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Governance and competitiveness in global value chains: A comparative study in the automobile and textile industries[1]

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Abstract: In this paper the configuration of the value chains in the automobile and the textile industries building on a theoretical review of the value chain concept, its different typologies and governance models are analised. At the empirical level these chains are classified according to the most relevant participating actors, their interrelations and their methods of upgrading their competitiveness. In both chains a firm-level analysis of their quantitative indicators for competitiveness was carried out.

Regarding the automobile industry assemblers generate significant agglomeration economies by attracting international suppliers. The modular production system of the sector generates great flexibility for the manufacturer but it also represents important opportunities for supplier companies aiming to improve their competitive position in these chains. As for the textile industry, our paper shows the clear leadership of the large distribution chains which have radically changed the sector transforming it into an industry driven by the buyers or distributors. Results indicate that the distribution companies are those that have the potential to generate greater added value when these companies have created integrated structures at the end of the chain.

Keywords: global value chain, competitive upgrading, governance model, added value, textile industry, automobile industry.

JEL codes: M10, F23.

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Introduction

In the last decades the world economy has tended to be structured around global value chains, they being responsible for a very high percentage of global trade, production and employment. The opening of emerging economies and the advantages of specialization along with technological development and the consequent lowering of logistic and organizational costs have allowed the fragmentation of production. As a result different parts of the products or services can be produced in multiple countries and finally exported by one of them. Converting raw materials into parts and components, assembling final products and delivering them to the final consumer involves global value chains that span an increasing number of countries around the world.

Global value chains (GVC) have reconfigured world trade with regards to participants and comparative advantages. For many decades, international trade consisted mainly of the exchange of fully assembled goods and manufactured goods and the export and import patterns of the countries at that time largely reflected their sectorial comparative advantages and disadvantages. Nowadays, there is greater vertical specialization through which some countries focus on particular stages of production. Accordingly, international trade tends to be multidirectional in intermediate goods and services produced, assembled and sold in different countries. Therefore, the rise of value chains has reshaped the world economy fuelling advances in living standards in emerging markets, while widening income inequality in advanced economies (Dollar, 2019).

However, value chains seem to be rather heterogeneous across sectors. To a great extent, the characteristics of products shape the profile of the different value chains and the competitive options available to their actors. Each industry produces goods or services where close location to consumers may or not be a must, involving the use of diverse production technologies and investments, as well as different learning and innovation patterns. All these circumstances condition the resources and relevant capacities in the processes of input transformation, the configuration of its value chain, governance model and firms' competitiveness.

In this sense, the objective of this article is to analyse the configuration of two different value chains: the value chain of the automobile and the textile industries. Both industries have been central to the economic development of many countries, although their value chains respond to different patterns with regards to innovation processes, organizational learning and the possibilities of competitive progress (Pavitt, 1984). Specifically for Spain, the automobile sector occupies the second place in vehicle production in Europe, the eighth in the world and the first in the manufacture of industrial vehicles. In 2016, with a turnover of 80.000 million euros, it was the first export sector (around 85% of production to more than 130 countries) (ANFAC, 2017). In the texti-

le industry, Spain is one of the main players in the sector globally, occupying its exports the fifth place in Europe. The turnover of the textile and clothing sector has grown in recent years to reach a volume of direct exports of nearly 16.400 million euros (CITYC, 2017).

However, while this paper's empirical base is focused on Spain, it is suggested that both the theoretical arguments and the proposed conclusions can be extrapolated to most European countries.

The study is structured as follows. First, the literature on value chains is reviewed defining the concept, governance models and its typology. At the empirical level, the specialization profiles of the different actors in each chain and the relationships between them, the main governance models as well as their paths of competitive upgrading are described. A firm-level analysis of their quantitative indicators was undertaken, concluding with a brief comparison of both chains and proposing different paths of upgrading for their main actors.

1. Theory development

1.1. Concept, governance and typology of value chains

Concept

The value chain describes the set of activities that a company performs to produce a good or provide a service from its conception (design), production and sale (marketing and distribution system) to its final use (after-sales services) (Porter, 1991). Each of these activities should contribute to the creation of value in the company and therefore become a potential source of competitive advantages. In the past, much of the value chain activities were carried out within the limits of a single company. However, with the advances in information and communication technologies, the lowering of logistics costs and the liberalization of international trade, value chains can be more easily fragmented into different sub-activities, and part of them can be carried out in different companies, in the same country or even in different countries (Mudambi & Puck, 2016). This reconfiguration of the value chain in terms of ownership and geography (Asmussen, Pedersen, & Petersen, 2007) generates an extended view of the value chain concept: global value chains.

Global value chains constitute an organizational system that involves a constellation of interconnected companies through a worldwide network of organizational agreements (Giroud & Mirza, 2015; Mudambi & Puck, 2016). In this sense, Gereffi and Fernández-Stark (2016) define global value chains as the set of activities that companies develop to obtain a product from its conception to its use and subsequent application, carried out on a global scale by one or more companies. Buckley and Ghauri (2004) denominate the global factory as the globally dispersed network formed by companies that, with different objectives,

jointly develop activities traditionally carried out by a single entity such a network has no legal identity, but is orchestrated or frequently led by a company with a multinational presence controlling key assets, intermediate products and knowledge flows. From this perspective the focus shifts from the value chain of a company to the linkages and relationships that occur between the companies making up a global industry (Buckley, 2009). Ownership of all units in the chain is not a necessary condition for effective coordination and control; instead the tasks are supported much more in the new technologies and markets than in an explicit hierarchical structure (De Marchi, Di Maria & Ponte, 2014).

According to this logic, the firms leading the productive processes are oriented towards the phases that generate more value and for this purpose they must give answers to questions related to several key decisions on specialization, ownership of the linkages in the chain and the location of activities: What are the activities likely to be outsourced and which are those which should remain within the firm boundaries? Who will perform the outsourced activities and how will the leading company be present in them? Where will the activities of each linkage be located?

Governance and typology

An important aspect of the study of GVCs is the analysis of governance mechanisms, i.e., how the activities of the value chain are structured and coordinated among the multiple actors located across different countries (Kano, 2018).

The governance of a value chain is defined as the relationships of power and authority that determine how financial, human and material resources are distributed among the actors and activities and how they flow along the chain (Gereffi & Korzeniewicz, 1994). These actors or stakeholders are usually companies, industrial associations, workers, educational institutions or government agencies. Specifically the analysis of value chain governance allows us to understand the processes through which certain actors—the coordinating companies or leaders—can exercise control over other participants and how they can appropriate or distribute the value created in the chain (Bair, 2009). In short, it explains how the chain is coordinated and controlled when certain actors are more powerful and thus can impose conditions on the transactions to distribute the value asymmetrically. Therefore it is necessary to identify the relevant actors in the chain, their location, how they interact with their supplier base and what is the source of their power.

A first classification of the GVC governance typology is related to the different nature of these leading companies (Gereffi, 1994).

Producer-driven value chains

Producer-driven chains are usually set up in the manufacture of durable or capital-intensive goods (e.g. in the automobile or aerospace sector). Due to the needs of economies of scale and high investments in technology in these chains

there are important entry barriers for production activities. Manufacturers are consequently the main actors and govern the value chain according to their key competencies in design, production and technology (Henderson, Dicken, Hess, Coe, & Yeung, 2002). They are usually multinationals that transfer part of their capabilities to other actors through offshoring strategies (own investment or outsourcing abroad). Corporate power is executed vertically from the manufacturer parent company and flows top down through the subsidiaries or subcontractors. On the contrary, the value generated in the different dispersed locations tends to flow bottom up from the subsidiaries or subcontractors to the parent company, so that most of the value added remains in the producer's hand.

Buyer-driven value chains

These chains are led by large distributors and leading brands (e.g., as in the textile or agri-food industry). In this case there are few barriers to entry into production so that buyers who have access to the market dominate manufacturers. The key agents focus on the top performance activities with high barriers to entry such as design and marketing and mostly outsource production to a wide range of suppliers that are generally located in less developed countries. These distribution companies are "manufacturers without factories": while they are responsible for product specification and marketing, production is often dispersed to independent companies with their own networks of suppliers and subcontractors. In these chains corporate power originates from the retailer or brand owner but might be more dispersed by virtue of the power of the different companies incorporated into the chain. As a result, power tends to be implemented horizontally and most of the value is added in the marketing and commercialization stages rather than in the production stages (Henderson et al., 2002).

Value chains can also be classified according to the relationships between the different actors that form it (Gereffi, Humphery & Sturgeon, 2005). From the classic relationships of hierarchy vs. market (Williamson, 1985), three new configurations are incorporated:

- Modular chains in which customers establish specifications and suppliers use a generic technology that is available to all members, which limits investments in specific assets, resulting in low exchange costs.
- Relational chains entailing a strong interaction and shared knowledge between the actors and where relationships are created from trust, proximity and mutual dependence, pursuing lasting relationships between partners.
- Captive chains in which small suppliers dependent on buyers with a high degree of concentration (one or few that perform strong control) are found and, therefore, there is great power asymmetry. In some cases these suppliers might become key actors to optimize the supply chain of the dominant company, and yet they cannot have a direct influence on price negotiation.

1.2. Competitive upgrading in GVC

The concept of competitive upgrading is defined as the dynamic movement of an actor in the value chain towards stages or positions that incorporate activities of greater value and potential performance. The works on "upgrading" the competitive position in the value chain (Humphrey & Schmitz, 2002; Gereffi & Memedovic, 2003; De Marchi, Giuliani, & Rabellotti, 2018) suggest that any GVC participant could be capable of maximizing its performance despite not being in a dominant position. Humphrey & Schmitz (2002) proposed various ways in which the competitive position in a global value chain could be upgraded:

- Process upgrading: achieve greater efficiency in the transformation of inputs into outputs through the reorganization of production activities, for instance, through the introduction of superior technology.
- Product upgrading: occurring when more sophisticated products are introduced, in that its value in unit terms is greater and generally requires skilled workers.
- Functional upgrading: when a company acquires superior functions in the chain (for example, design or commercialization) or abandons low-value added functions, increasing the content in qualified activities.
- Upgrading between sectors/chains: it involves applying the skills acquired in a function of the chain to be used in a different sector or chain.

In short, the competitive upgrading within a global value chain implies an ascending process in the generation of value, moving away from activities in which competitiveness is essentially based on reductions in production costs and where there are low entry barriers (Pietrobelli & Rabellotti, 2005). In general upgrading will vary according to the different power and leadership relationships within the productive chain. In this sense, Giuliani, Pietrobelli and Rabellotti (2005) show how the processes of functional upgrading are those that have the most lasting effects on competitiveness since they entail the acquisition of more solid and sustainable competitive advantages. Such a functional improvement process is usually defined as a sequence of different stages within the value chain.

2. Empirical Analysis: the automobile and textile value chain

2.1. Methodology

The study of the two value chains includes both a descriptive and a quantitative analysis:

a. In the descriptive part information based on the websites of companies and sector associations, news published in the press, economic reports and the authors' own experience is used.

b. In the quantitative analysis the ORBIS database (Bureau van Dijk) is used. The companies located in Spain in each of the two sectors were analysed according to their industry code (NACE), restricted to firms with more than 10 employees to exclude microenterprises and minimize missing data. The classification of the main actors of each sector has been carried out according to a previous study of the profile of each company based on variables such as its products, customers, suppliers, geographical coverage, innovation and quality systems, etc., accessed on their websites and regional associations of the sector. According to the data available in ORBIS the variables Value Added, Turnover (Sales), Total Assets, Employees and Employee Cost (Remuneration) for each of the different actors in each value chain were calculated as the average of the years 2014, 2015 and 2016 in each company to control for fluctuations.

2.2. The value chain of the automobile industry

2.2.1. Descriptive analysis

The value chain of the automobile sector is characterized by the existence of companies with a high capital intensity in which the technology of processes and products is developed incrementally through modular production systems. This chain is led by manufacturers that possess technological and design capabilities and the technology is codified. It is therefore common to find high entry barriers and it is critical to ensure access to internal and external sources of knowledge, such as the R&D centres of the multinational companies themselves or the research centres located in developed countries.

Another distinctive trait of the automobile value chain is its international dimension; on the one hand, it is due to the fact that the emergence of automotive industries in many countries has gone hand in hand with foreign investments by multinationals in the sector, which has improved local technology and boosted the economies of agglomeration by attracting national and international suppliers around their manufacturing plants. On the other hand, the companies in the different locations generally supply adjacent but also international markets, using a varied range of modalities based on their capability to compete in global production chains.

Structure and actors in the automobile sector

The main actors in the value chain are vehicle manufacturers and component manufacturers, classified according to their degree of geographical coverage and the degree of product complexity. Figure 1 illustrates the value chain of the sector, in which three major phases can be identified: local suppliers, integrators and coordinators.

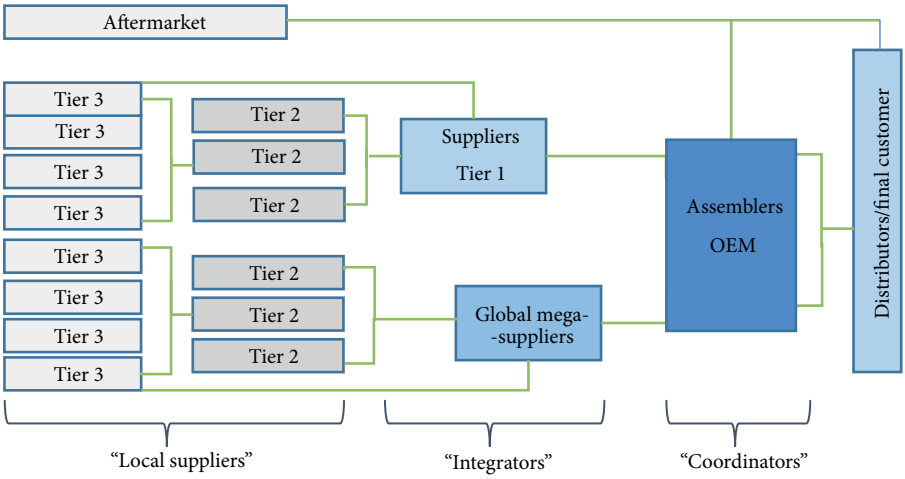

Figure 1. Value chain of the automobile sector
Source: Own elaboration.

Assemblers (coordinators)

The assemblers of new vehicles are commonly known as OEM (original equipment manufacturer) and, in general, carry out the activities of design, engine manufacturing, manufacturing and assembly of large sheet metal parts and some sub-assemblies, body paint and the assembly of equipment and components (ANFAC, 2017). These tasks are complementary to those performed by suppliers of many other components where manufacturers coordinate all the procedures. Currently manufacturing has lost part of the centrality it occupied in the tasks of these coordinators in the past since many manufacturers prioritize the design and sale of their products over classic manufacturing activity; instead it is outsourced to suppliers of other levels, i.e. the integrators or assemblers. To occupy such a position it is necessary to attain important economies of scale in order to dilute the cost linked to the design and marketing of the vehicle. Adequate management of the investments in intangibles (design, brand) and efficient outsourcing of manufacture are key capabilities for these actors.

For instance, in Spain nine OEMs have been operating for many years: Ford, GM, IVECO, Volkswagen, Nissan, Renault, PSA, Mercedes Benz and Seat with seventeen production plants that manufacture more than 40 different models of vehicles, of which 20 are produced exclusively worldwide (ANFAC, 2017). Thus the position of many countries in this linkage of the automobile value chain is conditioned by the global strategy of multinational parent companies as well as by the ability of each plant to develop its own successful competitive strategy. For the latter it is fundamental to ensure the efficiency of the factories, continuous process innovation and the control of costs in the factories, often based on very cooperative labour policies with the unions.

Global mega-suppliers and Tier 1

The companies in Tier 1 are in direct contact with the OEMs by supplying them with systems, subsystems and components that are usually completely finished (modular systems). Supplying companies at this level have sufficient capacity to reduce their dependence on a single client and work for numerous manufacturers. However they often have a closer relationship with some of these clients (relational character) while maintaining a more contractual approach with the rest. These suppliers need an innovative profile to be able to design wide-ranging solutions together with their customers, using their own technological capabilities and designs. Mega-suppliers, also called 0.5-tier suppliers, are closer to manufacturers than Tier 1 suppliers and have greater geographical scope to follow their customers in the different locations where they invest. For example, in Spain 36 companies with these characteristics that are part of the Top 500 Automotive Global Suppliers, 6 of them owned by Spanish capital can be found.

Tier 2 suppliers

Tier 2 companies often work with designs previously established by the OEMs, although they generally do not deal directly with these, but instead with mega-suppliers or top-level suppliers. These are manufacturers of systems, subsystems and components with high technology to assemble systems or subsystems, serving directly Tier 1 and in some cases the assembler. Tier 2 suppliers are usually experts in their field and have the capabilities in process engineering and quality systems necessary to compete in a market with very demanding controls. They are usually local companies that implement the specifications of the manufacturers located in the country, although many of them have also developed internationalization operations sometimes following customers, or have diversified into the aftermarket.

Tier 3 suppliers

These companies provide standardized parts and components of less technological complexity than those manufactured by suppliers in Tier 2, or raw materials such as metal or plastic. Their competitive strategy is price-based to operate in the local environment, essentially due to their engineering capabilities. Their customers are both Tier 1 and Tier 2 or even the aftermarket and thus they are suppliers for a wide range of levels in the value chain. However, because their product is standardized it is less important to produce in direct interaction with their clients but instead through market-based relationships.

Aftermarket

The aftermarket segment of the automobile chain is growing due to its permeability, in that it is possible to start operating in the spare parts market with no special volume requirements, principally in many developed countries even in

the absence of strong suppliers. As in Tier 3 product innovation is not central since the competition via prices is based on the imitation of existent components or designs, although engineering capabilities are required to adapt products to local demands.

Governance and competitive upgrading processes in the automobile value chain

Given the complex technical requirements and the difficulty of outsourcing main competences that are interconnected with other parts of the production process, the value chain of the automotive sector was initially organized through a hierarchical governance structure (vertical integration of the linkages). With the introduction of changes in the architecture of product design and execution, as well as the increasing codification and standardization, the sector gradually adopted modularity as a distinctive element of its value chain.

The modular governance of a global value chain requires that complex transactions can be relatively easy to codify, such that suppliers can adapt their products to customer specifications (Gereffi, et al., 2005). In the modular chains qualified suppliers are endowed with autonomy to make the decisions needed to optimize production, yet working together with manufacturers to achieve strict objectives of cost reduction and quality improvement. This type of relationship confers high power to the assembler who establishes its own specifications in terms of design, strength, quality, safety tests, etc. The different demands of the assemblers led suppliers to adopt a project-based organization according to the specifications of each client. This requires continuous connection from the initial product conception to production, often entailing also temporary labour mobility from supplier to client firm and vice versa.

While the automobile global value chain is led by manufacturers, the governance system may not necessarily apply in all cases as indicated, since it is highly dependent on the power and specificity relationships taking place between actors. In general, as suppliers move away from direct contact with manufacturers or mega-suppliers that occupy the positions with greater hierarchy, relationships tend to be market-based, while the linkages closer to manufacturers are governed by relational or even captive systems.

In the initial part of the value chain the specificity of the subsystems and the magnitude of the investments imply a process of joint planning and co-design with mega-suppliers and Tier 1. In some cases, investment decisions in suppliers' productive plants are even driven even by the manufactures' own policies. Because these companies are selected by the leading company based on their qualification to meet their requirements, this generates incentives for competitive progress, information exchange and dissemination of best practices. In many cases, top-level suppliers are subsidiaries of multinational companies that have their own R&D centres cooperating closely with the manufacturers' design units.

As the rest of the levels are examined suppliers tend to be local companies and their activities incorporate less added value with limited room for competitive upgrade. In general it is common for local suppliers to establish vertical cooperation relationships with first or second level manufacturers. However, horizontal relationships between them tend to be less important, reducing the possibilities of joint actions that allow for common learning and competitive improvement based on cooperation. To a large extent such possibilities are dependent on previous experience within the productive local cluster, if it exists, as well as on their incentives for investment, cooperation or training. In this sense, in some advanced countries the institutional environment greatly favours this cooperation and, in this way, upgrading. In other cases, particularly in less developed countries, competitive upgrading is left to the market and the individual initiatives of each company.

2.2.2. Quantitative analysis: ratios of activity by actor

In this section the description of the actors in the automobile sector with the main activity ratios for each group across this value chain is added to. Table 1 presents the main ratios that allow a comparison of the dimensions of sales, employment and value added. By and large it can be seen that results reflect the governance and the power relationships between the actors: the lower the direct contact with the assemblers, the less relational and more market-type the relationships become (that is, determined by the price mechanism), which results in lower possibilities to add value.

Table 1. Main ratios of the automobile sector by actors (average 2014-2016)

Actors	*n*	Sales automobile sector (%)	Employment automobile sector(%)	Value added (VA) automobile sector(%)	VA/Sales (%)	VA per employee (th. euros)	Average salary (th. euros)
Assemblers	27	71.09	54.34	59.86	14.04	73.22	43.31
Mega-suppliers & Tier 1	171	21.62	28.89	28.59	22.05	65.78	42.31
Suppliers Tier 2 & 3	485	7.30	16.77	11.55	26.40	45.81	33.80
Total sector Spain	683	100.00	100.00	100.00	16.67	66.48	41.42

Notes: All the variables are calculated as the average of years 2014, 2015 y 2016. VA per employee and average salary are shown in thousand euros.

Source: Orbis (data October 2018) and own elaboration.

The Assemblers (27 companies) represent 59.86% of the value added of the sector, the Mega-suppliers (171 companies) 28.59% and suppliers Tier 2 & 3

(485 companies) 11.55%. Purchases for intermediate consumption are very high for all the actors in the chain representing more than three quarters of the production value. It should be noted that a good part of these purchases take place precisely among the actors in the chain underlining the importance of the exchanges within it. In this sense when analysing the value added with respect to sales, and as a result of the huge growth in outsourcing operations in the case of assemblers, their purchases attain 83.96% of their sales and only provide the 14.04% of value added out of their production value. These ratios are higher for Mega-suppliers (22.05%) and Suppliers Tier 2 & 3 (26.40%). As a whole the chain generates 16.67% of value added with respect to its sales.

Another relevant difference between the actors is their productivity, measured as the gross value added per employee, and highly dependent on the capital intensity per employee, their qualification and the efficiency of firms. Considering this limitation Column 6 indicates that assemblers and mega-suppliers reach similar and significantly higher levels of productivity than Suppliers in Tiers 1 & 2. The automobile chain provides more than 66,000 euros per employee as value added. The average salaries (Column 7) confirm these differences in productivity among the actors, the average salary for Mega-suppliers being very similar to that of assemblers and higher than that of Tier 1 & 2. The average salary of the chain is around 41,000 euros.

2.3. The value chain of the textile and apparel industry

2.3.1. Descriptive analysis

The textile and apparel sector is quite heterogeneous in its activities, ranging from the transformation of fibres into fabrics to the sale of clothing in the final markets. For the analysis of this value chain not only manufacturing but also supplying components and customer sales were included. The reason for adopting this perspective—placing a more important role on certain service activities than in the case of the automobile—is that on a global basis the traditional value chain of the textile sector has experienced a drastic evolution, moving from a producer-driven (basically the weaving and apparel companies) to a buyer-driven value chain led by the large distribution, wholesale and retail companies.

A producer-driven textile chain is characterized by a product management led by companies which operate with long production processes, taking advantage of scale economies in manufacturing and assuming high volumes of investment in stocks of intermediate or finished products when necessary. The present buyer-driven textile value chains are dominated by the distribution companies that conduit demands from the market to the company. This chain is characterized by short and custom-made production processes. This is carried out in combination with a reduction in investment in stocks by a more flexible management of production and supported by intangible and techno-

logical assets. Unlike producer-driven chains in which the profits come from the scale, volume and technological advances in manufacturing, in the global textile and apparel sector led by the distributors the profits are generated from design, sales, marketing and financial services. These capabilities are based on knowledge-based resources: qualified and creative human capital, expertise in new technologies and accumulation of intangible assets (brand, advertising, organizational and relational capital).

Structure and actors of the value chain of the textile-apparel sector

Two main actors in the textile and apparel value chain can be identified: the weaving companies, which in many cases internalize a large part of the chain's productive activities and the leading distribution companies. Along with them there are other actors whose number has increased to the extent that technological change and the globalization process have resulted in a greater fragmentation of productive activities in the value chain. For a better understanding of its structure it is distinguished between main and secondary actors. Figure 2 illustrates their interrelations in an order that follows that of the production process: spinning, weaving, ennobling, apparel manufacturing and distribution.

Spinning companies

Textile spinning consists of the transformation of natural and chemical fibres into threads that are the main input of the fabrics manufactured by the chain.

Weaving companies

Textile weaving includes the necessary operations for the production of fabrics, starting from the yarns or continuous threads of the previous phase. The range of products is highly varied since it covers all textile uses (clothing, home and technical textiles).These companies led the value chain at the stage when it

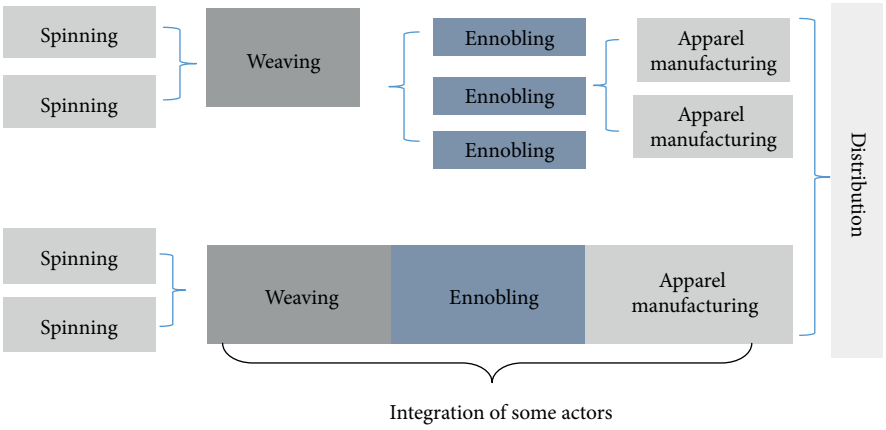

Figure 2. Textile and apparel value chain
Source: Own elaboration.

was producer-driven (Original Equipment Manufacturing) since many of them were vertically integrated internalizing part of the activities carried out by the rest of the actors or coordinating them for the production of the final good. In fact, many weaving companies have internalized sales channels and some have integrated forward with the creation of their own stores or franchise networks.

Ennobling companies
Textile ennobling includes the activities of bleaching, dyeing, stamping, sizing and finishing. The subsector does not have its own final production but rather carries out operations on products used by other subsectors (fibres, yarns, fabrics, garments, etc.) to improve the value of its products in terms of quality, colour, and presentation.

Apparel manufacturing companies
The manufacturing activity consists of assembling various parts of textile surfaces or other materials (leather, plastic, rubber, etc.) to produce articles basically for the clothing and household equipment.

Distribution companies
As indicated the main players in the textile- and apparel value chain are currently the distribution companies since they lead and impose their conditions on the rest of the actors. However, depending on the customer they are targeting and the level of integration of certain functions of the chain a very varied type of distributors can be found and one of the most important choices for a distribution company is whether or not to have its own production. The strategy followed by these companies has been to control the full product cycle from its conception and design to the final commercialization in spite of them not being integrated companies. In any case they can exert direct control over the various phases of the production process to supervise costs, qualities and delivery times. Regardless of the type of distributor, a crucial element in attaining leadership in these chains is the knowledge of the different market segments and the final consumer along with the deployment of advanced logistic capabilities.

These key factors shaping the distributors' leadership in the textile and apparel value chain are directly influenced by technological changes. Resources and capabilities in terms of design, brand and other intangibles as well as in the management of supplies and purchasing power, are based on the use of human capital and information and communication technologies. These capacities have been decisive and triggered a radical change in the power relationships in the value chain of the sector, strengthening the position of distributors vis-à-vis producers. The large size of these actors implies a substantial pull capacity not only to appoint manufacturers to make the products they distribute, but also

because their commercial networks need suppliers to be installed, equipped and modernized on a regular basis.

Governance system and competitive upgrading processes in the value chain of the textile and apparel industry

The organization of the textile and apparel sector is usually organised around industrial clusters, with a high business fragmentation. These characteristics along with the importance of two unique actors—distribution and integrated textile companies—permit the coexistence of different configurations and where firms can participate simultaneously in different types of chains.

Specifically value chains with a global scope dominated by large distribution companies and governed by a *captive system* can be found (Gereffi et al., 2005) imposing their conditions in terms of product design, marketing and brand positioning. Nevertheless, other value chains still operate on a local basis in which integrated manufacturing or apparel companies with their own brand can orchestrate a wide range of suppliers to offer their final product. In this second case *market relation*s dominate those parts of the chain where there is a large number of suppliers and activities are less complex, and *modular relations* dominate when complexity increases but the production companies control the finished products through sales departments oriented to the domestic or export market.

Given this diversity of configurations, opportunities for competitive upgrading in different ways arise in the textile and apparel sector value chain:

In the chains dominated by large distributors product and process improvements take place in the supplier companies. Pushed by the demands of the distributors, local manufacturers of the initial stages of the chain learn from them to provide efficient, quality and agile responses in respect of the product design and configuration. At the same time, since the quality of the products of the distribution companies depends on the capabilities of their local suppliers, leaders are encouraged to help them improve their processes. It occurs especially in the initial stages of integration in a global value chain when the standards are known by the distributor. In such cases captive governance relationships help to boost the learning process and may have other indirect effects that generate efficiency in the sector. For instance, labour mobility opportunities may arise with qualified personnel moving from the buyer to the manufacturer, favouring knowledge exchange between partners. Local companies can also take advantage of information externalities when they collaborate with distributors and can improve their position in terms of reputation, distribution networks, infrastructure, or advertising investment.

In local chains dominated by producers functional advancement has been the basis of the competitive upgrading of leading companies. The manufacturers leading the local value chain have evolved into a new and more advanced business model that combines the advantages of cooperation, multi-

-localization and the integration of activities with better prospects for value generation. These companies are starting to take to the idea that production--related areas will have less prominence in future, where their competitiveness will depend fundamentally on the creation of an efficient global network of suppliers and logistics as well as a higher control of marketing, design and distribution channels.

These leading companies have followed a process of functional upgrading in which, through mergers or cooperation agreements with competing companies, they can reach an adequate size to cope with the limitations of size. In this way the conditions to invest in the necessary in R&D and marketing and to develop stronger strategies are created based on (a) the commitment abroad for more powerful brands and distribution networks, or even the creation of sales subsidiaries; (b) the possibility of taking advantage of multi-localization and (c) forward integration assuming the functions of distributors, either in the form of their own stores, franchises or online sales. The development of these strategies passes through advanced models supported by adequate human capital and effective management of new technologies.

2.3.2. Quantitative analysis: ratios of activity by actor

When the contribution in the value chain of the sector in Spain is analysed, the empirical evidence confirms that apparel manufacturers and distributors are the two main actors in terms of sales and value added (see Table 2). Indeed the manufacturing and distribution subsectors represent almost half the sales (46%) and 38.04% and 54.79% of the value added of the sector (in the case of apparel manufacture, mainly due to the presence of the company Inditex in this group). Weaving companies exhibit the best results in manufacturing with 4.97% of sales and a very similar percentage of value added (4.78%). Some distance behind come Spinning and Ennobling companies, with values close to 1% in both cases. However if the value added with respect to sales is analysed, firms in the subsector of Ennobling, being a service activity, are the ones that add the most value (35.76%). The chain as a whole generates 27.09% of value added in respect of sales.

This strong capacity to generate value from the manufacturing and distribution companies is based on the employment of the labour force, 53.79 and 38% of the chain. However, when the value added per employed person as well as the average salary are examined, there are no significant differences between actors. In this sense the intensive employment of non-specialized qualified workers continues to be customary in the sector although the most competitive companies increase the value contribution of their employees thanks to its combination with very diverse intangible asset design, brand, advertising, organizational capital- that form the basis of their leadership. The chain generates an average value per employee of 45,130 euros and an average salary of 23,420 euros.

Table 2. Main ratios of the textile and apparel industry by actors (average 2014-2016)

Actors	*n*	Sales textile sector (%)	Employment textile sector (%)	Value added (VA) textile sector (%)	VA/Sales (%)	VA per employee (th. euros)	Average salary (th. euros)
Spinning	121	1.40	1.25	1.21	23.41	43.60	29.52
Weaving	440	4.97	5.45	4.78	26.07	39.58	27.43
Ennobling	150	0.90	1.39	1.18	35.76	38.39	30.04
Manufacturing	800	46.22	53.73	54.79	32.11	46.01	20.78
Distribution	1.583	46.52	38.18	38.04	22.15	44.96	26.13
Total sector Spain	3.094	100.00	100.00	100.00	27.09	45.13	23.42

Notes: All the variables are calculated as the average of the years 2014, 2015 y 2016. VA per employee and average salaries are shown in a thousand euros.

Source: Orbis (data October 2018) and own elaboration.

These results show the power of companies located in the final stages of the value chain and the drastic evolution of the textile sector which has gone from being producer-driven (basically in weaving) to become buyer-driven by large distribution companies.

Conclusions

This paper has analysed the structure of two value chains according to the most relevant actors in each of them, their interplay and paths of competitive upgrading. Additionally, we have provided basic indicators at firm level illustrating the most significant magnitudes by each actor in Spain, contributing to the understanding of the high heterogeneity existent across chains, but also across the internal linkages within a chain.

Regarding the automobile industry it has been discussed how assemblers generate significant agglomeration economies by attracting international suppliers. The modular production system of the sector generates great flexibility for the manufacturer but it also represents important opportunities for supplier companies aiming to improve their competitive position in these chains. Investments in quality, information and communication systems are required to reach the desired positions. In this regard, Mega-suppliers show very good added value and employment figures which are lower than assemblers but with higher average salaries and very similar to those of large producers. Hence, it

becomes a very interesting subsector to be supported by specific promotion policies at the country level.

Regarding the textile and apparel industry, our data show the clear leadership of the large distribution chains (in Spain headed by Inditex). These chains have radically changed the sector transforming it into an industry driven by the buyers or distributors. Results indicate that the distribution companies are those that have the potential to generate greater value (38.04%) which is a considerable percentage that is only attainable when these companies at the end of the chain have created integrated structures throughout. This does not occur in the automobile sector in which there is not such a high integration between activities, except in the case of some Mega-suppliers. It is important to note that despite having the capacity to generate high value added the textile and apparel industry does not stand out from others in terms of productivity, nor does it imply a notable increase in salaries in the country.

Comparing the two chains, the value added per employee is substantially higher in the automobile chain (66.480) than in the textile chain (45.000). This fact is also reflected in the average salary at 41.000 euros in the car industry while in the textile industry it reaches 23.000 euros. These figures show the greater technological intensity of the sector and the use of more specialized human resources. However, when analysing the figures about value added with respect to sales the situation is somewhat different: the textile sector is shown to be the one generating higher value with respect to its sales (27.09%) and the automobile industry remains at 16%, evidencing the importance of internal purchases that occur within these two chains. Another significant fact is that the automobile chain is much more global and homogeneous (dominated by a single actor) than the textile chain, where global and local chains can coexist in addition to permitting the allocation of leadership to different actors (distribution and weaving).

In both chains it is possible to confirm the opportunities for competitive upgrading that participation in global value chains has brought for both supply and leading companies, as well as certain suggestions for action for each group to generate long-term added value.

In supplying companies value chains have favoured their growth and development to the extent that they have been able to generate greater value for the whole chain. Likewise these firms have been able to participate more intensely in globalization through internationalization in new markets, diversifying geographical risk and taking advantage of the coordination and integration of activities and resources in different parts of the world. It has all permitted an improvement in efficiency and even learning from other more competitive markets. Additionally, for most of these companies, new opportunities have arisen for innovation and the development of more stable relationships with other members of the chain and with business organizations. This cooperation ecosystem has favoured the improvement of skills and abilities to increase

competitiveness thanks to knowledge transfer and sharing of best practices. To continue taking advantage of this insertion in global chains these supplier companies must clearly define the value proposition that is intended to be exploited in the chain: they need to ensure the financial resources to address these relationships and count on human resources that, with a global mentality, are able to adapt to the cultural and organizational differences of the partners in the chain. Competitive upgrading in all the modalities pointed out in this paper should be the basis for the articulation of their strategic decisions (De Marchi et al., 2018).

In leading companies cooperation with local companies has allowed them to improve productivity through the reduction of production, supply and distribution costs, while also being able to devote greater financial and economic efforts to activities generating more value in their business model. These decisions have led to a higher degree of flexibility in the organization of their resources and in the generation of new opportunities that could have a significant impact on local ecosystems.

In order to benefit from these gains, the leading companies must apply a global approach throughout the organization with a clear orientation towards cooperation with other participants and with a strong and sustained commitment to local actors. The proactive search for opportunities with an adequate adaptation of their strategies to the singularities of each country and partner facilitates a proper insertion into domestic ecosystems. These companies must develop skills to connect participants in the chain through the transfer of people, resources, capital and knowledge to the appropriate linkages and actors in a timely manner. The implementation of structural mechanisms supporting this linkage, as well as the dissemination of their culture in the local contexts will be essential tools in the coordination of these processes.

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