WHICH COMPANIES GO PUBLIC IN
UKRAINE

by

Vladislav Perevozchikov

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Abstract

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Chairperson of the Supervisory Committee: Mr. Serhiy Korablin,
Economist, National Bank of Ukraine

We analyse the determinants of going public decision for Ukrainian companies during the period of 2000-2006. The empirical work is based on comparing characteristics of public companies with those of private firms. We found out that probability of going public increases with company's size. Those companies with smaller state owned share also tend to go public more often. Poor liquidity of the Ukrainian stock market and low requirements to listing on the Stock Exchange result in sufficient difference between major European and Ukrainian public offerings. We also found out that IPO boom in Ukraine is significantly driven by investment companies which usually play a role of minority shareholders. The reason is that company management not always participates in the going public process. As a result, we did not find relationship between probability of IPO and company's intrinsic factors: investments, growth, leverage and operating performance, although such relation is theoretically predicted.

TABLE OF CONTENTS

LIST OF FIGURES AND TABLES

Number   *Page*

ACKNOWLEDGMENTS

GLOSSARY

CAPEX (capital expenditures) -funds used by a company to acquire or upgrade physical assets such as property, industrial buildings or equipment.

EBITDA -the indicator of a company's financial performance which is calculated as a difference between total revenue and total expenses (excluding tax, interest, depreciation and amortization)

Initial Public Offering (IPO) - the first sale of stock by a company to the public on the Stock Exchange.

Leverage - amount of debt used to finance a firm's assets.

C h a p t e r   1

INTRODUCTION

Initial public offering (IPO) is one of the most important topics of corporate finance. At the same time it is the least studied question: most scholars consider institutional aspects of going public and its consequences and do not pay much attention to initial motivation of such a decision. The most popular approach to interpreting the IPO decision was firstly described by Mayers (1976), who interprets going public as a natural stage of a company's growth. However, it is true only for some extent. It is not a case that large and mature companies always go public even in developed countries. In Germany, for example, large public corporations are rather exception than a rule. These differences show that going public is not a necessary step for a company but a question of its choice.

IPO is a question of special interest for Ukraine, which currently has a hot IPO market: more than 250 firms have gone public during the period of 2000-2006 Stabilization of Ukrainian economy in 2000-2006 attracted international investors and stimulated development of the stock market. As a result, development of the competitive market caused emerging of a number of public companies.

However, Ukrainian stock market is still suffers from poor regulations and low liquidity. In developed countries stock exchanges have strong requirements to listing: company's audit, information disclosure, capital structure and ownership concentration. The main Ukrainian stock exchange PFTS includes about 95% of all public Ukrainian companies. PFTS doesn't have strong requirements for capital structure, operating performance except information disclosure. Moreover, Ukraine has a poor legislation, which does not fully protect rights of minority investors. These circumstances limit liquidity of the stock exchange and

therefore effect motivation of the going public decision. From the one hand, it is easier for a company to be listed on PTFS, on the other hand, to go public it creates new risks. Often minority investors, investment companies, become initiators of IPO, what is not typical for developed stock markets.

Our work aims to understand motivation of going public decision for a case of country in transition Ukraine. We estimate how a company's performance, its capital needs, industry specific features and capital structure effect a decision to go public.

The rest of the paper is organized as following. In chapter 2 we provide the comprehensive literature review of theoretical and empirical IPO studies. Next chapter discusses going public in the context of Ukrainian environment. Chapter 3 presents methodology, data description and model specification. Empirical results are presented in Chapter 5. Chapter 6 concludes.

LITERATURE REVIEW

Due to complexity of a going public decision there is no model that could describe all its aspects. However, much work has already been done in this direction and most effects of this decision have been described in different models. In this chapter we summarize the main theoretical and empirical predictions about determinants of going public decision.

2.1 Theoretical studies

2.1.1 Costs of going public

Adverse selection.

Adverse selection and moral hazard are the most well studied aspects of IPO. Myers (1976) is one of the first scholars who described adverse selection aspect of the going public decision. The author considers public offering in context of pecking order framework. According to this theorem company prefers internal financing to external, i.e. debt is preferred to equity issue. Myers (1976) argues that companies with worse prospects tend to go public more often than high-quality companies. While companies know the real value of their projects, investors can not distinguish between successful and unsuccessful projects and valuate them by the average project quality. As a result companies tend to provide public offering at the periods of recession and use other sources of financing under better circumstances. Investors know this issue and interpret company's wish to become public as a negative signal about its value. Thus, public offering provides negative signal to a financial market as a result of asymmetric

information. Leland and Pyle (1976) and Rock (1986) came to the same conclusions about adverse selection and moral hazard issues of IPO.

Chemmanur and Fulghieri (1995) developed a theoretical model of a going-public decision, in which they highlight adverse selection as a main issue of IPO. The authors base the model on three most important differences between private and public companies.

1. More dispersed ownership structure: capital of a public company is generated by sale of shares to a large number of small investors. While a small group of large investors in a private company has more bargaining power, low ownership concentration in a public firm creates prerequisites for a free-rider problem. While the costs of monitoring are incurred by small group of shareholders, benefits are shared between all shareholders. As a result, management of a company suffers much less outside-shareholders monitoring after IPO due to free-rider problem.

2. Need to prove a high net present value of a project to much larger number of investors: this results in costs for a company in a form of lower share price.

3. Market observable share price. From the one hand-side price behavior is the nice signal for the company management about its efficiency. From the other hand, if a price is observable this reduces evaluation costs for many unsophisticated investors and creates free-rider problem.

The authors argue that major costs of going public are connected with information collection and disclosure, what implies duplication of investors' efforts. The main cost of private placement is a risk premium paid to a single investor or a small group of investors. This is explained by the fact that IPO provides investors with effective risk diversification, while private placement does not. Chemmanur and Fulghieri (1995) argue that IPO is more suitable for large and mature companies, while small firms prefer private placement or bank borrowing, in which case investors' risk can be easily decreased by monitoring.

Bachmann (2004) presents a dynamic model of an IPO market in which firms go public to raise capital for investment and face adverse selection problem. The author considers two groups of investors: those with inside information and those without it, who learn about company only from the publicly available market data. Bachmann (2004) findss that participation of the latter investors can disturb the stationary rational equilibrium and result in dynamic equilibrium that is characterized by 1) IPO underpricing, 2) underperformance of IPO shares in the long run 3) cyclical variations in IPO volume. According to Bachmann (2004) company is interested in giving signals about itself to the market during a pre-IPO period; however resources spent for signaling worsen long-run performance. Thus, the prediction of the model is that company should perform better in the period preceding IPO.

Loss of confidentiality

Campbell (1979) is the first to highlight the importance of confidentiality loss as a determinant of IPO decision. The author pointed that information disclosure can hurt competitive advantages of company: information about future projects, marketing strategy etc. Moreover, companies that report lower incomes to use tax minimization schemes prefer to keep this information confidential and therefore are less likely to go public.

According to Myers and Majluf (1984) public offering attracts attention of a market to a company. After IPO more information about a company is available, what can effect its operating activity. Thus, high quality companies tend to go public more often than low quality ones.

Yosha (1995) showes that companies with higher information sensitivity more often deter from IPO as a source of finance: costs of information disclosure are too high for them. This leads to idea about negative relationship between R&D expenses and likelihood of IPO. Unfortunately, data on R&D expenses of Ukrainian companies are unavailable for us.

2.1.2 Benefits of IPO

Access to financial resources

According to the Pecking Order Theorem (Mayers (1976)) company usually goes public after it has exhausted internal sources of financing. Thus, IPO allows to overcome borrowing constraints of bank loans, bond issues etc. From this point of view companies with higher investment needs are more likely to go public. We approximate investment needs by capital expenditures on property plant and equipment (CAPEX) and sales growth.

Importance of leverage as a determinant of the going public decision is also explained by Static Tradeoff Theory (Mayers (1976)). According to this framework a firm is supposed to set a target debt-to-value ratio and gradually moves towards it. Thus, in the static tradeoff framework equity issue is considered as an instrument to reduce company leverage and achieve its equilibrium capital structure.

Yosha (1995) highlights the main benefits of going public: access to source of finance alternative to banks and greater bargaining power with banks. The idea here is that a company which pays higher interest rate has more incentives to go public, cost of credit falls after IPO and availability of credit increases. Thus, company with higher leverage is more likely to go public.

Clementi (2002) bases his model on a synthesis between industrial organization literature on firms dynamics and corporate finance literature on IPO. The author shows an analytical approach to understanding empirical findings: operating performance significantly improves in the year preceding the IPO and worsens thereafter.

Liquidity

Publicity of a company allows its owners to improve assets liquidity and diversify risks. Private company's equity can be sold mostly by informal search of investor. It is also usually associated with premium for volume for investors and therefore increases costs for company. Trading on a stock exchange gives company access to wider range of small investors. It is also cheaper for them, especially for small shareholders who prefer short-run trading. Pagano (1993) shows that liquidity of the company is the increasing function of its trading volumes. That is one more reason to expect positive relationship between company's size and likelihood of IPO. The author also describes diversification effect of a going public decision. Less concentrated capital after IPO allows owners to share company risk with new shareholder. Money raised during IPO can be reinvested in other assets. Therefore, riskier companies are more likely to go public. While it is quite difficult for us to estimate company's riskiness with data available, we assume that risk differs among industries and approximate company's riskiness by its industry.

Performance monitoring

Holmstrom et al (1993) has constructed the model to explain why market liquidity is of both private and social importance. The authors argue that stock market price reflects information about a company which can not be observed from current of future financial data. Therefore, market price can be used as a managerial discipline device. The latter can be achieved by indexing managers' salaries to a stock market prices. Sensitivity of a stock price depends on the market liquidity.

Practice of a such salary indexing is not widespread in Ukraine due to low market liquidity. However, listing on PFTS is often used as a price indicator before IPO on more liquid European stock exchanges.

Increasing number of potential investors

IPO on a stock exchange plays a role of company's advertisement and improves its recognition among larger set of investors. Merton (1987) explores this aspect in context of the capital asset pricing model with incomplete information. The author shows that the greater number of investors is aware of the company securities the higher is the stock price. IPO as an advertisement improves demand for company's securities and boosts their price.

2.2 Empirical studies

Empirical research of Pagano et al (1995) is of a special interest as the author tried to investigate going public determinants predicted by several theoretical studies. Nevertheless, the main attention the author pays to Pecking Order Theory and Static Tradeoff Theory. Pagano (1995) compares pre-IPO and post-IPO features of Italian companies with those of private companies.

Firstly, the author finds out a positive relation between IPO decision and market valuation of companies in the same industry. He argues that this relation is mostly explained not by investment needs of companies but by owners' wish to use market overpricing in particular industries. This conclusion is a result of comparing ex-post and ex-ante determinants of IPO. This finding is not surprising and corresponds to studies in United States (e.g. Mikkelson et al (1984)) and European countries (Loughran et al (1994)).

Secondly, company's size is an important determinant of a going-public decision in Italy. Because of adverse selection problem large companies are more likely to go public: public issue of equity has significant costs in terms of information collection. While publicity results in risk sharing, private venture capitalist minimizes information costs. However, under private placement company pays much larger risk premium due to higher ownership concentration.

Thirdly, Pagano (1995) obtains interesting results about investment and growth as determinants of IPO. He finds out that Italian firms do not go public to finance their subsequent growth, but aim to rebalance assets structure after periods of active investment and growth.

Rydqvis et al (1995) explores determinants of the going public decision companies in Sweden. The authors find out a contradiction between theoretical predictions and empirical results. Of course, there is a relation between company's size, age and its likelihood to be public. However, Rydqvis et al (1995) argue that public offering can no be explained by company's business cycle, but rather takes place after sharp rise of stock prices. This leads to idea that company's owners use market overpricing to decrease investment and improve consumption or portfolio diversification. This conclusion strikes the theoretical point of view that corporations go public to finance growth. Planell (1995) who studies IPOs in Spain also did not find significant relation between ex ante growth or investment and likelihood of IPO.

Research of Mikkelson et al (1995) shows that there is a difference between European IPOs and American ones. The latter are often motivated by explosive growth of companies. Mikkelson et al (1995) also find out that in the USA company's leverage is an important factor of the going public decision and older companies more often use IPO as an instrument to pay down their debt rather than to finance growth. Thus, both effects of investment needs and borrowing constraints are significant for United States companies but do not explain IPO decisions in Europe.

In addition, Pagano (1995) discovers that IPO in Italy allows companies to borrow more cheaply. In process of IPO company's credit rating improves and range of banks willing to lend to a company increases. Due to lack of data on interest rates of companies' loans we can not study this aspect for Ukraine.

Mikkelson et al (1997) also examined the relationship between company performance and decision to go public. In line with theoretical work of Clementi (2001) the authors find that a peak of operating performance is observed in the year preceding the IPO, subsequently profitability declines. They explained these empirical results by adverse selection problem associated with IPO: separation of the ownership and managerial control results in weaker incentives for managers after IPO. Before IPO companies provide signal about their quality through higher operating performance.

Going public is usually associated with solid administrative costs, i.e. underwriting fees, audit, advisory services, brokers' fees etc. As most of these costs are fixed and do not depend on company's size, they are more painful for smaller companies and therefore have negative impact on their going public decision. This is empirically shown by Ritter (1987).

UKRAINIAN CONTEXT

Foundation for the Ukrainian stock market was laid in the early 1990s through the privatization process. The State Property Fund (SPF) was given the responsibility for transforming state-owned companies into open-joint stock companies in a process of privatization, selling-off companies and leasing state property.

Majority of small enterprises were sold to their employees and managers for cash or through lease-buyout agreements. By 2005 this phase of privatization was finished. As a result, 84,000 companies had been privatized in this way.

Privatization of almost 11,000 other companies were provided by means of privatization certificates. This method allowed employees and some citizens to become shareholders of many small and medium-sized corporations. In addition, managers were allowed to buy additional stock and become major shareholders in companies they were involved in. Various institutional investorss, which were created specially for participation in privatization through a voucher mechanism, played an important role at this stage. These investment trusts and investment companies collected privatization and compensation certificates from individuals and later used them to purchase companies' stocks in voucher auctions.

Currently, state companies are sold only for cash. However, significant part of certificates was not sold by population, but exchanged for equities in voucher auctions. As a result, solid stake of many companies belong to dispersed groups of people. During the period of 2000-2006 considered in our research investment companies still have been collecting these stakes for getting speculative profit. Firstly, securities free float on a stock exchange is increase, what improves stocks

liquidity and therefore push the stock price. Secondly, purchase of equity from individuals was done for prices lower than market offer price.

Ukrainian organized stock market is quite small and accounts for about 4% of overall volumes. Ukrainian stocks are mostly traded over the counter (OTC). During 2006, $62.8bln in transactions (21% yoy increase) were registered and about $5.8 bln of securities were traded on organized exchanges. The PFTS (First Ukrainian Trading System) accounts for 96% of a turnover, in which stocks represents around 22% share. Other eight stock exchanges and two electronic trading systems are licensed by the Ukrainian Securities and Stock Market State Commission (SSMSC). However, all of them are even much less liquid than PFTS and include mostly stocks of small companies.

PFTS is the association of 214 banks and securities dealers. It was founded in 1995 to provide trading among its members. The PFTS allows for real-time trading. It is a nationwide system. According to The Law on Securities and Stock Market issuers who issued securities through the public offering, are obliged to report their financial and operating results on a quarterly basis to the SSMSC, as well as to make publicly available their annual report.

PFTS has two levels of listing. The first one requires from a company to correspond to criteria of size, profitability, capital structure and business transparency. PFTS stock listing includes 31 companies of this level, only 11 of which went public during the period of 2000-2006.

In this research we concentrate our attention on 139 non-financial companies of both levels of listing, which went public during 2000-2006. We do not consider so called "rubbish" stocks, which are in the listing but not traded. The listing of the second level requires only information disclosure.

Ukrainian stock market suffers from the low liquidity. This is mostly explained by poor organization of the Depositary system and legislation. The major legislation governing trading of securities in Ukraine are the Civil and Commercial Codes, the Law on Business Associations, which contains a chapter on joint stock

companies, the Law on National Depositary System and Peculiarities of Electronic Securities Circulation and a recently approved Law on Securities and Stock Market. These documents often contradict to each other and do not defend rights of minority shareholders to full extend.

In 2006, total market capitalization on PFTS accounted for around USD 60.4 bln and average daily trading volume was about USD 4.5 mln. For comparison, total market capitalization of the Warsaw Stock Exchange is USD 247 bln, while average daily trading volume is USD 340 mln. Nevertheless, Ukrainian stock market has exhibited an explosive growth during last 4 years as we can see from the Figure 1.

Figure 1. Equity trading volumes on PFTS, USD mln per year (source: www.pfts.com)
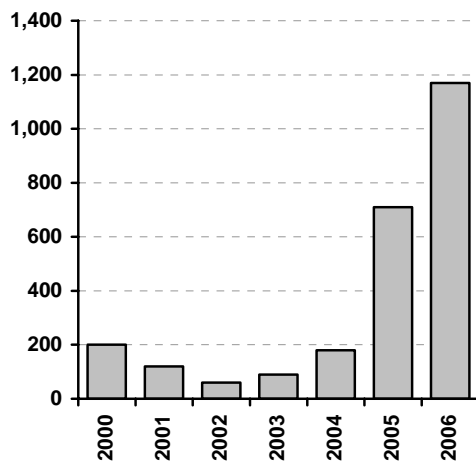
Figure 2. Stock indexes growth in emerging markets in 2006 (source: www.bloomberg.com).
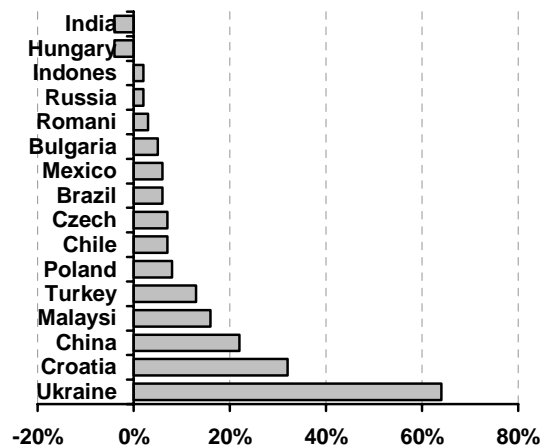
Equity returns in Ukraine are also high compared to other emerging markets (Figure 2). Number of stocks traded on PFTS increased from 249 in 2000 to 323 in 2006. During this period more than 250 companies went public there. Due to 2000 PFTS listing included many so called "rubbish" stocks, which were not traded but used in tax minimization schemes. Currently, most of them are delisted.

Due to poor liquidity of the Ukrainian Stock Exchange there is a tendency among Ukrainian companies to go public on the international stock exchanges. The most popular of them are London and Warsaw Stock Exchanges. Currently, 11 Ukrainian companies are listed on international stock markets and about 20 companies are preparing for listing there. Thus, we expect further increase of the total stock market capitalization in Ukraine.

MODEL SPECIFICATION AND DATA DESCRIPTION

3.1 Model specification

In order to address the question of public ownership of some companies in Ukraine, we look for determinants of going public decision by these companies. Our model is mostly based on studies discussed in Chapter 2 and described in Table 1. With regard to the above formulated question, we estimate the following regression:

$$\Pr_{it}(IPO = 1) = F(\alpha_1 Size_{it-1} + \alpha_2 Capex_{it-1} + \alpha_3 Growth_{it-1} + \alpha_4 ROA_{it-1} + \\ + \alpha_5 Leverage_{it-1} + \alpha_6 Industry_i + \alpha_7 State_{it-1} + \alpha_8 DSS_{it} + \alpha_9 Year_t)$$

We measure company ***size*** as the lagged logarithm of PPI deflated sales. Table 1 shows that larger companies are more likely to go public. First of all, fixed costs and adverse selection problem are less important for larger companies. Secondly, large companies are more attractive for investors, and therefore, exhibit more liquidity on the stock exchange. Higher liquidity results in higher market price which creates more incentives for company to go public. Moreover, such companies are more attractive for investors since they offer higher return on investments.

Theory suggests that IPO is more likely for companies with higher investment prospects (Mayers (1976)). A firm with solid investment plans and programs has a higher probability of attracting investments by means of IPO. In this study, we use capital expenditures –CAPEX- as a proxy for investments. CAPEX is the ratio of company's expenditures on plant and equipment over total assets. By the

same token, we use a company's growth as an explanatory variable. Fast growing companies need more resources for development, and therefore, more likely to choose IPO as a source of financing. Such companies are also more attractive for investors than those exhibiting stagnation.

Table 1 also shows that higher leverage has a positive impact on the probability of going public. Highly leveraged companies face stronger borrowing constraints. We measure leverage as a lagged value of the interest bearing debt to total assets ratio.

Contrary to investment needs, the predicted effect of profitability on IPO is quite ambiguous. On the one hand, profitable companies need less external equity which has a negative effect on IPO. On the other hand, higher profitability implies higher market valuation which increases probability of going public. This is a part of adverse selection problem. Company that exhibits temporary high performance can initiate public offering hoping that investors could interpret its high profitability as permanent (Pagano (1995)). We measure company profitability via Returns-to-Assets ratio which is the ratio of EBITDA (earnings before interest, taxation, depreciation and amortization) over company sales.

Since going public takes time, we use lagged variables for company size, capital expenditures, growth, returns on assets, leverage and state share in the statutory fund.

We also use a type of industry as an explanatory variable since some industries are valued higher by investors due to their higher future opportunities. Therefore, such companies can raise more money in the process of IPO. Moreover, higher growth opportunities imply higher demand for investments, and therefore, an increased probability of going public as a source of funding.

Table 1. The main empirical and theoretical predictions concerning going public decision.

	Model	Effect on going public decision
Costs of going public		
Adverse selection	Lenald and Pyle (1977), Diamond (1991), Chemmanur and Fulghieri (1994)	Smaller and younger companies less likely to go public
Fixed costs	Ritter (1987)	
Loss of confidentiality	Campbell (1979), Yosha (1995)	High tech companies less likely to go public
Benefits of going public		
Overcome borrowing constraints	**Mayers (1976)**	IPO is more likely for high-debt companies
Diversification	Pagano (1993)	Riskier companies more likely to go public
Stock market monitoring	Holmstron and Tirole (1993)	Advantage of IPO
Liquidity	Pagano and Roell (1995)	High-investment companies more likely to go public
Enlarge set of potential investors	Merton (1987)	Advantage of IPO

Another interesting approach to understanding company's industry as a factor of IPO was described by Myers (1976) in the context of the so-called herding theories. The author discusses the fact when many companies from the same industry go public more actively than a country on average. It is so since the companies' managers tend to behave in the line with their rivals which implies massive IPO waves.

The process of privatization is not finished in Ukraine yet, and a large number of companies is still controlled by the state. Descriptive statistics on that is given in Appendix A. There are no precedents that the State Property Fund (SPF) was an

initiator of the public offering. Moreover, a mixed control by private owner and SPF results in strong adverse selection problem. It is so because interests of these groups often do not coincide, especially with regard to income distribution and investment prospects. These factors decrease likelihood of the public company to be a state-owned. In our regression, the variable State is the state stake in the statutory fund of a company.

During privatization at the beginning of the 1990th, shares of strong companies were dispersed among physical persons in small fractions. Since that time investment companies have actively used this opportunity for speculations. They accumulated large equity by purchasing companies' shares from physical persons, and then initiating public offering in PFTS. Low requirements to be listed on Stock Exchange allowed for that to happen. To capture this effect, we use variable DSS (a decrease in small stakes). SS is the total share of equity less than 1% which belongs to physical persons. In order to initiate public offering, investment companies can purchase some shares from minority shareholders – physical persons which decreases SS. Therefore, we expect a decreasing SS in the year before going public.

According to the Pecking Order Theory (Mayers (1976)) and empirical findings of Pagano (1995) we could expect a positive relationship between company's cost of loan and likelihood IPO. The higher borrowing constraints company faces the more likely it prefers IPO as a source of finding. Unfortunately, data on cost of bank loans for companies are unavailable.

3.2 The data

Our empirical work is based on the data from the commercial database Fenix. Ukrainian joint-stock companies are required to submit quarterly reports about their economic activity to the Public Information Office and State Securities Commission of Ukraine. Data from these reports are consolidated in Fenix. It provides information on company's activity, operating performance, balance

sheets and ownership structure. Database contains data on minority shareholders, who are physical persons, but does not allow us to estimate free float on the stock exchange. The data are annual and cover the period of 2000-2006, except financial statements that are unavailable for 2006.

Among Ukrainian public companies we consider only those listed in the First Stock Ukrainian Trading System (PFTS). The reason for that is that PFTS includes 96% of the total stock market capitalization in Ukraine, while other Ukrainian stock exchanges are of only regional importance including small companies. Formally PFTS listing doesn't require a company to satisfy any criteria of size, profitability or capital structure. This is inconsistent with the requirements of the inernational stock exchanges, and that is why we excluded from the sample Ukrainian companies listed on international stock exchanges (there are less than 15 such companies). Thus, our sample is limited to data availability and includes companies with sales higher than 60 mln UAH in 2005.

As of January 2007 about 315 Ukrainian companies were listed on PFTS. We excluded from the sample companies from financial sector because of the crucial difference in the accounting standards. During the period of 2000-2006, 194 non-financial companies have gone public in Ukraine. 55 of them are not traded and do not report their financials. We excluded these firms from the sample. Therefore, the sample includes 139 companies listed on PFTS and 148 not listed.

Table 2. Descriptive statistics on the entire sample.

Variable	Mean	Std. Dev	Min	Max	# of obs.
Sales, mln UAH	329.5	1700	0.403	29,800	1507
Capex	0.435	0.192	0	0.91	1513
DSS	-0.014	0.031	-0.27	0.01	1536
Growth	0.341	0.029	-0.92	42.61	1220
ROA	0.087	0.127	-1.06	1.24	1506
Leverage	0.086	0.141	0	0.99	1506
State	0.123	0.260	0	1	1817

Table 2 contains summary statistics on our entire sample. The mean firm in the sample has about 330 mln UAH of sales, a return on assets of 8.7%, a debt to assets ratio of 8.6% and capital expenditures to assets ratio of 44%. This company has been growing by 34% yoy during 2000-2005 and had a 12.3% state owned stake. It is interesting to note that mean public company has sales of 572 mnl UAH, what is 73% higher than for mean total sample company. Mean IPO company also has been growing by 13.4%, had Capex to assets ratio of 40%, returns to assets ratio of 9% and leverage of 11% (Table 3). Mean IPO company has been losing its SS (small stakes) two time faster than mean entire sample firm. Characteristics of companies significantly vary among industries. Statistics on that is included in Appendix B.

Appendix C shows that during 2005-2006 number of IPO's has explosively grown. Thus, we wonder if this explosion was a result of intrinsic changes in the companies' operating activity or consequence of some macroeconomic changes which had place during 2005-2006.

Table 3. Descriptive statistics on the sample of public companies.

Variable	Mean	Std. Dev	Min	Max	# of obs.
Sales, mln UAH	571.807	1044.5	5.30	6538,9	81
Capex	0.404	0.188	0.01	0.82	82
DSS	-0.026	0.032	-0.17	0.01	136
Growth	0.134	0.502	-0.35	3.13	77
ROA	0.090	0.119	-0.17	0.63	80
Leverage	0.111	0.157	0	0.99	80
State	0.080	0.187	0	0.98	139

RESULTS OF ESTIMATION

We estimated the following random effects logit model on the basis of panel data:

$$\Pr_{it}(IPO = 1) = F(\alpha_1 Size_{it-1} + \alpha_2 Capex_{it-1} + \alpha_3 Growth_{it-1} + \alpha_4 ROA_{it-1} + \alpha_5 Leverage_{it-1}$$
$$+ \alpha_6 Industry_i + \alpha_7 State_{it-1} + \alpha_8 DSSS_{it} + \alpha_9 Year_t)$$

where IPO is the dummy variable, which equals 0 if company i is private and 1 if it goes public. $Year_t$ is a calendar year dummy. After a company goes public we exclude it from the sample. Appendix D reports estimation results. Table 5 shows marginal effects of coefficients.

Table 5. Estimation results.

Variable	Marginal effect	Standard error
Size ***	0.0190	0.0053
State**	-0.0475	0.0237
DSS***	-0.0075	0.0016
Capex	-0.0019	0.0295
Growth	-0.0076	0.0085
ROA	-0.0207	0.0428
Leverage	-0.0489	0.0429
2003	-0.0041	0.0242
2004	0.0233	0.0283
2005***	0.1786	0.0532
2006***	0.3825	0.0827

***Coefficient significantly different from zero at the 1 percent level or less

**Coefficient significantly different from zero at the 5 percent level or less

It appears to be that a company's size is an important predictor of going public. An increase in logarithm of sales by 1% increases probability of IPO by 1.9%.

This effect is statistically significant at 1% level. The result corresponds to finding of other empirical studies (Pagano (1995), Planell (1995), Mikkelson et al (1995) etc)). Theoretically this effect is explained mostly by adverse selection problem and fixed costs of IPO. Large companies are less sensitive to moral hazard problem and fixed costs for them are less significant than for small firms. Moreover, large companies keep larger market share and more stable. Therefore, they are more attractive for investors.

As expected, state share in the statutory fund explains going public decision. An increase in the state's share by 1% percent decreases probability of going public by 4.7%. During period of 2000-2006 number of state owned companies decreased from 1,699 to 1,245 (Appendix). State share in many companies also declined significantly. However, most of privatizations has been provided through actions rather than public offerings.

Coefficient DSS has a strong explanatory power. It is significant at 1% level. A decrease in DSS by 1% increases probability of IPO by 0.75%. This finding leads to the idea that investment companies played an active role in initiating public offerings in Ukraine during 2000-2006. In the context of post-privatization processes described in Chapter 2, investment companies continue collecting stocks from physical persons. Of course, company majority owners also could initiate such a collecting to increase their stakes. However, they often prefer equity emission to such a time consuming purchase. Emission increases their stakes and makes gathering stocks from physical persons not profitable. Moreover, gathering of equity by company majority owners is not necessary related to going public.

Both variables that reflect investment needs of a company – Capex and Growth- are insignificant even at 10% level. These results contradict to most theoretical and empirical studies. (Pagano and Roell (1995)). Pagano (1995), Planell (1995), Rydqvist et al (1994) found out that European companies used IPO mostly not to finance investments or growth but rather to rebalance their assets after periods

of active investment. Our research shows that decision to go public in Ukraine is not related to capital needs of the company.

Surprisingly, return on assets do not have significant explanatory power in our regression. This contradicts to major theoretical studies (Clementi (2002)) as well as empirical findings for European countries (Pagano (1995), Planell (1995)). This fact can be explained by tax minimization schemes widely used by Ukrainian companies. Low listing requirements on the PFTS allow even public corporations to avoid true reporting their profitability. As a result, it is difficult for investors to distinguish between low and high quality companies explicitly. Often companies valuations are based on the assumption of future improving business transparency. Our model can not incorporate this effect. Thus, our data on ROA describes mostly current business transparency of Ukrainian companies rather than real profitability.

Leverage is insignificant even at 10% level. Pagano (1995) and Planell (1995) came to the same conclusions, which contradict widespread Pecking Order Theorem. As significance of DSS shows, going public is highly related to the activity of investment companies. Of course, trying to get speculative profit they can initiate public offering of both highly and lowly leveraged company. Thus, the fact that in Ukraine not only company managers take decision about going public makes Pecking Order Theorem no applicable here.

Dummy of years also have a high explanatory power. Dummies of 2005, 2006 years are significant at 1% level. Probability of IPO in 2005 and 2006 is 17.8% and 38.2% percents respectively higher than in 2003. Thus, IPO boom is mostly driven by some macroeconomic factors that improved in 2005-2006 and had a positive effect on going public decision. This can also be explained by decreasing "cultural resistance" of Ukrainian managers on IPO. It is difficult to incorporate this effect in our model. While the purpose of our study is to identify a company's motivation of going public at a micro level, it is difficult to include macroeconomic factors in our model based mostly on the corporate finance

theory. Thus, it is an interesting question to address, which macroeconomic factors effect development of the stock market in Ukraine.

One of the important theoretical predictions supported by empirical studies for European countries (Pagano (1995)) is that going public decision is motivated by overpricing of companies in certain industries. Company management can initiate public offering to use this overpricing and get more funding even not taking into account investment needs of the company. Planell (1995) and Rydqvist et al (1994) also came to these conclusions. We used dummy for industry in our regression to estimate this effect. However, there is not significant relationship between them and likelihood of IPO. It is a surprising result even taking into account that public offering in Ukraine can be initiated by investment companies. They are looking for speculative profit and therefore overpricing should be an important determinant of their decision to initiate public offering. Only dummy on Foods industry is significant at 10% level: probability of company from Foods industry to go public is 5.2% less than for Other industries. Under Other industries we mean a certain group of industries included in our regression as a dummy. Thus, foods industry companies are valuated by investors quite lowly. As a result shareholders of Foods companies can not benefit from overpricing which has a negative effect on probability of IPO.

C h a p t e r   6

CONCLUSIONS

The main purpose of this paper is to answer whether companies which went public during 2000-2006 has done this a stage of their development associated with higher investment needs, growth and borrowing constraints. Such an approach to understanding motivation of IPO is supported by number of theoretical studies. While findings of European and American empirical studies are consistent to this theory to some extend, the public offering in Ukraine is substantially different.

We find out positive relationship between company size and probability to go public. This result was expected as long as this is a common conclusion of number of theoretical and empirical studies. State ownership also plays an important role in going public decision. There are no precedents of privatization through public offering in Ukraine.

Investment companies play an important role in Ukrainian IPO boom. Since privatization process in the yearly 90th they have been gathering dispersed equity stake from individuals to get the speculative profit. We find significant relation between this process and decision to go public. Low listing requirements on the Ukrainian Stock Exchange allow investment companies to initiate public offering for making their equity liquid.

There is no significant relationship between company investment needs, growth, operating performance and its likelihood to go public in Ukraine. This result is different from those obtained in other studies. European scholars (Planell (1995), Rydqvist et al (1994) and Pagano (1995)) find a significant relation between this factors. Company leverage does not explain going public decision in Ukraine, which is consistent with findings of IPO studies in Europe.

IPO boom in Ukraine is mostly driven not by intrinsic factors, that effect company activity but external factors. It significantly differs from the IPO in international stock exchanges due to poor regulation of the domestic financial markets. While we consider this issue from the point of view of corporate finance theory, it is an interesting question to answer in future researches, which macroeconomic factors drive IPO boom in Ukraine.

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APPENDIX A. DISTRIBUTION OF STATE STAKES IN UKRAINIAN COMPANIES ON THE STATE PROPERTY FUND'S BALANCE SHEET

year	Number of companies	State ownership,%		
		Less than 25%	25%+1 share to 50%	50%+1 share to 100%
2006	37	22	11	4
2005	41	26	11	4
2004	52	29	17	6
2003	59	31	20	8
2002	77	41	21	15
2001	88	41	26	21
2000	86	41	27	18

APPENDIX B. STATISTICS ON THE SAMPLE INDUSTRIES
DISTRIBUTION

Industry	Number of companies	Mean sales, UAH mln	Mean ROA
Metallurgy	37	265.7	0.091
Energy	10	549.9	0.049
Machinery	48	218.6	0.060
Chemistry	19	241.2	0.104
Oil and gas	21	1460.7	0.037
Construction	30	102.8	0.106
Mining	23	492.9	0.095
Foods	85	85.7	0.102
Other	12	285.8	0.093

Industry	Mean growth	Mean state	Mean leverage	Mean capex
Metallurgy	0.289	0.105	0.074	0.430
Energy	0.107	0.427	0.017	0.502
Machinery	0.489	0.073	0.059	0.429
Chemistry	0.110	0.216	0.114	0.546
Oil and gas	0.065	0.320	0.017	0.343
Construction	0.270	0.056	0.057	0.384
Mining	0.691	0.299	0.042	0.507
Foods	0.386	0.033	0.142	0.446
Other	0.200	0.126	0.090	0.393

APPENDIX C. YEAR DISTRIBUTION OF IPO'SIN IN THE SAMPLE

Calendar year	2000	2001	2002	2003	2004	2005	2006
Number of companies in the sample	281	281	279	269	259	248	199
Number of public companies	3	1	10	9	13	45	58

APPENDIX D. RESULTS OF ESTIMATION.

Variable	Coefficient	Standard error
Size ***		
State**	0.377	0.107
DSS***	-15.00	2.584
Capex	0.016	0.575
Growth	-0.140	0.164
ROA	-0.364	0.850
Leverage	-1.00	0.844
2003	-0.084	0.498
2004	0.361	0.460
2005***	1.838	0.403
2006***	2.821	0.411
cons	-7.405	1.360
energy	-0.153	0.843
machinery	-0.088	0.570
chemistry	-0.226	0.658
oil and gas	-0.212	0.638
mining	-0.701	0.680
foods*	-1.025	0.565
metallurgy	-0.266	0.599
construction	-0.525	0.610

***Coefficient significantly different from zero at the 1 percent level or less

**Coefficient significantly different from zero at the 5 percent level or less

*Coefficient significantly different from zero at the 10 percent level or less