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**ARE IB MODELS USEFUL FOR HISTORY? LESSONS FROM A CASE STUDY: ACERINOX 1950S-
1990S**

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Introduction

The history of multinationals has been traditionally dominated by theories empirically grounded in evidences from core economies. Following the first versions of the Uppsala stages theory of internationalization, historical and evolutionary IB (International Business) studies took into account the liability of foreignness, and how, for this liability, the degree of cultural distance between subsidiaries abroad and the headquarter had to be managed. Initially, by exporting and investing into culturally close markets, and slowly by increasing contacts and investments in more culturally distant markets. On the other hand, internalization theories (like the OLI paradigm in its very diversified versions since 1977) have often considered that when there is great economic, geographic, political, and cultural distance, multinationals may reduce transaction costs with distant markets through the internalization of those transactions (Buckley 2009). Some gravitational models of IB, and some recent studies about “Global Latinas” finally, assert the important positive effects in performance if multinationals specialize in their “natural markets”, regions of the world with which the headquarters of a multinational share similar language, institutional arrangements, or organizational routines (Casanova 2010). In general, mainstream models of international business, including some we are not focusing in for this paper (like internationalized districts) have as a key hypothesis the possession of competitive advantages or resources.

How can we explain, however, with these former theories, the success of global multinationals from emerging economies, when the basis for success have nothing to do with FDI orientated towards “natural” markets? When this type of multinationals focus on markets which are leading innovative economies of the world? Is it not tremendously costly for them to try to reduce “distance” with markets located in core economies with very different entrepreneurial practices and big institutional barriers to entry? How can they overcome the scarcity of strategic resources like globalized high tech and market know how? What kind of competitive advantages explain that they can overcome in these cases the liability of foreignness, and the liability of being a late comer, in the most advanced economies of the world? And what kind of lessons can we obtain from learning a bit from their particular pathways and strategies of internationalization?

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There have been, in this line, some strong criticisms about the usefulness of mainstream theories of internationalization, indicating how difficult it is to explain with them the creation of global players in environments characterized by the scarcity of strategic globalized factors in technology and market networks, and very regulated institutional environments (Mathews 2002 and 2003, Fernández Pérez 2012). This author is leading an on-going research with evidences from global players born in Spain before the 1970s, when the economy experienced rapid growth industrialization rates typical of today's emerging economies. These globalized multinationals appeared in very dynamic sectors, technology intensive, and their preferred markets were core innovative developed economies like the US and the UK. The companies not only overcame the liability of foreignness, but the scarcity of strategic technology and market know-how (including knowledge about how to cross difficult legal regulations to enter highly protected markets). The three cases under analysis in an on-going research are CELSA, Grifols and Acerinox. This paper focuses on the history of the origins of Acerinox, a leading stainless steel group born through an original Joint-Venture between Spanish banks and engineers and a Japanese sogo shosha.

The first hypothesis of this paper is that in processes of internationalization of multinationals born in developing economies (past or present times), Local Talent may be "the" strategic pre-existing abundant factor that can combine relatively scarce local resources, to attract FDI from core economies, with the objective to leverage scarce strategic technological and market resources, and become a global company.

The second hypothesis is that in order to attract FDI from core economies and create global groups, competitive Local Talent must have a competitive advantage in cross-cultural management with global leaders from developed economies. OLI paradigms usually indicate the need to have some kind of owned resources, but often overlooks the psychological and cultural aspects involved in successfully establishing a long-term understanding between extremely different types of managers. This paper argues that these advantages are extremely important in order to combine all other resources in an efficient way for long-term successful results. Cross-cultural management is considered today in management literature to have great implications for managing international projects (Bird and Fang 2009; Anbari, Khilkhanova, Romanova, Umpleby 2003; Mazur 2010). Some studies about the investment of Japanese companies in Germany confirm the significant role of cross-cultural management to successfully develop long-term international projects among European and Japanese partners (Lincoln, Kerbo, Wittenhagen 1995).

The case study is Acerinox, one of the six most important global groups in stainless steel industries today. The group was born after contacts and negotiations developed in the late 1950s and during the 1960s, and formally began in 1970 as a Joint-Venture among Spanish bankers and industrial engineers, and Japanese companies (an industrial group, and a trading company). The partnership and good understanding continues today and has been the key to explain the enduring global success of the group in the last four decades.

The paper combines access to the group's archive, and personal interviews to first and present C.E.O., members of the Council Board, and persons that closely participated in the foundation, expansion, and internationalization of the group. Also, interviews to one of the

few Japanese executives that participated in the Joint Venture and still keeps fresh connections with former and present executives of the Spanish multinational.

The methodology is that of the case study, but goes beyond mere description and uses the case to understand general processes, with the aim to contribute some new insights to current theories about the importance of cross-cultural management and cross-cultural learning as a key resource and managerial strategy that must be studied to understand growth and internationalization of firms, particularly in fast developing economies of past, and present, times.

Theoretical frameworks about multinationals and emerging markets

Business historians have presented abundant case studies on the internationalization of businesses in the past, and have demonstrated that, by the 1950s, companies already existed that could justifiably be described as multinationals (Jones 2005:5, Buckley 2009).

Nevertheless, historical case studies have rarely provided a hypothesis or conceptual framework that might explain the influence of History on the internationalization of a company, thus perhaps giving specialists in economy and business a tool for understanding the rapid progress to global leadership made by companies coming from markets with relatively poor resources. This work seeks to contribute to this task and is placed alongside recent studies that not only provide empirical evidence, but also a necessary conceptual approach, between specialists in business and historians (Lubinski, Fear y Fernández 2013, Fernández y Colli 2014).

The conceptual frameworks most frequently used by business specialists to analyze the internationalization of companies and the creation of multinationals are of two types: those which allow the description of a static situation, and those that facilitate a dynamic evolutionary analysis (a summary in Wilkins 2001, Mathews 2002, Buckley 2009, y Oehler-Sincai 2011). The dynamic conceptual frameworks that explain internationalization are in general based on the existence of a large and differentiated amount of essential resources for entering external markets. The question that is not often satisfactorily resolved is that they do not offer an explanation of the internationalization and global leadership of companies that have arisen from an insufficient combination of initial resources in regions and sectors with a very poor supply of local resources. This question particularly affects the cases of private multinationals with little or no public subsidy (since those public or private companies with a continuous injection of public funds can indeed make the jump to global markets in an environment of few resources).

For the dynamic analysis of the rise of private multinationals in emerging markets we are indebted to the contributions of, among others, Casanova, Guillén and García-Canal, based on recent analysis of successful cases of companies that would fit the OLI model of internationalization (Casanova 2009, Guillén y García-Canal 2013), which considers good endowment of strategic resources, but their analysis do not explain well the cases of businesses which start with poor strategic resources, in present or past emerging markets

(according to the project of Emerging Markets at the University of Colombia directed by Victor Chen, emerging markets are those that are experiencing rapid growth and industrialization: <http://www.vcc.columbia.edu/content/emerging-market-global-players-project>, 8/4/2013).

For these cases some scholars are using a theoretical model, developed by John Matthews a decade ago to explain the rise of the so-called Asian dragons (specifically in the Taiwanese IT sector): the “LLL” model (*Linkage, Learning, Leverage*). This model has been much discussed: on the one hand criticised by disciples of Dunning such as Rajneesh Narula, but on the other hand, positively valued as a compliment to the OLI model by John Dunning himself (Matthews 2006).

The LLL model (Mathews 2002b, 2006) proposes that with companies that enter late into an industry or sector (*latecomer firms* or LCF in *latecomer nations*), with an initial lack of strategic resources, the internationalization occurs, at least at an initial stage, not based on the *amount of abundant differentiated resources* existing in the company, but on the *potential amount of resources that could combine to obtain the strategic resources that are lacking*.

According to Matthews, the LCF should bring together four conditions (Mathews 2002: 472):

- Entry into an industry or sector: late, and not by choice but by historical necessity;
- Resources: initially poor in terms of strategy (lack of cutting-edge technology and knowledge of sector’s global markets);
- Principal objective: catch-up and global leadership;
- Initial competitive advantages: low costs, which can be used to counterbalance any disadvantages it has in the industry it is entering.

The model comprises three phases in which the scarce necessary resources for internationalization and global leadership of firms in emerging markets can be acquired. The first is called “linkage”, which implies the establishing of stable links, either through formal agreements (e.g. contracts) or informally (e.g. through trusted social networks) with global leading companies, thus assuring a stable contact with suppliers who have the specialised knowledge lacking by the company wishing to conquer the global market. This knowledge is, above all, technological and commercial (functioning of global markets).

The second phase, called “Leverage”, implies as a consequence of the first phase the transference of the strategic resources lacking in the company, thus allowing the amount of its resources to reach the level of those of the global sector leaders. According to the model, the iteration or repetition of these two phases over time (including difficulties and processes of readaptation of strategies and structures) leads to the final phase of “Learning”, whereby the company that learned from the leader, itself becomes a global leader, and can dynamically replicate the process (without limiting itself to simply copying or imitating without learning), and reproduce, adapting itself to the needs and new strategies, such as internationalization of its subsidiaries or partners in other markets abroad (Matthews 2002:476-479).

Studies in strategy and organizational learning (Fear 2013) have emphasised that the step between the design of a business strategy and the implementation of a business structure is not automatic: there is a lot of friction and tacit knowledge that must be incorporated by the workers and directors, and even more so in multinational companies, where the cross-cultural

management is a strategic resource influenced by diverse cultural factors which are scarce in countries with a long tradition of international isolation (Kundu 2001, Jones 2007, Hofstede 2013). If the organizational learning is not acquired efficiently, the investment made in production, distribution and management (to achieve, for example, internationalization) can result in organizational structures that not only do not allow, but actually obstruct, the development of strategic plans, possibly leading to the failure of strong strategies of internationalization (Fear 2013).

The ideas of the LLL model, organizational learning, and usefulness of cross-cultural management to manage international projects (Mathews 2002; Fear 2014; Bird and Fang 2009; Anbari, Khilkhanova, Romanova, Umpleby 2003; Mazur 2010) are useful conceptual frameworks for explaining how businesses with initial resources of apparently low efficiency, in poor territories and with little to recommend it for integration into global commerce, can become global leaders. The two new key themes that are suggested, with respect to the dominant models of internationalization previously described are, in summary: 1) the importance of studying not only the amount of resources a business has, but also the potential amount of resources that can be mobilized and combined in certain optimum conditions in territories and companies where they are scarce; and 2) the importance of studying the mechanisms of organizational learning and cross-cultural management, in order to implant new structures and strategies that are, above all, sustainable and efficient and can orient the company towards global markets.

Hypothesis and objectives

Using the case of the stainless steel sector and the historical origins of the Acerinox group in Spain between the 1960s and the 1980s, this work seeks to provide a historical perspective to the study of the long-term keys to global competitiveness of giant private enterprises that have entered late but rapidly in a sector or industry, in developing economies. The objective is two-fold.

Firstly, to analyze and interpret in an interdisciplinary way the origins of a Spanish corporation that was founded at the end of the Franco period, in 1970, and that managed in three decades to be among the top five world-wide producers of stainless steel flat products. The second objective of the work is to understand how and why businesses that have entered late and quickly into a sector or industry, with few initial strategic resources and in emerging markets, can, with great speed, become global leaders of their sector; and for this purpose applying the LLL model (Mathews 2002) and the ideas of organizational learning and managing cross-cultural diversity (Fear 2013, Kundu 2001) to the Acerinox case, and combining these ideas with those of the company's history, which emphasize the influence of a country's historical circumstances and the dependency of the track record on the sectors and entrepreneurs of a region. Ultimately the case history of the origins of Acerinox, one of the world's five biggest groups in stainless steel production, serves to put forward a hypothesis – which with future investigations can hopefully be developed with other evidences- to compliment the LLL model: that the historical circumstances, the fruits of the previous track record, and of chance, in each

region, can explain why the combination of potential resources are activated, which, in developing markets, convert private companies with no public subsidies into global leaders.

The LLL model indicates that the late-comer firms that have some resources such as low production and transport costs can initiate a process that leads to the acquisition of strategic resources and a balancing-out with respect to global leaders. But it does not say why or when this process begins. The historical study of the creation of Acerinox shows that it started out with scant up-to-date knowledge of the technology and global markets of stainless steel, and that it had an abundance of some potential non-strategic resources that could be mobilized to obtain said knowledge: cheap and young work force – including directors – which could quickly be trained in highly simplified and standardized processes; trained and experienced directors coming from regions with excellent engineering institutions; financial capital; cheap land close to a natural harbour for establishing a brand new integrated iron and steel works; abundant energy; cheap transport; low financial costs; and low taxation.

In the case of Acerinox, the abundant non-strategic resources were not able, on their own, to be combined to capture the technology and knowledge of global markets. Specific historical circumstances were necessary - the diplomatic conflict over Gibraltar, that reached its crisis point in the 1960s and concluded with the closure of its border in June 1969, was what caused, in the second half of 1969, the existing disconnected potential resources to mobilize and combine to form Acerinox. Also necessary was the previous historical track record of the regions where the first Catalan, Valencian and Basque directors were trained (the quality of the educational institutions, the cosmopolitan environment that favoured intercultural contacts) which, given the historical opportunity of the Gibraltar conflict and the urgency of the industry ministers in government, allowed the correct decision to be taken in their choice of foreign partner from whom to learn how to implant a modern and global stainless steel industry in Spain. It could have been Italy, Germany or France, but the choice was Japan. Japan offered modern standardized technology that could be implanted in a country like Spain that had no tradition in stainless steel, and from where Japanese produce could enter difficult markets like France, Germany, the UK or Scandinavia more easily (Mason 1992). It was a challenge, due to the very diverse business cultures, the lack of trade agreements with Japan, the ignorance in foreign languages on both sides, and the desert on which, by government order, a factory had to be built from scratch.

The study begins with a presentation of the dynamics of the stainless steel sector. Secondly, there is a summarised analysis of the creation of the Acerinox group, adapting the LLL model (Matthews 2002), with three phases that coincide in their historical succession with the three phases of progression of internationalization indicated in the model:

- *Phase of contacts and contracts with global leader firms (1964-1970)*, occurring previous to the founding of the company, for obtaining the production technology and knowledge of global markets in stainless steel. Four elements are significant in the history of Acerinox and the LLL model: a) the historical context; b) abundant resources available at low cost; c) the networks that allow the combination of said resources with those that are lacking; and d) the content of the contracts and agreements that

- permit forming a formal and stable bond between the various resources of the new company.
- *Phase of catch-up of resources (1970-1986)*, during which the resources that the company lacks are progressively acquired and decisions are made that allow its productivity and commercial competitiveness to catch up with and even exceed those of the associated leading firms. Five resources were gradually incorporated: 1) a new factory (1970-1973); 2) the process of cold lamination for cutting annealed and pickled 1.250 mm wide coils imported from Shunan in Japan (1973-74); 3) the process of annealing and hot pickling 1.550 mm coils, something not manufactured until that moment in Spain (1974); 4) the design and installation of a new steelworks to supply the rolling mills for coils of 1.550 mm width and 80 tons in weight, in order to reduce the dependency on the Japanese partners (contrary to the desires and initial conversations with them) (1976); and 5) a private port (as in the Shunan factory in Japan, reducing costs and speeding up the transport of raw materials and production for international trade) and Hitachi hot rolling mill to absorb the increase of casting of the steelworks.
 - *Phase of iteration of the process and the learning of dynamic capacities (1975-2007)*; establishing commercial offices, representatives, service centers, warehouses and new factories abroad, managing to exceed the competitiveness and global leadership of the Japanese partners who had previously been global leaders, and being positioned between third place (2006) and sixth place (2012) in the league of top world producers of flat and long stainless steel.

Acerinox began as a company in 1970 (April 21 Joint Venture signed in Tokyo, September 30 founded in Madrid), for the construction of a brand new factory in the bay of Algeciras. In 1975 this factory had a thousand workers and produced some 37,000 tons of flat-rolled stainless steel (annual reports of the company and Acerinox 1995). Its production and capacity at the very start already exceeded the Spanish consumption of stainless steel, estimated at 20,000 tons of flat-rolled stainless steel at the end of 1969. The Spanish production in 1969, before Acerinox started to function, was only 1,000 tons of stainless steel produced by 14 industrial plants (Muñoz Cava 2009:32 and 41). These figures give a first approximation of the magnitude and dimension of the industrial project: the massive plant in Algeciras was not created for a narrow national market, but in order to conquer markets abroad. In 2006 the firm already gave employment to seven times more workers (7,204 persons), and produced ten times more (3.5 million tons), than in 1975. In 2012 Acerinox was still growing, with a production of 5.6 million tons, of which 49% had its market in the US and only 8% in Spain. The year 2012 (Memorias Acerinox 2012, www.acerinox.es) had a quota of 6.2% of the world's stainless steel market (global production was 35.4 million tons).

Its industrial potential is divided over three plants in Spain (Roldán, in Ponferrada, Algeciras, Inoxfil), one in the US (NAS in Kentucky), one in South Africa (Columbus) and another in Malasia (Bahru). Its distribution network is made up of over 70 service centers, warehouses and its own commercial offices in five continents, based on a principle or model inspired initially by an idea (the proximity to industrial clients in order to adapt the product to the specific demands of the client before delivery) first used in the warehouse opened by Roldán

S.A. in 1968 in Barcelona and in the service centers opened in France in the 1970s (Muñoz Cava 2009).

The next two sections offer, firstly, an approximation of the historical dynamics of the stainless steel subsector in the second half of the 20th century, and the leadership of some countries and firms; secondly, an analysis of the process taken by Acerinox to become one of the top producers in the world, using Matthews' LLL model. Finally, there will be some preliminary conclusions and an annex with complementary data.

A “new” and dynamic sector in the second half of the 20th century: stainless steel

The great inventions which lead to the production of a highly corrosion-resistant, durable, as well as multi-purpose steel, appeared between the middle of the 18th century and first third of the 20th (Di Caprio 1999:4). Its industrial beginnings are found between 1912 and 1914 (Di Caprio 1999:3-5): on October 17 and December 20, 1912, the metallurgist Pasel of the Krupp firm applied in Germany for two patents in which for the first time austenitic 18% chrome and 8% nickel stainless steel was mentioned; the first industrial cast of stainless steel of the martensitic type, with exclusive addition of chrome, was made August 20 1913 in Sheffield, UK, at the Firth Brown steelworks, under the responsibility of an Englishman called Brearly; and in 1914 in the US, the investigator Dantsizen of General Electric perfected ferritic stainless steel with chrome only. The first applications were cutlery and the valves of internal combustion engines, but the range of products and processes broadened from the 1920s onward. It was at that time that the new sector began to appear in Southern Europe. In Italy it was with the production of the firms Cogne (1925), Falck (1932), Ilssa Viola (1939), Acciaierie di Bolzano (1940), Fiat (1954-1955) and Terninox (1964). In Spain the manufacture of long products (bars and rails) in stainless steel was relatively significant only at the end of the 1950s and beginnings of the 1960s, when the important firms were Olarra S.A. in Vizcaya (began stainless steel in 1955 <http://www.olarra.com/tradicion.htm>) and Roldán S.A. (began in 1957, today in the Acerinox group: Muñoz Cava 2009:31-40). Roldán S.A., since its creation in 1957 by the Catalan engineer Victoriano Muñoz Oms (author of the Plan of Public Works of Catalunya of 1935 and co-founder of Enher), and the Basque civil engineer José María Aguirre Gonzalo (owner of Agromán since the end of the 1940, would become president of Banesto, adviser of Sevillana de Electricidad and prime instigator of Acerinox), was the first to experiment with the manufacture of sheets and bars, assembled in factories in Spain (Trubia and Forjas Alavesas) and Europe (Fiat, with strong links to Vittorio Valletta) and since 1966 producing stainless steel bars and rods in the Ponferrada installation. It would be the decision of Roldán S.A. to, firstly, place a commercial distribution warehouse (with products from Ponferrada, raw materials and imported machinery) in the port of Barcelona in 1968, which would permit the beginnings of an expansion into national and international markets; and secondly, to train the son of Victoriano Muñoz Oms, Victoriano Muñoz Cava, in the business of the stainless steel market, which would lead him to becoming first director general and (after the death of Aguirre Gonzalo) president of Acerinox until his retirement in 2006 (Di Caprio 1999:4, Muñoz Cava 2007, and interviews with Muñoz Cava in 2012 and 2013).

The levels of stainless steel production in Southern Europe were much inferior to those of Germany, France, Belgium, England and Japan in the mid 20th century, according to testimonials and statistics on foreign trade in special steels – including stainless steel – from the C.E.C.A. authorities: between 1954 and 1957 the total foreign trade of special steels (exports plus imports) of Germany, Luxembourg, France, Italy and Netherlands, was 154,000 tons, of which approximately a third was stainless steel (Historical Archives of the European Union, CEAB FONDS, Division des Statistiques, 8/670). There were no Asian or American manufacturers in Europe until 1970, although there were commercial distributors. According to the testimony of Yoshitaka Kishimoto, exdirector of Nissho Iwai Co. (trading company that traded in Nisshin industrial products outside Japan in 1960-70), until 1970 there was only commercial distribution of Japanese stainless steels in Europe: in Hamburg since 1956, Antwerp 1963, Dusseldorf 1964, and since the 1960s also in Lisbon (Letter from Y. Kishimoto to P. Fernández, Tokyo, 9/2/2013). According to documentation of the EU, the first Japanese investment of stainless steel in Europe was in the Acerinox factory in Spain in 1970, in which Nisshin Steel Co. was involved. The 154,000 tons of special steels in the European foreign trade of 1954-57 was tiny in contrast to the almost 153 million tons of common steel produced by the main manufacturers of Western Europe, the US and Japan in 1950 (Iron and Steel Institute website, access march 2012; and Lanzaco unedited, 74).

Global production of stainless steel only began to accelerate from the second half of the 20th century onwards. The first million metric tons of stainless steel were not produced until 1950, according to the Iron and Steel Institute, and from then on growth was constant at an average rate of 3.5% annually (Acerinox reached one million tons of rolled steel in 1998 and casting in 2001 (INTERNATIONAL STAINLESS STEEL FORUM - ISSF STAINLESS STEEL IN FIGURES 2012, http://www.worldstainless.org/Files/issf/non-image-files/PDF/Stainless_Steel_in_Figures_2012.pdf, Access February 26 2013).

The demand came from many industrial sectors (e.g. machinery and instruments from the food industry, chemical, construction, energy, electrical appliances, etc., and valves for engines and exhaust pipes in the car industry) whose products needed to be able to resist corrosion from outside agents. In the mid 20th century, driven by demand, it was necessary to increase the output of stainless steel in order to supply the cold and hot rolling mills. In countries with a strong history of innovation in the common steels industry, and in countries that took in immigrants from these countries due to the wars of the first half of the 20th century (as was the case with the Polish inventor of the Sendzimir rolling mill in the US, Sendzimir, 1993), new processes appeared which improved and augmented the cold and hot rolling process and the casting capacity of the steelworks. In some European countries (France, Italy, UK, Belgium, Sweden), but above all in Japan, electric ovens, AOD (Argon-Oxygen-Decarburation), continuous horizontal casting and the Steckel (cold) and Sendzimir (hot) rolling mills, began to proliferate. This allowed (where electricity prices were relatively low) continuous production and a great diversity of alloys in response to a great diversity of, above all, industrial demands (Sendzimir 1993, Di Caprio 1999, Muñoz Cava 2009, Lanzaco unedited). This continuous technology required an abundance of scrap metal, chrome and nickel, as well as a multitude of other metals which in various proportions were used to make the alloys. The scarcity and high price of nickel and other elements in high demand for alloys, like chrome, ferrosilicium, molybdenum, as well as the amount of scrap metal necessary, also demanded efficiency in

transport costs in order to compensate the high costs of raw materials: ideal in the 1960s was the Japanese model of Nisshin in Shunan, with proximity to its own port, and to roads well-served by trucks (Muñoz Cava 2009, and interviews with Muñoz Cava, Lanzaco, and José Luis Lejeune 2012 and 2013).

In Europe in 1970 there were already 22 manufacturers of cold rolled stainless steel, which would make up the “European Club of Fine Steels”, later called “Sendzimir Club”. These firms included important manufacturers, like Krupp and Thyssen in Germany, Ugine and Inoxium in France, Allegheny-Londoz JV and Klöckner and Arbed in Belgium, Terninox in Italy, Avesta in Sweden, Outokumpu in Finland, British Steel in the UK, and in Spain, joining the old companies of Roldán and Olarra was the young, recently founded (April 21 1970 in Tokyo, September 30 in the same year in Madrid) Acerinox. The club met once a month, until the 1980s, in the Chambre Syndical, in Rue Madrid in Paris (Muñoz Cava 2009 and Lanzaco unedited).

Between 1955 and 1993 the European manufacturers had relative world leadership in stainless steel production, almost half the combined production of the big western capitalist economies and Japan. From the initial leadership of the US in 1955, there came a gradual decline, and by 1970 the Western European production exceeded that of the US; this was the year Acerinox was founded, and the year when the industrial evolution of this subsector in Europe saw a swift acceleration. In 1993 China produced four times less than the US, who in turn produced three times less than the manufacturers in Western Europe (International Stainless Steel Statistics website, access March 2013, <http://www.worldstainless.org/Statistics/>; INCO Edition 1995 and Lanzaco unedited, 94)

With such a growth in production, the European governments in the 1980s and 90s encouraged fusions and sales in special steels in Europe – a group that included stainless steel. In 1986 Usinor-Sacilor (Ugine) fused with ALZ (Arbed), Acciai Speciale de Terni took over Krupp in 1994, and Krupp made a hostile take-over bid for Thyssen in 1997 (thus forming Krupp-Thyssen-Nirosta). Lastly, in 2001, Avesta (Sweden) formed a fusion with the stainless steel section of British Steel (UK), although both were later absorbed by Outokumpu of Finland. In Spain between 1975 and 2003, special steels, and in particular the flat stainless steels, suffered much less from the industrial restructuring than the common steels (Acerinox was the only significant Spanish manufacturer of flat special steels not immersed in the restructuring processes that was only affecting flat special steels, according to Navarro Arancegui 2004:178). They suffered less, but still they suffered.

Of the 14 firms operating in the special steel subsector in 1975, only seven remained in activity by 2003: three from the Sidenor group (Basauri, Vitoria and Reinosá); the plant of Larrondo of Olarra; the two factories of Azcoitia and Legazpia of GSB Acero (holding created by Afora and Patricio Echeverría), and the two factories in Algeciras and Ponferrada of the Acerinox Group (Navarro Arancegui 2004: 183). In 2008 the four big European groups were Ugine-ALZ, Krupp-Thyssen, Outokumpu, and Acerinox (Muñoz Cava 2009:67-71, and Lanzaco unedited). The four big Spanish groups before the crisis in 2007 were: Sidenor, GSB, Olarra and Acerinox (Navarro Arancegui 2004:183). The fusions and concentrations into big business groups that was occurring all over Western Europe did not manage to stop, however, the beginnings of a process of relative loss of European leadership in global production. The boom in Asian

production, which in 2005 made up more than half of the global stainless steel output, relegated the European manufacturers to a quarter of the total. China went from its “modest” 215,000 metric tons of stainless steel in 1985, to 400,000, almost double, in 1993, and continued in leaps and bounds from then onwards: 3.16 million tons in 2005, and 11,256 million tons in 2010. The Chinese boom went parallel to the relative decline of Europe, as well as Japan (International Stainless Steel Forum. Stainless Steel in Figures 2012, www.worldstainless.org, access 26/2/2013).

It shouldn't be surprising, therefore, that the biggest stainless steel manufacturers in the world are currently Asian: Chinese (Tisco, Baosteel and Jisco above all), South Koreans (Posco), Taiwanese (Yusco) and Malaysian (Inoxum). Acerinos is currently sixth in the world, having been among the top three at the end of 2006, previous to the present crisis that hit the European markets hard (Steel & Metals Market Research – SMR <http://www.smr.at/supply-basics-top-producers.html>)

The creation of the Acerinox group

Phase of contacts and contracts with global leading firms (1964-1970), occurring before the founding of the business, with the aim of gaining productive technology and knowledge of world markets in stainless steel.

Three elements intervened in the origins of Acerinox as global leader, corresponding with what the LLL model terms the initial phase: the historical circumstances, abundant low cost resources (including networks of entrepreneurs), and contracts that formalized the combining of existing resources with those lacking and required by the company (technological know-how and foreign markets).

The historical context:

This is not the place to go into the details of Franco's policy of economic development (Nadal 2003, De la Torre and García-Zúñiga 2013), but it is worth mentioning some aspects that are relevant in understanding the context in which public support could be given to a company like Acerinox. First of all, between 1962 and 1973, Minister Laureano López Rodó coordinated the drawing up of three Plans of Economic and Social Development, which specified various objectives to be reached and which brought together renowned technicians and business figures, experts in various sectors that needed to be promoted in some regions in Spain. This was the case of José María Aguirre Gonzalo, the driving force behind Acerinox, who was, between 1962 and 1970, president of the Transport Commission of the Plan of Economic and Social Development. The deputy superintendent of the plan in these years was José María López de Letona, a civil engineer like Aguirre and the minister who would end up backing Aguirre's Banesto's bid for public tender, which gave rise to Acerinox. Within this development plan, in 1966 a plan was decreed to stimulate development in one of the areas with most

unemployment and least industrialisation in Spain: Campo de Gibraltar. The plan foresaw the installation of industrial poligons, both state-owned and private, of large companies, to give employment, develop industry and services, and to stimulate export and the influx of foreign currencies to the country (Natera 1994, Torremocha 1989). The plan was to be developed over various years, through public tenders. It was an opportunity for entrepreneurs and investors.

There existed in Madrid at this time a company called Exdisa, owned by a Valencian industrial engineer called Efrén Beltrán and a Catalan industrial engineer, Manuel Umbert. Beltrán was married to a woman whose family belonged to the Madrid aristocracy (she was daughter of the Count of Valle Suchil), with excellent contacts - still today - with the Valls Taberner family's Banco Popular (for information on the Banco Popular in these years, dominated by a Catalan board of directors, see Tortella and others 2011). Beltrán worked in Madrid in the business of a Valencian cousin established in the capital, who sold products for the Valencian agro-industry (related to rice), until the cousin died and Beltrán set himself up independently (telephone interview with Beltrán's widow, November 2012), continuing his cousin's business and extending his cousin's network of contacts with Japanese distributors from the Nissho Trading Corporation (who at this time had a representative in Lisbon, according to a letter from its exdirector Kishimoto dated 23/2/2013).

Since at least 1964 Nissho was supplying a broad range of Japanese products to Beltrán and Umbert, including stainless steel plates, coming from various Japanese industrial multinationals that Nissho represented (as Nisshin Steel). Also since 1964, another Catalan industrial engineer, Victoriano Muñoz Cava, who had neither knowledge of or contact with Beltrán, had been travelling to Japan and initiated the import of Japanese stainless steel products through the firm located in Ponferrada, Roldán S.A. (owned by his father and Aguirre Gonzalo, mentioned above).

According to a letter from the exdirector of Nissho Trading Corporation, Yoshitaka Kishimoto, in the spring of 1969, the then deputy superintendent of the Plan of Economic and Social Development, J.M. López de Letona, (who in 1969 replaced G. López Bravo in the Ministry of Industry) received in his office the president of Japan's Nisshin Steel Corporation (Mr. Yoshidaya), the representative of Nissho, Y. Kishimoto, and Efrén Beltrán. They presented a plan - we do not know if it was Beltrán's idea or that of the Japanese of Nissho and its industrial clients - to construct a stainless steel plant with modern Japanese technology in Spain.

It is quite possible that Beltrán, married to a member of the Madrid aristocracy connected to the Banco Popular of the Valls Taberner family (advised in those years by A. Valero, of IESE, in an environment thus very connected to circles of the Opus Dei; Tortella and others 2011:139), used his contacts to propose the idea of the factory to technocrat members of the government, belonging to Opus Dei, such as J.M. López de Letona.

It is no coincidence that a few months after López de Letona received the president of Nisshin, the representative of Nissho, and Efrén Beltrán, in June 1969 (Muñoz Cava 2009:41), the government announced the public tender in the BOE (Official State Bulletin) for a stainless steel plant as part of the development plan for Campo de Gibraltar begun in 1966.

Only a few months after the announcement in the BOE, in autumn 1969 (letter from Y. Kishimoto dated 23/2/2013), and before awarding the tender, López de Letona visited the Shunan factory and took part in the meeting of the International Iron and Steel Institute that took place in Osaka, with the director of Nissho Kishimoto and the president of Nisshin Steel. The deal seemed to be already concluded.

In the autumn and December of 1969 the plans advanced quickly due to external events. In March 1968 the negotiations between Spain and the UK over the sovereignty of the territory close to the Rock of Gibraltar, including its air space, had already broken down. On June 8 1968, the Spanish government closed the border with Gibraltar, thus forcing those citizens living on the British side to return to Spain. October 1 1969, was the date set by the United Nations for the decolonization of Gibraltar through its resolution 2429 (Juan March Foundation-Archive Linz).

It was without doubt the timely coincidence of the plans of the Japanese and the Valencian, the crisis in Gibraltar, and the strategic presence of López de Letona in both issues, that, on June 25 1969, barely 17 days after the closing of the border, brought about the announcement of the public tender to build the stainless steel plant in Campo de Gibraltar, part of the development plan of the area (Lanzaco unedited, and annex). The competition was open, but everything pointed towards it having been announced with Beltrán and his Japanese colleagues' project in mind, with the support of Banco Popular. The Banco Popular's strategic interest in these years was internationalization, although it had no significant portfolio of industrial securities (Tortella y otros 2011: 154); this from the start meant it couldn't be a solvent and experienced financial partner that could manage the long-term investments in an industry such as stainless steelworks.

Being an open public tender (despite seeming to be concluded in advance), another proposal was put forward, to build a stainless steel plant in Algeciras, owned by Victoriano Muñoz Cava (who was working at the time in Roldán S.A.) suggesting as partners Esteban Cruañas and Nippon Metal Industry (NTK).

Beltrán's proposal was that of an engineer with a salesman's profile; whereas Muñoz' was more that of an engineer with a technical profile (Muñoz Cava 2009). Both were Catalans associated with Japanese. Beltrán's proposal was backed by Banco Popular, that didn't necessarily have a good reputation for strong industrial investments. Muñoz' proposal had the backing of Banesto, which at the time had an excellent reputation as an industrial bank.

In the months following, there were sudden changes in ministers' portfolios: October 29 1969, Gregorio López Bravo left Industry to take a position in the Foreign Office, and thenceforth José M. López de Letona (civil engineer, like J.M. Aguirre and colleague of Aguirre in the economic and social development plan of the time) took up the position in Industry (from November 1969 to 1974, the key years of institutional support for Acerinox).

In the winter of 1969, according to Y. Kishimoto (letter 23/2/2013), the Japanese Minister of Industry, after exhaustive investigation (the bank that was to intermediate in the Japanese exports was a saving deposits bank and the control of risk avoidance was high in Japan, according to Kishimoto) approved a license for the project presented by Efrén Beltrán, Nissho

and Nisshin in Japan, to sign an agreement of technical and financial cooperation (Exdisa of Beltrán, NIC and NSK). On December 20 1969, the Spanish government's delegate commission for Campo de Gibraltar, presided over by Laureano López Rodó, awarded the tender for the stainless steel plant to Ebrén Beltrán, Popular, and Nisshin.

On January 3 1970, the ABC newspaper of Sevilla announced the good news for the region, indicating that Exdisa, seven banks and Japan had signed an agreement to build a big new factory in Algeciras. The list of first shareholders that ABC published (reproduced in the annex) shows that Beltrán and Umbert each held 2.5% shares, together with the banks and the Japanese.

However, at the signing of the Joint Venture agreements in Tokyo in April 1970, and at the signing of the founding of Acerinox S.A. in Madrid in September that same year, Banco Popular (proposed by Beltrán) was not present; there came instead Landelino Lavilla representing Banesto as Deputy General Director. What had happened? The Government had decided in the last minute to force through a hybrid as winning proposal for the factory: Banco Popular stood down. We do not know why, although in interviews with Muñoz Cava, David Herrero, J.L. Lejeune, and Federico Lanzaco, and with the widow of Efrén Beltrán, there is an insistence that Banco Popular stepped down of its own accord when warned about the heavy investments on the horizon, which could jeopardize its strategy of internationalization. Also possible is that when the Government withdrew the subsidies it had promised in the BOE, Banco Popular realized that the risk was greater than anticipated. Efrén Beltrán figured originally as a signing shareholder of the Joint Venture (he appears in photographs of the signing published in Muñoz Cava 2009 and Acerinox 1995), but his initially relevant role soon dwindled and he eventually disappeared from the partnership. According to the interviewees, this was because of his more commercial than industrial profile, his lack of financial strength to deal with expansion of capital, and because he had other buy-and-sell businesses in diverse sectors (real estate, among others, and construction) which must have seemed to him more profitable and offering greater possibility for business leadership. The fact is that with the successive expansions of capital from 1972 onwards (for the steelworks, the port, the hot rolling mills) and not being able to honour them, the Valencian gradually lost his influence as owner and manager until finally selling up and retiring from the Acerinox Advisory Board in the 1990s.

Banesto was the triumphant winner of the public tender, and the technical team that began the project was the Japanese team proposed by Efrén Beltrán and Banco Popular (the industrial Nisshin and the commercial Nissho), with a director general who was forcefully pushing for Banesto: the engineer Victoriano Muñoz Cava, born in Lerida and son of reputed civil engineer Victoriano Muñoz Oms (partner with Aguirre in Roldán S.A.). In April 1970 the agreements were signed in Tokyo (representing Banesto was its then director and future minister Landelino Lavilla), and September 23 the same year Aguirre Gonzalo acceded to the presidency of Banesto. On September 30 in Madrid the Spanish Company for the Manufacture of Stainless Steel, Acerinox, was founded. In 1973 Banesto opened an office in Japan (ABC Madrid 1973 *date to be completed*). In 1983, Banesto made López de Letona an advisor (various websites with mentions and biographies of Aguirre, López de Letona).

To have the backing of Banesto was a great endorsement, not a determinant, for the successful development of the stainless steel factory in Campo de Gibraltar. There were other abundant, low cost resources that concurred to facilitate the project.

Abundant resources available at low cost:

- *Young work force.* In 1969, Acerinox contracted almost one thousand workers in an area of high unemployment, where the pressure on the job market had just been increased by the arrival of around 5,000 people who had been living on the other side of the border with Gibraltar. The annex shows the chronic evils that caused and characterized this situation, over and above the problem of the border closure, in Algeciras and nearby villages in Campo de Gibraltar, where the job selections were sourced (initially by a Catalan lawyer, contracted to make the selection en situ, according to an interview with J.L. Lejeune, March 2013): latifundism, or private ownership of large estates; underdeveloped industry and services; low level of primary and secondary education among the population (especially women). According to the first director, the factory workers were barely educated, but were – and still are – highly efficient, from the point of view of the company: a) despite the tensions of the strike in 1977 with dismissal and reinstatement of the whole workforce, they accepted linking payrise with the productivity of the factory, and b) despite the low levels of specialization and literacy, not only was the workforce very smart (interview with the director general of the factory 1970-89 J.L. Lejeune in March 2013) but above all able to train quickly and efficiently, thanks to the highly standardised Japanese processes and their adaptation to the business (through repeated highly planned training programs in small groups over 3-5 years, between Japanese and Spanish engineers and technicians in Algeciras and in Shunan, Japan (Lanzaco unedited, Muñoz Cava 2009, and interviews with V. Muñoz Cava and F. Lanzaco in 2012 and 2013). According to the first director of the factory, (interview with J.L. Lejeune in March 2013), Acerinox competed for this workforce with CEPESA, which, according to Lejeune and Muñoz Cava, was offering better salaries in the area, being a state-owned company and not having to count costs like the private Acerinox group
- *Very competent directors* with pioneering experience in Spain in the field of stainless steel and electrical installations. The first directors were all industrial engineers, for the main part coming from the area of Ponferrada where Roldán S.A. (firm from where the new director general had come) was located; from Catalunya; and from Sevilla. All were young and recently graduated, by express wish of the new director general, who wanted to avoid having staff with “inherited vices” and to be more malleable during their training in such a new sector as stainless steel (interviews with Muñoz Cava). Many from Ponferrada were married and with children, but the majority of those that took the training courses with the Japanese engineers and technicians were single, and eager to travel and see the world. This was fundamental, since they would for a number of years spend various months in Japan being trained. It was also fundamental when Acerinox opened a plant in Kentucky, Ohio, and had to send part of its Algeciras

team there for a few years to set up new installations (Lejeune was to become the new director general in Kentucky, leaving Algeciras in 1989). V. Muñoz Cava, first director general of Acerinox S.A. (between 1970 and 2006 he was director and president of the group) had worked in Roldán S.A. and thanks to the warehouse he put in the port of Barcelona in 1968, he had gained first hand knowledge of the emerging commercial distribution and services to diverse industrial clients of stainless steel (Muñoz Cava 2009 and interviews with Muñoz Cava). In the production of stainless steel, the electric oven was and is fundamental, and the rolling mills, too, are electric; for this reason, the first director of the Algeciras plant, in charge of its construction and the electrical installation, was chosen to be José Luis Lejeune, the industrial engineer from Santander, specialist in electrical installations, son, grandson and great grandson of industrial engineers, who worked after graduation for the Spanish National Electric Company (ENDESA) in Ponferrada (where Roldán S.A. was also, and with which he had contact) establishing three hydroelectric power plants in the river Sil, those of Bárcenas, Quereño and Cornatel (interview March 2013 with J.L. Lejeune). Apart from Lejeune, six other professionals with experience were contracted at the end of 1970: Manuel López de la Parte (of Banesto) as financial director; Federico Lanzaco (Catalan, professor at the University of Sofia in Tokyo) as consultant on issues of cross cultural management, personnel selection and relations with European manufacturers and US Government; José María Cornejo (engineer of ICAI) for mechanical assembly; Luis Escolar, industrial engineer with experience in cold rolling of aluminium; Francisco Sagrera, industrial engineer in charge of public works; and Diego Guzmán, lawyer in charge of the purchase and expropriation of land for the factory. Going against the advice of the Japanese to contract engineers with ten years' experience, young people recently out of universities and colleges were contracted and trained for between 6 months and a year in Japan: Rafael Naranjo (current president of Acerinox), Pepe Riestra, Antonio López Igualada, Ignacio Fernández de Castillo, Guillermo Vaca de Alba, Paco Ruiz, Fernando Baldor, Miguel Conde, Julio Vizoso, Javier Alberich, Cristóbal Bulpe, and Manuel Sánchez (Muñoz Cava 2009:45).

- *Long-term financial capital guaranteed* thanks to the unflinching confidence in the project by José María Aguirre Gonzalo, president of Banesto, the bank that was the main partner of Acerinox (until the fall of Mario Conde in the 1990s) with an initial 65% of shares. Aguirre was a banker, but also a civil engineer and with a sharp eye for the industrial business boom during the economic development. Aguirre Gonzalo was also – and it is important to underline this since it meant a conflict of interest with Acerinox – founder and owner of Agromán, co-founder of Roldán S.A. and advisor to Sevillana de Electricidad. Roldán S.A. had been pioneer in Spain in trying to produce stainless steel for import since 1957, thanks to contacts with V. Valletta's Fiat (to supply products to the Spanish market) and various German firms. The partner of Aguirre in Roldán S.A. was another civil engineer, the Catalan Victoriano Muñoz Oms - co-founder of Enher, specialist in infrastructure of transport and electricity, author of the Plan of Public Works of Catalunya of 1935, one of the big mentors in engineering in Spain (websites of the UPC with chair in his name and publications, complete...). Acerinox was founded with 65% Spanish capital and 35% Japanese, initially 3.6 million

euros increased by another 1.2 million euros two years later (Muñoz Cava 2009:43). With this capital, cold rolling mills were built for 19 million euros (75% debt) to have an initial annual capacity of 60,000 tons (120,000 projected in successive phases). Banesto and Banco Guipuzcoano, which were presided over by Aguirre Gonzalo at the time of the founding and development of Acerinox, guaranteed all the necessary investments to convert the business into a competitive multinational, and pressured the shareholders of Acerinox' Joint Venture not to receive dividends until the construction of the plant in Algeciras had been paid off (letter from Y. Kishimoto February 2013 to P. Fernández). The investments were very profitable in the short and long term: the factory in Algeciras was constructed by Agromán (of Aguirre), and one of the firms that supplied the large quantity of electricity needed and was situated close to the Algeciras plant in the industrial polygon of Campo de Gibraltar, was Sevillana de Electricidad (where Aguirre was advisor). In the long term, the profitability of the company for shareholders, measured in dividends earned, was one of the most stable and interesting among the biggest industrial firms listed on IBEX (Acerinox 1995).

- *Abundant cheap land* close to a port for establishing a brand new integral iron and steel works, using wasteland in front of a bay, sourced either from expropriation of land or reclassification for industrial use. The factory was located in Los Barrios, in the bay of Algeciras, on wasteland classified as of interest for tourism with planifications that had never got off the ground. According to the first director general, "There would be absolutely no point in having a factory in Campo de Gibraltar - there was no demand for stainless steel, no ancillary industry, no railway, no personnel with industrial experience – unless we built our own port installations to facilitate the import of raw materials and the export of part of the production. So we had an important legal and political battle to face with Álvaro Muñoz, government lawyer and general secretary of Acerinox" (Muñoz Cava 2009:44).
- *Abundant energy* thanks to deals with and proximity to electricity, gas and oil refining companies like Sevillana de Electricidad (where Aguirre Gonzalo was adviser, as well as president of Banesto and principal partner of Acerinox) and CEPESA in the polygon where Acerinox was located.
- *Cheap transport*: according to J.L. Lejeune, first director of the factory (interview March 2013) rail transport was limited, more important being road and, above all, shipping; given that Algeciras was the destination for many trucks and ships bringing diverse goods from the north, meaning they were left empty and with few products to send back from the south, attractive deals could be made with haulage companies for the exit of products from the factory, making it unnecessary to have their own fleet of trucks or ships.
- *Personal networks between bank, engineering and Japanese business culture*: since the beginning of the 1960s there were Catalan and Valencian engineers and Catalan exjesuits who had excellent contacts with Japan, both commercial (with trading

corporations such as Nissho Iwai, and metal multinationals like Nisshin Steel) and academic (with the jesuit university Sophia in Tokyo). These contacts in turn opened up the possibility, between 1968 and 1970, for bankers (like Landelino Lavilla as representative director of Banesto in Acerinox' Joint Venture) and ministers of Franco (such as J.M. López de Letona) to dialogue with presidents of large Japanese corporations. Correct translation, not only of the content but also of the spirit of the deals, from Japanese to Spanish and vice versa, was vital for making easier what was tremendously complicated, at a time when there was neither Japanese being taught at state universities, nor trade agreements with Japan (according to interviews, the Spanish government's authorized representative in trade issues with Japan in the 1960s, was Tabacos de Filipinas – with interest from the French stainless steel manufacturer Ugine – a serious problem given Acerinox' proximity to the French competition). The role of Federico Lanzaco, trained in Japan close to Father Arrupe, was fundamental in forming a bridge of understanding between cultures (interviews with Lanzaco in 2012 and 2013 and Lanzaco unedited). The coincidence that a jesuit, Arrupe, should be in Japan training as a doctor at the time of the bombing of Hiroshima, prompted the jesuit order to organize a campaign to attract novices to Japan to help in the reconstruction. In this unrepeatable and hazardous historical moment, Federico Lanzaco, a Catalan commercial expert, was able to train as a jesuit and learn and teach Japanese and English to other jesuits for various years, under very privileged circumstances, having access to resources otherwise beyond the grasp of westerners in Japan in the 1960s, accumulating know-how that would be very difficult to get by any other way. This know-how would benefit Acerinox in the training of its middle managers and workers, with manuals that Lanzaco had directly translated from Japanese. Lanzaco's father had been a manager at Roldán S.A., and when his son left the order and returned from Japan to Barcelona in 1969, he asked Victoriano Muñoz Oms, business partner of the future president of Banesto, if he had a position for him. Just at that time, the tender for the industrial polygon in Campo de Gibraltar was taking place, and trustworthy Japanese translators, with an additional knowledge of business in Spain and Japan, were in demand. Hardly anyone fitted this bill in 1969 in Spain. Lanzaco was in the right place at the right time.

Content of contracts and agreements that formalize the link with foreign partners

According to the testimony of one of the Japanese directors who took part in the signing of the Joint Venture, and later in the running of the company, the Japanese partners of Acerinox had a business culture based on planning, control, hierarchy and an aversion to surprise and improvisation. The engineers to whom Banesto delegated the responsibility of concluding and signing the technical agreements of the Joint Venture had, for their part, a young business culture, with relatively little experience and a lot of ambition. The Japanese would have liked the first directors of Acerinox to be technicians and engineers with at least ten years' experience. The Spanish engineer-directors wanted recent graduates, young people, without vices inherited from other companies, who, with help from the Japanese, could be shaped for working in a factory that was first of its kind in the country. The Japanese had faith that their partners would consult any new development with them. The Spanish had faith that they could shake off obligations and limitations as quickly as possible in order to increase

productive capacity and their potential in foreign markets (Letter from Y. Kishimoto to P. Fernández, February 2013 and Muñoz Cava 2009).

The two cultures seemed to be destined for friction, but they reacted to the inevitable differences not with aversion and distancing, but with curiosity and respect. Everyone wanted, despite the different cultures, progress for the joint partnership. They showed mutual respect, they learned from each other, and brought this pioneering experience of Japanese industrial investment in steel in Europe to a successful conclusion (Historical Archives of the European Union, CEAB FONDS April 1970).

The contracts signed in agreement to technical, financial and human resource training strategies, as well commercial strategies, were the best example of consensus despite differences. They also were a precedent for the way Spanish and Japanese could coexist in the future, still true today, based on deep-seated respect.

The seven agreements of the Joint Venture determined that the partnership would last 20 years and would be renewable (the participation of Nisshin as a major shareholder and on the council continues until now); they also determined agreements on technical assistance, on construction and operating of the plant in Algeciras, on finance, export and personnel training.

The contracts obliged the Algeciras plant to buy stainless steel annealed coils from Nisshin Steel Work (NSW): the Japanese wanted all annealed coils to be bought exclusively from them, but the Spanish insisted on a maximum of 30% (Kishimoto 23/2/2013).

They also limited the capacity of the Spanish to undertake activities of internationalization on their own, something that was flagrantly disregarded in 1992-93 when the opportunity arose in the United States to become partners with ARMCO and form a new company in which technical innovation would be supplied by Acerinox and the sales network in the US by the Americans. The Spanish directors independently went ahead and signed the agreement with the North Americans, although immediately afterwards, the Spanish director general flew to Tokyo to visit the president of Nisshin in hospital and explain to him and his team of directors the details and the benefits this agreement would bring to everyone. The board at Nisshin understood that it had been a good opportunity and that they themselves should have been ahead of the Spanish in entering the US market; as a consequence, the people responsible were taken to task and the decisiveness and far-sightedness of the Spanish directors were praised (Muñoz Cava 2009, interview with Herrera, Lanzaco and Muñoz).

The benefits of the partnership for NIC/SNK, according to Y. Kishimoto (letter 23/2/2013) was the sale of stainless steel hot rolled coils, the sale to Spain of products for electric ovens, and the channeling of exports from Algeciras through Nisshin's European sales networks. Additional benefits were royalties for NSK in accordance with production, dividend remuneration from shares, and the expectation that Acerinox would be the Japanese' exclusive client of rolled steel products in Spain. According to Kishimoto, the Japanese' expectations were frustrated when, for example, Banesto insisted on no initial pay-out of dividends, using instead the profits to recoup investments in five years and avoid paying tax on dividend pay-out. The Japanese needed the dividends because the capital they had invested was the guarantee given to their banks in Japan for the loan, but they accepted the deadline of

five years On the other hand, the Japanese also surprised them with a condition laid down by the Ministry of Industry, without which the construction of the plant would not be approved: to integrate the steelworks and the rolling mills (this had not been mentioned in the previous talks with López de Letona y Efrén Beltrán). Integration would mean more potential and better competitiveness for Acerinox with regard to the Japanese partner, as indeed it turned out to be.

The agreements determined, lastly, the training courses for mid- and high-level technical staff. In the first phase, from 1970 to 1974, a course was programmed and repeated, first for teams of workers in cold rolled steel, then in hot rolled steel (a smaller number): ten Japanese engineers from NSK came to help in the construction and assemblage; thirty technicians from Japanese machine builders came to set up and show the working of the machines they had brought; sixty Spaniards spent half a year learning in the Nisshin factory in Shunan. The machine manuals and procedures of the Shunan plant were translated from Japanese into Spanish by the exjesuit board advisor Federico Lanzaco (one of the pioneers in Japanese teaching in Spain), who also brought various translators onto the payroll of the factory to help with translations and interpretations.

Phase of levelling out of resources (1970-1986). In this phase, according to the LLL model, a latecomer firm progressively acquires what is lacking but strategic for becoming leader in a new sector, and decisions are taken that allow the firm to catch up with and even exceed the productivity and commercial competitiveness of the associated leading companies.

In the case we are studying, there were five resources that became incorporated and levelled out after the signing of the Joint Venture that gave birth to Acerinox, through the seven agreements signed between Banesto-Bandesco-Guipuzcoano, Efrén Beltrán, and Nisshin Steel/Nissho Iwai in 1970:

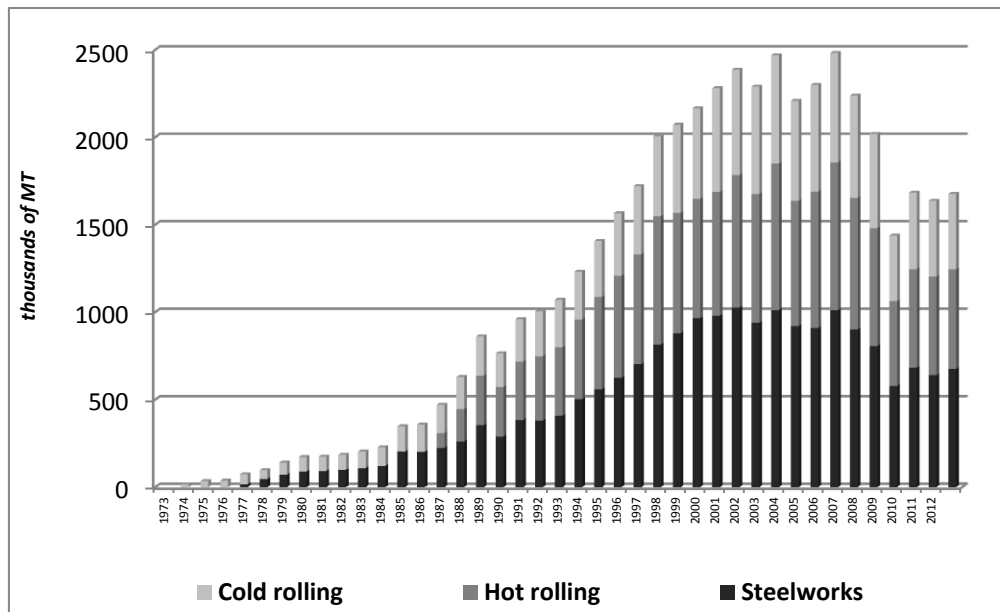
- 1) a new plant designed for the integrated production of laminates and stainless steel in the industrial polygon of Los Barrios in Campo de Gibraltar, Algeciras (1970-1973);
- 2) the process of cold rolled steel for the cutting of 1.250 mm wide annealed and pickled coils imported from Shunan in Japan (1973-74);
- 3) the process of annealing and pickling of 1.550 mm wide coils by hot rolling, never before done in Spain (1974);
- 4) the design and installation of a new steelworks to supply the rolling mills of coils 1.550 mm wide and 80 tons in weight, thus reducing dependency on the Japanese partners (against their wishes and initial conversations with them) (1976); and
- 5) since 1985, two final and fundamental pieces to seal the plant's competitiveness at an international level: own port and hot rolling mill. Owning a port gave competitive advantages; it was the model that Sagunto had used in common steelworks (until 1984), and it was the successful logistic model of the Japanese multinationals, such as Nisshin Steel, partner of Acerinox, in their plant in Shunan. The port allowed a reduction in

transport costs and freed up the movement of raw materials (scrap and the metals used for alloys) and the exit of products for international trade. The increase in casting and the greater capacity for moving raw materials and output made it necessary to have a bigger capacity for hot rolling before passing to the cold rolling. The new hot rolling mill ordered from Hitachi under specifications and supervision by the Spanish, was the advanced strategy that absorbed the new steel mill's greatest production potential, with an innovation made by Acerinox that foreign competitors would copy: a hybrid of rolling mills of great capacity characteristic of common steels, adapted to get a width and weight of stainless steel coils that were competitive in the international market (Muñoz Cava 2009, interviews with the exdirectors Lejeune and Muñoz Cava in 2012 and 2013).

The following graph shows the evolution and effects of the process of upstream vertical integration that was being followed between 1973 and 2012, taken from data in the *Memorias Anuales* of the companies of the group in Europe (Algeciras, Roldán, Inoxfil, the three in Spain, the principal component being Algeciras, see annex):

- A first phase in which *one begins with the end products of least technological content and energy consumption* (cold rolling), that depended on the import of machinery and products from the Japanese partners (hot rolled coils, rolling mills) and German and French manufacturers (for annealing and pickling, which the factory could not yet do, being in the process of expanding its installations);
- A second phase beginning in 1976 with the steel mill, in which *dependency on foreign manufacturers is reduced* and progress made in the know-how of alloys for the castings used;
- A third phase in which the *dependency on collaborating European manufacturers is eliminated*, the use of Nisshin Steel products (coils) is minimised, and one learns to organize a vertically integrated factory destined to sell to foreign markets. This phase was concluded, strategically, the year before Spain entered Europe and in the middle of a period of fusions of European competitors. From 1986 onwards, Acerinox needs no fusion in order to grow (or survive), unlike other European manufacturers, and it becomes one of the great stainless steel manufacturers of Europe.

Evolution of the production of Acerinox Europe (Algeciras, Roldán, Inoxfil), in thousands of MT, 1973-2012



Source: own preparation, *Memorias Anuales de Acerinox*, and *Acerinox (1995)*.

Phase of iteration of the process and learning of dynamic capacities (1975-2007), establishing sales offices, representatives, service centers, warehouses, and new plants abroad, managing to overtake the Japanese partners, the previous world leaders, in competitiveness and global leadership and holding between third (2006) and sixth (2012) position in the league of biggest global producers of long and flat stainless steel.

Exports, but above all the establishing of sales networks (service centers, representatives, offices, warehouses) and industrial networks abroad were the key to this phase: everything that had been learned in the previous phases was repeated in different environments, thus putting this learning to the test.

The first phase of DIA (direct investment abroad) was from 1973 to 1978 with exports based with agents and sales offices, their own and above all those of Nissho Iwai in Europe (letter from Y. Kishimoto 23/2/2013 and interviews with Muñoz Cava). A second phase from 1975 to 1990 saw the opening of their own sales offices and service centers using the Acerinox France model (service centers in Paris-Lyon and warehouse in Bordeaux) to get to know the market. The third phase, from 1990 onwards, consolidated manufacturing abroad (begun with the participation of Mexinox in 1978).

In these phases, centers of distribution and services were chosen in areas where there were more consumption and clients, and industrial centers where there would be better costs and access to raw materials and energy (principal components in cost structure). The tables in the annex show the progression from offices to factories abroad, and the countries where they are present. In 2012 the US represented 49% of the group's sales, Spain 8%.

Between 1975 and 1987, the commercialization of products was directed to the markets of Western Europe (France, Germany Switzerland, Portugal, Scandinavia), America (Chile, Argentina, the US) and, to a lesser extent, Asia (Hong Kong). From the mid 1980s onwards

(years of restructuring, fusions, concentrations, and relative contraction of the European market), the company consolidated its presence in hard competing markets in Europe (Italy, France, Scandinavia, UK), in potential markets in America (most importantly in Mexico, and in Kentucky, US – in Mexico forming part of an industrial partnership, in Kentucky founding one itself – and to a lesser extent, Colombia, Peru or Chile), and with scant presence yet in Africa or Asia. The decision to definitively enter these two last continents was taken at the beginning of the 21st century, with the joining of Columbus in South Africa in 2001 (an attractive location for its richness in metals for alloys, and energy) and the founding of a partnership to build an integrated factory in Bahru, Malasia in 2009 (Acerinox 1995).

Internationalization ACX (1): Year and Destination

AÑO	EUROPE	AMERICA	ASIA - AFRICA
1975	ACERINOX France (Paris)		
1979		ACERINOX Chile (Santiago de Chile)	
1980	ACERINOX Germany (Düsseldorf)	SIDERINOX Argentina (BB AA)	ACERINOX Pacific Ltd. (Hong-Kong)
1982		ACERINOX USA Inc. (New Jersey)	
1984	ACERINOX Switzerland (Zürich)		
1985	ACEROL Portugal (Lisbon) ACERINOX Scandinavia (Oslo)		
1986	ACERINOX Scandinavia (Götheburg)		
1987	ACEROL Portugal (Oporto)		ACERINOX Tokyo
1988	ACERINOX Trading , NEWTECINVEST	ACERINOX Colombia (Bogotá) ACERINOX México	
1989	ACERINOX ITALY (Milan)		
1990	ACERINOX France (Lyon)	ACERINOX Venezuela (Caracas) MEXINOS (México D.F.) NAS(Kentucky)	
1992		ACERINOX Chile (Iquique)	
1993	ACERINOX Germany (Stuttgart - Nürnberg) ACERINOX France (Bordeaux) ACERINOX Scandinavia (Finland)	ACERINOX Peru (Lima) ACERINOX USA Inc. (Houston)	
1994			ACERINOX South East Asia (Singapore)
1995	ACERINOX UK Ltd. (Birmingham)		
2001			COLUMBUS Stainless (South Africa)
2009			BAHRU Stainless (Malasia)

With respect to the typology of entrance into foreign markets, the table below shows a pattern that fits in well with the evolutionary model of Uppsala: a first phase of setting up offices and warehouses, in order to discover the necessities of the clients and the solution to logistical problems in sales distribution abroad (1975-1985); followed by a second phase for putting into practice what was learned in the previous phase, facilitating an entrance abroad with bigger investments and expected returns, using service centers (with the capacity for an area in situ, far from the factory, for the preparation of products – cutting, for example – tailored to the concrete demands of the very varied clients) from 1987 onwards. Lastly comes a time of final maturing in the process of learning and investments, which means taking part in or establishing an integrated factory with a local partner (Mexinox or Colombus) or independently (NAS in Kentucky or Bahru in Malasia).

Internationalization ACX (2): Types of Entrance

YEAR	OFFICE	OFFICE AND WAREHOUSE	SERVICE CENTER	SALES REPRESENTATIVE	FACTORY
1975	ACERINOX France (Paris)				
1976		ACERINOX France (Paris)			
1979		ACERINOX Chile (Santiago de Chile)			
1980	ACERINOX Germany (Düsseldorf) SIDERINOX Argentina (BB AA) ACERINOX Pacific Ltd. Inoxlee (Hong-Kong)				
1981		ACERINOX Germany (Düsseldorf) SIDERINOX Argentina (BB AA)			
1982	ACERINOX USA Inc. (New Jersey)				
1983		ACERINOX USA Inc. (New Jersey)			
1984	ACERINOX Switzerland (Zürich)				
1985	ACERINOX Scandinavia (Oslo)	ACEROL Portugal (Lisbon) ACERINOX Switzerland (Zürich)			
1986		ACERINOX Scandinavia (Göteborg)			
1987			ACEROL Portugal (Oporto)	ACERINOX Tokyo	
1988			ACERINOX Trading , NEWTECINVEST *1	ACERINOX Colombia (Bogotá) ACERINOX México	
1989	ACERINOX ITALY (Milan)		ACERINOX France (Paris)		
1990		ACERINOX France (Lyon)	ACERINOX Germany (Düsseldorf)	ACERINOX Venezuela (Caracas)	MEXINOS (México D.F.) NAS(Kentucky)
1992		ACERINOX Chile (Iquique)			
1993	ACERINOX Germany 2 (Stuttgart - Nürnberg) ACERINOX France (Bordeaux) ACERINOX USA Inc. (Houston)	ACERINOX Italy (Milan) ACERINOX Scandinavia(Finland)		ACERINOX Peru (Lima)	
1994	ACERINOX South East Asia (Singapore)				
1995	ACERINOX UK Ltd. (Birmingham)				
2001					COLUMBUS Stainless (South Africa)

Own preparation. Sources: *ACERINOX 25 years of history 1970 - 1995*, Madrid, ACX, 1996. And Website <http://www.acerinox.es> (various access 2012-2013)

Final Reflections

This work takes the case of the history of the origins of Acerinox, one of the world's biggest groups in stainless steel production.

First, to demonstrate that historical circumstances, fruits of the track record and of chance in each territory, are the key to explaining why, when and how the combination of potential resources becomes activated which could, in developing markets, lead to the creation of world-leading multinationals. Applying the LLL model by J. Mathews, the study shows that Acerinox was a latecomer firm in an expanding dynamic sector, founded to export and insert itself in foreign markets. It started out, in 1970, from an initial position of few strategic resources (in-depth knowledge of the technology and global markets of stainless steel), but a decent amount of potential, non-strategically useful resources: a large work force that, despite a low level of literacy, was well organized for learning standardized processes in training courses lasting up to 3-5 years with Japanese technicians and translated manuals; directors who were well prepared in the sector of stainless steel and electrical installations; a patient long-term capital investor in the form of the principal partner, one of the top banks and industrial corporations of the country; abundant, cheap, reclassified land close to a natural harbour; abundant cheap energy; cheap transport; personal networks between bank/engineering/industry/Japanese culture.

Second, these abundant and dispersed resources were mobilized, enabling the acquisition of contracts and contacts that would transfer technology and commercial links to global markets, thanks to a factor not considered in the LLL model: the previous skills in cross-cultural management of enormously different managerial traditions, from Spain, and from Japan. Cross-cultural management is considered to have great implications for managing international projects (Bird and Fang 2009; Anbari, Khilkhanova, Romanova, Umpleby 2003; Mazur 2010). This has been indicated in the history of Japanese FDI in Germany (Lincoln, Kerbo, Wittenhagen 1995). In this paper the author shows how with lack of strategic tangible resources, some intangible resources like skills to establish long-term relationships with culturally distant partners and managers can help combine foreign strategic partners' resources with scarce local resources, and create global giants. The Spanish bankers and engineers involved in the Joint Venture of Acerinox had previous training contacts with Japanese businessmen established in Japanese subsidiaries in Germany in the 1950s (about their presence in Germany Lincoln, Kerbo and Wittenhagen 1995), and with Italian businessmen who had experience with Japanese technology. The Japanese businessmen who signed the Joint Venture and followed the first years of the agreement had had previous experience with European companies in Germany, and with some Spanish businessmen in Madrid also in the 1950s. Both sides had had experiences of cultural diversity in their companies, and had an outward-looking view about cooperation between foreigners, that was

extremely important when the Joint Venture and the subsequent organization had to be developed, between technicians who had no previous contacts among them. A key bridge between these engineers and businessmen from Spain and Japan was an ex-Jesuit who had lived in Japan during almost a decade as director of foreign languages department at Sophia University in Tokio in the late 1950s-early 1960s: his skills not only in oral and written Japanese, but his experience in dealing with Japanese people, his love for Japanese literature and culture, and the hiring of this person as assistant to the C.E.O. during almost two decades made possible the translation of technical books from Japanese to Spanish, the fluid relationships between technicians in the Algeciras factory, the conversations between Japanese and Spanish managers, and a long-term understanding and smooth conflict resolution.

Thirdly, the studied case reveals that the historical circumstances of a country, plus the previous track record of the entrepreneurs (together with the history of their regions) can be also a significant, historically determined, factor, in the mobilization of potential resources in private companies with no state funding, in developing countries, and thus allow the necessary strategic resources for internationalization to be captured. In the case of Acerinox, the abundant non-strategic resources on their own were unable to combine to capture technology and knowledge of global markets. It was the diplomatic conflict over Gibraltar, which reached crisis point in the 1960s and culminated with the closing of the border in June 1969, that triggered the change: in the course of one year (between 1969 and the start of 1970), the relatively disconnected, cheap, abundant, potential resources that existed in the country were mobilized and combined for the creation of Acerinox. The necessity to push the regional development of Campo de Gibraltar in the face of the expected arrival of 5,000 people displaced from the British side, as well as to acquire foreign currency through export, no doubt lead Franco's ministers of Industry, Franco López de Letona and López Bravo, to call for tenders in the mid 1960s and support private projects to build a stainless steel plant in the bay of Algeciras and not in Malaga or Barcelona, as the engineer promoters of the idea would have preferred.

Fourth, also influential was the previous historical track record of informal contacts with other countries by engineers from the different Spanish regions and Engineering schools (Catalan, Valencian and Basque engineers), which made possible that, in the light of the historical opportunity of the Gibraltar conflict and the urgency of the government of Opus technocrats, the choice of foreign partner from whom to learn about establishing a modern and global stainless steel industry in Spain was the correct one: it could have been Italy, Germany, or France, but the choice was Japan, because first the Valencian Efrén Beltrán and the Catalan Manuel Umbert, and then the Catalan Victoriano Muñoz Cava (son of engineer author of the Plan of Public Works of Catalunya in 1935, co-founder of Enher), all recognized that the world's best industrial and commercial teachings, quick and standardized, of cutting-edge knowledge of stainless steel, came from Japan. The Europeans were not going to help the Spanish, or the Japanese, conquer the EU markets or the distant protected market of North America. But the Japanese and Spanish together could overcome institutional obstacles. All was needed was willingness to cooperate, and successful cross cultural management. It was a mutually beneficial partnership, but also a challenge because of the very different business cultures, the lack of trade agreements with Japan, the ignorance of foreign languages on both sides, and the

desert in which the plant had to be built by government decision. There were good human and financial resources behind it, and previous networks of understanding with the Japanese culture, which were activated with great efficiency and opportunity in order to make the most of the available resources. And it was a total success. At least until a new tsunami in the global leadership rankings affected the leaders such as Acerinox at the beginnings of the 21st century – the Chinese tsunami. But despite the current crisis due to the Chinese competitiveness in stainless steel markets of the world, and the bad figures of the Spanish headquarters, Japanese shareholders still believe, and cooperate, with Spanish managers, in Acerinox. Almost four decades of coexistence.

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Face-to-face conversations with: Bernardo Velázquez (C.E.O.), Luis Gimeno, Miguel Ferrandis, Alberto López Chico, and Santiago Muñoz, of Acerinox (2012);

Telephone conversations: with David Herrero (various, between February 2012 and March 2013, and “whatsapps” and emails on said dates), Federico Lanzaco (various between March and May 2012), José Luis Lejeune (various in February-March 2013), Victoriano Muñoz Cava (9 March 2013), the daughter of José María Aguirre Gonzalo Pilar Aguirre (February 2013); with the widow of Efrén Beltrán (2012)

Typewritten letters:

Letter from Yoshitaka Kishimoto (director of the Japanese Trading Company Nissho – merged with Iwai in 1970-), the only surviving Japanese senior manager who signed the Joint Venture that formed Acerinox in 1970. It includes very detailed replies to a questionnaire of 15 questions sent by Paloma Fernández to the home address of Y. Kishimoto in Tokyo, Japan, on 29 January 2013 (reply sent 9 February 2013)

Internet:

a) various websites with biographical and/or professional data on the main players in the first historical phases of Acerinox from 1970 to 2006 (José M. Aguirre Gonzalo, Victoriano Muñoz Oms, Victoriano Muñoz Cava, López de Letona, López Bravo, López Rodó, Luis Valls Taberner, Efrén Beltrán, Manuel Umbert, Landelino Lavilla, Marcelino Oreja, David Herrero, Federico Lanzaco, José Luis Lejeune); websites of the group and companies of Acerinox S.A. ;

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