

# Initial Public Offerings: The Relevance of the Market Timing Hypothesis Under Conditions of the Czech Capital Market

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## Abstract

In this article, the authors study the relevance of the market timing hypothesis of going public, which tends to explain the lower post-issue operating performance of Czech initial public offerings. The data collected under the conditions of the Czech capital market are compared with the performance of companies selected from the main European stock exchanges, when they decided to adopt the IPO strategy. Achieving the objective required an empirical survey that involved a collection of accounting data in companies that had completed an initial public offer in the Czech capital market. The data were evaluated by financial performance measures. The comparisons were made using descriptive statistical methods. The research results broaden and deepen the present understanding of the market timing hypothesis in companies going public, particularly in the Czech Republic.

*Key words: Initial Public Offering, Market Timing Theory, Performance Measures, Czech Capital Market*

## 1. INTRODUCTION

One of the phenomena associated with initial public offerings (IPOs) is a lower post-issue operating performance after the company is going public. According to Paleari et al. (2006), *the accounting performance of the newly listed companies in the private sector becomes worse after going public*. The period in which companies generate lower earnings usually lasts 3 to 5 years after IPO. This was demonstrated for first time by Ritter (1991) and then corroborated by several other international studies.

There are several explanations for this phenomenon. According to Khurshed, Paleari and Vismara (2005), there are three major hypotheses explicating such post-issue underperformance:

- market timing hypothesis,
- window dressing (earning management) hypothesis,
- theory of information asymmetry among investors.

The market timing hypothesis is based on the assumption that *companies do not enter the capital market when they have a high growth potential and need to raise additional funding, but at the time when they are able to display positive growth opportunities, and thus to induce optimistic valuations*. According to Loughran and Ritter (1995), existing shareholders try to enter the capital market at the time when their company enjoys very good financial results, reports maximum operational performance, and the sector in which it operates is at the peak of its growth. They assume that investors will be positively inclined with respect to true value of the issuing company.

Companies also try schedule stock issuance for periods when shares are in greater demand and are overvalued. Based on that assumption, a hypothesis has been put forward saying that long-term return on shares issued in periods with large numbers of IPOs is lower than that

on shares issued in periods with few IPOs. This hypothesis has been corroborated by several empirical studies.

*The window dressing (earning management) hypothesis* is based on an assumption that before implementing the IPO, companies will try to window-dress their accounting numbers to make the firms look better before public offering. The result of such interventions is overvaluation of the issue. At the same time, post-IPO companies will not be realistically able to achieve long-term results expected from the investors, and share prices will begin to drop. In view of the fact that in a majority of developed countries, issuer companies are required to file financial statements that meet *International Financial Reporting Standards* (IFRSs) and to have them audited, this theory cannot at present be considered the main reason for underperformance of issuer companies.

The most recent theory that strives to explain long-term post-issue underperformance is based on the assumption of the existence of an *information asymmetry*. Investors have different expectations with respect to the issuer's real value. If there are enough optimistic investors on the market, the issue will be overpriced. But some time after the issue date and with the emergence of new information that help alleviate the information asymmetry, the pessimistic and the optimistic opinions of investors will converge, resulting in a decrease in the shares' price.

In this article, the authors consider the relevance of the first of the market timing hypothesis that explains long-term post-issue underperformance of issuers under the conditions of the Czech capital market, and compares the data collected with the performance of companies that chose the main European stock exchanges when they decided to implement the going public strategy.

## 2. MATERIAL AND METHODS

Hult et al. (2008) analyzed 96 papers reporting results of performance measurements in firms operating internationally. The papers were published between 1995 and 2005 in international academic journals (Academy of Management Journal, Administrative Science Quarterly, Journal of Marketing, Journal of Marketing Research, Journal of International Business Studies, Management Science, Organization Science and Strategic Management Journal). It follows from an analysis of results shown in Table 1 that the most frequently used measures of financial performance in a firm are sales-based and return-based performance measures.

Paleari et al. (2008) measures financial performance of firms that entered selected European stock exchange markets (London Stock Exchange, Euronext, Deutsche Börse and Borsa Italiana) through an initial public offering in 1996–2007 on the basis of the development of the following four indices in a period three years prior to the IPO, three years after the IPO and in the year of IPO:

- sales volume,
- net profit volume,
- return on equity,
- return on investment.

Tab. 1 – Commonly used measures by performance type. Source: Hult et al. (2008)

	Financial performance		Operational performance		Overall effectiveness performance	
	Performance measure	Relative frequency of use	Performance measure	Relative frequency of use	Performance measure	Relative frequency of use
Firm	Sales based (sales volume, foreign sales/total sales, sales growth)	44 %	Market share	47 %	Reputation	30 %
	Return on assets	40 %				
Strategic business unit	Sales-based	68 %	Market share	46 %	Performance relative to competitors	50 %
	Return on investment	47 %			Perceived overall performance	33 %
Inter-organization unit	Sales-based	62 %	Productivity	44 %	Perceived overall performance	71 %
	Profitability	31 %	Market share	33 %		
Total	Sales-based	52 %	Market share	44 %	Perceived overall performance	47 %
	Return on assets	29 %	Productivity	20 %	Performance relative to competitors	20 %
	Profitability	26 %				

In reference to the above studies, the we performed financial performance assessments of firms implementing the IPO on the Czech capital market using performance measures shown in Table 2. When selecting the measures, it was necessary to take into account the character of input data, their availability, and the possibility to compare them to the results attained by firms on the main European stock exchange markets.

Tab. 2 – Financial Performance Measures Commonly. Source: Marek (2009) and Synek (2000)

Financial Performance Measures	Definition of the measure
Change in sales compared to the base year, in %	$(1) \frac{Sales_{t=n}}{Sales_{t=0}} \times 100$ <p>Sales=Revenues of goods sold + Revenues of products and services sold</p>
Change in Net Profit compared to the base year, in %	$(2) \frac{Net\ Profit_{t=n}}{Net\ Profit_{t=0}} \times 100$
Return on Assets (ROA), in %	$(3) \frac{EBIT}{Assets} \times 100$ <p>EBIT = Earnings before Taxes + Interest</p>
Return on Equity (ROE), in %	$(4) \frac{EAT}{Equity} \times 100$ <p>EAT = Earnings before Taxes</p>
Change in Basic Earnings per Share compared to the base year (EPS), in %	$(5) \frac{Earning\ per\ Share_{t=n}}{Earning\ per\ Share_{t=0}} \times 100$ <p>EPS = Result for the period attributable to the Group and to ordinary shareholders / Weighted average number of ordinary shares</p>
Change in Labour Productivity compared to the base year, in %	$(6) \frac{Labour\ Productivity_{t=n}}{Labour\ Productivity_{t=0}} \times 100$ <p>Labour Productivity = Sales / Weighted average number of employees</p>
Change in Weighted Average Number of employees compared to the base year, in %	$(7) \frac{Weighted\ Average\ Number\ of\ Employees_{t=n}}{Weighted\ Average\ Number\ of\ Employees_{t=0}} \times 100$

The development of absolute financial performance measures (sales, earning after taxes, earnings per share, labour productivity, weighted average number of employees) is evaluated using the horizontal analysis method. A change is expressed by the base index. Base indices compare values of a certain financial performance measure from different periods with the value of the same measure from always the same period selected, which is used as a basis for comparison. The base year is the year of IPO implementation ( $t=0$ ). Absolute values of measures in the IPO implementation year are expressed as 100 %, absolute values for the period of three years prior to, and three years after, IPO implementation ( $t=-3, -2, -1, 1, 2, 3$ ) are then expressed as a proportion of measures in the base year.

The values of the measures given in Table 3 for a specific firm in a respective year ( $t = -3, -2, -1, 0, 1, 2, 3$ ) were also used to calculate the **characteristic value for the entire period of investigation**. For that purpose, methods of descriptive statistics were used, i.e. the arithmetic mean, median, standard deviation and “risk adjustment”, which takes into account the magnitude of fluctuation of annual values of individual performance measures over the seven-year period. Šiška and Lízalová (2011) recommend that the risk projection be accomplished by the following modification of the measure’s arithmetic mean (1):

$$(8) \quad Adj\_Indicator = \frac{Avg\_Value}{\sigma + 1}, \text{ where}$$

$\sigma$  standard deviation of the measure’s values over the period  $t = -3, -2, -1, 0, 1, 2, 3$ ;

$Avg$  arithmetic mean of the measure’s values over the period  $t = -3, -2, -1, 0, 1, 2, 3$ .

If the measure’s values in all the years of investigation are identical, then the fluctuation rate expressed by the standard deviation will be zero and the *Adj\_Indicator* will equal the arithmetic mean of the values. If, however, a measure’s values show wide year-to-year fluctuations over the period of investigation, then the standard deviation in the denominator will increase the nominator’s value, and the *Adj\_Indicator* will attain appropriately lower values than the arithmetic mean (Šiška and Lízalová, 2011).

Using the measures selected, financial performance is analyzed in a set of six firms that implemented the IPO strategy within the modern history of the Czech capital market (Table 3). Those six share-holding corporations and Fortuna Entertainment Group N.V. represent our basic set of issuers. Essentially complete and comparable accounting data published in annual reports and/or in issuers’ prospectuses are available for all of the firms with the exception of the Fortuna Company (which issued its shares in 2010) and their respective financial performance can thus be subjected to an appropriate analysis. If some other than the Czech currency was used in financial statements, the Czech National Bank exchange rate of 31 December of the corresponding year was used to convert values of individual measures.

Tab. 3 – The sample of IPOs on the Czech capital market, 2004–2011. Source: Prague Stock Exchange (August 2011)

Company	The Date of the IPO
Zentiva N.V.	28 June 2004
ECM Real Estate Investment AG	7 Dec. 2006
Pegas Nonwovens SA	18 Dec. 2006
AAA Auto Group N.V.	24 Sept. 2007
VGP N.V.	7 Dec. 2007
New World Resources N.V.	6 May 2008
Fortuna Entertainment Group N.V.	22 Oct. 2010

In the text below, a **comparison** is made between performance of companies that implemented the IPO strategy on the Czech capital market and the results of companies that entered the main European stock exchanges between 1996 and 2007. Any **interpretation of the compara-**

**tive analysis results** must make provision for the fact that time series data from European markets go only until 2007 and thus do not reflect the impact of the economic crisis on the issuers' performance. The data used for financial performance assessment of issuers on the Prague Stock Exchange (PSE), on the other hand, included also data affected by the impact of the economic crisis.

Comparison was made using methods of descriptive statistics (arithmetic mean, median). For data processing, Microsoft Excel software was used.

### 3. RESULTS

#### 3.1 Sales

It follows from Tables 4 and 5 that pre-IPO sales in almost all of the companies monitored were growing, although at different rates. The post-IPO development was different. In some companies, sales showed a significant increase compared to the previous year's figures (ECM, VGP, Zentiva), in other companies the sales showed a slight decrease (PEGAS) or even a marked slump (AAA, NWR). Low values of adjusted arithmetic means suggest major fluctuations of sale levels in all of the companies.

Looking at the course of sales reported by the companies monitored as a whole on the basis of the mean and median values, we can note a significant increase in sales in the pre-IPO period and a subsequent significant decrease in the post-IPO period.

Tab. 4 – Sales of issuer companies. Source: own elaboration

Company	Sales (Millions of CZK)									
	3	2	1	0	1	2	3	Mean	σ	Adj_In-dicator
ZENTIVA	5857	5940	7571	10674	11839	14003	16670	10365	3835	2,70
ECM	153	157	63	233	559	1020	1050	462	390	1,18
PEGAS	2191	2228	3176	3382	3242	3757	3259	3033	550	5,51
AAA	6879	7827	9742	9478	7735	4442	5137	7320	1859	3,94
VGP	17	62	72	182	321	586	729	281	258	1,08
NWR	37707	34529	36337	53712	29485	39845	.	38603	7478	5,16
Mean	8801	8457	9493	12943	8863	10609	5369	×	×	×
Median	4024	4084	5373	6430	5488	4099	3259	×	×	×

Note: symbol × means that it would be illogical to complete that field in the table; symbol . means that the datum is either unknown or not available.

Tab. 5 – Horizontal analysis of issuer companies' sales. Source: own elaboration

Company	Horizontal analysis of sales (IPO implementation year =100 %)						
ZENTIVA	55%	56%	71%	100%	111%	131%	156%
ECM	66%	67%	27%	100%	239%	437%	450%
PEGAS	65%	66%	94%	100%	96%	111%	96%
AAA	73%	83%	103%	100%	82%	47%	54%
VGP	9%	34%	40%	100%	177%	323%	401%
NWR	70%	64%	68%	100%	55%	74%	.
Mean	68%	65%	73%	100%	68%	82%	41%
Median	63%	64%	84%	100%	85%	64%	51%

It follows from Table 6 and the Fig. 1 that sales of issuers on major European stock exchanges showed continuous growth over the monitoring period. The firms that used one of those markets for the initial public offering of their stock doubled their sales within three years of IPO implementation. Issuers who chose Borsa Italiana to go public were an exception. Their sales median three years after the IPO was around 121 % of the base year level. Compared with the developments on the main European stock exchanges, the situation on the Prague Stock Exchange seems the least favourable. The median of issuers' sales on the PSE market was less than 51% of the base year level three years after the IPO. At this point it is necessary to emphasize the earlier-mentioned marked differences in the development of that performance measure between individual firms.

Tab. 6 – Comparison of sales medians of firms that entered the main European stock exchanges and the Prague Stock Exchange (IPO base year=100 %). Source: Paleari et al. (2008) and authors' own elaboration

Stock exchange	Annual periods before and after IPO implementation							No. of firms
	-3	-2	-1	0	1	2	3	
LSE/Official List	63%	70%	81%	100%	128%	161%	202%	385
LSE - AIM	70%	81%	92%	100%	119%	170%	208%	1578
Euronext	48%	51%	63%	100%	131%	172%	208%	905
Deutsche Börse	41%	46%	60%	100%	150%	190%	205%	564
Borsa Italiana	50%	63%	80%	100%	107%	117%	121%	204
PSE	63%	64%	84%	100%	85%	64%	51%	6

### 3.2 Net profit or loss

It follows from Tables 7 and 8 that pre-IPO net profit (defined as EAT) in a majority of the monitored firms increased significantly. In the year of IPO implementation, however, firms began to differentiate with respect to results of their economic performance. One group were companies where a marked increase in net profit compared with the previous period was observed (Zentiva, VGP, NWR), and the other group was made up of companies that reported a slight decrease (ECM and Pegas), or even a deep loss (AAA). In the second and third years

after IPO, all the monitored companies reported a major drop in profit compared with the base year, or experienced operating loss (with the exception of AAA which showed profit for the first time two years after IPO). Low, or, in some cases, negative values of the adjusted arithmetic mean suggest, as in the case of sales above, major fluctuations of values of the monitored measure in all of the companies.

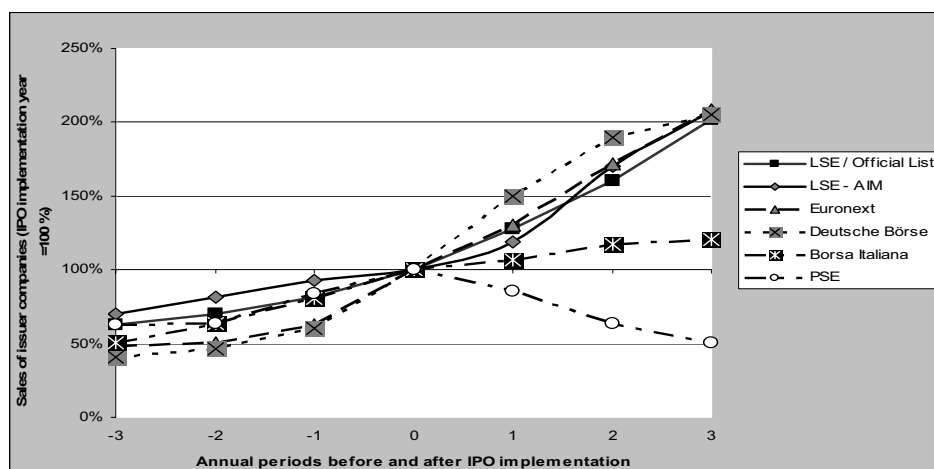


Fig. 1 – Sales of issuer companies (IPO implementation year =100 %). Source: Paleari et al. (2008) and authors' own elaboration

The mean and the median values of EAT of the companies monitored reached their maxima a year after IPO implementation, which underscores the sizeable increases in net profit in the pre-IPO period, and its slump in the post-IPO period.

Tab. 7 – EAT Development. Source: own elaboration

Company	EAT (CZK Million)							Mean	$\sigma$	Adj_Indicator
	-3	-2	-1	0	1	2	3			
ZENTIVA	440	607	904	1680	1929	2289	1456	1329	645	2,06
ECM	-181	109	601	530	679	-2424	-1645	-333	1131	-0,29
PEGAS	553	551	773	579	588	392	549	569	103	5,47
AAA	44	69	198	-127	-853	41	128	-71	332	-0,21
VGP	13	501	384	968	752	31	662	473	333	1,42
NWR	2494	2919	5223	9253	-1626	5847	.	4018	3356	1,20



Mean	561	793	1347	2147	245	1029	230	×	×	×
Median	242	526	687	774	634	217	549	×	×	×

Tab. 8 – Horizontal analysis of issuer companies' EAT. Source: own elaboration

Company	Horizontal analysis of EAT (IPO implementation year =100 %)						
ZENTIVA	26,19%	36,13%	53,81%	100,00%	114,82%	136,25%	86,67%
ECM	loss	20,49%	113,34%	100,00%	128,21%	loss	loss
PEGAS	95,44%	95,26%	133,46%	100,00%	101,64%	67,68%	94,86%
AAA	×	×	×	Loss	×	×	×
VGP	1,29%	51,75%	39,70%	100,00%	77,63%	3,21%	68,33%
NWR	26,96%	31,55%	56,44%	100,00%	×	63,19%	.
Average	26,10%	36,91%	62,73%	100,00%	11,41%	47,94%	10,71%
Median	31,31%	68,03%	88,76%	100,00%	81,95%	27,99%	70,99%

With the exception of issuers listed on the main market of the London Stock Exchange, issuer companies listed on most of the other stock exchange markets analyzed (Euronext, Borsa Italiana, PSE) suffered a decrease in their net profits after IPO implementation. Companies listed on Deutsche Börse reported operating loss compared with the pre-IPO period, and companies listed on LSE-AIM had a loss throughout the period of monitoring.

Tab. 9 – Comparison of EAT medians of firms that entered the main European stock exchanges and the Prague Stock Exchange (IPO base year=100 %). Source: Paleari et al. (2008) and authors' own elaboration

Stock exchange	Annual periods before and after IPO implementation							No. of firms
	-3	-2	-1	0	1	2	3	
LSE/Official List	31,40%	41,83%	52,76%	100,00%	131,25%	158,97%	180,48%	385
LSE - AIM	×	×	×	×	×	×	×	1578
Euronext	25,23%	37,57%	56,58%	100,00%	110,72%	88,92%	73,24%	905
Deutsche Börse	56,72%	63,68%	125,87%	100,00%	×	×	×	564
Borsa Italiana	28,73%	54,51%	66,97%	100,00%	97,77%	68,67%	64,77%	204
PSE	31,31%	68,03%	88,76%	100,00%	81,95%	27,99%	70,99%	6

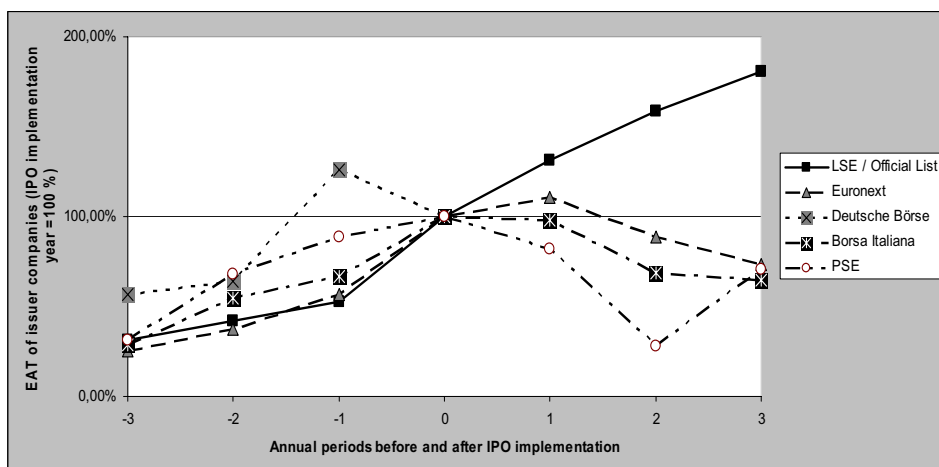


Fig. 2 – EAT of issuer companies (IPO implementation year = 100 %). Source: Paleari et al. (2008) and authors' own elaboration

### 3.3 ROE and ROI

If we assess the developments in each of the monitored companies individually on the basis of their ROE and ROI, then we see that the profitability of Zentiva, Pegas, VGP and NWR two and/or three years after IPO was at a lower level compared with values reported for the IPO base year, the AAA company had managed to restore its profitability and ECM operated at a significant loss.

Return on equity (ROE) and return on investment (ROI) of the companies as a whole measured on the basis of the mean and median values show upward trend in the pre-IPO period and a subsequent significant fall (the mean) or a slight decrease (median) in the post-IPO period.

Tab. 10 – ROE and ROI Development. Source: own elaboration

Company	ROE									
	-3	-2	-1	0	1	2	3	Mean	$\sigma$	Adj_Indicator
ZENTIVA	53%	42%	38%	24%	20%	19%	12%	30%	14%	26%
ECM	-31%	15%	44%	16%	17%	-97%	-206%	-34%	82%	-19%
PEGAS	25%	20%	21%	27%	24%	15%	18%	21%	4%	21%
AAA	60%	41%	40%	-11%	-367%	20%	34%	-26%	141%	-11%
VGP	18%	88%	32%	28%	18%	1%	15%	29%	26%	23%
NWR	6%	8%	52%	54%	-11%	29%	.	23%	24%	19%
Mean	22%	36%	38%	23%	-50%	-2%	-25%	×	×	×
Median	21%	30%	39%	25%	18%	17%	15%	×	×	×

Company	ROI									
	-3	-2	-1	0	1	2	3	Mean	$\sigma$	Adj_Indicator
ZENTIVA	33%	28%	21%	28%	14%	18%	6%	21%	9%	19%
ECM	-4%	11%	23%	9%	7%	-18%	-28%	0%	17%	0%
PEGAS	20%	17%	20%	12%	10%	9%	10%	14%	5%	13%
AAA	8%	10%	13%	5%	-3%	8%	10%	7%	5%	7%
VGP	8%	29%	18%	16%	11%	3%	10%	13%	8%	12%
NWR	7%	7%	17%	29%	-8%	18%	.	12%	11%	11%
Mean	12%	17%	19%	16%	5%	6%	2%	×	×	×
Median	8%	14%	19%	14%	8%	9%	10%	×	×	×

All profitability indices on all of the markets monitored showed downward trend in the three-year post-IPO period. In this respect, we must underline the significantly higher profit rates of companies listed on the PSE in comparison with those achieved on the rest of the markets analyzed. Companies listed on LSE-AIM and Deutsche Börse operated at a loss in the post-IPO period and their return rates are therefore negative.

Tab. 11 – Comparison of ROE and ROI medians of firms that entered the main European stock exchanges and the Prague Stock Exchange (IPO base year=100 %). Source: Paleari et al. (2008) and authors' own elaboration

Stock exchange	ROE							No. of firms
	-3	-2	-1	0	1	2	3	
LSE/Official List	16%	21%	15%	10%	10%	10%	9%	385
LSE - AIM	17%	18%	15%	2%	-6%	-3%	-3%	1578
Euronext	15%	17%	19%	14%	12%	10%	8%	905
Deutsche Börse	16%	24%	16%	2%	-3%	-10%	-4%	564
Borsa Italiana	8%	12%	13%	8%	7%	6%	5%	204
PSE	21%	30%	39%	25%	18%	17%	15%	6
Stock exchange	ROI							No. of firms
	-3	-2	-1	0	1	2	3	
LSE/Official List	4%	6%	5%	5%	6%	4%	4%	385
LSE - AIM	-2%	-1%	-1%	-3%	-7%	-6%	-4%	1578
Euronext	4%	4%	5%	5%	4%	3%	2%	905
Deutsche Börse	3%	3%	3%	1%	-2%	-7%	-4%	564
Borsa Italiana	2%	3%	4%	3%	3%	2%	2%	204
PSE	8%	14%	19%	14%	8%	9%	10%	6

### 3.4 Other measures of performance

The following are other (complementary) measures chosen for performance evaluation of companies that implemented their IPOs on the PSE:

- weighted average number of employees,
- labour productivity, and
- earnings per share (EPS).

Because of data unavailability, no comparison between the developments in these measures and results attained on the major European stock exchanges was possible. Their values will nonetheless help complement the already collected results on performance trends of issuers under Czech capital market conditions.

From the data on **weighted average number of employees** it follows that the number of employees increased in the post-IPO period in most of the companies monitored. Significant increases compared with the IPO implementation year were observed in Zentiva, ECM and Pegas. By contrast, a marked decrease in the number of employees compared with the IPO implementation year (to about one third of the original number) occurred in AAA, and NWR reduced its staff by 13 %. The means and median values of the measure for the market as a whole are significantly influenced by the high weight of the latter companies.

Tab. 12 – Horizontal Analysis of the Weighted Average Number of Employees. Source: own elaboration

Company	Horizontal Analysis of the Weighted Average Number of Employees (IPO implementation year =100 %)						
ZENTIVA	.	48%	67%	100%	118%	162%	210%
ECM	37%	34%	36%	100%	209%	280%	202%
PEGAS	91%	95%	102%	100%	117%	117%	117%
AAA	46%	53%	75%	100%	38%	29%	33%
VGP	38%	38%	50%	100%	.	.	.
NWR	120%	114%	105%	100%	92%	87%	.
Mean	112%	96%	95%	100%	34%	7%	49%
Median	19%	53%	70%	100%	57%	49%	52%

**Labour productivity** in some of the companies monitored decreased in the post-IPO implementation period (Zentiva, Pegas, NWR). On the other hand, companies AAA and ECM were able to double their labour productivity following their initial public offering. Mean values of labour productivity of all firms monitored show downturn trend in the post-IPO period, the median of the measure remained at almost the same level for three years after IPO implementation.

Tab. 13 – Horizontal Analysis of the Labour Productivity. Source: own elaboration

Company	Horizontal Analysis of the Labour Productivity (IPO implementation year =100 %)						
ZENTIVA	.	115%	106%	100%	94%	81%	74%
ECM	175%	195%	74%	100%	114%	156%	222%
PEGAS	71%	69%	92%	100%	82%	95%	82%
AAA	159%	155%	137%	100%	217%	163%	163%
VGP	25%	91%	79%	100%	.	.	.
NWR	59%	56%	65%	100%	60%	86%	.
Mean	57%	93%	89%	100%	64%	67%	57%
Median	85%	119%	108%	100%	102%	88%	104%

Data in Table 14 clearly show differences in earnings per share (EPS) between the companies monitored in the post-IPO period. While companies like Zentiva, Pegas and VGP repeatedly reported often even a sharp drop in their EPS in the three-year post-IPO period and the ECM Company even suffered a significant loss in its EPS, the AAA Company revealed a more than seven-fold increase in the value of this measure. Three years after IPO implementation, the EPS median of the companies monitored was less than 77 % of the base year value.

Tab. 14 – Horizontal Analysis of Earnings per Share. Source: own elaboration

Company	Horizontal Analysis of Earnings per Share (IPO implementation year =100 %)						
ZENTIVA	.	32%	54%	100%	110%	129%	83%
ECM	.	.	.	100%	83%	×	×
PEGAS	.	.	57%	100%	9%	6%	9%
AAA	.	.	144%	100%	×	2284%	7109%
VGP	.	.	49%	100%	78%	3%	68%
NWR	.	.	56%	100%	×	60%	.
Mean	.	.	54%	100%	31%	×	12%
Median	.	.	50%	100%	93%	66%	77%

## 4. DISCUSSION

Table 15 shows trends exhibited by the monitored measures on individual stock exchange markets. We may observe that **post-IPO performance of companies:**

- a) grows** on most capital markets with the exception of the PSE if **changes in sales** are used for evaluation;
- b) decreases** on most capital markets with the exception of the LSE if **changes in operating profit or loss** are used for evaluation;
- c) decreases** on all capital markets if return on equity (ROE) is used for evaluation;
- d) decreases** or **stagnates** on all capital markets if return on investment (ROI) is used for evaluation.

A decrease or stagnation in issuers' performance in the post-IPO period are also signalled by other measures of financial performance which, however, were calculated only for firms that had implemented the IPO strategy on the Czech capital market because other data were not available.

The **theory** formulated by Loughran and Ritter (1995) says that companies do not enter the capital market when they have a high growth potential and need to raise additional funding, but at the time when existing shareholders think it advantageous has been **corroborated by the results of research** conducted on selected capital markets.

Tab. 15 – Summary of results – development trends of individual measures on stock exchange markets. Source: own elaboration

Measure	Development trends in measures on stock exchange markets (median values)											
	LSE		LSE-AIM		Euronext		Deutsche Börse		Borsa Italiana		PSE	
	pre- IPO	post- IPO	pre- IPO	post- IPO	pre- IPO	post- IPO	pre- IPO	post- IPO	pre- IPO	post- IPO	pre- IPO	post- IPO
Sales	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↓
EAT	↑	↑	loss	loss	↑	↓	↑	loss	↑	↓	↑	↓
ROE	↑	↓	↑	neg.	↑	↓	↑	loss	↑	↓	↑	↓
ROI	↑	↓	neg.	neg.	↑	↓	→	↓	→	→	↑	↓
No. of employees (weighted average)	.	.	.	.	.	.	.	.	.	.	↑	↓
Labour pro- ductivity	.	.	.	.	.	.	.	.	.	.	↑	→
Net income per share	.	.	.	.	.	.	.	.	.	.	↑	↓

Note: symbol ↑ represents upward trend, symbol ↓ represents downward trend, symbol → represents invariable trend, symbol . means that the datum is either unknown or not available.

An analysis was performed of selected measures of financial performance over a period of several years (three years prior to the IPO, three years after the IPO and the IPO implementation year). Given the length of the period analyzed, conclusions of the analysis can be considered relatively reliable. However, **three problematic aspects** need to be borne in mind:

1. under the conditions of the Czech capital market conclusions are drawn from performance data of only six firms. Moreover, their financial performance was strongly volatile, as evidenced by values of corresponding standard deviations and of the so-called “risk cleaning”;

2. performance of companies under the conditions of other capital markets was evaluated on the basis of only four performance measures, other measures could not be quantified and included in evaluation because of data unavailability;
3. only median values of individual measures of issuers' financial performance were used for company performance evaluations.

The analysis exclusively focused only on book profit, i.e. the foremost interest of the owners in generating economic profit was not taken into account.

All the conclusions outlined above can be considered as the starting point for further research into the performance of IPO-implementing companies in the following areas:

- a broader sample size of companies analyzed to include new issuers on the Czech capital market,
- research into company performance on other capital markets of the CEE region (with a preference given to the Polish market in view of its importance),
- evaluation of company performance on the basis of the economic added value (EVA) measure.

## 5. CONCLUSION

The aim of the study presented was to consider the relevance of one of the theories proposing to explain underperformance of post-IPO companies under the conditions of Czech capital markets, and to compare the data collected with the performance of companies that entered the main European stock exchanges. According to the theory proposed by Loughran and Ritter (1995), companies do not enter the capital market when they have a high growth potential and need to raise additional capital, but at the time when the company's existing shareholders think it advantageous. Existing shareholders try to enter the capital market at the time when their company enjoys very good financial results, reports maximum operational performance, and the sector in which it operates is at the peak of its growth. They assume that investors will be positively inclined with respect to true value of the issuing company.

To gauge companies' financial performance on selected capital markets, a total of seven performance measures of financial analysis were chosen in accordance with recommendations published in relevant literature. Two of them are from the group of relative measures (ROE, ROI), the other five belong among absolute measures. Data on financial performance of individual companies were obtained from issuing companies' prospectuses and their annual reports, and they were processed by horizontal analysis and descriptive statistical methods using Microsoft Excel software.

It follows from the research results that the phenomenon of underperformance of newly listed companies can be identified both on the main European stock exchanges and under conditions of the Czech capital market.

Analytical results can corroborate the theory of lower performance of companies following their entry onto the capital market. Generalization of the results is, however, hampered by the fact that the Czech capital market can offer data on a small number of companies only. Availability of performance data about companies from other capital markets is also rather limited for comparison purposes.

In spite of the above reservations, the findings presented here can be considered a contribution to a better understanding of financial performance of post-IPO companies, especially under the specific conditions of one of the CEE region markets.

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