# MACROECONOMIC FACTORS OF IPO IPLEMENTATION IN THE CEE REGION

<sup>a</sup>SYLVIA PLOTTOVÁ, <sup>b</sup>ROMAN BRAUNER, <sup>c</sup>TOMÁŠ HERÁLECKÝ, <sup>d</sup>PETR ZIMČÍK

Newton University, Faculty of Economics, Rašínova 103/2 602 00 Brno, Czech Republic email: <sup>a</sup>sylvia.plottova@newton.university, <sup>b</sup>roman.brauner@newton.university, <sup>c</sup>tomas.heralecky@newton.university, <sup>d</sup>petr.zimcik@newton.university,

Abstract: This paper aims to identify macroeconomic factors that influence IPO implementation in selected Central and Eastern European capital markets. Surveybased research has been conducted within a sample of non-financial companies operating in the Czech Republic, Croatia, Hungary, Poland, and Romania. The results suggest that favorable macroeconomic conditions such as GDP growth, low interest rates or positive development of local capital markets promote companies' interest in IPO implementation.

Keywords: IPO, macroeconomic factors, going public, CEE region

#### **1** Introduction

IPO or initial public offering (IPO) is the moment in a company's lifetime that requires considerable attention and can considerably change its further development. (Pagano et al., 1998; Ross et al., 1996; Meluzín and Zinecker, 2009; Loughran, T., JR Ritter, and K. Rydqvist. 1994). This article focuses on identifying macroeconomic factors which influence decisions on the company's implementation of IPO in Central and Eastern Europe. Compared to its Anglo-Saxon alternatives, most of the stock exchanges in CEE are significantly underdeveloped. Only the Warsaw stock exchange has witnessed a fair amount of IPO in past decades. A question arises if this is due to the lack of interest in going public in this region or when macroeconomic factors play a role. This research is focused on researching the primary data from CFOs of surveyed companies from the CEE region that implemented IPO between the years 2004-2016. There is a lack of evidence on macroeconomic factors influencing IPO implementation in the CEE region. In this research, the representatives of selected companies that implemented IPO in the CEE region were asked to address their opinions on the importance of macroeconomic factors on IPO implementation.

## **2** Theoretical Background

Current Central and Eastern European studies claim that raising capital is the most important reason for an IPO. (Meluzín, Zinecker and Lace, 2016). However, the timing of entering the capital markets remains less researched. There exist three main theoretical explanations for the IPO timing phenomenon. The first theory states that firms enter capital markets under favorable economic conditions that support their continuous growth and development (Loughran & Ritter, 1995; Ritter & Welch, 2002). Such conditions are, therefore, of external nature, and the issuing company cannot directly influence them. As a rule, they are shaped by the economic situation of the given country, legislative framework, maturity of the capital market, etc. The second theory says that companies enter capital markets when other companies also enter these markets (Choe, Masulis, and Nanda, 1993). De Albornoz and Pope (2004) found that the IPO is affected by the market valuation of companies in the same industry. That is when there is a positive development in the company's sector or directly related sectors. In cases where competing companies have implemented IPOs successfully, other comparable companies are likely to want to gain the same benefits as the issuing competition. The last theory explains that IPO timing is derived from the business life cycle theory. This theory is based on the idea that IPOs occur when issuers find themselves at a certain stage in the business life cycle where they need more capital for further growth (Choe, Masulis, and Nanda, 1993; Lowery, 2002). In connection with IPOs, there is also a theory that entry into capital markets indicates the quality of issuers. This theory is based on information asymmetry between issuers and investors. The relationships between the number of IPOs and macroeconomic factors have been investigated, for example, by Loughran et al. (1994). Their study analyzed the timing of IPOs in 15 states in relation to inflation-adjusted stock price indexes and measures of gross domestic product. The study results indicate a positive relationship between the number of IPOs and the level of stock market prices. However, no positive correlation with the business cycle was found. Rees (1997) found in his research that the level of stock indices influences the number and volume of IPOs. The ability to issue shares at high prices is a possible explanation for motivating IPOs. The occurrence of IPOs is positively associated with the level of the stock market. Rees (2002) reports that stock index developments predict both the value and the number of IPOs. Rydqvist and Hogholm (1995) compared data on a sample of family businesses in Sweden and eleven European countries between 1970 and 1989. They found that most IPO activity occurred after a sharp increase in stock prices. Breinlinger and Glogova (2002) investigated the predictive power of selected macroeconomic factors affecting IPOs by analyzing a sample of the annual volume of IPOs in six developed European countries over 18 years. The authors aimed to answer whether there are consistent indications that IPOs follow stock index returns. The results showed that the logarithmic transformation of IPO volumes leads to constant regression estimates for individual countries and the entire sample. Empirical evidence has not supported the hypothesis that the percentage change in savings, gross domestic product growth, and interest rates is predictive of IPO volumes. In his study, Ameer (2012) presents a negative relationship between interest rate and the number of IPOs and a significant positive relationship between industrial production and the number of IPOs in the emerging market of Malaysia. However, Kovandová and Zinecker (2015) found out that the reference interest rate had explanatory power for IPO numbers in the Polish capital market between years 1993 to 2012. Bilson et al. (2002) find only modest signs of a link between local macroeconomic factors and returns in emerging capital markets. Determining characteristics of capital markets that influence the decisions of companies to issue securities in the developing capital markets of Central and Eastern Europe were subjected to empirical investigation by Roženský (2008), Peterle (2013), and Brzeszczynský (2014). They focused on the attractiveness of primary capital markets in Central and Eastern Europe and used quantitative and qualitative indicators for them. Quantitative factors such as capital market size, capital market liquidity, and stock index returns were monitored. Peterle (2013), who examined IPOs in the Central and Eastern European region between 2000 and 2009, found that capital market factors such as market size, liquidity, and capitalization to gross domestic product do not have a determining effect on IPOs in the Central and Eastern European region. Eastern Europe. However, it is possible that the attractiveness of the capital markets measured by the annual profitability index and the annual growth of the market and their liquidity could have been stimuli for the growth of the number of IPOs in the monitored period. Brzeszczynski (2014) explains that the development of the capital market strongly influences the decision of Polish companies to issue securities on the capital markets and that the number of IPOs increases with rising prices and decreases with falling prices. The effects of past periods and institutional influences were assessed by indicators such as 27 companies' perception of the capital market, their trust in capital markets, and the quality of state supervision and related regulations. Roženský (2008) examined the conditions created by local stock exchanges using indicators of IPO costs, administrative requirements for issuers, the market division of a given stock exchange, and their marketing and public relations activities. Groh et al. (2010) concluded that investor protection, corporate governance rules, capital market size, and liquidity are determinants of financial community expertise, trade flows, and exit opportunities.

The Central and Eastern European stock exchanges are developing differently than the capital markets of Western Europe. Differences can be found mainly in the state's development, primarily the existence of communism in the CEE region, different legislation frameworks, and socio-cultural aspects. All the researched companies from this study are located in former soviet countries in the Czech Republic, Slovakia, Hungary, Croatia, Bulgaria, Romania, and Poland. Since 2004 most of them have belonged to the European Union and have harmonized legislation frameworks regarding IPO. Nonetheless, the numbers and volumes of IPO vary. Polland witnessed the most considerable volume of IPO in the past 15 years. The least IPO was carried away in Slovakia. The same situation is in other selected countries where only a few IPO were implemented. (Meluzín, Zinecker, and Łapińská, 2014; Brzeszczynski, 2014; Peterle, 2013; Roženský 2008; Peterle & Berk, 2016).

## **3 Research Methodology and Data Collection**

This article is based on the primary data collected from a sample of 33 companies that conducted IPOs on selected local stock exchanges in the CEE region. The data collection took place in 2019 and the beginning of 2020. Due to the lack of current knowledge of the influence of macroeconomic factors on the decision-making process in the IPO implementation, the data were collected by questionnaire. The researched sample was selected from companies that implemented IPO on CEE stock exchanges between 2004 and 2016. In these years, the EU legislation framework was harmonized, and foreign direct investors acknowledged the opportunities arising from investments in the Czech Republic, Poland, Hungary, Croatia, Bulgaria, and Romania. The questionnaires were sent to the CFOs of a selected sample of companies. These companies implemented IPO on the primary and secondary markets of the selected stock exchanges. In total, 150 respondents were selected for this research. The respondents were given the questionnaire, which included selected statements related to the IPO decisionmaking process and the influence of macroeconomic factors. A five-point Likert scale (1 minor importance to 5 significant importance) was used to allow the respondents to state their agreement or disagreement with the statements. The results of the survey were evaluated using the methods of descriptive statistics. In total, 33 completed questionnaires were collected. Therefore, the rate of return of this survey was 33 out of 150 questionnaires sent. Respondents were asked to indicate on a scale of 1 to 5, where one indicates unimportant, two relatively unimportant, three neutral, four crucial, and five very important, the relative importance of the individual factors influencing IPOs on the domestic stock exchange. Responses were further analyzed according to the age of the companies, which were divided into "young" and "mature" (<16 years,> 16 years since establishment), by the number of employees (small <250, large> 250) and by type of ownership (a large number of shareholders, family-controlled and private venture capital).

In total 15 young and 18 matured companies took part in this questionnaire. Further division of the sample is shown in Table 1.

	Variable	Frequency	Relative
Size	Small (employees)	16	48.48
Size	Large (employees)	17	51.52
	Widely held	18	54.55
Ownership	Family-controlled	10	30.30
	Privately held	5	15.15
	Manufacturing	8	24.24
	Finance	4	12.12
Indusrtial	Technology	6	18.18
sector	Services	4	12.12
	Pharmaceuticals	2	6.06
	Other	9	27.27
Country of	Bulgaria	4	12.12

Origin	Czech Republic	5	15.15			
	Croatia	2	6.06			
	Hungary	4	12.12			
	Poland	15	45.45			
	Romania	3	9.09			
Tab. 1. Research sample (Source: Authors, 2022)						

#### **4 Research results**

Respondents were presented with 16 statements about the relative influence of macroeconomic factors on the decision to carry out an IPO in their companies. Table 2 below shows individual statements and survey results - tables 3, 4, and 5 present partial results for questioned companies. Companies were divided by their age, size, and ownership. The following answers were reported. In total, 16 statements were given to answer. The overall degree of agreement and the average value of agreement of these answers was measured.

	Mean	Median	Mode	Mode Freque- ncy	St. Dev.	% 4-5
Α	3.36	4.00	4.00	6	1.23	54.55
В	4.12	4.00	4.00	14	1.09	87.88
С	1.73	2.00	1.00	0	0.71	0.00
D	1.61	1.00	1.00	2	1.07	6.06
Е	3.64	4.00	4.00	11	1.43	72.73
F	2.52	2.00	1.00	4	1.44	30.30
G	2.36	2.00	2.00	4	1.18	12.12
Н	1.79	2.00	1.00	2	1.01	6.06
Ι	2.12	1.00	1.00	5	1.49	21.21
J	4.58	5.00	5.00	19	0.49	100.00
Κ	2.27	2.00	1.00	6	1.50	24.24
L	1.58	1.00	1.00	0	0.82	6.06
М	1.39	1.00	1.00	0	0.49	0.00
Ν	1.39	1.00	1.00	0	0.49	0.00
0	2.55	2.00	1.00	2	1.30	30.30
Р	2.45	3.00	1.00	2	1.39	30.30

 Tab. 2. Overal research results (Source: Authors, 2022)

Statement A. "The very favorable GDP growth rate has reassured us that the time is right for an IPO." The positive development of GDP growth means good economic conditions for business activity. This is also the case with IPOs. More than half of the companies agreed on this (54.55% marked 4 and 5, an average of 3.36). Growth in GDP development is generally associated with growth in industrial production, which can motivate other companies to conduct IPOs.

Statement B. "Very favorable conditions in the stock market have convinced us that it is a good time for an IPO (for example, an increasing number of investors interested in buying shares)." The rise in stock index prices has the effect of attracting investors and issuers to the capital market. In such a situation, companies have a chance to raise the capital they need, and investors appreciate their wealth. Most surveyed companies agreed that positive signals from the stock market are the right impetus for conducting an IPO (88.89% indicated a value of 4 and 5, an average of 4.11).

Statement C. "We did the IPO because bank loans were too expensive (caused by the restrictive monetary policy of the central bank)." Most companies disagreed with this statement (0% marked 4 and 5, an average of 1.72). The interest rates were at their lowest, and debt capital was thus not too expensive. However, there is a problem with companies that are too indebted and cannot access capital.

Statement D. "We did the IPO because bank credit was unavailable or is only available to a limited extent (caused by restrictive monetary policy or the credit crunch)." The companies did not support this claim. (5.56% marked the values 4 and 5, an average of 1.61) In general, banks are willing to offer loans to creditworthy clients. However, financing large investment projects requires more capital, which banks do not often offer.

Statement E. "We have done the IPO. However, it was more efficient to use bank credit due to low-interest rates (caused by the central bank's expansionary monetary policy)." The vast majority of companies agreed with this statement (72.22% marked 4 and 5, an average of 3.61). Bank loans were increasingly available as a result of the expansionary policy of central banks, 1/3 of the respondents carried out an IPO during the economic crisis, i.e., at a time when interest rates were several percent higher.

Statement F. "We have done an IPO. However, it is more efficient to use subsidies now provided by the government or the EU (caused by expansionary fiscal policy)." Obtaining subsidies for investment development is a relatively administratively demanding process. Subsidies are provided for selected programs, so it may be difficult for a company to obtain them. The vast majority of companies agree with the fact that subsidies were not and are not a solution to their investment needs (27.78% marked 4 and 5, an average of 2.44).

Statement G. "We have done an IPO. However, it is more efficient to use private capital (venture capital), which domestic investors now provide." Only a minority of respondents (11.11%, an average of 2.33) fully agreed with this statement. Private capital, for example, from so-called business angels, can be risky in terms of losing the majority or complete control over the company. Individuals also usually do not have as much free capital as, for example, institutional investors or a large number of small investors.

Statement H. "We have done an IPO. However, it is more efficient to use private capital (venture capital), which foreign investors provide now." In the case of foreign investors, the attitude of the issuers is even more skeptical (5.56% indicated a value of 4 and 5, and the average is 1.83). Companies do not rely on foreign investors. Especially in Eastern European countries, foreign capital is invested in corporate branches, e.g., in the so-called green field, in the form of acquisitions of formerly state-owned enterprises, mergers, etc.

Statement I. "We have done an IPO. However, it is more efficient to use the capital provided by our parent company." This is suitable if the parent company has the capital it can lend to its subsidiary. Often, however, the IPO is carried out by the parent company itself, which can then further distribute the acquired capital. A large company also has a better chance of making a successful IPO than a smaller subsidiary. This factor was considered by only a tiny part of the respondents to be significantly motivating them to carry out an IPO (22.22% marked it with a value of 4 and 5, an average of 2.22).

Statement J. "The favorable conditions in our industry have convinced us that the time is right for an IPO." Most companies supported this statement (100% rated 4 and 5, an average of 4.56). Especially in the IT and technology sectors, stocks of successful companies are now in high demand. A positive trend in developing a particular industry will likely motivate other companies to conduct an IPO.

Statement K. "Concerns about political instability in the country played an important role in the IPO decision." Given that the research was conducted in Central and Eastern European countries that are members of the European Union, this concern was minimal among companies (5.56% indicated a value of 4 and 5, an average of 1.61). Countries such as the Czech Republic, Hungary, Poland, and others, go through major or

minor political crises, but this often does not significantly affect the economy.

Statement L. "Concerns about growing corruption in the country played an important role in the IPO decision." Corruption is a widespread phenomenon not only in the countries of Central and Eastern Europe. However, with regard to regulated markets and bodies that are active in implementing IPOs, such as the central banks, companies did not feel any concern arising from corruption (0% of respondents indicated a value of 4 and 5, an average of 1.39).

Statement M. "Concerns regarding the growing probability of state apparatus failure played an important role in the IPO decision." Even this concern was not confirmed by the company (0% indicated the values 4 and 5, an average of 1.39).

Statement N. "Concerns about rising stock market volatility played an important role in the IPO decision." Stock market volatility has been a significant factor in failed IPOs over the past decade. The great economic crisis had a substantial impact on the stock markets, and the prices of the stock indices experienced steep declines. If the main stock indexes lose their profitability, investors will lose the desire to buy shares, and thus, the investment projects of companies will stop. Surprisingly, companies are not too afraid of this volatility and do not perceive it as a threat to the IPO (27.78% marked it as 4 and 5, an average of 2.44).

Statement O. "The flow of foreign direct capital into the country has made the IPO strategy attractive for our company." Eastern and Central Europe have seen an inflow of foreign direct capital in the last three decades. However, companies that went public in these countries did not confirm this factor as decisive for the IPO (27.78% marked it as 4 and 5, an average of 2.39).

Table 3 shows the overall results when companies were divided into "old" and "young." Companies younger than 16 years were named as young. Positive GDP development and good conditions among capital markets were identified as the primary macroeconomic factors for conducting IPO among both old and young companies. More mature companies, probably due to higher capital needs, looked for IPO implementation.

	Young companies								
	Mean	Median	Mode	Mode Freque- ncy	St. Dev.	% 4-5			
А	3.13	3.00	3.00	2	1.26	40.00			
В	4.00	4.00	4.00	6	1.26	86.67			
С	1.67	2.00	1.00	0	0.70	0.00			
D	1.53	1.00	1.00	0	0.72	0.00			
Е	2.60	2.00	1.00	2	1.50	40.00			
F	2.07	2.00	2.00	0	1.00	13.33			
G	2.20	2.00	3.00	0	0.83	0.00			
Η	1.67	2.00	2.00	0	0.60	0.00			
Ι	1.53	1.00	1.00	0	0.81	0.00			
J	4.53	5.00	5.00	8	0.50	100.00			
Κ	2.07	2.00	2.00	2	1.24	13.33			
L	1.27	1.00	1.00	0	0.44	0.00			
М	1.40	1.00	1.00	0	0.49	0.00			
Ν	1.40	1.00	1.00	0	0.49	0.00			
0	2.20	2.00	1.00	0	1.05	13.33			
		(	Old comp	anies					
	Mean	Median	Mode	Mode Freque- ncy	St. Dev.	% 4-5			
А	3.56	4.00	4.00	4	1.17	66.67			
В	4.22	4.00	4.00	8	0.92	88.89			

С	1.78	2.00	2.00	0	0.71	0.00
D	1.67	1.00	1.00	2	1.29	11.11
Е	4.50	4.50	4.00	9	0.50	100.00
F	2.89	3.00	1.00	4	1.63	44.44
G	2.50	2.00	2.00	4	1.38	22.22
Н	1.89	1.50	1.00	2	1.24	11.11
Ι	2.61	2.00	1.00	5	1.74	38.89
J	4.61	5.00	5.00	11	0.49	100.00
Κ	2.44	1.50	1.00	4	1.67	33.33
L	1.83	2.00	1.00	0	0.96	11.11
М	1.39	1.00	1.00	0	0.49	0.00
Ν	1.39	1.00	1.00	0	0.49	0.00
0	2.83	3.00	4.00	2	1.442	44.44
Tob 2	Old vo	Vouna oo	manias (	Source: A	uthors 2	022)

Tab. 3. Old vs Young companies (Source: Authors, 2022)

Table 4 provides results based on the size of companies. Companies were divided into "small" and "big." Small companies had up to EUR 50 ml. of own equity, less than 250 employees, and their sales were less than EUR 43 million. On the other hand, big companies had more than EUR 50 million, more than 250 employees, and more than EUR 43 million in sales.

	Small companies								
	Mean	Median	Mode	Mode Freque- ncy	St. Dev.	% 4-5			
А	3.69	4.00	4.00	5	1.21	62.50			
В	4.50	4.50	4.00	8	0.50	100.00			
С	1.63	1.00	1.00	0	0.78	0.00			
D	1.50	1.00	1.00	1	1.06	6.25			
Е	3.75	4.00	4.00	6	1.39	75.00			
F	2.56	2.00	1.00	2	1.58	43.75			
G	2.44	2.00	2.00	2	1.12	12.50			
Н	1.94	2.00	2.00	1	0.97	6.25			
Ι	2.19	1.50	1.00	2	1.47	25.00			
J	4.75	5.00	5.00	12	0.43	100.00			
Κ	2.44	2.00	1.00	3	1.54	31.25			
L	1.81	2.00	1.00	0	0.95	12.50			
М	1.44	1.00	1.00	0	0.50	0.00			
Ν	1.44	1.00	1.00	0	0.50	0.00			
0	2.63	3.00	3.00	1	1.22	25.00			
Р	2.63	3.00	1.00	1	1.32	31.25			
		В	ig compa	nies					
	Mean	Median	Mode	Mode Freque- ncy	St. Dev.	% 4-5			
А	3.06	3.00	4.00	1	1.16	47.06			
В	3.76	4.00	4.00	6	1.35	76.47			
С	1.82	2.00	2.00	0	0.62	0.00			
D	1.71	1.00	1.00	1	1.07	5.88			
Е	3.53	4.00	4.00	5	1.46	70.59			
F	2.47	2.00	1.00	2	1.29	17.65			
G	2.29	2.00	2.00	2	1.23	11.76			
Н	1.65	1.00	1.00	1	1.03	5.88			
Ι	2.06	1.00	1.00	3	1.51	17.65			
J	4.41	4.00	4.00	7	0.49	100.00			
Κ	2.12	2.00	1.00	3	1.45	17.65			
L	1.35	1.00	1.00	0	0.59	0.00			
М	1.35	1.00	1.00	0	0.48	0.00			

1	Ν	1.35	1.00	1.00	0	0.48	0.00
(	С	2.47	2.00	1.00	1	1.38	35.29
]	Р	2.29	1.00	1.00	1	1.45	29.41
- I		0 11	D'	• (0	4 .1	2022	

Tab. 4. Small vs Big companies (Source: Authors, 2022)

Table 5 shows results divided by the ownership of the companies. The privately held, family-owned, and widely owned companies were asked to give their opinions on selected statements.

	Widely owned companies								
	Mean	Median	Mode	Mode Freque- ncy	St. Dev.	% 4-5			
Α	3.56	4.0	4	4	1.21	61.11			
В	4.28	5.0	5	10	1.10	88.89			
С	1.83	2.0	2	0	0.69	0.00			
D	1.39	1.0	1	0	0.59	0.00			
Е	3.72	4.0	4	5	1.28	77.78			
F	2.56	2.0	2	2	1.26	22.22			
G	2.17	2.0	2	0	0.60	0.00			
Н	1.67	2.0	1	0	0.67	0.00			
Ι	1.67	1.0	1	1	1.11	5.56			
J	4.50	4.5	4	9	0.50	100.00			
Κ	2.44	2.0	1	3	1.46	27.78			
L	1.33	1.0	1	0	0.58	0.00			
М	1.33	1.0	1	0	0.47	0.00			
Ν	1.28	1.0	1	0	0.45	0.00			
0	2.72	3.0	1	2	1.37	33.33			
Р	2.44	2.5	1	2	1.38	22.22			
		Famil	y owned	companies	3				
	Mean	Median	Mode	Mode Freque- ncy	St. Dev.	% 4-5			
А	3.20	3.5	4	2	1.33	50.00			
В	3.70	4.0	4	2	1.19	80.00			
С	1.70	1.5	1	0	0.78	0.00			
D	2.30	1.5	1	2	1.55	20.00			
Е	3.10	4.0	4	2	1.58	60.00			
F	2.90	3.5	1	2	1.64	50.00			
G	2.20	1.5	1	2	1.54	20.00			
Н	2.10	1.5	1	2	1.51	20.00			
Ι	2.50	1.5	1	2	1.69	40.00			
J	4.80	5.0	5	8	0.40	100.00			
Κ	2.50	2.0	1	3	1.69	30.00			
L	2.00	2.0	2	0	1.10	20.00			
М	1.40	1.0	1	0	0.49	0.00			
Ν	1.70	2.0	2	0	0.46	0.00			
0	2.70	3.0	4	0	1.27	40.00			
1 1									

	Privately owned companies								
	Mean	Median	Mode	Mode Freque- ncy	St. Dev.	% 4-5			
А	3.0	3.0	2	0	0.89	40			
В	4.4	4.0	4	2	0.49	100			
С	1.4	1.0	1	0	0.49	0			
D	1.0	1.0	1	0	0.00	0			
Е	4.4	5.0	5	4	1.20	80			

		-	-			
F	1.6	1.0	1	0	1.20	20
G	3.4	3.0	5	2	1.36	40
Н	1.6	2.0	2	0	0.49	0
Ι	3.0	2.0	5	2	1.67	40
J	4.4	4.0	4	2	0.49	100
Κ	1.2	1.0	1	0	0.40	0
L	1.6	2.0	2	0	0.49	0
М	1.6	2.0	2	0	0.49	0
Ν	1.2	1.0	1	0	0.40	0
0	1.6	2.0	2	0	0.49	0
Р	1.4	1.0	1	0	0.80	0
	a					(0

Tab. 5. Companies' answers according to ownership (Source: Authors, 2022)

## **5** Discussion

According to the literature, three main theoretical explanations exist for the IPO timing phenomenon. The first theory states that firms enter capital markets under favorable economic conditions that support their continuous growth and development (Loughran & Ritter, 1995; Ritter & Welch, 2002). The results of this study support this theory. First, a very favorable GDP growth rate reassured the respondents that the time was right for an IPO when 54.55% agreed with this fact. That went hand in hand with the effect of favorable conditions in the stock market. The rise in stock index prices has the effect of attracting investors and issuers to the capital market. 88.89% of the surveyed companies agreed that positive signals from the stock market were the right impetus for conducting an IPO.

De Albornoz and Pope (2004) found that the IPO is affected by the market valuation of companies in the same industry. That is when there is a positive development in the sector where the company operates or directly related sectors. In cases where competing companies have implemented IPOs successfully, other comparable companies are likely to want to gain the same benefits as the issuing competition.

Another theory says that companies enter capital markets when other companies also enter these markets (Choe, Masulis, and Nanda, 1993). The results of this study also follow this theory. Most companies supported this statement (100% rated 4 and 5, an average of 4.56). A positive trend in developing a particular industry will likely motivate other companies to conduct an IPO.

## **6** Conclusion

The paper aimed to identify macroeconomic factors influencing IPO implementation in selected Central and Eastern European capital markets. Survey-based research has been conducted within a sample of non-financial companies operating in the Czech Republic, Croatia, Hungary, Poland, and Romania. The results show that most companies implement IPO when favorable economic conditions mean GDP grows. The favorable conditions in the stock market also convinced them to go ahead with IPO. However, rising stock market volatility was a negative factor while implementing the IPO decision process. When competitors were implementing IPO, most respondents saw this as a signal to go for their market entry. At the time of this research, most banks maintained meager interest rates, but that was not the motive for IPO. The companies had access to cheap bank credit. However, loan capital was not an option anymore to support their growth. The subsidies widely used to extend the businesses in the EU were also the least available option than IPO capital. The majority of respondents dumped the venture capital from domestic or foreign investors. Most companies instead preferred capital from parent companies abroad. The state-related issues like concerns for government instability, rising corruption, or failure of the state probability were not significant issues in IPO implementation. Under the conditions of the CEE region, companies that went public in these countries

did not confirm the inflow of foreign direct capital factor as decisive for the IPO.

## Literature

1. Ameer, R. 2012, Macroeconomic factors and initial public offerings in Malaysia. *Asian Academy of Management Journal of Accounting and Finance*, 8(1), 41-67.

2. Bilson, C. M.; Bailsford, T. J.; Hooper, V. J. 2002. Selecting macroeconomic variables as explanatory factors of emerging stock market returns. *Pacific-Basin Finance Journal*, 9(4), 401-426. ISSN 0927-538X.

3. Breinlinger, L., Glogova, E. 2002, Determinants of Initial Public Offerings: A European Time-Series Cross-Section Analysis, Working Paper. Wien: Oesterreichische Nationalbank, Financial Stability Report

4. Brzeszczynski, J. 2014, IPOs in emerging markets. *Qfinance*. Available online: http://www.qfinance.com/financing-best-practice/ipos-in-emerging-markets?full, cited. 16.6.20

5. Choe, H., Masulis, R. W., Nanda, V. 1993, Common stock offerings across the business cycle: Theory and evidence. *Journal of Empirical Finance*, 1(1), 3-31. ISSN 0927-5398.

6. De Albornoz Noguer, B.G., Pope P.F. 2004, *The determinants of the going public decision: Evidende from the U.K.* IVIE working papers, Instituto Valenciano de Investigaziones Económicas, S.A., WP-AD 2004-22

7. Groh, A., P., Von Liechtenstein, H., Lieser, K. 2010. The European venture capital and private equity country attractiveness indices. *Journal of Corporate Finance*, 16(2), 205-224.

8. Kovandová, S., Zinecker, M. 2015. Macroeconomic determinants of IPO activity in Poland between 1993 and 2013, *Trendy Ekonomiky A Managementu*, 9(23), 24-31. ISSN: 1802-8527

9. Lowery, M. 2002. Why does ipo volume fluctuate so much? *Journal of Financial Economics*, 67, 3-40. ISSN 0304-405X.

10. Loughran, T., Ritter, J. R. 1995, The new issues puzzle. *Journal of Finance*, 50(1), 23-51. ISSN 0022-1082.

11. Loughran, T., Ritter, J. R., Rydqvist, K. 1994. Initial public offerings: International insights. *Pacific-Basin Finance Journal*, 2(2), 165-200. 10.1016/0927-538X(94)90016-7.

12. Meluzín, T., Zinecker, M., 2009. *IPO prvotní veřejná nabídka akcií jako zdroj financování rozvoje podniku*. Brno: Computer Press, ISBN:978-80-251-2620-2.

13. Meluzín, T., Zinecker, M., Łapińska, J. 2014. Determinants of initial public offerings: The case of Poland. *Journal of Quantitative Methods for Economics and Business Administration*, 18, 5-17. ISSN 1886-516X.

14. Meluzin, T., Zinecker, M., Lace, N. 2016. Going public: Key factors to consider by IPO candidates on emerging markets of Poland and Czech Republic. *Inzinerine Ekonomika-Engineering Economics*, 27(4), 392-404, ISSN 1392-2785

15. Pagano, M., Panetta, F., Zingales, L. 1998. Why do companies go public? An empirical analysis. *Journal of Finance*, 53(1), 27-64.

16. Peterle, P. 2013. Internal characteristics and external factors of IPO activities in Central and Eastern Europe: Empirical analysis and comparison. Working Paper, Faculty of Economics of the University of Ljubljana

17. Peterle, P., Berk, A. 2016. IPO cycles in Central and Eastern Europe: What factors drive these cycles? *Czech Journal of Economics and Finance*, 66(2), 113-139.

18. Rees, W. P., 1997. The arrival rate of initial public offers in the UK. *European Financial Management*, 3(1), 45-62. ISSN 1468-036X.

19. Rees, W.P. 2002, *The arrival rate of initial public offers in the uk, european financial management.* online available from: https://library.com, cited: 13.06.2020

20. Ritter, J. R. 2011. Equilibrium in the IPO market. *Financial Economics*, 3, 347-374. 10.2139/ssrn.1822542

21. Ritter, J. R., Welch, I. 2002. A review of IPO activity, pricing, and allocation. *Journal of Finance*, 57(4), 1795-1828. ISSN: 0022-1082.

22. Ross, S.A., Westerfield, R.W., Jordan, B.D. 1996. Essentials of Corporate finance. Von Hofmann Press. ISBN:0-256-16986-1

 Roženský, J. 2008. *IPO Na středo-evropských akciových trzích*. Charles University, Faculty of Social Sciences, Prague
 Rydqvist, K., Högholm, K. 1995. Going Public in the 1980s: Evidence from Sweden. *European Financial Management*, 1(3), 287-315. 10.1111/j.1468-036X.1995.tb00021.x

## Primary Paper section: A

Secondary Paper Section: AH