
Cooperative agreements in Spain after its integration into the European Union

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Abstract

During this current decade, many studies analyzing the use of cooperative agreements by Spanish firms have been realized. Analyzes the results of these papers to determine if the main features of alliances signed by Spanish firms coincide with those observed in other studies on cooperative agreements having a European or a worldwide focus. The results of the analysis show that, although a good deal of similarity can be found, certain singularities also exist that can be interpreted as a consequence of the integration of Spain into the European Union.

Introduction

Until recently, the use of interfirm alliances was limited to vertical relationships in the domestic scope; or as a second best option in the international expansion of multinational firms. These alliances usually involved industries or activities using mature technologies (Yamin, 1996). However, from the 1970s, not only has the number of agreements risen, but also the variety of the alliances has expanded, as new types of alliances have emerged, like those signed by large firms in order to develop new technologies or to coordinate their international strategies.

Facing these quantitative and qualitative changes, during the 1980s many research efforts were directed to detect new trends of cooperation in business. Researchers were first faced with the absence of census or statistics that obliged them in many cases to construct databases gathering information on the setting up of strategic alliances from the news published by the economic press. In this way, many studies using databases containing European or worldwide data were realized. Analyzing their findings, it is possible to identify a series of common trends. In general, it can be stated that many of these alliances have been motivated by the impact of the introduction of information technologies and the globalization of markets. These factors have obliged companies to react rapidly to adapt themselves to a new environment that required competing in more markets and gaining access to new technologies. As a means of achieving this, alliances and cooperative agreements between firms will allow not only the sum-up of resources but also the flow of knowledge between organizations (Chi, 1994).

Although later than in other countries, Spain has also seen an increase in the number of interfirm alliances. This growth has attracted the attention of researchers, and as a consequence, many databases of alliances signed by Spanish firms have been built. For this reason, it seems an appropriate moment to analyze these studies in order to identify the main features of Spanish partnerships. Additionally, the exceptional circumstances in which the Spanish economy has found itself

most recently (the opening of the economy and the integration in the European Union (EU)) invite one to detect the presence of distinctive features in the cooperative agreements signed by Spanish firms.

This paper analyzes the characteristics of alliances created by Spanish firms in the period featured by the Spanish entry in the European Union, using the results of the main empirical studies. The hypothesis that we want to test is whether the characteristics of alliances signed by Spanish firms coincide with the trends described in previous empirical studies with a European or a worldwide focus. The interest of the present study is twofold. On the one hand, it allows one to identify the trends in the formation of alliances signed by firms from a country with an intermediate level of economic development, as previous studies have focused on firms from less developed countries or from countries in which firms have a degree of international involvement and competitiveness higher than Spanish companies. On the other hand, focusing on the Spanish case allows us to analyze if the opening of the economy and Spain's integration in the EU have affected the formation of strategic alliances. The structure of this paper is as follows. In the following section the findings of the more relevant international studies are described. The main features of the agreements created by Spanish firms will then be analyzed, and finally, the results are summarized and discussed.

Interfirm agreements: concepts and trends found in international databases

Cooperative agreements or strategic alliances can be defined by any kind of joint strategic decision made by two or more independent firms to coordinate part of their actions in order to achieve a shared goal. In general, they form a continuum of ways to coordinate an economic activity between two extreme points: market contracting and internal organization within a single firm. As a result, cooperative agreements combine characteristics of both extreme organization forms:

- From the market, the fact that the partners maintain their autonomy after signing the deal.
- From the firm, the fact that the partners make a joint plan to achieve the shared goal.

Several papers have been dedicated to describe the main trends in the use of inter-firm alliances, often analyzing a database of cooperative agreements created by the authors. Many of these databases have been created collecting information published by the economic press. After analyzing the most important databases built at European or world-wide levels[1], we observed the following trends:

- Sustained growth of the number of agreements since the latter part of the 1970s, as shown in the work by Delapierre (1991, p. 148) and the studies revised by Chesnais (1988, p. 70).
- The sectors with the largest number of agreements are those related to the new technologies of information, like electronics and computing, as well as more traditional industries, like chemical, automobiles and energy sectors (Morris and Hergert, 1987; Mariti and Smiley, 1983; Ghemawat *et al.*, 1986).
- On analyzing agreements by their functional area, alliances established to perform R&D or production activities prevailed over those established to perform marketing or multiple activity (those comprising more than one functional area), as shown in the work by Morris and Hergert (1987) and the studies revised by Ingham (1990).
- Most of the agreements involve partners of different nationalities instead of partners having the same nationality. European firms usually signed agreements with partners outside the EU, and are more inclined to seek partnerships with US than with Japanese companies, as shown in the work by Morris and Hergert (1987) and the studies revised by Ingham (1990) and Delapierre (1991, p. 152).
- The joint venture is the contractual form most frequently used in strategic alliances. This is somehow expected as it is the form that best protects the interests of all partners. Furthermore, agreements of a vertical nature (buyer-seller) are less common. However, this could be a bias due to the type of research method used, as the principal source of information, the economic press, tend to pay less importance to buyer-seller agreements (Ghemawat *et al.*, 1986; Mariti and Smiley, 1983).
- More than 80 per cent of the agreements are signed by two partners (Morris and Hergert, 1987). This preference can be

explained by its organizational simplicity. Because adding partners leads to more organizational problems, firms prefer to set up alliances with one single partner.

These trends are influenced by the above mentioned factors. Both the globalization of markets and the impact of the introduction of new technologies of information have contributed to the growth in the number of partnerships. On the one hand, the increase in the number of international agreements, especially those having partners outside the EU, reflects the importance of the formation of a global market. To increase their global position and facilitate their entry in new markets, firms establish partnerships with local companies in countries where their presence is weak or absent. On the other hand, the high share of agreements in industries related to the new technologies of information, and in the functional areas of technology and production, seems to be the consequence of the impossibility keeping up with the increasing number of technologies that the firm must know and must be able to use.

As the impact of new technologies of information has motivated many of the cooperative agreements, there are studies focused only on partnerships established to perform technological or R&D activities. Analyzing these studies, the main trends found were:

- Minor role for joint ventures. This point was corroborated by all of the works in this area (Jacquemin *et al.*, 1986; Niosi, 1993; Brockhoff *et al.*, 1991; Hagedoorn, 1990; Pisano *et al.*, 1988). Agreements involving joint research and development activities tend to form fewer joint ventures than alliances from other functional areas. As technological cooperation is carried out project by project, it is not necessary to establish a joint venture, because of the temporary character of the cooperation (Pisano *et al.*, 1988, p. 59).
- Higher average number of partners. Although the majority of R&D alliances still have only two partners, the relative weight of this type of agreement is about 60 per cent (Jacquemin *et al.*, 1986; Niosi, 1993), whereas, in studies investigating agreements created to perform activities related to any functional area, the number of partnerships having two partners relative to the overall number of partnerships is higher.

- Governments and public institutions are more involved in this type of agreement, mainly because many public funds like grants or financial aids are destined to support R&D activities. This circumstance introduces a number of peculiarities. First, a higher number of alliances are created than would exist without public funds[2]. Second, the availability of public funds seems to favor alliances of more than two members. The reasons for this are, on the one hand, the aim to spread the impact of the public funds, and on the other, to avoid redundancies in the efforts by the investigators (Niosi, 1993).
- Sectors of high technological intensity have the highest share of R&D agreements (Hagedoorn, 1993; Wang, 1994).

In this way, R&D alliances tend to be temporary and with more partners than other types of agreements. This is partly because of expected synergy effects and also because it contributes to the reduction of the level of risk inherent in these projects. Besides, the greater involvement of public institutions favors projects of this type.

Empirical evidence on cooperative agreements by Spanish firms

We will now analyze the main features of cooperative agreements signed by Spanish firms from the 1980s, using the results of the main empirical studies performed[3]. In particular, we will analyze the trends in the number of agreements, their distribution by sectors of activity, the functional areas covered by the alliance and the number and nationality of the partners. A description of the methodology used to build the databases can be found in Table I. Most of them were built from information published in the Spanish economic press relative to the formation of cooperative agreements. One of the major limitations of this source of information is that it tends to give priority to information about large firms. Because of this, other studies, like Casillas *et al.* (1993), Costa (1993) or Valdés (1994), have looked for alternative sources of information, with the intention of compiling data of agreements signed by small and medium-sized firms.

Number of agreements

In general, during the 1980s we observed an increase in the number of agreements

Table I Main features of the empirical studies analyzed

Reference	Period covered	Alliances selected	Source of information	Number of alliances
Casani (1995)	1992/1993	At least one Spanish partner 66 percent of the alliances receive public money Subcontracting and long-term contracts are excluded	Requests to Spanish Ministry of Industry for subsidies Approved projects in ESPRIT III (13 percent) Information from specialized journals	190
Casillas and Moreno (1995)	Nov 1991- Feb 1994	Proposals by Spanish companies submitted to European projects	PARTNERS database (included in CORDIS)	148
Casillas <i>et al.</i> (1993)	1991/1992	Partnerships with at least one Spanish partner in BCNet, Eurokom and Partenariat	IMPI	(Includes various samples)
Costa (1993)		At least one Spanish partner	Field research from 23 production networks	195
García-Canal (1992)	1986/1989	At least one Spanish partner	Daily economic press (Expansión, ABC, Actualidad Económica)	663
Menguzzato (1992)	1980/1989	At least one Spanish partner High-tech industries Agreements in European programs are excluded	LAREA database	880
Miranda (1992)	Jan 1991/ Mar 1992	At least one Spanish partner	Economic press and specialized journals	150
Rialp and Rialp (1996b)	1990/1992	Including at least one Spanish firm	Economic press (Expansión, ABC)	1,148
Sanchís and Urra (1994)	1993 (first six months)	At least one Spanish partner	Economic press (Expansión)	261
Valdés (1994)	1978/1993	Joint ventures with Spanish partners	IMPI	106

(Menguzzato, 1992; García-Canal, 1992). Although the number of studies reporting this information is small, it seems that the growth in the number of alliances has peaked in the 1990s (Rialp and Rialp, 1996b).

Nationality of the partners

Tables IIa and IIb show the distribution of the cooperative agreements regarding the nationality of the partners. In general, there is a clear dominance of international alliances; in most studies more than 70 percent of the agreements compiled in the databases have, at least, a partner from outside Spain. This is consistent with the trends reported in studies having an international scope. The preference

to choose US instead of Japanese partners is also consistent with the international trends previously mentioned. However, one singularity was noted, in that the majority of Spanish firms choose partners from the EU, despite the fact that firms from other countries of the EU prefer partners from outside the EU (Menguzzato and Renau, 1992; Morris and Hergert, 1987; Ricotta, 1987). This is a clear tendency corroborated by all of the studies analyzed, covering different periods of time and using different sources of information.

This preference for European partners could be interpreted as a consequence of the entry of Spain in the EU. As Spanish membership in the EU eliminates the barriers to

Table IIa Nationality of the partners in the empirical studies analyzed

Reference	All from Spain (%)	EU (%)	USA (%)	Japan (%)	Others (%)
Casani (1995)	34	44		22	
García-Canal (1992)	30.8	40.9	11.6	3.6	13.1
Menguzzato (1992)		88	8	4	0
Miranda (1992)	28.5	39	12.5	5.5	14.5
Rialp and Rialp (1996b)	34.67	38.41	10.37	3.48	12.98

Source: cited studies

Table IIb Geographic location of the co-operative activities in the empirical studies analyzed

Reference	Spain (%)	Other country in EU (%)	Other country not EU (%)	Spain and other EU countries (%)	Other combinations (%)
García-Canal (1992)	56.7	5.4	10.0	19.9	8.0
Rialp and Rialp (1996b)	62.6	6.9	10.6	13.8	6.1

Source: cited studies

the flow of goods, labor and capital, the competitive environments of Spanish and European firms have been modified; forcing all of them to react to these changes. In most cases, the formation of strategic alliances has been the reaction to this new environment, as they are a means to speed the entry in new markets. Therefore it is not surprising to find that in 80 percent of the alliances compiled in the studies analyzed, the collaborative activities are performed within the limits of the EU.

Sector in which the activity of the agreement is located

Table III shows the sectors of activity with the largest number of agreements in the studies analyzed. Although the classification of industrial sectors is not the same in all the studies, it is clear that some of the sectors with the largest number of agreements are related to new technologies of information, corroborating the results of other researchers. However, other sectors, like food and agriculture, finance and energy also have an important number of alliances. This can be explained by the impact of deregulation on those industries (especially finance and energy (Noble, 1994)), and the entry of Spain into the EU. All of these factors have created new opportunities for newcomer firms and have forced firms established in these industries to react to a new competitive environment. In both cases alliances have been a frequent response to these challenges.

Table III Trends by industry group

Reference	Sectors with the majority of agreements	Percentage
Casani (1995)	Agribusiness	12.11
	Other services	11.05
	Computers	10
	Electronics	10
García-Canal (1992)	Finance	16.44
	Agribusiness	11.01
	Electronics	8.45
Menguzzato (1992)	Software	8.45
	Information technology	49
	Biotechnology	21
Miranda (1992)	Electronics and telecommunications	35
	Manufacturing	25
	Computers and semi-conductors	13.24
Rialp and Rialp (1996b)	Energy and water	11.24
	Services	10.02
	Finance	9.41
	Agribusiness	8.62
Sanchís and Urra (1994)	Information technology	35.6
	Automobiles	10

Source: cited studies

Functional areas

Researchers trying to categorize alliances according to the functional area covered tend to classify them down using a simplified version of the value chain (Porter and Fuller, 1986). In this way we can distinguish between alliances made only for research and development, production or commercial purposes and multiple activity alliances (those created

to perform more than one functional activity). Table IV shows the results obtained from the studies which provide data on this subject. Multiple activity alliances tend to dominate, followed by those with commercial objectives. Both of them are the type of alliance chosen when a firm seeks international expansion, according to the findings of Dussauge and Garrette (1991).

However, the importance of these types of alliances is smaller in studies having a European or a worldwide focus. As has been said before, in these studies the most frequent types of agreements are those in the areas of R&D and production. These differences, combined with the fact that most international agreements signed by Spanish firms perform their activities within the EU, seem to suggest that most of them are motivated by internationalization and the opening of new markets, more than by seeking access to new technologies. Again, the entry of Spain in the EU seems to explain these differences. In fact, the main features of Spanish R&D alliances seem to be consistent with the general trends in this area mentioned earlier in this paper under “Interfirm agreements” (García-Canal, 1995). These circumstances suggest that marketing and multiple activity agreements at the European level are the main sources of these differences.

Number of partners

As can be seen in Table V, the percentage of alliances with two partners moves around the range of 80 to 86 percent. This result, which is coherent with trends detected at an international level, was obtained in practically all of the studies. In fact, in the only study finding a lower percentage (Casani, 1995), 66 percent of the alliances had received public financial aids, which has been proven to be a factor that

increases the number of partners. Furthermore, and coherent with other studies, research and development alliances have the largest average number of partners.

International agreements have fewer partners than other types of agreements (Miranda, 1992; García-Canal and Valdés, 1997). This would seem logical if one takes into account the fact that many of the international alliances signed by Spanish firms have pursued the entry in a new foreign market. In fact, when analyzing international agreements established by Spanish firms to expand their markets, a clear preference for choosing one single foreign partner is observed (Rialp and Rialp, 1996a, p. 256; Miranda, 1992; García-Canal and Valdés, 1997). Thus, when obtaining access to a new market is the only goal, to set up an international alliance with only one partner is often enough [4]. The only restriction is to select a suitable partner, either with knowledge of the political, economical, social and cultural situation of the country involved, or with access to local distribution networks. In addition, it should not be forgotten that some political regimes impose restrictions on foreign investment and require using one – single – local partner (Fagre and Wells, 1982; Lecraw, 1984).

Contractual form

It was observed that structured contractual forms do not make up more than half of the number of alliances. Structured contractual forms are those based on equity investments (Menguzzato, 1992): minority equity exchanges where one partner purchases equity in another, or all the partners interchange equity, or shared equity investments in a third firm, legally independent from partners – a joint venture. This confirms a certain preference for less structured contractual

Table IV Trends by the functional areas covered in the alliance

Area	Casani (1995) (%)	García-Canal (1992) (%)	Menguzzato (1992) (%)	Sanchis and Urra (1994) (%)	Rialp and Rialp (1996b) (%)
Others				5.36	
R&D	17	15.69	21.00	8.05	8.19
Production	7	12.22	16.00	12.26	14.55
Marketing	21	23.68	10.00	28.35	24.56
Mixed	55	48.41	53.00	45.98	52.70
Number of alliances	190	663	76	261	1,148

Source: cited studies

Table V Distribution of alliances according to the number of partners

Number of partners	García-Canal (1992) (%)	Rialp and Rialp (1996b) (%)	Sanchís and Urra (1994) (%)	Casani (1995) (%)	Menguzzato (1992) (%)
2	80.5	86	84.3	51	82.4
3	7.4	7.9	11.1	15	17.6
4	3.8	6.1	3.4	6	
More than 4	8.3		1.2	27	

Source: cited studies

forms. Nevertheless, joint ventures make up an important number in all of the databases[5] analyzed, except for those which compile alliances signed by small and medium-sized firms, because they tend not to form as many joint ventures as large firms[6] (see Table VI).

Valdés and García-Canal (1997) have investigated the main differences between domestic and international (or nondomestic) joint ventures. Comparing their features, using data from their own databases, they found important differences:

- International joint ventures have a smaller number of partners, usually two. This characteristic was already mentioned as a general feature of all international alliances. Since joint ventures usually have the highest number of partners among all alliances, it should be noted that domestic joint ventures contribute the most to this large number.
- A less balanced distribution of equity in international joint ventures, particularly in those created in less developed countries. These differences are considered to be a consequence of asymmetries in bargaining power.
- On the other hand, García-Canal and Valdés (1997) found that international joint ventures were more frequently used to gain access to distant markets than to enter

neighboring or culturally similar markets. Analyzing alliances established with the aim of entering new markets (taken from their databases), they identified the following typology (summarized in Table VII):

- International alliances in which the collaborative activities are performed within a single country. These alliances are created to enter into countries with high cultural and geographical distance or with governmental restrictions to the entry of foreign firms. In these alliances firms tend to create joint ventures with local partners to manufacture and sell their products.
- International alliances in which the collaborative activities are performed in several countries. These types of alliances are created with partners from neighboring or culturally similar countries. In these cases firms tend to form contractual agreements and equity exchanges, and have as objective the reciprocal access to their markets.
- Domestic alliances to enter new countries. In most of the cases these are export consortia created by several firms from the same industry in order to start their international expansion, or to enter into markets which are difficult to access.

Another difference noted between small and medium-sized firms and large firms is that buyer-supplier alliances are more common in the former, and that agreements in the latter are more oriented towards agreements in which all partners participate directly in the performance of the cooperative activities.

Table VI Share of structured forms

Reference	Joint ventures (%)	Equity exchanges (%)
Casani (1995)	44.7	0
Costa (1993)	8.7	0
García-Canal (1992)	36.5	10.01
Menguzzato (1992)		43
Rialp and Rialp (1996b)	25.17	16.2
Sanchís and Urra (1994)	24.6	6.9

Source: cited studies

Table VII Typology of alliances for internationalization

Nationality of the partners	Location	
	One country	Various countries
International	Joint ventures with local partners	Global alliances
Domestic		Export consortia

Source: García-Canal and Valdés (1997)

Conclusions

In order to detect the main trends in the formation of cooperative agreements and strategic alliances signed by Spanish firms, this paper has analyzed the results of the main empirical studies done on this subject. Our analysis has allowed the detection of the following tendencies in the alliances signed by Spanish firms during previous years:

- A growth in the number of agreements during the 1980s, peaking in 1990.
- Predominance of international alliances with a clear prevalence of European partners (70 percent). It was also noted that more alliances are made with US firms than with Japanese partners.
- Prevalence of agreements in which the collaborative activities are performed within Western Europe (more than 80 percent of the total number of agreements).
- The sectors that have seen the majority of alliances are those related to the new technologies of information, and those most affected by deregulation and the entry of Spain into the EU. Examples of the latter are the financial, food and energy sectors.
- Dominance of agreements that involve more than one functional activity, followed by those involving marketing or distribution activities.
- Agreements signed by only two partners make up between 80 and 86 percent of all of the alliances covered by the databases. This was corroborated by almost all of the studies. Furthermore, international alliances generally have fewer partners than domestic alliances. By functional area, R&D alliances tend to have more partners than the alliances that cover other functional areas.
- Joint ventures and minority equity investments make up less than 50 percent of the alliances in all of the studies analyzed, although the prevalence of joint ventures is clear. This is true except for those alliances in which small and middle-sized firms are involved. On the other hand, international joint ventures tend to be used to get access to distant markets, or as a result of cultural differences or governmental restrictions.

Comparing these characteristics with the trends detected in other empirical studies using databases containing European and worldwide data, common trends exist. For

example, in both types of databases there is a clear dominance of alliances by only two partners, and joint ventures as the contractual form. Furthermore, it has been observed that Spanish alliances have a marked international character. Nevertheless, a number of singularities were found. For example, the dominance of agreements involving multiple functional activities, as opposed to those involving technology or production, and the importance of agreements with partners from the EU. These differences have made us believe that the main motive for Spanish firms entering in cooperative agreements is international expansion, and more specifically, to facilitate access to markets within the EU. As such, more than trying to gain access to distant markets or new technologies, as found in agreements at both European and global level, the majority of alliances signed by Spanish firms have been motivated by the integration of Spain in the EU.

Notes

- 1 See Chesnais (1988) or Ingham (1990) for a review of the results of the most important international databases of cooperative agreements.
- 2 Nueno and Oosterveld (1988, p. 12) studied a number of firms taking part in research and development programs sponsored by the EU and found that the existence of these alliances is largely determined by the availability of public funds. A third of the companies would not have participated if these grants had not existed. (See also Peterson (1993).)
- 3 Given the fact that our focus is the Spanish firm, we have only considered those studies in which all of the agreements compiled included at least one Spanish firm.
- 4 In general, increasing the number of partners increases the complexity of the agreement, because more co-ordination efforts are needed. For this reason, these agreements are normally formed by no more than two partners, aside from situations in which the addition of more partners leads to additional advantages.
- 5 Although the number of equity exchanges is not high, it should be noted that firms are usually unwilling to inform the press about them.
- 6 This result can also be found in a study by Costa and Callejón (1992). They investigated databases containing alliances of medium- and middle-sized businesses in the EU.

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