

IPO TIMING DETERMINANTS: EMPIRICAL EVIDENCE ON THE POLISH CAPITAL MARKET

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Abstract

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This paper examines the determinants influencing the IPO timing by enterprises under the conditions in force on the Polish capital market. In the study we asked CFOs Polish enterprises divided into two groups to formulate their insights in the area of IPO timing. The first group consisted of the entities that have previously executed an initial public offering, the second one included the entities that have not executed an IPO (but considered doing so in the past or were candidates for doing it in the future). The survey results can be summarised as follows. First, in choosing an opportune time for an IPO, both subsamples of companies take into considerations the current need of external equity capital for continuing their growth. Second, managers also take advantage of macroeconomic development and effort conducting IPOs when present and projected state of the national and global economy is favorable. Overall stock market conditions, conditions in the business sector and investors' interest in the business sector were identified as determinants of IPOs timing with a very strong support. Finally, Polish CFOs attach less importance to the interest that other companies operating in the same type of business may have in IPOs. The interest that firms from other business sectors may have in going public does not have an appreciable effect on timing as well.

IPO, timing, CEE, Polish capital market

Capital structure decision making have been analyzed in many empirical studies for more than 50 years. Referring to Bistрова *et al.* (2011), 'though there have been multiple studies on how the role model of capital structure should look like, still there is no consensus regarding that yet. One observes different capital structures from country to country, sector to sector, company to company. There have been highlighted differences in capital structure between developed and emerging markets as well as across developed markets'. Hernádi and Mihály (2012) analyzed the determinants of capital structure and its choice by small and medium-sized enterprises in Central and Eastern Europe countries (CEE) from 2002 to 2007. Their results show that 'companies in the CEE countries remarkably converged their financial decision-making through the investigated period, in which the relevant determinants become stronger, while most of the

country-specific factors present weakening effects'. They conclude that financial decisions conducted by companies in the region tend to be closer to that of developed countries.

The past decade has witnessed a worldwide rise in the importance of financing corporate growth through 'Initial Public Offering' (IPO). Under conditions of developed capital markets the theory of going public decision making has been subject of several empirical studies (Helwege, Packer, 2003; Brau *et al.*, 2003; Boehmer, Ljungqvist, 2004). Most empirical IPO research examines the following seven issues (Brau, Fawcett, 2006): reasons and motivations for going public, timing of the IPO, underwriter selection, underpricing, signaling, IPO process issues, and the decision to stay private. The question that remains unanswered is whether academic theories formulated for well developed capital markets are also relevant for IPO

consideration in enterprises operating on capital markets in the CEE region. Under the conditions on the emerging capital markets in CEE countries, both theory and corporate practice grapple with an absence of empirical results.

The CEE countries' primary capital markets still seem to be rather poorly developed. In this context a study conducted by Berk (2007) is worth mentioning. He investigated the role the Slovenian capital market plays in determining corporate capital structure and highlights factors that cause the underdevelopment of the market. Insufficient development of the majority of other capital markets in the region can be observed as well. The only exception has been represented by Poland. The number of IPOs issued on the selected CEE capital markets in the years 1998–2011 is shown in Tab. I. As mentioned before, Warsaw Stock Exchange belongs to the European stock exchanges with the highest number of completed IPOs.

The novelty of this study is to analyze the timing dimension of the decision to go public under conditions of the Polish capital market, which has been considered as the most important one among the CEE countries.

The purpose of this article is to explore factors that influence the decision of enterprises about IPO timing in Polish capital market and thus to enlarge the current IPO literature with an analysis of responses from a survey that posed the following question: What are the key factors of CFOs when considering the timing of their issue under conditions of the Polish capital market? This paper complements therefore prior research by explicitly considering the timing dimension of IPOs on the most developed capital market in the CEE region.

This paper is organized as follows. Section 2 presents the framework within which the entrepreneur's decision to IPO timing is analyzed. Immediately following this review section, the data employed and the method of analysis are described. Sections 3 and 4 present and discuss detailed findings from the data analysis.

IPO Timing

The academic literature devotes a significant amount of research in order to better understand the IPO process. There are several theoretical explanations for the phenomenon of IPO timing.

Ibbotson and Jaffe (1975) focus on the prediction of 'hot' issue markets which are defined as periods in which the average first month performance of new issues is abnormally high. Their findings may help investors and issuers decide when to purchase or issue the securities. Ritter (1984), Loughran and Ritter (1995) and Ritter and Welch (2002) postulate that companies enter the capital market under favourable economic conditions that support their growth and development. Ritter (1984) demonstrates that initial public offerings have a cyclic nature and document the phenomenon called 'hot' issue markets. Under favourable economic conditions, IPOs experience a 'hot' market characterized by an increase in number of enterprises going public as well as proceeds. During a recession occurring 'cold' markets, exhibit low levels of IPO activity.

The current academic studies focus on the underlying economic conditions as well as firm specific qualities (Blum, 2011). Similar types of enterprises choice to go public at about the same time (Lowry and Schwert, 2002). The waves in going public disproportionately populated with firms in particular industries and one possible reason for the 'hot' markets in IPOs is that firms, especially in certain industries, face better investment opportunities during some periods than in other times, so that IPOs merely allow for increased fund raising (Benninga *et al.*, 2005).

Alti (2005) emphasizes that several studies have demonstrated that IPOs tend to cluster both in time and industries. However, it is less clear what causes the 'hot' and 'cold' market cycles. Empirical findings indicate a weak link between the IPO and the investment opportunities clustering. Pagano *et al.* (1998) and Loughran *et al.* (1994) find that 'hot' issue markets do not coincide with urgent funding needs and subsequent investments. Firms' going public decision seem to be driven mainly by market timing attempts (Baker, Wurgler, 2002).

Lowry (2002) explored extreme fluctuations in IPO volume over 37 years. He compares 'the extent to which the aggregate capital demands of private firms, the adverse-selection costs of issuing equity, and the level of investor optimism can explain these fluctuations. Results indicate that firms' demands for capital and investor sentiment determine IPO volume, in both statistical and economic terms.'

Consistent with these results are findings of a survey conducted by Burgstaller (2009). He

I: Number of IPOs on the selected CEE Capital Markets in 1998–2011

Stock Exchange	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Warsaw Stock Exchange	5	6	36	34	35	68	29	10	22	20
Prague Stock Exchange	0	0	1	0	2	1	1	0	0	1
Budapest Stock Exchange	0	0	1	0	3	0	1	2	1	5
Bratislava Stock Exchange	1	0	0	0	0	0	0	0	0	0
Ljubljana Stock Exchange	0	0	0	0	2	1	1	0	0	1
Total	6	6	38	34	42	70	31	12	23	27

Source: Paleari *et al.* (2006, 2007, 2008, 2009, 2010, 2011, 2012)

examined the issuance of share capital via the Vienna Stock Exchange between 1985 and 2004. Evidence is supplied concerning the aggregate factors that explain the time-series variation in both the numbers of and proceeds from initial public offerings and seasoned equity offerings (SEOs). Results indicate that there is no cyclical sensitivity of issues, but that firms successfully time their offerings to take advantage of high stock market valuations and the associated low cost of equity capital. Corporate indebtedness and interest rates are significant determinants of SEOs in statistical and economic terms. The proceeds from IPOs, rather than funds raised by firms that are already listed, are used to finance subsequent investment.

Benninga *et al.* (2005) explain in the context with their model the clustering in time of IPOs and the industry concentration of IPO waves with relatively high market prices. They show that firms issue shares when the cash flows of their enterprises are relatively high, periods that coincide with high stock prices since cash flows are cross-sectionally correlated, especially within industries. The model suggests that firms are taken private when the market valuation for the expected cash flows is low (relative to the private benefits). Moreover, for the same reason that IPOs are clustered, Benninga *et al.* (2005) expect that reprivatization waves will be dominated by certain industries and will coincide with low share prices.

Brau and Fawcett (2004) asked 336 chief financial officers (CFOs) to compare practice to theory *inter alia* in the area of IPO timing. Overall stock market conditions were identified as the single most important determinant of IPO timing. Two other factors were also perceived as strongly influencing the timing of an IPO: industry conditions and the need for capital to support growth. On the contrary, two other explanations – other good firms are currently going public and first day stock performance of recent IPOs – were viewed as relatively unimportant. The data suggest that CFOs do pursue windows of opportunity, but they define these windows in terms of overall stock market and industry conditions and not by the IPO market.

Brau and Fawcett (2006) sum up theories (concepts) explaining IPO timing: overall stock market conditions (Lucas and McDonald 1990; Ritter and Welch 2002), industry conditions of IPO firm (Pagano *et al.*, 1998; Lowry, 2002), recent first-day stock performance of firms going public (Lowery and Schwert, 2002), other good firms are currently issuing equity (Choe *et al.*, 1993) and finally reaching the point of the growth cycle, the issuing company needs the capital to continue to grow (Choe *et al.*, 1993).

SURVEY METHODOLOGY AND DATA SOURCES

The research approach was developed after an extensive review of IPO-oriented academic

literature (Brau & Fawcett, 2006; Snieska & Venckuviene, 2011). Research methods cover the comparative analysis of scientific literature documents and reports as well as statistic data. Moreover, the intent of this research required to collect primary data via a questionnaire. The sample consists of two types of companies, which means that we study two subsamples. The first subsample consists of the entities that have previously executed an initial public offering of shares on the Polish capital market (Subsample A – Successful). The second subsample includes the entities that have not executed an IPO, but considered doing so in the past or were candidates for doing it in the future (Subsample B – Not Tried).

The basic Group A was composed of companies that had entered the Main Market of Warsaw Stock Exchange through an IPO in the years 2007–2009. The time limitation on the entry into the capital market was necessary to ensure that the research data would come from corporate officers who had been personally involved in a recent IPO process. This group of respondents was drawn from the data published on the Warsaw Stock Exchange website (www.gpw.pl) and the publications of Paleari *et al.* (2007, 2008, 2009). The entire list contained 107 companies, or possibly their CFOs or Chairmen of the Board of Directors.

It is difficult to estimate how large is the group of companies that have not entered the capital market through an IPO but considered doing so in the past or are poised for a future filing. Nonetheless, a database of 60 companies (potential IPO candidates) was compiled from the information provided by brokers who had the experience of implementing IPOs on the Polish capital market.

The data was collected in two main stages. In early 2010, the questionnaire accompanied by a personalized and signed cover letter was sent to all A-type companies on the survey list. To increase the return rate, the questionnaire was put into an electronic form and, in April 2010, sent by e-mail to the individuals who had not replied the first time around, with a request for completion. Overall, 21 CFOs submitted usable answers (i.e. the response rate is 19.6%).

In the fall of 2011, the questionnaire with a cover letter was sent to all 60 companies in Group B. Again, to boost the return rate, a second request for participation in the survey was e-mailed to all respondents in January 2012. In the end, 18 completed questionnaires were received, which represents a 30% response rate.

It should be pointed out that the return rates fall within the range mentioned in other survey-based financial studies (Brau & Fawcett, 2006).

The questionnaire-collected data was treated by statistical methods reflecting its nature and quantity. Descriptive methods served as the basic statistical analyses. Categorical data was processed using contingency tables and evaluated by the M-V chi-square test corrected for small frequency in

individual categories. Mann-Whitney's U-test was applied to compare the statistical data between monitored groups. The data was evaluated at the significance level of $\alpha = 5\%$. The entire statistical evaluation was performed by Statistica software, version 10.

SURVEY RESULTS

Tables II and III summarize the results of descriptive statistics separately for both monitored group of companies (A and B). Tab. IV presents the descriptive statistics derived from all companies as one set of observations, with a subsequent comparison of the two sets of statistical data using the Mann-Whitney U-test.

Descriptive Data Analysis

The respondents were asked to indicate, on a five-point scale (1-unimportant, 5-very important), 'how important were/are the following factors influencing the timing of a possible IPO?' The results of this analysis are expressed as an arithmetic mean \pm standard deviation followed by the relative frequency of answers 4 and 5.

The survey results (Tab. IV) for an all-inclusive set of respondents (companies A plus B) indicate that the companies view the current need for capital to continue to growth (overall: 4.26 ± 0.85 ; 84.61 %) and positive overall macroeconomic conditions (overall: 4.26 ± 0.82 ; 82.05 %) as the main reasons to execute an IPO.

Next, timing has been driven by conditions in the issuer's business sector (overall: 4.03 ± 0.71 ; 76.92 %), rise of stock markets due to optimistic mood among investors (overall: 3.90 ± 0.82 ; 74.36 %) and investors' interest in this type of business (overall: 3.87 ± 0.83 ; 74.36 %).

Other theories explaining the IPO timing were viewed as less important (interest in IPOs by other companies in the same business sector) or even unimportant (interest in IPOs by companies in other business sectors).

The data suggest that CFOs look for windows of opportunity and that they define these windows in terms of individual needs for capital and overall macroeconomic conditions (in particular strengthening stock markets and investors' interest in industry sector). The interest in IPOs by other companies in the same business sector as well as outside this sector is factors rather of peripheral importance.

In addition, Tabs. II and III permit to examine the research results for both groups of companies, first separately and then in comparison. It is obvious that the raising of external capital to continue to grow is the reason of comparable importance for a great majority of respondents in both monitored groups of companies when considering the IPO timing (A: 4.38 ± 0.92 ; 90.48%; B: 4.11 ± 0.76 ; 77.78 %). For most companies, other similarly important factors when go to public are positive overall macroeconomic

conditions (A: 4.14 ± 0.79 ; 76.19%; B: 4.39 ± 0.85 ; 88.89 %), rise of stock markets due to optimistic mood among investors (A: 4.10 ± 0.77 ; 76.19%; B: 3.67 ± 0.84 ; 72.22 %) and conditions in the issuer's business sector (A: 4.10 ± 0.70 ; 80.95%; B: 3.94 ± 0.73 ; 72.22 %). More than 71 % of respondents in the group A and nearly 78 % of respondents in the group B view the investors' interest in the industry sector as an important determinant of timing (A: 3.81 ± 0.87 ; 71.43%; B: 3.94 ± 0.80 ; 77.78 %).

Both groups of enterprises are coincident regarding the factors with middle- and low importance influencing the timing of an IPO. They perceived as rather unimportant the following factors: interest in IPOs by other companies in the same business sector (A: 2.62 ± 0.97 ; 14.29%; B: 2.61 ± 0.61 ; 0.00%) as well as interest in IPOs by companies in other business sectors (A: 1.81 ± 0.98 ; 9.52%; B: 2.33 ± 0.91 ; 5.56 %). Obviously, the interest of other enterprises in conducting an IPO is no strong determinant when considering going public.

Comparison of Factors between Sub-Samples

Further treatment of data sought to determine if statistically significant differences exist in the frequency of respondents' answers within the studied groups of companies (Group A - IPO companies, and Group B - Not Tried). The comparison was done by applying two tests: M-V chi-square test (analysis of categorical data) and Mann-Whitney U-test (analysis of continuous data).

The results of the M-V chi-square test and indicate a statistically significant difference in the frequency of responses to 'the need of capital to continue the company growth' ($\chi^2 = 8.85$; $df = 2$; $p = 0.012$). The statistically significant difference was the outcome of a non-parametric test (Mann-Whitney U-test), which is based on the order of values, not on the values obtained by measurement. The statistically significant difference is evident from the mode frequency and the standard deviation values (Group A versus Group B exhibits a higher mode frequency and a lower standard deviation, therefore Group A has a lower data variability).

The results of the Mann-Whitney U-Test (Tab. IV) also identified statistically significant differences between the two groups of companies in connection with one other factor influencing an IPO timing, which was not confirmed by the M-V chi-square test, namely 'the interest in IPOs by other enterprises in other business sectors' ($p = 0.046$).

The difference in the results is caused by the lower sensitivity of the M-V chi-square test and the conversion of data from continuous to categorical, which lowers the data variability.

CONCLUSIONS

The survey results indicate that academic theoretical approaches regarding the IPO process are generally applicable under the conditions in force on the Polish capital market (Tab. V). However,

II: Survey Results – Factors influencing the IPO Timing (Subsample A)

		Mean	Median	Mode	Mode Frequency	Standard Deviation	% 1–2	% 3	% 4–5
g	Current need for capital to finance further company growth	4.38	5.00	5.00	12	0.92	9.52	0.00	90.48
c	Conditions in the issuer's business sector	4.10	4.00	4.00	11	0.70	0.00	19.05	80.95
a	Macroeconomic growth	4.14	4.00	multiple	8	0.79	0.00	23.81	76.19
b	Stock markets expansion due to optimistic mood among investors	4.10	4.00	4.00	9	0.77	0.00	23.81	76.19
d	Investors' interest in this type of business	3.81	4.00	4.00	11	0.87	9.52	19.05	71.43
e	Interest in IPOs by other companies in the same business sector	2.62	3.00	3.00	11	0.97	33.33	52.38	14.29
f	Interest in IPOs by companies in other business sectors	1.81	2.00	1.00	10	0.98	80.95	9.52	9.52

Note: Means are based on a five-point scale ranging from 1 (not important) to 5 (very important). The sample consisted of 21 completed surveys involving successful IPOs from the period of 2007–2009.

Source: Own elaboration

III: Survey Results – Factors influencing the IPO Timing (Subsample B)

		Mean	Median	Mode	Mode Frequency	Standard Deviation	% 1–2	% 3	% 4–5
a	Macroeconomic growth	4.39	5.00	5.00	10	0.85	5.56	5.56	88.89
g	Current need for capital to finance further company growth	4.11	4.00	4.00	8	0.76	0.00	22.22	77.78
d	Investors' interest in this type of business	3.94	4.00	4.00	10	0.80	5.56	16.67	77.78
b	Stock markets expansion due to optimistic mood among investors	3.67	4.00	4.00	12	0.84	5.56	22.22	72.22
c	Conditions in the issuer's business sector	3.94	4.00	4.00	9	0.73	0.00	27.78	72.22
e	Interest in IPOs by other companies in the same business sector	2.61	3.00	3.00	12	0.61	33.33	66.67	0.00
f	Interest in IPOs by companies in other business sectors	2.33	2.00	2.00	10	0.91	66.67	27.78	5.56

Note: Means are based on a five-point scale ranging from 1 (not important) to 5 (very important). The sample consisted of 18 completed surveys involving sufficiently large companies that did not execute an IPO in the years 2007–2010.

Source: Own elaboration

the respondents' perspectives also suggest that there is a need for additional information to complement and refine the existing theoretical models of IPOs.

In choosing an opportune time for an IPO, both subsamples of companies take into considerations the current need of external equity capital for continuing their growth. This attitude of the Polish CFOs confirms the research conducted by Choe *et al.* (1993) and Lowry (2002) who argue that firms tend to go public when 'they reach a certain point in the business growth cycle' and in this moment a need for external equity exists because of promising investment projects.

Managers also take advantage of macroeconomic development and effort conducting IPOs when present and projected state of the national and global economy is favorable. Overall stock market conditions, conditions in the business sector and investors' interest in the business sector were

identified as determinants of IPOs timing with a very strong support. Empirical findings confirm the theories formulated by Pagano *et al.* (1998), Lucas and McDonald (1990), Lowry (2002) and Loughran and Ritter (1995). Brau and Fawcett (2006) identified overall stock market conditions, industry conditions and the need for capital to support growth as the most important determinant of timing.

Polish CFOs attach less importance to the interest that other companies operating in the same type of business may have in IPOs. The interest that firms from other business sectors may have in this subject does not have an appreciable effect on IPOs timing as well. The theory formulated by Choe *et al.* (1993) according that firms prefer to go public when other good firms are currently issuing were viewed as relatively unimportant.

A comparison of the survey results with both theoretical approaches and findings on the US

IV: Survey Results – A Comparison between Subsamples

		Overall			IPO Status				P (Mann-Whitney U-Test)
		Mean (Median)	Standard Deviation	% 4–5	A-Subsample (Successful)		B-Subsample (Not Tried)		
					Mean (Median)	% 4–5	Mean (Median)	% 4–5	
a	Macroeconomic growth	4.26 (4.00)	0.82	82.05	4.14 (4.00)	76.19	4.39 (5.00)	88.89	0.259
b	Stock markets expansion due to optimistic mood among investors	3.90 (4.00)	0.82	74.36	4.10 (4.00)	76.19	3.67 (4.00)	72.22	0.145
c	Conditions in the issuer's business sector	4.03 (4.00)	0.71	76.92	4.10 (4.00)	80.95	3.94 (4.00)	72.22	0.518
d	Investors' interest in this type of business	3.87 (4.00)	0.83	74.36	3.81 (4.00)	71.43	3.94 (4.00)	77.78	0.654
e	Interest in IPOs by other companies in the same business sector	2.62 (3.00)	0.81	7.69	2.62 (3.00)	14.29	2.61 (3.00)	0.00	0.775
f	Interest in IPOs by companies in other business sectors	2.05 (2.00)	0.97	7.69	1.81 (2.00)	9.52	2.33 (2.00)	5.56	0.046
g	Current need for capital to finance further company growth	4.26 (4.00)	0.85	84.61	4.38 (5.00)	90.48	4.11 (4.00)	77.78	0.154

Note: Means are based on a five-point scale ranging from 1 (not important) to 5 (very important). The sample consisted of 39 completed surveys involving 21 successful IPOs in the period of 2007–2009, and 18 companies that were sufficiently large but did not execute an IPO in the years 2007–2010. The p-values indicate simultaneous differences using the Mann-Whitney U-test. The values printed in bold are significantly different.

Source: Own elaboration

V: Theories and Survey Conclusions

	Theories	Survey Evidence		
		Overall	A-Subsample (Successful)	B-Subsample (Not Tried)
a	Macroeconomic growth (Loughran and Ritter 1995; Ritter and Welch 2002)	strong support	strong support	strong support
b	Stock markets expansion due to optimistic mood among investors (Ritter and Welch 2002)	strong support	strong support	strong support
c	Conditions in the issuer's business sector (Pagano <i>et al.</i> , 1998)	strong support	strong support	strong support
d	Investors' interest in this type of business (Paleari <i>et al.</i> , 2006)	strong support	strong support	strong support
e	Interest in IPOs by other companies in the same business sector (Choe <i>et al.</i> , 1993)	moderate support	moderate support	moderate support
f	Interest in IPOs by companies in other business sectors (Choe <i>et al.</i> , 1993)	low support	low support	low support
g	Current need for capital to finance further company growth (Choe <i>et al.</i> , 1993; Lowery 2002)	strong support	strong support	strong support

Source: Own elaboration

market published in particular by Brau and Fawcett (2006) confirms that the theoretical models and practice of IPOs timing are, in principle, justifiable to the conditions in force on the Polish capital market. However, the survey results make it possible to formulate new insights as contributions towards a better understanding of the windows

of opportunity, particularly under the specific conditions of the CEE region.

The survey results also suggest the appropriateness for its continuation. In a follow-up survey, the sample should also include companies attempting an IPO within other countries of the CEE region or companies that are potential candidates for an IPO on these markets.

SUMMARY

The purpose of this article is to explore factors that influence the decision of enterprises about IPO timing in Polish capital market and thus to enlarge the current IPO literature with an analysis of responses from a survey that posed the following question: What are the key factors of CFOs when considering the timing of their issue under conditions of the Polish capital market? This paper complements therefore prior research by explicitly considering the timing dimension of IPOs on the most developed capital market in the CEE region. Research methods cover the comparative analysis of scientific literature documents and reports as well as statistic data. Moreover, the intent of this research required to collect primary data via a questionnaire. In the study we asked CFOs Polish enterprises divided into two groups to formulate their insights in the area of IPO timing. The first group consisted of the entities that have previously executed an initial public offering, the second one included the entities that have not executed an IPO (but considered doing so in the past or were candidates for doing it in the future). The questionnaire-collected data was treated by statistical methods reflecting its nature and quantity. The survey results can be summarised as follows. First, in choosing an opportune time for an IPO, both subsamples of companies take into considerations the current need of external equity capital for continuing their growth. Second, managers also take advantage of macroeconomic development and effort conducting IPOs when present and projected state of the national and global economy is favorable. Overall stock market conditions, conditions in the business sector and investors' interest in the business sector were identified as determinants of IPOs timing with a very strong support. Finally, Polish CFOs attach less importance to the interest that other companies operating in the same type of business may have in IPOs. The interest that firms from other business sectors may have in going public does not have an appreciable effect on timing as well. The survey results make it possible to formulate new insights as contributions towards a better understanding of the IPO timing decision making, particularly under the specific conditions of the CEE region.

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