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INITIAL PUBLIC OFFERINGS (IPOs):
The Spanish experience

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INITIAL PUBLIC OFFERINGS (IPOS): The Spanish Experience^{*}

Introduction

Initial public offerings (IPOs) play an important role in providing firms with access to the financial resources that are crucial to growth and the achievement of a long-term sustainable competitive advantage over competitors. An understanding of the IPO market is important not only for investors, financial managers and underwriters, but also for entrepreneurs. Entrepreneurs of small, non-public firms may need this market in the future in order to realize the value of their enterprise. Also, entrepreneurs in firms that are already public should keep informed about this market since they may decide to spin off divisions or put together a leveraged buy-out that may eventually go public.

Over the last few years, an increasing number of Spanish entrepreneurs have selected the IPO as the main method of realizing value in their enterprises. The objective of this paper is to study the IPO market in Spain over the period 1985-90. We address a number of issues: first, we look at the important and well-documented issue of the underpricing of IPOs. Then, we identify the factors or characteristics that explain different degrees of underpricing.

Previous Research

The degree of underpricing (overpricing) can be measured by the initial return of an IPO, which is the difference between the offer price (P_0) and the first traded price observed in the secondary market (P_1) divided by the offer price (P_0). Underpricing (overpricing) occurs when P_1 is higher (lower) than P_0 . The change in the ratio of P_1 to P_0 is called the initial return and, if adjusted for changes in market returns (R_m), i. e., systematic risk, is referred to as the adjusted return.

Early studies of IPOs were concerned mainly with the profit potential for investors [see, for example: Brown (1970), McDonald & Fisher (1973), and Block & Stanley (1980)]. The results consistently indicated that IPOs are on average underpriced, offering significant positive returns in the short run. Many of the studies also addressed the implications of these

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results for the efficient market hypothesis. The general conclusion has been that, although profit opportunities may exist in the early days of trading of a new issue, any excess return tends to disappear as more information becomes available. Hence, investors who purchase the new issues in the after-market (1) do not experience excess returns.

Given the prevalence of underpricing, a number of authors sought to identify factors or characteristics that explain the different degrees of underpricing. Logue (1973), Block & Stanley (1980), and Tinic (1988) found an inverse relationship between the “prestige” of the principal underwriter and the initial return on an IPO. Muscarella & Vetsuypens (1987) found a significant negative relation between initial return and the age of the firm. Moreover, Carter (1987) found a significant positive relation between the age of the firm and the prestige of the underwriter.

As Ritter (1984) suggests, firms in some industries may experience higher degrees of underpricing than firms in other industries. According to Ibbotson & Jaffe (1975), underpricing is a cyclical phenomenon, characterized by periods of high underpricing (“Hot Issue” market) followed by periods of low underpricing (“Cold Issue” market). Finally, Ritter (1984) and Miller & Reilly (1987) found a significant relation between IPOs and the standard deviation of aftermarket returns.

A more recent line of research goes beyond the empirical evidence of underpricing and sets out to gain insights into why underpricing occurs and persists across markets and across periods. A theory first advanced by Rock (1986) and subsequently extended by Beatty & Ritter (1986) and McStay (1987) explains underpricing in terms of information asymmetry among investors. According to Rock’s model, the investor in the IPO is either “informed” *ex ante* about the after-market equilibrium prices, or “uninformed” about the price.

If an IPO is underpriced, both informed and uninformed investors will bid for the issue (the uninformed in a random manner (2)), most likely causing the issue to be oversubscribed, so that an allocation or rationing of the issue is required (3). If an issue is overpriced, informed investors will not bid but will stay out of the offering. The only bidders will be the uninformed investors, who will absorb the overpricing. Rock argues that IPOs have to be underpriced on average in order to produce an expected return (4) for the uninformed investor, so that he continues to participate in the IPO market.

An alternative hypothesis is developed by Tinic (1988), who asserts that low-priced stocks tend to be issued by highly speculative firms. Empirical support for this notion, according to Tinic, is found in Osborne (1969), whose study indicates that lower-priced stocks are more volatile than higher-price stocks.

With regard to previous research on IPOs in Spain, there is little empirical evidence regarding the behavior of IPOs. Martínez-Abascal (1990) describes the process, as well as the performance, of Spanish IPOs over the period 1988-1989. In a similar vein, Freixas & Inurrieta (1991) describe the behavior of Spanish IPOs. Both studies, however, confine themselves to reporting the initial returns. Moreover, none of these studies reports aftermarket returns or conducts a statistical analysis of the relationship between the characteristics of the firm and the degree of underpricing.

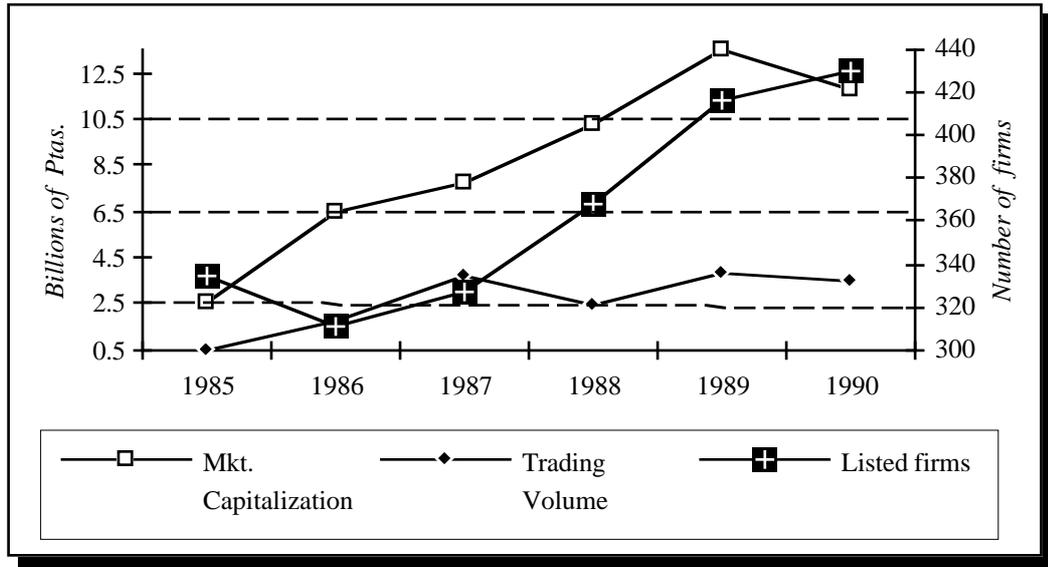
Stock Markets in Spain

The world economic crisis of the 1970s, combined with internal political instability, drastically eroded the role of the stock markets in the Spanish economy. During the early 1980s the economy underwent major structural changes. In 1986 Spain became a full member of the EEC and decided to remain in NATO. These events, together with an improvement in economic performance and a large inflow of foreign investments, boosted the importance of the stock market. As can be seen in Exhibit 1, the market capitalization and trading volume (left-hand scale) of the Madrid Stock Exchange increased from 2.5 and 0.5 billion pesetas in 1985 to about 11 and 2.7 billion pesetas respectively, in 1990. Over the same period, the number of listed companies (right-hand scale) increased from 334 to 430. In addition, the methods and procedures of listing for both national and international participants underwent major improvement (see Appendix 1 for more details on the Spanish Stock Exchange procedures for foreign investors).

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- (1) The term after-market refers to the sequence of prices observed in the secondary market once the issue starts trading, i.e., a week or a month after the initial offering.
 - (2) Uninformed investors will not engage in expensive search to assess exactly the true value of the IPO, but rather will bid randomly across all issues, good and bad.
 - (3) Underpriced (overpriced) issues are also called good (bad) issues.
 - (4) This means that they must generate a return at least as high as the risk-free rate for the uninformed investors.

Exhibit 1

INITIAL PUBLIC OFFERINGS (IPOs): The Spanish Experience

Growth in the Level of Activity of the Madrid Stock Exchange**Data and Variables Employed in the Current Study**

Our data consist of 85 initial public offerings made between January 1, 1985 and December 31, 1990. Data have been collected from the preliminary prospectuses issued by firms and filed with both the Madrid and the Barcelona Stock Exchange. Aftermarket and seasoning information is obtained from the data base of the Barcelona and Madrid Stock Exchanges. Exhibit 2 shows the distribution of IPOs by industry.

Exhibit 2

INITIAL PUBLIC OFFERINGS (IPOs): The Spanish Experience

Distribution of IPOs by Industry

	Total*	%
Food and Agricultural	17	20.0
Energy and Chemical	7	8.2
Manufacturing Industries	18	21.2
Commercial and Distribution	10	11.7
Construction	14	16.5
Transportation and Communication	5	5.9
Other	14	16.5
Total	85	100.0

* Excluding the banking industry.

We compute one-week, one-month, six-month and one-year aftermarket returns using the first-day closing price and the closing price one week, one month, six months or one year later. To adjust for market movement (systematic risk) during the seasoning period, we subtract the return on the stock market's index from the stock's return for the corresponding period. This essentially assumes that each stock has a beta of one.

The firm's sales, number of employees, and market capitalization are used as proxies to control for the effects of firm size. Market capitalization is the total number of shares outstanding after the IPO, multiplied by the first-day closing price. A dummy variable is used to denote the underwriter's prestige (one for more prestigious and zero for less prestigious). If there were two or more co-lead underwriters of an issue, the most prestigious underwriter was chosen for assigning underwriter rank.

Results

Exhibit 3 presents the number of observations, means, and standard deviations of the different variables used in the study. The firm's level of sales and number of employees before going public, as well as its market capitalization after going public, are used as variables for controlling the size effect.

Exhibit 3

INITIAL PUBLIC OFFERINGS (IPOs): The Spanish Experience

Sample Statistics

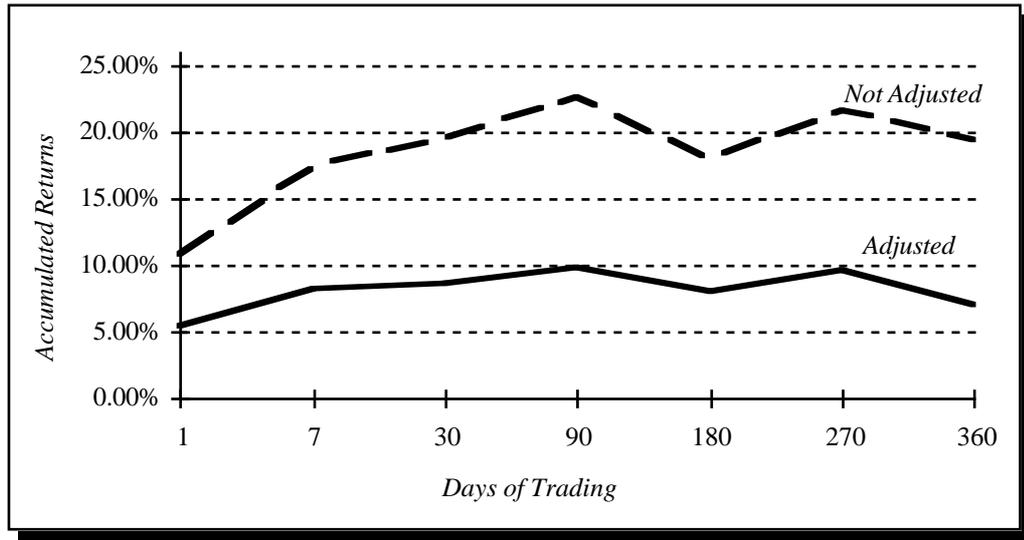
Characteristic	Number of Observations	Mean	Std. Deviation
Sales (Millions of Ptas.)	57	29,059	124,000
Employees	57	1,097	2,595
Market capitalization (Millions of Ptas.)	49	5,483	21,188
Age of the firm	58	29	17
Offer price (Ptas.)	71	4,055	2,836

Underpricing and IPOs' Long-Term Return. As is shown in Exhibit 4, the initial return for Spanish IPOs is about 11 percent on the first day of trading. The accumulated unadjusted returns in the aftermarket manifest a tendency toward the overall market returns after more than one year. The decreasing trend for aftermarket returns is stronger after they are adjusted for the market returns.

According to the efficient market hypothesis, if the market is efficient, then prices adjust rapidly to underpricing, and investors who purchase the new issues in the aftermarket do not experience excess returns. If this is so, then the speed of price adjustment in the aftermarket is also an indication of the degree of the market's efficiency. Our results reveal a low level of efficiency for the Spanish stock markets over the period 1986-90.

Exhibit 4

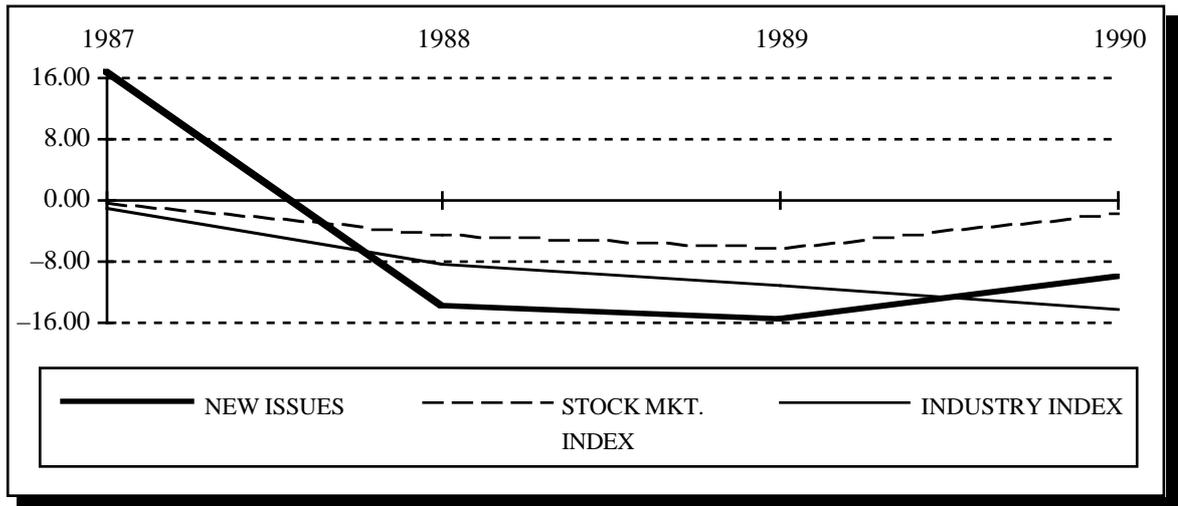
INITIAL PUBLIC OFFERINGS (IPOs): The Spanish Experience

Initial and Aftermarket Accumulated Returns for Spanish IPOs

When long-term returns for investors in Spanish IPOs are compared with the returns of the market portfolio, there is a significant negative return for those invested in IPOs. Exhibit 5 compares the internal rate of return (IRR) of a portfolio 100 percent invested in new issues with that of a portfolio invested in the market general index and the industry index over the period 1987-1990.

Exhibit 5

INITIAL PUBLIC OFFERINGS (IPOs): The Spanish Experience

Comparison of IRR from investors' point of view up to 30/6/1990

In 1987, returns for IPOs had been about 16 percentage points above of those of the general stock market index and the industry index. This trend, however, underwent a drastic change between 1988 and 1989, when the IRR for investors in IPOs was about 16 and 8 percent below that for investors in the general and the industry index, respectively. Combining the results of Exhibits 4 and 5, we can conclude that new issues in Spain have had high returns for traders who invested and held them for a period of less than 90 days.

Industry Effects. Exhibit 6 presents the returns by industry, both the initial returns and the aftermarket returns. There are differences in mean initial returns among industries, but the means difference test did not reveal statistical significance. Our findings indicate that the aftermarket returns are different across industries but that the differences are not statistically significant.

Exhibit 6

INITIAL PUBLIC OFFERINGS (IPOs): The Spanish Experience

Comparison of Mean Returns by Industry

Industry	Initial Returns (%)	Aftermarket Returns(%)*	
		1 Week	1 Month
Food and Agricultural	6.7	12.3	24.0
Energy and Chemical	28.8	28.4	25.2
Manufacturing Industries	28.0	39.6	40.3
Commercial	7.5	-1.0	-8.0
Construction	10.5	25.0	24.5
Transportation and Communication	22.0	25.0	21.1
Others	-10.6	-6.9	-8.9
All IPOs	10.8	17.5	19.5

* Adjusted for market risk

One explanation for the observed difference between industries as regards the level of underpricing is that firms with higher underpricing may be more risky *ex ante* than others, such as firms in the energy and chemical industries. From the economic perspective, the expected growth in some industries for the period 1985-90 has had a significant influence on the extent of underpricing. For example, over the period 1985-90, the construction industry was considered a “hot” industry on account of its high expected growth, mainly because of government plans to improve the network of highways, the 1992 Barcelona Olympics, and the international exhibition in Seville in the same year. The entrance of multinational firms into some sectors of the Spanish economy during 1985-90 is another factor that has affected the degree of underpricing. For example, the low level of underpricing among commercial firms may be a consequence of the huge demand from foreign retailers who wanted to enter the Spanish retailing market.

Moreover, the extent of underpricing in a particular industry may be affected by whether that industry is heavily or only scarcely represented in the stock exchange. Industries with higher market capitalization and therefore greater weight in overall market performance may be subject to lower levels of underpricing. This is mainly because investors in such industries have access to more information and reference data to assess the pricing of new issues. The relative position of the firm in its industry is another determining factor of the degree of underpricing. Firms that are leaders in their industry may seem more attractive to investors and hence experience a lower level of underpricing, as in the transportation and communication industries.

Underwriter Rank. Our findings indicate that the initial returns are negatively related to underwriter prestige (1). Exhibit 7 shows that the degree of underpricing, measured by both initial returns and aftermarket returns, is higher for IPOs with a less prestigious underwriter. The difference is about 2 per cent for the initial returns and, after adjusting for market risk, increases to around 10 per cent and 27 per cent for one-week and one-month aftermarket returns, respectively. This evidence supports the findings of previous research, as indicated above.

(1) The underwriters were classified into two groups: 1) banks and international underwriters; 2) non-banks and local underwriters. The first group were considered to be more prestigious than the second group, mainly because of their capacity to place new issues with a wider range of investors in the local as well as the international markets.

Exhibit 7

INITIAL PUBLIC OFFERINGS (IPOs): The Spanish Experience

Comparison of Mean Initial Returns by Underwriter Rank

Underwriter Rank	Number of Observations	Initial* Returns (%)	Aftermarket Returns(%)*	
			1 Week	1 Month
More Prestigious	14	7.8	6.9	-5.9
Less Prestigious	10	9.8	16.2	21.5

* Mean difference significant at 5% level.

Type of Placement. There are two types of offering available for Spanish IPOs: public offerings and private offerings. Under the public offering, two systems are in common use: 1) Open system, in which during a predetermined period all requests are initially accepted; if the requests exceed the size of the issue, a pro rata is used, with its rules being clarified and published in advance; 2) Discretionary awarding of securities according to the chronological order of subscription; as a guarantee of fairness, a system for registering the date and time of each request, as well as the representative payment of the disbursement, should be established. Under the private offering, the IPO is placed among a group of investors (or with a single investor).

Our data reveal that the average underpricing for issues through private placement is higher than for issues via public offering. As Exhibit 8 shows, the difference amounts to about 9 percent for returns in the one-week aftermarket.

According to Rock's (1986) model of underpricing, informed traders would invest only in underpriced issues. If this is so, then issues through private placement, which are usually offered to informed investors (e.g., family members, insiders, group companies, etc), can be expected to experience a higher degree of underpricing. Another possible explanation for this effect is the relationship, as well as the agreement, between the underwriter and the firm. The firm may accept a higher degree of underpricing in exchange for a more favorable treatment in its future business with the underwriter.

Exhibit 8

INITIAL PUBLIC OFFERINGS (IPOs): The Spanish Experience

Comparison of Mean Initial Returns by Type of Placement

Method of Placement	Number of Observations	Initial** Returns (%)	Aftermarket Returns(%)*	
			1 Week	1 Month
Private Placement	29	9.6	13.6	6.5
Public Offering	10	4.9	4.3	3.5

* Mean difference significant at 1% level.

** Mean difference significant at 5% level.

Hot and Cold Market Effects. Exhibit 9 presents returns for the first day of trading and risk-adjusted returns for the first week and first month of trading, broken down by year. There is a substantial and statistically significant difference between the degree of underpricing in 1987 and 1990, on the one hand, and in the other years.

Exhibit 9

Comparison of Mean Initial Returns by Year

Year	Number of Observations	Initial** Returns (%)	Aftermarket Returns(%)*	
			1 Week	1 Month
1986	4	16.0	25.7	55.7
1987	11	-5.9	5.4	6.2
1988	28	20.7	19.9	14.3
1989	24	26.1	26.7	29.2
1990	7	-12.2	-7.1	-6.4

* Mean difference significant at 5% level.

** Mean difference significant at 1% level.

Our results thus support Ibbotson & Jaffe's (1975) proposition that underpricing is a cyclical phenomenon, characterized by a "hot issue" market (1988-89) followed by a "cold issue" market (1990). Could the more marked underpricing of 1987 and 1990 IPOs be the result of a concentration of offerings in any particular year? Exhibit 10 shows the number of new issues each year and their market capitalization. New issues had higher returns in 1988-89, and lower returns in 1987 and 1990. The former years are characterized by a higher number of IPOs with greater market capitalization than other years. Therefore, the results reveal that there is a relationship between the number of offerings and the degree of underpricing.

Exhibit 10

INITIAL PUBLIC OFFERINGS (IPOs): The Spanish Experience

Number of Issues and Market Capitalization

Year	Number of New Issues	Market Capitalization (Millions of Ptas.)	
		New Issues	Stock Mkt.
1986	12	102,953	6,477,320
1987	32	309,614	7,748,838
1988	39	799,905	10,313,057
1989	61	984,363	13,457,383
1990	24	72,150	11,740,005

Size Effects. Exhibit 11 presents returns for the first day of trading, and unadjusted accumulated returns over the first year of trading. Firms with sales above the mean (large firms) manifest a lower degree of underpricing than those with sales below the mean (small firms). However, accumulated returns beyond 180 days are significantly higher for large firms. It is clear from Exhibit 11 that firms of different size experience different degrees of underpricing; a meaningful comparison of returns between these two groups should control for these differences. Ordinary Least Squares regression is used to test the idea.

Exhibit 11

INITIAL PUBLIC OFFERINGS (IPOs): The Spanish Experience

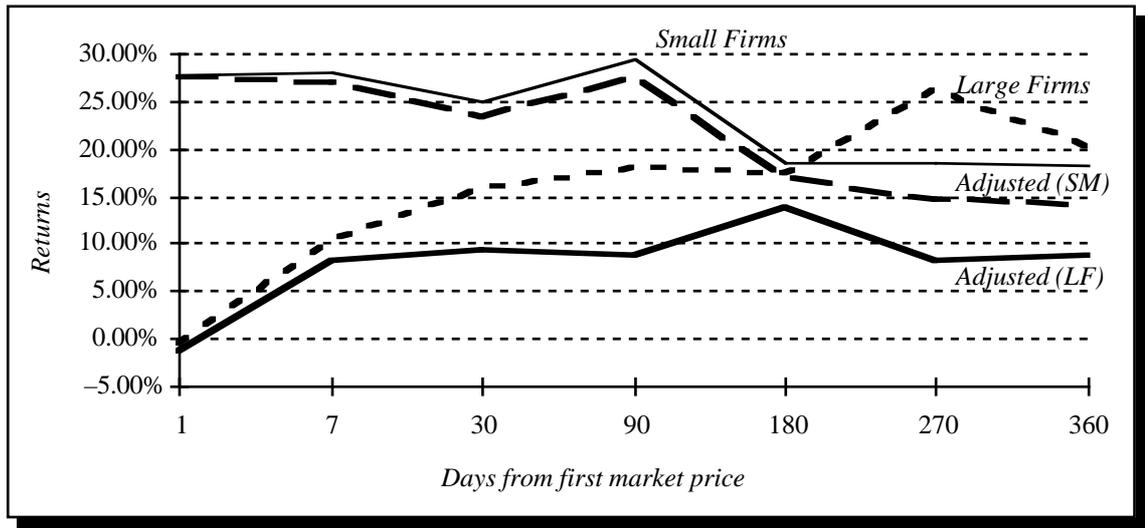
Returns by Firm's Size (Sales)*

Exhibit 12 shows the results of the regression of returns versus IPO characteristics. Three different measures for firm size are used: log of sales, log of number of employees, log of market capitalization.

The hypothesized sign of all three size variables is negative; that is, large firms should experience less underpricing than small firms. As can be seen in Exhibit 12, the sign of all proxies for size is negative for initial as well as aftermarket returns. However, with the exception of sales and aftermarket returns, other relationships are not statistically significant.

Age of firm. Our findings do not reveal any relationship between the age of the firm and the degree of underpricing when it goes public. Exhibit 12 presents the results of the regression for company age and returns, both in the initial market and in the aftermarket. In both cases, the relationship is weak and statistically insignificant at reasonable confidence levels.

Age is a measure of the operating history of the firm. It is also a proxy for the availability of information about the firm [Barry & Brown (1985)]. However, it seems that in the case of Spanish IPOs, age does not play a determining role. This may be because, in Spain, the availability of information about a firm is determined more by management attitudes than by the firm's age. Therefore, the influence of the age of the new issue on the investors, and thus also on its degree of mispricing, is insignificant.

Exhibit 12

INITIAL PUBLIC OFFERINGS (IPOs): The Spanish Experience

Results of Regressions of Initial Returns Against IPO Characteristics

Variable	Initial Returns		Aftermarket Returns*	
	Coefficient	t - value	Coefficient	t - value
Intercept	1.235	–	1.748	–
% of Offer Retained	–0.339	2.514**	–0.282	1.235
Age of Firm	–0.003	0.514	0.002	0.460
Log of Sales	–0.091	0.586	–0.176	1.983**
Log of Employees	–4.5E-6	0.471	–5.7E-5	1.198
Log of Market Capitalization	–3.4E-5	0.237	–8.9E-6	0.067
R	0.566		0.645	
R ²	0.320		0.416	

* Change from first market price to one week; adjusted for market return.

** Significant at 5% level.

Summary and Conclusion

This study examines Spanish IPOs and possible links between company characteristics and the degree of mispricing. To date, little empirical evidence is available about the behavior of IPOs in Spain. Using the methodology applied in other countries, it was possible to investigate the extent to which Spanish IPOs mimic the behavior of IPOs in other countries.

In general, the results are consistent with those of similar studies in other countries. Specifically, the price adjustment process of Spanish IPOs required, on average, a longer period of time. Over the period 1986-90, the returns for investors in new issues by small firms were, on average, higher than for those who invested in the new issues of large firms. IPOs that selected private placement experienced a greater degree of underpricing than others. Industry effects, underwriter prestige and the number of issues in any given year have had an impact on the degree of mispricing in new listings. For all cases, however, our findings are consistent with those of other markets. The evidence also reveals that the firm's age had no significant influence on the degree of underpricing of Spanish IPOs.

This study contains several implications for both entrepreneurs and investment professionals. First, there are the tactical implications for Spanish entrepreneurs who are considering IPOs as a way of realizing value in their enterprises. This study offers evidence that IPOs in the Spanish market have been, on average, 11 percent underpriced. However, it is possible to reduce the degree of underpricing by selecting the optimum timing, the right underwriter, and the most appropriate type of placement.

Second, our research has tactical implications for investing in the Spanish IPO market. Handsome returns can be earned by investing in new issues and liquidating the holding in the first 90 days after the first market price. This study provides evidence that makes it easier for investors to identify investment possibilities with spectacular returns.

Third, this study provides empirical evidence in support of some of the most documented and highly developed theories, propositions and hypotheses on the nature and behavior of IPOs.

Appendix 1

INITIAL PUBLIC OFFERINGS (IPOs): The Spanish Experience

Rules for foreign investment

At present, foreign investment in Spain is regulated by Royal Decree 1265/1986 of 27th June, which was established to adapt Spanish legislation to EEC criteria (amended by the State General Budgets Law for 1991, 31/1990) and implemented by the regulations approved by Royal Decree 2077/86 of 25th September, Order of 4th February, 1990.

A. Foreign investments in Spain are considered to be those made by:

- Private foreign entities, both natural persons and legal entities, wherever their place of residence might be.
- Spanish citizens who are living abroad.
- Spanish corporations with a foreign participation in their capital the percentage of which is in agreement with that established in the by-laws. If the foreign participation exceeds 50%, the corporation's investment shall be considered a 100% foreign investment.
- Corporations and subsidiaries in Spanish territory belonging to foreigners or Spanish citizens who are residing abroad.

B. Foreign investments, carried out through participation in Spanish corporations, are allowed if the participation does not exceed 50% of the share capital. However, if the investment exceeds 50% of the share capital or exceeds the amount of 250 million pesetas, then it needs the final authorization of the Spanish authorities.

Portfolio investments which are not intended to exert an effective influence on either the control or the management of a corporation nor to maintain long-lasting economic ties, and which are carried out by means of the purchase of shares (independently of whether or not the shares are listed in the Stock Exchange), Public Funds, fixed income private securities, or participations in investment funds, are also allowed.

C. The owners of foreign investments made with capital brought in from abroad have the right to transfer abroad:

- The initially invested capital as well as any capital gains obtained at the time of selling;
- Any legally distributed profits and dividends, including the proceeds from the sale of rights.

Appendix 1 (continued)

The right to transfer may be exercised as soon as the investment has been declared to the Investment Registration Authorities. The Administration may deny the right to make transfers only if it has previously verified that the profits and capital gains have been obtained by violating the legal norms of Spanish Law.

D. In application of articles 56.1 and 223.1 of the EEC Treaty, the following sectors have specific regulations: Gambling, All activities directly related to national security (including telecommunications services), Television, Broadcasting, Air transportation.

This particular regulation will not apply to residents of the EEC countries.

E. Every foreign investor must declare his investment to the General Directorate of Foreign Transactions. This declaration will be made by the Stock Exchange member (agent) who acts on behalf of the investor. Foreign governments and their official entities, as well as foreign public enterprises, need a special authorization for investing in Spain, except those belonging to the member countries of the EEC.

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