article.

4. The discounting nature of the stock market

The stock market is a discounting mechanism for the future. The stock market situation is most often presented in terms of the rate of return. Stock market investors who invest their capital in the shares of companies listed on the stock exchange compare the current market price of one share of a given company with the fundamental value of that share (Koch, 1996, pp. 145–146). This value is usually calculated using the discounted cash flow method (Copeland, Koller and Murin, 1997). The expected amount of the said flows depends, among others, on the forecast rate of economic growth. The level of estimated flows is then corrected using the so-called discount rate (Francis, 2000). Its value is the sum of the risk-free rate and the risk premium. The risk-free rate is defined as the yield on government bonds. This profitability is, in turn, largely related to the level of official interest rates set by the central bank.

5. Valuation of shares using the DCF method

It follows that both stock market investors and analysts should take into account macroeconomic variables when estimating the fundamentally justified value of shares of a listed company. Among them, information on the level of economic activity (Mauro, 2000) and monetary variables (Conover, Jensen and Johnson, 1999, p. 42) play a special role.

Empirical research shows that in many countries there is a positive correlation between the rate of return on the stock exchange index in year T and the real rate of changes in GDP in year T + 1 (Łon, 2005). This is the situation we can observe both in developed, emerging and frontier countries (Figure 7). Interestingly, the strongest positive correlation was observed in emerging markets (0.78). Slightly lower in developed markets (0.75) and lowest in frontier markets (0.68). However, all these correlations show that the positive links between the situation on the equity markets in a given year and the future real rate of economic activity in the following year are permanent and persist in the long term.
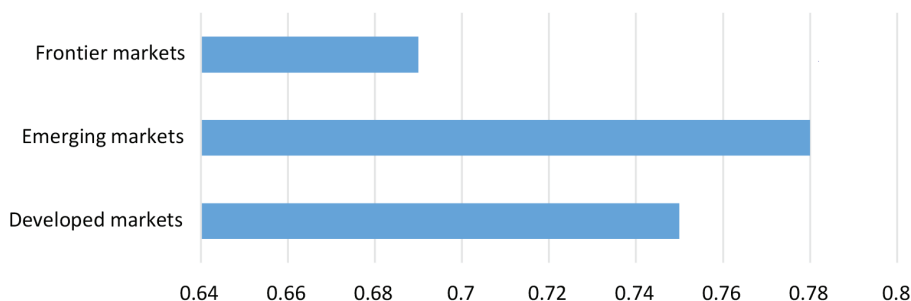

Figure 7. Correlation between the rate of return on the stock market in year T and the real GDP rate in year T + 1 on the example of three groups of markets in 2003–2019

S o u r c e: Database of the IMF.

6. The stock market and the future level of economic activity

This fact can be interpreted in two ways. According to the first interpretation known as passive, the level of positive correlation results from very accurate macroeconomic forecasts formulated by stock market participants. Since these investors were very eager to buy shares in the year preceding the high real rate of changes in GDP, and got rid of them in the year preceding the low level of this rate, it means that the future level of economic activity was an important motive for their decision to buy or sell shares. In line with the second, more active interpretation, it can be assumed that the shape of the economic situation on the stock market in a given year led to certain decisions of consumers and entrepreneurs in the next year, which resulted in the same level of real GDP changes (Łon, 2006).

It is worth examining further in the article whether the positive nature of the relationship between the rate of return on the stock market in a given year and the future real GDP rate can be observed on the example of specific countries that make up the group of frontier markets.

Table 2. Correlation between the equity market return in year T and the real GDP rate in year T + 1 in frontier countries in 2005–2019

Countries	Correlation of returns on the equity market T and real GDP rate T + 1
Kazakhstan	0.77
Bulgaria	0.74
Bosnia and Herzegovina	0.73
Lithuania	0.69
Estonia	0.68
Vietnam	0.64
Slovenia	0.64
Panama	0.61
Kuwait	0.56
Ukraine	0.56
Croatia	0.55
Sri Lanka	0.52
Bahrain	0.52
Mauritius	0.46
Romania	0.44
Tunisia	0.43
Botswana	0.37
Morocco	0.33

Jordan	0.33
Kenya	0.33
Nigeria	0.31
Jamaica	0.24
Oman	0.05
Lebanon	0.01
Average	0.48

S o u r c e: Database of the IMF.

It turned out that we can observe such a positive correlation, and this is the case for all the surveyed countries (Table 2). In most of the analyzed countries, the correlation between the rate of return on the stock market in year T and the real GDP rate in year T + 1 was relatively strong and exceeded over 0.5. The highest correlation was recorded in the case of countries such as: Kazakhstan (0.77), Bulgaria (0.74), Bosnia and Herzegovina (0.73) and Lithuania (0.69). In fact, in these countries, equity markets played a role as a strong barometer of the future state of the real economy.

7. The stock market and the recovery and cooling of economic activity

There is another way to study the relationship between the stock market situation and the real GDP rate in frontier countries. Namely, it is worth distinguishing the concepts of high and low real GDP rate, and then economic recovery and cooling. By high real GDP rate we understand the real GDP rate higher than the average level and the low real GDP rate lower than its average level in the entire period under examination. On the other hand, by economic recovery we understand the situation where in year T + 1 the real GDP rate is more favourable than the real GDP rate in year T.

By economic cooling, in turn, we understand the situation in which the real rate of changes in GDP in the year T + 1 is less favourable than in the year T.

On the basis of the research conducted so far, it can be formulated that the participants of the stock market are interested in both the future real rate of economic growth and the change in this rate. In the course of further analyzes, this hypothesis will be verified. For this purpose, four cases, or in other words four groups of years, were distinguished. The first type of years is designated AA, the second AB, the third BA, and the fourth BB.

The year AA is understood as the year T, which precedes the high real rate of changes in GDP in the year T + 1 and, at the same time, the economic recovery in the year T + 1. Year AB is understood as year T, which is preceded by the high real rate of changes in GDP in the year T + 1 and the economic cooling in the year T + 1. Year BA is understood as year T, which is preceded by a low real rate of changes in GDP in the year T + 1 and the economic recovery in the year T + 1. The year BB is the year T, which is preceded by the low real rate of changes in GDP

in the year T + 1 and the economic cooling in the year T + 1. Next, you need to examine what returns in frontier stock markets to expect in years AA, AB, BA, and BB (Figure 8).

On the basis of the performed calculations, it was noticed that the average rates of return on the stock market in year AA were higher than the average rates of returns on the stock market in year BB for all analyzed frontier countries. Moreover, positive and very high rates of return were recorded in AA for all the countries surveyed. On the other hand, also in the case of all surveyed countries in BB, negative and very low rates of return were recorded.
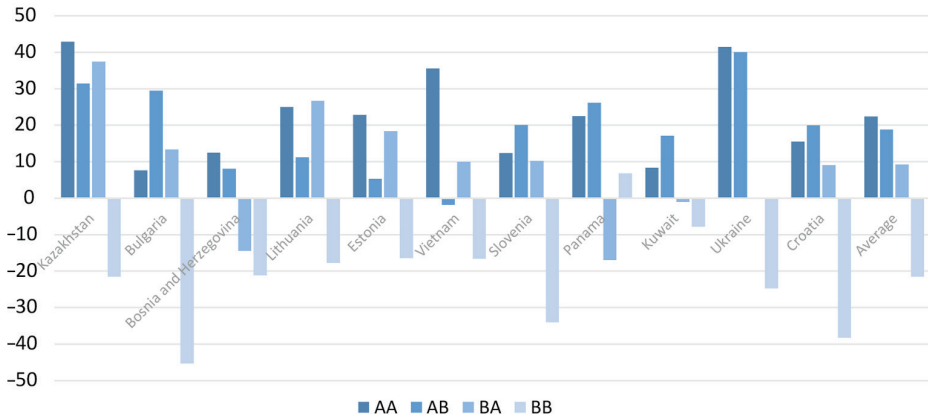

Figure 8. Average returns from the pre-emerging stock market in AA, AB, BA and BB 2005–2019 (in %)

S o u r c e: Database of the IMF.

The largest difference between the average rate of return on the stock market in AA and BB was recorded in Kazakhstan and Ukraine (Figure 8), which very clearly shows that in both countries the equity markets played a role of a barometer of the future level of economic activity and changes of this level.

8. The surprise and disappointment effect on the stock markets

It is worth noting that if in a given year T + 1 the economic growth (measured by GDP) was higher than in the year T, it means that there was an improvement in economic growth. Otherwise, it can be said to worsen.

One can also distinguish the concept of changes in economic growth. If in year T + 1 the average real GDP rate was at the level of 2.2%, and for the next year the IMF researchers predicted this rate at the level of 3.1%, it can be said that they expected a change in economic growth by 0.9 points percentage.

This forecast change in economic growth should be compared with the actual change. We can observe a situation in which the change in economic growth was more favourable than expected. Then we are talking about the so-called surprise effect. On the other hand, if the change in economic growth was actually less favourable than the expected change, we are talking about the so-called result of disappointment.

Research has been done on a group of frontier countries to check what rate of return on the stock market can be achieved in the years of the surprise effect and in the years of the disappointment effect (Figure 9).
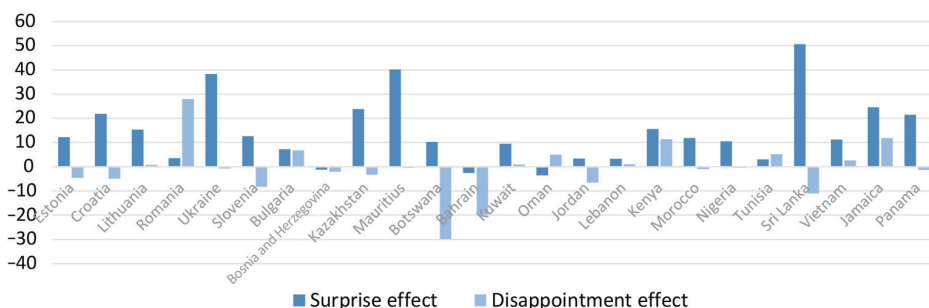

Figure 9. Average rate of return on the equity market in the year when the actual GDP rate is more favourable than forecast (surprise effect) and the year when the actual GDP rate is less favourable than forecast (disappointment effect) in frontier countries in 2005–2019 (in %)

S o u r c e: Database of the IMF.

It turns out that in the case of most of the surveyed countries we can observe a situation where the average rate of return on a given domestic stock exchange index was higher in the year in which the change in economic growth was more favourable than expected (surprise effect) than in the years when the change economic growth was less favourable than expected (disappointment effect).

In the years of surprise, investors obtained positive and at the same time very high rates of return. Particularly high rates of return in the analyzed years were achieved by equity market participants in countries such as Sri Lanka (50.64%), Mauritius (40.17%), Ukraine (38.21%) and Jamaica (24.54%). Interestingly, the years of disappointment saw low, usually negative returns on the stock market. Such years were perceived particularly negatively by participants in the stock market of such countries as: Botswana (–29.8%), Bahrain (–19.78%) and Sri Lanka (–11.04).

9. Investment effect and consumption effect

When discussing the problem of connections between the economic situation on the stock market in frontier countries and the level of economic activity in the next year in these countries, it is necessary to refer to the investment effect and the consumption effect. The fact of the first of them was noticed by J. Tobin (Kaźmierczak, 2018). He found that the appreciation of the share prices of listed companies leads to an increase in the level of the indicator measuring the ratio of the company's market value to the replacement cost of its assets.

This cost can be equated simply with the dividend rate. A good economic situation on the stock market encourages companies to undertake new issues, and a poor economic situation discourages from such activities. The source of the consumption effect discovered by F. Modigliani is, in turn, the increase in the share of stocks in financial assets owned by house-

holds. Consumers, noticing rising share prices, become more optimistic and therefore more often than before decide to incur consumer spending, especially on goods characterized by higher elasticity of demand. These include, for example, household items. It is worth checking whether we can observe investment and consumption effects also in frontier countries.

Therefore, research was undertaken on the relationship between the rate of return on the stock market in year T and the real rate of private consumption and investment in year T + 1 in individual frontier countries. It turned out that in these countries there were both investment and consumption effects. It was observed that the strength of these effects was similar. The consumption effect occurred in all countries and the investment effect in 9 out of 10 countries (Figure 10).

We saw a strong consumption effect in countries such as: Mauritius (0.85), Croatia (0.79), Lithuania (0.76), and Ukraine (0.76). On the other hand, there was a strong investment effect in countries such as Lithuania (0.84), Estonia (0.75) and Botswana (0.66).
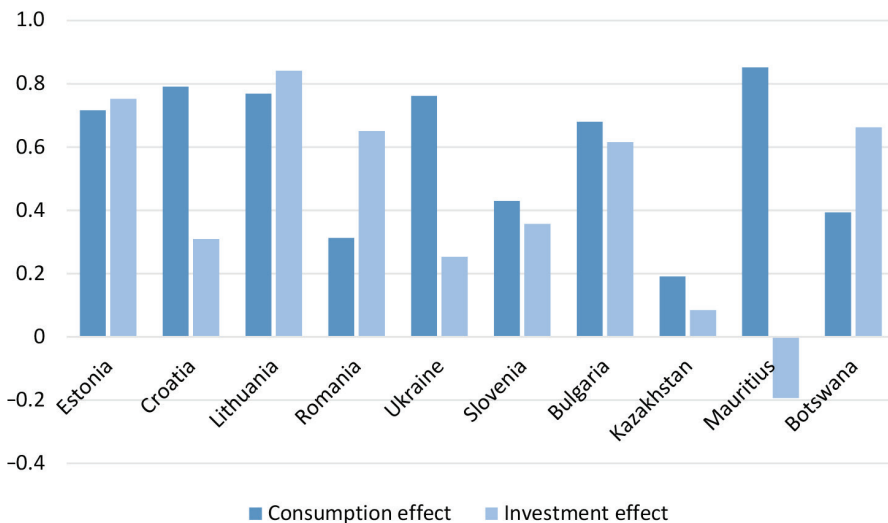

Figure 10. Correlation between the rate of return on the stock market in a given country in year T and the real rate of private consumption in year T + 1 (consumption effect), and the correlation between the rate of return on the stock market in a given country in year T and the real rate of investment in the year T + 1 (investment effect) in frontier countries in 2005–2019

S o u r c e: Database of the IMF.

10. The stock market and inflation

In addition to GDP, stock market investors are also interested in other macroeconomic data, such as the inflation rate. The prevailing opinion in the literature is that the boom in the stock market is favoured by lower inflation and the bearish by higher inflation (Kaul, 1987, p. 253). It was decided to verify this view on the example of a group of frontier countries. Appropriate research has been conducted on this topic.
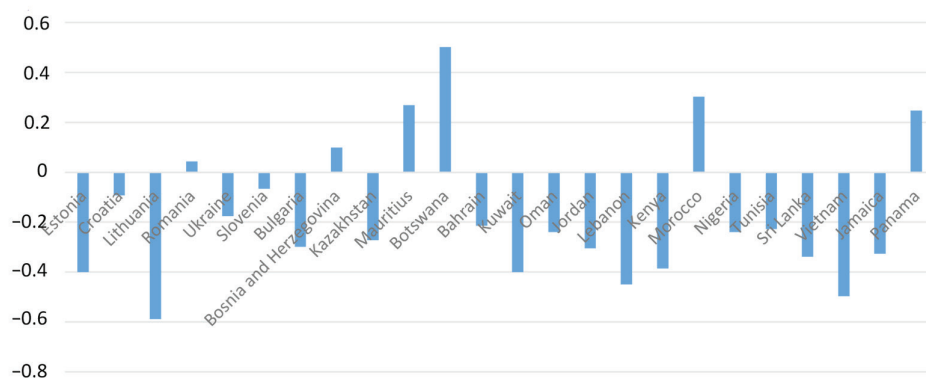
Figure 11. Correlation between returns on the stock market and inflation
in frontier countries, 2005–2019

S o u r c e: Database of the IMF.

It turned out that the negative correlations between the situation in the stock market and the inflation were confirmed (Figure 11). Research shows that in the year of low inflation, a high rate of return on the stock market can be expected. The strongest negative correlation between the rate of return on the stock market and inflation was recorded in the following countries: Lithuania (–0.58), Vietnam (–0.49) and Lebanon (–0.45).

11. The actual and expected direction of changes in inflation

It is also worth checking whether, in the case of this macroeconomic indicator, it is important to confront expectations with reality. The research showed that we deal with two groups of frontier countries (Figure 12). On the one hand, there are countries (e.g. Sri Lanka, Croatia and Lithuania) where investors are satisfied with lower actual inflation than forecast. Then they achieve high rates of return on the stock market. On the other hand, there are frontier countries where periods of higher-than-expected inflation are favourable for investors in the stock market. This group of countries includes Ukraine, Kazakhstan and Panama.
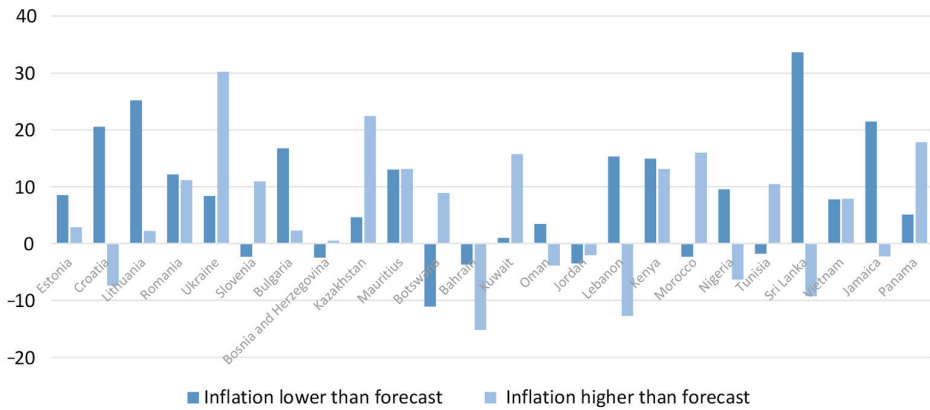
Figure 12. Average return on the equity market in the year when actual inflation is below forecast (first bar) and in the year when actual inflation is above forecast (second bar) in frontier countries 2005–2019 (in %)

S o u r c e: Database of the IMF.

12. Final conclusions

First, research shows that frontier stock markets are relatively strong barometers of the future state of the economy. There was a strong positive correlation between the rate of return on the stock exchange index in year T and the real rate of GDP and its components in year T + 1. Equity markets in countries such as Kazakhstan, Bosnia and Herzegovina, Bulgaria, Lithuania, Estonia, Vietnam, Slovenia and Panama turned out to be strong barometers of the economy. In all these countries, the correlation between the rate of return on the stock market in a given year and the real GDP rate in the following year exceeded 0.6.

Second, it turned out that there is both an investment and a consumption effect in the equity markets of frontier countries. The strength of both effects is similar. Strong investment effect occurred in countries such as Lithuania, Estonia and Botswana. In turn, there was a strong consumption effect in countries such as: Mauritius, Croatia, Lithuania and Ukraine.

Third, it turned out that higher returns on equity markets in frontier countries were achieved in the year before the real GDP recovery than before it cooled. High rates of return in the year before the revival of the real GDP rate were recorded in the case of countries such as Kazakhstan and Ukraine.

Fourth, high returns from frontier stock markets can be expected in the so-called surprise effect and much lower in the case of the so-called disappointment effect. The highest rates of return in the event of a surprise effect were observed in countries such as Sri Lanka, Mauritius, Ukraine and Jamaica.

Fifthly, negative correlations between the rate of return on stock markets and inflation were observed in the analyzed group of countries. The strongest negative correlation between the rate of return on the stock market and inflation was recorded in countries such as Lithuania, Vietnam and Lebanon. Moreover, frontier countries can be divided into two subgroups.

There are countries (e.g. Sri Lanka, Croatia and Lithuania) where investors are satisfied with lower actual inflation than forecast. On the other hand, there are also some frontier countries where the periods of higher-than-expected inflation are favourable for investors in the stock market. This group of countries includes Ukraine, Kazakhstan and Panama.

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Rynek akcji jako barometr przyszłego stanu aktywności gospodarczej na przykładzie krajów przed-wschodzących

Abstrakt: W artykule rozważano, czy rynek akcji może być barometrem przyszłego stanu aktywności gospodarczej. Badanie przeprowadzono na przykładzie grupy krajów przed-wschodzących (*frontier markets*). Artykuł wpisuje się w pewną lukę występującą w literaturze przedmiotu. Badania na temat powiązań rynku akcji ze sferą realną gospodarki można spotkać w obrębie rynków dojrzałych, a nawet rynków wschodzących. Jednakże brakuje badań na ten temat w obszarze rynków przed-wschodzących, dlatego artykuł ten poświęcono właśnie grupie rynków przed-wschodzących. Badania w poszczególnych krajach przed-wschodzących prowadzono w latach 2005–2019. Badania porównawcze między grupą rynków dojrzałych, wschodzących i przed-wschodzących prowadzono zaś w latach 2003–2019. W związku z tym w artykule zbadano związek między sytuacją na rynku akcji w roku T a przyszłym realnym tempem zmian PKB, konsumpcji prywatnej i inwestycji w roku T + 1. Z przeprowadzonych badań nasuwają się następujące wnioski. Po pierwsze, odnotowano silną korelację dodatnią między stopą zwrotu z indeksu giełdowego w roku T a realnym tempem PKB i jego składowymi w roku T + 1. Po drugie, na wszystkich rynkach akcji krajów przed-wschodzących występuje efekt konsumpcyjny. W większości badanych krajów występuje również efekt inwestycyjny. Siła obu efektów jest podobna. Po trzecie, uczestnicy rynków akcji krajów przed-wschodzących próbują konfrontować rzeczywistość z oczekiwaniami. Z zadowoleniem przyjmują dane dotyczące lepszej, niż oczekiwano, zmiany wzrostu gospodarczego. Po czwarte, w badanej grupie krajów zaobserwowano ujemne powiązania między stopą zwrotu na rynkach akcji a inflacją.

Słowa kluczowe: rynek akcji, stopa zwrotu, aktywność gospodarcza