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HAVE SPANISH COMPANIES BUILT GREATER ENTREPRENEURSHIP AFTER PRIVATIZATION?

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Abstract

This study analyses some of the strategic and organizational changes experienced in public firms following privatization in its double facet: sale of companies and deregulation. Specifically, we analyse the process of innovation in terms of products, processes and organization. We also look into the development of new businesses and strategic renewal, which in the end shape the entrepreneurial capacity of a company. A sample of Spanish firms which were privatized between 1985 and 2000 shows that after privatization, these companies have experienced a significant increase in entrepreneurship. These changes are even more appreciable when a high sector competition is added to the ownership shift. Once they join the private sector, their level of product, process and organizational innovation is higher. They also develop new businesses at national level, reinforce their international activity and embark on strategic renewal processes by shedding the lesser profitable businesses and modifying their competitive strategy so as to gain efficiency.

Keywords: entrepreneurship; privatization; competition.

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“What we find most surprising about the privatization programs in the 80’s is neither their volume nor their scope, but the fact that they were adopted as an act of faith.

(W. L. Megginson, R. C. Nash and M. Van Randenborgh, 1994: 404).

Introduction

Privatization processes are one of the most relevant economic phenomena of the late 20th century. From 1992 to 2001, resources generated by privatization in the European Community reached 340.765 million euros. In Spain the income for the same period was 38.734 million euros. It is worth noting that during the years 1997 and 1998, privatization activity reached its peak, with an income of 61.701 million euros in the EC and 13.083 million euros in Spain *(Consejo Consultivo de Privatizaciones, 2002).*

Most of the studies assessing the privatization process are focused on changes in the firm’s efficiency after joining the private sector both at international level (W. A. Andrews and M. J. Dowling, 1998; M. I. Cragg and I. J. A. Dyck, 1991; J. D’Souza and W. L. Megginson, 1999; R. La Porta and F. López de Silanes, 1997; S. Martin and D. Parker, 1997; Megginson, Nash and Van Randenborgh, 1994; R. Millward and D. M. Parker, 1983; J. Vickers and G. Yarrow, 1988) and national level (A. Novales, C. Sebastián and J.A. Trujillo, 1987; I. Argimón, C. Artola and J. M. González-Páramo, 1999; P. Hernández de Cos, I. Argimón and J. M. González-Páramo, 2004; L. A. Mañas, 1999; M. Melle, 1999; J. A. Sanchis, 1996; B. Villalonga, 2000); and they conclude that efficiency increases as a result of ownership shift and higher competitiveness in the sector.

Nevertheless, this line of research has been based on the static approach, or “black box” (A. Cuervo y B. Villalonga, 2000). No systematic analysis of contextual, organizational and strategic factors has been carried out to explain the variations observed in firms’ performance after privatization (except for Cuervo and Villalonga, 2000; Martin and Parker, 1997). Therefore, there is only a partial view of privatization, especially if we consider that the concept includes two complementary phenomena: a) sale or transfer of ownership to the private sector; and b) the opening of markets to competitors. In fact, an ownership shift in itself does not necessarily involve any strategic change provided that the market remains protected, which would not require any specific active response on the part of the company.

Partial or total sale of public capital to the private sector can be conducted in different ways, among which we can mention private sale to a direct buyer and public offering. In the first case, the company recently acquired must join the general strategy of the group taking over; in the second case, the securities market will put enough pressure to spark off all kinds of changes. Consequently, privatization is likely to induce strategic and organizational changes which could explain the different performance of companies.

Among these changes, entrepreneurship plays a crucial role in terms of innovation, domestic and international new business entry and strategic renewal (W. D. Guth and A. Ginsberg, 1990; S. A. Zahra and J. Covin, 1995; S. A. Zahra, 1996; S. A. Zahra, D. O. Neubaum and M. Huse, 2000). A number of studies on entrepreneurship have identified those factors which determine the degree of both aversion to risk and innovation. Some of them suggest that privatization could act as an entrepreneurship booster among firms (S. A. Zahra y C. D. Hansen, 2000), which could certainly be the case when affected by a more aggresive sector competition[1]

Therefore, and considering the lack of research on strategic and organizational changes resulting from privatization, our objective is to analyse whether companies build greater entrepreneurship capacity during the post-privatization regime, and whether this capacity is affected by higher level of sector competition.

Using a sample of 38 non-financial Spanish firms, privatized between 1985 and 2000, we will study the impact on the entrepreneurial capacity through the changes they experienced in terms of product, process, organizational and strategic innovation after privatization. Our findings suggest significant improvement in entrepreneurship, especially when accompanied by a high level of sector competition.

This paper is divided into four sections. Section I summarizes the research on privatization and entrepreneurship. The methodology we have used is described in Section II. Section III shows the results of our empirical study. Finally, we draw some conclusions in Section IV.

I. Have companies built greater entrepreneurship capacity after privatization?

The concept of entrepreneurship

The concept of entrepreneurship has its origins in the literature on the individual entrepreneur (R. Cantillon, 1975; F. Knight, 1921; I. Kirzner, 1973; J. A. Schumpeter, 1936, 1950) which other authors have extended to company level. In this latter sense, entrepreneurship is understood as a behaviour developed along a continuum, from strong conservatism to high entrepreneurship. It is assumed that entrepreneurial

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[1] Marshall (1907) was the first author to point out how the government is a poor innovator. Any government could do a good editing job of Shakespeare's plays, however it could have never written them. (quoted by A. Shleifer, 1998: 138).

companies are less concerned with aversion to risk, more innovative and active as opposed to conservative ones (D. Miller, 1983). From the seminal Miller's work onwards, a large number of researchers have used this conceptualization in their works (for example, B. Barringer and A. C. Bluedorn, 1999; J. Covin and D. Slevin, 1988, 1991; G. T. Lumpkin and G. G. Dess, 1996; J. L. Naman and D. P. Slevin, 1993; H. H. Stevenson and J. C. Jarillo, 1990; S. A. Zahra, 1991, 1993; Zahra, Neubaum and Huse, 2000).

Taking Guth and Ginsberg's proposal (1990)[2] as a starting point, Zahra identifies three dimensions in entrepreneurship: innovation, new business creation and strategic renewal. Innovation involves the introduction of new products, production processes and organizational systems (Schumpeter, 1936). New business creation favours growth and company expansion to new markets offering its actual products as well as the ability to offer new products for the existing markets and also for new markets, either national or international. Strategic renewal involves restructuring of the firm activities by changing their business scope, approach or both. New business creation, international expansion and strategic renewal are the cornerstones of a dynamic conception of corporate strategy, which implies entering new businesses and markets and being prepared to leave them if necessary. Organizational changes can be understood as a consequence of previous strategic changes (A. D. Chandler, 1962) which require a revision of how activities are structured. Finally, innovation includes not only these changes but also the introduction of new products and processes.

Privatization and entrepreneurship

[2] For these authors, entrepreneurial activity at company level has two dimensions: innovation through business creation and activities and also strategic renewal.

Strictly speaking, privatization can be defined as any process aimed at shifting ownership and control from a public company to the private sector, and this is bound to have direct impact on the agency problem, typically associated with public companies and characterized by the following features (Z. Fernández, 1994):

a) The fact that the public purpose results in a series of ill-defined, multiple and changeable objectives, sometimes even contradictory, is to be added to the general principal-agent problem.

b) There isn't just one single agency relationship but several relationships linked together, since those in charge of exerting control over public managers (government employees and politicians) are ultimately voters' agents and their responsibility is, among others, to manage and control public companies on their behalf.

c) The usual mechanisms to control management discretionality in the private sector do not occur here. They are replaced by administrative control mechanisms and are mainly concerned with verifying observance of norms and procedures.

Although public companies are expected to satisfy public interests, the assumption that public interests can be represented by a well-defined function maximized by the government is nevertheless a "heroic" one (Vickers and Yarrow, 1988: 29). On the contrary, multiple groups of interests come together in a public company, each attempting to monopolize part of the rents generated by the company in the claim that the company was created to achieve some public objective, which is often the same as their own. Some of the imposed objectives they are supposed to achieve are to provide certain goods and services under preferential conditions, to secure employment, to guarantee a good standard of living in a particular area or to promote activities considered to be strategic. These objectives are eventually modified by the power equilibrium and their simultaneous accomplishment is hard –if not impossible– to achieve.

Public managers are likely to seek objectives related to their own utility function, such as growth (Y. Aharoni, 1981; R. J. Monsen and K. D. Walters, 1980), sales (R. Rees, 1974) or public support (R. E. Caves, 1990). Profit, on the other hand, is not usually a priority. Many of them would rather achieve neutral results, neither profits nor heavy losses, since external visibility of the company is thus avoided, together with the demands of the pressure groups and public control (S. Lioukas, D. Bourantas and V. Papadakis, 1993).

We should not forget the fact that public companies are beyond market discipline and also bankruptcy protected, regardless of their losses. For all these reasons, they are expected not to be motivated enough to innovate –as regards both products and processes– reduce costs or improve the quality of products or services offered.

On the other hand, we could infer that after privatization the agency problem is relieved through the inclusion of control shareholders, since even in the case of public offering, the sale is accompanied by the constitution of a hard core of shareholders. In general terms, when companies are privatized and quoted they have to adjust to the discipline of the corporate control market. Control capacity of the goods-and-services market will depend on the level of competition resulting from privatization. Subsequently, we could expect that a single and coherent system of objectives will be elaborated after privatization. This system will probably be linked with a number of strategies designed to create significant wealth for shareholders by providing adequate top- management incentives, which, simultaneously, leads to new strategies and structures (Cuervo y Villalonga, 2000).

Organizational changes in privatized companies

The internal structure of a company depends on the strategy adopted (Chandler, 1962). However, in the case of public companies, strategies do not determine their internal structure as much as the singularities imposed by ownership structure, together with the coexistence of superimposed administrative controls intended to handle the persistent agency problem they are faced with.

In fact, public companies are subjected to thorough public controls exercised simultaneously by the different authorities whose main concern is to verify observance of norms and regulations. Taking into account the fact that public responsibility, in contrast, is to be added to the various control systems, we find that the decision-taking process is highly concentrated in top management positions (D. Pugh, D. J. Hickson, C. R. Hinings and C. Turner, 1969; United Nations, 1974), which, in turn, will tend to transfer the problem to the tutelage authorities (J. García, 1984) and subsequently, responsibilities are often diluted. Eventually, nobody takes responsibility for the decisions taken and this reduces considerably any incentive to maximize value (A. Cuervo, 1995).

Responsibility dilution favours the lack of initiative and administrative routines and procedures (Pugh, Hickson, Hinings and Turner, 1969), in the same way as the multiple control systems do. Consequently, the level of formalization increases, at least apparently, since procedures are very often initiated only in response to problems or crisis that appear in variables monitored by the formal system as a result of ill-defined objectives and management interference[3] (R. Martínez Nogueira, 1974). In fact, the public company organization does not seem to follow a traditional bureaucratic model,

[3] which does not necessarily mean that public holdings which used to be dependent on the Ministry of Industry have not carried out systematic detailed processes of strategic planning, subjected to periodic revisions

which is hardly surprising if we consider that a private company has clear objectives and this favours a well-defined organization with a clear authority structure. The interplay of different groups of interest present in the public company, each with its own objectives, leads to continuous negotiation processes among them –both internal and external–, which sparks off the creation of shifting coalitions and makes it similar to the model proposed by R. M. Cyert and J. G. March (1965) rather than the Weberian model. Table 1 summarizes some of the most relevant characteristics of internal organization in public companies.

The shift from public to private sector is likely to favour the use of more suitable structures for the company. Therefore, privatized companies are expected to experience a number of organizational changes in order to fit in with their new environment and put their new strategies into practice.

Table 1: Internal organization of public companies

Characteristics of state-owned companies	**Organizational structure**
Groups of interest, rent seekers Multiple, changeable and contradictory objectives	Fluid structure, made up of shifting coalitions
Multiple and thorough control systems	High formalization (apparent) Centralized decision making Responsibility dilution

Innovation in privatized companies

Structures such as the ones described above hardly favour innovation since they tend to be 'inner-oriented' and do not pay close attention to promotion and support of new ideas intended to improve products and processes. Likewise, these organizations are generally reluctant to change, which is also a drawback in terms of innovation.

Nevertheless, innovation should not be a priority for these companies since their owners are not precisely demanding. There is not much point in introducing new ideas intended to provide a better service for their clients because they do not need to consolidate a competitive position in the market to generate profits. In fact, being bankruptcy-protected as they are, they lack the necessary motivation to innovate through more efficient processes which can be adapted to clients' demands in terms of variety, delivery time and products designed to satisfy new needs or new ways of dealing with them.

On the other hand, after privatization companies will have to respond to their shareholders' interests and consolidate a competitive position in the market. In other words, they will have to adopt a market-oriented approach (D. Parker, 1995). Therefore, they are expected to speed up the pace of product and process innovation.

Strategic changes in privatized companies.

Companies' behaviour includes the creation of new businesses and international expansion as well as abandonment of former activities and business lines. In both cases, public companies are expected to have some singularities. In fact, it is hard to think of public companies in terms of strategies. Owing to the multiple and ill-defined nature of objectives, managers tend to have a higher level of autonomy when setting them up than during the decision-taking process intended to adopt a specific strategy so that objectives can actually be achieved. Investments will certainly have to be approved by the control authorities. In this way, policies regarding employment, prices, location and foreign investment are already fixed (Aharoni, 1981, A. Shleifer and R. W. Vishny, 1994), that is, products and services are established beforehand, along with the clients – sometimes even suppliers can be imposed (for example, they might need to be national)– technology, operation scale and places of settlement so as to satisfy criteria frequently based on economic-political reasons (such as cutting down unemployment in a particular region, replacing foreign technology, etc) and not purely financial reasons.

Public companies are therefore expected to have single-business strategies whereas after privatization, innovation processes will lead to new products, which in turn will give rise to new businesses and the company will eventually diversify to increase its global reach and international expansion while reducing its links with the domestic market.

Finally, the dynamic nature of these strategies entails the abandonment of former business lines. However, the various groups of interest present in public companies lead us to believe that getting rid of any specific activity (despite the losses, or lack of connection with the company strategy, if any) might not be an easy task. Even if there is no intention to suppress a specific activity but only to privatize it so that a coherent business model can be established, the unions are expected to object, driven by the loss of privileges they anticipate. This situation can obviously get worse if the intention is to eliminate the business altogether. Similarly, clients and suppliers will also oppose restructuring for similar reasons although their pressure capacity may not be as high as that of the labour force.

Subsequently, restructuring and business lines revision are expected to increase after privatization. Table 2 shows a summary of the traditional strategic options in public companies along with the reasons behind them.

Table 2: Corporate strategy in public companies

Possible strategic options	**Characteristics of state-owned companies**
Diversification, Internationalization	Public purpose results in single-business strategies. Public authorities control investments, business portfolios, location and installation capacity. Public companies administer routine, short-term initiatives
Restructuring	Groups of interest will object; especially the unions will oppose the sale or abandonment of any business line.

To sum up, privatized companies are expected to increase product and process innovation, to adopt a more ambitious strategy in terms of businesses and international expansion and to design the necessary structures to put this strategy into practice, in other words, to build greater entrepreneurial capacity. Table 3 shows the expected changes in privatized companies as regards entrepreneurship.

Table 3. Summary of expected relations between privatization and entrepreneurship.

Entrepreneurship Dimensions	**Expected Relations**
Product Innovation (PRODIN)	PRODIN A > PRODIN B
Process Innovation (PROCIN)	PROCIN A > PROCIN B
Organizational Innovation (ORGIN)	ORGIN A > ORGIN B
Entry and creation of national new businesses (NATEN)	NATEN A > NATEN B

Entry and creation of international new businesses (INTEN)	INTEN A > INTEN B
Strategic Renewal (STREN)	STREN A > STREN B

* The subscript B y A in the Expected Relations column mean before and after privatization respectively.

Competition and entrepreneurship

However, privatization has a second facet as well: market deregulation and the opening-up of these markets to competitors; which will presumably have a more immediate impact on entrepreneurship due to the competitors' pressure. For this reason, we should consider not only the ownership shift but also the extent of governmental regulation after privatization, since many of these companies belonged to different sectors regulated by the administration.

In the open market, companies and their shares are interdependent and this fact has an influence on performance. Although the need to confront other companies compels them to introduce all kinds of changes –which can be generated from within the company or induced by competitors– much can also be learned from market competition.

The greater the competition, the greater the overall pressure for firms to innovate for fear of falling behind competitors or even as an attempt to get ahead of them. After studying more than 3000 firms belonging to 200 sectors during the period between 1980 and 1990, L. G. Thomas (1996) found that, unlike the previous period, the securities market views more favourably those companies operating in high-competition markets, for this is likely to favour innovation, growth and wealth. Similarly, G. Young, K. G. Smith and C. M. Grimm (1996) point out that as competition rises in a given sector so does its firms' performance (in terms of sales margin and profitability) whereas, on the contrary, there is no link between performance and the mechanisms involved in reducing competition.

Therefore, an increased sensitivity to competition can itself hasten the adoption of innovations as regards products and processes, building thus greater entrepreneurial capacity. In addition, privatized companies are also likely to revise their business portfolio (abandoning or entering new business, both domestic and international) and their management organization.

Table 4 shows the expected impact of new regulations and sector competition on the expected development of entrepreneurship in privatized companies.

Table 4. Summary of expected relations between privatization and entrepreneurship after segmenting the sample according to sector competitive hostility.

Entrepreneurship Dimensions	**Expected Relations**
Product Innovation (PRODIN)	$\triangle PRODIN_1 > \triangle PRODIN_2$
Process Innovation (PROCIN)	$\triangle PROCIN_1 > \triangle PROCIN_2$
Organizational Innovation (ORGIN)	$\triangle ORGIN_1 > \triangle ORGIN_2$
Entry and creation of national new businesses (NATEN)	$\triangle NATEN_1 > \triangle NATEN_2$
Entry and creation of international new businesses (INTEN)	$\triangle INTEN_1 > \triangle INTEN_2$
Strategic Renewal (STREN)	$\triangle STREN_1 > \triangle STREN_2$

*Subscript 1 refers to companies exposed to stronger sector competition after privatization and subscript 2 refers to companies operating in similar levels of sector competition before and after privatization.

II. Methodology

Population and Sample

The survey sample was drawn from non-financial Spanish firms privatized between 1985 and 2000[4]. Our aim is to analyse the organizational and strategic changes involved in the entrepreneurial orientation of companies after privatization. Therefore, we have excluded any company sold from 2001 onwards since we understand that a minimum of three years is required to assess the situation before and after privatization. Our survey includes state-owned companies which were privatized through holding companies or government departments during both the socialist administration (Socialist Party) and the conservative administration (Popular Party), regardless of their privatization mechanisms: a) public offering –and its variants: initial public offering (IPO) or public offering of the shares of companies listed on the Stock Exchange– b) direct selling or competitive tendering. Out of the total number of companies sold, only 13 were sold through public offering, in spite of which they generated 90% of the income derived from privatization.

Between 1985 and 2000, 105 non-financial companies were privatized (we provide information about these companies in Appendix I). For partial privatization, we have considered a double criterion to determine the privatization year: the moment when the state is left with less than 50% of the company's capital and the moment when the state loses control over the company (it is no longer in charge of appointing management positions[5].)

[4] Companies from the group Rumasa, which was expropriated in 1983, are not included since their experience in the public sector was only circumstantial.

[5] We consider this double criterion because a loss of majority ownership might not be enough to assess the effective disappearance of state intervention in the company's decision taking. Such is the case of Telefónica, where the state kept control with 21% of the capital, and Repsol, with just 10%.

Once the companies were identified, we proceeded to obtain information through primary sources of information. Since objective data were not always easy to compile due to the fact that we required pre- and post-privatization information about companies which in some cases were sold more than 15 years ago, we had to employ subjective measures based on a questionnaire. To design the measures of entrepreneurship and competitive hostility (see APPENDIX II) we used a five-point Likert-type scale (1= strongly disagree to 5 = strongly agree).

The questionnaire was finally sent to 79 companies after excluding those which had been dissolved and those which could not be located because they do not appear on the trade register[6]. The final usable sample contained 38 questionnaires, with an effective response rate of 38%. Table 5 shows some descriptive data of these companies as regards privatization process.

Table5. Descriptive data.

Characteristics		**Companies in the sample (%)**	**Companies in the population (%)**
Privatization year	- 1985-1991	21	53
	- 1992-1996	13	17
	- 1997-2000	66	30
Privatization mode	- Public offering	24	10
	- Direct selling or competitive	71	88

[6] After drawing a preliminary test we made initial contact with the companies to identify the most suitable people to complete the questionnaire. In all cases we had to contact top managerial positions. Information gathering took place between April and September, 2003. One additional mailing was made a month after the initial mailing. We also contacted each company on the phone.

		tendering		
	-	Public offering and direct selling	5	2
Institutional department	-	Ministry of Industry and Energy (INI, INH, TENEO, AIE o SEPI)	81	80
	-	Ministry of Economy and Treasury (D.G. State Patrimony Office or SEPPA)	16	16
	-	Other institutions	3	4

Most of the companies completing the questionnaire were privatized from 1997 onwards, that is, during the conservative administration. This is hardly surprising since as we move ahead in time it becomes harder for companies to complete the questionnaire. This period, characterized by intense privatization activity, corresponds to the implementation of the "Privatization Strategic Plan" agreed on the 28th of June, 1996 at the cabinet meeting.

As regards privatization mechanisms, it is worth noting the high percentage (24%) of companies privatized through public offering (with respect to the total percentage of public offerings in the population). This can be explained by the fact that most of these companies were sold from 1997 onwards, which is the period when this mechanism gains widespread popularity.

Finally, we should like to point out that most of the companies completing the questionnaire belonged to the sphere of the former Ministry of Industry and Energy (through the following holdings: INI, INH, TENEO, AIE and SEPI) which explains the preponderance of these public companies compared with the total.

Measures.

Following the works of Zahra, Neubaum and Huse (2000) and Zahra (1996), we developed measures for entrepreneurship using six dimensions: product innovation (5 items), process innovation (4 items), organizational innovation (4 items) entry to Spanish markets, sectors or businesses (5 items), entry to foreign markets (3 items) and strategic renewal (4 items). Cronbach's Alphas were higher than 0.75 for each dimension, both before and after privatization. We have used the mean to determine the measure for each case.

To measure the changes in sector competition we have used the competitive hostility measure presented by S. A. Zahra and D. O. Neubaum (1998) (4 ítems). Cronbach's alpha was higher than 0.80. As we did with the different entrepreneurship indicators, we also used the mean to determine the measure.

Statistical treatment of data

Once the entrepreneurship measures have been calculated for pre-and post-privatization, and using Kolmogorov-Smirnov test to check that in all cases they were normally distributed, we proceeded to contrast our predictions.

For the first one, that is, after privatization companies are expected to build greater entrepreneurial capacity, we used the proportion test (p) and the T-test of differences between means for related samples. The proportion test enabled us to determine whether the proportion (p) of companies going through the expected changes exceeds random expectations, which proved to be the case, with a value above 50%.

The T-test of differences between means allowed us to assess whether the variables were statistically different from each other. A significance below 0.05 was confirmed.

For our second prediction, that is, companies are expected to increase entrepreneurial capacity if the sector becomes more competitive, we proceeded to segment the sample according to the competitive characteristics of the sector. To do this, competitive hostility measures were made dichotomous, taking the following values: 0 when the level of sector competition was lower than or equal to 2.5, and 1 when it was higher that 2.5. Therefore, 0 means low competition and 1 means high competition. The sample was then segmented into two groups, one subsample comprises those companies moving from a low sector competition to a high sector competition (group 1) and the second subsample comprises those companies operating in a sector whose level of competition remained the same after privatization (group 2). Simultaneously, we recognized two distinct situations in the second subsample: a) sector competition was low before and after privatization, and b) sector competition was high before and after privatization. After segmenting the sample, we proceeded to use the proportion test (p) and the T-test of differences between means for related samples once again.

II Results

This section presents the empirical results we found to evaluate the variation in entrepreneurship after privtization and the link between these changes and sector competition, since both elements can have an impact on the process of innovation, strategic and organizational changes.

Changes in entrepreneurship.

As indicated in Table 6, there are statistically significant differences for all dimensions of entrepreneurship except for process innovation. After privatization, companies feel impelled to adopt product and organizational innovations and to redefine their activity sphere, either entering new businesses or focusing on their core activity. Process innovation, on the other hand, does not experience a significant increase. The proportion test (p) also confirms these results except for process innovation. More than 50% of companies have shown to build greater entrepreneurial capacity. Process innovation had generally a high mean value before privatization (2.8) which might explain the lack of significant differences (almost 5%) after the ownership shift. This result, however, requires deeper study.

Table 6. Changes in Entrepreneurship

Entrep.	N	Mean before	Mean after	Change in mean	T	Signif.	p
PRODIN	34	2,3706	3,0431	0,6725	4,254	0,000	64,71
PROCIN	33	2,8106	3,0808	0,2702	1,852	0,073	48,48
ORGIN	34	2,2353	3,1471	0,9118	5,074	0,000	67,65
NATEN	36	1,9324	3,0292	1,0968	7,101	0,000	80,55
INTEN	36	2,2963	3,5463	1,2500	6,228	0,000	75
STREN	35	2,4714	3,6286	1,1571	6,281	0,000	77,14

Sample segmentation according to sector competition

Changes in entrepreneurship after segmentation are reported in Table 7. 32% of the companies belong to group 1, that is, companies moving from a low sector competition to a high sector competition; whereas 68% belong to group 2, that is, companies operating in a sector whose level of competition remained the same after privatization. Among these, 22% had a low level of sector competition before and after privatization, and 78% had a high level of sector competition before and after privatization[7].

Table 7. Changes in entrepreneurship after segmenting the sample according to sector competitive hostility.

Entrep.	N	Mean before	Mean after	Change in mean	T	Signif.	p
PRODIN 1	11	2,4000	3,2424	0,8424	2,749	0,021	72,73
PRODIN 2	21	2,3524	2,8857	0,5333	2,808	0,011	52,17
PRODIN 2a	5	2,4000	2,4000				0,00
PRODIN 2b	16	2,3375	3,0375	0,7000	2,976	0,009	75,00
PROCIN 1	10	2,9250	3,2167	0,2917	1,265	0,237	60,00
PROCIN 2	21	2,7381	3,0238	0,2857	1,896	0,072	39,13
PROCIN 2a	5	2,7000	2,7000				0,00
PROCIN 2b	16	2,7500	3,1250	0,3750	1,936	0,072	56,25
ORGIN 1	11	2,2273	3,7273	1,5000	4,665	0,001	90,91
ORGIN 2	21	2,3095	2,7857	0,4762	2,776	0,012	47,83
ORGIN 2a	5	2,8000	2,9500	0,1500	1,500	0,208	40,00
ORGIN 2b	16	2,1563	2,7344	0,5781	2,645	0,018	56,25
NATEN 1	11	1,8667	3,1818	1,3152	3,684	0,004	90,91
NATEN 2	23	1,9971	2,9217	0,9246	5,641	0,000	77,91
NATEN 2a	5	2,0000	2,5600	0,5600	1,532	0,200	40,00
NATEN 2b	18	1,9963	3,0222	1,0259	5,656	0,000	83,33
INTEN 1	11	2,3030	3,7576	1,4545	4,276	0,002	90,91
INTEN 2	23	2,3333	3,4348	1,1014	4,271	0,000	65,22
INTEN 2a	5	1,8000	2,2667	0,4667	2,333	0,080	60,00
INTEN 2b	18	2,4815	3,7593	1,2778	4,062	0,001	66,66
STREN 1	11	2,1591	4,1818	2,0227	6,954	0,000	100,00
STREN 2	22	2,6591	3,3977	0,7386	3,661	0,001	60,87
STREN 2a	5	2,6500	3,0000	0,3500	1,606	0,184	40,00
STREN 2b	17	2,6618	3,5147	0,8529	3,424	0,003	70,59

[7] We have excluded one case in which the company moved from a high level of sector competition to a low level of sector competition.

We observe that significant differences are maintained in the segmented sample for all entrepreneurship dimensions except for process innovation, which is consistent with the results before segmentation. In general terms, these results show that during the post-privatization regime, companies build greater entrepreneurial capacity, whether their sector competition is altered (group 1) or not (group 2).

The fact that there are no significant differences in the results after segmentation could lead us to believe that changes in sector competition are not a determinant factor in the entrepreneurial behaviour of companies after privatization. However, we should keep a cautious eye on this assumption for the following reasons:

Firstly, the proportion test (p) shows that the percentage of companies modifying their behaviour as expected is higher when sector competition becomes more aggressive (group 1), as opposed to those operating in sectors where competition remains at the same level (group 2). Even for process innovation, *p* is higher that 50% in companies belonging to group 1.

Secondly, if we observe the results for group 2 and study the situation for low competition (subgroup 2a) and high competition (subgroup 2b) we realise that significant differences appear only in the second case (subgroup 2b), although the percentage of companies in this subgroup behaving as expected is generally lower than that of companies which have actually experienced a more aggressive sector competition after privatization (group 1).

Therefore, we can conclude that companies build greater entrepreneurial capacity when faced with a more aggressive sector competition after privatization, either because there is a competition increase or because they were already operating in a highly competitive sector. Summing up, we can say that alterations in sector competition seem to be as determinant as the levels of competition previous to privatization. A more aggressive competition in terms of price, quality, service and new products leads to a higher percentage of companies building greater entrepreneurial capacity.

IV Conclusion

Privatization modifies the complex agency relation present in public companies and this, in turn, is likely to modify its strategic behaviour as well. Particularly, these companies are expected to build greater entrepreneurial capacity and implement innovation policies to initiate new activities and revise the ongoing projects. Specifically, organizational problems derived from the lack of clear objectives and multiple control systems are expected to disappear. Likewise, the ownership shift will induce the adoption of new incentive systems in line with the objectives set up by shareholders. All these changes give rise to a more dynamic strategic behaviour oriented to entering and exiting new businesses and countries.

Using a sample of 38 companies, we analysed the impact of privatization on the strategic and entrepreneurial capacity of non-financial public companies sold in Spain between 1985 and 2000.

From this sample we learn that after privatization companies introduce innovation policies –in terms of products, processes and organization–, develop new businesses at national level, consolidate international activity and initiate strategic renewal processes. It is then confirmed that at least for a three-year period following privatization, companies build greater entrepreneurial capacity (compared with the same three-year period previous to the ownership shift).

These results are also confirmed after the sample was segmented according to sector competition. In this case, entrepreneurship improves significantly in privatized companies operating in sectors exposed to higher competition levels after privatization, and also when sector competition is not subject to changes during the post-privatization regime. This is especially true for high-competition sectors. Therefore, it seems that in order to explain the differences in entrepreneurship after privatization, we should consider not only the case when sector competition is altered but also the degree of competition faced by companies, which has proved to be a determinant factor.

On the other hand, the data available do not allow us to explain the exact reasons for this entrepreneurial improvement. A larger sample of companies would have allowed us to use statistical techniques to isolate the privatization impact. Subsequently, we can only support the idea that, whatever the reasons, privatized companies build greater entrepreneurial capacity during the post-privatization regime.

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APPENDIX I. Privatized companies in Spain 1985-2000

This table includes all companies satisfying the double criterion adopted here (the state loses over 50% and its effective control over the company) between 1985-2000. Financial and industrial development companies are excluded.

COMPANIES PRIVATIZED THROUGH THE MINISTRY OF INDUSTRY AND ENERGY (INI, INH, TENEO, AIE, SEPI)

Privatization year	Company	Parent company	Sector	Buyer	% sold privatization year	Type of sale
1985	Cesquisa	Enisa	Chemistry	Cepsa	45,4	DIRECT SELLING
1985	Igfisa	Endiasa	Food	Pleamar	100	DIRECT SELLING
1985	Ingenasa	Enisa	Biotechnology	ERT	51	DIRECT SELLING
1985	Marsans	INI	Turism	Trapsatur	100	DIRECT SELLING
1985	Secoinsa	INI	Computing	Fujitsu	69,1	DIRECT SELLING
1985	SKF Española	INI	Mechanics (bearings)	Aktiebogalet SKF	98,8	DIRECT SELLING
1985	Textil Tarazona	INI	Textile	Cima Eursa (Entrecanales)	69,6	DIRECT SELLING
1986	Aluflet	Alúmina Española	Aluminum	Aluflet´s private shareholders	40	DIRECT SELLING
1986	Amper		Electronics	Multiple	68	PUBLIC OFFERING
1986	Entursa	INI	Turism	CIGA/Hoteles de Lujo Españoles	100	DIRECT SELLING
1986	Fovisa	Made	Iron and Steel	GKN	100	DIRECT SELLING
1986	Frigsa	Endiasa	Food	Saprogal	100	DIRECT SELLING
1986	Gypisa	Endiasa	Food	Frigoríficos Santana/Los Norteños	100	DIRECT SELLING
1986	Indugasa	Seat	Automobile	GKN	50	DIRECT SELLING
1986	Insisa	BWE	Team goods	Insisa´s private shareholders	60	DIRECT SELLING
1986	Issa	Inespal	Aluminum	Aluperfil	100	DIRECT SELLING
1986	La Luz	Carcesa	Food	Prevert	100	DIRECT SELLING
1986	Motores MBD	Motores Barreras/Sodiga	Shipbuilding	Klockner Humboldt Deutz AG	38,4	DIRECT SELLING
1986	Pamesa	Ence	Paper	Torras Hostench	100	DIRECT SELLING
1986	Remetal	Inespal	Aluminum	Remetal´s founding partners	66,1	DIRECT SELLING
1986	SEAT	INI	Automobile	Volkswagen	75	DIRECT SELLING
1986	Telesincro	Inisel	Electronics	Bull	40	DIRECT SELLING
1986	Tovisa		Team goods	Gekanor	99,3	DIRECT SELLING

1987	Alumalsa	Inespal	Aluminum	Montupet	44	DIRECT SELLING
1987	Dessa	Bazán/Astano	Shipbuilding	Forestal del Atlántico	80	DIRECT SELLING
1987	Diasa	Endiasa	Food	Saudisa (Promodes)/BBV	50	DIRECT SELLING
1987	Evatsa	Inespal	Aluminum	Cebal	100	DIRECT SELLING
1987	Litofan	Inespal	Aluminum	Baumgartner Ibérica	100	DIRECT SELLING
1987	Miel Española	Endiasa	Food	Sugemesa (Agrolimen)	51	DIRECT SELLING
1987	Miraflores	Lactaria Castellana (INI)	Food	Queserías Miraflores		DIRECT SELLING
1987	Purolator	INI	Automobile	Knecht Filterwerke	97,4	DIRECT SELLING
1987	Vitorio Luzuriaga	INI	Automobile	Eisenwerk Bruhl	33,3	DIRECT SELLING
1989	Ancoal	Enisa	Aluminum	Omnium Industrie	75,2	DIRECT SELLING
1989	Astican	INI	Shipbuilding (shipyards)	Italmar	90,7	DIRECT SELLING
1989	Ateinsa	INI	Team goods	Gec Alsthom	85	DIRECT SELLING
1989	Enfersa	INI	Fertilizers	Ercros	80	DIRECT SELLING
1989	MTM	INI	Team goods	Gec Alsthom	85	DIRECT SELLING
1989	Oesa	Endiasa	Food	Ferruzzi	100	DIRECT SELLING
1989	Pesa	Inisel	Electronics	Amper	97,4	DIRECT SELLING
1990	Adaro Indonesia	Enadimsa (INI)	Engineering	Indonesia Coal/Asmincco Bara Utama/ TirtamasMajutamas	80	DIRECT SELLING
1990	Saldosa	INI	Mining	Potasas Sub.	66	DIRECT SELLING
1991	Enasa	INI	Automobile	Iveco/Fiat	60	DIRECT SELLING
1991	Grupo de Empresas Álvarez (Geasa)	INI	Industrial-handicraft	Pickman (Estudesa)	90	DIRECT SELLING
1991	TSD	Enosa (INI)	Electronics	Telepublicaciones	100	DIRECT SELLING
1992	Campsa	INH	Petrochemicals			DIRECT SELLING
1992	Icuatro	Iniexport (INI)	Medical equipment	Grupo Alegre	100	DIRECT SELLING
1993	Automoción 2000	Teneo	Automobile	Inversores Reo	100	DIRECT SELLING
1993	Fábrica De San. Carlos	Teneo	Team goods	Grupo Navacel /Total Technical Trade/Luis Tellería Usabiaga	100	DIRECT SELLING

1993	Palco	Inespal (INI)	Aluminum	Alcan Deutschland	50	DIRECT SELLING
1994	Artespaña	Teneo	Industrial-handicraft	Medino	100	DIRECT SELLING
1994	ASDL	Ceselsa (Teneo)	Aeronautics	Quadrant Group	86,7	DIRECT SELLING
1994	Caivsa	INH/Madrileña lud. y Calef. por gas	Gas	Gas Natural	100	DIRECT SELLING
1994	Compañía Transatlántica	Teneo	Sea transport	Naviera de Odiel/Marítima Valenciana	100	DIRECT SELLING
1994	Enagas	INH	Gas	Gas natural	91	DIRECT SELLING
1995	Refinalsa	Inespal (INI)	Aluminum	Remetal	50	DIRECT SELLING
1995	Sidenor	AIE	Iron and Steel	Digeco-Roda (Digeco/Olarra/Rodaccial)	50	DIRECT SELLING
1996	Almagrera	SEPI	Mining	Navan Resources	100	DIRECT SELLING
1996	Gas Natural	SEPI	Gas	Multiple	3,81	PUBLIC OFFERING
1996	Sefanitro	AHV/SEPI	Fertilizers	Fertiberia	52,65	DIRECT SELLING
1997	Aceralia	AIE	Iron and Steel	Arbed/Gestamp y Aristrain/Multiple	100	DIRECT SELLING and PUBLIC OFFERING
1997	Auxini	SEPI	Construction	OCP	60	DIRECT SELLING
1997	Elcano	SEPI	Transport (shipping company)	Grupo Marítimo Ibérico	100	DIRECT SELLING
1997	Ferroperfil	SEPI	Aluminum	Directivos (MBO)	100	DIRECT SELLING
1997	Hijos J. Barreras	SEPI	Shipbuilding (shipyards)	Grupo Barreras	100	DIRECT SELLING
1997	Inespal	SEPI	Aluminum	Alcoa	100	DIRECT SELLING
1997	Iongraf	Inespal/SEPI	Aluminum	Directivos (MBO)	100	DIRECT SELLING
1997	Repsol	SEPI	Oil/Gas	Multiple	10	DIRECT SELLING
1997	Surgiclinic Plus	Santa Bárbara/SEPI	Medical products	Grupo Hambros	50	DIRECT SELLING
1998	Comee	SEPI	Electricity	National and foreign institutional investors	100	COMPETITIVE TENDERING
1998	Endesa	SEPI	Electricity (energy)	Multiple	33	PUBLIC OFFERING
1998	Grupo Potasas	SEPI	Mining/chemistry	Dead Sea Works/Tolsa/La Seda de Barcelona	100	DIRECT SELLING

1998	Inima	SEPI	Environment	Grupo Lain	100	DIRECT SELLING
1998	Prod. Tubulares	SEPI(AIE)	Iron and Steel	Tubos Reunidos	100	DIRECT SELLING
1999	Astander	SEPI	Shipbuilding (shipyards)	Italmar	100	DIRECT SELLING
1999	Casa	SEPI	Aeronautics	EADS	99,28	Incorporation into European group
1999	Enatcar	SEPI	Transport (road transport)	Alianza Bus	100	DIRECT SELLING
1999	Iberia	SEPI	Trasport (airfreight)	Multiple	68,51	Public offering, Industrial/ Institucional Alliance
1999	Icsa-Aya	SEPI	Aeronautics	Mecanizaciones Aeronaúticas (MASA)	100	DIRECT SELLING
1999	Indra	SEPI	I.T	Multiple	66,09	PUBLIC OFFERING
1999	Initec	SEPI	Engineering	Técnicas Reunidas /Welco/Dragados Industrial	100	DIRECT SELLING
1999	LM Composites	SEPI	Team goods	Lm Glasfiber	50	DIRECT SELLING
1999	Red Eléctrica	SEPI	Electricity	Multiple	31,5	PUBLIC OFFERING
1999	TGI	SEPI	Technology	Doxa Consultores	100	DIRECT SELLING
2000	Santa Bárbara	SEPI	Armored vehicles and weapons	General Dinamics Corporation	100	DIRECT SELLING

COMPANIES PRIVATIZED THROUGH THE MINISTRY OF ECONOMY AND TREAUSURY (STATE PATRIMONY OFFICE OR SEPPA)

Privatization year	Company	Parent company	Sector	Buyer	% sold privatization year	Type of sale
1985	Gossypium	Intelhorce (DGPE)	Textile	Textil Guadiana	100	DIRECT SELLING
1989	Intelhorce	DGPE	Textile	Orefici	100	DIRECT SELLING

1990	Coifer	Tabacalera (DGPE)	Food	Alimentos Naturales (BBV)	50	DIRECT SELLING
1990	Dirsa	Tabacalera (DGPE)	Distribution	Diasa (Promodes/BBV)	75	DIRECT SELLING
1990	Hytasa	DGPE	Textile	Textil Guadiana	100	DIRECT SELLING
1990	Imepiel	DGPE	Shoe industry	Grupo Cusí	100	DIRECT SELLING
1990	Salinas Torrevieja	DGPE	Chemistry (salt)	U. Salinera de España (Solvay)	38,5	DIRECT SELLING
1990	Seb. de la Fuente	Dirsa (DGPE) O Tabacalera	Distribución	Cofidisa/BBV	100	DIRECT SELLING
1991	Coisa	Tabacalera (DGPE)	Food	Rústicas	100	DIRECT SELLING
1991	Fridarago	Tabacalera (DGPE)	Food	Rústicas	100	DIRECT SELLING
1994	RJR Alimentación[8]	Tabacalera (DGPE)	Food	RJR Nabisco	50	DIRECT SELLING
1995	Lesa	Tabacalera (DGPE)	Food	Leyma/Iparlat	100	DIRECT SELLING
1997	Aldeasa	SEPPA	Distribution	Multiple and Tabacalera[9]	95,04	DIRECT SELLING and PUBLIC OFFERING
1997	Telefónica	DGPE/SEPPA	Telecommunications	Multiple	20,69	PUBLIC OFFERING
1997	Tisa	SEPPA	Telecommunications	Telefónica	23,8	DIRECT SELLING
1998	Serausa	SEPPA	Distribution (service areas)	Áreas	100	COMPETITIVE TENDERING
1998	Tabacalera	SEPPA (DGPE)	Food (tobacco)	Multiple	52,36	PUBLIC OFFERING

[8] 1994 was considered to be the privatization year of RJR Alimentación, since in 1993 Tabacalera sold 98,93 % of Royal Brands to RJR Alimentación, with a 50% capital share in Tabacalera. Royal Brands includes Carcesa, Consiber, Artiach, Marbú.

[9] 65.04% was sold through public offering.

COMPANIES PRIVATIZED THROUGH OTHER INSTITUTIONS

Privatization year	Company	Parent company	Sector	Buyer	% sold privatization year	Type of sale
1987	Acesa	F.G.D.	Motorways	Multiple	57,6	PUBLIC OFFERING
1991	Jobac	Mercasa	Distribution	Erosmer	70	DIRECT SELLING
1993	Ineco	Renfe	Engineering		55	DIRECT SELLING
1997	Retevisión	Ministerio de Fomento	Telecommunications	Endesa-STET	70	DIRECT SELLING

Source: Self-elaboration from information provided by the *Sociedad Estatal de Participaciones Industriales* and the *Consejo Consultivo de Privatizaciones.* We have also used information from Cuervo (1997); Gámir (1999); Villalonga (2000); Bel and Costas (2001) and newspaper articles.

APPENDIX II. Measures.

Entrepreneurship: respondents were asked to assess the following statements before and after privatization. We used a five-point Likert-type scale for this purpose (1: strongly disagree, 2: disagree, 3: undecided, 4: agree and 5: strongly agree).

	Before privatization					**After privatization**				
	-				+	-				+
Product innovation	**α = 0,8922**					**α = 0,9018**				
a. Being the first company in your industry to introduce new products to the market	1	2	3	4	5	1	2	3	4	5
b. Creating radically new products for sale in new markets	1	2	3	4	5	1	2	3	4	5
c. Creating radically new products for sale in the company's existing markets	1	2	3	4	5	1	2	3	4	5
d. Commercializing new products	1	2	3	4	5	1	2	3	4	5
e. Investing heavily in cutting edge product-oriented R¬D.	1	2	3	4	5	1	2	3	4	5
Process innovation	**α = 0,8186**					**α = 0,8369**				
a. Investing heavily in cutting edge process technology-oriented R¬D	1	2	3	4	5	1	2	3	4	5
b. Being the first company in the industry to develop and introduce radically new technologies	1	2	3	4	5	1	2	3	4	5
c. Pioneering the creation of new process technologies	1	2	3	4	5	1	2	3	4	5
d. Copying other companies' process technologies (reversed)	1	2	3	4	5	1	2	3	4	5
Organizational innovation	**α = 0,9078**					**α = 0,9008**				
a. Being the first in the industry to develop innovative management systems	1	2	3	4	5	1	2	3	4	5
b. Being the first in the industry to introduce new business concepts and practices	1	2	3	4	5	1	2	3	4	5
c. Changing the organizational structure in significant ways to promote innovation	1	2	3	4	5	1	2	3	4	5
d. Introducing innovative human resource programs to spur creativity and innovation	1	2	3	4	5	1	2	3	4	5
Domestic venturing	**α = 0,8318**					**α = 0,8025**				
a. Entering new domestic markets	1	2	3	4	5	1	2	3	4	5
b. Promoting new domestic business creation	1	2	3	4	5	1	2	3	4	5
c. Diversifying into new industries in Spain	1	2	3	4	5	1	2	3	4	5
d. Supporting and financing domestic new venture and start-up activities	1	2	3	4	5	1	2	3	4	5
e. Acquiring companies in very different industries	1	2	3	4	5	1	2	3	4	5
International venturing	**α = 0,8828**					**α = 0,8413**				
a. Entering new foreign markets	1	2	3	4	5	1	2	3	4	5
b. Expanding your international operations	1	2	3	4	5	1	2	3	4	5
c. Supporting and financing start-up business activities dedicated to international operations	1	2	3	4	5	1	2	3	4	5
Strategic renewal	**α = 0,8181**					**α = 0,7959**				
a. Divesting several unprofitable business units	1	2	3	4	5	1	2	3	4	5
b. Changing its competitive approach (strategy) for each business units	1	2	3	4	5	1	2	3	4	5
c. Initiating several programs to improvè the productivity of business units	1	2	3	4	5	1	2	3	4	5
d. Reorganizing operations to ensure increased coordination and communication among business units	1	2	3	4	5	1	2	3	4	5

Sector competition hostility: respondents were asked to assess the following statements regarding the level of sector competition where the company developed its core activity.

	Before privatization					**After privatization**				
	-				+	-				+
	α = 0,7946					**α = 0,8100**				
a. Competition based on quality is fierce	1	2	3	4	5	1	2	3	4	5
b. Competition based on price is fierce	1	2	3	4	5	1	2	3	4	5
c. Competition based on service is fierce	1	2	3	4	5	1	2	3	4	5
d. Competition based on product newness is fierce	1	2	3	4	5	1	2	3	4	5