

IESE



University of Navarra

ASSET-BASED COMPETITION AND INDUSTRY
STRUCTURE: RECAPTURING THE EARLY
CONCEPTS OF STRATEGIC GROUPS

Alfredo Enrione*
Carlos García Pont**

RESEARCH PAPER N° 286
January, 1995

* Doctoral Programme Candidate

** Professor of Business Policy

Research Division
IESE
University of Navarra
Av. Pearson, 21
08034 Barcelona - Spain

Copyright © 1995, IESE
Do not quote or reproduce without permission

ASSET-BASED COMPETITION AND INDUSTRY STRUCTURE: RECAPTURING THE EARLY CONCEPTS OF STRATEGIC GROUPS

The concept of Strategic Groups has been contested in many respects. We argue that most of the limitations of the concept arose from the early abandonment of the focus on firms' internal characteristics in favor of a behavioral approach. Using the developments of the resource-based view allows scholars to recapture the seminal ideas put forward by Caves and Porter in 1977, but with a stronger conceptual base. Building on this, we develop the concepts of Strategic Types and Strategic Asset Space, using the world automobile industry as an example. This work contributes with a broader definition of industry and with a challenging way to define strategic moves among competitors.

ASSET-BASED COMPETITION AND INDUSTRY STRUCTURE: RECAPTURING THE EARLY CONCEPTS OF STRATEGIC GROUPS

Industry structure has traditionally been understood in terms of concentration ratios and entry barriers. Further progress in strategy research introduced the concept of strategic groups (Hunt, 1972) as a tool for analyzing intra-industry behavior. The essence of the concept is to cluster together firms -competitors- that follow similar strategies within a product-market space. In spite of its relative success, the concept of strategic groups has been contested in several ways. The main line of criticism relates to its failure to explain intra-industry profitability variations in terms of group membership. In this paper we explain how, in order to understand these variations, one has to comprehend the competitive structure of an industry. This implies studying the sources of competitiveness of firms: their resources and capabilities. The not-so-recently developed «resource-based view of the firm» (Penrose, 1959; Wernerfelt, 1984; Dierickx and Cool, 1989; Barney, 1991) provides a framework for approaching this problem. We claim that capabilities and resources are the basis on which firms make things happen. They generate the possible courses of actions open to firms, among which rationally bounded managers choose. That is why we argue that industry structure has to be understood as the distribution of these «strategic assets» among the firms in the industry. In the first section we discuss the pitfalls of the traditional approaches to industry analysis. In the second we explore the application of the resource-based view in the theory of strategic groups. In the third we discuss how industry analysis should be performed considering the distribution of strategic assets. The fourth section contains an illustration of the concepts with data from the World Automotive Industry. We finish in the fifth section by summing up some questions for research and our conclusions.

I. Strategic Groups and Industry Analysis

In spite of the large amount of research conducted in this area (for comprehensive reviews, see McGee and Thomas, 1986; Thomas and Venkatraman, 1988; Barney and Hoskisson, 1990), the theory of strategic groups remains surprisingly underdeveloped (Porter, 1979, in Dranove *et al*, 1993). While the original idea was brought up by Hunt (1972), the theoretical developments began some years later with the works of Caves and Porter (1977) and Porter (1979).

The difficulty of pursuing different strategies within the product-market space of an industry determines the profitability of the firms within that industry. Basically, strategic groups have a direct and an indirect effect on firm profitability (Dranove *et al*, 1993). The direct effect comes from the group itself and depends on two forces: the height of the mobility barrier, which represents the group's ability to preclude entry and imitation, and the degree of rivalry within the group. The height of the barriers determines the potential

profitability, but these profits can only be realized if there is successful oligopolistic coordination among the firms in the group. Recognition of the interdependency of firms that follow similar strategies is key to this oligopolistic coordination. The indirect effect comes from the competitive dynamism across groups and their level of interdependence.

Key to the definition of strategic groups is the notion of mobility barriers, which is a generalization of the concept, developed by Caves and Porter (1977), of entry barriers into an industry. Without mobility barriers, it would not make sense to try to identify strategic groups within an industry because every market positioning would be contestable. Firms would change their product-market positioning and homogenize the profitability of the industry, given the zero switching cost across different competitive positions (Baumol *et al*, 1982). Mobility barriers insulate firms against potential entrants (to the industry in general or to a particular group) and preserve their strategy from imitation (Porter, 1979).

Some pitfalls

Despite the original focus on firms' traits, adopting the hypothesis of a *structural* similarity between firms (Caves and Porter, 1977), Porter's subsequent works (1979, 1980) define groups as clusters of firms pursuing similar strategies. There was a shift from the inputs to the outputs of the firm. In their seminal work, Caves and Porter (1977) were clearly talking about internal characteristics. They stated that «sellers within an industry are likely to differ systematically in *traits* (1), so the...industry contains *subgroups with differing structural characteristics*» (p 250). And «(f)irms within a [strategic] group *resemble one another closely and recognize their mutual interdependence*» (p. 250). Surprisingly, two years later the focus has changed radically. Porter (1979) declares that «a [strategic] group consists in firms *following similar strategies in terms of key decision variables*» (p. 215). Ever since then, the dominant focus has remained a behavioral one. We believe that what appeared to be a very promising paradigm fell into a conceptual trap. This brought not only conceptual confusion but also some practical difficulties, due to the operational vagueness of the concepts.

Although the examples provided (Porter, 1979, 1980) are numerous, they all lack a precise definition of mobility barriers and how they operate. The conceptual distinction between mobility barriers and the properties that actually define a strategic group is still unclear. According to Caves and Porter (1977), the barriers «vary with the characteristics that define industry groups» (p. 252) and «may play a role in defining and differentiating the groups» (p. 253). Moreover, the operational interpretation of a group is equally vague (Dranove, 1993). Actually, the «key strategic variables» described by Porter (1979) in the definition of a group vary from industry to industry, and there are no clues as to how to go about identifying these variables in a systematic way.

Some practical limitations of strategic groups in sector analysis arise from its *ex-post* view of industry competition. Although there is contradictory evidence relating performance and strategic group membership (Barney and Hoskisson, 1990; Fiegenbaum and Thomas, 1990; Lewis and Thomas, 1990), the relationship should not come as a surprise. Given that the paradigm assumes that performance is a product of behavior, to say that similar behavior generates similar performance is, in practical terms, a tautology. Accordingly, when firms are clustered *a priori* according to their characteristics and behavior, it should not be surprising if they exhibit a similar performance *a posteriori*. However, strategic group membership is by no means stable (Cool and Schendel, 1987).

(1) Our italics throughout this paragraph.

Once strategic groups have been identified by a competent manager, he can relate *ex-post* the characteristics of each group with its past performance. In other words, he reads today's newspaper to find out yesterday's weather forecast. We have to understand the limitations this has as a prediction for tomorrow. But what exactly are the sources of competitive advantage? What actions in the past were the most relevant in terms of their effects on present competitive advantage? How sustainable are they in the future?

Identifying strategic groups helps to understand the competitive structure of the industry, but it has little predictive power. Grouping firms by what they have done in the past is just a proxy for their future strategy. It can be argued that firms develop organizational routines (Nelson and Winter, 1982) that limit their freedom to pursue radically different strategies. Managers have built their strategic mindset on the basis of their past actions. Accordingly, future strategies are analyzed and decided upon according to past experience. However, the large variations in group membership found by Cool and Schendel (1987) proved this assumption to be at least dubious. After all, if companies develop different skills over time, even though they may be selling the same product at a given point in time, the chances are that they will take divergent paths as the skill gap increases.

In the absence of better methods, extrapolating from today's weather might be better than nothing, but there is evidence that may help to improve the conceptual basis and practical application of strategic group theory. McGee and Thomas (1986) argued that mobility barriers provide a much more solid basis for identifying strategic groups than «strategies», given that the latter are more loosely defined. Isolating mechanisms (Rumelt, 1984) were identified as a source of mobility barriers. In order to explain firm profitability, Cool and Schendel (1987) held that the scope and resource commitments were more relevant; they therefore argued for a method of identifying strategic groups on the basis of resource commitments, which in fact appear to be more persistent in time, owing to their sunkness (Ghemawat, 1991).

The incorporation of resource commitments into the more recent descriptions of strategic groups leads us to believe that the Resource-based View of the Firm (Penrose, 1959; Wernerfelt, 1984; Dierickx and Cool, 1989; Barney, 1991) can throw light on the theory of strategic groups. Nohria and García-Pont (1991) argued that strategic groups should be defined in terms of capabilities. We aim to refine on their contribution by speaking in terms of strategic assets (Amit and Shoemaker, 1993).

Disregarding the way it was originally intended, the concept of strategic groups has been applied from a behaviorist perspective. Firms are said to belong in the same strategic group if they are seen to have followed similar strategies in the past. As we said earlier, this provides very limited information about future actions. Building on the resource-based view, strategy is about action, and action is about using the strategic assets that firms have at their disposal. Therefore, in order to predict the future actions of firms within an industry, one has to build on these strategic assets.

II. The Role of Strategic Assets in the Genesis of Strategic Groups and Mobility Barriers

It is widely accepted that mobility barriers are a pre-requisite for strategic groups to affect firm profitability. However, the nature of these barriers remains unclear. The idea was originally developed as an extension of the notion of entry barriers at industry level (Teece, 1989). We believe that this extension can profit from the progress made as a result of the

redefinition of strategy as asset competition (Rumelt, 1984; Wernerfelt, 1984; Dierickx and Cool, 1989; Barney, 1988, 1989, 1991).

In an effort to explain the origin of mobility barriers, Caves (1984) made some allusion to the idea that irreversible (sunk) investments may reduce mobility, but this idea was not developed any further (Dranove *et al.*, 1993). In explaining the notion of contestability, Baumol *et al.* (1982) argued that the absence of sunk costs negates the effect of strategic interaction at industry level. Hence, mobility barriers must be based on irreversible investments if they are going to preclude entry.

Certain resources and capabilities may be heterogeneously distributed among firms, difficult to imitate, a product of company history, and non-transferable; these are what Amit and Shoemaker call Strategic Assets (1993). Strategic assets are implicitly built upon sunk investments (Ghemawat, 1991). They imply potential cost asymmetries between incumbents and entrants, hence they deter entry. But they also inhibit exit by incumbents. Owing to the characteristics of strategic assets, a firm's stock of these assets can change only slowly over time. The firm's strategic alternatives are therefore limited in the short run. Thus, the stock of strategic assets represents a credible commitment on the part of the incumbents, even if there are losses in the market place (Ghemawat, 1991).

Besides their insulating function, strategic assets play a role in differentiating groups in a sustainable way. If these resources and capabilities could be acquired by all players, all would replicate the same advantageous competitive positioning. Any abnormal profits earned within a particular group would soon be diluted by imitators.

The relationship between profitability and membership of a strategic group can also be explained in terms of scarcity rents. Since strategic assets are scarce, they are subject to above economic rents, without the threat of being competed away in the short term. However, as Peteraf (1993) argues, scarcity should not be interpreted as uniqueness. The same strategic assets may be held by several firms and still be relatively scarce. Porter (1979) holds that a strategic group could consist of only one firm, or of an entire industry. Clustering firms according to their stock of strategic assets would cover the same range of possibilities, while the insulating role would still remain.

In line with the ideas put forward above, we argue that strategic assets allow us to go back to the very basis of strategic groups and mobility barriers. The irreversible investments in valuable, rare, inimitable and non-tradable resources and capabilities, made throughout the history of a firm, constitute that firm's stock of strategic assets. These particular resources and capabilities are the source of above normal returns and constitute the basis on which the firm sustains a position of relative competitive advantage.

The next step follows naturally: firms whose stocks of strategic assets are similar should belong to the same group. Firms with almost equal capabilities can, at least in theory, follow similar product-market strategies. Thus, collusion should come from the availability of the same strategic inputs rather than from the positioning in the product-market space. Peteraf (1989) used the airline industry to test Porter's hypothesis that one should find more rivalry between groups than within groups. Her results showed high levels of collusion within groups. The key here was the resources and capabilities, not the route that the airlines were serving. Since airlines have very similar capabilities, there is a large incentive for collusion.

Just as strategic assets provide a sound criterion for clustering firms, the scarcity and non-imitability of firms' asset inventory accounts for the mobility barriers between groups.

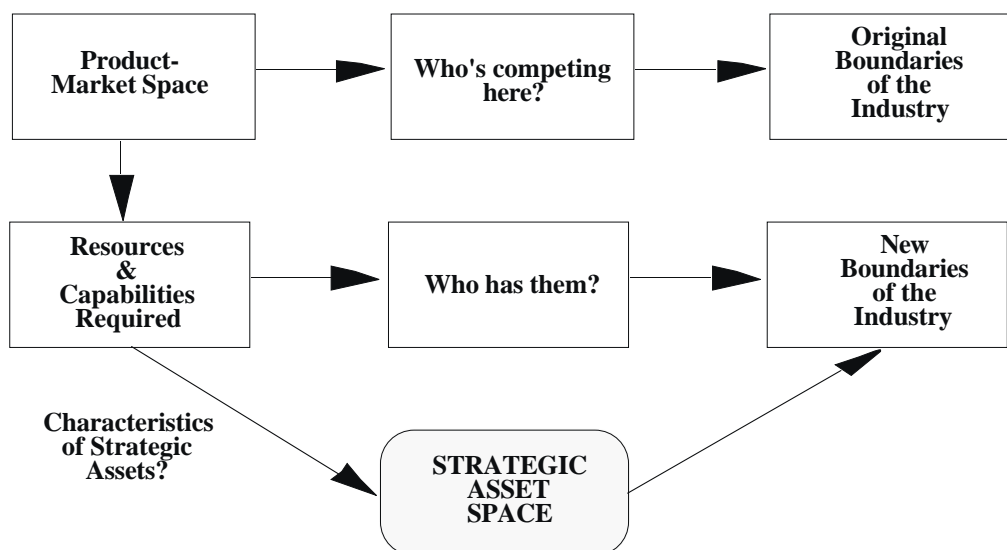
We therefore propose that the existence of these new clusters based on strategic assets, and the mobility barriers that arise as a result of these clusters, should be incorporated in the analysis of industries.

III. Incorporating Strategic Assets at Industry Level

The concept of the Strategic Asset Space (SAS)

The resource-based view emphasizes the inputs of the firm, i.e. the set of factors that contribute to the production of goods and services. Adopting this point of view, we can think of an industry not as a space of products, where firms position themselves, but as a space of strategic assets. In order to define this space, one could start by outlining a set of initial boundaries from the traditional product-market space. We therefore approach industry analysis from a competitor's perspective, drawing the original boundaries of the sector. Once each of the rivals has been identified, we can evaluate the different strategic assets that firms bring into play. From among the specific manufacturing technologies, patents or complex institutional relationships, we should identify all the «weapons» that incumbents use to compete. After we have defined the resources and capabilities required to compete in this arena, the next step is to find out which firms have these assets in stock. Even though we may have most of the players identified already, this is a crucial step. Take, for example, the computer industry. The first definition of the sector will include all the manufacturers and sellers of hardware in the world. Once we have defined their resources and capabilities, we will need to bring other players that neither make nor sell computers, such as Microsoft, or semiconductor companies such as Intel, into the picture. By comparing their arsenal of resources and capabilities, and checking which of these resources and capabilities could be classified as strategic assets –i.e. as having the potential to become a source of competitive advantage– we define the Strategic Asset Space (see Figure 1). If we were to do this in the computer industry, not only would the boundaries of the industry change radically, but the relative positioning of firms would be altered even more dramatically.

Figure 1. Redrawing the Boundaries of an Industry with the Strategic Asset Space



Up to now, we have defined competition in terms of product and markets. As a consequence, the content of a strategy had to be expressed in the same terms (cost vs. differentiation). When we understand competition in terms of the strategic asset space, we see firms committing to their competitive positions because of the sticky character of strategic assets.

Strategic Types

As a way to mitigate some of the conceptual problems, and pursuing the spirit of the early work on strategic groups (Caves and Porter, 1977), we believe that the natural way to cluster firms is in terms of their strategic assets. That is, the firms whose stock of strategic assets is similar should belong to the same group. In terms of the strategic asset space, this means that they are closer to each other than to all other firms. We define these groups as Strategic Types, in order to distinguish them from strategic groups that are defined in terms of behavior, and because this definition will correspond to a typology derived from what we previously defined as strategic assets.

We suggest that using strategic types as a criterion for clustering may help to overcome the difficulties that arise when trying to link group membership with profitability. First of all, there is the argument of market power. Firms that belong to the same strategic type handle *a priori* a very similar set of feasible courses of action. The more alike these alternatives are, the higher the incentive to collude. This time, the idea of a structural similarity, which Caves and Porter (1977) described as forcing firms to recognize their interdependence, is reestablished on more solid foundations.

The characteristics of the asset profile that define a strategic type serve a delimiting function. Since the assets cannot be acquired or imitated, they hinder entry into the type. Since strategic assets limit strategic options and a firm's stock of assets cannot be changed in the short run, incumbent firms also have a barrier to exit the type. Consequently, strategic assets constitute mobility barriers that guarantee a relatively stable composition of the cluster. A particularly interesting point is that because the clustering criterion is resources and capabilities, the «true» potential entrants and substitutes should also belong to the strategic type. This means that once the types are defined, it will be very hard for other imitators or substitutes to come into the group.

The relative scarcity of strategic assets may also constitute a source of abnormal returns, but as these assets cannot be acquired, the rents may be sustained over time. Even though there is uncertainty about the basis of competitive advantage in the future, profitability will most probably be linked to the ownership of a particular set of capabilities, hence the group membership-performance link comes more naturally

We believe that firms should be clustered along their potential to do things in the market. Strategic asset space and strategic types are the conceptual tools to do this.

Strategy as Positioning in the Strategic Asset Space

Defining an industry in terms of resources and capabilities implies that all firms with a similar position in the SAS should perceive each other as direct competitors, even though they might be delivering different products. This is simply because all of these firms have, at least theoretically, the same strategic alternatives at hand. Ownership of the

strategic assets (real or potential) becomes the main criterion to screen potential entrants and substitutes.

It should be clear that the strategic consequences for a given firm in the SAS arise from that firm's position in relation to other firms. Therefore, whenever a company enhances its stock of strategic assets, or changes in consumer tastes demand new capabilities, the competitive position of all incumbents also changes.

The different conceptions of strategy in Western and Far Eastern firms described by Hamel and Prahalad in their article «*Strategic Intent*» (1989) could perfectly well be interpreted as meaning that Western firms conceive competition only in terms of products and market positioning, whereas Far Eastern firms conceive it in terms of the capabilities involved. Accordingly, companies such as GM perceived early Japanese competition as marginal and as pursuing niche strategies. In contrast, their Japanese rivals saw their moves in terms of the assets they were developing and how they were contributing to achieving an advantageous competitive position.

Hamel and Prahalad (1989) also raised the issue of how strategic choices should be conceived. The advantage of Japanese firms was based on the fact that they started with an ambition which drove the acquisition and development of new strategic assets to add to their inventory. Western firms, by contrast, «pruned» their choices to those they could face with their existing stock of resources and capabilities. This meant that Western firms were «stuck» in their position, while Japanese firms utilized their energy to develop new capabilities, hence moving into new regions of the SAS.

Strategic Assets and Industry Structure

We believe that putting Strategic Assets into industry structure has some fundamental advantages:

First, it expands the boundaries of the industry. When an industry is defined in terms of its outputs, the boundaries are established by the firms that deliver the products or services. Although traditional approaches recognize the threat of potential entrants (e.g. Porter, 1980), they do not provide the means to recognize who the entrants might be. By considering an industry in terms of strategic assets, membership of a strategic type is defined in terms of the owners of those assets, even though they might not at present be operating in the existing product-market space. The relevant group of potential entrants and producers of substitutes comes into the picture automatically, thus expanding the boundaries of the industry. Strategic assets could be regarded as the counterpart of product-market positioning: it could be argued that in order to compete in a given market segment with a given product strategy, all firms would require the same set of strategic assets. However, the asset perspective offers a different twist. An asset-based approach looks at what firms are, not at what they have done in the past. Firms' capabilities tell us what those firms will be able to do in the future; they tell us about future actions, and the firms' relative positioning towards changes in the industry. Adopting similar strategies does not mean having similar capabilities.

A further advantage of the strategic asset approach is a cognitive one. Although some scholars have looked at the evolution of industry structure over long periods of time (Cool & Schendel, 1989), the usual pattern is to bring the most recent picture into the analysis. The strategy pursued in each period of time should be accounted for in terms of its contribution to the accumulation of valuable and rare resources and capabilities. In other

words, the evolution of industry structure should be distilled in order to find out how individual actions contribute to building up assets that can become a source of competitive advantage. Unfortunately, given the presence of causal ambiguity (Reed & De Fillippi, 1990), this inference about the past might be very hard to attain. Analyzing industry structure in terms of present resources and capabilities depicts the most relevant actions in terms of their contribution to competitive advantage.

Finally, when the main determinant of profitability is the industry and segment in which the firm competes, the main role of management is choosing along these dimensions. Nevertheless, once this decision has been made (and most managers work in companies that already compete in a given sector), industry analysis does not provide managers with action-oriented keys for the future. Considering the sector in terms of resources and capabilities has an implicit advantage for management: to acquire, reinforce and leverage the assets that might be the source of competitive advantage. As a matter of fact, this mindset may be used to analyze the effect of each individual decision on the competitive positioning of the firm.

IV. An Illustration: The World Automobile Industry

A quick glance at the media shows us that most of the main players in the world automotive industry are engaged in developing new products; we also see an unprecedented momentum of strategic alliance formation. As we shall see in this section, these seemingly unrelated phenomena have a common thread: they represent a way to acquire the strategic assets that appear to be the future sources of competitive advantage.

As far as new products are concerned, we can quickly cite three examples. Fiat is investing 4.7 trillion Italian lire (about 3 billion dollars) in a totally new plant in Melfi, near Provenza in southern Italy, to build the new Fiat Punto. In spite of the overcapacity in other Fiat plants, this greenfield factory will be building 450,000 cars per year. Quality and efficiency are the keywords. Fiat hopes that the location of primary suppliers on the same site will give them the flexibility and just-in-time approach that they have been looking for. Also in Europe, the Volkswagen Group (VAG) recently invested 270 billion pesetas (about 2 billion dollars) in a new Seat plant in Martorell near Barcelona (Northern Spain) to build the new Ibiza and the Cordoba. While this plant is being set up, Seat's main factory in Zona Franca will be shut down, as from December 1993. This is another effort to implement and internalize the latest manufacturing technologies and practices in the industry by starting from scratch. Robotization, TQM, participative teamwork, just-in-time – these are only a few examples of the challenges that Seat is facing. On the other side of the Atlantic we can pick up the case of Chrysler and the development of the new Viper, a car that revamps the spirit of the classic sports car tradition. This effort, despite its short-term impact on the bottom line, has been a tremendous effort by Chrysler to develop the skills required to reduce their time-to-market performance.

The development of these new products is not driven by short-term marketing requirements but by the need to develop a set of organizational capabilities. As we have seen, these capabilities, which can be regarded as strategic assets, demand a long-term commitment and an enormous effort in *unlearning* the obsolete practices of the past. This idea helps us to understand why many players are locking up large investments in brand new plants instead of just enhancing old ones.

The logic behind the extraordinary pace in strategic alliance formation in the world automotive industry is also related to the acquisition of strategic assets. We shall see how the commitment to strategic alliances in the late 80s and early 90s has changed individual firms' stocks of strategic assets and the distribution of capabilities in the industry as a whole.

In order to show this, we have drawn up some of the data used by Nohria and García-Pont (1991). They evaluated all the major players in the automotive industry in terms of certain key capabilities, relating these capabilities to the structure of alliances in the industry. The first step was to cluster firms along their stock of capabilities. The groups and variables utilized are shown in Table 1.

**Table 1. Strategic Groups in the Auto Industry. Average Values
(From Nohria and García-Pont, 1991)**

STRATEGIC GROUPS	Average value of the standardized variables (Standard Deviation)						
	SIZE	M/ShareUS	M/ShareE	ORGCAP	MFTECH	BPL	WLCOST
1 GM Ford	1.226 (1.796)	2.331 (0.256)	1.007 (1.454)	0.099 (0.842)	0.309 (1.192)	1.555 (0.000)	1.657 (0.228)
2 AMC Chrysler	0.040 (0.405)	1.047 (0.740)	-0.627 (0.000)	-0.034 (0.533)	-0.715 (1.036)	0.619 (2.012)	2.192 (0.000)
3 Fiat VW PSA Renault	0.249 (0.268)	-0.311 (0.130)	2.21 (0.124)	-0.037 (1.970)	0.421 (0.676)	0.502 (0.703)	-0.136 (0.417)
4 Hyundai Kia Daewoo Seat Alfa Rover	-0.564 (0.144)	-0.348 (0.058)	-0.361 (0.343)	-0.576 (0.386)	-0.742 (0.615)	-0.552 (0.769)	-0.909 (0.408)
5 Volvo Saab Daimler-Benz BMW	-0.231 (0.375)	-0.286 (0.033)	-0.111 (0.278)	-0.094 (0.337)	0.196 (0.676)	-0.552 (0.000)	-0.982 (0.699)
6 Fuji Suzuki Daihatsu Isuzu	-0.420 (0.190)	-0.315 (0.100)	-0.6 (0.019)	0.903 (0.398)	0.309 (0.520)	-0.728 (0.351)	-0.586 0.000
7 Honda Mazda Mitsubishi	-0.245 (0.123)	-0.007 (0.352)	-0.42 (0.170)	1.714 (0.354)	1.51 (0.260)	0.385 (0.405)	-0.387 (0.345)
8 Nissan Toyota	0.598 (0.250)	0.343 (0.072)	-0.004 (0.081)	1.756 (0.409)	1.435 (0.318)	1.555 (0.000)	-0.454 (0.143)
9 Porsche Jaguar	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
10 Lio HO Yue Long	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11 Lamborghini Ferrari Maserati Lotus	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
ANOVA F p	3.102 0.023	3.875 0.0087	13.072 0.0001	13.602 0.0001	4.326 0.0051	3.905 0.0084	38.697 0.0001

SIZE: A variable combining average assets, sales and production units over 1981-1987.
M/Share/US-E: Relative market share during 1981-1987 in the US and Europe.
ORGCAP: A variable reflecting manufacturing efficiency, efficiency of human resources management, and speed in introducing new products.
MFTech: Relative manufacturing sophistication.
BPL: Breadth of product line
WLCOST: Relative labor cost. A weighted average of wages where firms have their production facilities.

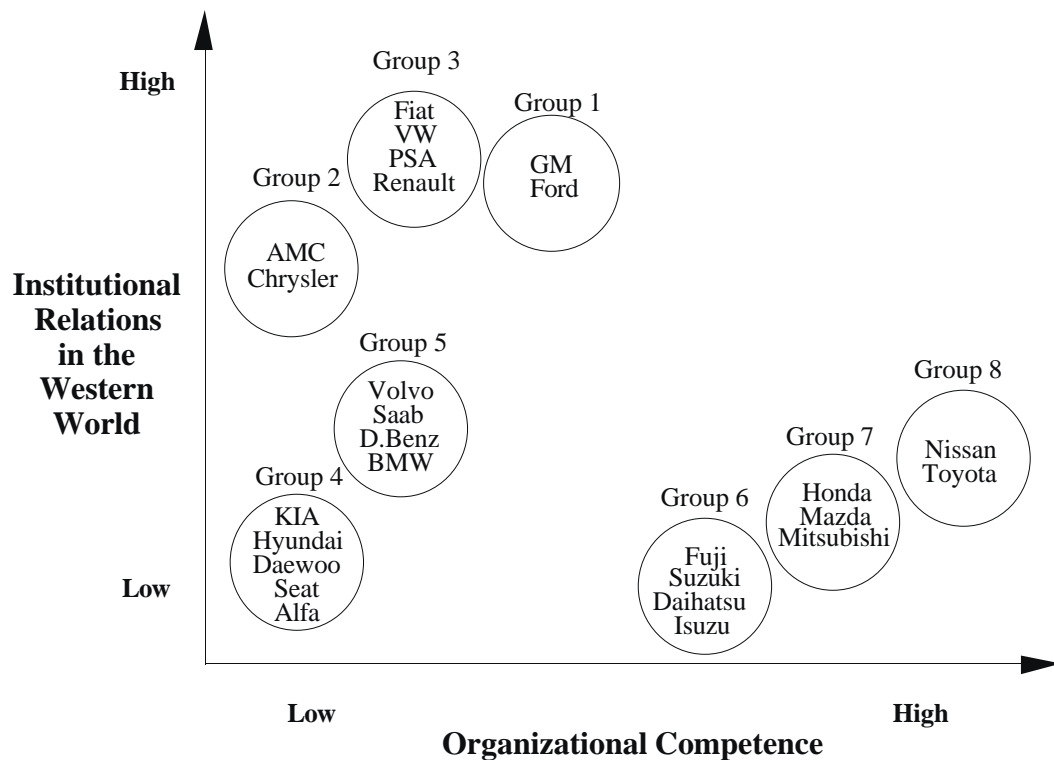
The variables used to evaluate the asset position of firms are, to a great extent, an expression of two underlying dimensions. First of all, we should recognize that size and relative market share are an excellent proxy for the capability to establish strong *institutional relations*. Because of their relative impact on the local economy, size and market share represent a measure of political importance, the willingness of institutions to help or even protect local incumbents from potential entrants. Considering that we used the market shares for Europe and the US, this dimension can be taken to represent the strength of institutional relations in the Western World.

The second dimension is obtained by merging technological sophistication and organizational capability, which are indeed highly correlated, into what we might call *organizational competence*.

Once we have defined these two key dimensions, we can use them to define two axes that will express more comprehensively the dynamics of competition within this sector. In other words, we are now able to define the Strategic Asset Space, the position of each firm in it (how their past strategies have contributed to obtaining a particular stock of strategic assets), and how their individual moves are reflected in the conquest of new positions along this space.

We have plotted the relative positioning of the main firms in the space of strategic assets that these two dimensions define (see Figure 2).

Figure 2. Strategic Asset Space in the Auto Industry



In general terms, we see that, until 1987, while the largest occidental firms based their competitive strategies on their institutional relations (the upper left corner), their Japanese counterparts concentrated on enhancing their stock of organizational capabilities. At the same time, changes in the competitive environment during this period, such as the oil shocks and globalization, favored companies that had a stronger position in organizational competence, thus making this asset the main source of competitive advantage. But let us see what the main competitors are doing to shift or defend their position.

The Big Three are trying to improve their organizational competence while maintaining their institutional relationships

GM is the largest manufacturer in the world, and also the most highly integrated of the US automobile firms. In the first half of 1993 it had the highest market share in the US and the second highest in Europe. GM has been trying very hard to improve its organizational competence. After spending almost \$60 billion on none-too-successful experiments in the late 70s and early 80s, it has started looking outside for capabilities. In 1984, GM acquired EDS, but difficulties with integrating EDS technology were partly to blame for costly delays in introducing new cars. Moreover, Saturn has been a tremendous effort to incorporate new technologies and managerial practices, but after apparent success in this operation, GM has found itself facing massive hurdles in extending and internalizing this knowledge in the rest of the organization. Seeing that its individual efforts have not been too successful, GM has engaged in a number of linkages with partners such as Isuzu, Toyota, Suzuki, Fuji, Daihatsu and Daewoo in order to gain access to manufacturing capabilities. It has also linked with high-end partners such as Lotus or Saab, after Ford took over Jaguar, in order to ensure that the doors to this segment remain open should the opportunity arise.

Ford, the first auto company to pursue a global manufacturing strategy, also has a very strong position in the US and Europe. Despite managing strong institutional relations, Ford has also been looking for partners to learn from. It has engaged with partners with a strong reputation in manufacturing, such as Mazda, Nissan and Kia.

The actions of AMC and Chrysler in the US are very similar to those of Ford and GM. As the Big Three have improved their manufacturing quality, regaining more than 2% of the market from the Japanese, they have also stepped up political pressure to stem oriental competition and force them to open up their home markets to US imports. The Big Three have been lobbying to get the US Government to impose higher tariffs on Japanese minivans by claiming unfair competitive practices.

Besides increasing its market share in the US, Chrysler-AMC are also establishing alliances to shape up the stock of strategic assets. Chrysler and Mitsubishi established a joint venture in 1985 –Diamond Star- to manufacture a new line of passenger cars in the US. Two years later, and after Chrysler took over American Motor Corporation, Renault agreed to distribute AMC cars throughout Europe.

In Europe, the picture is not very different

Fiat was more dependent on its home market than any of its rivals among the six larger car makers in Western Europe and appeared to be one of the European car makers most vulnerable to the growing Japanese presence. This was a strong push to take the lead in

establishing stronger linkages with PSA and Renault and increase their influence on the regulating institutions on the continent.

VW has extended its influence outside of Germany. It holds a 99.8 per cent interest in Spanish Seat. As far back as 1980, Volkswagen and Daimler-Benz had both engaged in a number of agreements and joint ventures, especially on matters related to their European operations. The group was also increasing its presence in Eastern Europe. It recently acquired an initial 31% stake in Skoda.

As a result of the institutional efforts of the European players, a continental *resistance* has arisen. In April 1992 the Brussels-Tokyo agreement was signed, by which in 1993 the Japanese reduced their exports by 9.4 percent relative to 1992.

European firms are also investing heavily in organizational and manufacturing capabilities. As we already mentioned, firms such as Fiat or VW's Seat have made mammoth investments in brand new plants to internalize the latest managerial practices and manufacturing technologies. However, the mechanism of alliances does not seem to be used for this purpose. Practically no major European player has established linkages with Japanese firms. This may be because the efforts of the European firms have been focused more on blockading the Japanese than on allying with them in order to learn from them.

Far Eastern firms are investing mainly in institutional relations

Government regulations play a major role in shaping the automobile industry. Policies ranging from regulatory provisions on environmental issues such as emission standards to tariff regulation to protect local manufacturers have over the years been instrumental in shaping the strategies of the auto makers. A typical reaction to this is the Japanese «transplant» strategy to evade import ceilings/tariffs imposed by Western countries and strengthen the linkages with the local institutions.

Honda took the lead among the Japanese transplants in establishing an American engineering operation, both for products and manufacturing processes. As its operations in the USA have reached maturity, attention has increasingly switched to Europe, with its new Swindon, UK plants starting production in September 1992.

Toyota continued with its globalization strategy by increasing “transplant” capacity in America, Europe, Asia-Pacific and Australia, with the aim of achieving a target annual vehicle production volume of 6 million by the end of the 1990s. During 1992 Toyota, like Honda, started production at a new plant in the UK. The firm embarked on a plan to expand its European dealership network to cope with the expected increase in sales.

Nissan started modernizing and expanding its domestic production facilities, pursuing a high rate of new model introductions and restructuring its distribution systems. North America remained the primary export destination, closely followed by Western Europe. The company owns 66 percent of Nissan Motor Ibérica in Barcelona, their main operation in the Old Continent. They produce several models, including the Terrano II, also sold as the Ford Maverick.

Suzuki, although best known outside Japan for its motorbikes, derived 70% of its revenues from the car and commercial vehicle sectors. The mainstay of the company's business was the mini-vehicle market, which has been more or less unique to Japan. It used

Spain as its European base, where it effectively controlled the Land Rover Santana operation following Land Rover's disposal of its 23% stake in the company in 1990.

Mitsubishi is the next one in line to produce cars in Europe. It recently established a joint venture with Volvo and the Dutch Government to manufacture cars in the Netherlands. They are investing heavily in NedCar for the development of a new line of cars to be launched in 1995/96.

The Japanese presence in Europe also includes IBC Vehicles, Isuzu's joint venture with GM; Daihatsu's joint venture with Piaggio in Italy to produce small microvans; and the production by Volkswagen of Toyota pick-ups in Germany. In Italy, Bertone is making a four-wheel drive vehicle based on the Daihatsu Sportrak but powered with a BMW engine.

Mazda, like other Japanese auto makers, is increasing its presence overseas via its link with Ford. However, the company has been unable to find a European joint venture partner. Mazda is the only Japanese manufacturer with no production strategy in Europe.

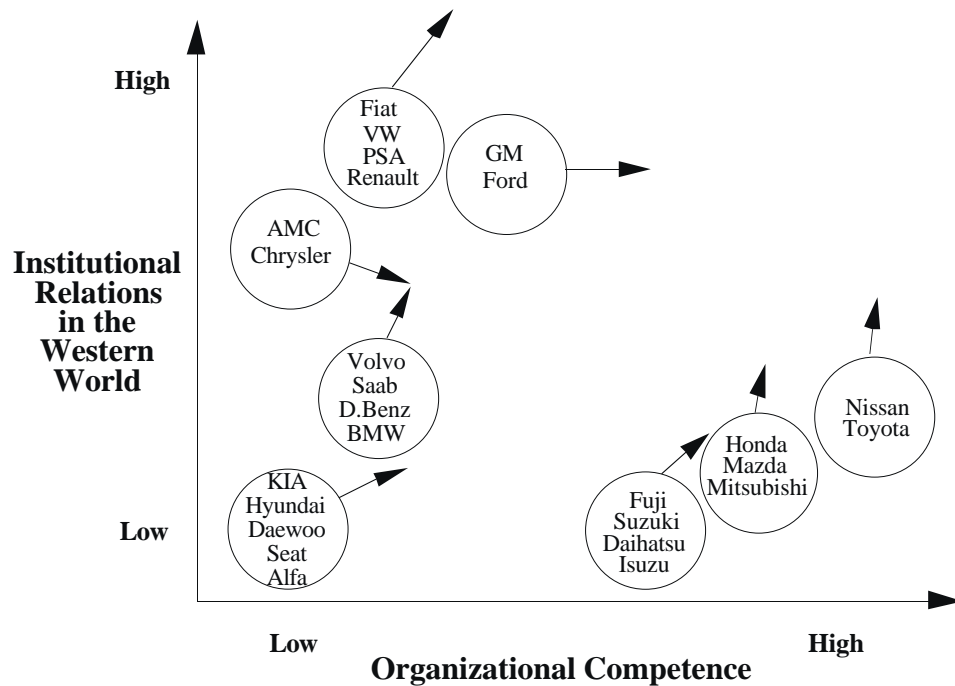
Since the entry of the Japanese vehicle manufacturers into the North American auto industry, the US auto industry had been lobbying congressmen for action to limit Japanese sales in the US and for relief from costs which the North American manufacturers claimed gave their rivals a head-start. Also, the United Auto Workers (UAW) union had been calling for a possible cap on the total Japanese import quota, which remained at 2.3 million units a year. However, for the past four years Japanese imports have fallen well below the quota level –1.7 million units in 1990– partly because of the build-up of products from the transplants. Voluntary export restraint agreements have also been adopted by the Japanese producers when occasion demanded.

At the end of July 1991, the European commission and Japan reached an agreement on the volume of Japanese imports into Europe. No ceiling appeared to have been placed on the volume of vehicles assembled at their European transplant facilities, with no restrictions being placed either on Japanese investment or on the free circulation of European-built Japanese vehicles in the community.

Summing up

The effect of the competitive moves of the players, analyzed above, can be pictured using the Strategic Asset Space defined earlier. The intra- and inter-organizational efforts of car manufacturers are affecting both their organizational competence and their level of institutional relations (see Figure 3).

Figure 3. Where are competitors moving in the Auto Industry?



While during the 70s and 80s the sources of competitive advantage came mainly from organizational capabilities, in the 90s these capabilities will become no more than a prerequisite. The emergence of commercial blocks like the EC or NAFTA may mean that, in the future, institutional relationships will become more important than ever. As a consequence, the main players in this arena are making tremendous organizational efforts to move towards what they perceive to be the future determinants of competitiveness.

V. Conclusions

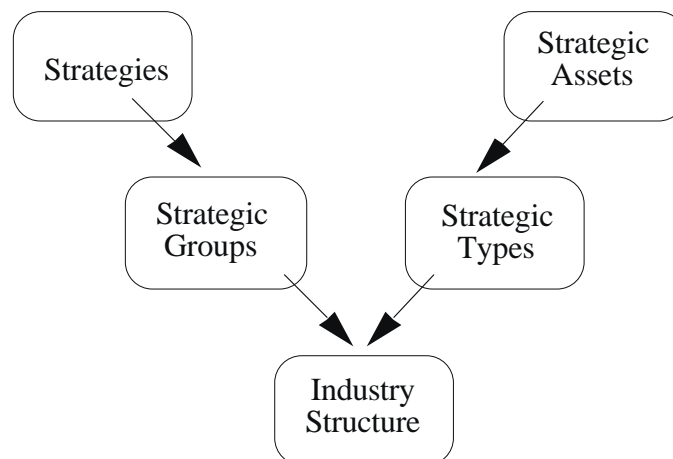
We have seen through this article that traditional approaches to industry structure, such as strategic group analysis, lack conceptual clarity and also have certain practical limitations. In our view, this situation was caused by the shift from a focus on the internal characteristics of firms towards a behavioral focus. In fact, the development of the concepts of strategic groups and mobility barriers may have been too revolutionary for the theoretical elaboration of the 70s. Reconceptualizing strategy as asset competition is extremely useful in clarifying some of the problems of strategic group analysis. The long-term commitment to develop resources and capabilities not only accounts for the sources of competitive advantage, but can also be used to explain the genesis of stable strategic groups and mobility barriers.

By developing the notions of Strategic Types and Strategic Asset Space we have contributed to a broader definition of industry and provide a challenging way to define strategic moves among competitors. Alliances, mergers and acquisitions, diversification and new investments can all be pictured in the Strategic Asset Space, reflecting its impact on the relative competitive positioning of each player in a sector.

Although the data from the World Automotive Industry used to illustrate this argument is not original (Nohria and García-Pont, 1991), we believe that this work is still challenging for both strategy researchers and practitioners. Several interesting research questions can be drawn from it. Is the membership of strategic types in fact more stable than membership of strategic groups? Is strategic asset ownership a good predictor of group profitability in a given sector? What assets give rise to higher mobility barriers between strategic types? etc. The scheme is also appealing for practitioners who are looking for a more action-oriented tool of analysis. Managerial decisions can be immediately reflected in terms of their contribution to competitive advantage.

We do not intend in any way to deny the tremendous contribution of strategic groups to the field of strategy. We simply wish to offer a complementary tool (see Figure 4). There are serious advantages to be obtained from integrating an analysis of firm behavior with an analysis of the organizational commitment in resources and capabilities involved in this behavior. This combination of criteria can provide the tools of analysis for both the short and the long term and offer an action-oriented vision that will contribute to building and maintaining a competitive advantage in the long run. □

Figure 4. Complementing Our Knowledge of Industry Structure



REFERENCES

- Amit, R. & Shoemaker, P. (1993). Strategic Assets and Organizational Rent. *Strategic Management Journal*, 14: 33-46.
- Barney, J. (1988). Types of Competition and the Theory of Strategy: Toward an Integrative Framework. *Academy of Management Review*, 11: 791-800.
- Barney, J. (1989). Asset Stocks and Sustained Competitive Advantage: A Comment. *Management Science*, 3: 1511-1513.
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17: 791-800.

- Barney, J. & Hoskisson, R.E. (1990). Strategic groups: untested assertions and research proposals. *Managerial and Decision Economics*, 11: 187-198.
- Baumol, W., Panzar, J. & Willig, R. (1982). *Contestable Markets and the Theory of Industry Structure*. Harcourt, Brace Jovanovich, Inc. New York, NY.
- Caves, R. & Porter, M.E. (1977). From Entry Barriers to Mobility Barriers: Conjectural decisions and contrived deterrence to new competition. *Quarterly Journal of Economics*, 91: 242-261.
- Caves, R. (1984). Economic analysis and the quest for competitive advantage. *American Economic Review*, 74: 127-132.
- Cool, K. & Schendel, D. (1987). Strategic Group Formation and Performance: The case of the U.S. Pharmaceutical Industry, 1963-1982. *Management Science*, 33, 1102-1124.
- Dierickx, I. & Cool, K. (1989). Asset Stocks Accumulation and Sustainability of Competitive Advantage. *Management Science*, 3: 1504-1511.
- Dranove, D., Peteraf, M. & Shanley, M. (1993). The Economic Foundations of Strategic Groups Theory. Discussion Paper No. 93-59. Dpt of Management and Strategy. Kellogg Graduate School of Business, Northwestern University.
- Fiegenbaum, A. & Thomas, H. (1990). Strategic groups and performance: the U.S. insurance industry, 1970-1984. *Strategic Management Journal*, 11: 197-215.
- Ghemawat, P. (1991). *Commitment: The Dynamic of Strategy*. The Free Press, New York, NY.
- Hamel, G. & Prahalad, C.K. (1989). Strategic Intent. *Harvard Business Review*, 67(3): 63-76.
- Hunt, M.S. (1972). Competition in the Major Home Appliance Industry, 1960-1970. Unpublished Ph.D. dissertation, Harvard University.
- Lewis, P. & Thomas, H. (1990). The Linkage between strategy, strategic groups and performance in the U.K. retail grocery industry. *Strategic Management Journal*, 11: 385-404.
- McGee, J. & Thomas, H. (1986). Strategic Groups: Theory Research and Taxonomy. *Strategic Management Journal*, 7(2): 141-160.
- Nelson, R. & Winter, S. (1982). *Organizational Capabilities and Behavior: An Evolutionary Theory of Economic Change*, Cambridge MA, Harvard University Press.
- Nohria, N. & García-Pont, C. (1991). Global Strategic Linkages and Industry Structure. *Strategic Management Journal*, 12: 105-124.
- Penrose, E. (1959). *The Theory of the Growth of the Firm*. Oxford, GB: Basil Blackwell.
- Peteraf, M. (1989). Intraindustry Structure and Response toward rivals. Discussion Paper 89-16. Dpt of Management and Strategy. J.L. Kellogg Graduate School of Business, Northwestern University.

- Peteraf, M. (1993). The Cornerstones of Competitive Advantage. *Strategic Management Journal*, 14: 179-191.
- Porter, M.E. (1979). The Structure within Industries and Companies' Performance, *Review of Economics and Statistics*, 61: 214-277.
- Porter, M.E. (1980). *Competitive Strategy*. New York, NY, The Free Press.
- Reed, R. & DeFillippi, R. (1990). Causal Ambiguity, Barriers to Imitation, and Sustainable Competitive Advantage. *Academy of Management Review*, 15: 88-102.
- Rumelt, R.P. (1984). Towards a strategic theory of the firm. In Lamb, R.B. (ed.), *Competitive Strategic Management*, Prentice-Hall, Englewood Cliffs, NJ, pp. 556-570.
- Teece, D. (1989). Economic Analysis and Strategic Management. *California Management Review*, Spring, 87-109.
- Thomas, H. and Venkatraman (1988). Research and strategic groups: progress and prognosis. *Journal of Management Studies*, 25: 537-555.
- Wernerfelt, B. (1984). A Resource-based View of the Firm. *Strategic Management Journal*, 15: 171-180.

IESE**DOCUMENTOS DE INVESTIGACION – RESEARCH PAPERS**

No.	TITULO	AUTOR
D/ 267	Sector español de la alimentación y bebidas: Empresas familiares y no familiares (II) Mayo, 1994, 43 Págs.	Gallo M.A. Estapé M.J.
D/ 267 BIS	The family business in the Spanish food and beverage industry (II) April 1994, 43 Pages	Gallo M.A. Estapé M.J.
D/ 268	Alliance networks in European banking. June 1994, 26 Pages	García Pont C.
D/ 269	Las relaciones laborales en Alemania. Junio 1994, 61 Págs.	Gómez S. Pons M ^a
D/ 270	Las relaciones laborales en Francia Junio 1994, 66 Págs.	Gómez S. Pons M ^a
D/ 271	La estructura interna de la empresa en la visión de Coase. Julio 1994, 19 Págs.	Argandoña A.
D/ 272	Teaching business ethics using the case method. July 1994, 17 Pages	Argandoña A.
D/ 273	Weak form market efficiency: A comparison between the Spanish and the U.S. stock markets. July 1994, 39 Pages	Martínez Abascal E. Pregel G.
D/ 274	Investing in Russia. July 1994, 36 Pages	Taylor G.
D/ 275	Aspectos éticos en la consultoría de búsqueda de directivos. Septiembre 1994, 16 Págs.	Melé D. Roig B.

IESE

DOCUMENTOS DE INVESTIGACION – RESEARCH PAPERS

No.	TITULO	AUTOR
D/ 276	Factores determinantes del ahorro. Septiembre 1994, 88 Págs.	Argandoña A.
D/ 277	Spain and the European social charter. September 1994, 33 Pages	Argandoña A.
D/ 278	Technology management in Spain. October 1994, 14 Pages	Riverola J. Muñoz-Seca B.
D/ 279	Códigos de conducta empresarial: ¿Pueden contribuir al desarrollo ético de los empleados? Octubre 1994, 14 Págs.	Melé D.
D/ 280	Las relaciones laborales en Italia Noviembre 1994, 61 Págs.	Gómez S. Pons M.
D/ 281	Training the next generation of owners and managers: A possible key role for directors in family businesses. November 1994, 17 Pages	Tomaselli S.
D/ 282	Los servicios: El binomio privatización- desregulación. El caso de la educación. Diciembre 1994, 15 Págs.	Argandoña A.
D/ 283	Las relaciones laborales en el Reino Unido. Diciembre 1994, 75 Págs.	Gómez S. Pons M ^a
D/ 284	Isomorphic pressures on identity: The case of learning partnerships with business schools. December 1994, 21 Pages	Enrione A. Knief C. Mazza C.
D/ 285	Control and incentives in organizational design. January 1995, 22 Pages	Ricart J.E. Rosanas J.M.