

Vertical Integration in the Luxury Sector: Objectives, Methods, Effects

Franck Delpal

The luxury market has grown impressively over the past three decades. The figures supplied by Bain & Company testify to this fact: sales of luxury products went from 72 billion Euros in 1994 to 168 billion Euros in 2010, which makes an annual growth rate average of 5%. Fashion items (ready-to-wear, shoes, leather goods) still retain a considerable market share as they represent half of this figure. In addition to its economic weight, the luxury fashion sector merits analysis due to the evolution in its structure (number, size and organisation of companies) over the past few years. Companies whose main profession is fashion have experienced much more structural change than other companies that began as jewellery makers, watchmakers or perfumers. The big players in the market are thus showing a higher level of internationalisation and diversification, as well as much more vertical integration compared to earlier decades. Vertical integration as a strategic orientation is the subject of this paper. The objective is to outline the causes of the process through a series of case studies –whether it results from changes in the basic market conditions or is a deliberate strategy on the party of the players to change

their economic model– and the consequences it has had on the way the luxury sector functions.

A company is considered to be vertically integrated when it is present at a number of successive stages of the production process. However, a number of studies have outlined the various methods of integration, that go well beyond the simple full ownership of two successive production phases. Harrigan thus defines the different degrees of integration implemented by companies, from complete control to total dis-integration via intermediary levels that concern only a selection of the production process or forms of control that are alternative to ownership (quasi-integration, vertical restrictions...). This analytical table corresponds more to the diversity of the practices observed.

Schematically, in the case of luxury fashion, we can outline four distinct phases in the making of a product:

- Design;
- The production of intermediary goods (fabrics, leathers...);
- Manufacturing the finished product;
- Distribution, wholesale then retail.

We are aware that this level of simplification forces us to set aside numerous essential divisions in a company (quality control, advertising...) in order to solely concentrate on the activities that are visibly necessary to actually make the product. While design remains the backbone of all luxury companies, we will highlight the fact that most of them are heavily involved in the production phases, whether this is directly or indirectly, and in distribution. In addition, some of the bigger names have already taken over the supply of raw materials for the most part in leather tanning.

I am basing my findings on a monographic analysis of French and Italian luxury companies that was carried out for my PhD for the université Paris-Dauphine as well as a series of studies carried out by the Institut

Français de la Mode. This approach was chosen as the luxury sector is not like any other sector as it encompasses a part of other sectors (clothing, accessories...) and doesn't really exist as an aggregate. The terms that define the content of the statistical data that is used to scientifically validate economic theory do not take it into account, which makes any in-depth statistical analysis of the luxury business very complex. This limitation is compounded by the availability or lack of data in a sector where there is a very high level of secrecy. The main sources of these monographs are the available literature about the companies (books, annual reports, case studies, press) in addition to a number of semi-directive interviews with some companies who accepted to answer my questions.

Originality in the luxury industry

A number of writers have covered the growing disintegration of companies over the past few years linking this to a certain number of changes on an individual and global level. Taking computers as an example, Quelin thus highlighted five factors that have pushed companies to outsource a part of their activities.

– Focus on strategic activities. Only functions that contribute significantly to the competitive edge of the company remain in-house.

– Economies of scale and cost. Quelin notes that “in some cases, economies of scale are easier to reach by the sub-contractor than the user”. A sub-contractor that bulks up orders from a number of principals is thus in a position to produce more effectively than if each principal owned their own production outfits.

– Reorganisation policies. Companies have overall tended to refocus on their fundamental profession and to get out of activities that are not directly related.

– Technological change. Faced with rapid technological advances, companies may choose to outsource in order to avoid investing heavily in technology that may not last. I should add that on a more managerial level, new technologies and information systems have enabled the implementation of more complete and more reactive checking procedures which reduce the risk of suppliers and sub-contractors not respecting their commitments.

– Market globalisation. This has led to a redistribution of the cards between companies, as they now have to face competition from other countries. Opening borders and more and more out-sourcing abroad often go hand in hand as shown by McLaren.

These decisions rely on strategies devised in a macroeconomic environment in full upheaval. In the fashion sector, not including luxury, the growing opening of economies has considerably upset the value chain. Now, most companies only retain the activities that are essential to the creation of added value and the perception of that added value by the client (design, distribution) and outsource manufacturing stages to sub-contractors located in countries where the cost of labour is lower (North Africa, Asia...).

The fact is that the luxury sector has gone the opposite way. Luxury companies have in fact gone for more integration in the production phase.

My thesis was based on the study of twenty case studies of companies. Here we present ten of those which seem to best represent this mutation. These companies all have different countries of origin, ages, specialisations and sizes.

Table 1 – Luxury companies that control the value chain upstream: how and why

| COMPANY | GROUP | RAW MATERIALS SOURCING POLICY | MANUFACTURING CONTROL | EXPLANATIONS PROVIDED BY THE COMPANY |
|------------------------|----------------------|--|---|---|
| LOUIS VUITTON | LVMH | Bought outside the group for the most part. The company has just recently bought the Tanneries de la Comète, in Belgium. Fabric manufacturing is outsourced. | 12 production sites in France for bags and small leather items. 3 workshops in Spain, 2 in the U.S. all for leather products. 4 shoe workshops in Italy. Clothing manufacturing is outsourced. | The need to fulfil a growing demand and to maintain quality. |
| CHRISTIAN DIOR COUTURE | Christian Dior | Outsourced. The company commits many months in advance to future purchases in order to reserve the best quality leather. | 5 production sites in leather goods and shoes all in Italy run by local partners. The company bought out its licensee for children's clothing (les Ateliers Modèles). Manufacturing takes place in France and Thailand. The haute couture workshop is still in existence. In ready-to-wear, the company develops products but outsources manufacturing. | Baby Dior is seen by the company to be a high-potential activity in terms of image and turnover. |
| HERMÈS | Hermès International | The company possesses 6 production sites for textiles and 4 tanneries. It also has a minority shareholding in the manufacturers Perrin, who specialise in silk | The company also controls 11 leather goods production sites. Ready-to-wear is outsourced to subcontractors though the company ensures the design, development, pattern cutting, sourcing materials and quality control... | The guarantee of the best possible quality, the need to train craftspeople for years so that they can work for the company. |
| YVES SAINT LAURENT | PPR (Gucci Group) | Outsourced. | The Gucci Group bought out Mendès in 2000. Mendès was licensed to produce YSLs ready-to-wear line and owned 25 YSL boutiques. | To control all of the development and distribution process. |
| ARMANI | Armani | Outsourced. | The company owns production outfits for ready-to-wear, shoes, bags, knitwear, denim and children's clothes. | To control quality and skills. |
| GUCCI | PPR (Gucci Group) | Outsourced. Gucci has about 200 main suppliers for materials for bags, 267 for elements for shoe manufacturing. | The company has three workshops (Casellina for leather goods, Baccio for shoes Novara for women's ready-to-wear) but the employees focus on product development and quality control. Production is carried out by a number of subcontractors: 500 in leather goods, 26 shoe factories, 4 of which are controlled by Gucci. | Direct control of quality, costs, timing, deliveries and stocks. |
| BOTTEGA VENETA | PPR (Gucci Group) | Outsourced. | The company owns production sites for accessories (leather goods), and partially for shoes and ready-to-wear. The latter is manufactured in part in factories that belong to the Gucci group. | Quality, unique skills, protection of craftsmanship. |

| COMPANY | GROUP | RAW MATERIALS SOURCING POLICY | MANUFACTURING CONTROL | EXPLANATIONS PROVIDED BY THE COMPANY |
|---------------------|-------------------|-------------------------------|--|---|
| TOD'S | Della Valle Group | Outsourced. | The company produces most of its products (shoes and bags) in its own factories. Casual garments, jewelry, and glasses are outsourced. | To control quality, efficiency and brand prestige. |
| SALVATORE FERRAGAMO | Ferragamo | Outsourced to 450 suppliers. | For shoes, bags and clothes, the company relies on a network of small workshops, all located in Italy. The company focuses on product development and checking the finished product. | Flexibility, efficiency. |
| PRADA | Prada | Outsourced. | 9 company production divisions produce knitwear, ready-to-wear, belts, shoes, leather clothing and bags. Certain production outfits are shared with Miu Miu, another brand belonging to the Prada Group. The company makes most of its own prototypes, most samples and a part of the finished products. | Control production skills, production costs, flexibility and quality. |

Sources: Annual reports, press, interviews.

If we start with upstream control (manufacturing models or in certain cases semi-finished products such as textiles and leather), it would appear that a number of luxury companies have a base, however limited, in the production sphere. We should however point out that this concerns mainly leather-related activities (luggage and shoes), and that clothing manufacturing is outsourced for the most part.

Retaking control upstream in the value chain happens in two ways: the complete vertical integration of certain activities and putting a stop to manufacturing licences for others, going back to a focus on subcontracting. In the latter, companies have taken back control of product development, production, and quality control.

We should point out that these integration measures are recent, most having taken place in the nineties. Louis Vuitton realised that its original Asnières workshop was no longer big enough to satisfy the demand for product so they opened a second workshop in 1977 and are still opening new production units to this day. Hermès has invested

hugely in its luggage and leather goods production site in Pantin that employs quite a number of skilled craftsmen and they have also bought certain French manufacturers such as the Manufacture de Haute Maroquinerie and the Gordon-Choisy tannery. Christian Dior put an end to a number of licences in the second half of the nineties and is currently taking back control of all leather goods. In the same way, Gucci and Yves Saint Laurent followed this strategy of taking back control of production and put an end to a number of licences.

The arguments put forward by the companies to justify the integration of certain activities do throw up some questions however. The need for high-quality and consistent product or the existence of a specific skill that can not be found outside the company are pre-requirements in the luxury industry but cases of integration involve in most instances just a part of the production and a few segments of products (for the most part leather goods and accessories). Are the products made by sub-contractors of inferior quality compared to those made by the company itself? The answer is probably no. In addition, if

the integration went hand in hand with skills, what can we say about Christian Dior which produces its own bags but contracts out its ready-to-wear? By this reasoning, one could be led to believe that the star of Parisian fashion does not have the specific skills to produce clothes outside its haute couture activities, which is obviously not the case. So in this paper, using economic literature and publications, we will explore the reasons that push luxury companies to integrate one activity over another and to what extent. We will see that economic issues are never far away when these choices are made, as well as the environment in which these firms evolve, marked by a weakening of production sources in Western Europe.

tiques, department stores...).

These forms of direct control are supplemented by strategies that are aimed at ensuring the correct manufacturing or distribution by third party companies with whom the luxury companies collaborate (retailers, sub-contractors...). This is referred to as “quasi-vertical integration”, where the market conditions made the direct control of production or distribution unnecessary as Blois depicted taking the example of luxury car manufacturing.

Companies claim the reasons for this growing shift to the end of the value chain are most often the need to have a coherent image and offer on a worldwide level with disappearing trade restrictions, the guaran-

Table 2 – The growing shift of luxury companies toward the end of the value chain (Forward integration)

| COMPANY | GROUP | NUMBER OF IN-HOUSE STORES (2003) | NUMBER OF IN-HOUSE STORES(2010) | PERCENTAGE OF RETAIL IN TURNOVER (2010) |
|------------------------|----------------------|----------------------------------|---------------------------------|---|
| LOUIS VUITTON | LVMH | 317 | 459 | > 95 |
| CHRISTIAN DIOR COUTURE | Christian Dior | 159 | 237 | 81 |
| HERMÈS | Hermès International | 125 | 193 | 84 |
| YVES SAINT LAURENT | PPR (Gucci Group) | 58 | 78 | 55 |
| ARMANI | Armani | 119 | 130 | 68 |
| GUCCI | PPR (Gucci Group) | 198 | 317 | 73 |
| BOTTEGA VENETA | PPR | 59 | 148 | 85 |
| TOD'S | Della Valle Group | 95 | 159 | 49 |
| SALVATORE FERRAGAMO | Ferragamo | n.a. | 312 | 70 |
| PRADA | Prada | n.a. | 319 | 70 (group) |

Sources: Annual reports, interviews

n.a.: not available

The situation is even clearer in the development of distribution/retail. All of the luxury companies studied have shifted towards a high level of integration in distribution over recent years. The share of sales in retail now largely exceeds that of external clients (bou-

tee of a better service during and after sales and better customer knowledge. Again, these explanations do not, to me, seem to be telling the whole story as to why companies want to control their own distribution/retail. We will also examine the integration theory in order to analyse the ramifications of the movement.

The theoretical justifications for vertical integration

The economic theory behind vertical integration can be outlined in three main arguments that make integration attractive to business: growth in market power (1), economies of scale and increased efficiency (2), reduced uncertainty (3).

As Harrigan notes, the benefits of vertical integration are often studied on a microeconomic level, based on the behaviour of one single firm, frequently in a monopolistic situation. However, vertical integration also intervenes in competitive situations as a means to stand out. It then takes on a strategic dimension in as much as it guarantees the companies in question a competitive edge under certain conditions. This is for example the case for companies that practice double mark-ups. The most written about theoretical case is that of two successive monopolies, with a unique manufacturer that sells to one client only. Both add a mark-up maximising their monopolistic profit margin and limiting the quantities sold. The existence of only one company, present in two stages of manufacturing and retail should improve the well-being of the economy by enabling a larger number of individuals to consume the products at a lower cost and enabling the company to have a bigger profit margin. Firms may also be tempted to integrate towards the end of the value chain in order to make sure the right type of effort is being made to highlight their products. Visibility, customer advice, the qualitative environment and after-sales service reflect positively on the manufacturer's products, which explains why they might wish to take the place of external retailers that are less sensitive to this objective. A number of researchers have proven a statistical link between the effort a manufacturer puts into promoting the products and the tendency towards forward integration.

Backward integration enabling the substitution of inputs from a firm with a monopoly is also justifiable in order to reduce dependence on this supplier. Vertical integration is, in addition, a means to close access to the market and prevent other companies from producing their products by buying out a supplier. Salop and Sheffman analysed the case of a dominant company that managed to increase costs for the competition through integration. This can be compounded by adding all types of entrance barriers put into place by established firms to prevent or slow down the arrival of new competitors. Forward integration has an important role here as we will see in the case of the luxury industry.

In terms of the search for savings and efficiency, a number of themes have been examined. Bain, who was one of the first writers to show the importance of the vertical integration process to the economy, notably put the emphasis on the conditions of the emergence of integrated companies for technological reasons. He thus mentioned the case of companies led to carry out two production phases conjointly due to the interdependence of two technologies. The most frequent example used is that of steel production where then heat given off by the tasks upstream means the steel doesn't need to be reheated for rolling. This particular benefit of vertical integration gets the least amount of coverage in the literature.

On the other hand, the exploration of the multiple savings that result from integration and the higher level of efficiency it can lead to take the lion's share of research on the subject. The sine qua non of sources for this type of research is the theory of transaction costs as defined by Williamson using Coase's celebrated work. This theory compares the cost of an action carried out inside the firm with the cost of a transaction with an external company hired to do the same job. The transaction costs cover the traditio-

nal costs (land, work, capital, materials...) to which are added the extra cost of managing the relationship between the companies over time (sharing information, legal costs, organisational costs, the cost of inefficient behaviour...)

A number of factors influence transaction costs that businesses need to pay: uncertainty about partner's possible behaviour, the complexity of the action to be taken, the size of the specific investment needed and non refundable costs, the frequency of transactions...

A number of theoretical and empirical studies have tested all of these issues

– The results of these tests, based on different methods and samples, come up with the same answers overall.

So, the level of integration downstream will be equal to the extent the company tries to highlight its products; and symmetrically the level will be lower when the retailer shows it is making a big effort. In most empirical tests, vertical integration is correlated positively with the development of specific skills by the service provider (human capital specificity) or by any demand for specificity on the part of the client.

– According to Williams' theory, the objective of this integration is to reduce the chances of a « hold-up » by suppliers that have become indispensable. This theory was criticised by Coase and Simon.

– The complexity of the production process is also one of the recognised reasons behind vertical integration. As for uncertainty, it has a knock-on effect on integration but only upstream.

Without going as far as total integration which can be costly and inflexible, vertical restrictions implemented by companies also enable them to establish advantageous relationships with their sub-contractors. With greater bargaining power, they can impose their views on a great number of points

(keeping of stock by the sub-contractor, delivery deadlines, and access to the production site, product specifications, the sub-contractor's marketing policy...).

Why are luxury companies moving more and more towards vertical integration?

Integration practices in the luxury fashion sector as is evident from the monographs and interviews carried out here, tend to validate certain economic theories:

– *Production efficiency and retaining manufacturing profit margins.* The savings achieved thanks to integration (the search for efficiency, retaining manufacturing profit margins) are very present in the theories. However, this argument is valid only for activities where the manufacturers make a profit on their sales which is only the case in leather goods in France. Indeed, as is evident from INSEE documents on garment manufacturers, their operating results have been in the red for many years (their operating profit margin was - 3,3 % in 2007) which explains along with other elements (complexity, seasonality...) why luxury companies do not wish to buy out their sub-contractors. It is important to note that the high level of growth in the accessories market (shoes and bags) compared to ready-to-wear has reassured companies on the low level of risk of their production capacity being underused.

– *Ensuring delivery of inputs.* Still upstream, in line with the economic theory of the guarantee of the offer, the rarity of leather in Europe has led to tanneries being bought out by certain luxury companies in order to ensure their supply. Adelman's work has already told us that in a market in a big growth phase, a firm can be incited to integrate upstream out of fear that the suppliers of intermediary goods are unable to fill their orders.

– *Aversion to risk and integration for survival.* Integration that happens to avoid being run for all intents and purposes by the sub-contracting company is a case that is more specific to luxury and can be seen as a risk aversion tactic. If a client controls the lion's share of a company's turnover or if it is deeply involved in its management through the orders it gives, the supplier can turn against it in case of financial difficulty.

Certain professionals interviewed even admitted that cases where a principal covers over half the turnover of a sub-contractor are not rare, and the percentage is sometimes even higher. The risk is far from negligible in as much as numerous vertical restrictions and quasi-integration scenarios leave very little room to manoeuvre for partners of the luxury companies.

– *Production and integration branches.* Following on from Chandler (1962) and Arrow (1975), Bolton and Whinsto highlight the need to compare the presence of a firm at the production and distribution levels with the nature of the relationship that already exists within the manufacturing and distribution network of the branch under examination. Taking this as a starting point, we examined all of the examples in the luxury industry in detail. Indeed, the clothing, leather goods and shoe sectors each have their own specific characteristics. In France, clothing still has its own network of manufacturers, essentially women's ready-to-wear specialists, on whom the principals can rely and which avoids them having to integrate. They do however possess a high level of market power in as much as, after the huge movements of delocalisation in the eighties and nineties, luxury companies are the only ones left who still manufacture in France. However, the French leather producing sector is weak. The leather goods sector is still in one piece which has enabled companies to integrate, in France for the most part. In Italy also,

locally available skills have enabled companies to constitute their own production outfits. However, the shoe sector has practically disappeared in France; even for luxury products and the biggest brands were obliged to set up their own production outfits in Italy or to work with Italian sub-contractors.

Table 3 – Production networks and integration choices made by French companies

| | CLOTHING | LEATHER GOODS | SHOES |
|---------------------------------|-----------------------------------|---------------|--------------------------|
| DIRECT CONTROL BY BRANDS | Very rare | Frequent | Frequent |
| STATE OF FRENCH SUB-CONTRACTING | Exists (in women's ready-to-wear) | Weakening | Practically non-existent |

Source: IFM, Distribution of added value.

– *The advantages of integrated distribution/retail.* As for integration in retail (forward integration), the facts comply with the economic theory that says that integration is more common for companies with a strong brand value (Lafontaine and Slade, p.632). It is clear that this groundswell movement followed by all luxury companies fulfils the need to make a huge effort in valorising the products of the company in as much as its economic viability relies on cumulating profit margins. Richardson also highlighted the role of a retail network and its capacity to react to market changes quickly. The fact is that luxury companies are increasingly being run from the end of the value chain and that feedback from stores constitutes information of the highest significance to ensure the success of the company. The domination of retail has also resulted in a demand for a more flexible organisation. In fact, unlike the wholesale schema where only the items that are sold are produced, the company that sells

through retail must stick to market changes to avoid being left with costly left-over stock.

– *Quasi-integration*. Finally, in terms of vertical restrictions, those that exist in the luxury universe are numerous. In addition we should add that even when luxury companies fit the model of sales to outside distributors (department stores, multi-brand boutiques); they manage to sell on their own terms when their market power is strong enough. A desirable brand can thus impose a certain number of conditions on retailers in order to ensure the correct selling conditions for its products. What Hata has to say about the development of Louis Vuitton in Japan is edifying on the subject. Conditions of various natures are often mentioned by companies: the definition of the minimum quantities purchasable, the predefinition of the purchasable range so the identity of the collection is respected regardless of the store...

The consequences of vertical integration in the luxury market

This stricter vertical integration by some players is, as we have seen, partly the result of strategic considerations: guaranteeing supplies and possibly hampering the competition, preventing or slowing down the arrival of new competitors.

In the case of luxury companies, the barriers at the entrance are already quite high: a company must have a recognised brand, an established reputation for quality products... However, this point is not always the most difficult to handle. Recent relaunches (Balenciaga, Vionnet...) show that it is possible to rely on the legacy of a defunct brand to become competitive. These pre-requirements are compounded by the huge economic constraints that jeopardize the room to manoeuvre a newcomer has up against the establishment.

The latter has, as we have seen, taken over the production end, either through direct control or through the favourable market conditions that result from their huge bargaining power (earmarking the best leather, dictating the most advantageous delivery deadlines...).

As for distribution/retail, the shift to the end of the value chain by established firms and their high level of internationalisation makes the “entry ticket” to the market all the more difficult to obtain. If luxury companies are for the most part renting the retail spaces they occupy, their longevity means that their rental arrangements are much more favourable than thus available to newcomers. In addition, the fact that some belong to big multi-brand groups gives them more leverage in negotiation as they have the power of all of the group’s brands behind them.

So the vertical integration process plays the role of what is known as strategic engagement in game theory.

The established firm makes it known to potential newcomers that it is massively and irreversibly committed to the market. The newcomers thus understand that the entry fee is too high for them and they decide not to get into competition.

This increase in the number of barriers at the entrance point explains the ever increasing concentration of the structures of the luxury industry and the reasons for which despite the high growth levels, few new companies have emerged over the past twenty years.

Franck Delpal
IFM, University of Paris-Dauphine

References:

Adelman M.A (1955) Concept and Statistical Measurement of Vertical Integration, in Stigler GJ (ed) *Business Concentration and Price Policy*, Princeton University Press.

- Antomarchi Ph (1998) *Les Barrières à l'entrée en économie industrielle*, L'Harmattan, Paris.
- Arrow K.J (1975) Vertical Integration and Communication, *Rand Journal of Economics*.
- Bain J.S (1956) *Barriers to New Competition*, Harvard University Press.
- Blois K.J (1972) Vertical Quasi-Integration, *Journal of Industrial Economics*.
- Bolton P, Whinston M.D (1993) Incomplete Contracts, Vertical Integration and Supply Assurance, *The Review of Economic Studies*, vol. 60 n°1.
- Chandler A.D (1962) *Strategy and Structure: Chapters in the History of the American Industrial Enterprise*, Cambridge, MIT Press.
- Coase R.H (1937) *The Nature of the Firm*, *Economica*.
- Dixit A (1982) Recent Developments in Oligopoly Theory, *American Economic Review*, vol. 72, n° 2.
- Gabriel H (2001) La Théorie williamsonienne de l'intégration verticale n'est pas vérifiée empiriquement, *Revue économique*, vol. 52, n°5.
- Harrigan K.R (1984) Formulating Vertical integration strategies, *The Academy of Management Review*, vol. 9, n° 4.
- Hata K (2004) *Louis Vuitton Japon*, Assouline.
- Joskow P.L (1985) Vertical Integration and Long-Term Contracts: The Case of the Coal-Burning Electric Generating Plants, *Journal of Law, Economics and Organization*.
- Lafontaine F, Shaw K.L (2005) Targeting Managerial Control: Evidence from Franchising, *Rand Journal of Economics*.
- Lafontaine F, Slade M (2007) Vertical Integration and Firm Boundaries: The Evidence, *Journal of Economic Literature*, vol. 45, n° 3.
- Mahoney J.T (1992) The Choice of Organizational Form: Vertical Financial Ownership Versus Other Methods of Vertical Integration, *Strategic Management Journal*, vol. 13, n° 8.
- McLaren J (2000) "Globalization" and Vertical Structure, *American Economic Review*, vol. 90, n° 5.
- Quelin B (1997) Outsourcing : une approche par la théorie des coûts de transaction, *Réseaux*, n° 84.
- Richardson J (1996) Vertical Integration and Rapid Response in Fashion Apparel, *Organization science*, vol. 7, n° 4.
- Salop S.C, Scheffman D.T (1983) Raising Rivals' Costs, *American Economic Review*, vol. 73, n° 2.
- Williamson O.E (1985) *The Economic Institutions of Capitalism*, The Free Press.