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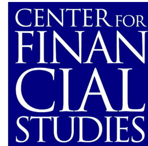

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Initial Public Offerings and Venture Capital in Germany

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April 2003

Abstract:
We present a survey on the role of initial public offerings (IPOs) and venture capital (VC) in Germany after the Second World War. Between 1945 and 1983 IPOs hardly played a role at all and only a minor role thereafter. In addition, companies that chose an IPO were much older and larger than the average companies going public for the first time in the US or the UK. The level of IPO underpricing in Germany, in contrast, has not been fundamentally different from that in other countries. The picture for venture capital financing is not much different from that provided by IPOs in Germany. For a long time venture capital financing was hardly significant, particularly as a source of early stage financing. The unprecedented boom on the *Neuer Markt* between 1997 and 2000, when many small venture capital financed firms entered the market, provides a striking contrast to the preceding era. However, by US standards, the levels of both IPO and venture capital activities remained rather low even in this boom phase. The extent to which recent developments will have a lasting impact on the financing of German firms, the level of IPO activity, and venture capital financing, remains to be seen. At the time of writing, activity has come to a near stand still and the *Neuer Markt* has just been dissolved. The low number of IPOs and the fairly low volume of VC financing in Germany before the introduction of the *Neuer Markt* are a striking and much debated phenomenon. Understanding the reasons for these apparent peculiarities is vital to understanding the German financial system. The potential explanations that have been put forward range from differences in mentality to legal and institutional impediments and the availability of alternative sources of financing. Moreover the recent literature discusses how interest groups may have benefited and influenced the situation. These groups include politicians, unions/ workers, managers/controlling-owners of established firms as well as banks.

JEL Classification: G10, G24, G14
Keywords: Initial Public Offering (IPO), Venture Capital, Germany

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1. Introduction

We present a survey on the role of initial public offerings (IPOs) and venture capital (VC) in Germany after the Second World War. Between 1945 and 1983 IPOs hardly played a role at all and only a minor role thereafter.[1] In addition, companies that chose an IPO were much older and larger than the average companies going public for the first time in the US or the UK. The level of IPO underpricing in Germany, in contrast, has not been fundamentally different from that in other countries. The picture for venture capital financing is not much different from that provided by IPOs in Germany. For a long time venture capital financing was hardly significant, particularly as a source of early stage financing.

The unprecedented boom on the *Neuer Markt* between 1997 and 2000, when many small venture capital financed firms entered the market, provides a striking contrast to the preceding era. However, by US standards, the levels of both IPO and venture capital activities remained rather low even in this boom phase. The extent to which recent developments will have a lasting impact on the financing of German firms, the level of IPO activity, and venture capital financing, remains to be seen. At the time of writing, activity has come to a near stand still and the *Neuer Markt* has just been dissolved.

The low number of IPOs and the fairly low volume of VC financing in Germany before the introduction of the *Neuer Markt* are a striking and much debated phenomenon. Understanding the reasons for these apparent peculiarities is vital to understanding the German financial system. The potential explanations that have been put forward range from differences in mentality to legal and institutional impediments and the availability of alternative sources of financing. Moreover the recent literature discusses how interest groups may have benefited and influenced the situation. These groups include politicians, unions/workers, managers/controlling-owners of established firms as well as banks.

The paper is organized as follows: In section 2 we illustrate the history and the recent increase of initial public offerings in Germany. Section 3 describes the development and the

1 This was not always the case. Tilly (1992, pp. 103-104) finds that both the volume of total market issues and the proportion of issuance consisting of equity were greater in Germany at the beginning of the 20th century than they were in the United Kingdom. See also Fohlin (2000a), Rajan and Zingales (2001), and Schlag and Wodrich (2000).

current status of the German venture capital market and compares it with the US, UK and France. In Section 4 we discuss why there are so few IPOs and so little VC financing activity in Germany. Section 5 concludes.

2. Initial Public Offerings

Development of Initial Public Offerings and Firm Characteristics

For many observers the story of German IPOs (after World War II) starts in 1983 (see, for example, Schürmann and Körfgen, 1997, p. 23). Taking the IPOs listed in the DAI-Factbook, the average number of IPOs between 1949 and 1982, was only 3.3 per year. Even though this list only includes, for the years between 1949 and 1976, IPOs of firms that were still listed in 1994, it nevertheless shows that IPOs were rare events. (The yearly average for the years 1977 to 1982 is 4.) Only the 1960s were associated with marked numbers of IPOs, most of them occurring in the context of the (partial) privatization of state-owned firms such as Veba, Preussag, VEW, Lufthansa, and Volkswagen. The low number of IPOs can be seen as evidence for the secondary role that the stock market played in Germany. Indeed, after the Second World War the number of listed German stock corporations decreased from 686 in 1956 to a minimum of 442 in 1983.[2]

In 1983, the number of IPOs started to increase, reaching an annual average of 19.5 between 1984 and 1996. (See table 1.) However, compared to the US and the UK, IPO activity still remained rather low. For example, in the years between 1988 and 1995 a total of 151 IPOs were carried out in Germany, compared to more than 1000 in the UK and nearly 2500 new listings on the NYSE and the American Stock Exchanges and 3000 at Nasdaq (Schuster, 1996, p. 5).

Starting in 1997, however, Germany witnessed an unprecedented increase in IPO activities. In the year 1999 alone, more IPOs were carried out than in the 10 years from 1988 to 1997. Of course, the world-wide stock market downturn after 2000 also resulted in a rather sudden end of the IPO boom in Germany. Whether IPO activity will resume again when stock market conditions improve, or whether we have indeed observed a temporary and one-time IPO wave in Germany, remains to be seen.

[2] Information about stock listings and IPO activities are taken from the DAI-Factbook 2003.

Table 1: Number of IPOs in Germany[3]

	1983	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	2000	01	02*
Amtlicher Handel	6	11	8	17	9	3	10	11	9	2	6	3	12	6	10	15	30	13	5	1
*Geregelter Markt***	1	10	4	11	10	12	16	20	10	7	3	8	8	6	4	14	10	11	7	3
Freiverkehr	4	2	1	1	0	0	2	3	0	0	2	4	0	2	9	8	22	3	3	2
Neuer Markt															13	42	113	115	11	1
Total	**11**	**23**	**13**	**29**	**19**	**15**	**28**	**34**	**19**	**9**	**11**	**15**	**20**	**14**	**36**	**79**	**175**	**142**	**26**	**7**

* Until November 2002
** The *Geregelter Markt* was introduced in 1987; data until 1987 refer to *Geregelter Freiverkehr*.

As a first step in trying to understand the "IPO waves" occurring in Germany it is interesting to note that the level of IPO activities is highly correlated with the conditions in the stock market. The first "IPO wave" in Germany starting at the beginning of the 1980s and the second one in the late 1990s took place at times when stock prices were soaring in the USA as well as in Germany, while the interruptions in 1987, 1991, and 2000 occurred when the stock market crashed. This is in line with the observations in other countries that IPO activity is highly cyclical. But apart from increasing stock prices, two other events draw attention in the late 1990s: in 1996 the IPO of Deutsche Telekom with a volume of nearly €10,000 million was carried out, and in 1997 the *Neuer Markt* was opened at the Frankfurt stock exchange.

The introduction of the *Neuer Markt* was celebrated as a major innovation for the German equity market, which consists of two tiers, with two segments in each of the two tiers.[4] The first tier comprises the *Amtlicher Handel* and the *Geregelter Markt*. The *Amtlicher Handel* is the main stock market segment in which all DAX companies are traded (which is comparable to the Official List in the UK). The *Geregelter Markt* was introduced in 1987 as a segment for small firms, with a lower market capitalization and a lower trade volume.[5] The second tier consists of the *Neuer Markt* and the *Freiverkehr*. The *Neuer Markt* was introduced for young innovative high-tech (growth) firms. The main differences between the different segments are the stringency

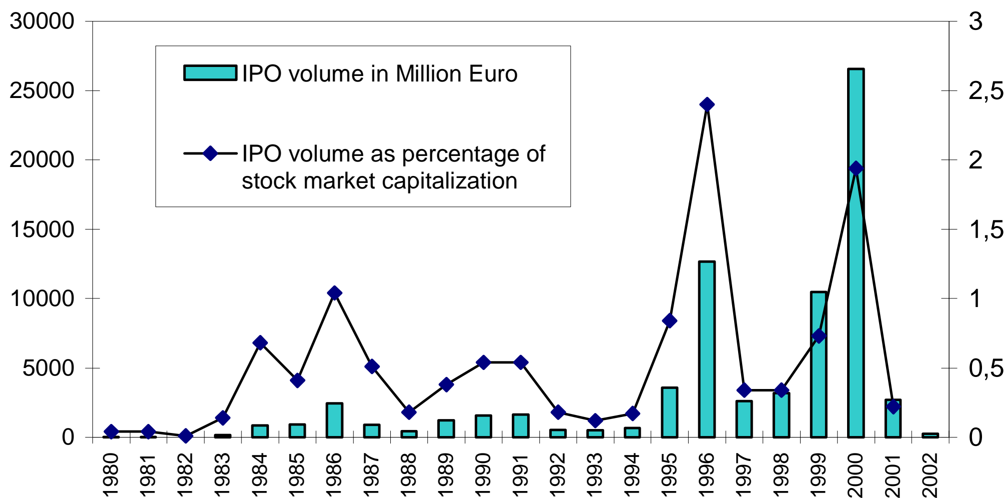
3 The numbers are taken from the DAI-Factbook 2003.
4 See Theissen (2003) for a discussion of recent developments.
5 The *Geregelter Markt* absorbed most of the firms that were listed on the *Geregelter Freiverkehr*.

of the listing, reporting, and disclosure requirements, with the *Neuer Markt* being more demanding.

As can be seen in table 1, the huge increase in the number of IPOs, starting in 1997, stems mainly from new firms that were listed in the new market segment. The other segments do not show a similar increase in the number of IPOs.[6]

The Deutsche Telekom IPO and the IPO wave on the *Neuer Markt* are, of course, also reflected in the yearly total IPO volumes. However, the magnitude of the increase in IPO volume looks less dramatic if it is related to the market capitalization. Figure 1 reveals the extraordinary position of the Deutsche Telekom IPO in 1996.[7] It is striking that the IPO volume as percentage of stock market capitalization raised through IPOs in 1986 exceeds that of 1998 or 1999, while the high relative IPO volume in 2000 is primarily due to the downturn in the stock market in the second half of 2000.

Figure 1: IPO Volume



In addition to the low number of IPOs in Germany before the IPO boom on the *Neuer Markt*, the average age at the time of the listing as well as the average IPO volume are also worth noting.

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6 The number of IPOs on the *Geregelter Markt* declined as most companies opted for the *Neuer Markt*.

7 The numbers for figure 1 are taken from the DAI-Factbook 2003.

In Germany the average age of a firm that carried out an IPO between 1975 and 1984 was 53 years. While the average IPO volume during the 1980s was nearly €40.5 million, this average increased to about €102 million (€83 million excluding Deutsche Telekom) between 1990 and 2000.[8] This contrasts with an average age of about 10 years and an average IPO volume of approximately €64 million (excluding T-online) for firms that listed at the *Neuer Markt* between 1997 and 2001. Moreover, firms going public at the *Neuer Markt* were significantly smaller, had higher sales growth, and higher market-to-book ratios compared with the IPOs on the established segments (Kukies, 2000). Given the different aims of the different segments, this is reassuring. However, the difference in characteristics is striking in international comparison. In the 1980s, the average listed German firm was almost four times older at the time of listing than the average UK firm, and it raised on average three times more new equity than a UK firm. This marked difference is not reflected in the listings at the *Neuer Markt*, when compared to Nasdaq, where firms on average were about 7 years old and raised equity of about €148 million in the year 2000.

Indeed, before the *Neuer Markt* came into being the typical firm that carried out an IPO in Germany was a rather well-established firm in a mature industry. This result is puzzling as raising equity is arguably of less importance for these firms than for young and growing firms.

Costs of Initial Public Offerings

As will be discussed in greater detail in Section 4, the market for lead underwriters is highly concentrated in Germany. It was dominated by Deutsche Bank from 1959 to 1998 as the lead underwriter in 30% of all IPOs, making more than 30% of the total gross proceeds (Langemann, 2000, p. 29). Moreover, between 1990 and 1996, the lead underwriter was one of the five major banks (Deutsche Bank, Dresdner Bank, Commerzbank, BHF-Bank, DG Bank) in 73% of all IPOs.

Even though firms were free to choose the method of going public, until 1994 issuers used only the fixed price method, in which banks perform the intermediary role, with all applications

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[8] DAI-Factbook. Of the 144 public offerings in the UK in 1985, 46% had a volume of less than €5 million and 14.5% had a volume of less than €2.5 million. (Investor's Chronicle, 17.1.1986, 37-41, as quoted in Weichert, 1987, p. 146.)

for IPOs being routed through the banks that make up the underwriting syndicate. The syndicate buys the stock at a fixed price and sells it to the market. Since 1995 book building has become the common method. It was first used on a larger scale for the Deutsche Telekom IPO in 1996.

The costs of going public comprise direct and indirect components. Examples of the first type are the underwriting and the listing fees. The average direct costs are between 5% and 10% of the IPO volume, depending on the size of the IPO, the risks involved, and the complexity of the chosen IPO mechanism (Schürmann and Körfgen, 1997, p. 180, and Kaserer and Kraft, 2003). The direct costs for listing at the different segments vary, but the differences hardly influence the choice of segment, and they are not much higher in Germany than in other countries so that they should not impede IPO activity (Fischer, 2000).

From the perspective of the former owners, underpricing or initial returns constitute the indirect costs of going public. Initial returns are generally defined as the percentage increase, accruing to investors in IPOs of common stock, from the offer price to a closing market price shortly after public trading begins.[9]

The level of underpricing in Germany is comparable to that in other countries. The average underpricing in the years 1960 to 1995 was between 10% and 32%, depending on the market segments, the time period, and the sample size:[10] The average initial return decreased over time (Stehle and Erhardt, 1999, p. 1399) and the number of cases in which the initial return was negative increased.[11] In addition, higher initial returns are observed in hot markets (Jenkinson and Ljungqvist, 1996, p. 33).

When looking at the single market segments it becomes apparent that the average underpricing of firms in the *Amtlicher Handel* was lower than for other segments. Between 1987 and 1995 it was about 8%.[12] Thus, the average initial return at the *Amtlicher Handel* was–if

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[9] In the literature, the definition of initial return varies with respect to the methods of measurement, but of course they all deal with the difference between the issuing price and the stock price in the secondary market. The length of this period varies from study to study, with one day to several weeks being the usual time frame.

[10] Some studies, for example, exclude the 10 firms for which the Portfolio Management GmbH was the underwriter in the mid of the 80s. (The Portfolio Management GmbH is discussed in more detail in section 4.) The average initial return of these IPOs was 67%. Seven of these companies failed after only a few years. Excluding these companies reduces the average underpricing by 10% to 15%. See Stehle and Ehrhardt (1999) for a survey on IPO-underpricing studies in Germany, which includes Schmidt et al. (1988), Uhlir (1989), and Ljungqvist (1997) among others.

[11] During the period from 1983 until 1988 only 13% of the IPOs where overpriced. In the years from 1988 until 1992 this number rose to 21% (Kaserer and Kempf, 1995, p. 55).

[12] Stehle, Ehrhardt, and Przyborowsky (2000), table 1.

anything–lower than comparable measures in other industrialized countries.[13] This is in line with the argument that initial returns stem from asymmetric information about the quality of the firm to be listed: The age of firms and their successful business history at the time of their listing in Germany arguably result in a lower level of asymmetric information and therefore in a lower initial return. Higher initial returns often stemmed from smaller and rather unknown companies, which went public on the *Geregelter Markt* or the *Freiverkehr* during the 1980s.

The average initial return for IPOs on the *Neuer Markt* between March 1997 and December 2001 was 49.81%.[14] This level seems to be very high. But while the average underpricing between 1991 and 1995 at Nasdaq was only 13.8% (Habib and Ljungqvist, 2001), the average underpricing in the US increased to 65% during the internet bubble in 1999 and 2000 (Ritter and Welch, 2002). According to Loughran and Ritter (2002) some of the increase can be explained by changes in the risk characteristics of the firms going public in this period. But they attribute much greater importance to the possibility of allocating proceeds from IPO underpricing to "friends and families" when bookbuilding is used.

The evidence indicates that the level of underpricing in Germany is not particularly high. This is surprising as one might have expected the small number of IPOs, and thus the banks' limited IPO experience as well as the high concentration in the market for lead underwriters to have resulted in a higher level of underpricing than in other countries. Hence, the low level of IPOs in Germany is unlikely to stem from higher direct or indirect costs of listings. Other potential reasons for the low number of IPOs in Germany are discussed in section 4.

3. Venture Capital Financing in Germany

Development of the German Venture Capital Market

Before turning to the development of the German Venture Capital market it is important to note that in Germany the use of the term "venture capital" differs from that in the Anglo-American literature. Whereas in the Anglo-American literature "venture capital" is typically used in the sense of early-stage and expansion financing, the German understanding of "venture capital" is

[13] For surveys see, e.g., Loughran, Ritter and Rydqvist (1994), Ritter (1991), Jenkinson and Ljungqvist (1996).

[14] Franzke and Schlag (2002). See also Kiss and Stehle (2002) for an analysis of underpricing and long-term performance of IPOs at the *Neuer Markt*.

more comprehensive and also includes the financing of buy-outs and buy-ins and later-stage financing operations of more mature, small to medium-sized companies. The term “venture capital” as used in Germany is therefore more in keeping with the American notion of private equity.[15]

In much the same way as IPO activity, a German VC market did not really exist before the early 1980s. This was the case despite early and repeated attempts by the German government to stimulate the availability of equity financing for small to medium-sized companies.

In the 1960s (**first phase**), the founding of *Kapitalbeteiligungsgesellschaften* (KBGs: equity investment companies) was suggested as a solution to the perceived problem of an equity shortage in Germany.[16] Like investment funds, KBGs should collect the capital of various financiers and invest it in a portfolio of companies. Preferably, such investments were to be in the form of a silent partnership[17], and ideally the entrepreneur should buy back the KBGs’ share after five to ten years. In 1965 the first KBGs were founded, many of them as subsidiaries of banks.[18] KBGs invested primarily in established, medium-sized companies and the total number of investments was rather low.

The **second phase** of VC in Germany started about 1970/71. To encourage KBGs to increase their investments in small to medium-sized businesses and new ventures, the German government in 1971 started to offer financial support through the European Recovery Program (ERP).[19] However, KBGs made only little use of this program since it implied severe restrictions. The law limited investors’ return on investment to an average of 11% p.a. (nowadays 12% p.a.) over the contracted life span, which basically implied a cap on potential profits. As a

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[15] See, for example, Black and Gilson (1998). Hence, caution is advised when comparing descriptive statistics.

[16] See Persé (1962) and *Arbeitsgemeinschaft Selbständiger Unternehmer* (1965). The following description of the development of VC in Germany is based in parts on Leopold and Frommann (1998) and Lessat et al. (1999).

[17] Silent partnerships are debt-like, as such they are supposed to have a finite life and leave as much autonomy of decision making to the general management as possible. They were and still are the dominant financial instrument used by KGBs and their portfolio companies. (For a detailed analysis of the financial contracting behavior of German venture capitalists, see Bascha and Walz (2000).)

[18] See Leopold and Frommann (1998) and Nevermann and Falk (1986). For the sake of comparison, in the UK about 20 years earlier, i.e. in 1945, the *Industrial and Commercial Finance Corporation Ltd.*, today known as *3i*, was established at the initiative of the Bank of England and in cooperation with major banks. Also, in the US the first professional VC company named *American Research and Development Corporation* was founded as early as 1949.

[19] See Bundesministerium für Wirtschaft (German Federal Ministry of Economics) (1970). The financial support included the opportunity to refinance up to 75% of investments at a preferential interest rate of 5% p.a. and a coverage of potential losses of up to 70% of total investment.

consequence, KGBs did not invest in “highly risky” projects.[20] Moreover, there was a maturity cap of ten years for all investments, and the contractual arrangement between KBGs and portfolio companies was clearly biased in favor of the latter: portfolio companies had the opportunity to repay the financial intermediary prematurely. Thus, KBGs were often left with poor investments. Furthermore, suppliers of equity were not allowed to influence the daily business of the management. As a consequence of the lack of attention the European Recovery Program received in these times, individual German *Länder* (Federal States) supported the establishment of so-called *Mittelständische Beteiligungsgesellschaften* (MBGs: equity finance companies for small and medium-sized firms). Apart from the Länder, the owners of such MBGs consisted of the banking community including regional banks and often the respective regional Chambers of Industry and Commerce. Accordingly, publicly subsidized equity for investment purposes became relatively more important.

Schlegelmilch (1976) reports that in late 1975 the major part of capital was provided by private banks (about 42%), savings banks (about 36%) and MBGs (about 10%). The financing of new ventures was rather an exception. All in all, during the second phase the market for direct-investment capital was essentially stagnant, both with regard to the number of companies offering equity and to the total volume invested.[21] The latter amounted to approximately €385 million by the end of 1982 compared to a credit volume of about €409 billion used by the corporate and self-employed sector (Gerke, 1983).

In 1983 (beginning of **third phase**) for the first time the German venture capital market could be said to be expanding. The growth and changes in activities were triggered by a positive investment climate in Germany and euphoric reports on the success of the US-venture capital market. Several equity investment companies were founded. Although banks continued to play the major role as founders and investors in such companies, the importance of private persons, insurance companies, and commercial enterprises as sponsors of VC companies grew considerably. Also, foreign venture capitalists started to establish subsidiaries in Germany, and

[20] See for instance the report of the Bundesministerium für Wirtschaft (1995).

[21] In 1972 (1982) the number of venture companies amounts to 33 (26). Among them was *Deutsche Wagnis-finanzierungsgesellschaft* (WFG), which has attracted some attention in the literature. (See for instance Becker and Hellmann, 2002.) In 1975 this venture capital fund was set up as a joint company between major German banks, partially guaranteed by the government. Although it “was an outright failure” (Becker and Hellmann, 2002, p. 6), from today’s point of view, WFG was important for the further development of the German venture capital industry.

MBGs, which had experienced little deal flow during the 70s, became active again. Moreover, in order to offer non-institutional, especially retail, investors an indirect investment opportunity in the equity of non-listed small to medium-sized companies, the German parliament in 1987 enacted the law on *Unternehmensbeteiligungsgesellschaften* (UBGs: equity finance companies). Among other things, this law determined that UBGs, i.e. such regulated VC companies, had to be stock corporations (*Aktiengesellschaften*, AGs), had to strive for a listing at the stock exchange and should invest in the equity of non-listed German companies.[22] In order to provide incentives for entrepreneurs to make use of UBGs, the government granted considerable tax advantages. For example, UBGs were exempted from trade tax and the capital gains tax. However, UBGs play a minor role in the German VC market. From 1996 to 1998, the number of VC companies that were organized as UBGs decreased from 16 to 9.

All in all, the range of VC activities became broader; a movement towards the successful strategy of American venture capitalists was noticeable.[23] On the one hand newly-founded venture capitalists started to specialize in technology companies that demanded early-stage financing.[24] On the other, VC companies started to focus on management buy-outs and buy-ins. Buy-backs by entrepreneurs, which used to be the dominant exit strategy, were increasingly replaced by trade sales and some IPOs.[25] In summary, the German VC market developed considerably from 1983 to 1990, both with regard to professionalism as well as to size. As illustrated in figure 2, the total invested VC volume quadrupled from approximately €0.4 billion in 1983 to €1.7 billion in 1990.[26]

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[22] These regulations have first been relaxed in 1994 and later on by the changes of the 3. Finanzmarktförderungsgesetz in April 1998. See footnote 30.

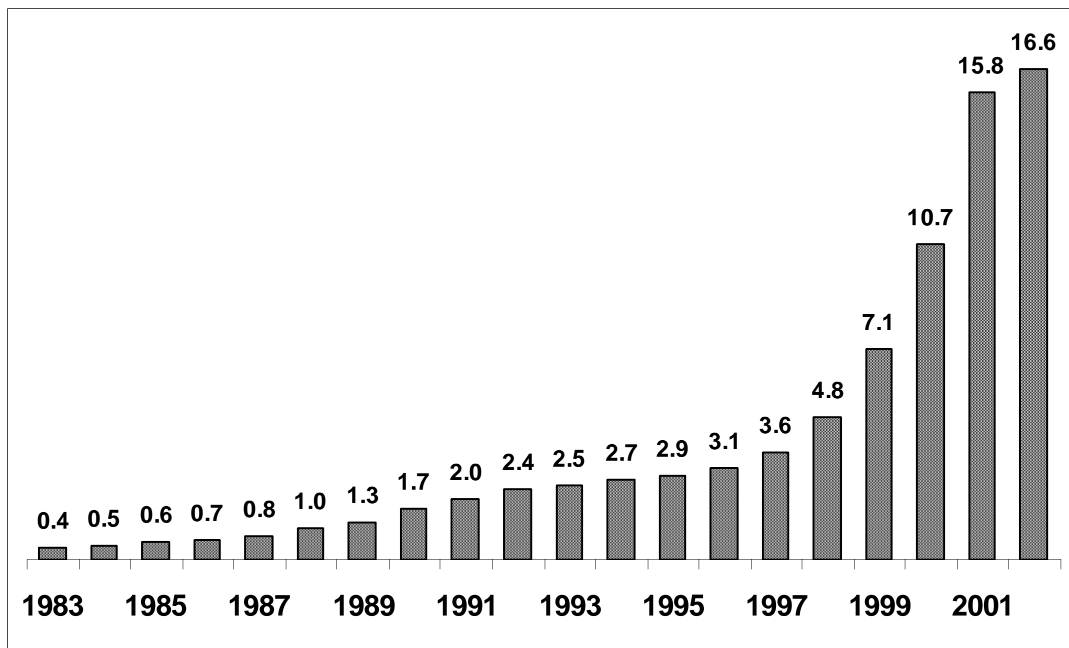
[23] For a detailed description of venture capitalists operating on the German VC market in the 1980s see Nevermann and Falk (1986). Schmidt (1988) provides an early assessment.

[24] However, since investments in these growth companies experienced considerable losses, the focus was shifted back to expansion financing of more mature businesses only a few years later.

[25] Between 1983 and 1990 Leopold and Frommann (1998) identify eight companies going public on the German market that were venture-backed. To compare, for the same time period Black and Gilson (1998) report more than 500 venture-backed IPOs in the U.S.

[26] Numbers on the German VC market given here and in the following are those of members of the *Bundesverband Deutscher Kapitalbeteiligungsgesellschaften* (BVK: German Venture Capital Association), which account (according to the BVK) for 90% of the volume of the German VC market.

Figure 2: Total Portfolio Volume Held by Members of the BVK (in €Billion)[27]



After German reunification in October 1990 the number of newly established businesses increased.[28] Once again, the government offered special funds to foster start-ups and early-stage investments and now also to encourage investment in the newly formed German states.[29] In addition changes in legislation, with regard, for instance, to the law of UBGs, were carried through.[30] VC became an attractive proposition for investors in the German economy. A continuous, almost linear growth of the German VC industry could be observed during the **fourth phase** from 1991 to 1996. In 1996, the volume of the total VC portfolio exceeded €3 billion.

In 1997, as the *Neuer Markt* was launched offering a further exit facility to venture capitalists, the German VC industry entered into a unique boom period. Although buy backs and trade sales were still the preferred exit mechanisms for venture capitalists, the opportunity to exit the portfolio by means of an IPO became a feasible option. While in 1996 about 6.7% of the

[27] These numbers are taken from the BVK Statistik (2002).
[28] Numbers are offered by the Institut für Mittelstandsforschung (IFM): http://www.ifm-bonn.de/dienste/gruend.htm
[29] Details on the programs are listed on the internet page of the Bundesministerium für Wirtschaft und Technologie: http://www.bmwi.de.
[30] The regulation of UBGs has been relaxed by the third *Finanzmarktförderungsgesetz* of 1998. Among other things the changes implied that UBGs had no more aspirations towards a listing at a stock exchange. Nowadays the financing of small to medium-sized companies is the first and foremost aim. Moreover, the requirement to form a stock corporation (AG) was withdrawn. For more details see Vollmer (1998).

divested volume was sold by means of an IPO, this fraction rose to more than 12.5% in 1998 and 1999. On average, the *Neuer Markt* covered about 75% of the IPOs backed by VC between 1998 and 2000.[31] This **fifth phase** saw the peak of the remarkable development of the German VC industry, not only in terms of volume but also in terms of the distribution among financing stages and industrial sectors. Between 1996 and 2000, about €10.8 billion in total were newly invested in 6,300 companies, which is 68% of total new VC investments and 47% of all VC financed companies over the last 30 years (BVK Yearbook 2001). This highlights the insignificance of the German VC industry until the mid 1990s.[32] With regard to the distribution among financing stages, a strong movement towards early-stage financing can be discerned. While in 1996 only about 14% of gross investments were in early-stage companies, this share reached about 36% in 2000. No other European country achieved this degree of growth. The corresponding volume figure increased by a factor 18 between these two years. About one fifth of the early-stage investments were refinanced through public programs implemented by KfW, Germany's main development bank.

While it had been criticized in the past that in Germany investments were mainly directed towards old industries (see Leopold and Frommann, 1998), the investment patterns during the boom phase became much more similar to those of the US, which reflects the importance of the (new) high-tech sector. Computer, information technology, communications, and biotechnology, which had received around 19% of new VC funds in 1996, accounted for more than 48% of gross investments in 2000.[33] However, this overall remarkable development came to an abrupt halt in the second half of 2000 when the German VC market entered a period of consolidation, which is still enduring.

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[31] The remaining 25% can be split equally into IPOs on other German stock exchanges and on foreign stock exchanges such as the NASDAQ. For an in-depth study on venture-backed IPOs at *Neuer Markt*, see Franzke (2001).

[32] Whereas the volume of gross investments per deal has risen from €0.94 million in 1996 to €2.04 million per company in 2000, these numbers seem to be small compared with those of the US ($ 19.1 million investments per company in 2000).

[33] However, the share of high-tech sectors in gross investments is even higher in the US, while in the UK it is comparatively low running up to 24% in 2000 (EVCA yearbook 2001).

Current Status of the German Venture Capital Market and Its Comparison to the US, UK and France

Table 2: Comparative VC Figures for Germany, France, UK and the US in 2001/1999[34]

	Germany	France	UK	US
Portfolio at Cost (for the U.S.: Capital under Management) in Billion[35]	€15.8/7.9	€17.4/5.3	€39.8/28.0	US $ 209.8/142.9
New Funds Raised in Billion	€3.7/3.8	€5.5/4.3	€20.5/9.9	US $ 40.3/58.8
Type of Investors Offering New Funds in %				
Banks	32/40	40/25	10/26	Banks + Insurance Companies 25/16
Insurance Companies	21/11	11/15	15/14	
Pension Funds	3/ 9	6/ 9	40/31	42/44
Private Investments	8/12	11/ 4	6/ 4	1/10
Public Sector	16/14	4/ 3	4/ 2	0/ 0
Divestments by Type of Exit Vehicle in %				No detailed information available: mainly Trade Sales and IPOs (climax in 1996: 268 VC-backed IPOs; the numbers for 2001/1999 are 37/233)
Trade Sale	20/25	54/58	29/22	
IPO	8/19	17/16	8/26	
Write-Off	36/21	9/ 3	23/ 5	
Repaym. of Preference Shares/Loans	2/ 7	4/ 2	24/32	
	Repayment of Silent Partnerships 16/14			
Stage Distribution of Investments in %				
Early-Stage	26/32	17/18	13/ 2	23/22
Expansion	35/50	22/38	25/20	57/48
Buyout	37/15	59/38	56/76	Later Stage / Buyout 8/30

[34] Numbers for Germany, the UK and France are taken from the Yearbooks (2000 and 2002) of the European Venture Capital Association (EVCA) and those from the US from the Yearbook (2002) of the National Venture Capital Association (NVCA).

[35] The NVCA only gives figures for the capital under management of VC funds. The capital under management is defined as the accumulated VC managed by funds net the VC of funds, which have been liquidated or matured at the end of their life cycle (after eight years). Capital under management therefore differs from the European definition of the VC portfolio.

Currently about 200 to 250 VC companies form the core of the institutional VC market in Germany.[36] As for the informal segment of this market, a study by Lessat et al. (1999) estimates that roughly 27,000 business angels actively invest in growth companies and that a further pool of 219,000 business angels could be tapped.[37]

In absolute terms (with respect to the VC portfolio or new funds raised) the German VC market is still about 10 to 15 times smaller than the US market.[38] However, within Europe, the German VC market in 2001 ranked third with respect to the volume of the VC portfolio (€15.8 billion)[39] behind the UK (€39.8 billion) and France (€17.4 billion). The same holds true for the volume of new funds raised (see table 2).[40]

Although the banking sector is still an important supplier of new capital, contributing about 32% in 2001, the relative role of banks has decreased over time and is being taken over by insurance companies (21%), private investments (8%) and (foreign) pension funds (3%). In Germany (foreign) pension funds as providers of VC were irrelevant until recently. They first appeared as a separate category in the statistics of BVK in 1995.[41] In sharp contrast to this, pension funds are, and have been for quite some time now, the main suppliers of VC in the US and in the UK. In both countries pension funds contributed more or less 40% to the funds raised in 2001. It is worth noting that the public sector plays a significant role as source of VC funds only in Germany.

With regard to the exit mechanism, the deteriorating climate for new issues due to a bear-market from March 2000 onwards is clearly reflected in the statistics. The volume divested by means of an IPO dropped from 19% in 1999 to 8% in 2001. Similar but more pronounced

[36] See for instance BVK Statistik (2001) and Deutsche Bundesbank (2000). To compare, the National Venture Capital Association (NVCA) counts over 470 venture capital and private equity organizations as members (see www.nvca.org), representing merely a lower limit of active venture capital and private equity companies in the US.

[37] Estimates regarding their potential investment volume run up to €6.4 billion per year, including the investment volume of active business angels, which amounts to approximately €0.7 billion per year.

[38] To compare, Germany was about 3.4 times smaller than the US with regard to inhabitants and about 1.3 times smaller with regard to GDP per inhabitants in 2001.

[39] According to the BVK Statistik (2002) the total portfolio volume held by members of the BVK increased to €16.6 billion in 2002 (see figure 2). On average, foreign investors have held a stake of about 30% of the VC funds in Germany during the period 1996-2001 (own estimations based on data of BVK Yearbooks 1996-2001).

[40] The ranking for these three countries is the same on the basis of VC investments as a proportion of the GDP in 2001: 0.646% in the UK, 0.225% in France and 0.215% in Germany (see EVCA Yearbook 2002).

[41] Before 1995, the share of pension funds was so small, that it was counted under the category "other". See Leopold and Frommann (1998).

findings can be reported for the UK and the US market (see table 2). Moreover, 36 % of all portfolio companies had to be written off in 2001. Silent partnerships, used particularly in later-stage operations, had a share of 16% of the divested volume in 2001. However, compared to former times this has dropped dramatically (1996: 57%).

In 2001 Germany followed the trend of the US and UK where a tendency towards bigger funds with less early-stage and more later-stage financing has been discernible for quite a few years. In line with this, buy-out activity, which is also particularly pronounced in France, has become more important in Germany and increased to a level of about 36% (in terms of volume) in 2001.

While US venture capitalists report returns on investment,[42] to date no comparable data on the performance of the German VC market are available. There merely exist surveys on what venture capitalists expect to receive as return on their initial investment. According to Feinendegen, Hommel and Wright (2001) venture capitalists operating on the German market demanded an annual minimum rate of return ranging from 24.7% p.a. (buy-out specialists) to 32% p.a. (venture capitalists focusing on early-stage) in 2000. Comparing these numbers with those recently reported by Venture Economics (2002) for a sample of European VC funds, there is a considerable gap, at least for early-stage investments, between demand and reality. For 2001 Venture Economics reports an annualized pooled IRR for buy-out investments amounting to 18.5% and early-stage investments amounting to 9.2%.[43]

Summarizing the development of the German VC industry since 1965, we must emphasize the roles played by the government on the one hand and by banks on the other. The numerous government initiatives of the 1960s, 1970s and early 1980s were fruitful in the sense that, by putting the equity financing of small to medium-sized companies on the agenda, they started and actively supported a movement towards a noticeable VC industry. Moreover banks, which served as founders of most KBGs in the 1960s and 1970s by providing the major share of the investment

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[42] Bygrave, Hay, and Peeters (1999) provide a good overview on internal rates of return (IRR) in the UK and the US.

[43] The IRR of each fund of the analysed sample is measured from its interception to 31 Dec 01. Moreover, Venture Economics (2002) recently reported that the private equity industry in Europe showed a long-term 10-year return of 16.5%, a medium-term 5-year return of 20.4% and a short-term 1-year return of -2.3%.

funds, have formed the basis for VC investments in an institutional framework that has been, and seems to have remained, clearly distinct from that of the UK or the US.

4. Why Are There so Few IPOs and so Little VC in Germany?

Potential Reasons

The low number of IPOs and the fairly low volume of VC financing in Germany, in particular before the *Neuer Markt* boom, are striking when compared to the US or UK. The reasons are much debated.

Before we proceed with a discussion of the potential reasons, it is important to note that IPOs and VC financing are complements since IPOs are an important exit mechanism for VC financiers. Black and Gilson (1998) argue that a well-functioning stock market with an active IPO market is a prerequisite for an active VC market. In this case what needs to be analyzed can be reduced to the question why there are so few IPOs. But the reverse causality may also be relevant: It could well be that there are few IPOs because VC financing plays such a modest role. However, the lack of VC financing cannot explain why so few non-venture backed or established firms want to go public and seek a listing on the stock market.

The potential answers to the question posed in this section's headline are manifold; they range from differences in mentality to differences in the legal and institutional system.

Mentality. The limited use of stock markets and venture capital as a source of financing is often attributed to national peculiarities in mentality. The argument could be developed along the following lines: US-style venture capital is *not needed* in Germany because of a lack of entrepreneurial initiative, and it is *not provided* because entrepreneurs are not willing to give up control, investors are too risk averse and Germany lacks qualified entrepreneurs and venture capitalists. Similar arguments could hold for IPOs and the stock market: there may be a "lack of equity culture" because Germans are too risk averse and owners and managers fear a loss of control and higher disclosure requirements.[44]

[44] For extensive discussions along this line, see for example Gerke et al. (1995).

Differences in mentality may well play a role. But it is important to distinguish between differences in mentality as such and differences in behavior stemming from adaptations to the legal and institutional environment.[45]

Legal and Institutional Impediments. To the extent that private contracts cannot substitute for legal rules, the limited use of the stock market may be the result of insufficient legal rules (La Porta et al., 1997, 1998). Weak disclosure requirements, lack of transparency as well as missing or unenforceable minority protection and insider regulation may increase the costs of using the stock market due to information and incentive problems faced by outsiders.[46] Owners may view the costs of disclosure and transparency as an obstacle to listing their firm because they are not strict enough to overcome these problems. Germany has only recently adopted some stricter rules—similar to those in the UK and the US—in the course of EU harmonization. For example, the 2nd Financial Market Promotion Act of 1995 banned insider trading and introduced tighter disclosure rules.[47]

In addition, with eight stock exchanges under the supervision of the individual states and no central clearance and settlement system the German stock market was rather fragmented until the 1990s (Story and Walter, 1997, p. 176). All these features of the German stock exchange system reduced the advantage of a listing because they reduce liquidity and increase the costs of trading. Centralized coordination of trading activities only started with the foundation of the Deutsche Börse AG in January 1993.

The literature also puts forward the German Stock Corporation Act (*Aktiengesetz*) as an additional impediment to the wider use of the stock market. If firms want to list on the stock market, they have to become an *Aktiengesellschaft* (AG, public limited company). However, most firms, which are not listed, choose to conduct business as a *Gesellschaft mit beschränkter Haftung* (GmbH, limited liability company). It is argued that the legal requirements for an AG are

[45] For example, Becker and Hellmann (2002), argue that one of the key problems that the venture capital industry faced in Germany was the lack of high quality entrepreneurs. However, high quality people go to where the money is. It is exactly the prospect of earning huge profits through a successful IPO that motivates talented people in the US to start their own business, seeking venture financing. In addition, as argued in Becker and Hellmann (2002), in the 1970s and 1980s, public opinion towards entrepreneurs was rather hostile in Germany.

[46] Bhattacharya and Daouk (2002) find that the costs of equity are lower if insider-trading laws are enforced. Leuz and Verrecchia (2000) document a significant relationship between the choice of accounting standard (and therefore the level of disclosure) and a firm's cost of capital.

[47] See Leuz and Wüstemann (2003) on legal and accounting issues as well as recent regulatory developments.

too rigid and not suited to small corporations.[48] A case in point is, for example, codetermination and the dual board structure. But this argument cannot explain the low number of IPOs of large corporations. The *Mitbestimmungsgesetz* (Codetermination Law) of 1976 also applies to GmbHs with more than 2000 employees so that large GmbHs are also subject to codetermination and also have to implement a dual board structure.

To the extent that legal impediments reduce the use of the stock market as a source of financing and therefore also reduce the availability of venture capital, the question arises why this situation has not been changed earlier. One possible reason is that there was no need for change because alternative sources of financing (and investment) were available.

Alternative Sources of Financing. Arguably long-term close relationships between banks and firms reduce the agency costs of external debt financing and therefore increase the use of debt (bank) financing.[49] Savings banks may also have boosted the use of debt financing. In addition, the German pension system, which allows employees' pension assets to be retained on the companies' books as capital, and enables hidden reserves to be built up, reduces the need to approach the capital market. Hence, the optimal level of debt is higher and (external) equity is less important in Germany, which is also reflected in the stock market. However, this mainly holds true for established firms for which debt and internal funds are possible sources of financing. They are not real alternatives for risky start-ups seeking external financing.

The ease of retaining funds and the German pension system resulted in a situation whereby large amounts of financial resources were allocated inside the firm rather than in the financial market. Hence, it is conceivable that large corporations that carried out innovations internally crowded out, at least in part, the external financing of new ventures.[50]

Listings at foreign stock exchanges may be viewed as an alternative to a listing in Germany. This alternative emerged in the 1990s when several venture-backed companies chose this option (see footnote 57). It played no role before the 1990s.

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48 The number of AGs in contrast to GmbHs is small and steadily decreasing. Moreover, only about 1/5 to 1/6 of all AGs are listed, most others are subsidiaries rather than independent firms. (Kübler, 1999, p. 161.) With the introduction of the „*kleine AG*“ some of the legal requirements were reduced to make the AG more attractive for small firms. But the relaxations do not apply if a firm is listed.

49 See Elsas and Krahnen (1998) and (2003) for a discussion.

50 The German pension system may have another detrimental effect on stock markets. Strong pension funds as capital market participants may potentially be beneficial for other market participants as well.

The Role of Banks. It is certainly no exaggeration to say that the stock market in Germany was controlled by the large (universal) banks. They dominated the different committees and bodies of the exchange, including the committee that has to approve all listing decisions.[51] In addition, the *Börsenzulassungsverordnung* (German Stock Exchange Listing Act) required that the request for listing at the *Amtlicher Handel* had to be made by a bank in its function as underwriter. Moreover, banks de facto controlled the distribution channel through which stocks were sold and advised firms on their financing decision. Clearly banks had a dominant position in the IPO market. It is therefore interesting to note that the *Wissenschaftlicher Beirat des Bundesministeriums für Wirtschaft* (Advisory Council to the Federal Ministry of Economics) and the *Monopolkommission* (monopolies commission) argue that the reluctance of banks to list companies was a major reason for the small number of IPOs that we observed in Germany.

The firms that went public in Germany were much older and larger than demanded by the listing requirements. Observers conclude that banks tended to set very restrictive standards for meeting the requirements for a listing, which exceeded the formal listing requirements and in general could not be met by young companies.[52] The question, of course, is why was this the case. Some observers argue that the restrictive listing requirements were an outgrowth of (excessive) investor protection. This may sound surprising from today's perspective as today we make the lack of investor protection responsible for the low use of stock markets. At that time, however, investor protection seems to have implied investor protection against business risk rather than against the risk of fraud and misinformation.

Another possible reason why banks were reluctant to promote IPOs is that this line of business conflicted with the savings and loan business, which was certainly by far the most important line of business for German universal banks. To the extent that issuing equity and taking on loans are substitutes, the opportunity costs of an engagement in the issue business are higher for a universal bank than for an investment bank.[53] This is true in particular when the medium to long-run effects of equity are considered: firms that are financed for the most part by equity gain financial independence from banks through profit retention. Banks made this

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[51] For a more extensive discussion see Monopolkommission (1998), pp. 99-101.

[52] Schürmann (1980), Büschgen (1996), Wissenschaftlicher Beirat (1997) and Monopolkommission (1998).

[53] The concern that this is an important reason for the banks' limited engagement in the issue business is, for example, expressed by Deutsche Bundesbank (1984, p. 16), Schürmann and Körfgen (1987), Weichert (1987), Baums (1997, p. 1944), and Monopolkommission (1998, p. 60 and p. 101).

experience in Nazi Germany when, according to Hardach (1995), the banks lost much of their corporate business and were forced into a passive role because of the "financial autarky" of industry resulting from retained profits, which in turn resulted from lucrative government contracts, low wages, and a limit on dividends.

Moreover, it is likely that there was a conflict of interest within banks between the two lines of businesses. An increased importance of the issuing business would have reduced the profits of the credit business as well as the value of the human capital of those who were active in the credit business. Those who were active in the credit business were therefore likely to oppose an increased involvement in the issuing business. But at the same time they were the main advisers to firms seeking financing.

Hence, mere profitability considerations as well as internal politicking may also have played a role when large universal banks did not oppose the myth that in order to protect investors, only the stocks of safe firms should be issued.

It is important to note in this context that the German Banking Act tightly regulates the entry of investment banks and was relaxed only recently. In addition, the *Börsenzulassungsgesetz* (German Stock Exchange Listing Act) as well as the dominance of banks in the committees of the stock exchange and the distribution of stocks made entry in the market rather difficult.[54] Until quite recently there were therefore hardly any independent investment banks in Germany that could have assumed the position as promoters of an active IPO and VC market.

It is interesting to take a closer look at the early 1980s when a small Munich-based asset management firm, Portfolio Management (PM), initiated several IPOs at the *Freiverkehr*, where at that time a listing was possible without having a bank as an underwriter. Of the 14 IPOs in the years 1981 to 1983, 8 were led by PM (with an average volume of €4 million) and 5 by Deutsche Bank (with an average volume of €25 million). Even though most of the firms that were brought to the market by PM failed relatively soon, the activities of PM seem to have influenced the development of IPO activities in Germany. For example Schürmann and Körfgen (1987) argue that PM undermined the mythology of "conventional wisdom" about the required age and size of companies that would be eligible for an IPO and also helped to overcome banks' opposition

[54] See, for example, Giersch and Schmidt (1986) and Gerke (1988).

against non-voting preferred stocks.[55] IPOs that were led by PM were characterized by a commitment of initial owners to hold a minimum fraction of the firm's stock (typically 50%) for at least 5 years. PM was also innovative in increasing the fee volume by being the first to choose the IPO price rather than the face value of the stock as the basis for commission (leaving, of course, the percentage unchanged or even slightly increasing it).[56]

Banks reacted to PM's activities by making it more difficult to enter the market, justifying this with the failure of firms that were brought to the market by PM. While it was always required to have a bank as an underwriter to be accepted for the *Amtlicher Handel*, it then also became necessary de facto for the *Geregelter Markt* and the *Freiverkehr* (Deutsche Bundesbank, 1997, p. 35).

Nevertheless, starting in 1983 an increase in the number of IPOs in Germany can be observed. Initially the number of banks that were involved in the issuing business was quite low (Gerke, 1988, pp. 224-225). In 1986 there were 4,500 financial institutions in Germany, about 240 of which were members of the exchange. In 29 out of the 51 IPOs that were carried out by banks (not PM) between 1975 and 1985, Deutsche Bank was the lead underwriter (Giersch and Schmidt, 1986, pp. 71 & 74). This picture slowly changed. While between 1990 and 1996 it was still the case that in 73% of the IPOs the lead underwriter was one of five banks (Deutsche Bank, Dresdner Bank, Commerzbank, BHF-Bank, DG Bank), this fraction fell to only 41% between 1997 and 2000 (DG Bank, Deutsche Bank, Commerzbank, Dresdner Bank, West LB).

The banks' attitude towards IPOs was probably also influenced by the changing environment for banks. One major result of the process of liberalization, deregulation and the emergence of new technologies has been a considerable intensification of competition in the financial sector. As a result the margins in the savings and loans business decreased, the legal entry barriers for investment banks were reduced, and listings abroad became a viable alternative

[55] Until four of five firms whose IPO was led by PM in the beginning of the 1980s used non-voting preferred stock, there was strong resistance by German banks to this form of financing (Schürmann and Körfgen, 1987, p. 28). In the following years non-voting preferred stock was used in 41% of the IPOs. Among them Porsche, Nixdorf, Henkel, VDO, and Massa.

[56] Large universal banks followed this practice and, interestingly, the myth disappeared that the IPO price of stocks with a face value of DM 50 (€25) must not exceed DM 200 (€100).

for German firms.[57] As a consequence, banks started to expand the fee-based business with securities, insurance, investment funds in general and in investment banking for large banks in particular.[58] Interestingly, a similar development could be observed in the US in the 1920s when the commercial banks, concerned about "disintermediation" due to the loss of some of their traditional lending business to the public market, expanded their investment banking activities (White, 1984, and Kroszner and Rajan, 1994).

Banks' incentives are important because they play a major role as an intermediary in the equity market: they advise firms as well as investors and organize the institutional framework. Nevertheless, several other factors certainly also influenced the increase in IPO activities in Germany after 1980. We shall only mention the most important ones here: a new tax regulation which permitted the deduction of IPO expenses as business expenses in 1983; the introduction of the *Geregelter Markt* with its more transparent pricing process in 1987; increasing stock prices at the beginning of the 1980s; the successful IPO of Deutsche Telekom with an unprecedented marketing campaign; increasing stock prices in the 1990s; the introduction of the *Neuer Markt* with its new listing requirements and improved transparency aimed to attract firms for which there was general hype based on new technologies and business opportunities.

Discussion

The preceding subsection discussed potential reasons for why there were so few IPOs in Germany. One may ask which is the most important reason. However, discriminating between different factors is difficult. In fact, they are mutually reinforcing and complement each other. As an example, take the last argument about banks' interests. It may be asked whether the banks really had sufficient power to pursue their interests in such a potentially important and far reaching issue, and why was there no opposition? It seems that the interest of banks could only have an effect because legal impediments reduced participants' interest in the stock market, established firms had alternative sources of financing, legal rules restricted entry into investment banking, and incumbents benefited from reduced competition and did not strive for change.

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[57] In 1995 and 1996 more than 90% of the VC-backed IPOs took place at a foreign stock exchange (the absolute number is 28). The percentage decreased to about 20% after the introduction of the *Neuer Markt*, 1997-2002 (BVK Statistik 2001 and 2002).

[58] See, e.g., Deutsche Bundesbank (1998), p. 43.

Interests of Incumbents. There are several reasons why the legal and institutional impediments for a stronger stock market (with more IPOs and venture capital financing) were not overcome—irrespective of whether this would have been optimal or not. First, there may have been ideological reasons. German politicians are quite proud of the "soziale Marktwirtschaft" (social market economy) and may be reluctant to implement changes that are considered to be socially unjust (e.g., giving up codetermination, admitting hostile takeovers, giving external financiers more rights). Second, politicians may have benefited from not changing the system: extracting rents from state-owned corporations or private firms (such as lucrative jobs for politicians and support for political projects) is easier if there is less competition (profits are higher and it is easier to deal with a few large private firms) and if the rights of minority shareholders are weak. Third, politicians, with a view to their re-election chances may try to avoid negative publicity from pressure groups. In addition, there are several ways in which incumbents may have benefited from a system where (i) it is difficult for new firms to receive financing for risky projects, (ii) transparency and disclosure are low and (iii) cross holdings make hostile takeovers difficult. (See Rajan and Zingales, 2001.) All three effects reduce competition and external pressure for structural change: Unions, acting in the interest of members (i.e., employees), benefit by extracting higher wages as well as social benefits and protecting the jobs of current employees; managers and owners of existing firms may benefit from being able to extract higher private benefits of control. Of course, interests of the different incumbents are not always aligned. Nevertheless, they may form coalitions against those who would benefit from changing the system, e.g., outside shareholders, entrepreneurs seeking funding or the unemployed. For example, managers and controlling shareholders may prefer less influence by the unions, but both are natural allies against external investors and the potential threat of a takeover (Hellwig, 2000). Pagano and Volpin (2000) developed a model in which controlling shareholders want low investor protection to extract larger benefits of control and to gain political support from workers by granting them more job security. If social benefits and job security are important, workers' benefits are tightly linked to the well-being of the firm. Perotti and von Thadden (2002) argue that workers and creditors prefer less risk and form coalitions to support bank over equity financing and benefit from low transparency.

A thorough discussion of the interests of the different groups and their influence on the political decision making process in Germany is beyond the scope of this paper. The idea that

legal impediments in Germany may be the result of coalitions of interest groups is expressed most clearly in Wenger (1996). He argues that politicians insulate managers of large corporations from capital market pressure in exchange for corporate contributions to satisfy certain voting groups and provides examples of the expropriation of minority shareholders by coalitions of politicians, judges, and managers. Less pronounced are the following examples, which highlight some specific problems. For example, winning acceptance for Frankfurt as the location for the German Stock Exchange prior to opening the Deutsche Börse AG in Frankfurt in 1993 "required two years of negotiation with the state supervisors, brokers and governments as well as strong support from the Finance Ministry and Chancellor Kohl" (Story and Walter, 1997, p. 181). While Frankfurt banks supported a strong central stock exchange in Frankfurt, they certainly did not favor all changes that would have strengthened the use of the stock market as a source of financing. According to Story and Walter "banks feared handing power to a federal authority—such as the United States SEC—and were reluctant to strengthen in-house rules against insider trading" (p. 182) and therefore opposed the EU insider-trading directive. Another example are the government's attempts to increase the amount of risk capital available for small firms. Becker and Hellmann (2002) trace the failure of the *Deutsche Wagnisfinanzierungsgesellschaft*, an early German venture capital firm, back to "inappropriate contracting and governance structures". They argue that one problem was misguided financing criteria that "suited those banks that feared competition … in their core business" (p. 23). But another important aspect was certainly that the government's programs were biased towards entrepreneurs, as discussed in section 3. The unwillingness to give more rights to financiers shows that the fear of outside intervention by investors was a widespread phenomenon in Germany. It was shared by politicians, press, and workers and was not only the concern of families and entrepreneurs. Indeed, when the management of a stock corporation is required by law to act in the "common/public welfare of the nation", it is only consistent to restrict outside investors' ability to interfere.[59] Another example is the 2nd Financial Market Promotion Act, which transferred a EU directive into German law and was viewed by politicians as an important step towards a more active stock market. However, as Story and Walter (1997) argue, the law had a number of important

[59] The public welfare clause ("*Gemeinwohlklausel*") was introduced in § 70 of the *Aktiengesetz* (stock corporation act) of 1937. It was not included in the revision of 1965 but only because—as reasoned in the government draft—it goes without saying. (For details see Schmidt and Spindler, 1997.)

deficiencies and “political support for an open market in corporate assets was minimal” (p. 183). Story and Walter conclude: “The firm intention of German political, business or labour leaders was to ensure that capitalism in Germany would remain a national brand of its European variant” (p. 185). The examples above illustrate the strong role of path dependence for the development of a financial system as emphasized by Bebchuk and Roe (1999).

Reconsidering Mentality. While it is conceivable that German investors may be more risk averse than those in other countries because they incurred huge losses as a consequence of the Second World War, it may also be the case that (small) investors did not fear business risk per se but rather information and incentive problems, which may be larger in Germany than in the US or the UK. Moreover, the German economic miracle and the strength of the German middle class (*Mittelstand*), which runs the vast majority of firms on the basis of sole proprietorship, would hardly have been possible without entrepreneurial initiative. However, as Fiedler and Hellmann (2001) argue, this type of entrepreneurial spirit was quite different from the one needed for venture capital financing: “The concept of sharing equity with outsiders was foreign to these entrepreneurs. They viewed their family business with pride and put great emphasis on retaining control.” (p. 34) This view is confirmed by Ehrhardt and Nowak (2001) who find that reputation benefits that families derive from controlling a business in a small town is an important source of private benefits of control, which are not transferable. Families protect these benefits in an IPO by retaining a large equity block and issuing dual class shares. This and the large fraction of sole proprietorships suggests that owners may indeed fear a loss of control. If it is not believed that German entrepreneurs value control more than entrepreneurs in the US or in the UK, then differences must be sought in the legal and institutional setting. For example, Burkart, Panunzi and Shleifer (2003) present a model that predicts that the founder’s family will retain control through concentrated ownership and may continue to manage the firm if legal protection of minority shareholders is low, which is the case in Germany.[60] As a consequence, the benefits of issuing shares, in particular seeking diversification, are lower. This effect is reinforced by the presence of alternative sources of financing. Also, the argument that one of the potential reasons

[60] Another reason my be that German owners are particularly sensitive to a further loss of control because their rights are already restricted by codetermination and the strong position of German trade unions (Gerke, 1998, p. 617).

for the initial success of the *Neuer Markt* was stricter disclosure rules (Johnson, 1999, Kukies, 2000, Bottazzi and Da Rin, 2002) at least challenges the perception that disclosure requirements deterred owners in Germany.

5. Conclusion

The evidence of the low number of IPOs is particularly surprising in light of the active stock market that Germany witnessed before the two world wars (see footnote 1). Moreover, universal banks in Germany were very active in securities underwriting at that time.[61] Understanding the reasons for this difference is important. Rajan and Zingales (2001) argue that the level of openness of markets (cross-border trade and capital flows) influences "interest groups" incentives to oppose the development of the financial sector. Their empirical evidence supports this argument and, indeed, after reunification German became a net importer of capital and there was a dramatic increase in capital flows (Leuz and Wüstemann (2003)). This suggests that the phenomenon of the *Neuer Markt* may not only be an episode but is the result of an increased openness of the market as measured by the level of cross-border trade and capital flows, which reduces the incumbent's benefits from resistance.

The argument that the low number of IPOs and venture capital financing in Germany might be the result of incumbents protecting their interests may lead to the conclusion that it hindered economic development in Germany. This conclusion may, however, be too hasty. Wurgler (2000) provides evidence that the German financial system did not prevent an efficient allocation of capital in the years 1964-92. Covering 65 countries and 28 industries, he finds Germany to have the highest elasticity of industry investment to value added, with UK and US ranked 10th and 13th respectively. Indeed there were times when the Anglo-American world looked jealously at the German house bank system as a system that allows for long-term investments and interpreted it as a source of stability. The low number of IPOs and the lack of competition from outsiders (in particular independent investment banks and new firms) may have protected this system and made it possible to value implicit contracts.[62] In other words, the "backwardness" of the stock market may have been an integral part of the German financial system, which was advantageous

[61] See Fohlin (1999, 2000b) on universal banks in pre-WWI Germany.

[62] For example, Petersen and Rajan (1995) provide evidence that strong credit market competition is detrimental to lending relationships and may tighten the capital constraint of small businesses.

in times of relative stability. However, a system that preserves implicit contracts, may hamper structural change in times of technological change (Hellwig, 2000, 2001).

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