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1.0 Introduction

Raising capital through an initial public offering (IPO) is in most cases the largest equity issue a corporation will ever make. For the majority of companies this implies floating at a regulated market. A regulated market yields high credibility and it helps the company get the funding they need to grow. For companies not able to get listed, the closest thing has been floating at a non-exchange trading venue. With the establishment of such trading venues we have seen multiple initiatives to introduce regulations to keep these markets safe and liquid.

Alternative trading systems (ATS) have existed for many years and although it is not as common as in the US, the Forum of European Securities Commissions (FESCO) found that Europe had 27 ATS's in year 2000 (FESCO, 2000). The formalization of these alternative trading systems came in 2004 with the introduction of the Markets in Financial Instruments Directive (MiFID). MiFID I introduced the regulatory framework for the multilateral trading facility (MTF). Taking the role of the ATS's, the MTF's are trading venues that can be operated by investment firms or a market operator, with the main difference from a regulated market being the more liberal regulations and listing requirements. With the introduction of MTF's the European companies gained access to new marketplaces which makes the decision to list no longer just a decision of *why* to go public, it is also a decision of *where* to go public in terms of marketplace.

By listing on a regulated market the companies commits to supply information to regulators and investors on a regular basis, which not only is time-consuming and costly, it can also disclose strategic information about the company (Tirole, 2006). The process of going public also implies undertaking substantial underwriting and legal fees. As most companies in Western Europe (except the UK) uses a bookbuilding method for the underwriting process (Ljungqvist, Jenkinson, & Wilhelm, 2003), the commission paid to investment bankers alone is often around 7% of the spread (Chen & Ritter, 2000).

Even though floating is a costly affair there are several benefits of going public, both in terms of financing and in terms of governance. On the financing side the company can tap into a new source of finance, diversify and facilitate an exit for

the current owners. On the governance side going public induces a more dispersed ownership structure, which can lead to reduced monitoring.

By floating on an MTF the company has a less costly listing process, and the reporting is less comprehensive. At the same time, the liquidity and transparency at these markets are often lower than on a regulated market making the MTF less credible. Because of this one would expect the costs and benefits of going public at a MTF to be somewhat different from floating at a regulated market.

This paper will compare the characteristics and performance of companies listed on three Swedish MTF's against companies listed at the regulated market in Sweden to see if there are any significant differences that can explain why some companies choose to float at a MTF rather than on a regulated market.

The remainder of this report is organized as follows: Chapter 2 presents the problem formulation and the scope of the paper. In chapter 3 the theoretical background information will be thoroughly documented. Chapter 4 present the data, methodology and the model that will be used to best answer the problem set forth in chapter 2. In the final chapter, chapter 5, I will present the timeline of my thesis.

2.0 Problem formulation

In this thesis I want to combine the existing theories on IPO's and reasons to go public with empirical evidence from the MTF market. Using data of comparable firms listed at different markets I hope to capture new insights in the effect of different regulations on the firms' characteristics and behavior. My goal for this thesis is to look into how the motivations to go public changes with the regulations of the market. Not only is this important because we see an increase in MTF's, but it might also be helpful for the authorities implementing new regulations in the financial market.

The problem formulation chosen for this thesis is:

Why do companies go public at MTF's? An empirical analysis of the Swedish market

By comparing companies listed at MTF's with companies listed at regulated markets in terms of characteristics and behavior I hope to capture valuable information on whether or not existing theories of the going-public decision holds for companies floating at MTF's.

3.0 Background information and hypothesis

3.1 The going-public decision

The theoretical foundation of this paper will be based mainly on literature within corporate finance. The existing literature on the going-public decision is extensive, and it covers a variety of aspects of the IPO-process both in terms of different regulations and in terms of underpricing and ex-post performance. As the scope of this paper is to find the characteristics and behavior of companies listing at MTF's, the material used will be centered around theories that can help explain how the regulations in the different markets might affect the behavior of the firms listed.

The advantages of going public are manifold. The literature used will be based around the main reasons for listing given by Tirole (2006):

New source of finance. One of the most obvious reasons to float a company is to fund further growth. Although getting funding for the company is considered the most important reason to get listed, Röell (1996) argues that it is not always the case that the listing is done only to fund growth opportunities. Instead, she suggests that the proceeds might also be used to unlever the balance sheet and facilitate for taking on new long-term debt in the credit market.

Facilitating exit. By floating, the entrepreneur facilitates a way to diversify his portfolio and thereby also facilitate an exit for himself and for large shareholders. This is illustrated by Pagano (1993), which in his paper describes how an entrepreneur has to weigh the prospective gains from portfolio diversification against the costs of going public. Pagano also sets forth a thesis that externalities among potential market participants can help explain how the stock market can be trapped in a secular stagnation with only a few listed companies. These externalities can be relevant institutional and regulatory arrangements, but they can also arise from the fact that low participation leads to fewer risk sharing

opportunities. This might help explain why the MTF's in Norway and Denmark have few listed companies and low liquidity.

Objective measure of the company's assets. Selling shares of the company sets an objective measure of the company's assets. According to Tirole (2006), this measure can be used for managerial compensation purposes. Another feature of having a publicly observable share price is that the costs involved in the outsiders' evaluation will be reduced as unsophisticated investors are able to free ride on the information available (Chemmanur & Fulghieri, 1999).

Discipline managers. By having what Tirole (2006) identifies as a takeover threat, the entrepreneur will have an incentive to work harder¹. The takeover threat arises from the fact that a floated company is more prone to hostile takeovers. Tirole also argues that going public might lead to a reduction in the monitoring of management because of a more dispersed ownership structure. This reduction can entail costs as well as benefits.

Enhance name recognition. According to Röell (1996) some of the reason that firms go public is to provide a longer term price signal to suppliers, workforce and customers. This finding is also backed by Rydqvist and Högholm (1995), who finds that 67% of their respondents states that making their product better known is a motive for going public.

Going public is not all benefits. There is also a wide range of costs involved in getting listed. The costs include easily quantifiable costs like investment banking fees and underpricing as well as the costs of disclosure and costs of reporting. Ritter (1987) finds that the average quantifiable costs totals at 21.22% of the realized market value, and Chen and Ritter (2000) later found the average spread to be 7% for book-building methods. In the process of listing the firms also incur costs that are less quantifiable. Tirole (2006) lists supplying information as one of the major drivers of costs in a listing. The level of detail and the rate of the reporting drives up the transaction costs and the possibility of disclosing important strategic information. Even though disclosing strategic information is considered a cost, transparency is not all negative for the company. Ang and Brau

¹ Bertrand and Mullainathan (2003) finds that managers are less hard working if their company has a takeover protection.

(2002) demonstrates that firms with a high degree of transparency pay less to go public than firms with a lower degree of transparency.

Tirole also list information asymmetry as a cost, as this can lead to a discount in the market. This finding is even more pronounced when the company has low visibility and short or no track record which is often the case for companies listing at MTF's. The danger of loss of control and reduction in the freedom of decision-making is considered important costs in the IPO process. According to Röell (1996) the reduction in the freedom of decision making was the reason why Virgin Air was taken private after only two years of being public.

3.2 Hypothesis

Even though alternative trading systems had been active for a long time, the breakthrough for non-exchange trading venues in Europe came with the introduction of the MIFID I. Clearer regulatory framework in the alternative trading systems led to a more credible platform for both companies and investors. After the introduction, MTF's have been found to be both volume intensive and to be contributing to the overall market quality². In today's European market we have several well-functioning MTF's like AIM London, Turquoise and Nasdaq First North. Nasdaq is the biggest MTF-provider in Scandinavia having the largest MTF's in both Sweden and Denmark.

The listing requirements and regulations vary somewhat from MTF to MTF, but in general they tend to be tailored for smaller companies with a short history. The findings of Rydqvist and Högholm (1995), Pagano, Panetta, and Zingales (1998) and Carpenter and Rondi (2006) all suggests that in many European countries the companies that floats are large and mature companies. To facilitate listings at an earlier stage, Nasdaq First North does not demand any operating history nor documented profitability. This favors companies that are young and R&D-heavy, as they seldom have the profitability to list at a regulated market.

² See Riordan, Storkenmaier, and Wagener (2011)

The hypothesis' are split into two groups; characteristics and behavior. The characteristics will help document the motivation for going public while the behavioral hypothesis' will help describe how the companies listing at MTF's behave before and after the listing.

Firm characteristics

Using the differences in listing requirements for the MTF's and the regulated markets, I have set forth the following hypothesis for the firm characteristics:

H1: Companies listing at MTF's do so because they cannot fulfill the requirements to list at a regulated market

To list at a regulated market, the requirements for operating history and profitability is usually around three years. The formal listing requirements also include a minimum market value³. MTF's on the other hand, being tailored for younger and smaller companies, does not have the same requirements for listing. Because the liquidity is higher and it is more enhancing in terms of name recognition to list at a regulated market, one would expect the differences in listing requirements to be an important factor in the companies' choice to float at a MTF.

H2: Companies listing at MTF's are younger and smaller in absolute size than companies listing at a regulated market

MTF's are tailored for young small and mid-size companies in the sense that it facilitates raising capital without having to have a long track record. For a growing company this means that they have an option to raise the needed capital from other sources than venture capitalists. Pagano et al. (1998) argues that the likelihood of going public increases with size and age because of adverse selection, and that IPO's are negatively correlated by the R&D intensity of an industry. With a MTF, firms have a certified advisor to help them through the listing, helping the management to get past the problem of adverse selection. The problem concerning R&D is also dampened by the less extensive demand for transparency. Another feature of the MTF's is that the market is, to some degree,

³ See appendix 1 for an overview of the listing requirements

aware that companies listing at these markets are riskier investment vehicles than on most regulated markets. Pagano, Panetta and Zingales also notes that the fixed costs of going public suggest that there should be a positive correlation between size and listing. This problem is mitigated by the less comprehensive listing process of the MTF's.

IPO characteristics

Carpenter and Rondi (2006) finds clear differences between the financial characteristics and the characteristics of the IPO of small and large companies. Small companies are found to have a higher leverage and to obtain substantially more of the proceeds from the listing, indicating that the IPO is used to finance growth opportunities. Furthermore, the regulations of MTF's enable the firms to have a smaller dispersion of the share ownership, and hence retain their control over the firm. Jensen and Meckling (1976) finds the agency costs of equity and debt to be different. By selling a large portion of the company, the entrepreneurs costs of any non-pecuniary benefits will go down as they no longer bear all of the costs. These benefits can only be given as long as the shareholders accept it, hence it is a trade-off of the cost of non-pecuniary benefits versus control of the company.

H3: Companies listing at MTF's obtain more of the proceeds from the IPO than companies listing at a regulated market

Gaining access to alternative financing is, according to Röell (1996) one of the most important reasons to go public. The hypothesis implies that the motivation to list is not to facilitate an exit or diversify, but rather to develop the company. This is also consistent with the findings of Pagano et al. (1998) who argues that listing should be especially appealing for companies with high future investments and high leverage.

H4: Companies listing at a MTF sells off a smaller part of the company's assets than companies listing at a regulated market

The cost of loss of control and freedom of action making as outlined by both Tirole (2006) and Röell (1996) can, by listing at a MTF, be smaller than on a regulated market. Because of the lower requirements for share ownership

dispersion, I expect the entrepreneurs to make use of this regulatory benefit to keep what Hart (2001) defines as private benefits. My belief is that the listing will generate the same publicity and credibility among investors and creditors regardless of the entrepreneur selling off 10% or 25% of the company. Because of this the entrepreneur is able to reap most of the benefits listed in chapter 3.1, while at the same time mitigating some of the costs.

Firm behavior

As listing on a MTF implies having the opportunity to have less comprehensive reporting and a smaller dispersion of the share ownership one would expect the behavior of the companies' ex-post to differ from the ones listing on a regulated market. The hypothesis' below builds on the argumentation that the companies listing on a MTF do so not as an incentive to exit, but rather to use the IPO as a means to finance further growth.

H5: Companies listing at MTF's use more of the proceeds from the IPO to finance growth opportunities than companies listing at a regulated market

Following the argumentation of the hypothesized characteristics of companies listing at MTF's, I expect most companies to be small and in a growth stage. The findings of Pagano et al. (1998) and Carpenter and Rondi (2006) supports this, as it can be proven that growth is an important determinant of the decision to go public. Carpenter and Rondi also prove that small companies use more of the proceeds to grow than larger companies. If the proceeds are used for growth to a greater extent in companies listed at MTF's, this might indicate that the main motivation for the entrepreneur to take the company public is not to see his own portfolio get diversified or put pressure on the management, but rather to fund growth opportunities.

H6: Companies listing at MTF's use the access to the equity market as a way to facilitate borrowing in the credit market to a larger extent than companies listing at regulated markets

Carpenter and Rondi (2006) finds that small firms' indebtedness after the IPO increases. Their finding is no surprise as an IPO increases publicity and the

perceived quality of the company. Whether or not banks and other credit providers perceives companies listed at MTF's in the same ways as companies listed on regulated markets are yet to be found out.

4.0 Model

4.1 Data

To conduct the study, I plan to use panel data consisting of financial data for companies listed at the regulated Swedish markets; Nasdaq Stockholm and Nordic Growth Market (NGM), and for companies listed at three Swedish MTF's; Nasdaq First North Stockholm, Aktietorget and Nordic MTF. The timeframe of the data will be spanning from 2005 to 2015 to get a chance to obtain financial data from two years before and after the IPO. The three MTF's chosen all opened in 2007-2008, hence the data will only date back to 2005.

The database I will be using to collect data is ORBIS. ORBIS contains comprehensive information of millions of companies worldwide, listed and unlisted. The three MTF's consists of approximately 400 companies, as does the two regulated markets. The observations will be done over a five-year period; the year of the IPO and the two years prior to and after the IPO. The dataset will not include financial institutions because of their capital structure and different operational patterns. I will also exclude companies that do not have a two-year history prior to and after the IPO. A quick overview of the data from ORBIS shows that the total sample will consist of approximately 600 companies, hence the data will consist of around 3000 observations⁴.

The data sample will then be divided into groups to separate companies listed at different markets. The companies listed at MTF's will then be tested against the data obtained from the companies listed at the regulated markets to find differences in characteristics and ex-ante and ex-post behavior of the company.

⁴ 600 companies excluding financial services, but without having conducted any testing of the data. The total sample will contain fewer companies as I do not expect all companies to have all the data needed.

4.2 Model

As the paper sets out to explain the differences in companies listing on MTF's and regulated markets using both characteristics and behavior, the model used will be a combination of comparison and regression.

To capture the characteristics of the companies choosing to float at one of the markets the comparison will be done for the year of the IPO. By using the same approach as Carpenter and Rondi (2006) the characteristics will be divided into firm characteristics, financial characteristics, operating characteristics and characteristics of the IPO. The comparison will be the foundation of the analysis of what characterizes the firms going public at MTF's. To test the significance of the data I will use a two-sample Wilcoxon rank-sum, a non-parametric statistic test used to compare related samples.

To test the behavior of the companies' ex-ante and ex-post the IPO I will carry out a regression to test how the companies listed at the different markets behave around the time of the IPO. The results will be grouped by market affiliation to see if there are any significant differences in behavior for companies listing at the regulated market and companies listing at MTF's. Like in Carpenter and Rondi (2006) the effects of the decision to go public will be tested on a set of variables that account for the firm's operating performance, financial characteristics and growth.

The dependent variables chosen are:

- Investment rate
- Growth rate of sales
- Growth rate of employment
- Leverage
- Long term debt to assets
- Return on assets
- Return on sales

The model of the ex-post behavior will take the form of:

$$y_{it} = \alpha + \sum_{j=0}^2 \beta_j IPO_{t-j} + f_i + \lambda_t + \varepsilon_{it}$$

Where i represents firms and t time. y_{it} represents the dependent variable and f_i and λ_t are firm and time dummies, respectively. IPO_{t-j} is a dummy variable that returns 1 if year $t - j$ was the year of the IPO. This also implies that in the year of the IPO, $IPO_t = 1$ and for $IPO_{t-1} = IPO_{t-2} = 0$. One year after the public offering the dummy variable will return $IPO_{t-1} = 1$ and so on. The lags of the IPO will help describe the ex-post behavior of the company. The firm and time variables are set to indicate the firm's status (date of the IPO, market affiliation and size).

As I also want to investigate the ex-ante behavior of the company I will be using a second model for the two years prior to the IPO:

$$y_{it} = \alpha + \sum_{j=0}^2 \beta_j IPO_{t+j} + f_i + \lambda_t + \varepsilon_{it}$$

The model is set up in the same way as for the ex-post model, except that the IPO dummy takes the value 1 for the year preceding the IPO.

The motivation for including the time and firm variables is to account for cross-sample differences and to facilitate for a more thorough analysis, being able to differentiate companies in terms of size and timing of the IPO.

4.3 Possible extensions

The model presented is a simple regression model, yet it is able to capture the behavior of the companies prior to and after the IPO. One possible extension would be to widen the scope of the paper to include more performance based variables. Pagano et al. (1998) is a great example of such work. By adding variables like interest rates, taxes, number of banks and concentration of credit, one is able to go into detail in the motivation to go public in a better way.

Another extension would be to categorize the firms by industry and ownership structures. This would enable the author to compare the findings against the findings of Rydqvist and Högholm (1995). By doing so one would be able to see whether or not the introduction of MTF's have affected any of the reasons to go public in Sweden from the 80's until today. The study would off course also need

to take into account the changes made in the regulatory framework concerning IPO's in the same time span.

Yet another extension would be to have a control group of non-listed comparable firms included in this study. By doing so the paper would no longer be just about the incentives to list at a MTF compared to a regulated market, but rather the main reasons to list at any market. By filtering out firms that fulfills the requirements to go public either on a regulated market or on a MTF, but haven't done so, one could also find the effect of going public in addition to the motivations of doing so.

5.0 Progression

As a lot of the work with the theoretical framework for the thesis has already been done, most of the time in the spring will be used for data collection and analysis. For the first weeks I will focus on the work with the preliminary and to further strengthen theoretical base of the thesis. From February I will start the work of collecting the data needed for the comparison and regression mentioned in chapter 4. For a more detailed progression plan see appendix 2.

MONTH	ACTION
JANUARY	<ul style="list-style-type: none">• Deliver preliminary• Go through feedback and revise the preliminary
FEBRUARY	<ul style="list-style-type: none">• Work on presentation• Data collection
MARCH	<ul style="list-style-type: none">• Data collection• Start working on regression and analysis
APRIL	<ul style="list-style-type: none">• Regression and analysis
MAY	<ul style="list-style-type: none">• Write draft for the thesis
JUNE	<ul style="list-style-type: none">• Go through feedback and revise the draft• Finalize thesis
JULY	<ul style="list-style-type: none">• Finalize thesis

Table 1: Progression plan

6.0 References

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7.0 Appendix

A1: Listing requirements

	MTF			Regulated market	
	Nasdaq First North Stockholm	Aktietorget	Nordic MTF	Nasdaq Stockholm	Nordic Growth Market
Prospectus	Only needed when securities are offered to the public	Listing memorandum	Memorandum or prospectus	Must be prepared, published and approved	Must be prepared, published and approved
Examination	Examination by Certified Adviser (CA)	Adviser and legal examination	Review by NGM	Legal examination	Legal examination
Approval	Examination by CA and Admission approval by the Stock Exchange		Approval (in cases where prospectus is needed) by the Swedish Financial Supervisory Authority	Listing approval by the Stock Exchange	Approval of prospectus by the Swedish Financial Supervisory Authority
Operating history				Sufficient operating history, including three annual accounts	Minimum two annual reports
Documented profitability	Not needed			Demands on documented profitability or sufficient financial resources	
Shares	Sufficient number of shareholders and at least 10% of shares in public hands, or an assigned Liquidity Provider	Sufficient number of shareholders and at least 10% of shares in public hands	10% of shares in public hand, Minimum 300 shareholders each holding a minimum value equivalent value of 5000 SEK	Minimum 25% of shares in public hands	10% of shares in public hand, Minimum 300 shareholders each holding a minimum value equivalent value of 5000 SEK
Market value	No minimum market value	Minimum equity value of 5 MSEK and share capital of 500 TSEK		Minimum market value, 1 MEUR	
Administration	Administration of the company supported by the CA	Minimum 4 members of the board including at least one representative independent from the company	Must have at least 3 directors, Board must have sufficient competence and experience	Demands regarding the administration of the company	Board must have sufficient competence and experience
Corporate governance code	Not needed			Compliance with corporate governance code	
Certified adviser	CA required at all times			Not needed	
Source	http://business.nasdaq.com/list/listing-options/European-Markets/differences-admission-criteria/index.html	https://www.aktietorget.se/CompanyRegulations/ListingRequirements.aspx	http://www.ngm.se/nordic_mtf/listing/?lang=en	http://business.nasdaq.com/list/listing-options/European-Markets/differences-admission-criteria/index.html	http://www.ngm.se/ngm_equity/noteringsprocessen-ngm-equity/?lang=en
Date visited	12.01.2017	12.01.2017	12.01.2017	12.01.2017	12.01.2017

A2: Detailed progression plan

Week number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Research																												
Deliver Preliminary																												
Feedback and revision																												
Presentation																												
Data collection																												
Analysis																												
Write draft																												
Feedback and revision																												
Finalize thesis																												