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Special stock market segments for small company shares in Europe - What went wrong?

ZEW Discussion Papers, No. 94-13

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Suggested Citation: Rasch, Sebastian (1994) : Special stock market segments for small company shares in Europe - What went wrong?, ZEW Discussion Papers, No. 94-13, Zentrum für Europäische Wirtschaftsforschung (ZEW), Mannheim

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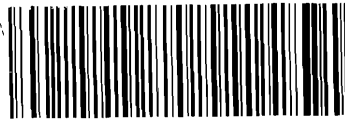
Discussion Paper

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Special Stock Market Segments for Small Company Shares in Europe - What Went Wrong?

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W 636 (94.13)



ZEW

Zentrum für Europäische
Wirtschaftsforschung GmbH

International Finance Series

0 1. FEB. 2000 Volkswirtschaft
W 636 (94.13) Kiel
Du L3 Sig. M.

Special Stock Market Segments for Small Company Shares in Europe - What Went Wrong?*)

by

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Centre for European Economic Research (ZEW)

April 1994

Abstract

Special stock market segments for small company shares were established by all major European stock exchanges during the 1980's. After showing a remarkable success during the first years of their existence - both in the primary as well as in the secondary market - these segments today suffer from increasing illiquidity. The stock exchange authorities in London and in Amsterdam have therefore decided to close down their stock markets for smaller companies. This paper takes a closer look at the current situation of these stock market segments throughout Europe and discusses the causes for their decline.

*) This paper is an updated English version of ZEW-Discussion Paper No. 94-05 entitled "Börsensegmente für Nebenwerte an Europas Börsen"

1. Introduction

During the last few years the European financial markets have experienced an enormous increase in stock exchange turnover. Not all companies listed on the stock exchange, however, have profited equally. To the contrary, a growing percentage of total trading volume is done in the internationally-known standard stocks. In the case of the German stock market for example, the five most actively traded stocks accounted for 47,2 % of the total trading volume in 1993 as compared to only 30,6 % in 1989. On the other hand, second-line stocks suffer from growing illiquidity. In the long term, this will lead to a two-tier stock market with significant effects on the cost of equity.¹

The following paper covers special stock market segments for smaller companies which have been established by all major European stock exchanges since the beginning of the 1980's. These "junior stock markets", as they are also called, were intended to promote equity finance by enabling more companies to go public.² The "Unlisted Securities Market" (USM) of the London Stock Exchange and the "Official Parallel Market" (OPM) of the Amsterdam Stock Exchange as well as the "Mercato Ristretto" in Italy and the "Second Marché" in France were among the first of these new stock market segments. The German stock exchanges introduced the "Geregelter Markt" (Regulated Market) in May 1987.

The initial results were quite remarkable: Many new companies went public and sought a listing of their shares in these market segments. Investor participation and trading volume were quite satisfactory. In the late 1980's, however, this trend reversed: Both the number of new issues as well as the trading volume fell dramatically. As a consequence the Amsterdam Stock Exchange closed its OPM at the end of 1993. The London Stock Exchange also decided to abolish the USM by 1996.

The paper is structured as follows: Section 2 reviews the causes and motives that led to the creation of the new stock market segments. In section 3, several of those junior stock markets in Europe are discussed in detail. Section 4 analyzes the causes for their decline: Both cyclical and fundamental factors will be looked at. Part of the decline may be explained with flaws in the design and organization of these markets. However, increasing illiquidity is not confined to these market segments alone, but affects second-line stocks in general. The growing internationalisation and institutionalisation of the European capital markets have caused a concentration of turnover in favour of standard stocks. Due to limited data availability, this paper focuses on the stock market segments for smaller companies rather than on individual stocks. Section 5 concludes with an outlook.

¹ The relationship between stock market liquidity and asset pricing has been reviewed comprehensively in recent finance literature, see for instance Cooper/Groth/Avera (1985), Amihud/Mendelson (1986), (1988) and (1991).

² see Schmidt et al. (1984), Schmidt (1984) or Duncan (1986).

2. Causes and Motives for the Creation of Junior Stock Markets in Europe

By the end of the 1970's the European stock exchanges had lost their role as an important source of finance. All national stock markets were confronted with the same problems: First, the number of listed companies had decreased continuously since the 1950's and 1960's. In France 1,566 companies were listed in 1962, twenty years later in 1982 only 707 companies remained.³ In the United Kingdom, the figure fell from 3,816 in 1955 to 2,052 at the end of 1979.⁴ The Dutch stock market experienced a decline from 655 to a mere 275 companies between 1960 and 1975.⁵ In Germany, 686 companies were listed in 1956, in 1982, there were only 452 left.⁶ Second, new companies were reluctant to seek a listing on the stock market. Thus, the number of introductions also fell dramatically: In France the average number of new issues declined from 60 annually in the early 1960's to merely five in 1980.⁷ In Germany only nine companies were admitted to official trading between 1977 and 1982.⁸ In Austria there was not a single new issue between 1962 and 1982.

This caused a thorough discussion among economists and practitioners how to make the stock markets more attractive for issuing companies. Special committees and working groups were set up to examine the situation and its causes. Two reasons were brought up to explain the phenomenon: First, general economic conditions after the impact of the oil price shocks and depressed stock prices did not provide an adequate setting for companies to go public. Second, a lack of stock market segmentation was regarded as another important factor: At that time, most European stock markets only provided an official market segment with extensive listing and disclosure requirements while unregulated off-exchange OTC-markets existed without any admission requirements, official supervision or investor protection codes.⁹

Onerous admission requirements as well as stringent disclosure and advertising requirements in the official stock market put an enormous financial and organizational strain on small and medium-size companies. The prerequisite to float a minimum of 25 % of the share capital made owners reluctant to seek a listing in the official markets.¹⁰ On the other hand, the OTC-markets did not provide an adequate market for innovative companies either: They were more or less occasional or spontaneous markets whenever transactions occurred.¹¹ At the end of the 1970's, there was an urgent need for new stock market segments with lower admission

³ see Grenier (1988), p. 51.

⁴ see Buckland/Davis (1989), p. 7.

⁵ see Amsterdam Stock Exchange (1991), p. 19.

⁶ see Claussen (1984), p. 3.

⁷ see Jaffeux (1992), p. 18.

⁸ see Schürmann/Körfigen (1987), p. 188.

⁹ see Buckland/Davis (1989), p. 7-9.

¹⁰ see Duncan (1986), p. 2 and Jaffeux (1992), p. 173.

¹¹ see Flornoy (1983), p. 265 and Duncan (1986), p. 15.

requirements, that allowed smaller companies with high growth potential to go public while maintaining regular and orderly trading.¹²

The new junior markets took an intermediate position between the existing official markets and OTC-markets. Admission and disclosure requirements were lowered as compared to the official market. In most cases, only a minimum of 10 % of equity capital had to be offered to the public as opposed to 25 % in the main market. The new segments were designed as transition markets to prepare firms for a full listing. As successful companies grew bigger, they were expected to transfer to the main market. At the same time, a clear distinction against the existing OTC-markets was to signal a minimum of financial standing of the companies listed in these segments. It was hoped to attract private as well as institutional investors, who are often obliged to invest in listed companies only.¹³

With the new markets segments a three-tier hierarchy evolved in most European stock markets:

- 1) an official segment for blue chips and major second-line stocks,
- 2) a semi-official segment with lower admission requirements for smaller companies,
- 3) and in most countries an entirely unregulated OTC-market for unlisted companies (table 1).

¹² see Jaffeux (1992), p. 173.

¹³ see Duncan (1986), p. 2.

Table 1: Stock market segments of the European stock exchanges

Country	Main list	Second list (year of introduction)	OTC-Market
Austria	Amtlicher Handel	Geregelter Freiverkehr (1948)	Sonstiger Wertpapierhandel (1989)
Belgium	Marché de la Cote - Marché à Terme - Marché au Comptant	Second Marché or Tweede Markt (1985)	Ventes Publiques
Denmark	Bors I	Bors II und III (1982)	OTC-market
Finland	Official List	OTC-Markt (1985)	Brokers' List
France	Cote Officielle - Reglement Mensuel - Marché au Comptant	Second Marché (1983)	Marché Hors-Cote (1962)
Germany	Amtlicher Handel	Geregelter Markt (1987)	Freiverkehr ^{*)} (1988)
Ireland	Official List	Unlisted Securities Market (1980)	Small Company Market (1986)
Italy	Mercato Ufficiale	Mercato Ristretto (1978)	Terzo Mercato
Netherlands	Official Market	<i>Official Parallel Market</i> (1982-1993)	Inofficial Parallel Market bzw. Incourante Market
Norway	Børs I	SMB-List (vorher BørsII) (1983)	-
Portugal	Mercado de Cotações Oficiais	Segundo Mercado (1991)	Mercado sem Cotações (1983)
Sweden	A-List	O-List (1987)	OTC-List (1983)
Switzerland	Hauptbörse	Nebenbörse (1990)	Außerbörslicher Handel
Spain	1) Mercado Continuo 2) Mercado de Corros	Madrid: Segundo Mercado Barcelona: Segundo Mer- cado para Pymes (1986)	-
United Kingdom	Official List	Unlisted Securities Market (1980)	OTC- or "535.5"-market (<i>Third Market</i> 1987-1990)

(*in italics* = market segment abolished)

Source: Allen/Durán (1993) and various reports by the European stock exchanges

3. Special Stock Market Segments for Smaller Companies

3.1 The Unlisted Securities Market in the UK

The London Stock Exchange (LSE) opened the "Unlisted Securities Market" (USM) on November 10th, 1980. As compared to the "Official List", the main market segment of the LSE, admission and disclosure requirements were lowered significantly (Table 2). That reduced the initial and continuing cost of admission in the USM.¹⁴ Due to fiscal distinctions in statute between listed and unlisted companies the USM was initiated as a market for unlisted securities.¹⁵

Table 2: Entry requirements

	Official List	USM
Market capitalization	£ 700,000	No minimum
Minimum trading record	3 years (5 years until 1 Jan 1990)	2 years (3 years until 1 Jan 1990)
Marketability	25 % of equity capital in public hands	10 % of equity capital in public hands

Source: Abel (1993), p. 18

Stock exchange members are generally restricted to trade only in shares admitted to the market. Rule 535.2, which replaced the former rule 163.2, however, makes an exemption by allowing members to apply for permission to trade in shares not admitted to the Stock Exchange. For that reason an OTC- or "Rule 535.2"-market exists, in which currently nearly 1.000 companies are quoted.

During its first decade of its existence, the USM proved to be a great success: The number of entrants grew rapidly. Many companies whose shares were formerly traded in the OTC-market, switched to the USM.¹⁶ In 1984 and 1988 more than a hundred companies were introduced. That puts the total to more than 780 companies since the USM's inception in 1980 (figure 1). The number of quoted companies increased from 23 in the first year to 448 in 1989. With a total market capitalization of almost £ 9 bn in 1989 and an annual turnover of more than 6 bn £ in 1987 the USM reached a market share of 2 % of the entire British stock market (figure 2).

In January 1987, the London Stock Exchange opened the "Third Market" as a second unlisted stock market segment. It was designed as a "Venture Capital Market" for young enterprises that could not fulfil USM admission requirements.¹⁷ Because of

¹⁴ see Buckland/Davis (1989), p. 53-63 and Buckland (1992), p. 736.

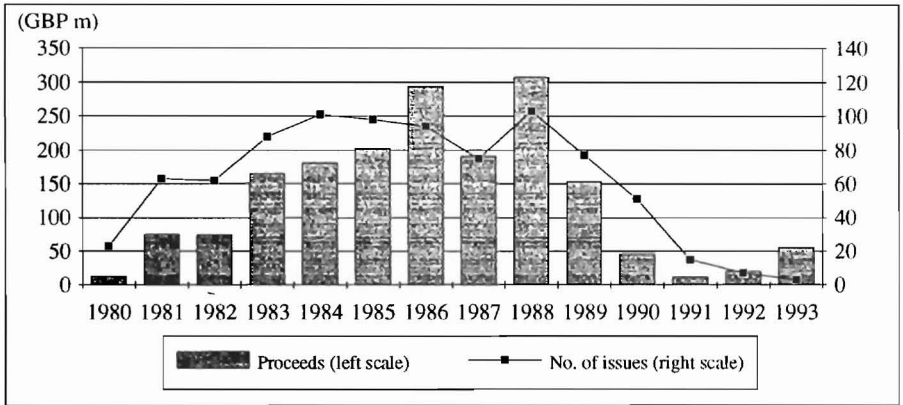
¹⁵ see Duncan 1986, p.2.

¹⁶ see Buckland (1992), p.736.

¹⁷ see The Stock Exchange (1986).

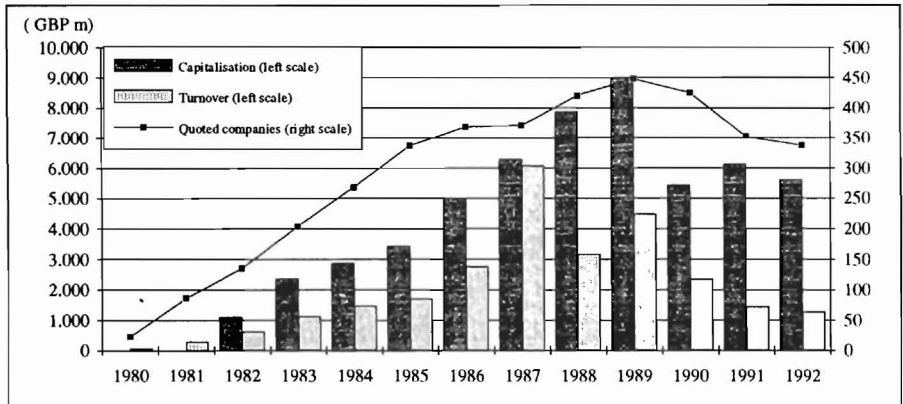
declining investor interest and considerable illiquidity problems this market had to be closed at the end of 1990. About half the companies were transferred to the USM.

Figure 1: New issues in the British Unlisted Security Market 1980-93



Source: London Stock Exchange (1993a)

Figure 2: The British Unlisted Securities Market 1980-1992



Source: London Stock Exchange (1993a)

Since 1990 the USM has also been threatened by serious liquidity problems: In 1992 customer turnover dropped to £ 1,273m, which is only 20 % of 1987 turnover. The average number of transactions per trading day fell from 3,818 to 564. The number of new issues also fell dramatically in 1992 as only 7 companies were admitted. The

LSE therefore decided to close down the USM at the end of 1992, but due to investors' and issuers' complaints postponed the final closure until 1996.¹⁸

Poor economic conditions and fading commitment of institutional investors are regarded as important reasons for the USM's decline.¹⁹ Because of numerous failures and bankruptcies and because of the incorporation of companies from the Third Market the USM has lost its former identity of an "exciting growth market"²⁰ and is now regarded as "the inferior segment of UK equity trading".²¹

The USM is associated with illiquidity problems of smaller companies which discourages investors from investing in USM stocks. Illiquidity, however, affects all smaller companies, regardless of whether they are listed in the Official List or quoted in the USM. Market maker coverage of less liquid SEAQ-securities has generally declined since 1986 as investors focused on the top 350 UK stocks that account for roughly 90 % of turnover by value.²²

The principal reason for the negative development of the USM lies in the greater accessibility of the Official List for smaller companies after the amendment of the EC Listing Particulars Directive in 1990, which lowered admission requirements to its current level (table 2). Almost all companies seeking admission to stock exchange trading may now be listed in the Official List. Besides, the costs of joining the USM have become very similar to those of entering the Official List. In the past, the cost advantage in the USM was a significant factor. The London Stock Exchange therefore sees no restrictions in the access of smaller companies to equity capital as a consequence of the USM's closure at the end of 1996.²³

Nevertheless, the LSE appointed a "Smaller Companies Working Party" to look for alternatives to the USM. Companies that do not qualify or cannot afford to join the Official List must have access to equity capital. A recently published report by this working party proposes the establishment of an "Enterprise Market".²⁴ That new market will have to be totally different from the Official List in terms of cost, regulation and identity in order to be accepted by issuers and investors.²⁵

In addition to that, another working party named CISCO (City Group for Smaller Companies) was set up to analyze possible benefits and opportunities of an "Enter-

¹⁸ see Abel (1993), p. 17.

¹⁹ see Buckland (1992), p. 737.

²⁰ see Abel (1993), p. 18.

²¹ see Buckland (1992), p.737.

²² see Wells (1991) and Abel (1993), p. 20.

²³ see Abel (1993), p. 18-20 und London Stock Exchange (1993).

²⁴ see London Stock Exchange (1994).

²⁵ see Abel (1993), p. 20.

prise Market". This group has proposed a segmentation of the British stock market into three tiers:

- 1) an International Equity Market for the top 350 securities ("super league"), with minimum market capitalization of £ 150m,
- 2) a National Market for the majority of UK listed companies, and
- 3) an Enterprise Market for growth companies.²⁶

The image of the new Enterprise Market will have to be actively marketed. There should be no trading history or market capitalization requirements, but 25 % of equity capital must be offered to the public at the time of introduction. Initially, this market should concentrate on high-tech companies in order to establish its image as an innovative market. Mainly, private investors will be active as market participants. CISCO believes that this market should be run independently from the London Stock Exchange, like the NASDAQ in the US. Later, the Enterprise Market could be expanded into a pan-European market by linking together the national stock markets for smaller companies.²⁷

3.2 The Second Marché in France

The "Second Marché" of the French stock exchanges was introduced on February 1st, 1983. It was designed for companies that could not apply for full listing in the "Cote Officielle", the main market segment, but were expected to attract sufficient investor interest and liquidity. Only a minimum of 10 % of equity capital has to be floated. Disclosure requirements were also loosened. Below those two markets there is an OTC-market ("Marché Hors Cote"), which had been in existence since 1962. Without any listing requirements - a company's shares could actually be traded against the management's will - this market did and does not provide any kind of investor protection.

Admission to the Second Marché is granted by the French stock market supervisory authority COB (Commission des Operations de Bourse) for a preliminary period of three years. Admission will only be prolonged if the company fulfils the following conditions:

- 10 % of share capital must be in public hands;
- there must be at least 40 quotations on the stock exchange every quarter and at least one every week with effective turnover;
- the COB's disclosure requirements have to be fulfilled by the company.

As a consequence, many companies have signed contracts with a bank or a broker ("contrat de liquidité") to ensure an orderly quotation as required by the COB.²⁸

²⁶ see CISCO (1994), p. 8.

²⁷ see Cohen (1994).

²⁸ see Jaffeux (1992), p. 24.

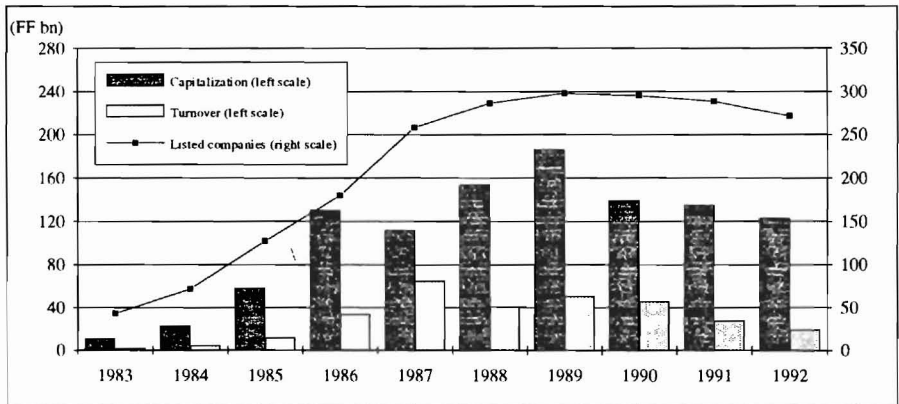
The French Second Marché also proved to be a great success, at least at the beginning: With a high number of new issues - 70 companies went public in 1987, raising more than FF 7 bn - the total number of listed companies amounted to almost 300 in 1989 (table 3 and figure 3). Thus, in terms of quoted companies, the Second Marché became the second most important stock market segment after the British USM.

Table 3: New issues in the Second Marché, 1983-1990

Year	Number of companies issued	Combined proceeds (FF m)	Average proceeds per issue (FF m)	Combined market value of issued companies (FF m)	Average market value (FF m)
1983	18	402.0	22.3	4,052.6	225
1984	29	867.1	29.9	7,829.5	270
1985	55	3,218.4	58.5	26,815.6	488
1986	51	2,661.5	52.2	24,552.4	481
1987	70	7,127.2	101.8	53,679.8	767
1988	26	1,093.3	42.1	13,777.9	530
1989	30	1,861.8	62.1	17,734.9	591
1990	13	935.4	71.9	10,583.1	814
Total	292	18,166.7	62.2	159,025.6	544

Source: COB (1992), p. 16

Figure 3: The Second Marché 1983-1992



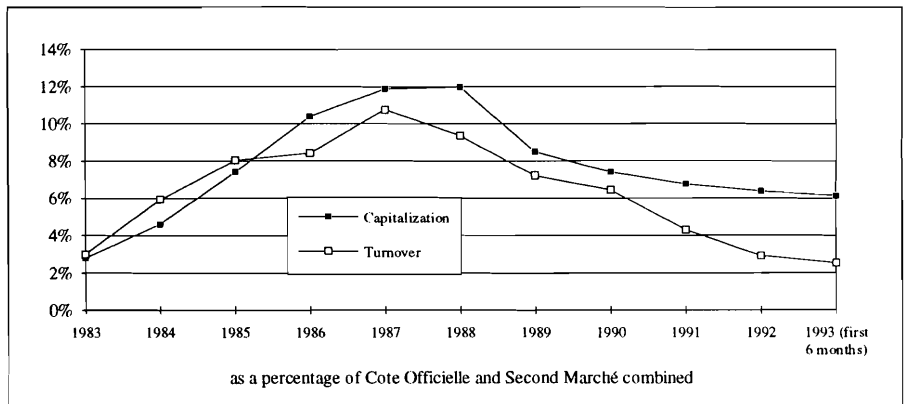
Source: SBF-Bourse de Paris (1993a)

Market capitalization and turnover volume reflected the growing importance of the Second Marché: In 1987 the Second Marché reached a market share of more than

10 % of the entire French stock market (figure 4). Especially the regional stock exchanges in Bordeaux, Lille, Lyon, Marseille, Nancy und Nantes have profited to a great extent: In 1987, more than 40 % of the total trading volume or the regional stock exchanges was done in companies listed in the Second Marché.²⁹

Since the stock market crash of October 1987 the Second Marché has been on a downward slope: In 1992, only 4 companies went public. At the same time, 20 companies were excluded from the Second Marché, most of them after take-over bids.³⁰ Annual turnover fell by more than 70 % to FF 18.9 bn, compared to FF 64.4 bn in 1987. In the first half of 1993, the Second Marché accounted for only 2,5 % of total stock exchange turnover. That is less, measured in relative terms, than in the Second Marché's first year of existence in 1983 (figure 4).

Figure 4: The Importance of the Second Marché in Paris



Source: SBF-Bourse de Paris (1993a) and (1993b)

As a consequence the French stock exchange authority SBF (Société des Bourses Françaises) and the COB set up a working committee to investigate the situation and its causes. A report proposing reform measures was published in February 1993.³¹ Since 1991, the Second Marché has been going through a deep crisis: The number of introductions has not been sufficient to ensure a constant renewal of the Cote Officielle, where the number of listed stocks is still declining. In June 1993, only 497 companies were listed - a drop of 130 companies compared to 1987. Besides, the strict distinction between the two lower market segments of the French stock market has vanished. Due to relatively high listing costs, many companies preferred to enter

²⁹ see Jaffeux (1992), p. 57 und COB (1992), p. 9.

³⁰ see SBF-Bourse de Paris (1993a), p. 23 und 25.

³¹ see COB/SBF (1993).

the Marché Hors Cote rather than the Second Marché which requires an extensive listing procedure.³² Additionally, the Second Marché has suffered to a great extent from a continuing concentration of stock exchange turnover favouring blue chip stocks. As in the UK, this is not a specific problem of the Second Marché, but of all smaller companies in general.³³

In summary, the Second Marché declined as many companies lost their interest in going public, while financial intermediaries turned to the Cote Officielle instead, which generates more profitable business, and investors, disappointed by the market's slack performance in the past, withdrew from the market altogether.³⁴ The Second Marché also lost its former image as an innovative market for companies with strong growth potential.

In order to make the Second Marché more attractive for investors and issuers, a number of recommendations were submitted by the working committee: Companies, that are currently quoted in the OTC-market but would fulfil listing requirements, are to be animated to enter the Second Marché. A stricter separation between those two stock market segments will help to emphasize the Second Marché's own identity. Therefore, trading mechanisms in both markets have been altered already: While two daily batch auctions and in some cases even continuous trading apply for companies listed in the Second Marché, only a single price a day will be determined for securities quoted in the Marché Hors Cote.³⁵

Other approaches focus on improving information transparency as well as market liquidity. By signing special contracts with the issuing companies ("contrat d'animation"), financial intermediaries like banks or broker companies commit themselves to quote bid-ask spreads for a minimum number of shares and thus maintain an orderly and liquid market. Additionally, the total cost of maintaining a listing in the Second Marché - around FF 780,000 annually - is to be cut by lowering some transparency and communication requirements and by adapting them to the number of share holders.³⁶ By supporting investment clubs specialized in small company and by organizing roadshows, the Paris stock exchange hopes to encourage private and institutional investors to return to the Second Marché.

³² see COB/SBF (1993), p. 8.

³³ see COB/SBF (1993), p. 4.

³⁴ see COB/SBF (1993), p. 14.

³⁵ see SBF-Bourse de Paris (1993c).

³⁶ see COB/SBF (1993), p. 7-19 and 22.

3.3 The Official Parallel Market in the Netherlands

The Amsterdam Stock Exchange introduced its "Parallel Market" on January 28, 1982. Before that date, there were only two stock market segments: the "Official Market" for listed companies and the unregulated "Incourante Market" for unlisted companies, in which a number of "incourante fondsen" (occasionally quoted domestic securities) traded off-exchange. This market was organized by two broker firms that quoted bid and ask prices.³⁷

The Parallel Market was subdivided into two segments. In order to be admitted to the upper segment a company's effective value had to be at least Dfl 2.5m, of which 10 % had to be issued to the public.³⁸ The prospectus must contain the company's balance sheet as well as the profit and loss accounts of the last three years.³⁹ As the EC Listing Particulars Directive was incorporated into the Dutch stock exchange law in 1990, minimum capitalization in the upper segment of the Parallel Market was raised to Dfl 5m. At the same time, the market was renamed "Official Parallel Market" (OPM) to underline its status as an official market segment. In the lower segment of the Parallel Market, which is still called "Incourante Markt" oder "Unlisted Market", no formal admission requirements exist.⁴⁰

The Official Parallel Market expanded continuously during the first years. At the end of 1992, a total 68 domestic companies were listed there, market capitalization stood at Dfl 2.5bn. Annual turnover developed similarly but already reached its absolute peak (Dfl 5.2bn) in 1986 (figure 5). Since then the annual turnover in the OPM followed a downward trend: In 1992, effective turnover value dropped to Dfl 890m. The new issues market dried up completely. Most new companies moved up from the Unlisted Market.

Both cyclical and fundamental factors have contributed to this development. Most investors trading actively in the OPM were private investors.⁴¹ Low interest rates boosted interest for these shares. As interest rates started to rise at the beginning of the 1990's investors returned to bonds. In addition small and medium size companies were hit harder by recession than big stocks. Some OPM-companies even went bankrupt.

The Dutch fiscal law exempts investors from tax on future dividends if they hold five percent or more of a company's share capital. As companies in the OPM tended to be

³⁷ see Schmidt et al. (1984), p. 159.

³⁸ see Schmidt et al. (1984), p. 164.

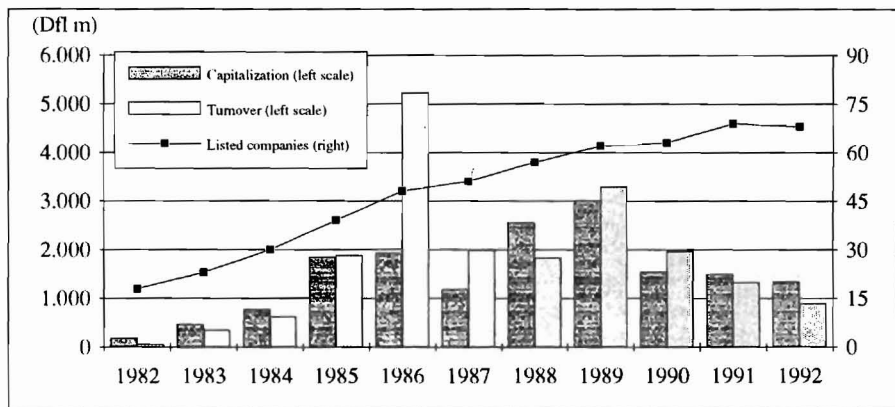
³⁹ In the Official Market a minimum market capitalization of Dfl 50m with an entry requirement of 100 % applied, but only 5 % of total share capital had to be in public hands. In the listing prospectus the company's balance sheets of the last five years were required, see ABN Amro (1992), p. 6.

⁴⁰ see ABN Amro (1992), p. 6.

⁴¹ see Amsterdam Stock Exchange (1990), p. 3.

smaller than those in the Official Market, 5 %-holdings in OPM-stocks could be built up more easily in these stocks. These investments are popular among tax-paying institutional investors. This fiscal provision increases interest in smaller companies on the one hand, but on the other hand reduces turnover activity because these holdings tend to be withdrawn from the stock market for a long-term period.⁴²

Figure 5: The Dutch Official Parallel Market 1982-92



Source: Amsterdam Stock Exchange, Annual Reports 1982-92

Many of the more successful companies, that gave the market some kind of glamour, switched over to the Official Market. This wouldn't have been an issue of concern with an active primary market replacing the gaps. As the primary market dried up, however, the OPM as a whole became more and more illiquid. Instead, closed-end investment funds applied for listing in the OPM. At the end of 1992, almost half of all OPM-securities were investment fund shares that generally generated low turnover. This dilution also damaged the OPM's former image as an innovative market.

Even though a reform programme had been proposed, that envisioned the quotation of investment funds in a separate list, intensified investor relation activities as well as the provision of more and accurate company data, the Amsterdam Stock Exchange closed the OPM at the end of 1993. All securities were transferred to the Official Market, where minimum capitalization requirement was lowered from Dfl 50 m to Dfl 25m to allow access for smaller companies.

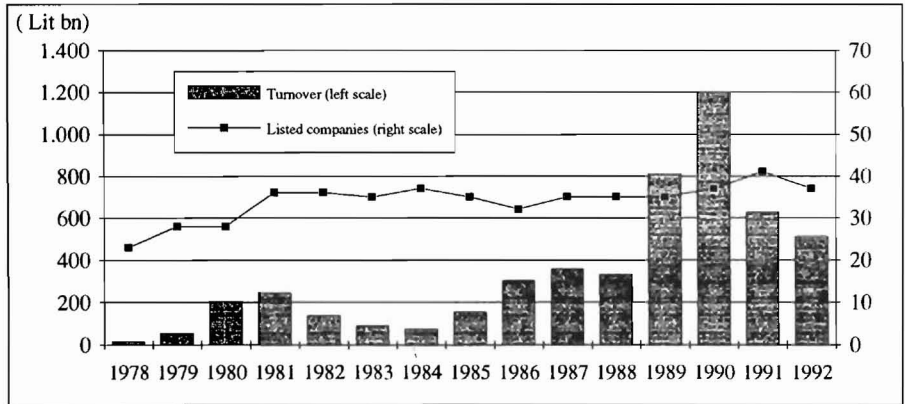
⁴² see ABN Amro (1992), p. 10.

3.4 The Mercato Ristretto in Italy

Today ten regional stock exchanges exist in Italy. Like other European countries, the equity market is divided into three segments: The official market segment is the "Mercato Ufficiale", in which most companies are listed. Since its legal revitalization in 1978, the stock exchanges in Florence, Genoa, Milan, Naples, Rome und Turin have established the "Mercato Ristretto" as their second stock market segment. Security transactions in both segments may either be effected on-the-exchange or off-exchange. Moreover, there is an unregulated OTC-market ("Terzo Mercato" or Third Market) for unlisted securities, left completely unsupervised by the stock exchange authority CONSOB. In Milan, about 30 companies are currently quoted in the Terzo Mercato by telephone.

In order to be admitted to the Mercato Ristretto a company's share capital must exceed Lit 1bn. 10 % of total share capital must be issued to the public.⁴³ Of the six regional Mercati Ristretti in Italy only the one in Milan is of greater importance: Those 37 companies listed in Milan generated an annual turnover of Lit 511bn in 1992, which accounted for roughly 95 % of the total trading volume of all Mercati Ristretti combined.⁴⁴ (figure 6).

Figure 6: Mercato Ristretto in Milan 1978-1992



Source: Comitato del Mercato Ristretto di Milano, Annual reports 1979-1992

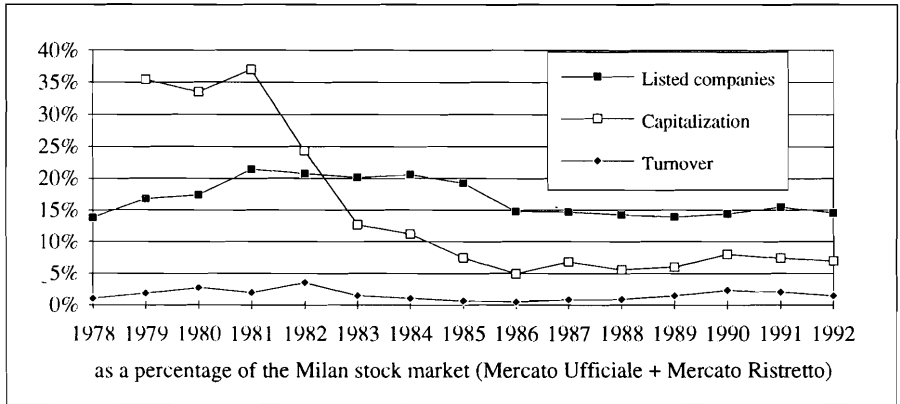
Turnover in the Mercato Ristretto has always been very low: The annual turnover ratio (annual turnover divided by market capitalization) usually lies between 2 % and 4 %. Although a large proportion of turnover is effected off-the-exchange and block

⁴³ see Consiglio di Borsa (1993), p. 18.

⁴⁴ see Comitato del Mercato Ristretto di Milano (1993), p. 28.

trading facilities exist⁴⁵, the Mercato Ristretto must be described as an extremely illiquid market.

Figure 7: The Mercato Ristretto in Milan



Source: Comitato del Mercato Ristretto di Milano, Annual reports 1979-1992

As opposed to other junior markets, the Mercato Ristretto has never been a market for young and innovative enterprises.⁴⁶ Most companies are cooperative or savings banks whose shares cannot be traded in the Mercato Ufficiale because of restricted share transferability. Duncan therefore speaks of a bank "monoculture" in the Mercato Ristretto.⁴⁷ As there are plans to establish full transferability by introducing maximum voting rights, a transfer of these shares to the main market will become possible. Because cooperative and savings bank account for more than 90 % of the total market capitalization and turnover, a closure of the Mercato ristretto seems inevitable.⁴⁸ Currently, reforms of the Italian stock market for smaller companies are considered. One proposal calls for the creation of a new stock market with designated market markers similar to NASDAQ, operated independently from the existing stock exchanges.

⁴⁵ see Comitato del Mercato Ristretto di Milano (1993), p. 32-36.

⁴⁶ see Duncan (1986), p. 5 und 15.

⁴⁷ see Duncan (1986), p. 5.

⁴⁸ see Comitato del Mercato Ristretto di Milano (1993), p. 28.

3.5 The Geregelter Markt in Germany

The "Regulated Market" (Geregelter Markt) in Germany was introduced in May 1987. It replaced the former "Regulated OTC-Market" (Geregelter Freiverkehr). As there are eight regional stock exchanges in Germany, eight such market segments exist. Unlike the Official Market ("Amtlicher Handel"), admission requirements for the Regulated Market are not determined by the German Stock Exchange Law but by the rules and regulation of the regional stock exchanges (table 4). Thus, they differ to a certain degree, which on the other hand allows for greater flexibility. Admission costs for the Regulated Market are only about half the costs of entering the Official Market. When a company later transfers to the main market, initial Regulated Market admission costs are counted. There are also eight regional OTC-markets (Freiverkehr). Although trading in OTC-stocks takes place on the floor of the official stock exchanges, private and commercial law applies. This market is designed primarily as a market place for trading and only to a lesser degree as a source of finance for the issuing company. Unlike other European OTC-markets, the German Freiverkehr is regulated by an association of securities traders.

Table 4: Listing requirements

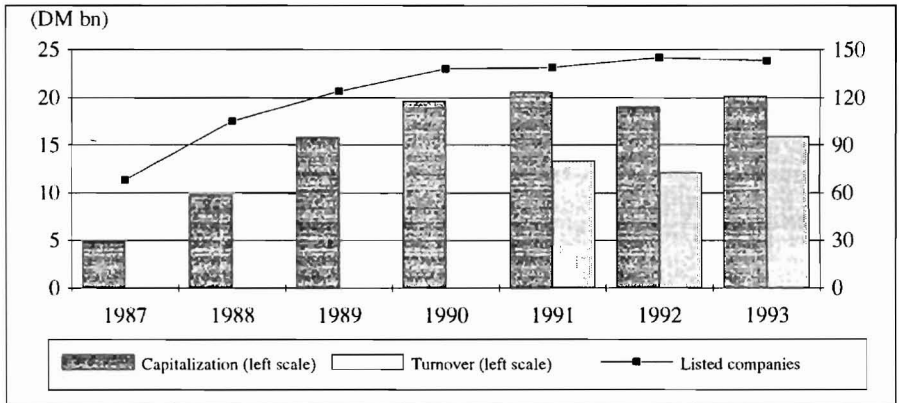
	Amtlicher Handel (Official Trading)	Geregelter Markt (Regulated Market)
Admission procedure regulated by	German Stock Exchange Law (Börsengesetz) and Stock Exchange Admission Ordinance (Börsenzulassungsverordnung)	rules and regulation of the German regional stock exchanges (Börsenordnung)
Application for listing	filed by the issuing company and at least one bank that has to be a member of the stock exchange	filed by the issuing company and a bank or a suitable non-bank.
Listing prospectus	full prospectus	company report
Minimum trading record	3 years	no requirements
Minimum capitalization	DM 2.5m (market value)	DM 0.5m (nominal share value)
Minimum capital to be sold to the public	25 % of share capital admitted to official listing	no requirements
Continuing disclosure requirements	mandatory interim report	voluntary interim report

At the end of 1993, a total of 143 companies with a capitalization of DM 20.146bn were listed in the Regulated Market (figure 8).⁴⁹ Hence, one fifth of all German companies traded on the stock exchange are listed in the second segment. However, only

⁴⁹ This figure comprises only those companies whose shares are not listed in the Official Market elsewhere.

about 2.5 % of the German total stock market capitalization is accounted for by the Regulated Market. This compares to less than half the market value of the Deutsche Bank. Three companies (Victoria Insurance, Hapag Lloyd and März), each with a market value exceeding DM 1bn, make up more than 25 % of the market's total capitalization. About half of all companies currently listed in the Regulated Market were formerly quoted in the Regulated OTC-market, because they could opt for a transfer to the new market without undergoing admission procedure again.

Figure 8: The Regulated Market 1987-1993



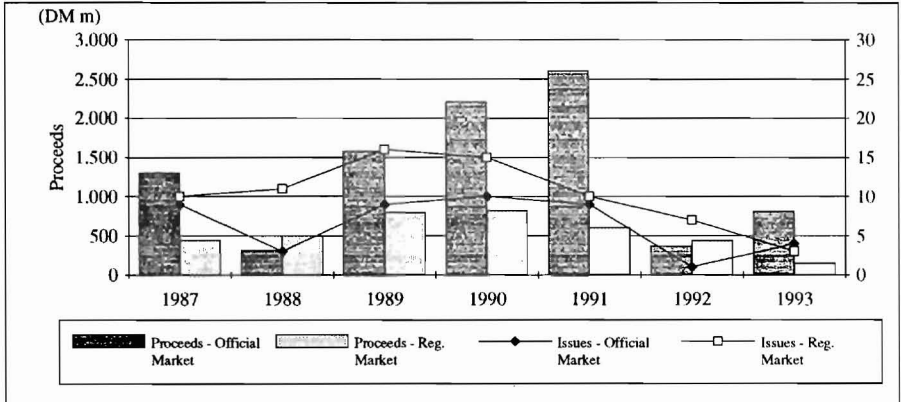
Source: Deutsche Börse AG, Annual reports 1987-1993

The Regulated Market was accepted quite well by issuing companies: Since 1987, a total of 71 companies with proceeds of DM 3.756bn have entered the Regulated Market. Twelve companies have later been transferred to the Official Market. In the official market, only 43 companies, but with total proceeds of DM 9.154bn, were issued (figure 9). Therefore, the Regulated Market has provided an adequate stock market setting for companies intending to go public. Since 1989, however, the number of new issues has fallen continuously. In 1993, only three new companies entered the Regulated Market while only four companies listed their shares in the Official Market. Compared internationally, the German IPO-market is still underdeveloped, both in terms of number of introductions as well as proceeds.

Today, quite a few Regulated Market stocks suffer from illiquidity. On an average trading day, about half the stocks do not trade at all or order imbalances occur. In 1993, annual turnover value of in domestic stocks listed in the Regulated Market amounted to DM 15,9bn, which equals about 0,86 % of the total share turnover of all German stock exchanges. This figure compares to 1,06 % for 1991 (source: Deutsche Börse AG). The Regulated Market's illiquidity, which also affects companies listed

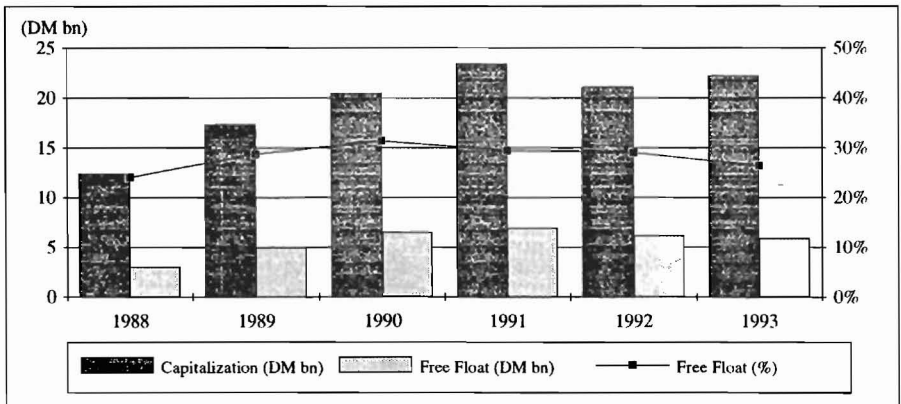
in the Amtlicher Handel and traded once a day at the noon auction (Kassahandel), may be partly explained by the companies' low free float. As many large companies tend to be dominated by major shareholders, in some cases more than 90 % of equity capital are closely held, the average free float in the Regulated Market, weighted by market value, only amounts to DM 5,8bn or 26,4 % of the market capitalization (figure 10). The free float of the entire German stock market, including standard stocks, is much higher, around 54 %.

Figure 9: Proceeds of new issues in the German stock market 1987-1993



Source: Deutsche Börse AG, Annual reports 1987-1993

Figure 10: Free Float of Companies listed in the Regulated Market, 1988-1993 (weighted by market value, as of November 30th)



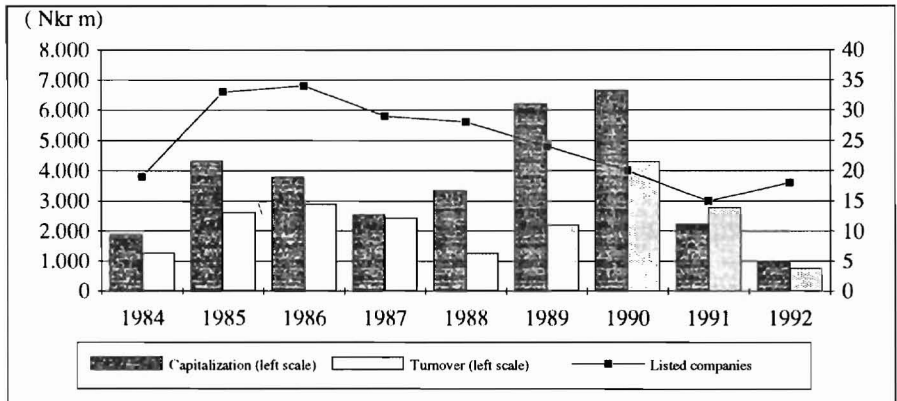
Source: Commerzbank, Rund um die Börse, 1988-1993

Unlike the French stock market, a company may be cross-listed on each of the eight regional stock exchanges in Germany. Therefore, almost half of all companies listed in the Regulated Market are traded on two or more regional stock exchanges. Both trading methods (noon auction or continuous trading) and the assignment to one of the three stock market segments are handled differently by each stock exchange. A security issue may be traded continuously in the Regulated Market in Stuttgart while being quoted once a day in the OTC-market of the Frankfurt Stock Exchange. The most prominent examples are BMW, Dt. Babcock, Kaufhof or PWA whose shares are listed or quoted in all three stock market segments. Insufficient regional standardization as well as the incorporation of many former OTC-stocks have prevented the Regulated Market from developing its own image as an innovative market. It is not regarded as a market segment of its own and is sometimes even called an "amputated" or "mutilated" market. Possible approaches for a reform of the Regulated Market in the future will have to focus on creating a distinct image by harmonizing admission and trading procedures across all German stock exchanges.

3.6 Other European Junior Stock Markets

Other European junior stock markets for smaller companies tell a similar story. The Oslo stock exchange for example introduced its second market segment ("BørsII") in 1983 and renamed it "SMB-List" in 1992. Two stocks, out of a total of 18, accounted for more than 90 % of the total turnover in 1992. The others were largely illiquid with annual turnover ratios between 0 % and 9,6 %.⁵⁰ Market capitalization as well as the number of listed shares have been declining for some time (figure 11).

Figure 11: Oslo Stock Exchange- BørsII and SMB-List 1984-1992



Source. Oslo Stock Exchange, Annual Reports and Statistics, 1984-92

⁵⁰ see Oslo Børs (1993), p. 16-19.

While some of the new stock market segments were successful at least during the first years, others never left the experimental stage. The Belgian "Second Marché" or "Tweede Markt", introduced in January 1985, only consisted of seven domestic companies at the end of 1992.⁵¹

The Spanish "Segundo Mercado" and the "Segundo Mercado para PYMES", established in 1986 by the stock exchanges in Madrid and Barcelona respectively, were not very successful either: At the end of 1992, only two companies were listed in Madrid whereas 21 were listed in Barcelona. Accordingly, both stock market capitalization and turnover are quite low.⁵²

The Portuguese stock exchanges in Lisbon and Oporto established the "Segundo Mercado" in the course of the reform programme in 1991. It is therefore too early to draw a final conclusion about success or failure of this stock market segment.

4. Causes for the Decline of the European Junior Stock Markets

The European stock exchanges all made similar experiences with their second stock market segments: At first, the high expectations, fostered at the time of their introduction in the early 1980's, were largely fulfilled as the high numbers of new issues generated significant turnover and trading activity and led to a renewal of the national stock markets. By the end of the 1980's, however, the trend reversed. The new issues-market dried up and the stock market segments for smaller companies became increasingly illiquid.

The European junior stock markets for smaller companies have been facing liquidity problems since 1987. Sometimes the stock market crash of 1987 is regarded as the cause for the negative trend but several other factors have contributed to the problem as well.⁵³ Some of them are of cyclical, others of fundamental nature. For instance, there are flaws in the design of these markets, especially the insufficient differentiation between the upper and the lower stock market segment. In case of the Netherlands, fiscal factors have added to the problem. The main reason, however, seems to be the changing character of the European capital markets dominated by institutional and international investors.

There is no doubt that positive economic conditions in the 1980's favoured growth in the international capital markets in general and the development of junior stock market segments in specific. Low interest rates and positive economic conditions made stocks an attractive investment alternative. High valuation levels of equity

⁵¹ see Jaffeux (1992), p. 175.
⁵² see FIBV (1993), p. 46-49.
⁵³ see Buckland (1992), p. 737.

capital made it profitable for companies to go public.⁵⁴ It is therefore argued, that the uprise in the new issues market would have taken place anyway, even without the creation of the new junior stock market.⁵⁵

As interest rates started to rise again at the end of the past decade, many investors returned to bonds. Additionally, smaller companies generally suffered more severely from recession than blue chip stocks. Especially the primary markets were hit as the number of introduction fell dramatically. Even though a revival in the new issue markets throughout Europe may be expected as soon as economic conditions improve, the high degree of dependence on economic conditions poses a fundamental flaw of these stock market segments: Recession has hit these market segments harder than the main market. As a consequence, they have dried out severely. The expected uprise in IPO-activities, therefore, will not affect the second markets but will take place only in the main stock market segments. In the U.S. on the other hand, turnover activity and IPOs in the NASDAQ-market were never affected to such an extent, although the American economy went through a deep recession. Only if the segments are viable through the entire economic cycle, there will be a chance of a lasting existence.

Another difficulty stems from their status as transitory markets. They were designed to facilitate access to the stock market for those companies unable or reluctant to list their shares in the main market. In the course of time, however, the more successful companies were to be prepared for a transfer. Thus, only the less attractive issues remained in the second segment. This fact alone does not necessarily lead to an adverse selection problem as long as an active primary market provides enough supplies of new companies. With the new issues market dried-up completely, however, the second market segments were deprived of their "off-spring" which damaged their image as innovative markets for companies with high growth potential. It is interesting to note that in the US, many successful and now blue chip-companies, who started their "stock market career" in NASDAQ, still remain there, although they could easily fulfil all NYSE listing requirements. The most prominent examples are Intel, Microsoft, Apple or Novell. The NASDAQ-stock market as a whole profits from these companies' image as high-performing stocks.

Insufficient differentiation between stock market segments, both against the main market as well as against the OTC-market, poses another problem. After the amendment of the EC Listing Particulars Directive in 1990, British companies could access the Official Market more easily. As the USM's admission cost advantage vanished, most new companies preferred to list their shares in the main market. The Second Marché in France also ran into difficulties as many companies chose to enter the OTC-market, which in their opinion provided an equal setting for stock exchange

⁵⁴ see Jaffeux (1992), p. 175.

⁵⁵ see Buckland (1992), p. 736.

trading. The German Regulated Market is also affected negatively as the assignment to the market segments differs across regional stock exchanges. Thus, these junior stock markets either lost or were inhibited from developing an image as independent and innovative markets for companies with high growth potential.

The main reason for the decline of the European second stock market segments is a more fundamental one. It does not only affect the stocks listed in those segments, but basically all second-line stocks in general, whether listed in the first or second segment: The general setting on the European capital markets has changed dramatically during the last few years. Deregulation, securitisation, automation, internationalisation, globalisation, institutionalisation of the capital markets as well as the appearance of new financial products and competition between European financial centres have been discussed extensively in finance literature. As a consequence, domestic and cross-border security transactions have multiplied. Although growing institutionalisation has had a positive effect on stock market liquidity, not all stocks have benefitted equally.⁵⁶ With institutional and international investors dominating today's equity markets⁵⁷, asset allocation has increasingly replaced stock picking as investment strategy. This led to a concentration of stock exchange turnover in favour of standard stocks, because institutional and international investors generally prefer larger companies.

Private investors, who in the past used to invest parts of their wealth in smaller companies, are increasingly advised to buy investment fund certificates. Many of those private investors, that still do manage their own investments, prefer to buy covered warrants on interest rates, foreign currencies, stock indices etc. rather than small company stocks. Especially the German market for warrants has grown impressively during the last few years. At the end of 1993, almost 2.200 different warrants were traded.⁵⁸

Growing popularity of passive investment strategies among institutionals has added to the concentration of turnover activity.⁵⁹ By duplicating stock indices, passively managed investment funds try to eliminate all unsystematic or company-specific risk components. Depending on the stock index, that is used as a benchmark, investments may be limited to the most liquid blue chips only. Second-line stocks, on the other hand, may be neglected.⁶⁰ Many internationally-oriented investment funds, therefore, restrict their holdings to approximately 20 to 50 standard stocks in each country,

⁵⁶ In the U.S. stock market, Jones/Lehn/Mulherin (1991) found a decrease in relative bid-ask spreads (and concluded that market liquidity increased) for stocks with high institutional ownership between 1982 and 1988, while the opposite is true for stocks with low institutional ownership.

⁵⁷ The Deutsche Börse AG estimates that domestic and international institutionals account for 80 % of total turnover in German stocks, see Deutsche Börse AG (1993), p.7.

⁵⁸ see Deutsche Börse AG (1994), Jahresbericht 1993, p. 133.

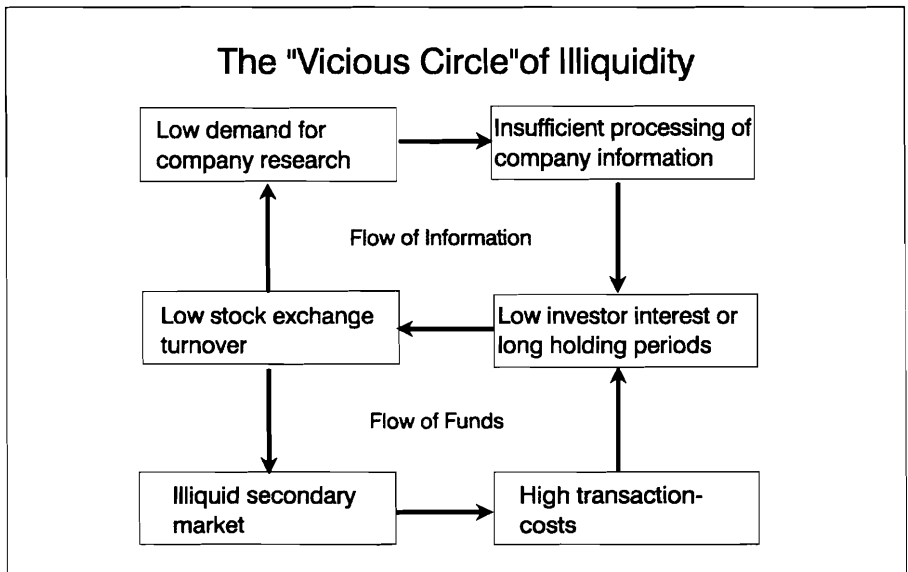
⁵⁹ see Deutsche Börse AG (1994), Jahresbericht 1993, p. 78.

⁶⁰ see Howell/Cozzini (1991), p. 47.

depending on the size of the equity market.⁶¹ As a consequence, many banks and investment companies restrict their research and trading activities to these stocks. Since the cost of information collecting and processing cannot be covered by earning commissions, most smaller companies are researched only sporadically or are even totally neglected. This further reduces turnover and hence the attractiveness of these companies.

This development leads shares of small and medium-sized companies into a twofold "vicious circle" of illiquidity (figure 12): On the one hand, investors incur high transaction costs when they trade illiquid stocks, especially when large positions are to be traded. High transaction costs impede that holdings are traded often.⁶² Few, if any, investors would buy illiquid stocks for short-term liquidity considerations. Only long-term buy-and-hold-strategies, that further reduce market liquidity, promise to be profitable.⁶³ Many market participants, banks, and investors, will eventually withdraw from trading in these stocks altogether.⁶⁴

Figure 12: The "Vicious Circle" of Illiquidity



⁶¹ In the UK, this number is larger as basically all 350 stocks contained in the FT 350-index are actively traded and researched.

⁶² see Wells (1992), p. 19.

⁶³ see Stoll (1984), p. 197-198.

⁶⁴ see Pagano (1989).

On the other hand, a second vicious circle affects the flow of company information: Low turnover makes it unprofitable for investment banks and brokers to research smaller companies, because the costs associated with collecting and processing company information cannot be covered by brokerage commissions. This fact is a direct consequence of the information paradoxon described by Grossman/Stieglitz (1980). If information is costly, an equilibrium evolves in which the cost of information will equal the marginal benefit of that additional piece of information. The additional benefit, however, depends on the stock's liquidity: The higher the volume that can be traded without influencing the market price, the higher the potential return on research activities. The extent to which company information is collected and processed, and therefore the degree of informational efficiency, depends directly on the marketability and liquidity of a company's shares.⁶⁵ Thus, even the twentieth or fiftieth research study of a standard stock may be profitable whereas not even the first study of many smaller companies will cover its costs.

This will eventually lead to a two-tier stock market: On the one hand, the majority of market participants focuses on internationally known standard stocks with high market capitalization and a high stock exchange turnover. They belong to a "thundering thousand superleague of global stocks".⁶⁶ Proposed and initiated stock exchange projects on the European level, e.g. "Eurolist", the creation of a "European Wholesale Market" for institutional investors or private computerized trading systems for cross-country security business, are only logical consequences. On the other hand, second-line stocks will lose their importance and attractiveness to investors as they become increasingly illiquid. This limits those companies' sources of equity finance: While passively managed funds automatically participate in secondary offerings of stocks contained in their benchmark index, small companies will increasingly run into problems when they issue new shares.⁶⁷ In order to attract investors, these companies have to offer a higher expected return than blue chips. This, however, raises their cost of equity and puts them at a disadvantage against large companies in terms of competitiveness.⁶⁸

⁶⁵see also Groth/Martin (1981).

⁶⁶ see Howell/Cozzini 1991, p. 47.

⁶⁷ see Howell/Cozzini (1991), p. 47.

⁶⁸ see Stoll (1984), p. 198 and Gerke (1993), p. 620-621.

5. Conclusion and Outlook

Until today, the European capital markets do not provide an adequate secondary market for young and innovative companies comparable to NASDAQ. The importance of stock markets for smaller companies has generally declined as the European capital markets became increasingly globalized and institutionalised. Growing institutionalisation, however, does not necessarily lead to a total neglect of less liquid small-cap stocks. On the contrary, the NASDAQ stock market in the US for instance is dominated by institutional investors and yet, it is a very active and liquid market for smaller companies.⁶⁹ This may be explained by the structure of the U.S. investment industry: At the end of 1993, more than 4.500 mutual funds were registered under SEC-regulation. Many of these funds have total assets less than US\$ 10m. They research and invest primarily in small high-tech companies with high growth and risk potential and may therefore be regarded as "venture-capital"-funds. This type of investment fund is generally not offered to European private investors, because national regulation generally limits a mutual fund's investments to listed shares only. A change of investment regulation in Europe should therefore be considered.

The creation of new markets for smaller companies, which are operated independently from the existing stock exchanges, as currently proposed in the UK and Italy, might be a step towards the right direction. It must be kept in mind, though, that new stock markets will only be able to exist if they are accepted by investors, issuers and intermediaries alike. These markets could also provide an exit mechanism for venture capitalists. As the reorganisation of the German stock market continues, a solution for the financial needs of smaller companies must be found. It should be further investigated in how far the existing regional stock markets could play an active role in this issue. Because all European stock markets are equally affected, a pan-European solution should also be taken into consideration.

⁶⁹ It must be noted, however, that a large proportion of total turnover is done in large-cap stocks that remained in NASDAQ, see NASD (1993), p. 33.

References

- Abel, Mark (1992), Helping Small Companies Raise Equity, *Stock Exchange Quarterly with Quality of Markets Review - Spring Edition 1993*, p. 17-20
- ABN Amro Investment Research (1992), *The Official Parallel Market in the Netherlands - Small Caps on Secondary Market*, 28th January 1992, Amsterdam
- Allen, Stuart/Durán, Berta (1993), eds., *The G.T. Guide to World Equity Markets 1993*, London
- Amihud, Yakov/Mendelson, Haim (1986) Asset Pricing and the Bid-Ask Spread, *Journal of Financial Economics*, Vol. 17, p. 223-24
- Amihud, Yakov/Mendelson, Haim (1988), Liquidity and Asset Prices: Financial Management Implications, *Financial Management*, Vol. 17, p. 5-15
- Amihud, Yakov/Mendelson, Haim (1991), Liquidity and Asset Prices, *Financial Markets and Portfolio Management*, Vol. 5, p. 235-240
- Amsterdam Stock Exchange, *Annual Report*, 1982-1992, Amsterdam
- Amsterdam Stock Exchange (1990), *Official Parallel Market*, Amsterdam
- Amsterdam Stock Exchange (1991), *A Century of Stocks and Shares*, Amsterdam
- Buckland, Roger (1992), Unlisted Securities Market, in: Peter Newman/Murray Milgate/John Eatwell, eds., *The New Palgrave Dictionary of Money & Finance*, London, p.756-738
- Buckland, Roger/Davis, Edward W. (1989), *The Unlisted Securities Market*, Oxford
- Claussen, Carsten P. (1984), Der Neue Zweite Markt - Über die Notwendigkeit und Gestaltungsmöglichkeiten eines neuen Wertpapiermarktes, *Zeitschrift für Unternehmens- und Gesellschaftsrecht*, Vol. 13, No. 1, p. 1-22
- CISCO - City Group for Smaller Companies (1994), *A Blueprint for the Smaller Companies Market*, London
- COB - Commission des Operations de Bourse (1992), *Le Second Marché*, Supplément au Bulletin mensuel No. 254
- COB/SBF-Bourse de Paris (1993), *Le Second Marché - Rapport du groupe de travail*, Paris, 11th February 11th, 1993
- Cohen, Ronald, (1994), Special care for young companies, *Financial Times*, March 8th, 1994, p. 16
- Comitato del Mercato Ristretto di Milano, *Il Mercato Ristretto di Milano*, 1978-1992, Milan
- Commerzbank, ed., *Rund um die Börse*, 1988-1993, Frankfurt
- Consiglio di Borsa (1993), *An Overview of the Italian Stockmarket*, Milan, September 1993

- Cooper, Kerry/Groth, John C./Avera, William E. (1985), Liquidity, Exchange Listing, and Common Stock Performance, *Journal of Economics and Business*, Vol. 37, No. 1, p. 19-33
- Deutsche Börse AG (1993), ed., *Privatanleger und Börse*, Frankfurt
- Deutsche Börse AG (and Arbeitsgemeinschaft der deutschen Wertpapierbörsen), *Jahresberichte 1987-1993 (Annual reports)*, Frankfurt
- Duncan, Malcolm G. (1986), *The Development of Regulated Parallel and Unlisted Securities Markets in a Number of Stock Exchanges in the European Community*, Milan
- FIBV - Fédération Internationale des Bourses de Valeurs (1993), *FIBV Statistics 1992*, Paris
- Flornoy, Yves (1983), Le Second Marché - Marché de plein exercice ouvert aux sociétés jeunes, à forte croissance, *Banque*, No. 426, March 1983, p. 263-272
- Gerke, Wolfgang (1993), Informationsasymmetrien am Markt für Beteiligungen an mittelständischen Unternehmen, in: Günther Gebhardt/Wolfgang Gerke/Manfred Steiner, eds., *Handbuch des Finanzmanagements*, Munich, p. 619-640
- Grenier, Rémi (1988), *Le Second Marché - Règles et fonctionnement*, Paris
- Grossman, Sanford J./Stiglitz, Joseph E. (1980), On the Impossibility of Informationally Efficient Markets, *American Economic Review*, Vol. 70, p. 393-408
- Groth, John C./Martin, John D. (1981), Impact of Firm Size on Capital Market Efficiency, *Journal of Economics and Business*, Vol. 33, Nr. 2, p. 166-171
- Howell, Michael/Cozzini, Angela (1991), *Games without Frontiers - Global Equity Markets in the 1990s*, International Equity Flows, 1991 Edition, ed. by Salomon Brothers, November 1991
- Jaffeux, Corinne (1992), *Le Second Marché: Mythes et Réalités*, Paris
- Jones, Jonathan/Lehn, Kenneth/Mulherin, J. Harold (1991), Institutional Ownership of Equity: Effects on Stock Market Liquidity and Corporate Long-Term Investments, in: Arnold W. Sametz/James L. Bicksler, eds., *Institutional Investing - Challenges and Responsibilities of the 21st Century*, Homewood, Illinois
- London Stock Exchange (1993a), *Stock Exchange Quarterly with Quality of Markets Review, Summer Edition 1993*, London
- NASD - National Association of Securities Dealers (1993), ed., *1993 Nasdaq Fact Book & Company Directory*, Washington
- Oslo Børs (1993), *Annual Report, 1984-92*, Oslo
- o.V. (1993a), New look at smaller companies - Working party to examine practical alternatives to USM, *London Stock Exchange News*, May 1993, p. 2

- Pagano, Marco (1989), Endogenous Market Thinness and Stock Price Volatility, *Review of Economic Studies*, Vol. 56, p. 269-288
- SBF-Bourse de Paris (1993a), *L'Année Boursière - Statistiques Annuelles 1992*, Paris
- SBF-Bourse de Paris (1993b), *Actions - Statistiques Boursières Mensuelles*, No. 15, June 1993
- SBF-Bourse de Paris (1993c), *La Fonctionnement de la Bourse*, Paris, May 1993
- Schmidt, Hartmut et al. (1984), *Special Stock Market Segments for Small Company Shares: Capital Raising Mechanisms and Exit Route for Investors in New Technology-based Firms*, Luxemburg
- Schmidt, Hartmut (1984), Special Stock Market Segments for Small Company Shares - Situation and Perspectives, J.M. Gibb (ed.), *Venture Capital Markets for the Regeneration of Industry*, Brussels and Luxembourg, p. 97-106
- Schürmann, Walter/Körffgen, Kurt (1987), *Familienunternehmen auf dem Weg zur Börse - Ein Leitfaden für potentielle Börsenkandidaten mit Beispielen aus der Praxis*, 2nd edition, Munich
- The Stock Exchange (1986), *The 3rd Market*, London
- Stoll, Hans R. (1984), Small Firms' Access to Public Equity Financing, in: Paul M. Horvitz/Richardson Pettit, eds., *Business Finance - Problems in the Financing of Small Business*, London, p. 187-238
- Wells, Stephen (1991), Less-Liquid Market, *Stock Exchange Quarterly with Quality of Markets Review - Autumn 1991*, p. 27-32
- Wells, Stephen (1992), Developments in the Smaller Companies Market, *Stock Exchange Quarterly with Quality of Markets Review - Autumn 1992*, p. 19-24