CHARACTERISATION OF THE REPUTATION OF PRIVATE EQUITY MANAGERS: EVIDENCE IN SPAIN[*]

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Abstract

In the light of the Agency and Signalling Theories, the aim of this paper is to analyse the relationship between investors and private equity managers in order to identify the factors that affect the latter's reputation. Since there are no individual references about their past returns, the reputation of such players is thought to be linked to their capacity for obtaining new funds in countries such as Spain. Two groups of variables that might affect reputation are identified: variables in the first group are linked to the private equity cycle, and those in the second are related to the external image of the operator. The analysis focuses on the activity of almost all private equity investors operating in Spain during 1991-2001. The results show that the lagged volume of investments acts as an indicator of the ability to manage larger amounts of capital. The exogenous characteristics of highest importance are the size of the funds under management and the belonging to the National Private Equity Association. Because of the wide variety of private equity firms, the analysis is completed for diverse groups, which may behave in a different manner.

Key words: Fundraising, private equity, reputation; agency, signalling theory.

JEL Classification: G24, G34.

Resumen

En este artículo se analiza la relación que se origina entre inversores y operadores de capital riesgo dentro del marco de las Teorías de Agencia y de Señales. La finalidad es identificar los factores que determinan la reputación de estos operadores. Ante la ausencia de referencias individuales de rentabilidad, la reputación puede representar un elemento básico para señalar la capacidad para captar nuevos fondos en países en los que el mercado de capital riesgo está en proceso de maduración. Dos grupos de variables que pueden afectar a la reputación son identificados: uno relacionado con la actividad desarrollada y otro vinculado a aspectos externos. El análisis se centra en la actividad de la práctica totalidad de operadores de capital riesgo activos en España durante el periodo 1991-2001. Los resultados muestran que el volumen de inversiones registrado en el pasado indica una capacidad para gestionar una cifra superior de capitales. Las características exógenas de mayor importancia son el tamaño del operador y la pertenencia a la Asociación Nacional de Capital Riesgo. Dada la gran variedad de operadores existentes en España, el análisis se completa para diferentes subgrupos que podrían comportarse de distinta manera, encontrándose evidencia en este sentido.

Palabras clave: Captación de fondos, capital riesgo, reputación; Teoría de Agencia y de Señales.

1 Introduction

Venture capital is a type of business financing provided mainly through the acquisition of a stake in small and medium sized businesses. This investment is made in a temporary, minority fashion, given that the principal aim of venture capitalists is not corporate control, but rather the realisation of capital gains upon divestment. Initially, venture capital was devoted to investment in firms that were newly created or in the early stages of development, since the lack of tangible assets or the high uncertainty inherent in the investment projects of such firms prevented them from obtaining long-term bank funding. Now, however, the concept of private equity has become more extended and encompasses investment in any unlisted firm made with the aim of adding value.

A characteristic element in this type of funding is that the funds invested by private equity operators (henceforth PEOs) are not their own but those of investors[1], so that PEOs in fact act as intermediaries between suppliers and seekers of funds. The justification for this is that PEOs are specialised financial intermediaries (Chan, 1983), able to reduce the degree of information asymmetry between firms with a high level of uncertainty and their investors (Admati and Pfleiderer, 1994; Amit et al, 1998; Hellmann and Puri, 2002; Repullo and Suárez, 1999; among others). Gompers and Lerner (2001) pointed out that the main cause of a reduction in information asymmetry is the studies carried out by PEOs prior to the funding of firms, and the active participation of PEOs in the running of the firms subsequent to such funding. This reduction in information asymmetry is the main reason why PEO intervention adds value (Black, 1998).

If we accept the necessary intermediary role of the PEOs, the fundamental question then concerns the factors determining why investors commit their funds through certain PEOs rather than others. In a developed market, this question would be partially answered by historical information concerning returns on previous investments, enabling investors to choose those PEOs who appeared able to generate higher return levels, given the risk involved. However, in domestic markets where the private equity market is still developing, such information is not yet available, owing to the limited number of PEOs who have completed the investment and divestment of funds. Therefore, investors in such countries could be expected to make their decisions on the basis of some other criterion, such as PEOs' reputation.

Though this question is naturally an important one, it has received little attention in financial and economic literature. In this sense, the principal aim of the present paper is to determine the characteristics underlying the reputation of PEOs, which will then serve to explain their ability to attract new funds from investors. This relationship is analysed from the theoretical support of the Agency and Signalling Theories, given that their content perfectly fits the characteristics of the private equity market and the relationship between PEOs and investors. The theoretical content of these theories is tested in the Spanish market, which is still in the process of attaining maturity.

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[1]According to a study of Venture Economics (1987), 61% of the pooled venture capital operators provided 1% of the capital. In the United States pension funds were the main source. In Europe financial organisations are the main suppliers of funds for this activity (EVCA, 2002). This factor is also found in the particular case of Spain (Martí, 2002).

The paper is structured as follows. In the following section further details are given of private equity activity and of the agents taking part. A series of hypotheses derived from the premises of the Agency and Signalling Theories are also presented. Section 3 describes the particularities of the main management models normally found in private equity, which could lead to different signalling patterns on the basis of the type of operator involved. Section 4 describes the data and methodology used. Results are presented in sections 5 and 6. The final section summarises the main conclusions.

2   Theoretical framework

In this section we aim to describe the activity of private equity, focusing mainly on the investment and divestment stages. Then, on the basis of the private equity process and the Agency and Signalling Theories, a series of basic hypotheses is presented.

2.1   Private equity activity

The private equity process comprises three basic stages, related to the obtaining of funds, their subsequent investment, and their final divestment, generally on a long-term basis. In this process two types of contractual relationship arise: first, the type that links investors and PEOs in the fundraising phase; second, the type that links PEOs and venture capital backed firms in the investment and divestment stages. Though this work analyses exclusively the relationship between investors and PEOs, we consider that, in order to understand it, a brief description of some of the characteristics of the investment and divestment process is needed, since it is from these characteristics that the reputation of PEOs is established.

To begin with, the PEO raises a fund that will attract subscriptions from investors. Once investor participation is completed, the managers of the private equity firm use their skills to attract company projects in which they can acquire a stake. Investment proposals are screened by the firm's analysts, who focus on those proposals that are most interesting and which are also in accordance with the firm's investment policy, as laid down in its investment practices. By way of reference, only three out of ten initial contacts are given further study (Gladstone, 1983). In these cases the PEOs analyse and compare the information provided by the representatives of the firm seeking funds, as stipulated in the *business plan*. This document contains, among other things, a description of the firm, the product and the market, the directors' previous expertise and skills, the funding requested, and the use to which it will be put. Among the main factors usually taken into account by PEOs, of particular importance are those relating to the firm's management team, the market potential and the competitive advantage of the product or service (Gladstone, 1983; Tyebjee and Bruno, 1984: Fried and Hisrich, 1994).

If both parties are interested, and a provisional agreement is achieved as to entry conditions, the management team hands over a letter of intent. In the process of negotiation, not only are the financial instrument in which participation is to take place and its specific conditions included, but also, it is customary to incorporate a contract,

known in Spain as a *shareholders′ agreement*. This contract records a series of measures to be taken to protect the PEOs' interests and lays down the rules of the game between the parties during the time in which the PEO will be representing the investors as a shareholder of the firm. Among other aspects, residual valuation norms are set, in the event of the company being subsequently liquidated; sales options for shares are established, in the event of the original shareholders' withdrawing from the firm; and the need for qualified majorities is established for certain types of decision on strategic issues. Similarly the participation of a representative of the PEO on the governing board of the firm receiving funding is included, and norms for the sending of periodical information on how the firm is getting on are established.

Having reached this point, the investment proposal is analysed by the investment committee or the governing board, depending on the type of management structure. Before the resources are finally handed over, however, the management team will have had a detailed study made of the assets, rights and liabilities of the company receiving funding. This action, known as *due diligence*, requires a period of at least a fortnight, and can even take as long as several months. This process is aimed at reducing the agency costs and the high degree of information asymmetry existing between PEOs and funded firms (Norton, 1995), stemming from ignorance of the technology, the market, the industry and the firm, as well as from uncertainty regarding the honesty and capacity of its management team. Finally, the firm's shareholders sign the issue or sale of the shares and agreements that will protect the interests of the new shareholders, who will generally keep a minority of the shares in circulation.

In most cases, the duration of the entry process in new portfolio companies ranges between fourteen and sixteen weeks (Martí, 2002). The time needed to invest is thus much greater than for an ordinary investment fund, where with one phone call the fund manager can allocate significant sums of money to financial instruments quoted in official markets. On the other hand, in many cases the initial commitment may never occur: in fact, some PEOs may not conclude any investment over a long period of time. This might be for several reasons; among which a very likely one is the fact that the investment may not appear worthwhile once it has been analysed; or because it is impossible to reach agreement on price or entry conditions; or, finally, because another competitor has closed the deal.

As a result of the complexity of the process, it is normal for a PEO to take as long as three years to allocate seventy-five percent of the funds. From this moment on, however, the management team will not be able to take part in any further new investments unless it raises new funds. At this stage the activities undertaken by the PEO with regard to the fund invested in consist of adding value to the firms in the portfolio and, from time to time, making a second or third round of funding in the firms, until they can begin to divest their shares.

The investment cycle of private equity ends with the sale of the stake in the portfolio companies. Since these are non-liquid investments, exiting is more complicated than for an ordinary investment fund. In the latter case the managers can sell the shares in official markets, whereas the PEO must sell the shares in each firm in an individual and non-immediate way. The returns are expected to begin to occur five years after activities

begun, though the precise moment will depend on the state of the economy and the markets, as well as the stage of development reached by the investee firm.

2.2 Private equity activity from the framework of the Agency and Signalling Theories: basic hypotheses

Owing to the peculiar characteristics arising in the two contractual relationships of private equity, the Agency Theory is a suitable framework for studying them. Jensen and Meckling (1976) defined the agency relationship as the contractual relationship by which one or more persons (principal) hire another person (agent) to carry out some type of service on his/their behalf, delegating authority and decision-making power to the agent. In this sense, the private equity process allows the PEO to be viewed both as agent, in his relationship with the investor, and as principal, in his relationship with the portfolio company.

Most of the existing literature has focused on the study of the role of the PEO as principal and the entrepreneur as agent (Reid, 1996, 1999; Sahlman, 1990; Smith, 1998; Kaplan and Strömberg, 2001, among others), although authors such as Smith (1998) point out that the omission from the study of the relationship between the PEO as agent and the entrepreneur as principal can lead to an incomplete knowledge of the contracts generated by both parties. The detailed analysis of the PEO's role as an agent of the investor has received, by comparison, much less attention. To our knowledge, the first work was by Sahlman (1990), who, in addition to contributing to insight into the relationships between both parties, identified the procedures used by investors and PEOs to reduce conflicts stemming from the agency relationship. More recently, Osnabrugge (2000) and Osnabrugge and Robinson (2001) found evidence concerning PEOs' need to highlight how painstaking they were in their work, and included such evidence in the framework of the Signalling Theory. Finally, Bankman and Cole (2001) suggest that PEOs' loss of reputation with investors may be one of the possible reasons why investments take place in a period when companies are overvalued.

When the investor (principal) goes to a PEO (agent) for help in investing funds and a contract is agreed, the investor delegates decision-making to the PEO and it is (tacitly) understood that the agent will act in the best interests of the principal. Nevertheless, given the nature of this relationship, there is certain information that is available to the PEO but not to the investor, thereby giving rise to an information asymmetry problem. This problem may be particularly important when the agent decides to use the information advantage he holds for his own benefit. Information asymmetry may exist in two forms, identified as *hidden action*, giving rise to what is called a moral hazard problem, and *hidden information*, causing adverse selection (Amit et al., 1998). Moral hazard refers to the possibility of the agent's deliberately acting in his own interest and against the best interest of the principal. Adverse selection, on the other hand, takes into consideration the agent's inability to act in the best interests of the principal because of his incompetence. The existence of information asymmetry implies agency costs, which are the sum of costs derived from setting up adequate incentives for the agent to act in the principal's interest, plus the residual costs incurred by the principal resulting from the possible suboptimum

behaviour of the agent, through either a moral hazard or an adverse selection problem.

Moral hazard arises because investors cannot completely control the actions of PEOs, who might for example make investments that would not be considered optimal, or incur excessive costs. With the aim of limiting this type of behaviour, the relationship between investors and PEOs is formalised through a contract[2], containing various clauses aimed at offering incentives to PEOs to re-direct their behaviour (Megginson, 2002). Specifically, Fama and Jensen (1983) point out that the agent and the principal sign a contract which specifies the agent's rights, the criteria for evaluating the results of his management, and his reward for good performance. Nevertheless, and given that the cost of drawing up such detailed contracts is very high, there are usually loopholes, giving PEOs leeway to act in their own interests. However, the risk to PEOs of damaging their reputation as a result of bad fund management, with an ensuing decrease in their ability to attract fresh funding, helps to keep their opportunism in check. So a positive relationship is expected to exist between reputation and fundraising, in an activity in which most managers have to raise funds periodically.

The problem of adverse selection occurs because the principal cannot completely oversee and verify the PEO's ability and skills. In this case, 'ability' refers to the PEO's skill in making suitable investments, adding value to the investee firms and successfully completing divestments in such a way that the capital gains generated do in fact materialise. The risk arising from adverse selection is high in this activity, owing to the broad range of activities the agent has to perform and to the fact that the final result depends upon the correct choice being made at all stages of the process. The problem of adverse selection may give rise to the well-known *market for lemons* (Akerlof, 1970), whereby the principal, who cannot observe the difference between good PEOs and bad ones, will pay the same for access to the services of both. This spurs the bad managers to flood the market and the good ones to get out of it. There are two ways of alleviating the costs of adverse selection. First, improving the selection process of PEOs; second—and this is the natural reaction of the market to the adverse selection process—the informed party can provide some sign of its quality via *signalling*.

Improvement in the PEOs' selection process can be achieved by increasing the quality of information available, thus enabling investors to distinguish between the different qualities of operators. This improvement in information can be achieved through an information search by investors or via publication by the PEOs of the quality of their investments. The problem arises in economies in which private equity is still in the process of developing, since in those markets there is no previous information on past returns obtained by PEOs. The PEOs must therefore signal their quality to investors—which they can do, according to Osnabrugge (2000) and Osnabrugge and Robinson (2001), through responsible behaviour. According to these authors, PEOs can give evidence of their responsible behaviour by establishing and maintaining a high reputation, which is related to the existence of a management team with suitable professional qualifications, acting under a clear set of rules giving details of investment procedures.

There are three approaches in the signalling literature. In the first, signals are

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[2]According to Sahlman (1990), these contracts are designed to protect investors from the likelihood of PEOs' making decisions against their interests.

conceived as actions that involve a cost (Spence, 1973), which is supposed to be higher for bad players than for good players. The viability of such a costly signalling or *informational equilibrium* is studied by Riley (1979); see also Ross (1977) and Leland and Pyle (1977). The second view, which is related to costless signalling, and is referred to as *cheap talk* in the literature, is defined by Crawford and Sobel (1982) as a costless, non-binding unverifiable message (see also Brennan and Hughes 1991). Finally, a third approach aims to assess the impact of both costly and costless signals (Austen-Smith and Banks, 2000; Bhattacarya and Dittmar, 2003).

Given the contribution made by the reputation of PEOs in reducing the problems of moral hazard and adverse selection, the main aim in this work is to find evidence of PEOs' sending signals, both costly and costless, that might be considered by investors when evaluating the reputation of PEOs. In developed private equity markets, the ability to attract funds depends on the managers' reputation (Norton, 1995; Janney and Folta, 2003). As indicated by Smith (1999) and Schertler (2002), PEOs strive to establish a good reputation in order to attract investors to their funds. We agree with Rosenstein et al. (1990) that reputation can be linked to track record. Nevertheless, in developing markets such as the Spanish one, there is not enough information on the track record, so a fund manager will have to use other indicators to establish his reputation.

In the first place, it is very important to be able to demonstrate an ability to attract, negotiate and close a sufficient number of deals. This ability will be highly regarded by investors, bearing in mind the complex nature of the activity and the long period of the investment and divestment processes. For this reason, the volume of investments made in the past by each operator, as a sign of his abilities to bring in new investments for his portfolio, may act as a signal of the PEO's reputation. Moreover, the greater the volume invested, the greater will be the signal of quality given out. In this sense, Bankman and Cole (2001) find that PEOs make investments, even when they know they are overvalued, so as not to lose reputation, a factor that was mentioned by many of the PEOs interviewed. This premise thus constitutes the first hypothesis to be tested. The volume of investments could be conceived as a costly signal, since good players would have access to a richer flow of deals than bad ones and would enjoy greater credibility among the owners of companies seeking funds.

Hypothesis 1 *The volume of investments made by private equity operators constitutes a positive signal of their quality and reputation.*

It is interesting nonetheless to observe that there may be an optimum number of firms in a PEO's portfolio (Kanniainen and Keuschnigg, 2002, 2003; Cumming, 2001). This could be due to the fact that those PEOs who make a large number of investments may spend less time following up each individual portfolio company. In as much as it has been suggested in the literature that the role of managerial assistance carried out by PEOs helps to boost the firms' value by increasing the likelihood of success in the funded firms (Norton, 1995; Sapienza et al., 1996; Kanniainen and Keuschnigg, 2002, 2003; Schmidt, 2002), a falloff in such management assistance could have negative consequences for the final returns obtained by PEOs, and this would negatively affect their reputation and lead to fewer funds being raised in the future. In this sense, one would expect a

negative relationship to exist between the number of investments made and the PEO's reputation. Nevertheless, not only the number of investments, but also the number of portfolio companies for each investment manager, must be taken into account. This is because a PEO could increase the number of investments without reducing the degree of managerial assistance if, at the same time, the number of investment managers was increased. All of this may indicate that having a large number of portfolio companies per investment manager leads to lower future returns for PEOs. Therefore, maintaining a low ratio of investments to investment manager is a costless positive signal of the PEO's reputation. This leads us to formulate the following hypothesis:

Hypothesis 2 *An increase in the ratio of portfolio companies to investment manager indicates a relative reduction in the managerial assistance of portfolio firms, and this may have a negative effect on PEO quality.*

The ability to divest in a reasonable time period is also of importance. In this sense, Gompers (1996) notes that recently formed PEOs tend to launch initial public offerings (IPOs) at an earlier stage than more established operators, in an attempt to build a good reputation. Therefore, divestment opportunities have an impact on the operators' reputation. Divestment is important, since it enables the capital gains obtained to be realised and also indicates that the funds are returning to their investors. Nevertheless, not only is divestment itself important, but the mechanism used to do so. Ali-Yrkkö et al. (2001) point out that the return obtained in divestments enables higher-quality operators to demonstrate their skills, and this has an important effect on their reputation and hence on their ability to raise funds in the future. The best return is assumed to occur in divestments via IPOs or by sale to an industrial or financial investor. Therefore, the third hypothesis is:

Hypothesis 3 *The volume of divestments by means of IPOs or third-party sales indicates a better quality of management.*

Nevertheless, caution should be taken in relation with this hypothesis because PEOs may not divest by means of stock market sales, because there is no stock market that can allow growing companies to go public. In any case, divestments through IPOs or trade sales to third parties are perceived as costly signals, because well established PEOs have better access to those markets than newer players, in terms of both opportunities and intermediation costs.

3   Management problems of different types of PEOs

The fact is that there is not just one type of management structure in private equity: rather, there are different forms presenting different problems in the relationship between investors and managers. This variety of investment vehicles is a consequence of the degree of development of private equity markets (Jeng and Wells, 2000). Moreover, the various kinds of vehicles in private equity activity become even more complicated as a result of the

differences in the size and contributory potential of funds[3]. In this section three different classifications of PEOs are analysed. We expect that the signals given out by the different PEOs, both costly and costless, may vary according to the type of management structure involved because of its particular characteristics.

3.1 Private equity companies and private equity management companies

By 'private equity companies' (PECs) we mean firms that invest their own equity capital. In principle, such a firm has unlimited duration and is run by a team of salaried directors hired for this specific purpose. Conversely, 'private equity management companies' (PEMCs) cover all the different types of investment vehicles where management is entrusted to an independent management team by means of a contract. Under this system, two types of fund can be identified: *closed end funds* and *evergreen funds*. Most of the total pool of capital is in the hands of the PEMCs[4], particularly in closed end funds, but there are a larger number of PECs in countries such as Spain (Martí 2002).

Provided that the type of contract between investors and managers is different between PECs and PECMs, it is worthwhile to test the signalling attitudes of both groups. It should be noted that the relationship between managers and shareholders in a PEC is thought to be unlimited, while the contracts between investors and general partners in PEMCs are enforced for a limited life span, even in the case of funds with unlimited duration. As a result, the risks stemming from the existence of information asymmetry are lower in the case of PEMCs because of the limited duration of the contract, implying an equally limited period of time before the proceeds from divestments are reimbursed to investors. This is not the case with PECs, where the resources recovered are immediately at the manager's disposal for reinvestment. Moreover, investors have the option of abandoning with positive value in the case of PEMCs, a choice that PECs do not have, and systems of incentives directly linked to value creation are established in PEMCs[5].

However, the need to raise new funds is greater in the case of PEMCs. This is due mainly to the fact that this type of fund provides for the progressive handing over of divestments carried out to the stakeholders (Wright and Robbie, 1996), so the manager does not have these amounts at his disposal. Therefore, the typical PEO must start a new fund every few years (Gompers and Lerner, 1998b), generally every two or three years. In this sense, PEMCs would signal their reputation in order to increase the amount of funds under management.

In principle, and for the reasons mentioned in Section 2, Hypotheses 1–3 would be expected to be satisfied in both types of firm. However, it is worth qualifying this

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[3]In this activity institutional investors (such as pension funds, insurance companies, etc), financial groups, business groups, private investors and even public investors are involved.

[4]Perhaps as a result of agency problems posed by PECs, especially for those belonging to financial groups or business corporations.

[5]In addition to the fixed management commission, applied on the whole sum of committed capital, which ranges around 2%–3%, a variable part is added, which consists of a stake in the carried interest, derived from total capital gains earned. This reward usually varies between 20% and 25% of the same total.

statement with regard to satisfying Hypothesis 2 in the case of the PECs. On the one hand, the managers of a PEC might have incentives to increase the number of investments in his portfolio. This is because often the reward for such management is based on individual success in a given deal, since it is difficult to establish the success for the fund as a whole as it is never closed down. Nevertheless, under the assumptions of the Agency Theory, as already mentioned, the carrying out of a large number of investments per operator may lower the PEO's reputation. The manager thus faces a problem of trade-off. It may be that the number of companies in the portfolio will increase if the gains he achieves by enlarging the expected return for each operation are high enough to offset the risk he runs of suffering a loss of reputation. In the case of PEMCs, reward is not linked to individual operations, but both to the amount of funds raised and capital gains obtained at the end of the fund's-life. Thus, PEMCs face only a problem of loss of reputation when the ratio number of portfolio companies per operator is high.

3.2 Public sector funded PEOs compared with private ones

Another factor to consider when assessing private equity management is the distinction between PEOs with a majority of funds provided by public investors, and those with a majority of private funds. The different approach and focus of the PEO is considered to determine differences in the agency relationship, as well as in the signals sent to increase capital under management. In the case of private investors, the particular features of the agency relationship will depend on the type of management chosen. Nevertheless, Hypotheses 1-3 are expected to hold for this group.

In public PEOs the directors are hired and have no stake in the firm, regardless of the management model chosen. Therefore, the problem arising is the traditional one between director (agent) and shareholder (principal). Given the character of the firm, raising new funds will be determined by the priorities of the public institutions promoting them. Thus, in this case establishing a reputation is not considered a priority because raising funds in the market is not foreseen. Indeed, the existence of this type of firm can be justified only by the lack of interest shown by private operators in investing in certain regions or sectors. Therefore, it is unclear whether Hypotheses 1-3 will hold, since there might only be some sort of signalling to make it easier for directors to justify an increase in contributions from public promoters.

3.3 Large and small private equity operators

A final distinction could be defined between PEOs managing larger sums of capital and those handling smaller resources. In the case of large PEOs the agency problem is supposed to be of a greater magnitude, since, by definition, the volume of funds managed is greater. Hypotheses related to the investment activity are supposed to hold in both groups. Hypothesis 3 is also expected to hold in the first group, but smaller funds may experience some problems attaining exits through IPOs and trade sales. On the other hand, since smaller PEOs are less visible, they may need to provide additional signs of reputation.

4 Data and methodology

The sample analysed covers the period 1991–2001, in which the activity of 100 PEOs was registered in Spain[6]. However, the following filters have been applied to obtain the final sample. (i) Given that in the proposed models it is necessary to include a lag in some of the variables, data have not been included from 13 PEOs created in 2001. (ii) Likewise, data from two small PEOs have been omitted, since they do not provide information on fundraising activity, investment and divestment. (iii) Nor have we used information regarding five of the operators, since these are investors who, despite having an office in Spain, handle pan-European funds; even though there is some information about them, excluding it is justified because we are analysing the conditioning factors of reputation, measured as the volume of funds raised, that are valid for Spain, but could differ for the country or countries where these funds were raised. Therefore, the sample finally analysed covers 80 national PEOs of all sizes, with 582 observations considered.

Given the steady increase in the number of PEOs in this field in the period analysed, and the fact that some of them have left this same field, in no year were there observations for all the 80 operators, 64 being the highest number considered in any one year. Table 1 shows the increase in the number of operators in this period. Moreover, their distribution can be noted on the basis of the different categories analysed in Section 3. Looking at this table, one can note the existence of a larger number of PECs, even though PEMCs are the ones that manage most of the resources. After some initial activity in the private equity sector in which the public sector played the principal role (Martí, 2002), the decreasing weight of public sector funding throughout the period considered can be noted. Finally, there is a higher number of small PEOs compared to large ones.

In Table 2 characteristics of the sample are shown according to the different classifications of PEOs considered. Thus, if we distinguish by type of management structure, 68.73% of the observations belong to operators who adopt the PEC form. On the basis of the nature of resources, 63.23% of observations belong to PEOs handling mainly funds provided by private sources. Finally, large PEOs accounted for 22.16% of the number of observations. The 'Stability' column refers to the changes in category registered in the PEOs in the period considered; the average is presented, calculated among all the PEOs in each group from the percentage of observations of each PEO recorded in the same category. For each of the three types of PEO analysed here, stability shows us what proportion of a particular type of PEO moved to another category or vice versa. With the exception of the groups related to large PEOs, which acknowledges the increase in size over time in a number of PEOs, stability in all categories is very high, with the corresponding effect on the validity of the results, when a distinction is made between those groups.

The agency relationship between investors and PEOs determines the need for establishing a high reputation. As has been suggested in Sections 2 and 3, the proxy for reputation would be the ability for raising new funds. The variable to be explained is, therefore, the annual volume of funds raised by PEOs. In Table 3 some descriptive statistics of the endogenous variable are shown. The average value of the volume of funds

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[6]This is the highest number of operators in the period analysed.

Table 1

Number of private equity operators in Spain by management type, type of investors and nature of funds.

Year	Number of PEOs	Management		Nature of Funds		Size of Funds	
		PEMCs	PECs	Private sector	Public sector	Large	Small
1991	44	27.27	72.73	59.09	40.91	18.18	81.82
1992	45	28.89	71.11	60.00	40.00	17.78	82.22
1993	53	24.53	75.47	60.38	39.62	16.98	83.02
1994	53	28.30	71.70	60.38	39.62	16.98	83.02
1995	53	28.30	71.70	60.38	39.62	18.87	81.13
1996	51	29.41	70.59	58.82	41.18	21.57	78.43
1997	49	28.57	71.43	59.18	40.82	22.45	77.55
1998	54	35.91	64.81	64.81	35.19	18.52	81.48
1999	54	37.04	62.96	66.67	33.33	20.37	79.63
2000	64	35.94	64.06	70.31	29.69	32.81	67.19
2001	62	37.10	62.90	70.97	29.03	33.87	66.13

Note: These data do not include five of the pan European funds and PEOs created in 2001.

Table 2

Distribution for the different types of PEOs and stability for each category

PEOs		Frecuency	Stability
Management	PECMs	182 (31.27%)	89.22%
	PECs	400 (68.73%)	97.32%
Nature of funds	Private sector	368 (63.23%)	97.10%
	Public sector	214 (36.77%)	89.54%
Size of funds	Large	129 (22.16%)	63.55%
	Small	453 (77.84%)	89.88%

Note: These data do not include five of the pan European funds and PEOs created in 2001.

Table 3

Descriptive statistics of new funds raised, distinguising by different types of PEOs

New funds raised	Mean	Median	Standard dev.	Minimum	Maximum
Whole sample	6048.8	0	26708.1	0	455861.6
PECMs	13441.2	0	43938.8	0	455861.6
PECs	2685.2	0	11253.3	0	144752
	p-value*				
	0.0007				
Private sector funded	8052.9	0	32799.6	0	455861.6
Public sector funded	2602.4	0	8557.3	0	82636.7
	p-value*				
	0.0014				
Large PEOs	20329.7	0	53065.2	0	455861.6
Small PEOs	1982	0	6685.3	0	82636.68
	p-value*				
	0.0001				

Note: These data do not include five of the pan European funds and PEOs created in 2001.

*Significance based on a t-test unilateral of equality of means.

raised is 6 million annually, thus showing an important amount of dispersion, justified by the distance between the minimum value of 0 and the maximum of 455.9 million. The cyclical nature of private equity markets, described in Section 2, explains that the median has null value, since operators usually activate this process every two or three years. Figure 1 displays the percentage of operators raising private equity funds by year. However, the main reference provided by Table 3 is the considerable distance between the averages of the different types of PEO. The average amount of fundraising and the standard deviation is very much higher for PEMCs than for PECs, for private firms than for public ones, and for larger than smaller ones. All the t-statistics for a difference in averages between each of the subgroups, given a different variance for each type within each subgroup[7], reject the equality of means hypothesis.
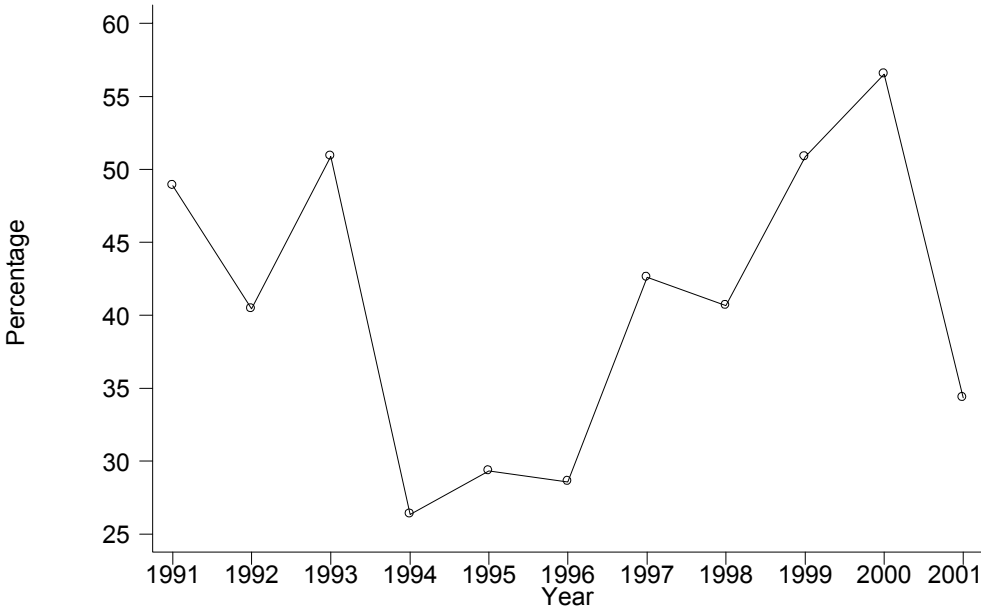

Figure 1. Percentage of Private Equity Operators Raising Funds

In order to explain the reputation of PEOs, the present paper identifies a set of independent variables that has been divided into two large groups. The first seeks to explain the operator's reputation from references related to the private equity cycle itself, and correspond to Hypotheses 1–3. The second group aims at recording variables that attempt to measure the reputation of PEOs by means of external signs. Finally, new variables are added to the model which can explain the growth of new funds, regardless of the reputation of the operator involved, such as the amount of funds still available for investment, the simple growth of activity over time and economic growth.

The first group of variables includes managers' investment and divestment activity. Related to the investment activity, the first variable included is the amount invested in the previous year by a given PEO. Similarly, another variable is added registering the ratio between the number of portfolio companies in the previous period and the number

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[7]Previously a variance equality contrast was made between each type and for each subgroup, with the homoskedasticity hypothesis being rejected.

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of investment managers that were part of the PEO's team in that period. Secondly, data on the amounts divested the previous year by the PEOs through placement in the stock market and sale of the stake to third parties are considered. These data refer to values at cost instead of the real value of the transaction, as the latter was impossible to obtain.

The second group of variables, which refer to the establishing of a reputation through external signs, includes references to the size of the institution, to managers' experience, to whether they belong to the National Private Equity Association (ASCRI), to whether they have signed up to the Law of Venture Capital and to whether the institution has its headquarters in the nation's capital (Madrid). In the first place, the size of the institution is included via a dummy variable indicating the operator's funds under management, distinguishing between large size or small, by considering as 'large size' those who manage, at any given time, more than 60 million. This variable was considered a proxy of reputation by Gompers and Lerner (1998a). Secondly, the managers' experience records the number of years' experience of the team directing the private equity firm. This variable was taken, rather than the number of years the institution itself has been in existence, because many of the newly created PEOs have built up their teams from experienced directors coming from other older firms. The third variable is a dummy that indicates whether the PEO belongs to a sector-related association (ASCRI). It is assumed that being a full member of the National Private Equity Association can constitute a prestigious reference, as the operator has to accept a series of rules regarding the carrying out of his activity.

The fourth variable indicates whether the PEO had signed up to the Law of Private Equity currently in force, and is introduced via a dummy variable. The first legislation on private equity, published in the *Real Decreto − ley* 1/1986, set up an authorisation process, delegated to the *Direccion General del Tesoro*, for PEOs wishing to carry on their activity under the aegis of the Law. PEOs included in the *Registro Oficial* could take advantage of several fiscal incentives. The enactment of the *Ley* 1/1999 on January 5 considerably improved legal and fiscal treatment of private equity and venture capital. Under the new legislation, the legal powers for authorising, registering and controlling have been entrusted by the *Ministerio de Economía* in the CNMV (National Stock Market Commission), which at present monitors the activity of registered operators. It is felt that being officially registered with the CNMV can give a positive indication of the honesty and competence of PEOs. The final variable in this group is a dummy variable that indicates if the PEO is based in Madrid. The ever growing number of investors, and particularly the amount of resources being managed in Madrid, may result from the higher reputation accruing from being located in Spain's capital city. This signal would be especially important in the case of PEOs aiming to attract non-resident investors for specific investment opportunities in Spain.

The consideration of costly signals in the literature is associated mostly with costs that are higher to the bad player. In this sense, the first two variables in the second group could be regarded as costly signals. First, the size of the PEO should be categorized as a costly signal, since a larger size is easier for established investors to achieve than for recently created PEOs. Similarly, gathering an experienced team is costlier to newly established PEOs because they have to offer a reward to attract an experienced manager. In relation to the last three variables in this group, they should be regarded as costless signals.

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Belonging to ASCRI and enrolling in the CNMV programme in order to benefit from the specific legislation imply certain costs. In this same sense, setting up the headquarters in Madrid is more expensive than choosing an alternative location, in terms of taxes and rental rates. However, ASCRI membership[8] and the cost of enrolling in the government's private equity programme are similar for both experienced and recently established PEOs. The same applies to the decision to choose Madrid, the nation's capital, as the main office location. Therefore, these three variables should be taken as costless signals from the point of view of the signalling literature, since they would imply a similar cost to both groups of investors.

Finally, other variables not related to the operator's reputation are included in the analysis, such as available capital, a deterministic time trend, and the growth of gross domestic product (GDP). Firstly, and bearing in mind the cyclical nature of the private equity process, as explained in Section 2, the amount of capital awaiting investment could be considered relevant in explaining new fundraising. It is presumed that the higher this figure is, the less inclined are investors to provide additional resources to increase the reserve of funds awaiting allocation, and a negative impact on the volume of funds raised is expected. Secondly, a time variable (trend) is introduced, to control for growth over time in the volume of new funds raised. The third variable registers GDP growth in Spain between the years $t-1$ and t, and is aimed at testing its incidence, as has been done in previous works (Gompers and Lerner, 1998a; Jeng and Wells, 2000).

Given that available data refer to time series observations (1991–2001) for a sample of individual units (80 PEOs), the panel data methodology technique is used in the empirical analysis. The use of this methodology offers several advantages, of which the main one is that it enables us to control unobservable individual heterogeneity if it remains constant over time. Thus, the coefficients estimated reflect the real impact of x on y. In general terms, the regression to be estimated is in the form:

$$y_{it} = \alpha + x_{it}'\beta + \eta_i + \varepsilon_{it}; \qquad\qquad i = 1,...N; \quad t = 1,...T \qquad (1)$$

where y_{it} denotes the endogenous variable, which is explained on the basis of x_{it}, an n-dimensional vector of explanatory variables. The index i denotes the individual and t denotes the time period. The term η_i represents the characteristic or intrinsic effect in each individual, assuming that it is constant in time for each individual and possibly different among them, and it is assumed normally distributed with mean zero and variance $\sigma_\eta^2, \eta_i \sim N\left(0, \sigma_\eta^2\right)$. This variable plays a fundamental role in the methodology of panel data, because it allows control of the effect of the variables present in each individual which are not directly quantifiable or observable. Finally, the term ε_{it} denotes the random disturbance of the model and it is assumed to be normally distributed with mean zero and variance $\sigma_\varepsilon^2, \varepsilon_{it} \sim N\left(0, \sigma_\varepsilon^2\right)$[9].

Specifically, the most general model for estimation, from which the different variations are made on the basis of the different types of operators (as mentioned in Section 3), is

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[8]However, since 1999 the Spanish Private Equity Association has changed this policy, and today full members pay a minimum fare plus an additional amount based on the funds held under management.

[9]For a more detailed study on the advantages and other issues related to panel data methodology, see Arellano and Bover (1990) and Baltagi (2001).

as follows:

$$NFond_{it} = \alpha + \beta_1 \text{Inv}_{it-1} + \beta_2 RatioInv_{it-1} + \beta_3 \text{DivIpo}_{it-1} + \beta_4 DivTer_{it-1} +$$
$$+ \beta_5 \text{L arg e}_{it} + \beta_6 Exp_{it} + \beta_7 \text{Ascri}_{it} + \beta_8 Law_{it} + \beta_9 \text{Madrid}_t +$$
$$+ \beta_{10} AvCap_{it-1} + \beta_{11} \text{Trend}_t + \beta_{12} CPIB_{it} + \eta_i + \varepsilon_{it} \qquad (2)$$

In this model, all variables in the first group and available capital are lagged one period, which is justified by the delay with which this information is made available to the public; official reports on the year's activity are usually published in June of the following year. On the other hand, all numerical variables referring to fundraising, investments and divestments are expressed in thousands of 1991 euros. A description of each of the variables can be found in the appendix.

From this equation, an econometric difficulty arises because new funds raised are positive for those PEOs raising funds and zero otherwise, i.e., variable new funds raised is censored at zero. To solve this problem, a panel data Tobit model can be used (Tobin, 1958). So a maximum likelihood estimator is employed to estimate the model. Under the assumption of a correctly parameterised individual specific effect and, as in the standard Tobit model, normally distributed error terms, this approach leads to consistent estimations.

Under these assumptions, we have that

$$\Pr(y_i|x_i) = \int_{-\infty}^{\infty} \frac{\exp\left(-\eta_i^2/2\sigma_\eta^2\right)}{\left(2\pi\sigma_\eta^2\right)^{1/2}} \left\{ \prod_{t=1}^{n_i} F(x_{it}\beta + \eta_i) \right\} d\eta_i \qquad (3)$$

where

$$F(\Delta_{it}) = \begin{cases} \left(-2\pi\sigma_\varepsilon^2\right)^{-1/2} \exp\left(-\left(y_{it-}\Delta_{it}\right)^2/2\sigma_\varepsilon^2\right) & \text{if } y_{it} \in C \\ \Phi\left(\frac{y_{it-}\Delta_{it}}{\sigma_\varepsilon}\right) & \text{if } y_{it} \in L \\ 1 - \Phi\left(\frac{y_{it-}\Delta_{it}}{\sigma_\varepsilon}\right) & \text{if } y_{it} \in R \end{cases}$$

where C is the set of noncensored observations, L is the set of left-censored observations, R is the set of right-censored observations and Φ is the cumulative normal distribution. The approximation known as Gauss-Hermite quadrature is employed to approximate the integral[10]. In all the models estimated, the p-value for a likelihood ratio test of $\sigma_\eta = 0$ is included. This test formally compares the pooled estimator with the panel estimator.

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[10]We have used different numbers of quadrature support points and results don't change significantly, so we can be confident of the quadrature used.

5 Results for the whole sample of PEOs

Results of the estimation of the model proposed in the previous section are presented in Table 4[11]. The first version incorporates all the above-mentioned variables for the whole sample. The following three specifications add dummy variables corresponding to the different types of PEO that can be identified in Spain. In order, these specifications introduce the incidence of the duration of the investment vehicle (PEC compared with PEMC), the nature of investors (private–public ones) and finally both variables.

Regarding the set of variables that attempt to explain success in new fundraising as a reference of reputation from the private equity cycle itself, in all the versions evidence is found of the effect of the volume of lagged investments. This verifies Hypothesis 1, justified by the prolonged duration of the private equity cycle of investment and divestment. This variable is significant at the 1% level in all versions, thus reinforcing the importance of this variable, despite the large variety of PEOs considered. Hypothesis 1, which has already been presented for aggregated data to explain overreaction in private equity markets, as shown in the presence of surges in supply when there is a change in demand (Martí and Balboa, 2002b), may be justified from the microeconomic standpoint by the existence of asymmetrical information in the relationship between investors and PEOs.

With regard to the ratio of portfolio companies to each investment manager in the previous period, evidence of a negative relationship is found in all specifications, all the coefficients being significant at 1%. Thus, the negative sign corroborates Hypothesis 2 and is consistent with the evidence presented by Osnabrugge and Robinson (2001). In their view, the follow-up of a smaller number of investments leads to a greater diligence in carrying out functions, and this signals a better reputation. Finally, and with respect to the conversion into liquidity of investments, evidence of a positive and significant impact is found in the case of divestments through initial public offerings. However, trade sales do not register a significant impact on new fundraising.

Within the group of variables related to exogenous signals, evidence is found, in all the specifications, of the impact of both the dimension of the resources managed and of membership of the ASCRI Association on the volume of funds raised. On the other hand, no evidence is found of the effect exerted by the experience of the private equity managers, or from following the specific legislation on private equity, or from setting up the main office in Madrid. As a result, taking into account the whole set of PEOs, the fourth specification identifies five significant variables relating to the reputation of PEO. Three of them are classified as costly signals, whereas the other two are considered to be costless from the literature's standpoint.

The variable representing the amount of money available for investment shows a negative coefficient, as expected, significant at 1%. It should be noted that PEOs can not justify new fundraising when they have plenty of money pending allocation. The dummy variable representing private-sector-related PEOs has a negative and significant coefficient. This could be explained by the important role that public-sector-related PEOs

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[11]Note that parameter estimates display a high variability when comparing the coefficients across the independent variables within the same equation. This is due to differences in the scale in which variables are measured.

Table 4

Results for the whole sample

Independent Variables	Version 1	Version 2	Version 3	Version 4
Dependent Variable: New Funds Raised
INV_{it-1}	1.099^a	1.156^a	1.110^a	1.178^a
RATIOINV_{it-1}	-5084.6^a	-5084.2^a	-5469.1^a	-5514.7^a
DIVIPO_{it-1}	11.449^a	11.403^a	11.687^a	11.648^a
DIVTER_{it-1}	-1.083	-1.132	-1.014	-1.068
LARGE_{it}	30250.9^a	27702.9^a	30816^a	27798.4^a
EXP_{it}	757.05	791.86	466.05	478.43
ASCRI_{it}	12895.4^b	13014.4^b	11621.7^c	11665.8^c
LAW_{it}	-4130.29	-5401.8	-2072.17	-3456.4
MADRID_i	-1340.14	-2996.4	1949.9	241.28
AVCAP_{it-1}	-0.508^a	-0.530^a	-0.521^a	-0.548^a
TREND_t	-54.02	-97.28	128.57	97.07
GDPG_{it}	-80332.8	-78086.4	-77538.3	-74537.8
PEMC_{it}		7268.6		8779.4
PRIVATE_{it}			-10789.7^c	-11797^c
CONSTANT	-28699.1^a	-29130^a	-21214.4^b	-21004.6^b
Log-likelihood^d	-2163.4	-2162.7	-2161.9	-2161
p-value^e	(1.000)	(1.000)	(1.000)	(1.000)

(a)=Significant at 1%, (b)=Significant at 5%, (c)=Significant at 10%

Random effects Tobit estimation.

Suscript i refers to operator and t refers to period. INV_{it}=investments. RATIOINV_{it}=portfolio companies per investment manager. DIVIPO_{it}=divestments through IPOs. DIVTER_{it}=divestments through sales to third parties. LARGE_{it}=dummy(1 if total funds under management >60 millions). EXP_{it}= years of managers' experience. ASCRI_{it}= dummy(1 if ASCRI membership). LAW_{it}= dummy(1 if signing up to the Law of Private Equity). MADRID_i= dummy(1 if operator is based in Madrid). AVCAP_{it}=available capital for investment. TREND_t=time trend. GDPG_{it}=gross domestic product growth. PEMC_{it}=dummy(1 if operator belongs to PEMC group). PRIVATE_{it}=dummy(1 if operator is private funded).

(d)=Log-likelihood of full model, (e)=LR-test comparing random effects model with pooled Tobit model.

played in Spain in the past (Martí, 2002). Finally, there is no evidence of the impact of the time variable or of the impact of GDP growth on new fundraising. The GDP growth was also not significant either in Jeng and Wells (2000), who made a study of twenty-one countries, or in Martí and Balboa (2002a), who carried out a study with aggregate data for sixteen Western European countries.

6   Results for more homogeneous groups

In this section, and bearing in mind the different characteristics of the particular PEO, the population analysed is divided into different subpanels. We aim to analyse different signalling patterns that may exist between the two groups studied in each subpanel. The groups analysed are the ones already indicated: PEMCs compared with PECs, private compared with public-sector-related PEOs, and large compared with small PEOs. First, the regression of the subpanels of the PEMCs compared with PECs is shown in Table 5. In the case of the PEMCs the panel considered incorporates 28 PEOs (with 157 panel data observations), and in the PECs it includes 55 PEOs (with 345 panel data observations)[12].

With regard to the variables relating to the private equity business, the volume of lagged investment has a significant impact only on PEMCs, thus verifying for this group the importance of investments made as a signal of ability to manage a greater volume of resources (Hypothesis 1). The ratio number of portfolio companies per investment manager is negative, but this is significant only in the case of PECs, thus partially confirming Hypothesis 2 for this group. Specifically, it is found that what is ultimately important is the fact that investors are penalising those PEOs who hold an excessive number of portfolio companies per investment manager. This is completely consistent with the Agency Theory, for reasons already mentioned. In the case of divestments, exits through IPOs show a significant coefficient, verifying Hypothesis 3 in PEMCs. This is not the case for PECs, for which neither IPOs nor sales to third parties prove to be significant.

Regarding the group of variables intended to mark reputation from external signs, the amount of funds under management shows a positive and significant impact on funds raised for both groups. In the case of the PEC group, ASCRI membership also proves to be significant, and in the expected sense. However, this is not the case of the variable LAW, which is related to the impact of following the specific legislation on private equity on the volume of funds raised. Although the negative sign may appear striking, the explanation lies in the smaller fundraising efforts of PECs that are registered at the CNMV. As a result, ASCRI membership appears to offer a positive signal to prospective investors, while the enrolment in the specific programme does not have that impact.

The representative variable of the lagged volume of capital available for investment has a negative impact for both groups, but is significant just in PEMCs. The lack of significance in PECs is related to the evolution of interest rates. Many of these PEOs covered their general expenses from financial revenue stemming from temporary investments. When interest rates fell this source of income was reduced, and larger funds

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[12]The sum of both does not come to 80 because during the period analysed two PECs became PEMCs and a PEMC became a PEC.

Table 5

Results for PEMCs and PECs

Dependent Variable: New Funds Raised		
Independent Variables	PEMCs	PECs
INV_{it-1}	2.195^a	0.125
RATIOINV_{it-1}	-7250.6	-1478.8^a
DIVIPO_{it-1}	13.232^a	4.066
DIVTER_{it-1}	-1.737	-0.496
LARGE_{it}	37410.4^c	12667^a
EXP_{it}	1479.6	56.96
ASCRI_{it}	34515.5	4649.7^b
LAW_{it}	-5313.6	-4264.3^b
MADRID_i	-16423.3	1422.6
AVCAP_{it-1}	-0.935^a	-0.050
TREND_t	2619.9	-10.44
GDPG_{it}	-175148	-11239.6
CONSTANT	-70370.7^b	-5310.7^c
Log-likelihood^d	-735.9	-1309
p-value^e	(1.000)	(1.000)

(a)=Significant at 1%, (b)=Significant at 5%, (c)=Significant at 10%

Random effects Tobit estimation.

Suscript i refers to operator and t refers to period. INV_{it}=investments. RATIOINV_{it}=portfolio companies per investment manager. DIVIPO_{it}=divestments through IPOs. DIVTER_{it}=divestments through sales to third parties. LARGE_{it}=dummy(1 if total funds under management >60 millions). EXP_{it}= years of managers' experience. ASCRI_{it}= dummy(1 if ASCRI membership). LAW_{it}= dummy(1 if signing up to the Law of Private Equity). MADRID_i= dummy(1 if operator is based in Madrid). AVCAP_{it}=available capital for investment. TREND_t=time trend. GDPG_{it}=gross domestic product growth. PEMC_{it}=dummy(1 if operator belongs to PEMC group). PRIVATE_{it}=dummy(1 if operator is private funded).

(d)=Log-likelihood of full model, (e)=LR-test comparing random effects model with pooled Tobit model.

came to be needed to obtain the same level of revenue. Finally, neither the time trend nor the GDP growth turn out to be significant. To sum up, in the case of PEMCs all significant variables are defined as costly signals, whereas for PECs costless signals seem to have a larger impact on fundraising.

As a second form of comparison, a distinction is made between PEOs with a majority of resources provided by private investors and those whose main contributions come from public investors. There are 60 of the former (310 panel data observations) and 23 of the latter (192 panel data observations)[13]. The results are given in Table 6. Concerning the group of variables linking reputation to private equity activity, evidence is found of the positive, significant impact of the lagged investment volume and divestment through IPOs but only for private PEOs, thus confirming Hypotheses 1 and 3. In the public PEOs no relevant evidence is found of the effect of any kind of divestment or the lagged investment volume on new fundraising. In relation to Hypothesis 2, the ratio of portfolio companies to investment manager is significant and in the expected sense for both groups. Regarding the results of exogenous signals, in both private and public PEOs, evidence is found of the positive, significant effect of the amount of funds under management. Even though the coefficient representing ASCRI membership shows a positive sign in the case of private PEOs, none of the remaining variables related to external signs seem to have a relevant impact on reputation.

The PEOs for which the majority of resources was provided by private investors are more obliged to account for their performance to investors, and have to be more concerned about building and maintaining a good reputation, since on that will depend, to a great extent, the volume of funds raised in the future. This could be the reason why the number of significant signals is greater for this group. In the case of public PEOs, which were fundamentally set up to contribute to the development of certain geographical areas or sectors of specific interest, it could be expected that greater importance would be given to economic and social aims than to obtaining higher financial returns. It can be concluded that private-sector-related PEOs rely, basically, on costly signals of reputation, whereas in public-sector ones there is limited evidence on the impact of the proposed variables on reputation.

The representative variable of the lagged volume of capital available for investment has a negative impact for both groups. However, it is significant only in private PEOs. The lack of significance in public PEOs is related to the evolution of interest rates, as in the case of the PEC group. Regarding the time trend, it is not significant in either of the groups. Finally, the impact of GDP growth deserves comment, as it has a negative and significant impact on fundraising only in the case of public PEOs. That is to say, when the economy is growing, the public PEOs are raising fewer funds. The reason could be due to higher activity of private PEOs in those cases, which in turn would make less necessary the activity of public PEOs, which would thus raise fewer funds.

The final group considered is the one referring to large and small PEOs. The results for this group are shown in Table 7. The case of large PEOs includes observations for 24 individuals (116 panel data observations), this number being 68 (386 panel data

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[13]The total is more than 80 owing to the existence of PEOs who changed groups when private investors were allowed entry throughout the period analysed.

Table 6

Results for private and public sector funded PEOs

Dependent Variable: New Funds Raised		
Independent Variables	Private	Public
INV_{it-1}	1.425^a	-0.126
$RATIOINV_{it-1}$	-7485.7^a	-1324^b
$DIVIPO_{it-1}$	14.108^a	-6.714
$DIVTER_{it-1}$	-1.947	-0.548
$LARGE_{it}$	35690.5^a	15282.6^a
EXP_{it}	1373.8	-150.7
$ASCRI_{it}$	19649	1834.4
LAW_{it}	-5209.8	-1612.7
$MADRID_i$	-910	4196.4
$AVCAP_{it-1}$	-0.730^a	-0.074
$TREND_t$	-167.1	506.5
$GDPG_{it}$	28707.4	-101678^b
CONSTANT	-49031.6^a	-493.8
Log-likelihood[d]	-1206	-877.8
p-value[e]	(1.000)	(1.000)

(a)=Significant at 1%, (b)=Significant at 5%, (c)=Significant at 10%

Random effects Tobit estimation.

Suscript i refers to operator and t refers to period. INV_{it}=investments. $RATIOINV_{it}$=portfolio companies per investment manager. $DIVIPO_{it}$=divestments through IPOs. $DIVTER_{it}$=divestments through sales to third parties. $LARGE_{it}$=dummy(1 if total funds under management >60 millions). EXP_{it}= years of managers' experience. $ASCRI_{it}$= dummy(1 if ASCRI membership). LAW_{it}= dummy(1 if signing up to the Law of Private Equity). $MADRID_i$= dummy(1 if operator is based in Madrid). $AVCAP_{it}$=available capital for investment. $TREND_t$=time trend. $GDPG_{it}$=gross domestic product growth. $PEMC_{it}$=dummy(1 if operator belongs to PEMC group). $PRIVATE_{it}$=dummy(1 if operator is private funded).

(d)=Log-likelihood of full model, (e)=LR-test comparing random effects model with pooled Tobit model.

Table 7

Results for large and small PEOs

Dependent Variable: New Funds Raised		
Independent Variables	Large	Small
INV_{it-1}	1.437^b	0.542^c
$RATIOINV_{it-1}$	-13542.6^b	-1097.2^a
$DIVIPO_{it-1}$	14.067^a	0.935
$DIVTER_{it-1}$	-1.982	-1.064
EXP_{it}	3924.4^c	1.996
$ASCRI_{it}$	38665.7	3811.2^b
LAW_{it}	-3416.4	-1263
$MADRID_i$	-20660.9	-263.7
$AVCAP_{it-1}$	-0.880^a	0.121^c
$TREND_t$	-2537.1	183.4
$GDPG_{it}$	141714.3	-42553.4
CONSTANT	-10714.5	-6138.5^a
Log-likelihood^d	-747.1	-1287.5
p-value^e	(1.000)	(0.156)

(a)=Significant at 1%, (b)=Significant at 5%, (c)=Significant at 10%

Random effects Tobit estimation.

Suscript i refers to operator and t refers to period. INV_{it}=investments. $RATIOINV_{it}$=portfolio companies per investment manager. $DIVIPO_{it}$=divestments through IPOs. $DIVTER_{it}$=divestments through sales to third parties. EXP_{it}= years of managers' experience. $ASCRI_{it}$= dummy(1 if ASCRI membership). LAW_{it}= dummy(1 if signing up to the Law of Private Equity). $MADRID_i$= dummy(1 if operator is based in Madrid). $AVCAP_{it}$=available capital for investment. $TREND_t$=time trend. $GDPG_{it}$=gross domestic product growth. $PEMC_{it}$=dummy(1 if operator belongs to PEMC group). $PRIVATE_{it}$=dummy(1 if operator is private funded).

(d)=Log-likelihood of full model, (e)=LR-test comparing random effects model with pooled Tobit model.

observations) for the case of small PEOs. Regarding the variables related to the private equity cycle, evidence of the significant and positive impact of the lagged volume of investments is found for both groups, thus confirming Hypothesis 1. The ratio number of portfolio companies per investment manager is negative and significant also for both groups, confirming Hypothesis 2. Finally, only divestments through IPOs turn out to have a positive impact on fundraising, being significant only for the group of large PEOs, partially confirming Hypothesis 3. The lack of significance in the case of small PEOs could be due to the small volume of divestments through this mechanism in those PEOs, who can rarely access stock markets.

In relation to the group of exogenous signals, only evidence of managers' experience for large PEOs and of being member of ASCRI Association for small PEOs is found, the impact being positive in both cases. The volume of funds awaiting investment is significant for large PEOs. As expected, the impact on fundraising for this group is negative. However, the impact is positive for small PEOs. This could be due to the fact that nearly all of the small PEOs are PECs, which, as argued before, tend to cover part of their general expenses with financial revenue stemming from temporary investments. Finally, neither the time trend nor the GDP growth have a significant impact on fundraising.

7   Conclusions

This work analyses the relationship between investors and private equity operators within the framework of the Agency and Signalling Theories. It is designed to increase our understanding of the reputation-building mechanisms used by private equity operators to minimise the problems of information asymmetry between investors and operators. In countries where there is information about historical returns obtained by managers, reputation is linked to that information and investors may decide to allocate their funds on that basis. The problem arises in those economies in which information regarding historical returns is not available because the private equity market is still in the early stages of development. This is the case in the Spanish market, the present object of analysis. In such a context, private equity operators are forced to signal their quality to the market in order to attract funds from investors. This work identifies two large groups of variables indicative of a reputation: one related to the private equity process, and a second aimed at the perception of a good reputation on the basis of external signs.

The results of the empirical analysis show that, with regard to the first group of variables, the volume invested has a positive impact on the volume of funds that will be raised by managers the following year. However, as the ratio of portfolio companies per investment manager increases, the amount of funds raised decreases because management attention to each investment may diminish and this could reduce future returns obtained by PEOs. We also find a positive impact of divestments through initial public offerings on the volume of funds raised, which is consistent with the fact that this mechanism is the most profitable way of exiting. Regarding the second group of variables, only the size or volume of resources handled by the PEO and whether they belong to the sector Association ASCRI are found to have a positive impact on fundraising. Finally, the lagged volume of funds awaiting investment shows a negative impact on fundraising, which was

to be expected as PEOs raise funds to the extent that available capital is almost fully committed. In this way, the work provides evidence that managers send signals aimed at establishing their reputation, given their need to raise additional funds periodically.

Nonetheless, and given the great variety of PEOs existing in Spain, the types of signal emitted are thought to vary according to their different characteristics; so from the general case the sample analysed is separated into three subpanels: PEMCs compared with PECs, private compared with public-sector-funded PEOs, and large compared to small PEOs. Regarding the first group of variables, in all the subgroups except that of PECs and public-sector-funded PEOs, the impact of the lagged amount invested on funds raised is positive and significant. In addition, a negative impact is found for the ratio of portfolio companies per investment manager for all the subgroups of PEOs except that of PEMCs. Regarding the different mechanisms of divestment, only divestments through initial public offerings have a positive and significant impact for PEMCs, private-sector-funded PEOs and large PEOs. With regard to external signals, the positive impact of the size of the funds under management is maintained, varying the rest of signals depending on the subgroup considered. It should also be remarked that, in all groups, the ratio of portfolio companies to investment managers shows the expected negative sign, as inferred from the Agency Theory, being significant in all groups except in the case of PEMCs.

The work provides evidence that managers send signals aimed at establishing their reputation, given their need to go to the capital market when looking for funds. With regard to the consideration of costly versus costless signals, when the whole set of PEOs is considered three variables classified as costly signals prove to be significant, whereas two variables representing costless signals are also significant. Nevertheless, when different subpanels are broken down, this pattern changes substantially. As a result, evidence is found of the impact of costly signals in the case of PEMCs, private-sector-funded PEOs and large PEOs. Conversely, PECs and small PEOs rely more on costless signals.

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A   Appendix

Variable	Description	Source
New Funds Raised	Total volume of new funds raised in 1991 euros.	Martí Pellón
Investments	Total volume of investments in 1991 euros.	Idem
Ratio nba of portfolio companies per profesionals	Ratio between nba of porfolio companies and nba of investments managers in the same year.	Idem
Divestments through IPOs	Value at cost divestments through IPOs in 1991 euros.	Idem
Divestments through sales to third parties	Value at cost divestments through trade sales to a third party in 1991 euros.	Idem
Large	Dummy: 1 if total funds under management is more than 60 millions of euros.	Idem
Experience	Number of years of experience of private equity managers.	Idem
Ascri	Dummy: 1 if operator belongs to Spanish Private Equity Association (ASCRI)	Idem
Law	Dummy: 1 if operator has signed up to the Law of Private Equity currently in force each year.	Idem
Madrid	Dummy: 1 if operator is based in Spain's capital city.	Idem
Available capital	Amount of capital awaiting investment in 1991 euros.	Idem
Trend	Deterministic time trend.	-
GDPG	Gross domestic product between years $t-1$ and t.	www.ine.es
PEMC	Dummy: 1 if operator belongs to the group of Private Equity Management Companies.	Martí Pellón
Private	Dummy: 1 if operator belongs to the group of Private Equity Operators that handle funds provided by a private sector related investors.	Idem