IPO Performance of German and Spanish Family-Owned Companies 1990-2000

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Summary

This paper examines the long-run stock market performance of German and Spanish Initial Public Offerings (IPOs) between 1990 and 2000. We distinguish between family and non-family-owned business IPOs by using the power subscale of the F-PEC. Buy-And-Hold-Abnormal-Returns (BHAR) are calculated in order to determine abnormal returns. Our results show that three years after going public investors realized on average an abnormal return of -32.8% for German and –36.7% for Spanish IPOs. In both countries non-family business IPOs perform insignificantly better. Regression analyses show that for the whole sample there is a positive company size effect. In family-owned businesses strong family involvement has a positive impact on the long-run stock market performance, while the age of the firm has a negative influence.

Key Words: Family Businesses, IPO, Long-Run Performance, Event Study, Ownership, F-PEC

JEL Classifications: G14, G32, G34.

1. Introduction and Motivation

The aim of this paper is to analyze the long-run performance of German and Spanish Initial Public Offerings (IPOs) during the period from 1990 until 2000, differentiating the analysis by family and non-family businesses.

Family businesses, which are characterized in this paper by family ownership above 25% as well as family control and management participation, are the main form of private enterprises in every developed market economy. In Germany, according to Klein (2000), family businesses account for about 60% of all companies, generate about 55% of GDP and are responsible for 58% of private employment. In Spain the importance of family businesses is even stronger. They contribute about 60%-65% to GDP, represent more than 1.5 million firms and offer more than 80% of private employment (Soria, 2002, p. 29).

Taking into account the importance of family businesses it is somewhat surprising that related business literature in Europe is scarce. Our study will analyze and explain the evaluation of family businesses by the capital market during the first three years following an IPO. In particular it is the external market performance, measured by the change of daily equity prices, which reflects future company cash flow expectations.

Regarding the IPO performance we want to add further knowledge to the limited literature in relation to family-owned businesses and analyze possible differences to non-family businesses in this context. One of these differences refers to unsolved succession problems, which are the main reason for the low survival rate of family business. In Germany and Spain less than 15% of family-owned businesses reach the third generation. In this context, an IPO offers family-owned companies a possibility to solve succession problems, diversify wealth and finance future company growth (Mazzola and Marchisio, 2003). These and other related arguments for an IPO of family-owned business will be more carefully explained in chapter two.

Family business IPOs are however also interesting from an investor's point of view as significant performance differences between family and non-family business IPOs might be a source to develop active trading strategies. In this context we find a possible paradox in the conducted studies so far. On the one hand, existing family business IPO performance studies report a significant underperformance of family businesses when compared to other non-family business IPOs or market benchmarks (see Aussenegg, 1997; Ehrhardt and Nowak, 2003). On the other hand, long-run performance analyses of already quoted companies indicate a better performance for family than for non-family businesses (e.g. Andersen and

Reeb, 2003; Villalonga and Amit, 2004). We do not consider family businesses as one group. We suppose that different family and business variables influence the performance of family-owned businesses significantly. In particular, we will contribute to the literature and found paradox in differentiating the strength of family influence on a company via the F-PEC and measuring how it affects the performance of businesses.

The main reason for analyzing the period from 1990-2000 are strong IPO activities as well as the economic and political harmonization due to the development of the European Union.[1] In this sense, Van der Elst (2000) observed that capital market growth in the nineties in Europe was mainly driven by IPO activities in Germany, France and Spain. These countries are also among the ones with the highest stock market capitalization in the year 2000. Regarding liquidity, the German and Spanish capital markets rank third and fourth by trading volume after the London Stock Exchange and Euronext (France).[2] Because of data availability and data quality we determine to analyze family IPOs for Germany and Spain.

As institutional settings are comparable in these countries (see La Porta et al., 1997), and we employ the same definition as well as methodology, we expect to find similar results of possible abnormal underperformance for family-owned businesses.

The paper is structured as follows: In the next section we summarize existing IPO studies, and derive hypothesis from the literature. Section three is devoted to the data samples and methodology. In section four and five our findings and related interpretations are illustrated. In the last section the main results are summarized and an outlook is provided.

2. Related Literature, Reasons and Theories for Family Business IPOs

In this chapter we will present the general literature related to the topic of IPO performance and especially the few existing studies that aim at family-owned businesses. In this context, we will also use (cautiously) evidence from other nations than Germany or Spain to develop our hypotheses.

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[1] The integration of the European Union has led to the creation of a single economic market in 1992 and to the introduction of the Euro as common currency in 1999 for twelve countries. Continental European Union members are all representatives of bank-oriented financial systems (Allen and Gale, 1999). Financial systems are comparable and mainly characterized by relatively unimportant capital markets, a concentrated banking sector and external governance being provided by banks which own substantial stakes in listed companies.

[2] The UK is however not chosen as a country for the analysis as it stands for another Corporate Governance System with other fundamental variables than countries from continental Europe (see Allen/ Gale, 2000).

There are different models and explanations for why family businesses go public. Besides typical Strategic Reasons, to change a company's position in its relationship network, Ritter (1984; 1991) proposes the "Hot Issue Markets" explanation. This theory reflects an Opportunistic Reason for going public, as the business tries to take advantage of bullish stock markets. In this sense, strong IPO activities are observed when markets have had bullish tendencies for some time and consequently investors are optimistic when paying higher share prices. Marchisio and Ravasi (2000) and Langemann (2000) consider, apart from Strategic and Opportunistic, also Financial as well as Institutional Reasons. The latter are related to *management succession* and the *professionalization of management* since IPOs offer flexibility for the family regarding these aspects. Financial reasons are related to getting stronger bargaining power, more financing alternatives and opportunities for employee participation. In addition companies going-public obtain equity for further growth and/or the opportunity to lower their debt-equity ratio.

From an owners's point of view the analysis of reasons for/ against an IPO is conducted to derive possible signals for investors which might help them to the overcome asymmetric information (Leland/ Pyle, 1977). When investors get to know more about an IPO they can consequently value IPOS more properly.

After going public the financial literature has documented two performance phenomena which are important for ancient owners as well as new investors: 1) In the short-run the "Underpricing" can be observed, as high initial returns at the first trading day take place (Ibbotson, 1975; Ritter, 1984; Kuklinski, 2003, provides an overview of studies), while 2) In the long-run (usually 3 or 5 year periods) IPOs underperform the market ("long-run underperformance") (Ritter, 1991 and see table 1).

Table 1 summarizes some of the related long-run IPO performance literature for European countries (literature for the US is provided in appendix 2). In addition to the specific results, the sample size, the sample period and the observation period are quoted to allow more detailed comparisons.[3]

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[3] Barber and Lyon (1997) show that methodological differences influence and bias significantly the abnormal return calculation. As a consequence the comparability of illustrated studies is limited. We expect the explanatory power of older studies to be lower because of lower methodological sophistication.

Table 1: IPO Studies Regarding Europe

Country	Author	Sample Period	Sample Size	Months	Abnormal Return (%)
Austria	Aussenegg (1997)	1984-1996	51	60	-74%
Denmark	Jakobsen/ Sorensen (2001)	1984-1992	76	60	-30.4%
Finland	Keloharju (1993)	1984-1989	79	36	-21.1%
France	Leleux/ Muzyka (1997)	1987-1991	56	36	-30.3%
France	Derrien/ Womack (2003)	1992-1998	264	24	-6.3%
Germany	Schlag/ Wodrich (2000)	1884-1914	163	60	-7.8%
Germany	Schmidt et al. (1988)	1984-1985	32	12	-10.2%
Germany	Uhlir (1989)	1977-1986	70	15	-11.9%
Germany	Wittleder (1989)	1961-1987	67	12	-4%
Germany	Ehrhardt (1997)	1960-1990	160	36	-5.2%
Germany	Hannson/ Ljungqvist (1992)	1978-1991	162	20	-1.9%
Germany	Ljungqvist (1997)	1970-1993	145	36	-12.1%
Italy	Giudici and Paleari (1999)	1985-1995	84	36	-2.6%
Poland	Aussenegg (1999)	1991-1996	57	36	20.1%
Portugal	Almeida/ Duque (2000)	1992-1998	21	12	-13.8%
Spain	Alvarez and González (2004)	1987-1997	37	36	-27.8%
Sweden	Loughran et al. (1994)	1980-1990	162	36	1.2%
Switzerland	Kunz/ Aggarwal (1994)	1983-1989	34	36	-6.1%
Switzerland	Drobetz/ Kammermann (2002)	1983-2000	120	14	-6.8%
Turkey	Kiymaz (1998)	1990-1995	138	36	44.1%
United Kingdom	Levis (1993)	1980-1988	712	36	-8.1%
United Kingdom	Leleux/ Muzyka (1997)	1987-1991	220	36	-19.2%
United Kingdom	Espenlaub/ Gregory/ Tonks (2000)	1985-1992	588	60	-21.3%
United Kingdom	Brown (1999)	1990-1995	232	36	-20.1%
United Kingdom	Kurshed/ Mudambi/ Goergen (1999)	1991-1995	240	36	-17.8%

Source: Adopted from Jenkinson and Ljungqvist (2001); Kulklinski (2003); Own Illustration.

The illustrated studies show that for different samples, time and observation periods in developed countries, IPOs mainly show a significant underperformance relative to chosen benchmarks. However, different approaches can still impact the observed performance significantly. With respect to the countries of this analysis there are studies for Germany but for Spain the literature is uncommon. The authors are only aware of one study analyzing the IPO long-run performance in Spain (Alvarez and González, 2005).

In general the IPO literature quotes the following theories for the explanation of observed long-run underperformance, which we will also test for family-owned businesses:

1. The Existence of a "Window of Opportunity" (Hot Issue Markets).

This approach establishes that companies take advantage of bullish time periods when IPOs are more highly valued by the markets. Companies know that investors are overoptimistic about the potential earnings of firms which go public. As this behavior results in strong stock demand, a lot of "poor performing" or immature companies take advantage of the situation and sell their shares by means of an IPO. Companies carrying out an IPO in hot issue markets, often underperform other IPOs significantly in subsequent years. In particular this occurs in the case of young growth firms (Ritter, 1991).

H1: The long-run IPO underperformance for a company is stronger after years with

strong IPO activities

2. The Market Overreaction

This explanation highlights that long-run underperformance is the correction to the typical initial IPO "Underpricing". It can be observed especially for low-capitalization stocks, in the case of documented high adjusted initial returns (De Bondt and Thaler, 1987; Ritter, 1991).

H2: The long-run IPO underperformance is stronger for lower capitalization IPOS.

3. The Small Firm Effect

Brav (1997) and Brav et al. (2000) find out that observed abnormal returns in IPO studies can be mainly explained by the underperformance of smaller stocks which are characterized by low market values and/or low book/market ratios in relation to already listed companies. With regard to family businesses this might be important as family business IPOs are on average smaller than non-family IPOs. This might explain possible higher long-run underperformance of family businesses.

H3: The long-run IPO underperformance is stronger for smaller firms.

Even though numerous studies have analyzed the IPO performance in the US and Europe, the literature focusing on family-owned company IPOs is relatively scarce. Comparisons of different countries in relation to family business IPOs are almost absent. Studies conducted in Europe are listed in Table 2. In these studies the authors differentiate family and non-family-owned companies in order to compare the performance of each group in relation to a market

benchmark or to compare the groups within each other. There is so far no study covering the Spanish market.

Table 2: Family Business IPO Studies

Country	Author	Sample Period	Sample Size	Months	Abnormal Return (%)
Austria	Aussenegg (1997)	1984-1996	31	60	-118.6%
Germany	Ehrhardt/ Nowak (2003)	1970-1991	105	36	-8.1%
Germany	Lowinski/ Schiereck (2003)	1991-1998	64	36	-59.2%
Germany	Kuklinski/ Lowinski/ Schiereck/ Jaskiewicz (2003)	1977-1998	146	60	-43.4%
Italy	Mazzola/ Marchisio (2003)	1995-2000	37	36	-31.7%

Source: Adopted from Kulklinski (2003); Own Illustration.

With regard to family business IPO studies the comparability of different studies is lower than for common IPO studies because of different family business definitions employed. The low comparability and non-existent international studies support our goal to compare the family business IPO performance of Germany and Spain, applying the same methodology.

The studies illustrated in Table 2 show that family business IPOs significantly underperform the market as well as other IPOs. Aussenegg (1997) for example shows for 31 family-owned companies listed in Austria between 1984 and 1996 a significant underperformance of -118.60% in relation to the market 60 months after going public. This result is significantly worse than the results of 20 non-family IPOs (BHAR of -4.75%).

In addition to the theories of a) *Hot Issue Markets, b) The Market Overreaction and c) The Small Firm Effect,* there are also other theories proposed especially for the explanation of performance differences in family business studies. We group them into the following two:

4 Blockholder Control

Starting with Berle and Means (1932) there is a wide field of literature with respect to the relation between company control and company performance. On the one hand, higher ownership concentration in the hands of board and management members implies according to the interest-convergence-theory (Jensen and Meckling, 1976) a better alignment of interest and thus less agency costs. On the other hand, higher insider ownership concentration increases the danger/risk of management entrenchment (Morck, Shleifer and Vishny, 1988). If managers are entrenched it is hard to control their actions and to sanction their opportunistic behaviour because they have substantial power in form of ownership and management

presence. Morck, Shleifer and Vishny (1988) demonstrate that for voting right stakes higher than 25% managers are entrenched. The company value increases for management voting rights stakes up to 5% as well as for values higher than 25%. Between 5% and 25 % the company value falls. Morck, Shleifer and Vishny (1988) argue that the negative effect of increasing entrenchment danger is more highly valued than the positive effects due to the convergence of interests.[4]

Based on Stulz (1988) and Morck, Shleifer and Vishny (1988) entrenchment argument, Ehrhardt and Nowak (2003) are the first ones to report significant differences in family business long-run IPO performance due to distinct family ownership stakes for German firms. They show that family-owned companies with voting rights between 25% and 50% show an outperformance of 24%, while the abnormal performance becomes lower for higher ownership values.

Mazzola and Marchisio (2003) find a significant underperformance of –31.74% for 26 Italian family business IPOs when compared to a market index over the first 36 months of trading. However, non-family business IPOs underperform the market by only -10.57% The difference between the performances of family and non-family IPOs is due to significantly lower M&A activities in the group of family-owned companies. As the market for corporate control is regarded as a major mechanism to discipline inefficient managers (see e.g. Stulz, 1988; Morck, Shleifer and Vishny, 1988) high ownership concentration in the hands of family-owned businesses prevents the possibility of a hostile take-over and thus supports family entrenchment.

In accordance with the literature we will determine if the interest-alignment or entrenchment effect dominates in family business IPOs. However, in contrast to the literature we will not only apply the ownership variable but also the F-PEC to measure control. The F-PEC incorporates family ownership and family presence in the management board as well as in the board of directors (see chapter 3 for a definition). According to this (scarce) literature we derive the following hypothesis:

H4a: The long-run IPO underperformance is lower for companies with weak family

control due to the interest-alignment theory.

H4b: The long-run IPO underperformance is stronger for companies with strong family

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[4] Goergen (1999) provides an overview of existing studies which analyze company ownership and performance and discusses the question of causality with regard to firm ownership and performance.

control than for companies with low family control due to the entrenchment theory.

5. Business Age

Family-owned businesses conduct their IPO in a later life cycle stage than other businesses: Succession problems and/ or family conflicts are a main reason for them to go public (Ward, 2001; Maug, 2001). Business age thus represents an important control variable in family business performance studies (Anderson and Reeb, 2003). If no age variable is applied family-owned businesses are often classified according to the current family generation that manages the business (Villalonga and Amit, 2004; Jayaraman et al., 2000) in order to determine performance differences in between family-owned businesses. In recent years the comparison of first- and mult-generational family-owned businesses has also shown significant differences in business characteristics and company goals (McConaughy et al., 1998; Mishra, Randoy and Jenssen, 2001; Westhead/ Howorth and Cowling, 2002).

We expect to find a negative performance impact due to the business age for family businesses, because succession problems and family conflicts might be more severe.

H5: The long-run IPO underperformance is stronger for old family businesses

3. Data Sample and Methodology

The proposed hypothesis about family business long-run IPO performance will be tested with a data set comprising all German and Spanish IPOs between 1990 and 2001. Starting from the total number of IPOs in that period, we exclude from our database financial companies, firms quoted in "New Market" segments, firms issuing preferred shares, foreign stocks and firms with incomplete data, as will be explained next.

In the time period between 1-1-1990 and 1-1-2001, 493 domestic IPOs took place on the primary market in Germany and 61 at the Spanish Stock Exchange. 160 German companies did not belong to the financial (banking and insurance) sector[5] and issued common shares in the continuous market segments "Amtlicher Handel" or "Geregelter Markt". In the Spanish sample 43 companies fulfilled our criteria. In relation to the "Neuer Markt" segment (more

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[5] Accounting for bank and insurance companies is subject to distinct regulations. In addition, balance sheets of these companies are characterized by a high proportion of financial transactions. These differences result in different valuations of financial companies which are reflected in their stock prices.

than 350 companies) there was no comparable market segment of this size in Spain given that The "Nuevo Mercado", created in April 2000, included just 10. Consequently, we excluded quotations in these market segments in both countries. In addition, we also excluded foreign stock market listings referring to companies that were already listed earlier in another country before going public in Spain (or Germany). The stock price of these companies might be strongly influenced by the stock price of their listing in another country. An overview of how we generated our data sample is provided in Table 3.

Table 3: IPO Data Sample and Exclusions

	Germany	Spain
Total IPOs Regulated Markets	**493**	**61**
New Market Segment	283	4
Financial Services Sector Stocks	22	10
Preferred Shares	28	0
Foreign Stock Market Listing	0	3
Incomplete Data	7	1
IPOs Data Sample	**153**	**43**

Remaining IPOs were then classified as family or non-family businesses. In order to integrate all family influence in our definition we decided to use the data regarding family ownership as well as management board and supervisory board participation. A family stake of at least 25% of voting shares, directly or indirectly held in a company by a shareholder or shareholders with the same surname[6], was necessary to get to the group of "possible family-owned businesses". The only exception we make refers to companies that are characterized by family ownership between 20% and 25% with family management board participation of 100% (we identified three cases for Spain). We decided to include these companies since family influence is still dominant, even though ownership levels are moderate (but almost 25%). Table 4 illustrates the ownership structure of our sample.

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[6] In Spain people have two surnames. The first one is the first name of the father, and the second one, is the first name of the mother, so family relationships between shareholders are more evident than in Germany.

Table 4: Family Ownership Structure after IPO

	Germany	Spain
Ownership (OWN)		
Mean	64%	44%
Median	64%	44%
Stddev	15%	17%
≤ 25%	58 (38%)	25 (58%)
26% - 50%	14 (9%)	8 (19%)
51% - 75%	57 (37%)	9 (21%)
>75%	24 (16%)	1 (2%)
Total	**153 (100%)**	**43 (100%)**

The analysis of ownership distribution after the IPO, shows that families maintain more than 25% of company ownership in 42% of all quotations in Spain compared to 62% in Germany. The higher percentage of concentrated family ownership in Germany is also reflected by a higher mean and median of ownership in relation to Spanish family businesses. These results may be explained by different share classes issued. In Germany many family businesses issue common as well as preferential non-voting shares without voting rights and thus maintain relatively more voting rights in comparison to Spanish IPOs, where only common shares are issued.

In a second step we take companies, where we identified significant family ownership and check the participation of the shareholders' names in the management and supervisory board. The values for family ownership and participation are then added according to the formula introduced by Klein (2000) in order to determine if a company is a family business (FB) or not.[7]

$$FB \cong \left(\frac{EQ_{Fam}}{EQ_{Total}} \right) + \left(\frac{BoD_{Fam}}{BoD_{Total}} \right) + \left(\frac{SB_{Fam}}{SB_{Total}} \right) \geq 1 \qquad (1)$$

The first addend denotes the equity stake of the family (EQ $_{Fam}$) in relation to the total company equity (EQ $_{Total}$). The second addend describes the proportion of family members (BoD $_{Fam}$) to the overall number of members in the board of directors (BoD $_{Total}$). Finally, the third addend refers to the supervisory board and calculates the number of family members (SB $_{Fam}$) in comparison to the total number of members (SB $_{Total}$) in this committee.

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[7] Occasionally, if data at the point of the IPO was not completely available, we used more recent ownership and management structure data.

This approach represents the power subscale of the F-PEC introduced by Astrachan, Klein and Smyrnios (2002) for the definition of family-owned businesses. The main advantage of this approach is the use of a continuous scale with its three subscales: power, experience and culture. These subscales manage to integrate most of the existing variables used for the definition of family-owned businesses in the literature. Consequently, the F-PEC can be regarded as the "definition map" or "tool kit" for the so often cited family business definition problem (Handler, 1989). By using the power subscale of the F-PEC we offer a transparent approach, allowing results to be compared with other empirical studies.

In a next step we cluster the equation results for our data sample to better differentiate within the data sample. Companies with an equation result for the power subscale of the F-PEC of less than 0.5 are excluded as they can not be classified as family-owned businesses. Between values of 0.5 and 1 we consider companies as "weak family-owned businesses". According to Klein (2000) we define companies as normal family-owned businesses above the value of 1. In addition, to take better account of family influence we consider companies in the cluster with values above 1.5 as strong family-owned businesses. Table 5 shows the power subscale values of the F-PEC for family businesses in our sample.

Table 5: Family-Owned Business IPO F-PEC Values

	Germany	Spain
F-PEC (F)		
Mean	132%	125%
Median	123%	110%
Stddev	50%	57%
≤ 25%	0	0
26% - 50%	25 (26%)	8 (38%)
51% - 75%	40 (42%)	7 (33%)
>75%	30 (32%)	6 (29%)
Total	**95 (100%)**	**21 (100%)**

In Germany, 94 companies show power subscale values above 0.5. In Spain 21 companies fulfill this criterion. The distribution of values illustrates that in spite of average lower family ownership levels in Spain, management and supervisory board participation levels of family members are comparable in both countries.

Tables 6 and 7 differentiate family and non-family businesses in our sample with respect to IPO timing and sector affiliation respectively.

Table 6: IPO's by Country and by Year

Year	Germany	% Family Bus.	Spain	% Family Bus.
1990	15	73%	5	60%
1991	11	45%	4	0%
1992	7	71%	2	50%
1993	7	86%	0	--
1994	6	67%	3	67%
1995	18	72%	0	--
1996	9	67%	4	75%
1997	10	50%	8	63%
1998	21	48%	6	50%
1999	30	57%	7	43%
2000	19	68%	4	25%
Total	**153**	**62.1%**	**43**	**49.0%**

Table 6 illustrates that German and Spanish IPO activities increased from 1997 and on, substantially. This strong market growth reflected by higher IPO figures is partly induced by family business quotations as their share is relatively constant between 50% and 68% over this 3 year period. This result shows that there is some evidence for the hot issue markets phenomenon described by Ritter (1984; 1991) for the period of 1997-2000 in Germany and 1997-1999 in Spain. Family and non-family businesses are affected in the same manner as their IPO figures rise throughout this time period. In Spain, between 1997 and 1999 the strongest IPO activities took place. With regard to the sector affiliation of IPOs Table 7 shows an overview.

Table 7: Sector Differentiation of Family and Non-Family Business IPOs

Sector	Germany				Spain			
	Family B.	%	Non-Family B.	%	Family B.	%	Non-Family B.	%
Automobile	7	7%	3	5%	-	-	-	-
Basic Resources	-	-	2	3%	-	-	-	-
Chemicals	1	1%	2	3%	-	-	3	14%
Construction	11	12%	1	2%	5	24%	4	18%
Consumer	10	11%	6	10%	4	19%	2	9%
Financial Services	7	7%	6	10%	-	-	-	-
Food & Beverages	1	1%	4	7%	5	24%	1	5%
Industrial	17	18%	9	16%	1	5%	3	14%
Media	5	5%	3	5%	1	5%	1	5%
Miscellaneous	8	8%	4	7%	3	14%	3	14%
Pharma & Health	6	6%	1	2%	-	-	-	-
Retail	7	7%	4	7%	-	-	2	9%
Software	3	3%	1	2%	-	-	-	-
Technology	8	8%	6	10%	1	5%	-	-
Telecommunication	2	2%	2	3%	-	-	2	9%
Transport & Logistics	-	-	2	3%	1	5%	-	-
Utilities	2	2%	2	3%	-	-	1	5%
Total	**95**	100%	**58**	100%	**21**	100%	**22**	100%

In Germany we can observe a concentration of family businesses in the industrial (16%), construction (12%) and consumer (11%) sector. Non-family businesses are also strongly represented in the industrial sector (16%), relatively stronger in the food & beverages sector (7%) and much weaker in the construction sector (2%). Regarding Spanish family firm IPOs are concentrated in the construction (24%) and food & beverages sectors (24%), while non-family firms are also relevant in the chemical (14%) and industrial sector (14%). The "Miscellaneous" sector includes holding companies with different activities as well as real-estate companies. In general, the differences in sector affiliation will be taken care of in the performance analysis when adjusting respective companies with the performance of sector indices as benchmarks.

Further information regarding our sample of family and non-family business IPOs is provided in Table 8. This Table describes the market values of newly issued companies, on the first day of trading and the turnover at the end of the first year of trading both in million Euros. In addition we also compare the age of companies conducting an IPO.

We can highlight that family firms in Germany and Spain are significantly smaller than non-family firms, according to market value and to their sales level. German and Spanish family businesses show to some extent similar values regarding turnover and market value. In relation to their age we observe that firms in Germany are significantly older than in Spain. Age, measured in years, is defined as the difference between the date of going public and the date of foundation. When compared within a country, German family business going publics are younger than non-family business ones. An explanation for this rather surprising result might be the fact that a lot of first generation companies with two or three founders decided to go public. These entrepreneurial companies are also considered as family businesses in our paper, as ownership and management participation are in the hands of the same people.

In Spain, the opposite can be observed. Family businesses (as expected) are on average older than non-family businesses. Another interesting point refers to the higher market valuation of Spanish companies in relation to their size (when compared to German companies) in general which might reflect higher future growth expectations.

Table 8: Descriptive Statistics

	Germany		Spain	
	Family B.	Non-Family B.	Family B.	Non-Family B.
Market Value (Mio. €)				
Mean	223.9	2171.1	672.9	2669.3
Median	92.0	211.7	146.1	404.3
Stddev.	528.0	7607.5	1310.7	9072.9
Turnover (Mio. €)				
Mean	195.7	2095.8	195.2	445.5
Median	97.4	215.7	62.9	148.6
Stddev.	387.7	6216.3	401.1	734.8
Age (Years)				
Mean	46.7	54.8	29.9	24.8
Median	30	46.5	28	20
Stddev.	46.4	49.8	17.3	20.5

Following the identification and description of our data sample, the performance of family and non-family businesses after going public will be calculated. We define performance as the change in a company's market valuation measured by its daily stock price over a time period of 36 months in comparison to the benchmark return. Regarding the employed methodology of Barber and Lyon (1996; 1997), Barber, Lyon and Tsai (1996) as well as Fama (1998) analyze among others possible misspecification of calculating long-run abnormal returns. In general Cumulative Abnormal Returns (CARs) and Buy-And-Hold-Abnormal Returns (BHARs) have to be distinguished. The main difference consists in summing up monthly returns (CARs) as opposed to their compounding (BHARs).

Barber and Lyon (1997) prefer the use of BHAR because CARs are only "a biased predictor of long-run buy-and-hold abnormal returns". Barber, Lyon and Tsai (1997) also show methods to correct some possible misspecifications of BHARs. We decided to employ BHARs because of three main reasons: 1) CARs overestimate abnormal returns in the case of underperformance (Barber and Lyon, 1997). 2) Periodical rebalancing, as in the case of CARs, does not consider related transaction costs and represents an artificial approach. 3) Compounding, as in the case of BHARs, better reflects the return an investor would realize when buying the shares of a company that went public and holding them for a specific time

period. For all companies of our data sample BHARs are calculated and compounded monthly[8] for 36 months following an IPO, adjusted by the expected return of the benchmark:

$$BHAR = \frac{1}{N} \sum_{i=1}^{N} \left[\prod_{t=t_i}^{T_i} (1 + R_{it}) - 1 \right] - \left[\prod_{t=t_i}^{T_i} (1 + E(R_{it})) - 1 \right] \qquad [2]$$

Where R_{it} is the return on security i in month t adjusted for dividends, stock splits and equity issues, N is the number of securities, T is the number of months (36 months), t_i is the date of the closing price on the first day of trading and $E(R_{it})$ is the expected return.

Equally weighted returns are calculated, so the same amount of money is invested in every IPO regardless of its size. This gives smaller companies a stronger weight in contrast to the use of value weighted returns. The investments are held until a) the end of the 36 months period or b) an earlier delisting of the stock. If a company gets delisted before the end of the three year period, we keep its last price until the end of the period. We have only one company that stopped trading in Spain, whereas in Germany none left the capital market in the first 36 months. The return start date is the first day after the IPO. The first closing price is used as first price in our analysis.

Another major issue refers to the employed benchmark. Barber and Lyon (1997) as well as Fama and French (1993) propose the use of matched pairs. However, given the size of the German and the Spanish capital markets, there is not always a control firm with similar market value and/or book/market ratio available. As a result we employ different indices as benchmarks to consider size, sector and country specific market dynamics.

First of all, to represent the country specific market development, we consider the main stock market index for each country as benchmark, the DAX for Germany and the IGBM for Spain. As a second benchmark, we use the S&P MidCap Index which includes mainly medium sized companies. According to the findings of Brav (1997) and Brav et al. (2000), underperformance is primarily concentrated in small issuing firms. Finally, as numerous studies show that family businesses are mainly present in labor intensive industries, which are characterized by lower growth rates, we decided to adjust for sector performance differences, too (Ritter, 1991). For our third benchmark, we classify companies of our sample into 16 sectors and calculate BHAR for every company in relation to the country specific sector performance.

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[8] There are no significant differences between monthly and 21-trading day procedure for the calculation of abnormal performance in our case.

In summary, we use three benchmarks in order to evaluate the sensitivity of our estimations: An international benchmark (S&P MidCap), country specific market benchmarks (DAX and IGBM) and sectorial market indices which are based on the continuous market stocks of the respective country.

After the explanation of the data and the methodology, we take a closer look at related test statistics. Pearson (1929) was the first to note that skewness has a more negative impact on the specification of test statistics than kurtosis. In the literature it has been shown that in particular long-run abnormal returns are skewed and common t-tests might be misspecified. The skewness value for our whole data sample is 1.19 and thus relatively low. However, to take account of our data skewness, we follow the approach proposed by Lyon, Barber und Tsai (1999) and use the skewness adjusted t-test, which was introduced by Johnson (1978) and is illustrated in the following.

$$t_{sa} = \sqrt{n}.\left(S + \frac{1}{3}\hat{\gamma}S^2 + \frac{1}{6n}\hat{\gamma} \right) \qquad\qquad [3]$$

$$S = \frac{\overline{AR_T}}{\sigma(AR_T)} \qquad\qquad [4]$$

$$\hat{\gamma} = \frac{\sum_{i=1}^{n}\left(AR_{iT} - \overline{AR_T}\right)^3}{n\sigma.(AR_T)^3} \qquad\qquad [5]$$

Where $\overline{AR_T}$ is the sample mean and $\sigma(AR_T)$ is the cross-sectional sample standard deviation of abnormal returns for the sample of n firms. $\hat{\gamma}$ is a measure of skewness. If it is zero, the skewness adjusted t-test becomes the conventional t-test ($\sqrt{n}S$).

We use a nonparametric Wilcoxon signed rank test statistic, in order to consider possible non-normality in data when we have a small sample and to compare samples.

4. Empirical Results

Table 9 shows the empirical results of the benchmark-adjusted BHAR estimations for German and Spanish IPOs. Positive BHARs can be interpreted as IPOs outperforming the chosen benchmark, while negative BHARs indicate an underperformance in relation to the benchmark. The main result is that we find a significant underperformance of IPOs which is

statistically significant in any case. Table 9 also reports the mean and median buy-and-hold adjusted returns for family and non-family businesses.

Table 9: Buy-and-Hold Abnormal Returns Three Years after Going Public by Country

Panel A: Total Sample								
	Germany				**Spain**			
	Median (%)	Mean (%)	T-skew	%BHAR<0	Median (%)	Mean (%)	T-skew	%BHAR<0
BHAR S&P MidCAP Index	-49.0	-32.8***	-4.62	73.2	-44.8	-36.7***	-3.74	72.1
BHAR Market Index	-34.3	-32.5***	-4.96	70.6	-41.1	-38.0***	-4.42	79.1
BHAR Sectorial Index	-21.6	-33.8***	-4.46	60.1	-22.7	-27.3***	-2.76	67.4
Panel B: Family Businesses								
	Germany				**Spain**			
	Median (%)	Mean (%)	T-skew	%BHAR<0	Median (%)	Mean (%)	T-skew	%BHAR<0
BHAR S&P MidCAP Index	-57.1	-40.7***	-4.13	76.8	-65.0	-33.8*	-1.89	71.4
BHAR Market Index	-42.1	-39.6***	-4.34	75.8	-43.4	-48.0***	-3.38	81.0
BHAR Sectorial Index	-33.8	-38.3***	-3.82	64.2	-25.8	-40.4***	-2.66	71.4
Panel C: Non-Family Businesses								
	Germany				**Spain**			
	Median (%)	Mean (%)	T-skew	%BHAR<0	Median (%)	Mean (%)	T-skew	%BHAR<0
BHAR S&P MidCAP Index	-33.2	-19.9*	-1.87	67.2	-40.3	-39.5***	-3.90	72.7
BHAR Market Index	-23.5	-20.8**	-2.23	62.1	-33.8	-28.4**	-2.46	77.3
BHAR Sectorial Index	-12.5	-26.6**	-2.35	57.4	-12.3	-14.9	-1.10	63.6

***, **,* Statistically significant at 1%, 5% and 10% levels, respectively.
The data sample represents 153 IPOs in Germany, including 95 family firms. Out of 43 IPOs in Spain, 21 are classified as family firms.

We consider the country specific sector indices, as well as the international MidCap index, as preferable benchmarks. They allow better control of the market evolution regarding the size and sector performance respectively.

For German IPOs, a negative significant abnormal return of -32.8% can be observed when compared to the S&P MidCap 36 months after going public. When differentiating between family and non-family businesses, one realizes that family-owned business IPOs underperform other IPOs. In relation to the S&P MidCap index, they show an underperformance of - 40.7%, whereas non-family firms show an underperformance of only -19.9%. These results are also confirmed by the percentage of companies with negative BHARs, which is higher for family businesses, independent of the benchmark employed.

Nevertheless, the Wilcoxon rank test shows no significant differences between the distributions of abnormal returns of the family and non-family business sample.

When grouping the IPOs into their sectors and calculating abnormal returns with the respective sector performance as benchmark, the mean of negative abnormal returns for all IPOs (family and non-family ones) is -33.8%. However, the underperformance of family in relation to non-family businesses, still persists.

For the Spanish firms, we observe a different performance depending on the benchmark considered. There is an average statistically significant underperformance of –27.3% when the returns are adjusted by the Sectorial Market Index and about –38% when we employ the Spanish Stock Market Index as benchmark. Sectorial Market Indices are the benchmarks that better control for size and risk of Spanish and German IPOs. When employing them as benchmarks, we find a higher underperformance of -40.4% for family firms. In contrast, the non-family firms underperformance is only –14.9%, which is statistically not different from zero. As in the case of Germany, the non-parametric Wilcoxon's signed-rank test does not find statistically significant differences between the BHARs for either group.

Once we have analyzed German and Spanish firms separately, we are interested in the comparison of family and non-family firms in the whole sample, considering that we have followed the same methodology to define each group of firms in both countries. Improvements in the statistical tests are expected due to the increase in the sample size. Table 10 summarizes related statistics.

Table 10: Buy-and-Hold Abnormal Returns Three Years after Going Public by Type of Firm

	Family Businesses				Non-Family Businesses			
	Median (%)	Mean (%)	T-skew	%BHAR<0	Median (%)	Mean (%)	T-skew	%BHAR<0
BHAR S&P MidCAP Index	-57.4	-39.5***	-4.65	75.9	-36.6	-25.3***	-2.91	68.8
BHAR Market Index	-42.7	-41.1***	-5.23	76.7	-27.5	-22.9***	-3.07	66.3
BHAR Sectorial Index	-33.1	-38.7***	-4.51	70.4	-12.5	-23.2***	-2.64	59.2

***, ** Statistically significant at 1% and 5% levels, respectively.
The data sample represents 116 IPOs of family firms (95 in Germany and 21 in Spain) and 80 IPOs of non-family firms (58 in Germany and 22 in Spain).

Table 10 shows that three years after an IPO, the underperformance is higher for family firms than for non-family firms, when analyzing German and Spanish IPOs together. Nevertheless, the Wilcoxon's non-parametric signed-rank test shows only statistical differences between

family and non-family firms when the Market Index is employed as benchmark. Only in this case family business IPOs significantly underperform non-family ones.

5. IPO Underperformance Explanations

The aim of going deeper in the study of family business IPO underperformance leads us to the analysis of its possible explanations, starting form the theoretical hypothesis presented in section two.

The econometric model that we propose to analyze the underperformance of family firm IPOs is a regression analysis, using BHARs as dependent variable calculated with the S&P MidCap Index as benchmark. The use of the S&P MidCap allows us to use a homogeneous benchmark for German and Spanish firms. The independent variables are defined according to the theoretical hypothesis and summarized in appendix 3:

a) The possibility of *hot issue markets* (H1) or a window of opportunity is considered defining a dummy variable which takes the value of 1, if a firm goes public in a year characterized by a higher amount of IPOs than the mean number of IPOs in the country over the period from 1990 to 2000. The years with relatively stronger IPO activities are 1990, 1995, 1998, 1999 and 2000 for Germany and 1990, 1997, 1998 and 1999 for Spain. According to Hypothesis 1, we expect the long-run underperformance to be higher in years following above average IPO activities.

b) The relevance of the *initial underpricing* (H2), as a determinant of a long-run correction, especially for low-capitalization stocks, is approximated by a dummy variable which takes the value of 1, if the company market value at the end of the first trading day is in the lower tercile for each country and 0 otherwise. This means we identify the third of lower capitalization stocks in each country. We expect the long-run underperformance to be higher for low-capitalization stocks, in accordance with Hypothesis 2.

c) In order to consider the possible *small firm effect* (H3), we define the neperian logarithm of the turnover at the end of the year, when the IPO takes place. When doing this we also take care of possible multicollinearity with respect to the market value variable. We expect smaller firms to have a stronger long-run IPO underperformance (Hypothesis 3).

d) The *ownership structure* is defined as the percentage of voting stock ownership held by the main shareholder. A positive sign of this variable will be consistent with a reduction of agency conflicts in accordance with the interest-convergence-theory" (Jensen and Meckling, 1976) (Hypothesis 4a), while a negative sign can be attributed to the entrenchment theory (Morck, Shleifer and Vishny, 1988) (Hypothesis 4b).

e) Alternatively to ownership, we consider the *F-PEC value* of each company as an explanatory variable. Our goal is to test if being a family firm with a higher degree of ownership, control and management involvement, influences the market valuation in the long-run. We include alternatively the F-PEC and ownership variable in order to avoid possible multicollinearity problems. In further regressions, we also define the F-PEC values as dummy variables depending on the weak, normal, or strong grade of family influence. With respect to the existing literature we expect a lower long-run IPO underperformance for low family control (Hypothesis 4a) and an above average underperformance in the case of strong family control (Hypothesis 4b).

f) The company *age* of a (family) firm is another characteristic we are going to include in the regression model to test if conflicts and succession problems in each firm's generation influence the long-run market valuation. We assume that family business age reflects succession problems, family conflict and internal ownership dilution (resulting in more and smaller family shareholders what will lead to more potential conflicts). Age is expected to affect the performance of family-owned businesses negatively (Hypothesis 5). The variable that we define to proxy a family firm's generation is a dummy variable that takes the value of 1, if the firm was created more than twenty years ago, or 0 otherwise. Other definitions that we considered are 25, 40 and 50 years as breakpoints, as well as the neperian logarithm of the company age plus 1.

g) A dummy variable that distinguishes if the firm is *German or Spanish* is also included as a control variable.

The regression model we estimate is illustrated in the following. The results of the estimation are presented in Table 11.

$$BHAR(S\&P)_i = a_i + b_1.Year_i + b_2.MV_i + b_3.ownership_i + b_4.F\text{-}PEC_i + b_5.age_i + b_6.size_i + b_7.country_i + e_i$$

Table 11: Regression Results

The dependent variable is the BHAR three years after going public, employing the S&P MidCap as benchmark.

	Family Business (N=99)				All firms (N=196)		
	1	**2**	**3**	**4**	**5**	**6**	**7**
Constant	-0.593*	-0.574*	-0.769***	-0.762**	-1.047***	-1.071***	-1.014***
	(-1.823)	(-1.768)	(-3.982)	(-2.287)	(-3.731)	(-5.536)	(-3.690)
Year	-0.160	-0.168		-0.141	-0.169		-0.145
	(-1.136)	(-1.180)		(-1.010)	(-1.599)		(-1.394)
MV	0.008	0.009		0.008	0.211		0.191
	(0.530)	(0.601)		(0.531)	(1.082)		(0.995)
Ownership	-0.000				-0.000		
	(-0.111)				(-0.881)		
F-PEC		-0.007					
		(-0440)					
Weak				0.167			0.176
				(1.095)			(1.169)
Strong				0.263*			0.264*
				(1.775)			(1.799)
Age	-0.470***	-0.469***	-0.432***	-0.482***	0.234	0.228	0.218
	(-3.060)	(-3.107)	(-2.924)	(-3.219)	(1.477)	(1.494)	(1.403)
Size	0.157***	0.152***	0.152***	0.164***	0.135***	0.127***	0.130***
	(2.686)	(2.663)	(3.129)	(2.867)	(3.179)	(4.221)	(3.117)
Country	-0.008	-0.002		-0.107	0.117		-0.002
	(-0.261)	(-0.083)		(-0.669)	(0.589)		(-0.197)
Family					0.338	0.385**	0.195
					(0.834)	(2.336)	(0.519)
Family*MV					-0.136		-0.114
					(-0.560)		(-0.478)
Family*ownership					0.000		
					(0.340)		
Family*age					-0.704***	-0.623***	-0.696***
					(-3.236)	(-3.124)	(-3.258)
Family*size					0.002		0.003
					(0.292)		-0.435
R^2	11.80%	12.00%	10.00%	14.50%	15.10%	12.7%	16.3%
F	2.387**	2.421**	6.138***	2.566**	2.897***	6.753***	3.181***

The data sample represents 99 IPOs of family firms for German and Spain during the period 1990-2000 (78 for Germany and 21 for Spain).
***, ** Statistically significant at 1% and 5% levels, respectively.

As we can see in Table 11 (regressions 1 to 4) the explanatory variables that are significant include: the logarithm of sales at the end of the IPO year (size effect) and the dummy variable that distinguishes if the firm was created more than twenty years ago or not (family business generation explanation), in accordance with hypothesis 3 and 5. The hot issue, market value, ownership, F-PEC, and country variable, do not show a statistically significant influence on the long-run underperformance at a first view. However, when we measure the F-PEC as dummy variable, differentiating between a strong, normal and weak F-PEC and excluding the

normal F-PEC cluster (1-1.5), we obtain a positive and significant coefficient for the strong F-PEC coefficient. That is, if the family has a strong stake in the firm, the long-run performance will be better. For low family influence no significant performance is observed. These results are in contrast to hypothesis 4a and 4b which have to be rejected. Thus only hypothesis three and five can be finally supported.

In the following we will further analyze our findings and compare family to non-family-owned businesses. We can highlight that the long-run underperformance is significantly influenced by firm age. It enters the equations with a negative sign, in accordance with stronger succession problems at the end of the first generation and/or possibly stronger conflicts between family members, as the family business gets older. The age variable is only significant for family businesses that are older than 20 years. However, the succession in family businesses takes place usually after a longer period of time. We believe that the discount by the capital market reflects negative future expectations. This might be strongly influenced by insufficient market communication in the years before an expected succession. As a consequence, families should deal with succession issues earlier, thus providing investors with a longer planning time horizon and investing more effort in communicating related information.

The second significant variable in our regression is firm size which enters the regression with a positive sign and thus a positive influence on the long-run IPO market valuation (hypothesis 3). This result is in agreement with the small firm underperformance argument. Although there is a positive correlation between the variables of MV (Market Value) and SIZE, the results shown in Table 11 do not change if the MV variable is not included in the regressions. Consequently, multicollinearity does not seem to have a strong influence on our estimations.

After the explanation of family firm long-run underperformance, we are interested in testing if these explanations are different for family and non-family firms. Significant differences would support our suggestion of succession problems whereas the same results would only reflect life cycle questions and thus lower growth expectations for older firms. We estimate the following regression:

$$BHAR(S \& P)_i = a_1 + \sum_{i=1}^{n} b_i X_i + c_i FAMILY + \sum d_i FAMILY * X_i + e_i$$

where Xi are the variables considered before, FAMILY is a dummy variable that takes the value of 1, if the firm is a family firm and 0 otherwise. FAMILY * Xi are the interaction terms of the variables FAMILY, MARKET VALUE (overreaction), OWNERSHIP, AGE and

SIZE. They tell us whether MARKET VALUE, OWNERSHIP, AGE and SIZE, are more or less important for family firms or for non-family firms. The interaction term between the variables of FAMILY and F-PEC is not used due to the fact that the F-PEC is not calculated for non-family firms.

The fifth column of Table 11 establishes that the SIZE variable has the same sign for family and non-family firms (H3: *Small Firm Effect*). That is, this effect is not specific for family firms. Larger firms, family and non-family ones, show in general a better long-run performance after going public than smaller businesses.

The AGE variable however, does not have a negative sign as in columns 1 to 4. Only the interaction term FAMILY*AGE has a significant negative coefficient, in accordance with hypothesis 5 (*Family Business Age*). The sum of the coefficient of the interaction term (FAMILY*AGE) and the AGE coefficient itself, measure the total effect of AGE for family firms, while the effect for non-family firms is only measured by the AGE coefficient itself (FAMILY*AGE takes the value of 0 for non-family firms). The sum of the age coefficients of family firms in column 5, is –0.47 (0.234 – 0.704). This result is similar to the coefficient obtained in column 1 (-0.47). In contrast, for non-family firms, the effect of business age as measured by the AGE coefficient is not significant. This coefficient is in line with the existence of a specific negative influence of business age on the long-run market valuation of family businesses. Our explanation of succession problems and generation conflicts is supported by this result.

In column 7, where we measure the F-PEC as dummy variable, we obtain a positive and significant coefficient for the strong F-PEC, as in column 4. That is, a strong family involvement in the firm influences long-run performance positively. Family ownership alone however does not have a significant impact on the stock market performance of a company. In contrast, the F-PEC, which also considers active participation of family shareholders in management and supervisory boards, is significant for values above 1.5. The significance of F-PEC values above 1.5 reflects two arguments: 1) Ownership on its own is possibly not sufficient, but it is important in combination with family representation in the management and supervisory board 2) Strong or majority values for the variables of the F-PEC might be needed to have a significant impact on the performance. As a consequence, the interest-convergence theory of Jensen/Meckling (1976) is supported in contrast to the entrenchment argument raised by Morck, Shleifer and Vishny (1988), which cannot be strengthened. In addition, the use of the F-PEC shows that family business definitions only relying on

ownership, might be misleading as they do not need to reflect properly family control. The application of the F-PEC should be promoted for further research.

The results presented in column 6 of Table 11 reveal that family firms have a better long-run performance compared to non-family firms when we control for age and size. This result is in agreement with the different value of the constant in the family regressions (1 to 4), between -0.574 and -0.769. The FAMILY variable has a positive and significant coefficient in column 6. This means when we control for age (AGE), family-owned businesses show less underperformance than non-family businesses. This result is in contrast to the higher observed underperformance for all family business IPOs highlighted in Tables 9 and 10. To explain this result, we need to distinguish older and younger family-owned businesses, as we have exposed above. Stronger long-run underperformance can be observed for older family firms, while younger family firms have a better long-run performance when compared to non-family firms. This result is consistent with the succession and generation problems in family firms.

Consequently, stronger long-run underperformance of family firms, as revealed in Table 9, is due to smaller and older family firms going public.

After having analyzed the IPO performance of family businesses we would also like to stress some possible shortcomings of the study. One shortcoming of our study refers to the fact that we do not have information regarding the contract design between companies going public and their underwriter bank. Even though there were no rules regarding lock-up periods in observed markets from 1990-2000, individual lock-up periods for families might have existed. This would have guaranteed a low free float and a stable shareholder structure for a specific time period. Another issue refers to the generalizations of findings for other countries. We consider that similar results might be found in other continental European countries, too. However, differences in institutional settings make a generalization on Anglo-American and Asian countries difficult. Last but not least, family businesses might already be undervalued when going public as banks could require a lower going public price for them. This could bias our results, but we do not believe that family business are systematically undervalued when going public because the ratio of sales to market value on the first trading day is not significantly smaller for family businesses when compared to non-family businesses in their respective country.

6. Conclusion and Outlook

In this study we have analyzed all IPOs in Germany and Spain between 1990 and 2000, differentiating the analysis by family and non-family businesses. We followed the same definition of family-owned businesses for both countries by using the power subscale of the F-PEC as proposed by Astrachan, Klein and Smyrnios (2002). Strong differences regarding family businesses only occur with regard to the ownership level. This level is lower in Spain as non-voting shares have not been issued (in contrast to Germany) and hence families have to give up relatively more company control when going public.

With respect to the performance measurement, the methodology employed should reflect an investors' investment strategy that consists of buying shares of a company going public and selling it three years later. Our findings show that 1) IPOs significantly underperform different market benchmarks; 2) Family business IPOs underperform non-family business IPOs, but the observed underperformance is not significant.

As possible explanations for the long-run underperformance of family business IPOs, when compared to a market benchmark, we find evidence favorable to 1) Business size 2) Family business age and 3) Family influence. We find, however, no evidence favorable to the market overreaction, hot issue markets, nor related to the ownership structure.

Brav (1997) and Brav, Geczy and Gompers (2000) show that smaller companies have a worse stock market performance than bigger companies. In line with these findings, our results show that family business IPOs are on average significantly smaller than non-family IPOs. For the whole sample we find a significant size effect, which is independent of being a family or a non-family firm.

Second, the market values older family businesses more negatively whereas there is no business age effect for non-family firms. We should consider that older family businesses are characterized by more succession problems and family conflicts apart from business life cycle effects.

Third, strong family influence, which is measured by family participation in management and supervisory boards as well as the family ownership stake of voting shares, has a positive impact on family business performance. The interest-convergence theory is supported (Jensen and Meckling, 1976). Ownership on its own has, however, no significant impact on family firm performance. This result shows that family influence is valued positively by the capital markets and might also explain observed positive abnormal performance of family-owned

businesses in long-run performance studies. According to Leland and Pyle (1977), this behavior can be regarded as a positive signal about the quality of the firm.

For future research, we suggest the extension of this analysis for France, Italy and other European countries. The observation of ownership and management changes over the first three years of an IPO should also be analyzed in order to see if ownership stake, size and changes in management are valued positively by the market or not. In order to allow for better international comparison of studies and to measure family control in a more sophisticated way the power subscale of the F-PEC has to be further promoted too. In our study the F-PEC gets further validation as it shows for strong family influence a significant result.

In conclusion, the family theory development should analyze in more detail the relationship between 1) Family influence and stock market performance as well as 2) Family business age and stock market performance.

From an investor's point of view, investments in strongly family influenced, young and relatively large going publics, should be enhanced. Besides investments in family-owned businesses practitioners can now easier distangle and evaluate different performance drivers in family businesses. This will not only help to better evaluate family businesses but also to better understand their behavior related to the stock market.

For family business owners the results show that going public is a viable option to achieve different goals and it does not end the successful business story of a company but transfers it to the next stage. Family businesses are not disadvantaged at the stock exchange as the stock market values strong family presence in companies positively. Furthermore the fear of owners to lose control after an IPO does not seem to be supported. The data sample shows that families manage quite well to maintain business control after the IPO for years.

Appendix

Appendix 1: Basic Data Regarding Main European Capital Markets

	No. Listed companies		No. domestic IPOS	Capitalisation of domestic companies in Bln US$		Stock Capitalisation/GDP	
	1990	Aug. 2000	1990-1999	1990	Aug. 2000	1990	1999
Austria	97	96	65	26	29	16.5%	15.8%
Belgium	182	160	63	65	167	33.4%	74.5%
Finnland	73	194	79	23	301	16.9%	271.5%
France	833	1013	603	312	1577	28.3%	105.8%
Germany	649	1034	1032	355	1420	25%	67.8%
Greece	119	299	208	15	112	no data	159.9%
Italy	257	276	151	149	770	14.8%	62.7%
Luxemburg	54	54	18	10	46	101%	192.2%
Netherlands	222	229	121	120	671	42.7%	176.1%
Portugal	181	119	111	no data	no data	13.6%	61.6%
Spain	1265	1696	956	111	476	62.6%	73.1%

With respect to Spain 252 firms are listed in 1990 and 207 in 2000 when we exclude "financial investment societies" (SIM and SIMCAV). In addition between 1990 and 1999 68 companies went public.
*August 2000
Source: Deutsches Aktieninstitut (2000).

Appendix 2: IPO Studies Regarding the US

Country	Author	Sample Period	Sample Size	Months	Abnormal Return (%)
USA	Simon (1989)	1934-1940	20	60	6.2%
USA	Stigler (1964)	1949-1955	46	60	-25.1%
USA	Reilly (1973)	1963-1965	115	36	-20.7%
USA	McDonald/ Fisher (1972)	1969	142	12	-18.1%
USA	Gompers/ Lerner (2003	1935-1972	3661	60	-34.8%
USA	Ritter (1991)	1975-1984	1526	36	-29.1%
USA	Aggarwal/ Rivoli (1990)	1977-1987	1598	12	-13.7%
USA	Loughran (1993)	1967-1987	3656	72	-33.3%
USA	Cusatis/ Miles/ Woolridge (1993)	1965-1988	146	36	33.6%
USA	Loughran/ Ritter (1995)	1970-1990	4753	60	-30%
USA	Brav/ Geczy/ Gompers (2000)	1975-1992	4622	60	-38.6%
USA	Ritter/ Welch (2002)	1980-2000	6169	36	-23.4%

Source: Adopted from Jenkinson and Ljungqvist (2001) and Kulklinski (2003).

Appendix 3: Summary of Regression Variables

Hypothesis	Variable	Definition
H1: Hot Issue Markets	*Year*	Dummy variable which takes the value of 1 if, in the year of the IPO more IPOs have been conducted in total than on average over the period from 1990 to 2000, 0 otherwise.
H2: Market Overreaction	*MV*	Dummy variable which takes the value of 1 if the market value at the end of the first trading day is in the lower tercile for each country and 0 otherwise.
H3: Small Firm Effect	*Size*	Neperian logarithm of the turnover at the end of the year, when the IPO took place
H4: Blockholder Control	*Ownership*	Ownership percentage of voting stocks held by one or several families.
	F-PEC *Weak/Normal/Strong*	F-PEC value. Dummy variables which take the value of 1 if the firm has a F-PEC weak/normal/strong and 0 otherwise.
H5: Business Age	*Age*	Dummy variable which takes the value of 1 if the firm was founded more than 20 years ago, 0 otherwise.
Control Variable	*Country*	Dummy variable which takes the value of 1 if the firm is a German firm and 0 if it is a Spanish firm.

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