The IPO of Young, High Growth SMEs on Neuer Markt

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ABSTRACT. This paper analyses the Initial Public Offering (IPO) on Neuer Markt (NM), the German Stock Exchange for young, innovative, fast growing companies. The study is based on a statistical survey of the firms listed in NM in June 1998. The paper's particular focus is on the description of the companies' characteristics, i.e. age, number of employees, business segments and sales revenues before IPO. These findings are compared with new data from 1999.

The next part analyses the reasons for choosing NM as stock exchange for IPOs. Furthermore the study presents information about the preparation time and the costs of IPOs. The following chapter of the presented paper is dedicated to the assessment and acceptance of admission and ongoing requirements. The data reveal that the requirements are accepted by the firms. The last part consists mainly of recommendations for conceptual improvements. In particular, an admission check improvement is expected by most of the interviewed firms. Based on the analysis presented in this paper it can be argued that Neuer Markt opens up new perspectives for young, innovative "small caps" to improve their capital base.

1. Introduction

Expanding innovative SMEs need risk capital in order to finance their future growth (Cressy and Olofsson, 1997; Deeds et al., 1997; Egeln et al., 1997; Jain, 1994; Dewhurst and Burns, 1993; Ruda, 1997; Manigart and Struyf, 1997; Rödl and Zinser 1999; Koch and Wegmann, 1999). A lack of financial resources is a major impediment for these companies (Manigart and Struyf, 1997). Most young firms are not able to meet traditional criteria of creditworthiness, e.g. in U.K. or Germany (Audretsch and Elston, 1997; Egeln et al., 1997; Hughes, 1997; Manigart and Struyf, 1997). The IPO may also enhance the conditions of debt financing (Audretsch and Elston, 1997; Cressy and Olofsson, 1997; European Venture Capital Associations, 1994; Hughes, 1997). Until a few years ago only a few, well-chosen firms in Germany with low risks could use the stock exchange as a place to raise capital (Audretsch and Elston, 1997). A technology and fast-growth stock exchange like the NASDAQ (NASDAQ, 1995; Harrer and Erwe, 1998) was missing not only in Germany (Audretsch and Elston, 1997; Egeln et al., 1997), but also in other European countries.

This was one of the reasons for setting up the Neuer Markt (NM) on March 10th 1997 as a new segment at the Frankfurt Stock Exchange for innovative high-growth companies. The Neuer Markt is a member of the strategic alliance EURO.NM, which was created on March 1st, 1996. This is a pan-European grouping of regulated markets dedicated to growth companies, regardless of their sector of activity or home country.

EURO.NM's objective is to develop an integrated network of high-growth stock markets, providing single points of access for market information and trading across the entire network. To create this single market network, several areas of co-operation have been agreed upon between EURO.NM's member markets, e.g. Market Harmonisation, Market Linkage and Cross Membership (Euro.NM, 2000).

The members of EURO.NM include the Parisbourse (Le Nouveau Marché), the Deutsche Börse (Neuer Markt), the Amsterdam Exchanges (EURO.NM Amsterdam), the Brussels Exchanges (EURO.NM Belgium) and the Italian Exchange (Nuovo Mercato) (EURO.NM, 2000).

There are several other European stock exchanges for growth companies which are willing to join EURO.NM in the future: the Stockholm Stock Exchange, the Copenhagen Stock Exchange,

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the Swiss Exchange, the Oslo Stock Exchange and the Helsinki Stock Exchange.

Neuer Markt is the member of EURO.NM (416 companies, market capitalization 260,916.5 million Euro) with the most listed companies (253, April 2000) and the highest market capitalization (207,283.6 million Euro) of all (EURO.NM, 2000). There was a soaring number of IPO's in Europe in the years since the middle of last decade. During 1995, 243 IPO's took place; by 1999, the number of IPO's had already increased to 710 IPOs. There is a strong correlation between the number of the German IPOs and the IPOs in the remaining Europe (adj. $r^2 = 0.62$).

Neuer Markt has also become attractive for foreign companies, whose share (33 companies, January 2000) has increased up to 16.4% (20.0% forecasted for end of 2000) of all listed companies. This means as much as 31.7% of the total market capitalization (DG Bank, 2000). The biggest share with 15.4% is made up by companies from the United States, followed by Switzerland with 5.7% and the Netherlands with 3.9%.

However, there are only few empirical findings (Koch and Wegmann, 1998; Martin, 1999) as to how the firms listed at the Neuer Markt themselves judge the development from the time of the survey up to now, their current situation and their future perspectives. This was the starting-point for a survey to investigate the listed firms at the NM on a meso-level (Cifalino, 1998). The sample taken comprised all of the 36 firms listed until June 30th 1998. Thus it could be prevented that firms having gathered little experience of their own after going public were included as well. The written survey took place in August 1998. The group of people targeted were the Chief Financial Officers (CFO). The feedback yielded an answer rate of 69.4% ($N = 25$).

The paper dealing with firms surveyed is subdivided into four parts. In Section 2, basic information is collected, such as time of foundation, legal form at the time of foundation, number of personnel, sales revenues etc. Section 3 is characterized by questions concerning the IPO and analysis thereof. In Section 4, the managers are asked about their views concerning the effectiveness and acceptance of the admission requirements and the required ongoing duties. Section 5 deals with the mix of business segments and possible improvements of the conception of Neuer Mark. Finally, some concluding notes (Section 6) summarise the main findings of the study, by this way illustrating the limitations of the paper and perspectives for further research.

2. The firms' financial characteristics

Firm's characteristics like age, size or R&D expenditure have an impact on the range of finance sources (Audretsch and Elston, 1997; Cressy and Olofsson, 1997; Egeln et al., 1997, Hughes, 1997). The age of a firm at IPO (Table II) was defined by the years after foundation. The average age of the firms surveyed at the time of going public was 19.2 years, compared with 8.5 years in Nouveau Marché (Mahérault and Belleante, 1998).

50.0% of the firms were younger than 14 years.

TABLE I
Number of firms and market capitalization in EURO.NM

Members of EURO.NM	Number of firms		Market capitalization	
	Abs.	%	Mio. Euro	%
Euro.NM Belgium (B)	15	3.6	563.4	0.2
Le Nouveau Marché (F)	123	29.6	25,608.2	9.8
Neuer Markt (D)	253	60.8	207,283.6	79.4
Nuovo Mercato (I)	10	2.4	25,613.2	9.8
Euro.NM Amsterdam (NL)	15	3.6	1,848.1	0.8
Total	416[a]	100.0	260,916.5[a]	100.0

[a] April 2000 (EURO.NM, 2000).

TABLE II
Age of firms at Initial Public Offering

IPO (years after foundation)	Number of firms	
	N	%
1	1	4.0
2–3	2	8.0
4–5	2	8.0
6–7	2	8.0
8–9	1	4.0
10–11	1	4.0
12–13	3	12.0
14–15	3	12.0
16–19	5	20.0
20–24	1	4.0
25–29	1	4.0
> 30	3	12.0
Total	25	100.0
Mean	19.2	
Standard deviation	23.8	
Median	14.0	

But only 12.0% of the firms were founded up to 3 years before IPO. Considering the character of the NM as a segment for young firms these figures are rather suprising.

With as much as 60.0% the limited liability company (*Gesellschaft mit beschränkter Haftung* or *GmbH*) had been the dominating legal form at the time of formation, followed by the individual proprietorship (*Einzelunternehmen*) with 20.0%. Only 8.0% of firms had been founded as a stock corporation (*Aktiengesellschaft* or *AG*), which supports the hypothesis that it is not considered to be the ideal legal form for a formation. Legal forms like the limited commercial partnership (*Kommanditgesellschaft* or *KG*) or the general commercial partnership (*Offene Handelsgesellschaft* or *OHG*) amount to not more than only 4.0% and are negligable as well as other legal forms. The limited liability firms (at an average of 13.0 years) and the stock corporations (4.0 years) realised their Going Public earlier than the commercial partnerships and the individual proprietorship firms (together 23.5 years). Also the transformation from a limited liability partnership into a stock corporation happens earlier than the transformation of a commercial partnership or a individual proprietorship (11.0 against 22.0 years).

The age of the firm at the time of its transformation into a stock corporation was defined by the years before IPO. The average age at transformation was 1.61 years. 30.43% of the firms changed their legal form only in the very year they went public and with 34.78% it took place one year before.

The firms in the survey employed an average of 400 employees (Table III). Mahérault and Belleante found an average number of employees in Nouveau Marché of 91.77 (Mahérault and Belleante, 1998).

Four percent of the firms employed not more than 50, 12.0% between 51 and 100 and 56.0% between 101 and 500 permanent employees. Only 16% have got more than 1,000 employees. Apart from a few exceptions the NM is a segment for SMEs. If one analyses the legal form at the time of foundation one can find that incorporated firms (*Kapitalgesellschaften*) on an average had more employees than unincorporated firms (*Nicht-Kapitalgesellschaften*) (433.8 vs. 387.5) when going public.

The companies have average sales revenues of 129 million DM (cf. Nouveau Marché 70.74 millions FF, Mahérault and Belleante, 1998). The answers (Table IV) ranged from a minimum of under 20 to a maximum of nearly 500 million DM. The experience of our study in summer 1998 shows that firms with sales revenues of less than 20 million DM can hardly be found among them. Only one firm had sales revenues close to this figure (4.0%). On the other hand, nearly half of the firms (48%) have sales revenues of up to 100 million DM per year. There is also little correlation between the fim size (defined by sales before

TABLE III
Firm's characteristics by number of employees

Number of employees	Number of firms	
	N	%
1–50	1	4.0
51–100	3	12.0
101–500	14	56.0
501–1,000	3	12.0
> 1,000	4	16.0
Total	25	100.0
Mean	400	
Standard deviation	321.2	

TABLE IV
Firm's characteristics by sales revenues in 1997

Sales in million DM	Number of firms	
	N	%
1–20	1	4.0
21–50	5	20.0
51–100	6	24.0
101–150	5	20.0
151–200	3	12.0
201–250	1	4.0
251–300	3	12.0
301–500	1	4.0
> 500	0	0.0
Total	25	100.0
Mean	129	
Standard deviation	95.6	

IPO) and the legal form at the time of foundation. In the last year before the IPO incorporated companies show lower sales than unincorporated firms (128.7 vs. 132.3 millions DM).

For 1998 a remarkable change has been happend: several firms with sales revenues of clearly less than 5 or even 1 million DM have entered New Market. And equally surprizing: even very young firms, most of all from high-tech sector (cf. Egeln et al., 1997), were granted access to Neuer Markt. The main reasons for this change remain to be investigated, e. g. Venture Capitalists (VC) (cf. Harmon, 1999; Munsters and Tourani Rad, 1994; Dewhurst and Burns, 1993). Mahérault points out that a statistical approach only built on the VC's presence criteria cannot be efficient (Mahérault, 1999).

Compared with data of all 146 firms listed in Neuer Markt in August 1999, it can be shown that the average of sales revenues in the last year before IPO has decreased from 129 million DM (65.95 million Euro) found in the data collection 1998 to 87.5 million DM (44.77 million Euro). The median now ammounts to 38.86 million DM (19.87 million Euro). 2.0% of all IPOs have sales revenues before going public of under 1.95 million DM (1.0 million Euro) and another 4.5% of the firms between 1.95 and 4.69 million DM (1.0 and 2.4 million Euro).

The German "Mittelstand" (SMEs) is often defined as having sales revenues of not more than 100 million DM (51.13 million Euro) and a number of employees of not more than 499 (Audretsch and Elston, 1997; BMWi, 1993; Mugler, 1995). According to this definition only 25.33% of the firms surveyed in 1999 do not belong to the "Mittelstand" when going public compared to 52.0% in 1998.

If we classify the firms by the year of IPO (Table V), it can be noticed that the average sales revenues in the last year prior to IPO decreased from 48.98 million Euro in 1997 to 31.56 million in 1998 and further down to 17.2 million Euro in 1999 (cf. Nouveau Marché, Mahérault and Belleante, 1998). One reason for this tendency is the fact that more software firms get listed in the NM with below-average sales.

If the firms surveyed in our study are subdivided according to business segments (Table VI), it is striking that as much as 32.35% of the firms belong to the hardware and software branches, the next branches placed being IT and IT-services with 14.7% and machinery engineering with 11.77%.

If these findings are compared to all new issues of the year 1998, the predominance of the software branch becomes even more conspicuous. No less than 39.1% of new issues belong to that segment, followed by publishing and media with 10.9% and

TABLE V
Firm's sales revenues in the last year before Initial Public Offering classified by the year of IPO

Sales (Mio. Euro)	Year of IPO		
	1997	1998	1999[a]
Mean	64.66	40.69	43.18
Standard deviation	66.32	35.81	110.79
Median	48.98	31.56	17.20

[a] Based on data from August 1999.

TABLE VI
Initial Public Offerings in Neuer Markt characterized by business segments

Business segments	Number of cases	
	N	%
Software and hardware	11	32.35
IT and IT-services	5	14.70
Machinery engineering	4	11.77
Electronics/electrotechnology	3	8.82
Telecommunications	3	8.82
Automobile supplier industry	2	5.89
Other services	1	2.94
Health care	1	2.94
Other segments	4	11.77
Total	34[a]	100.00

[a] Multiple answers allowed.

telecommunications and electrical engineering with 8.7% each. Biotechnology (health care), which is generally considered to be a future technology reaches a share of only 2.2%.

3. Characteristics of the IPO-process

In the past few years, the NM has undergone diverse phases of development. After a hesitant start, no more than 17 firms were listed by the end of 1997. During 1998, in spite of setbacks, 46 new firms could be added to the list (an increase of 170% to the previous year), and in the year 1999 139 IPOs have happened on the NM (Markl et al., 1999). This corresponds to a growth rate of 302% compared to the previous year. These figures also contain a small number of firms which shifted from another segment to the NM or got a second listing.

Considering this new European and German issue boom, the aim of the survey was to find out the reasons for enterprises to choose the NM and not e.g. the NASDAQ or the EASDAQ (Harrer and Erwe, 1998). The evaluation showed a very narrow range of answers. The most important reason (36.0%) to be identified was the basic concept of the NM. This point includes compatibility with firm profile, the innovative character as well as the focus on SME of the NM.

After the basic concept, the second most important reason (28.0%) is the orientation of the firm toward Germany, referring mainly to the registered corporate seat, the home market Germany and the shareholder structure. The third reason (20.0%) is the fact that the NM is well-known in Germany and has a marketing effect, which is hardly the case with the EASDAQ. In particular, being listed at Neuer Markt enhances also the reputation and standing in the domestic and international sales.

Preparations for IPO were not equally time-consuming in different companies. The beginning of that period of time is defined by the decision of the executive board. The answers ranged from a minimum of 3 months (cf. Blowers et al., 1999; Trobitz and Schwarz, 1999) to a maximum of 24 months, the average being 8.6 months. In 44.0% of the firms the preparation period took no longer than 6 months. 44.0% of the firms invested between 7 and 12 months (cf. Arkebauer and Schultz, 1998). On the other hand for 12.0% of the firms it took more than a year.

In particular, 8.0% of the interviewed managers indicated that they needed not more than 3 months. But it remains unclear as to how far a part of the preparatory steps had been taken before the decision of the board was reached (cf. Arkebauer and Schultz, 1998). The analysis showed that the firm size (number of employees) has only little influence (adj. $r^2 = 0.06$) on the time for preparation. Firms founded as incorporated firms need nearly three months less for preparation of IPO than unincorporated firms (7.8 vs. 10.6 months). If we classify the IPOs by the year of the going public (Table VII), the results lead to the conclusion that in 1998 the firms needed on an average (7.3 months) less time for preparation than in 1997 (10.4 months).

The costs of Going Public ammount on an average to 6.9% of the issue volume. This fits the

TABLE VII
Required period for preparation of Initial Public Offering classified by year of IPO

	Year of IPO	
(months)	1997	1998
Mean	10.4	7.3
Standard deviation	6.0	3.7
Median	9.0	7.5

results of other studies about IPOs (cf. Blowers et al., 1999; Arkebauer and Schultz, 1998; Schuth, 1999). The answers ranged from a minimum of 1.0% to a maximum of 16.0%. Arkebauer and Schultz point out, that for smaller IPOs the costs can reach 24 to 39% of the issue volume (Arkebauer and Schultz, 1998). Nearly half of the firms are above 7.0% and even 24.0% indicating costs of more than 9.0%.

We found nearly no influence of the number of employees (adj. $r^2 = 0.01$) or the time required for preparation of IPO (adj. $r^2 = 0.04$) on the costs of IPO. This also applies to the legal form at the time of the foundation (incorporated firms costs of 6.90% from issue volume vs. unincorporated firms 6.84%). It seems to be a worthwhile point of further research to analyse the reasons for the great differences found between the firms.

4. Assessment of admission and ongoing requirements

Admission requirements and ongoing requirements at the NM (Deutsche Börse, 1999; Koch and Wegmann, 1999; Förschle and Helmschrott 1998; Förschle and Helmschrott, 1999; Martin, 1998) are much more stringent than the rules in the "Geregelter Markt" (Second Segment) or the "Amtlicher Handel" (First segment). The investors, e.g. the venture capitalists (cf. Manigart and Struyf, 1997), have access to comprehensive and the most up-to-date information, which helps to partically counterbalance the higher risk (cf. Binks and Ennew, 1997; Egeln et al., 1997; Helmschrott and Waßmer, 1999; Hughes, 1997), which is higher than in other segments. The admission requirements and ongoing requirements contained in the "Regelwerk Neuer Markt" (Deutsche Börse, 1999) are sometimes judged too strict or too extensive. Therefore it is of considerable importance to find out whether the single requirements are considered effective and thus accepted internally by the NM firms or not. As a rule both admission requirements and ongoing requirements (Table VIII) meet large-scale approval amongst the firms concerned. Most consider them to make sense and accept them.

Two-thirds of the firms consider the duty to publicize entirely appropriate. The other firms only slightly tend to hold the view that the requirements go too far. One firm considered the requirements for financial statements not going far enough.

The required drawing up of the annual reports according to IAS or the US-GAAP is a real problem for some of the firms. The enterprises have the possibility to request to be exempted from this obligation for a limited period of time,

TABLE VIII
Opinion on admission requirements and ongoing requirements

	Effectiveness	
	Mean[a]	Standard deviations
Selected admission requirements		
Minimum issue volume	–0.32	1.09
Transparency requirements	–0.16	0.88
Annual reports following international standards	+2.16	1.19
Minimum market value of free float	–0.52	1.17
Issue prospectus based on international standards	–0.48	1.02
Lock-up period for original shareholders	–0.24	1.11
Acknowledgement of the German takeover code	+0.28	1.95
Publications in German and English	+2.12	1.46
Selected ongoing requirements		
Ad hoc report on price-sensitive data	+2.40	0.98
Quarterly reports	+2.12	1.66
Conference for equities' analysts	+2.36	1.32
Corporate action timetable	+2.12	1.39

[a] Scale from effective (+3) to ineffective (–3).

and to continue to follow the regulations of the HGB (German Commercial Code) without reconciliation to IAS or US-GAAP. Since the survey took place, this opportunity of temporary release has been clearly reduced. At the time of the survey, however, 12% of all firms made use of the exemption. Most of the interviewed firms are using US-GAAP (52.0%). But about one of three firms (32.0%) apply the IAS-Standard. And one firm (4.0%) even applied HGB with reconciliation according to IAS or US-GAAP.

These results must not be interpreted as a rejection of obligation to use international standards by the NM firms. On the contrary, 76.0% of the interviewed managers consider complying with international standards "necessary" or "rather necessary". It has to be borne in mind, however, that 20.0% were not sure, whether this rule is really effective.

The requirements concerning the minimum issue volume and the free float are met with general approval. Concerning the single rules a minority demanded that both requirements be tightened up. For example every fourth firm wishes a higher degree of free float and a longer lock-up-period for original shareholders.

The issue prospectus has to follow international standards. Contrary to the points described above the contents and scope of the issue prospectus are seen sceptically by a qualified minority of 24.0%. In their opinion the prospectus is too voluminous and detailed. These findings must be seen against the background of a considerable number of firms, which stated that the other requirements should even be intensified. In the case of the prospectus, however, this is not the case. As the evaluation of the survey showed, all other firms except for one hold that the requirements are quite appropriate.

5. Recommendations for conceptual improvement

According to the definition of the German Stock Exchange, the basic concept of the NM focusses on innovative fast-growth firms. Whether the firms listed at the NM can meet these expectations was one of the questions asked in the survey. 68.0% of them said that at the NM there are business segments which do not fit or correspond to its conception.

Examples of such segments as mentioned in the survey were in the first place several holdings (14.5%), machinery engineering and plant engineering with each 13.0%. Other branches mentioned were: the automobile supplier industry, health care, machine tool making with each 10.1%, financial services (8.7%), entertainment and leisure (7.2%) and others. Contrary to this range of opinions, the managers asked unanimously think that the following branches are typical of the NM: Biotechnology, electronic data processing (services), hardware, software, telecommunications and IT.

Considering these results, it is not surprising that 68.0% of the managers wish improvement to the concept. 44.0% of the given recommendations concern the necessity of higher barriers to entry into the NM. The necessary scrutiny should focus on the business segment the firm belongs to and on checking for evidence that the firm in question deserves the "fast-growth and technology firm" label.

Other suggestions for improvements are only shared by a few. The reduction of volatility is seen by 11.0% as necessary. 4.0% demand that the duty to publicize be either relaxed or toughened. Other improvements to the concept concerned the necessity to fight the "gambler-image", marketing in SMEs, several aspects of admission requirements and ongoing requirements and many other points. In fact, in the lapse of time since the survey was untertaken, a more strict handling of admission requirements and a stricter definition of free float could be observed. Moreover, the admission and ongoing requirements were meanwhile reformed this way.

Despite these critical remarks, the vast majority of the firms (76.0%) judge the long-term future prospects of the NM between "good" and "excellent". Only 12.0% forecast that the market will suffer setbacks despite of overall good future perspectives. None of the enterprises said that the future of the NM will be problematic. However, it should be mentioned that a qualified minority of 12.0% of the firms do not consider themselves able to give a reliable forecast about the future.

6. Conclusions

This paper reports on the preliminary results of a study of the IPO process in the Neuer Markt, the Stock Exchange in Germany for innovative, high-growth SMEs. On the basis of the reported data, the following main results can be summarised. Most of the firms listed on Neuer Markt in 1998 were not very young. The average firm is 19 years old and employs 400 workers. The average sales are about 129 million DM.

Since end of June 1998, a change has happened in the structure of IPOs. While only 17 firms went public in 1997 and 46 in 1998, 139 IPOs took place in Neuer Markt in 1999. Today, many firms with sales from less than 5 million DM get access to Neuer Markt. Further, some firms which are founded just one year before IPO are now listed on Neuer Markt, if they are only innovative enough. Going public on average takes nearly 9 months time. The costs of IPO without costs of own employees are on average 7% of issue volume.

There are many detailed admissions and ongoing requirements that are more strictly formulated than in First Segment or Second Segment. The results of the study show that the firms accept these requirements, even if this increases costs and takes time. The transparency requirements try to ensure that investors receive detailed information, thus enabling them to evaluate the growth and risk situations (Binks and Ennew, 1997; Egeln et al., 1997).

To sum up, we can conclude that if the results of this survey are seen as a first evaluation of the Neuer Markt, then we can state that the CFOs view the NM very positively. However, the evaluation shows a need for action concerning many aspects of the NM-conception. Most firms want an improvement of the Neuer Markt-conception. A main point of improvement would be a stricter admission check to deny access to firms that are not really innovative and fast-growing.

Concerning the limits of the study, it is difficult to generalize these results on all the 200 firms listed at the end of 1999 or the estimated 350 in 2000 in Neuer Markt. This paper is only a first step in describing and explaining the IPOs of SMEs in Neuer Markt. Other research must follow, encouraged by results presented in this paper, in order to compare the IPO-process in Neuer Markt with the other European New Markets (Mahérault and Belleante, 1998). Nevertheless, the first empirical results show that Neuer Markt strengthens the equity capitalization of young high-growth and high-technology firms in Europe and especially in Gemany (cf. Audretsch and Elston, 1997).

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