Does Choosing a Section of the Stock Exchange Matter in the IPO of SMEs? The French Case

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ABSTRACT. The empirical study presented in this article is localized in between two major fields of research in finance: underpricing of Initial Public Offerings (IPOs) and financial markets integration or segmentation.

This empirical work proves that the institutional and political intention, translated in a segmentation of financial markets dedicated to Small and Medium-sized Enterprises has an impact on the financial environment of SMEs and consequently on the level with which IPOs are underpriced. The differences between companies listed on both parts devoted to SMEs correspond to the ambition of the French Stock Exchange. And these differences result in surprising pricing: a lower profile in risk does not mean a better valuation. At least, our study on IPOs of SMEs could help managers to choose the appropriate section for their firm.

1. Introduction and issue

The global trend is the integration of equity markets within Europe. The removal of exchange controls that happened more than five years ago had clearly increased this evolution (Chelley-Steeley and Steeley, 1999). This integration increases hugely over time, especially since 1995 (Hardouvelis et al., 1999). Moreover, the literature highlights that financial integration could be successful if and only if nations really coordinate their macroeconomic policies (Chang, 1997). And the impact of harmonization in national economic policies in Europe on the integration trend is also increased by the influence of technologies. "Technological advances – Dramatic reductions in transportation, telecommunications and computation costs – are creating an increasingly integrated financial market that ignores national boundaries" (Herring, 1994). Therefore, the EEC and the Euro achievement could have been an opportunity to harmonize and integrate all sections of the National sections of the stock exchange dedicated to small and medium sized companies. Consequently, the creation of several specific market structures in Europe, coming from a political and institutional intention for segmentation, could appear as in contradiction with a global European trend.

Segmentation highlights that there is a space for non-optimal allocation of financial resources and makes it possible to consider that segmentation of financial markets dedicated to SMEs could put in evidence some kind of un-efficiency for these sections of the stock exchange. Indeed, according to neo-classical financial theory, the efficiency of a financial market depends on the ability of the market to define the appropriate premium risk. From this market's premium risk, it is possible to determine the market price of every security in the market, by measuring the sensitivity of a change in the return of an individual security to the change in return of the market (Markowitz, 1959, and the generalisation of his work with the "CAPM" theoretical model). If we assume there is a unique financial market, in a given space, we can imagine the market's efficiency is illustrated by a balanced market price, meaning the best allocation of financial resources. It might explain why, in the last twenty years in Europe, all the national monetary and Stock Exchange authorities have tried to set up policies unifying the different components of the capital markets whatever the

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kind of securities. Their aim was to delete all kinds of restrictions, to reduce transaction costs in order to get the best efficiency available.

Nevertheless, studies of integration versus segmentation clearly shows that the level of risk is a constraint for integration. The literature shows that poor credit ratings is a real barrier for global equity-market integration (Bekaert, 1995). For instance, that is the case for most of the emerging markets (Korajczyk, 1996).There is still empirical evidence of market segmentation in both market risk levels and market risk premiums (Allen and Jagtiani, 1996). Moreover, the integration trend could have an impact on largest markets only. The relocation of markets is driven by integration with the assumption of very low transaction costs (Martin and Rey, 1999). For these reasons, it is interesting to notice some financial authorities launched between 1976 (Italy) and 1986 (Germany) specific market's structures devoted to the listing of small and medium sized companies, as for instance, the *Second Marché* in France (Belletante and Desroches, 1993, p. 466; Paliard and Belletante, 1992; Paliard and Leleux, 1996, p. 48). The objectives were very clear: the principal market was unable to list SMEs efficiently, due to too high a level of risk, in terms of the system's risk (too weak flotation) and of the company's risk (quality of financial information, volatility of SMEs). The consequence was that it was impossible to quote SMEs on the principal market because these companies could not reach the expected return required by the market to pay the level of risk. That meant SMEs were unable to finance their growth through the financial market (Fazzari et al., 1988; Mahérault, 1998; Mahérault and Paliard, 1998).

To give SMEs access to the financial market, specific structures have been set up. From this launch many questions emerge, particularly in terms of the equilibrium market price: are the premium risks of each market relevant to the real level of risk, can investors make efficient arbitrages between the markets? If it seems easy to identify the components of premium risks between bonds and equity markets, it is less so between different sorts of equities, solely differentiated by the size of their issuers. And these questions become more pertinent when, in a given space, the Stock Exchange authorities set up a second structure dedicated to SMEs. It was the case in France. In 1996, The SBF-Bourse de Paris launched the *Nouveau Marché (NM)*, section of the French Stock Exchange devoted to young SMEs anticipating very fast growth and/or working in the field of high technologies. The ambition was to financially support companies growing within a high risk context, an opportunity impossible to finalise on the *Second Marché (SM)*, launched in 1983 and welcoming mature SMEs with a lower risk profile. There was an institutional ambition to create different sections in the French financial market to invigorate the listing of SMEs presenting differences in terms of risk (size, age, growth, volatility, flotation, . . .). It is interesting to notice only one legal relevant difference between the NM and the SM: on the NM, the IPO issues exclusively new shares. But the minimum level of flotation required is the same (10%).

The underlying question is to know if financial institutions are able to create specific structures in order to optimise a specific financial activity. Financial institutions wanted the Nouveau Marché to be a space of communication and information devoted to fast growing and/or high tech SMEs. What could be easily understandable from a pragmatic point of view raises a theoretical question: is it possible to give a definition of an unique price for an asset as supposed in classical finance without the barriers set up by financial institutions?

Consequently, the aim of this paper is, firstly, to demonstrate that the institutional intention to create segmentation can be shown in different pricing when SMEs are being listed. Secondly, to show this difference in pricing exists because the institutional vision is clear. Indeed, the differences between companies listed on the both parts devoted to SMEs correspond to the French Stock Exchange ambition but these differences imply contradictory results in valuation.

According to these aims, the first section of this paper is devoted to a precise study of the underpricing phenomenon (Beatty and Ritter, 1986; Chalk and Peavy, 1987; Cheung and Krinsky, 1994; Jain, 1994) on two samples of IPOs, following method of analysis based on abnormal returns. Consequently, this section focuses on a global approach of two populations of SMEs and the level of under-pricing reached according to

each part of the stock exchange. The second section presents a study of the firms' clinical characteristics in each sample.

Many explanations have been offered in the literature in order to explain the underpricing phenomenon. "A favour to investors" (Logue, 1973), or an information asymmetry (Baron, 1982) and signalling interpretation, or offering value uncertaincy (Smith, 1986), or underwriters reputation and maintenance of this reputation (Beatty and Ritter, 1986; Carter and Manaster, 1990), or corporate governance and control (Franks and Brennan, 1995). Recent studies stress first that an explanation for the underpricing phenomenon is linked to the typology of the investors engaged in the IPO process. Empirical tests show that when investors do not have to compete with more informed investors, IPOs are less underpriced. Consequently it is possible to admit that the reputation of the underwriter could have an impact given the fact that he is working with institutional investors (Ljungqvist and Habib, 1998). An other approach pay attention to the financial behaviour of the companies when being listed. The level of flotation, the previous new increases in equity, the amounts asked to the market seems to have a significant influence on the underpricing level (Michaely and Shaw, 1994). We argue that this second explanation is more closed to the financial environments observed on both "Second Marché" and "Nouveau Marché" because investors are more or less the same ones on these two sections of the French stock Exchange and financial behaviours are quite different according to the two sections. Moreover, the financial behaviour makes the link with the corporate governance field and the flotation variable. IPOs frequently have an impact in the equity structure dilution process. This event enhances the separation between control and ownership when integrating some new outsiders shareholders. "The greater the underpricing, the smaller the size of new blocks assembled after" (Franks and Brennan, 1995).

As is shown in this article, empirical tests are relevant. The empirical results presented in this article highlight that France is not an exception in matter of underpricing and IPOs. And underpricing seems to stay a real consistent feature as it in many other countries: Germany (Schuster, 1996), Canada (Kooli and Suret, 2001), United Kingdoms (Franks and Brennan, 1995), United States (Mattey, 2000), but also India (Shah, 1995) etc.

Given our results on the two French sections, we think this study could help all managers of SMEs wanting to have a quotation, to prepare the IPO more efficiently by identifying the appropriate section of the Stock Exchange before taking a decision.

2. The institutional vision leads to different pricing when a company is being listed

Results presented in the following part of this article are based on a comparative study of two samples of listed SMEs. The first sample consist of 40 firms listed on the French NM Stock Exchange. This first sample represents 70% of the total number of companies listed on this financial market since its creation in March 1996. The second one consists of 52 SMEs listed on the French SM, and represents 55% of the IPOs on this Stock Exchange during the same period. All the IPOs studied were made between March 1996 and June 1998. The financial variables used in our work are very reliable. Description data is based on accounting and market information and has been calculated by ourselves.[1] All returns, using the same data basis, were also calculated by ourselves. An overview of firms' characteristics is given in appendix (appendix n° 1) with a few comments about specific descriptive variables.

In order to prove that there are some significant differences in the under pricing phenomenon depending on the section of the Stock Exchange, we needed a global analysis measuring the reality of financial under-pricing based on abnormal returns compared to the market as whole. We will use this analysis to study the length of the under-pricing effect. Indeed, one could argue that measurements of under-pricing only by the clinical approach integrate short-term speculative behaviour. If a firm sends encouraging signals when it is going public, such as announcing a new dividend policy, then the under-pricing estimations might only be the investors' reaction to these signals. That means the under-pricing could last only a few days and could be erased immediately by contrasting behaviour. Finally, the only way

to answer the potential criticism is to show that the under-pricing observed during the first few days of quotation is not only a short-lived phenomenon.

Consequently, the event study made on the two samples of IPOs, based on cumulated daily abnormal returns over a six month period, had two objectives:

- firstly, to give an accurate estimation of an overall under-pricing value when firms are going public on each section of the market. A satisfactory estimation of the equilibrium price must be obtained when abnormal returns are no longer significant.
- secondly, to demonstrate that clearly cumulated abnormal returns stay at the same level over several months, to prove that positive abnormal returns are not followed by equivalent negative abnormal returns (as normally would be the case for a response to a signal).

Data used for this event study are chronological series of returns. One hundred and thirty daily returns were calculated for each firm and four different market indexes (linked with different market panels) as from the first daily quotation. The first daily return was calculated between the first listed price (opening price) and the first closing price at the end of the day of quotation. The following returns were estimated with closing prices from one day to the next (see the appendix n° 2 for more details about the statistical methodology).

It should be pointed out that abnormal returns were calculated with different indexes based on different market panels. These different indexes correspond to price indexes but also return indexes. The reason we used different panels (four panels: SBF120, SBF250, MIDCAC, Second Marché) was that we were unable to give an estimation of the level of risk of each share with reference to the CAPM model. Because the event studied was "being listed", we had no pre-event data to estimate the beta of shares. Consequently, it was necessary to develop the same test with different indexes just in case one index could refer to a panel of firms very different to the ones included in our samples.

Finally, results do not depend on an index. They are similar whatever the index used. The results are presented in the following table and figure. Notice that we used cumulated abnormal returns for these documents.

The figures clearly confirm a strong and enduring phenomenon of under-pricing within the IPO's process of SMEs on the French SM. It is established in the first five days of listing. Immediately, that means investors have to buy IPO's shares at the beginning of the quotation. After six days, it is impossible to make an abnormal return. It is also relevant to notice that under-pricing is not a short-term phenomenon. It is valid during the whole period of study (130 quotations). That eliminates short-term speculative behaviour and it confirms the will of underwriters to underestimate the value of SMEs listed on the French SM in order to attract investors. Some are paying heavily for their low liquidity and the traditional financial gap perceived by the investors.

From the figures on the NM (see appendix) and for the companies listed on this section of the French Stock Exchange, we can identify the same phenomenon as for the SM: under-pricing is relevant in the long term and we can make the same assertions.

But, it is more interesting to compare the under-pricing effect between SM and NM. We immediately notice that under-pricing is less on the NM than on the SM. Chart n° 1 even underlines that the NM overprices the equities the first day of listing. We are in direct contradiction with neo-classical financial theories. It is extremely rare to identify a significant overpricing phenomenon the first day of quotation, even more so in the case of SMEs quoted on markets characterised by low liquidity and a high degree of uncertainty on the future of companies having a high degree of risk (cf. § 1).

More interesting, we can notice that the weaker under-pricing of the NM lasts 105 days of quotation. We can assert that the companies listed on the NM and characterised by a higher profile of risk, instead of presenting a higher under-pricing, are bought at a higher price than the weaker risk profile companies listed on the SM.

According to these results (based on the index SBF 250), the firms listed on the SM are underpriced by nearly 10% (on average) more than the companies listed on the NM. These results are

very consistent with results on a similar period in the United States (Mattey, 2000) that observed an average return of 10–20% during the first day of trading. Nevertheless, the level of underpricing in France seems higher than in other countries. During a similar period, Israeli IPOs stressed a significant average abnormal return of 4.5% (Shmuel et al., 1999). Nevertheless, notice that these IPOs not only concerned SMEs.

But the result is relevant and also very surprising because the contrary could have been expected, according to financial characteristics we calculated beforehand and research carried out on the under-pricing phenomenon. In our opinion, it is the proof that the institutional commitment (by a theoretical guarantee of the homogeneity of listed companies on the NM in terms of growth, size, profitability, flotation and by the certification of an admission committee) can reduce the usual and perceived information asymmetry of the IPOs process; and it could not be the case on the SM.

To prove this hypothesis, we had to demonstrate that there were significant differences between the two samples of IPOs through a clinical approach. Empirical tests result in two very contrasting portraits of firms according to each section of the French stock exchange. Notice that it was also the only way to characterise their risk profile. The second section presents the appropriate empirical tests to identify in witch variables the two samples differ and propose a prediction model about the section of the market chosen depending on a firm's characteristics.

3. Two portraits of firms according to each section of the stock exchange

From a strict statistical point of view, a description of two samples does not prove that there are any significant differences in variables between the two samples. The only way to identify in which points the two groups of companies really differ is to carry out a discriminant analysis. With this method, the level of power of differentiation can be identified.

Nevertheless, there are five kinds of variables defined for the description. To make the comments clearer, the results are presented in five separate

Figure 1.

sections. Each section focuses on one category of variables only.

The first discriminant analysis deals with the variables of identity. This analysis shows that two of these variables are significantly different in each sample: the number of employees and the age of the firm when being listed (significant level under 1%). These variables make it possible to offer the following discriminant function.

TABLE I
Best significant differences between the two samples in identity variables

	Wilks' Lambda	**F**	Significant level
Employees	0.862	13.43	< 1%
Age	0.833	8.31	< 1%

F = 0.453 **AGE** + 0.837 **Employee**s

Score reached by the barycentre of each sample are the following ones: Nouveau Marché: –0.534; Second Marché: +0.366.
Correct Theoretical classification: Nouveau Marché: 94.6%; Second Marché: 50.0%; All: 68.5%.

The results presented in Table I above show clearly that firms listed on the NM are younger and smaller than the companies going public on the SM. Nevertheless, the two variables seem to be more relevant for the companies listed on the NM than for the other sample. It means that firms' characteristics (age and size) are not so clear in the SM sample.

The last result on this first discriminant analysis is about the other size variables. They are discriminant and correlated with the number of employees. But this last criterion appears to be the best one from a statistical point of view. This analysis confirms that the institutional vision can determine a behaviour, at least in terms of acceptance to go public according to size.

The discriminant analysis on capital structure variables proves that the two samples differ in very classical financial variables.

Firms listed on the SM have less debt than firms going public on the NM. But their level of free cash flow is lower and it could explain why there is no difference concerning the "Debt on Free cash flow" ratio. Consequently, the risk of bankruptcy should be higher for companies listed on the NM even if they have the same ability to pay back their loans. For the second time, we prove that reality and the institutional ambition concord.

TABLE II
Best significant differences between the two samples in capital structure variables

	Wilks' Lambda	**F**	Significant level
Debt on equity	0.972	2.50	11.8%
Cash on equity	0.942	2.69	7.5%

F = –0.776 **Cash on equity** + 0.925 **Debt on equity**

Score reached by the barycentre of each sample are the following ones: Nouveau Marché: +0.288; Second Marché: –0.210.
Correct Theoretical classification: Nouveau Marché: 57.5%; Second Marché: 75.0%; All: 67.4%.

The third discriminant analysis shows some relevant differences concerning self financing and returns on equity. The result obtained on self financing is interesting. There is a huge difference between the two samples. The firms listed on the SM could use more retained incomes to finance their growth than the others. Concerning the level of return on equity, the result was not anticipated because of differences observed in size. The return on sales is also a discriminant variable, but this ratio is correlated with the return on equity witch seems to be a better criterion of discrimination. The statistical results are the following ones.

TABLE III
Best significant differences between the two samples in return variables

	Wilks' Lambda	**F**	Significant level
Self financing	0.816	20.35	< 1%
ROE	0.739	15.71	< 1%

F = + 0.602 **ROE** + 0.752 **Self financing**

Score reached by the barycentre of each sample are the following ones: Nouveau Marché: –0.670; Second Marché: +0.515.
Correct Theoretical classification: Nouveau Marché: 70.0%; Second Marché: 80.8%; All: 76.1%.

Such a discriminant function, because of the high discriminant power of each variable, allows

an interesting theoretical classification of firms in comparison with reality. According to these results, it appears clearly that firms on the NM could face difficulties in self financing their growth because of an insufficient level of returns. Consequently, those companies should expect much more from the Stock Exchange than the ones listed on the SM. It is in fact the case, as is shown in the next discriminant analysis. But before presenting these results, let us summarise quickly what has already been proved on financial analysis variables.

Firms going public on the NM have more debt and are less profitable, suffering from a lack of self financing in comparison with the ones listed on the SM. They are also smaller and have less experience in their business. Consequently, we can affirm that the NM welcomes companies with a higher profile of risk, and these firms cannot remunerate the differential of risk by an adequate difference in terms of profitability.

Consequently, firms listed on the SM seem unable to remunerate their higher profile of risk by an adequate difference in terms of profitability. In our opinion it could justify a specific section of the Stock Exchange.

The discriminant analysis done with "Stock Exchange variables" brings some confirmations in terms of what is expected by firms being listed on the NM. This analysis identified two variables in which the two samples differ significantly: dividend policy and flotation. These two variables have a significant level of less than 1%. Incidentally, companies going public on the NM paid fewer dividends in the year before being listed than the firms quoted on the SM. But they guarantee investors a higher level of flotation.

The discriminant power of each variable explains how this function makes it possible to obtain an excellent theoretical classification of the firms when linking dividend policy with flotation. It is possible to know whether the firm was listed on the NM or the SM with a confidence level of more than four in five cases.

On the one hand, in more than two cases out of three, the firm did not pay a dividend the year before being listed. Given the investors' preference for liquidity, this dividend policy might have represented an handicap in pricing when going public. On the other hand, a higher flotation could guarantee the investors a better dilution of equity structure, stemming from dilution of power.

TABLE IV
Best significant differences between the two samples in Stock Exchange variables

	Wilks' Lambda	**F**	Significant level
New shares	0.586	62.78	< 1%
Dividend	0.565	33.90	< 1%

F = + 0.300 **ROE** + 0.881 **Self financing**

Score reached by the barycentre of each sample are the following ones: Nouveau Marché: +0.980; Second Marché: –0.769.
Correct Theoretical classification: Nouveau Marché: 80.0%; Second Marché: 92.2%; All: 86.8%.

Investors respond to the firms' differences depending on each market with different pricing (cf §2). Nevertheless, results obtained are surprising. Indeed, to conclude our analysis, based on individual data of companies in terms of financial characteristics, underlines that:

– the companies listed on the NM are more risky than the companies quoted on the SM: lower profitability, higher gearing ratio, weaker pay out ratio, and we could add these companies are younger and more family/founder(s) oriented;
– the NM companies seem to be less under-priced than the other; obviously it is in contrast with financial theory.

This assertion is proved with the market approach (cf §2).At least, it seems interesting to suggest types of listing behaviour on the two sections within the French Stock Exchange.

On the one hand, all the variables identified through the discriminant analysis were not anticipated. Some differences were expected in age, new shares issued, and size. But we did not expect such differences in profitability, dividend policy and under pricing phenomena.

On the other hand, a huge difference in growth was expected which did not materialise. From a scientific point of view, the institutional vision, often supported by a very common idea journalists frequently stress, can not be proved: the companies making the decision to be listed on the NM do not grow faster than the ones going public

on the SM. Moreover, it is possible to prove that the two samples used to grow at the same rate with a significant level of 1%!

Nevertheless, attention must be paid to the definition of the growth variable. Although past growth was tested, the rate of growth expected by the market for the future was not. It should be analysed in a future study based on figures between 1998 and 2000.

In line with our hypothesis, some significant differences were identified in each category of variables and these differences make it possible to formalise two "portraits":

- a firm going public on the NM is nearly ten years old, fast growing and needs a lot of resources for its development. It is not very profitable and has more debt than the average population of firms in France (average debt on equity ratio close to 0.6). It did not pay dividends before being listed. Last point, it expects a lot from the market. The clinical study of IPOs' reports shows that most of the time, firms listed on the NM are still controlled by the founder. Quite often, these firms have already diluted their equity structure before being listed. Their level of flotation could prove that issuing new shares and bringing some new resources is the first reason why they are listed.
- a firm going public on the SM is nearly twenty years old, fast growing and very profitable when listed. It has been used to paying dividends, with not much debt. It does not expect much from the market. The clinical study of IPOs' reports illustrates that these firms are, most of the time, family businesses. More often, the dilution level of equity structure is very low before going public and the firm is frequently controlled by the second or the third generation. Paying attention to the level of flotation when being listed, these firms do not seem to gain any real advantage in financing their new presence on the Stock Exchange offers. These firms could expect more recognition from their partners.

The two descriptions above must not be considered as extremes or caricatures. Both parts of the French Stock Exchange devoted to SMEs are supported by a high level of expertise on the part of investors. It can be illustrated with a logistic regression. The aim of this logit-model is to predict on which market the firm is going to be quoted:

TABLE V
prediction model explaining on which market firms are going to go public

0 = going public on the "Nouveau marché" Predicted: model prediction
1 = going public on the "Second marché" Real = real chosen market

Explanatory variables

	Coefficient	Sig. level
Employees	+0.0119	<1%
New shares	–0.1040	<1%
ROE	+0.0330	<5%
Constant	–0.0862	Non significant

	Predicted	0	1
Real	0	89.19%	10.81%
	1	7.69%	92.31%

Correct prediction (92 events): 91.01%.

This model is relevant for the two groups of firms being listed. In nine cases out of ten, three characteristics in terms of size, profitability and number of new shares issued (expectations from the financial market in fact) make it possible to predict correctly which section of the stock exchange is chosen when being listed. This result is very important. Every SME manager, in order to prepare a IPO, could make a choice between the two sections according to the financial characteristics of his firm, depending on what he expects from the financial market in terms of financing.

4. Conclusion

One could argues that the financial environment has an impact on the underpricing phenomenon existence. The higher the admitted price by the market the higher the underpricing. Recent empirical studies highlight it is reality (Helwege and Liang, 1996). Nevertheless, empirical results also clearly demonstrate that IPOs are deliberately underpriced in the premarket in both hot-market and nonhot-market periods (Hunt-McColl et al., 1996).

Consequently, there is one obvious conclusion. The firms listed on the NM are very different from the companies going public on the SM. On the one hand, this confirms that an institutional vision can create a specific financial behaviour, or, on the other hand, an institutional vision is able to correct the role of the financial market. If the principal market excludes some high risk SMEs, the only way to develop financing within a market logic, is to set up a specific structure. But, this launching is contrary to the requirements of the neo-classical financial theory focusing on a single financial market. It is more interesting to indicate an institutional effect being able to modify the level of the demand in terms of pricing and returns. To successfully set up a specific section on a Stock Exchange implies being able to build a common expertise resulting in specific financial decision making processes.

Appendix

APPENDIX 1

TABLE A.I
A comparison of firms financial characteristics (on average)

Variables	Nouveau Marché		Second Marché	
	Average	St. Dev.	Average	St. dev.
Identity variables				
Sales (millions of FF)	70.74	72.68	374.68	618.02
Age (in years) (median)	8.5	8.9	14.5	19.4
Leader	32.5%		46.2%	
Number of employees	91.77	81.36	393.51	481.56
Balance sheet total (millions FF)	208.9	65.5	288.66	348.7
Sales growth Rate	29.96%	40.68%	27.46%	40.15%
Capital structure variables				
Debt/Equity ratio	1.54	2.19	0.97	1.22
Debt on free cash flow	2.23	11.10	2.22	2.09
Liquidity on Total balance sheet (median)	8.03%	16.07%	16.10%	13.14%
Free cash flow on equity	35.65%	59.64%	46.06%	25.96%
Return variables				
Return on equity (median)	11.84%	55.91%	23.67%	16.11%
Margin (Net incomes/sales) (median)	2.96%	41.72%	5.13%	4.76%
Self financing	2.56%	15.79%	31.19%	37.63%
Stock exchange variables				
Family controlled	75%		80.39%	
Flotation	31.45%	8.28%	20.70%	14.13%
Dividend paid before	17.5%	38.48%	58.82%	49.71%
New shares	36.00%	20.77%	8.07%	12.62%

Few comments about definitions of variables are already needed to make all the figures more understandable. Some variables ask for a more detailed presentation:

- The age variable corresponds to the age of the company when listed.
- Each firm was considered as a leader if the word ‘ leader ‘ was written in the official financial analysis attached to the IPO official report.
- The variable called “self financing” is a ratio between free cash flow and sales. Another group of variables concerns IPOs’ and equity structure characteristics.
- A firm was considered as a family business if the top manager and his family owned at least 51% of the total number of shares when the company was listed.
- The flotation of the firm was defined as the percentage of shares offered on the market with reference to the total number of shares in existence after being listed. This total number includes shares issued at that time.
- The percentage of new shares issued when being listed was called “New shares”.
- The variable “DIVIDEND” only specifies if a dividend was paid the year before being listed.

APPENDIX 2

Returns were calculated according to the following formula:

$$R_{i,t} = \frac{(P_t + D_t) - P_{t-1}}{P_{t-1}}$$

where $R_{i,t}$ is the return of share i for date t, P_t is the closing price of a determinate date of quotation (t), P_{t-1} is the closing price of the previous quotation date, D_t is the dividend paid at date t. And abnormal returns were estimated according to the following equation:

$$AR_{i,t} = R_{i,t} - R_{m,t}$$

where AR_i is the abnormal return of share i for date t, $R_{i,t}$ is defined as above, $R_{m,t}$ the return observed on the market for date t.

Event studies always raise some questions about the way we deal with missing values. We considered two different kinds of missing value. First case: there was no exchange on a share because of a quotation interruption due to strong demand for the share. In this case, we accepted there were real missing values. Second case, there was no exchange on a share because of insufficient liquidity : we considered the price was the same as the day before.

Statistical tests were done why *RATS* and *SPSS*.

TABLE A.II
Abnormal returns and cumulated abnormal returns on the SM over a 10 day period

DATE	AR	Cumulated AR	*T* statistic	Significant level	Valid observations
1	–6.04E-04	–6.04E-04	–0.37785	0.70711	52
2	0.06404	0.06344	4.09574	2.67E-04	33
3	0.07078	0.13421	2.99158	0.00458	44
4	0.03934	0.17355	1.46909	0.14833	49
5	0.01169	0.18525	0.77526	0.44177	52
6	0.00747	0.19271	1.71228	0.09304	51
7	0.00854	0.20125	2.04721	0.04581	52
8	–0.00396	0.19729	–1.03681	0.30472	52
9	–0.0014	0.19589	–0.46006	0.64743	52
10	0.00195	0.19785	0.57232	0.56962	52

TABLE A.III
Abnormal returns and cumulated abnormal returns on the NM over a 10 day period

DATE	AR	Cumulated AR	*T* statistic	Significant level	Valid observation
1	–0.00798	–0.00798	–1.83095	0.07456	41
2	0.03949	0.03151	1.51785	0.1383	35
3	0.01161	0.04312	0.77161	0.44552	36
4	0.06498	0.1081	1.79928	0.07972	40
5	0.03943	0.14753	1.46363	0.15111	41
6	7.19E-04	0.14825	0.09845	0.92207	41
7	0.00314	0.15139	0.51229	0.61127	41
8	–0.00625	0.14514	–1.01378	0.31678	41
9	–0.00461	0.14053	–0.94332	0.35118	41
10	–0.00174	0.13879	–0.28066	0.78042	41

Note

[1] We have used two information sources. The first source is IPOs official reports provided by the French COB (Regulatory authority of Stock Exchange Operations). This source was used for accounting data, equity structure and all information about the IPOs (number of shares offered, number of shares requested, first price offered). The second source is SBF (French stock exchange committee). It was used to obtain all shares daily closing prices. We used these two sources because of the reliability of the information provided.

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