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**"Ownership and Location strategies in the Automotive Industry: the SEAT
case"**

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Executive Summary

"The more precise use of location and ownership strategies by MNEs is the very essence of increasing globalization" (Buckley, Ghauri, 2004).

The above statement is the punctual summary of this document: since analyzing the impact of globalization, its main trends and how they influence the choices of Multinational Enterprises, we will try to identify the major strategic factors driving the Location and Governance decisions with respect to global economic activities. The dynamics of Global Markets have been rapidly and constantly changing for several years: companies have been launching in the market new innovative products and services in order to meet people continuously evolving desires, needs and wants. Moreover, they have been expanding towards developing countries to exploit further market opportunities and, in going through this process of growth, they have reached a global scale with respect to each element characterizing the value chain. Nowadays, the development of a company happens in the field of the economic and productive globalization: we can state that global interrelation means also global interdependence, so the consequence is that changes in one part of the globe, whatever they are, will have for sure a clear impact on another part of the same. On the one hand, the internationalization issue pertains to the processes, especially from a quantitative point of view, through which companies go on the global market, whereas, on the other hand, the globalization is a mixture of economic, social, political, environmental, technological and political forces, which show the tendency to level businesses, cultures and thoughts.

In doing this analysis, the document will be divided into three sections: the first part is focused on highlighting the most influential and reliable managerial theories about the Location and Governance issues linked to the organization structure of Multinational Enterprises; the second section is focused on analyzing the reference market, which is, as you can see from the title, the Automotive market and we will try to identify the most important Key Success Factors in the global scenario. The last part is focused on the appliance of the conclusions from the previous ones by taking into consideration the case of Volkswagen Group AG and, in particular, SEAT, the most famous Spanish Brand in this industry.

The reasons why I have decided to concentrate my analysis on the latter are many. First of all, the focus of my entire analysis is on enterprises having an international dimension with respect to global economic activities and globally dispersed production or assembly sites: Volkswagen Group AG is a multinational enterprises characterized by a complex geography

in terms of production functions distribution across different Countries. I think that this is the best candidate for my analysis, because we can understand how a big Group organizes its economic activities by spreading them all over the world, according to different strategies it pursues. The second factor affecting my decision is that, since taking into consideration a multinational group, I have the possibility to better analyze the different policies, strategies and decisions taken by the various brands composing Volkswagen Group AG: each brand within the group has its own structure and strategic path, but, at the same time, it must adapt to the rules and directive of the corporate board. From this point of view, it is kind of interesting to consider how to decline the individual goals and objectives and the strategy designed by the Group: I will start my analysis by describing these sort of inter-group and brand linkages and relationships and then, since considering the latter as a milestone, I will better focus on the specific actions taken by one of the brand of the group itself.

As stated before, I will consider SEAT S.A., because I worked there for six months as an internship experience few months ago. I had the opportunity to work in a very stimulating environment, where I was in touch with a multinational economic dimension, with respect both to Volkswagen Group AG and SEAT S.A. My working experience was in Verona at Volkswagen Group Italia, which is a National Sales Company responsible for the entire Italian market development.

Another important reason which enforced my decision to consider the case of SEAT S.A. is that it is in a very particular moment of its brand history: now it has a well defined strategic path in front and it is penetrating the global markets with a strong and reliable offensive of product market offering. If we consider the data, we can easily see that the sales has reached a peak never got before and the forecast are predicting a future optimistic overall situation, both in terms of general profitability and brand image.

The overall research and analysis methodology will be supported by the information disclosed within the Annual Report of the Group, where we can see the detail of the activities structure, and by the information I kept during my working experience: the broad aim of the third part of this document will be trying to provide an overall snapshot of the SEAT S.A. situation and identify new future ways to offset the strengthen of global competition. From a general perspective, the actual situation of the brand is in line with the most recent theoretical perspective: externalization of basic activities (backward in the Value Chain) and internalization in the most functional in creating source of differentiation. This is also enforced by being part of a big Group: SEAT, within Volkswagen Group, might benefit of economies of scale on the procurement of functional raw material, reduction of high fixed

costs impact and of the sharing of synergies among platforms and modules in the final processing of the output. The real source for strengthen the degree of competitiveness is the development of all those activities and processes within the Global Value Chain able to bring a differentiation-based value added according to the future fundamental Key Value Drivers of the Industry: by considering the more backward activities (mainly "Type 1" and intermediate), they will likely be internalized in order to gain property on all the stages of the entire processing able to bring more value on the final product. If we consider the more knowledge-based ones, R&D, design and engineering will likely be brought inside the enterprise, because, similar to the previous case, they will be reliable sources of differentiation in terms of new mobility solutions: we will also see how the future trends of the global Automotive Market will affect the structure of the Global Value Chain. In assessing the influence of all these issues in terms of Ownership, Location and Governance strategies, we will also see that the Group decisions about the allocation of the activities are important in setting the equilibrium among the incoming orders of each specific brand with respect to each local market.

1. Theoretical and Managerial Perspectives about Location and Ownership strategies

In the first chapter, I will consider both in logic and chronologic order the principal milestones in terms of theories and studies related to the Ownership and Locations strategies during the last decades, in order to provide a general overview of the theme and to draw, in the end, some conclusions about the evolving path of these two concepts, according to the mutations of the Global Markets contingencies. We will see how the Literature has considered the implications of the two above themes with respect to the organizational structural design, considering all the consequences brought by the increasing globalization of markets across all the industries: the focus will be understanding how to organize and to take decisions regarding the location and governance of specific economic activities. The rise of inter-firms linkages and dependencies has increased also the need to well figure out the degree of internalization or externalization of processes: furthermore, we will see how the internationalization strategies has changed in relation to the pressure of all the previous cited elements.

1.1 The Dunning Paradigm

The Dunning strategic model is focused on the three main and specific reasons determining the dynamics, by which companies decide to invest in another Country or break down the stages in the value chain process(*Dunning, 1988, 1977*): From a general point of view, we can summarize them into the following items:

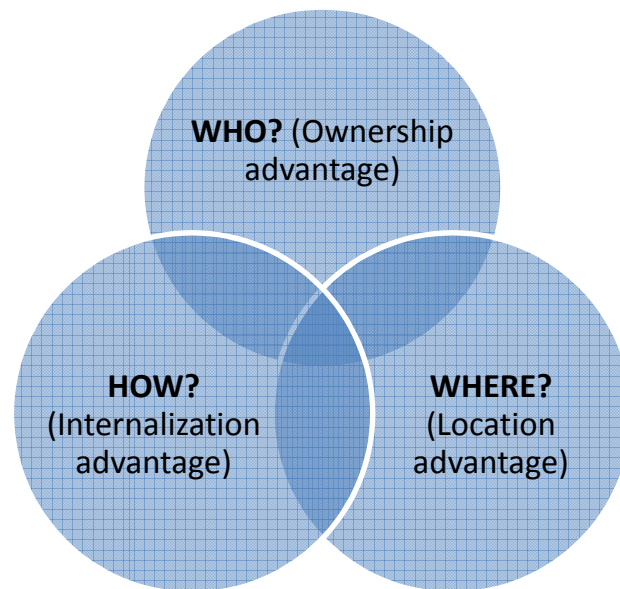
- **Ownership advantage:** the company has particular internal resources or core competencies able to gain a specific sustainable competitive advantage in the international markets(*Dunning, 1993, quoted by Stoian, Carmen and Filippaios, 2008*).
- **Location advantage:** the company is profitable in finding out abroad specific and favorable conditions in order to exploit its own competencies(*Dunning, 1993, quoted by Stoian, Carmen and Filippaios, 2008*).
- **International advantage:** The company is able to make the most of the international competitive value of particular resources it has within its organizational structure(*Dunning, 1993, quoted by Stoian, Carmen and Filippaios, 2008*).

This framework is also called "OLI" model (Ownership, Location and Internalization), where these three factors are considered as potential sources of competitive advantage: this is the first most reliable attempt to consider how the issues and decisions in terms of Ownership and Location are deployed by Multinational Enterprises. The model extends the analysis to a wider perspective: the paradigm suggests that the basic requirement to be successful in non-domestic markets is having some specific core attributes able to get a sustainable competitive advantage in the domestic market, which then will be able **ex post** to generate an international advantage. This is the reason why we can say that the paradigm offers, on the whole, an holistic managerial and strategic approach to investigate the significance of factor influencing both the initial expansion of multinational enterprises (MNEs) by foreign production and the subsequent growth of their activities (*Dunning and Robson, 1987, Estrella Tolentino, 2001, quoted by Stoian, Carmen and Filippaios, 2008*).

Now let us consider the basic assumptions behind model to fully understand how it works. The fundamental key point is that the return to Foreign Direct Investment (FDI), and hence FDI itself, can be explained by the set of the three above indexes (*Dunning 1993, quoted by Stoian, Carmen and Filippaios, 2008*): first of all, we have the ownership advantage, indicating who is going to produce abroad and all the undertaken international activities. In simple words, it addresses the question of why some firms but not others decide to operate on an international and global scale, and the basic suggestion is that a successful and profitable MNE has some firm-specific advantages, which allow it to overcome the costs of operating in a foreign Country with a different market structure (*Neary, 2008*).

Under the name of location factors, we mean all the elements influencing the geographical dimension of the production and manufacturing process: the question, on which we must focus on, in this case, is where enterprises choose to locate their activities (*Dunning, 1977, quoted by Stoian, Carmen and Filippaios, 2008*).

In the end, internalization competitive advantages influences directly how a firm chooses to operate in a foreign Country, trading off the savings in transactions, hold-up and monitoring costs of a wholly-owned subsidiary, against the advantages of other ways to penetrate the market, such as, for example, exports, licensing or joint venture (*Neary, 2008*). In other words, this variable is related to the managerial decision of adopting one mode of entry rather than one other, in relation to the differences among international markets and strategic aims by the company in that specific market.



These three variables provide a specific and detailed pattern to understand how to cope with threats and challenges arising from playing in a global economic environment: managers should seriously take into account the above dimensions to gain successful probabilities to make high operating margins and boost, consequently, the level of total profitability. Dunning uses the word "Ownership" to highlight the internal ability to generate a domestic competitive advantage and "Internalization" to indicate the way the company organizes its operations in foreign markets: we will see later that nowadays the issues of how to internalize markets is directly linked to Ownership and Governance issues and there is no more such a marked difference.

Since analyzing the implications carried out by this analysis, we can state that, from a general perspective, in order to be able to compete in a foreign market location and market, an enterprise must possess certain ownership advantages, which, in many cases, are better known as "competitive" or "monopolistic" advantages (*Dunning, 1988, quoted by Stoian, Carme and Filippaios, 2008*), which, like said before, are able to compensate and neutralized the weight of the cost structure associated with the setting up and operating procedures abroad (sometimes, these costs are not directly faced by domestic producers) (*Dunning, 1988, quoted by Stoian, Carmen and Filippaios, 2008*).

The second condition of international production is that the entity must be better off transferring its ownership advantage within its corporate structure across borders, rather than selling it to a third party via licensing or franchising, for example (*Stoian, Carmen and Filippaios, 2008*). The problem linked to the managerial process of the ownership advantage,

in terms of how to cope with it, how to sustain and rely on it, and, most of all, how not to disrupt but boost it, is addressed totally by the ability of the company to internalize such issues: for example, the internalization of the ownership advantage occurs when the international market is not the best modality for transacting intermediate goods and/or services (*Dunning, 1988, Teece, 1986, Vernon, 1983, quoted by Stoian, Carmen and Filippaios, 2008*). The immediate consequence is that the perceived costs of market failure, the more appealing it is for MNEs to internalize such an advantage. On the contrary, in the case of a lack of an external market for the firm's ownership advantages, the distinction between "I" variable and "O" variable may become null (*Dunning, 1988, quoted by Stoian, Carmen and Filippaios, 2008*): this refers to what I said before, in the sense that Dunning interprets the concept of Internalization only in virtue of the existence of an external or non-domestic markets, suggesting that, if there is no the latter, there is no sense of Internalizing. We will see later that this perspective is heavily linked to an “old company” tradition and that the actual market dynamics require different approaches.

Then we must spend few words about the location choice in terms of production: on the whole, enterprises decide to produce abroad whenever it is in their best interests to combine intermediate products and services in their home Country, which are spatially transferable with at least some immobile factors or intermediate products specific for the foreign market structure (*Dunning, 1988, quoted by Stoian, Carmen and Filippaios, 2008*). Following this reasoning, we can note that some of the location advantages include factors endowment and availability, geographical factors or public intervention in the allocation of resources as reflected by legislation towards the production and licensing of technology, patent system, tax and exchange rate policies, which a multinational would like either to avoid or to exploit (*Dunning, 1977, quoted by Stoian, Carmen and Filippaios, 2008*).

So, in order to conclude, we can say that the three variables are not independent, but, in some way, they are correlated, because we can't analyze one dimension and not considering the others, taking the risk of not having a such clear picture of the ongoing situation. They work properly together: the implications of one affects than behavior of the others and so on.

Now let us concentrate more in depth on these three axis.

1.1.1 Ownership

The ownership advantage can be considered without any doubt the real key explaining the existence of MNEs: the reason why a multinational company exists is strongly linked with the

nature of its ownership structure and this can be associated to a real market opportunity to be capitalized. The main idea under this concept is that entities, in general terms, are collections of assets (*Neary, 2008*): companies which have taken the decision to go on the global market possess, in some way, higher-than-average levels of assets having the character of international public goods. All the entire set of such resources can be applied to production processes at different location without reducing their operating effectiveness: if we want to make some examples, we can mention product development, managerial structures, patents, marketing skills and all the other items affecting the strength of the corporate structures, under the name of "headquarter services" (*Helpman, 1984, quoted by Neary*).

In simpler words, we can state that enterprises have a large bunch of assets to rely on in order to follow their strategic and managerial direction: as we said before, the ownership advantages tends to compensate for the additional costs associated with setting up and operating abroad (*Dunning, 1988, quoted by Stoian, Carmen and Filippaios, 2008*). So, on the one hand, all these assets build up and determine the competitiveness of the ownership advantage, and, on the other hand, they cover all the costs not faced by domestic producers. Let's analyze them, by collecting them into broader categories:

- **Size:** under this variable, we mean the assets side of the balance sheet, in terms of robustness and strength of the corporate structure. Size is a component of the ownership advantage able to heavily reduce and minimize the transaction costs a company can incur and favor the multinational perspective: for example, larger firms tend to service foreign markets through FDI rather through other financial transactions. So, the theory suggests that smaller firms, on average, do not have the right resources to invest in distant business environments, whereas, larger entities are likely to increase the probability of internalizing external market, in virtue of their assets composition (*Buckley & Pearce, 1979, Grubaugh, 1987, Horst, 1972, Juhl, 1979, quoted by Stoian, Carmen and Filippaios, 2008*).
- **R&D expenses:** this index strongly affects in positive manner the probability of expanding in the global markets: for example, in industries characterized by an high degree of technological development, firms are likely to penetrate foreign markets in order to recover their costly R&D, to prevent products and services obsolescence and, consequently, to gain market share (*Tihanyi&Roath, 2002, quoted by Stoian, Carmen and Filippaios, 2008*). Thanks to Foreign Direct Investments, they try to acquire new technologies, following up in an increasing probability of internalize the market, like

the previous situation (*Shan & Song, 1997, quoted by Stoian, Carmen and Filippaios, 2008*).

- **Profitability:** also this variable influences positively the firms' decision to invest abroad. Profitable enterprises organize their production activities more efficiently than others, and, in this way, they create the resources necessary for the future expansion: so, also in this case, higher profitability means higher probability of internalizing the external markets (*Cantwell & Sanna-Randaccio, 1993, quoted by Stoian, Carmen and Filippaios, 2008*).
- **Leverage:** multinational companies are usually in a better position to raise capital, either in the domestic market or in the international scenario. The consequence is the creation of financial assets advantages, which reinforce the global dimension of such companies: so the strength of the financial position will increase the probability to internalize the foreign market (*Dunning, 1993, quoted by Stoian, Carmen and Filippaios, 2008*).
- **Administration and distribution costs:** both these factors can influence the probability that firms go on the international market: theories suggest that the high administration costs may indicate that the company's expansion is directly linked with its managerial resources. Furthermore, the higher the quality of the distribution channels, the easier to invest directly and hence the higher the probability of engaging in FDI activities. This quality captures the existence of an advanced network of knowledge flows that adds to the firm's experience. The consequence is that the enterprise is able to capitalize on that and enter the international market with FDI, without using local partners. As we have said before, this is one of the musts for going through an internalization process (*Caves, 1996, Penrose, 1956 and 1959, quoted by Stoian, Carmen and Filippaios, 2008*).

1.1.2 Location

The second set of factors we are going to consider within the OLI framework is the one linked to the institutional factors of the host country: for example, poor institutions increase search, negotiation and enforcement costs, thus hindering the establishment of new business relationships and the initiation of new economic transactions (this is something very crucial that company must understand before planning and deciding the new future abroad location) (*Antal- Mokos, 1998, Meyer, 2001, quoted by Stoian, Carmen and Filippaios, 2008*). Speaking

about this, we must make another fundamental distinction, between "horizontal" and "vertical" FDI. **Horizontal FDI** occurs when a firm decides to locate a plant abroad with the aim of improving its market access to foreign consumers: this simply replicates its domestic production facilities at a foreign location (*Neary, 2008*). In this case, the strategic approach of the enterprise is to penetrate foreign markets for attracting new market segments, boosting internal demand by attracting external needs, gaining new business opportunities in terms of new product developments, strategically differentiating the product mix portfolio and so forth (*Neary, 2008*). **Vertical FDI**, by contrast, is not primarily or even necessarily aimed at production for sale in the foreign market, but, rather seeks to avail of lower production costs in that particular external business environment (*Neary, 2008*). In this case, the cost structure reduction or even minimization is the principal aim pursued by the enterprises: the selection of one Country rather than another one is made by judging the consistency of the competitive advantage the company can gain in terms of cost leadership and how much it could affect the total impact of costs on the profit generating ability of the entity itself (*Neary, 2008*).

On the whole, this is an important distinction, where the two plates of the balance are market-access advantage or costs-reduction motives, even though, in almost all cases, the parent firm retains its headquarters in the home country, and the firm-specific or ownership advantages can be seen as generating a flow of "headquarters services" to the host-country plant, there is a sense in which all FDI is vertical (*Neary, 2008*).

The different choice of an horizontal or vertical approach has reliable implications on the operating profit margin of the enterprise: the changes in the location of manufacturing and production processes affect strongly the revenue stream. The horizontal motive for Foreign Direct Investments reflects a particular trend, called "proximity-concentration trade-off", which states that by building a local plant, a company is able to save on trade costs and obtain benefits coming from the advantage of proximity, but, at the same time, it loses the positive consequences of concentrating production in its home country plant (*Brainard, 1997, quoted by Neary, 2008*). In this case, on the one hand, deciding to selling products in a foreign market leads to the assumption of trade costs, such as tariffs and transportation costs, and, for sure, the operating profits are totally decreasing with respect to such costs, whereas, on the other hand, constructing a local plant avoids trade costs, leading to an higher operating profit margin, but it requires an additional fixed cost, due to the investment and installation of a new plant. So, the general rule of thumb is that FDI is encouraged relative to exports by proximity (lower trade costs), but discouraged by the benefits of concentration (high fixed costs)(*Neary, 2008*).

The vertical motive implies a very different view of the determinants and consequences of FDI. Now the focus is on how a firm can serve its market demand: either by producing at home, or by vertically disintegrating and moving its production facilities to a cheaper foreign location (Neary, 2008). Differently to the previous situation, now we must consider another important variable, which is the total cost of labor in the host country and its relatively relationships with the trade costs of moving output away from the production plant in the host country: the decision to engage in FDI depends on the trade-off between the benefits of concentration on the one hand and the cost saving from offshoring on the other (Neary, 2008). When an enterprise decides to locate part of its production process in a foreign country, it must take into account that the gain coming from this choice depends negatively on the host-country wage and positively on the source-country one: the vertical motive for Foreign Direct Investment attaches greater importance to comparative costs of production (Neary, 2008).

From a general point of view, it is kind of important to notice that the two upper motives are two totally opposite approach to strategically penetrate the market: for example, it has also been noted that the bulk of FDI is between high-income countries with relatively similar wage costs and, in this case, the majority is likely to be neither vertical nor horizontal, but rather cross-border mergers and acquisitions. So, the overall situation is not clearly detectable: econometrics studies shows that both approaches are important (Neary, 2008). If the foreign market is sizeable, then the total gain from Foreign Direct Investments as opposed to producing at home (in each case serving both domestic and foreign customers from a single plant) is given by the sum of the benefits coming from the two upper motives: both trade-cost-jumping and offshoring gains have to be taken into account (Neary, 2008). From a broader perspective, the horizontal and vertical dimensions of FDI may reinforce each other if a parent firm wishes both to serve foreign market in similar high-income countries and to avail of lower production costs in low-income countries: in general, therefore, the pattern of location of foreign plants is likely to reflect the "complex integration strategies" of firms facing both vertical and horizontal motives for engaging in such Foreign Direct Investment strategic decision (Neary, 2008).

1.1.3 Internalization

The third stand in the Dunning paradigm is the strategic internalization of the market, which is often seen as the most important among the three variables: in 1986, Ethier said that "*Internalization appears to be emerging as the Caesar of the OLI triumvirate*" (Neary, 2008).

The central point of the problem is just understand why some activities are carried out and performed within firms and others through arms-length transactions: under the strategic decision of internalizing a market, the main idea is to gain advantages by own production rather than producing through a partnership arrangement such as licensing or joint ventures (Neary, 2008). As we have stated before, ownership advantages are focused on "who?" is going through the internalization process, including all the factors determining the real corporate identity, stability and dimension; location competitive advantages means understanding the "where?" variable: enterprises, once they have understood carefully who they are in terms of strategic path, must decide where to address their investment capacity and financial power; in the end, the internalization advantages tries to summarize the first two ones, by detecting the modalities, through which companies cope perfectly who they are with where they want to go in order to rely on their business strengths, capitalize on real market opportunities and be profitable.

The basic idea is that, on the whole, companies, through the global market internalization process, could organize the creation and the further exploitation of their core competencies, by delivering goods and services in places where other competitors cannot (Neary, 2008). In other words, a market internalization advantage allows the multinational corporation to use a market failure to make profit: for example, enterprises could capitalize on this simply by shifting assets between subsidiaries across borders (Neary, 2008). The consequence of such a process is that the greater the net benefits of internalizing cross-border intermediate product markets, the more likely a firm will prefer to engage in foreign production itself rather than license the right to do so (Neary, 2008).

The Dunning paradigm explains how multinational enterprises make investments and the logic behind their strategic choices: the three variables can be considered as the progressive steps in order to analyze the economic situations in terms of further market chances. The ownership advantages described the overall internal situation of the company: we have seen clearly before that the set of factors affecting the consistency of such an advantage is related to indexes and dynamics internal to the entity itself (the latter must have some specific own points of strength to overcome the risks and the financial needs to go abroad). The location advantage represents the opposite side of the ownership one in some way: it is linked to the external factors affecting the physical location of the Foreign Direct Investments made by the enterprise. The main idea is to start thinking about the internal reality in terms of consistency and robustness and then moving out from the national borders perspective to select the best location able to fit perfectly with the corporate structure, market geography and strategic

objectives. The last variable is the linkage between the first two: it is the modalities by which the company transfers its own personal identity to shape and play an important role in the foreign market. Once the enterprises has understood who it is (corporate structure and identity), why to move abroad (coherence of long term strategic objectives) and where to locate its economic activities (location decision), it must select the proper and right market approach to make a good investment, with the consideration that this type of decisions is not immutable at all: different market dynamics could seriously make these approaches vary over time.

1.2 The Concept of Global Factory

One of the main consequences of the globalization process is the global location of economic activities: the idea of the concept of "Global Factory" is born in relation to the numerous changes of companies' DNA in recent periods, which have gone through a process of managing the various stages in the value chain in a different way than before (*Buckley, Strange, 2015*). The geographic inequalities among Countries, the creation of a global dimension of the market and the necessity to be profitable and survive in the long term perspective have forced firms to wonder about the reorganization of their corporate structure: when a company decides to split the value chain generation process into different stages, it needs to manage also issues related to governance consequences and control problems (*Buckley, Strange, 2015*). Since these first words, it is quite easy to understand that the perspective and the concepts highlighted here are different with respect to the ones explained in the Dunning Paradigm: in the latter case, the main issues, as we have seen before, are Ownership, Location and Internalization. The step further made by the theorists of the "Global Factory" concepts is having identified a close relation between Ownership and Internalization in terms of how to organize Governance and Control over the globally dispersed economic activities (in the next sections, I will clarify the above words).

All these approaches have then strong implications on the ability to generate revenues and then profits: trying to gain competitive advantages only by moving the stages of the chain to more favorable economic situations is not sufficient; firms need to carefully rely on their managerial ability to combine them in order to get reliable operating profit margins. This is the reason why one of the most important and, at the same time, hard challenges of managers is locating the productive process in the right places and then capture the maximum amount of value from them, without disrupting it.

The major drivers of the changes affecting now the structure of the majority of the industries all around the world are the following:

- economic restructuring
- market liberalization
- financial regulation
- financial markets integration
- technological advances: information and communication technologies (ICT)

The consequences of such factors can be summarized in the total restructuring process of the value chain model: it has become, in some way, more disaggregated or "fine-sliced" into stages that can be perfectly carried out in different locations (*Buckley, Strange, 2015*).

The overall outcome of this trend is the so called "*International Fragmentation of Production*" (IFP), which is now affecting the dynamics of global markets, increasing the business opportunities to be capitalized, on one side, but, on the other side, it will also increase the probabilities of not being able to capture all the slices of the value created (*Buckley, Strange, 2015*). On the one hand, the IFP allows firms to organize, deploy and implement activities in different contexts: MNE can capitalize on market opportunities in terms of costs reduction or effectiveness-seeking tactics (as we have seen before, vertical or horizontal FDI). On the other hand, the break-down of the stages composing the value chain and the restructuring of the latter in a global scenario can seriously affect the possibility of getting back all the pursuit benefits: as we will see later on, this depends on the ability of properly managing Location and Ownerships issues, in terms of Governance and Control.

All of the above issues are topics quite actual nowadays: the international scenario in the next decades will be heavily affected by the choices companies are doing now and the shape of the economic environment will present different borders and structures that must be carefully anticipated and managed.

Now let us consider the three main important theories related to the concept of "Global Factory", with the aim of trying to have a better understanding of how they analyze the impact of Location and Ownership decisions on the organizational structure. Each of the three following theories of the global factory have the basis on a greater global dispersion of economic activity, but each makes different assumptions about who maintains control over these dispersed activities—or, to put it another way, each makes different assumptions about the governance of the global factory (*Buckley, Strange, 2015*).

1.3 The Grunwald and Flamm's model

The first attempt to describe the strategies behind the managerial choices of where to locate processes and economic activities and how to shape them is made by Grunwald and Flamm in 1985: in this case, the conception of the Global Factory is focused on the growth of foreign assembly facilities, drawing on earlier theoretical ideas by Raymond Vernon (1966, 1979) on the product life cycle (*Buckley, Strange, 2015*).

The main idea behind this first model is that Multinational Enterprises have established offshored business activities and assembly operations to meet the competition of low-cost imports. So, the consequence is that many value-chain processes and procedures have been relocated to emerging economies, but, on the other side, they are still integrated or internalized under common ownership within MNEs headquarters in advanced economies (*Buckley, Strange, 2015*).

The Grunwald and Flamm model of the global factory envisages much of the increased economic activity in emerging economies as accruing from offshoring strategies pursued by MNEs from more advanced economies (*Buckley P., Strange R., 2015*): this means that various stages of the MNEs' value chains may be offshored to more cost-effective locations, as long as the costs of coordinating across locations and transporting the intermediate goods are low enough to make the process economically viable (*Deardorff, 2001, quoted by Buckley, Strange, 2015*). In any case, Multinational Enterprises are the lead firms in these GVCs and retain (internalize) explicit ownership and control of the offshored activities through FDI.

This type of theoretical perspective has some implications also with respect to the overall distribution of income: certainly, there will be greater employment opportunities and higher labor remuneration within the host emerging economies, but the (increased) profits from the dispersed value-chain activities will accrue to the shareholders of the (*Buckley, Strange, 2015*). The overall impact on income in the host emerging economies will be limited, while the MNEs' shareholders (predominantly in the advanced economies) will generally profit from these overseas ventures in the long term, even considering the risks they incur in making the capital investments in the host countries. So, consequently, global inequalities in the distribution of income may thus be exacerbated as a result of the development of the global factory. Nevertheless, many host countries view such inward FDI as a key element of their economic development strategies and welcome its potential employment and value added and

technology transfer benefits while downplaying any concerns about foreign domination of local productive capacity (*Reich, 1990, 1991; UNCTAD, 2003 quoted by Buckley, Strange, 2015*).

1.4 The Gereffi Model

The second theory related to the Global Factory concept is linked to Gary Gereffi and it was built up in 1989: this is totally in contrast with the previous model and now let us consider the pillar of this framework.

Gereffi used the term “global factory” to represent “the emergence of a global manufacturing system in which production capacity is dispersed to an unprecedented number of developing as well as industrialized countries.”(*Gereffi, 1989, quoted by Buckley, Strange, 2015*). The basic idea is that different nations are thus able to specialize in distinct industrial sectors, and even in different stages within value chains in the same industry. Furthermore, Gereffi asserted that this greater dispersion of activity has been associated with a widening of corporate ownership on a global scale, with many more firms controlled by a more diverse set of owners in many different countries (*Buckley, Strange, 2015*).

The Gereffi model introduces also a fundamental concept, which is in line with the implication of Globalization on the organizational structures, and now let us consider it. The fact that the existence of the trade-off between the need to follow the globalization path, but, at the same time, to address all the issues related to the degree of differentiation of the specific local economies has deepened the attention on the geographical analysis of globalization (*Raines, 2003*). So far, the traditional managerial approach has suggested to adapt the second and, for sure, the third step in the model to the different foreign locations, while maintaining the core functions at the headquarter. This efficient-seeking strategy towards the Foreign Direct Investments is now starting to be progressively accompanied by a different approach, which is heavily influenced by the Knowledge management implications we have broadly seen before. The proper ability of Multinational Enterprises to tap into local clusters and to create their own spatially distinct growth poles have long been a major feature of international business analysis of the dynamics and dialectics affecting the internal process of growth. This is the main reason why concepts, like "cluster of innovation" and "national systems of innovation" are so important nowadays in understanding and designing how to be really competitive: the theme of geography of innovation is the new challenge for adapting also those functions, which have been always internalized within the core functions, to the

different local exigencies (*Antonelli, 2000; Feldman, 2000; Lundvall and Maskell, 2000; Maskell, 2000*). The geographic sources of competitiveness of international firms is now a central theme in designing the organizational structure: this means shaping in new ways the equilibrium level between internalization and decentralization processes. We have seen before that now, in order to be successful, even Research and Development functions, engineering and design can be decentralized, but, now, the further step, is to understand that this strategic approach of externalization can be determined also by the geographical variable. This is the real threat and, at the same time, the market opportunity for firms to sincerely consider how to change and adapt their structure to the new boundaries of the global markets, affected by the globalization trend (*Birkenshaw and Hood, 2000; Dunning, 1996; Frost, 2001*). If we look carefully, with these words, we have re-connected the Internalization competitive advantage with the Location competitive advantage: in the real and actual economy, the managerial choice of internalize/externalize processes or functions is heavily linked to the strategic possibility of gaining a source of competitiveness from the geographical differentiation among Countries and Economies.

So far, we have seen the basic theory behind the model and the relationships between the geographic diversification process in relation to the globalization issues and their influence on how Multinational Enterprises decide about location, ownership and governance outlook. Gereffi plays another important role, with respect to the analysis of the components of the Global Value Chain. The concept of Global Factory is strictly related to the idea of a Global Value Chain design based not only on the domestic reality, but, most of all, organize on wider basis, especially on a global one. Conducting a Global Value Chain analysis is the way MNEs could get the most of the pie from their globally dispersed activities: once designed the new locations and sites for global process, it is also important and fundamental to get the most value back from them, in order to fully benefit from an international business geography (in the Appendix A, you can find the Global Value Chain Analysis as explained by Gereffi).

1.5 The Buckley and Ghauri model

The third most reliable model about the concept of Global Factory, with respect to the issues of Location and Ownership, is the one formulated by Buckley and Ghauri: a possible conception of the “Global Factory” is that this offshoring of activities has been accompanied by an outsourcing (externalization) of some of the value-chain activities to independent

suppliers (*Buckley, 2004, 2007, 2009a, 2009b, 2011; Buckley & Ghauri, 2004, quoted by Buckley, Strange, 2015*).

Such externalization involves not only a physical “slicing up” of the value chain but also a change in its ownership (*Buckley, Strange, 2015*). In this case, the dimension of the Global Factory is seen as a complex strategy by MNEs to reduce location and transaction costs, with global value chains linked together by international flows of intermediate products. Moreover, the Multinational Enterprises are assumed to still control the resultant distributed networks of activities even though they have relinquished equity ownership (*Buckley, Strange, 2015*). In short, this model suggests that knowledge will be increasingly internalized, while operations are increasingly externalized: this is the basic and fundamental difference with respect to the previous models, with the aim of trying to adapt organizational structures to the flexibility exigency brought by Globalization.

In the Buckley and Ghauri model the shifts of economic activities from the advanced economies to the emerging ones not only reflect offshoring imperatives, but also, are accompanied by a reduction in the ownership of global productive capacity by MNEs from the Developed Countries as they outsource (externalize) elements of their value chains to independent suppliers in the host economies (*Buckley, Strange, 2015*).

The motives for offshoring to more cost-effective locations are obvious, but why might the MNEs (the lead firms in GVCs) choose to externalize (outsource) these activities rather than internalize them through FDI?

Most theoretical explanations argue that firms embrace outsourcing as an efficient response to changing economic conditions (in particular, ICT advances), and emphasize that firms are either concentrating on their core competencies (*Prahalad & Hamel, 1990, quoted by Buckley, Strange, 2015*), taking advantage of complementary resources and capabilities owned by external suppliers (*Gottfredson, Puryear, & Phillips, 2005, quoted by Buckley, Strange, 2015*), or taking advantage of more efficient external suppliers (*Abraham & Taylor, 1996, quoted by Buckley, Strange, 2015*).

However, such explanations neglect the power asymmetries between the lead firms and their independent suppliers in outsourcing relationships (*Hyme, 1972; Strange & Newton, 2006, quoted by Buckley, Strange, 2015*).

ICT advances have reduced the costs of searching for potential suppliers and increased competition among suppliers at various stages of the value chain (*Strange, 2011, quoted by Buckley, Strange, 2015*). The main consequence is the shift of power within value chains

away from suppliers toward lead firms, which are able to control the interface with the final customers through a variety of “isolating mechanisms” (*Rumelt, 1984, 1987, quoted by (Buckley, Strange, 2015)*) such as branding, product customization, and preferential access. The firms that control these interfaces with the final customer are able to relinquish ownership and so externalize the production of various intermediate goods and/or services within their value chains, while, on the other side, crucially still retaining effective control over the entire value chains. In this conceptualization of the global factory, “the control or orchestration of these activities remains very firmly within the metropolitan (advanced) countries” (*Buckley, 2009b, quoted by Buckley, Strange, 2015*) notwithstanding the absence of central ownership. The strategy of internalization followed by global factories is of a particular type: knowledge internalization (*Buckley, Strange, 2015*). This is distinct from the operational internalization concept explained by Buckley and Casson in 1976 and 2009). Gains from knowledge internalization arise from the existence of asymmetric information, whereby the global factory is in possession of a wider and deeper range of knowledge than potential partners. Consequently, knowledge intensive activities—those intensive in the fruits of R&D—are internalized, while more routine activities (including production) are more frequently outsourced (*Buckley, Strange, 2015*).

As for the previous models, let us now concentrate on the implications of such perspective on the global distribution of income, taking the assumption that lead firms based in Developed Economies retain effective control of the value chain structure.

The basic rule of thumb of this reasoning is that the lead firms will be able to leverage their power over their suppliers to appropriate all the rents along the chain from a smaller asset base while enjoying increased flexibility of supply (*Buckley, Strange, 2015*). So, from the previous words, we can easily understand the strategies behind the proper appropriation of the most amount of value as possible along all the stages of the value generating process: this model ensures an high degree of flexibility and responsiveness, as we will see more in depth later, while retaining a certain extent of ownership and governance at the corporate level, especially with respect to activities, such as Engineering, Marketing and Research and Development.

Buckley and Ghauri are also responsible for having provided a broader explanation of their model, by creating a structural framework of how to organize the structure of the entire firm in terms of Location of economic activities and Governance of processes and intra-firms dependencies and linkages.

The main theme of our report is the extent to which the so called Regional Economic Integration (REI)(*Buckley, Ghauri, 2004*) has affected the borders and shapes of the actual and future business environments: it is becoming increasingly effective in integrating goods and services markets at the regional level. From a general perspective, despite the largest Multinational Enterprises are perfectly placed to exploit any kind of differences among the capital, good and services and labor markets, Regional Economic Integration offers both large and small firms the opportunity to enjoy the competitive advantages of a large "home" market, whether it is their native home or their adoptive home (*Buckley, Ghauri, 2004*).

The primary benefit of REI is its link with the Foreign Direct Investments approach, that we have analyzed when we talked about the location advantage: basically we know the multinational companies are able to exploit economies of scale across several countries and REI offers, in this sense, the most substantial size-of-country benefits (*Buckley, Ghauri, 2004*). For example, it allows firms to reduce a lot costs by locating the labor-intensive stages of production in the cheaper labor economies within the chosen integrated area. If we recall what we have seen before, about the difference between horizontally and vertically integrated Foreign Direct Investments, we can see now that companies, through the right approach towards Regional Economic Integration, can perfectly cope the two strategies: they could reach significant and sustainable competitive advantages through both vertical and horizontal integration and each strategy is promote by the "size-of-country benefits" of REI. The real consequence of this process is the maximization of the ability for companies to fully exploit intra-regional differences in factor abundance, including differentiated human capital (*Buckley, 1997*).

So, from the above world, we can see that there is a reliable trend showing the companies can reach competitive advantages, through the REI implications, both in term of vertically integration (supply side) and in terms of horizontal one. On the one hand we have the positive aspects brought by Regional Economic Integration, but, on the other hand, globalization has deepened the degree of differentiation among local economies and this is leading to serious management problems. If we consider the vertical integration approach, the increasing differentiation has made the gap between advanced and less-developed countries grow a lot: managers, in this case, must be able to segment their activities and to seek the optimal location for increasingly specialized slivers of activity. If we consider the horizontal integration strategies, we can see that nowadays, more or less, technology, knowledge and capital become more important than land to be competitive (*Rosecrance, 1996; Sideri, 1997, quoted by Buckley, Ghauri, 2004*), which is the primary source of state power, so this

redefines the function of the state itself. Local economies still maintain a consistent degree of internal distinctiveness and national borders still matters: the conclusion is that the deployment of Foreign Direct Investments is the key tool by which multinationals bridge cross-border discontinuities.

So, the globalization has created the need for perfectly managing the trade-off between Regional Economic Integration benefits (horizontal and vertical integration) and the degree of economies differentiation which increased the managerial issues and push towards the exigency of more flexibility and agility, without losing responsiveness to cope with differentiation claims.

The right exercise of governance power over the entire organizational structure is constrained by the remoteness of production and service activities from their ultimate owners or controllers, as, for example, the shareholders (*Buckley, Ghauri, 2004*). This fact is exacerbated by the rapidly changing political and economic situations of the different Countries and local economies: for example, large, emerging Countries, containing significant middle class markets, cheaper and well-educated labor and stabilizing political and institutional regimes (India, China, Brazil), are no longer seen just as new markets for old products, but, most of all, as significant locations requiring reconfigurations of the economic geography of Multinational companies operations. The basic idea is that there is a reciprocal interdependencies, where not only do MNEs adapt products to local markets, but also local markets provide ideas for new global products. The consequence of this phenomenon is that increasing location "tournaments" to attract Foreign Direct Investments may have reduced the benefits to the host countries as have the increasing skill and ability of firms in making their investments be profitable (*Oxelheim, Ghauri, 2003, quoted by Buckley, Ghauri, 2004*). The rate to which the skill of host countries will adapt and react to the multinationals requirements are quite far, so differences within developing countries may lead to some kind of divergence between those which can develop the velocity and reactivity in order to catch up and those which will fall behind as the world economy becomes more interdependent (*Buckley, Ghauri, 2004*).

The traditional approach to the design of the organizational strategic arrangement was and has been totally focused so far on reaching a vertically, as well as horizontally, integrated structure: the consequence, in the real scenario, was that each division of the firm itself was locked into linkages with other divisions of the same firm. Furthermore, as you can easily imagine, the cost of integration has been affordable by multinational companies and this has been the desired structural model for decades: but now, as global competition intensified,

there was growing recognition of the costs of integration of this kind and the trade-off between globalization and local economies differentiation has made this issue be more relevant than before (*Buckley, Ghauri, 2004*). For example, commitment to a particular source of supply or demand of any product, intermediate good and service is relatively low cost in a high-growth scenario, like the emerging Countries, since it is unlikely that any investment will need to be reversed. Consequently, it is much more costly in a low-growth scenario, where, for example, production may need to be switched to a cheaper source of supply or sales diverted away from a depressed market (these are all reliable themes affecting the actual international market dynamics).

We have clearly seen before that the need for structural flexibility is the first requirement that new markets' challenges are asking to enterprises: so, since considering what we have seen before, the desire agility and responsiveness seems to discourage heavily the upper traditional view, especially in terms of vertically integration, both backward into production stages and forward into distribution and channel allies. The first tip in building a new strategic and managerial arrangement is more focused on approaches like subcontracting, in relation to production, and franchising, in relation to sales. This kind of "putting out" model is the first step into understanding the need for creating a more responsive company towards rapidly changing industry scenarios (*Buckley, Ghauri, 2004*).

This is the big changes companies must first of all understand and then try to go beyond: the structures and approaches of the "old economy" (*Buckley, Ghauri, 2004*), let's say, are becoming progressively unable to sustain any kind of competitive advantages in the next time periods. Globalization has so strong implications on organizational arrangements that as soon as firms understand the exigency to change, then they will survive, perform better and overcome global competition.

Another important issue to be included in our analysis is the increasing integration of on-line functions with existing brand and back office infrastructures (*Buckley, Ghauri, 2004*): the power of new platforms and tools to shape the borders and boundaries of the traditional processes and internal functions is going to change the inter-firms relationships in the sense that business-to-business and building online links with suppliers and customers imply the effective redesign of business process networks. Moreover, products still have to be delivered to final users: this is not just a matter of transportation costs, but also regulatory differences among countries, cultural distance and other factors causing the overall degree of differentiation among economies rapidly become steeper (*Buckley, Ghauri, 2004*).

The next step to be adopted by enterprises is to cope with this pressure by allowing each division to deal with external business units, as well as internal ones. In this sense, gaining a sustainable and competitive internalization advantage means making internal markets become "open" rather than "closed" (*Buckley, Ghauri, 2004*). The path towards flexibility and responsiveness passes through "opening" the internal markets, which pertains to the proper organizational structure and will provide some benefits:

- it severs the linkage between the capacity operated at adjacent stages of production: so we can understand that, thanks to opening up the internal markets we can have a better degree of production management and capacity disposal to serve the market demand in the best way as possible.
- Companies have then the possibility to supply other firms, so, the number of business partners, in general, will grow consistently
- MNEs can target in a better way the exploitation of scale economies, because this strategic approach permits the capacity of any individual plant to exceed the overall level of internal demand.
- Opening internal markets, in the end, will encourage the firm itself to buy in supplies from other firms that have installed capacity in excess of their own needs.

All the factors we have seen before, next to the alignment of internal prices with external ones increasing the objectivity of profit measurements among divisional units, have created a quite particular scenario, in which the firm is pictured as the hub of a network of inter-locking joint ventures (*Buckley and Casson, 1996; Buckley and Casson, 1998; Buckley and Ghauri, 2004*).

This is the real step further companies need to fully understand to redesign their organizational structure: each joint venture partner is responsible for the day-to-day management of the venture itself (*Buckley, Ghauri, 2004*). The headquarters of the firm is in charge of coordinating the linkages and interdependencies existing among the ventures: in this case, internal trade is diverted away from the weaker ventures towards the stronger ones, thereby providing price and profit signals to which the weaker partners need to respond. Moving one, one of the main positive consequence of such an approach is that, unlike a pure external market situation, the partners are able to draw upon expertise and knowledge sharing at headquarters, which can in turn tap into expertise in other parts of the groups (*Buckley, Ghauri, 2004*). Globalization implications is forcing multinational companies to assume this kind of strategic arrangements to cope and handle the rapidly evolving shapes of industries and, most of all, there is a strong pressure towards making this set of networks of inter-

locking joint ventures become more international and, let's say, virtual. This is especially demonstrated by the evidence of the facts: for example, an international trading company may operate a network of independent suppliers in different countries, substituting different sources of supply in response to both short-term exchange rate movements and long-term shifts in comparative advantage (*Buckley, Ghauri, 2004*).

Next to be a closer step to flexibility and responsiveness, by establishing a network of joint ventures covering alternative technological trajectories, the firm can also spread its cost structure while retaining a certain measure of proprietary control over new technologies: the real source of competitive advantage through this approach is reinforced by other factors like technological convergence, integration of computers, telecommunications and all the other resources brought by the human and society progress (*Buckley, Ghauri, 2004*). The implication is gaining the ability of creating a successful networks of inter-locking business partners, both backward and forward in the production stages, which relies heavily on complementary technologies rather than on the substitute ones. The basic idea is that creating and design an organization structure based on the principle of complementarities is the future real key to be profitable and over perform: moving on, joint ventures, for example, are important, because of the fact that they afford a number of real options, which can be taken up or dropped depending upon how the project turns out (*Buckley, Ghauri, 2004*). The potential and power of a system based on inter-locking joint ventures is providing greater flexibility than does either outright ownership or an alternative involving no equity stake (the traditional "old economy" approach) (*Cantwell, 1995; Buckley, 2002*).

Now let us consider another important element arising from the strengthen of global competition and particularly affecting future economic scenarios: this is the case of understanding of how global knowledge diffusion and management issues impact on the future organizational and corporate design (*Buckley, Ghauri, 2004*). We have broadly seen during this report that the opening of the global market has lead to the exigency of effectively manage the trade-off between global vs. local strategies, centralization vs. decentralization structures, standardization vs. adaptation processes and efficiency vs. responsiveness approaches: all the previous kind of market challenges are, for different reasons, centered on real cost of managing the knowledge flow and the combination of general "company-wide" knowledge and separable, spatially fixed local-specific knowledge. Global management of knowledge is fundamental in our analysis, because it does enable the separation of key activities that can therefore be managed in different ways: the consequences in practice have been strategies like outsourcing, mass customization and duplication of functions, which can

be spatially separated (global dispersion of economic activities), bundled, differentiated and consolidated respectively (*Buckley and Carter, 2002; Murtha, 1998*).

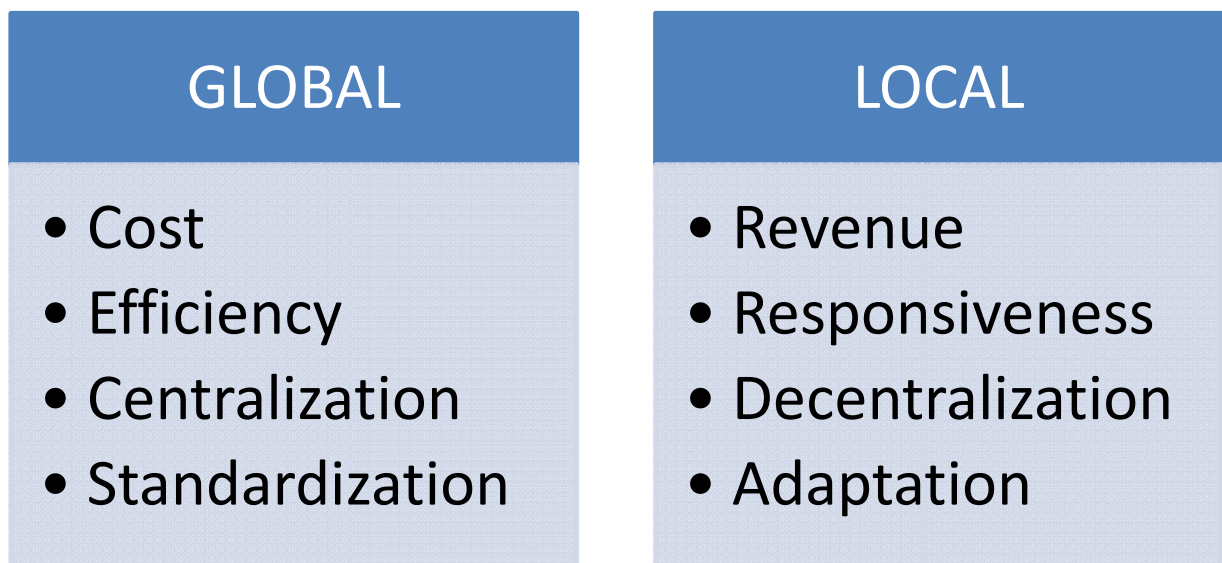
The real challenge that companies must face nowadays in the modern economy is to obtain the optimum combination of inputs from the variety of opportunities open in the global market: the possibility of effectively gaining a sustainable and competitive internalization advantage is heavily linked to the capability of firms to "mix and match" all these above sourcing strategies and market opportunities.

In doing this, there is a clear path to be followed: all these strategies enable increased specialization and localization to enhance the division of labor globally and for individual firm to gain benefits from this by creating a global business networks, as we have seen before in the case of inter-locking joint ventures, characterized by different locations for different activities with mixed ownership/contracting modes of procurement.

In the same way, the market servicing strategies comprises an efficient and effective mix of exporting, licensing/contracting and investment activities (Foreign Direct Investments), suggesting again a perfect and proper mix of ownership and location strategies in different both spatial and temporal circumstances (*Buckley, Ghauri, 2004*). Going on in our analysis, different functions can be either centrally and globally organized or differentially localized, based on the degree of differentiation of local economies for example, as we have seen before (for example, in this case we are talking about more housing, distribution and advertising). The same reasoning can done, for sure, in relation to ownership design issues, which can be fully internal, joint venture/alliance or outsource: the strategic decision of one instead the others is related to the actual degree of flexibility of the industry and the desired one targeted by the company (later one, we will draw a quite perfect way to design the corporate structure in the pursuit of the best solutions to gain overall flexibility)(*Buckley, Ghauri, 2004*). We must also spend few words about the interaction of the supply and demand equilibrium within industries: surely it is safe to assume that large markets exercise a geographical pressure to pull on inputs, and key input sources encourage local marketing (*Buckley, Ghauri, 2004*). From a general perspective, multinational enterprises seek optimal locations for raw materials, intermediate goods, services and assembly plants: all these managerial issues and strategic decisions are taken in order to seek entry and exit strategies for markets to beat competition.

Let's try to go more in detail and see how firms should re-organize their corporate arrangements in virtue of the new industries' requirements for the next decades, according to

the perspective of Buckley and Ghauri. In the strategic decisions of multinational firms, there has always been a tension between the pressures to globalize and the need to stay local and to serve individual customers (*Ghauri 1992*): on the one hand, the advantages deriving from global operations are cost-based, maximizing economies of scale and reducing duplication, thus achieving efficiency; on the other hand, the advantages arising from focusing on serving specific markets are revenue-based, allowing differentiation to reach all customers niches and thus achieving responsiveness. This tension can be easily summarized in the sentence "the cost advantages of standardization vs. the revenue advantages of adaptation". As you can easily imagine, the increasing pressures brought by the globalization of markets has make the boundaries of the above trade-off less clear and defines: sometimes, companies must, at the same time, reach economies of scale (efficiency) and differentiate their market offerings according to the increase level of local economies differentiation. So the challenge is being able to target both the previous strategic goals: much of the strategy of the multination firm can be explained by the attempts of reconcile these kind of pressures (the following graph shows the trade-off between the actual pressures affecting global markets)(*Devinneyet al., 2000, quoted by Buckley and Ghauri, 2004*).



The best strategy for the future period in order to gain sustainable competitive advantages derives from the perfect combination of the two: designing a new organizational structure able to be "GLOCAL" and to fully benefit from both efficiency and responsiveness implications (*Buckley, Ghauri, 2004*). Our goal now will be trying to provide a model to handle with these issues and re-organize the corporate arrangement (*Buckley, Ghauri, 2004*).

From a general point of view, we can say that, whatever kind of industry we are taken into consideration, pressures push firms towards a strategic imperative, which is characterized by scale in electronics and local demand differences in consumer goods (what we have addressed so far as degree of differentiation of local economies, both in terms of ability to attract foreign investments and of product preferences), and different functions require different balances of global versus local orientation:

- finance
- production
- sales function

A key strategic and organizational model to handle all these pressure and balance the trade-off between globalization and differentiation is the "hub and spoke" model, which is shown in the below representation (*Buckley, Ghauri, 2004*).

Before going into the detailed description of the model, it is kind of important to make a step back and introduce another important argument.

One of the main important factor characterizing global markets is the use of regional production and distribution hubs, whose main strategic goal is to serve several neighboring countries through the same location: in this case, the regional hub, like the International Joint Venture (IJV) can be considered as a managerial organizational structure offering superior flexibility, which is the basic requirement of global markets for the next decades, as we have seen before (*Buckley, Ghauri, 2004*). The IJV, which is a synonym of what we called above as inter-locking joint venture, offers a real compromise ownership strategy and a regional hub offers a compromise location strategy: in this situation, we can gain both an internalization and location competitive advantage, while assuring to the company a consistent degree of flexibility and responsiveness at the same time (*Buckley, Ghauri, 2004*). As the hub is nearer to each market that is the home location, it reduces transport costs, and offers better information in terms of different preferences, needs and wants of local economies: the advantage of proximity is fundamental for capitalizing in size-of-country benefits. Moving one, another very important positive consequence of such an approach is the fact that, in virtue of the fact that it is closer to more than one country, it avoids exclusive commitment to any one: if one market declines, production can be easily switched to other markets. So the consequence is that, on the one hand company must sacrifice a little bit the degree of selective distribution and capillary physical presence in all the relevant markets, but, on the other hand, the shocks affecting the different regional markets are independent and not affecting at all the

firm dimensions (the hub provide real and reliable economic benefits from diversification based on the strategic design of the network of the inter-locking joint ventures)(*Buckley, Ghauri, 2004*).

Now, after the above overview, we can analyze more carefully the "hub and spoke" framework, with the aim of indentifying the real source of competitive advantage in terms of agility and capability to diversify the market product and service offerings.

Table 1 below shows how we can match perfectly together the International Joint Venture approach and the hub concept, or, in other words, it highlights how we can cope the right ownership strategy with the proper location strategy in order to reach flexibility: the result is an International Joint Venture production hub (*Buckley, Ghauri, 2004*). The model suggests

that a careful combination of a wholly owned production hub supplying IJV distribution facilities with respect to the different national markets is the best solution in re-designing the organizational structure in virtue of

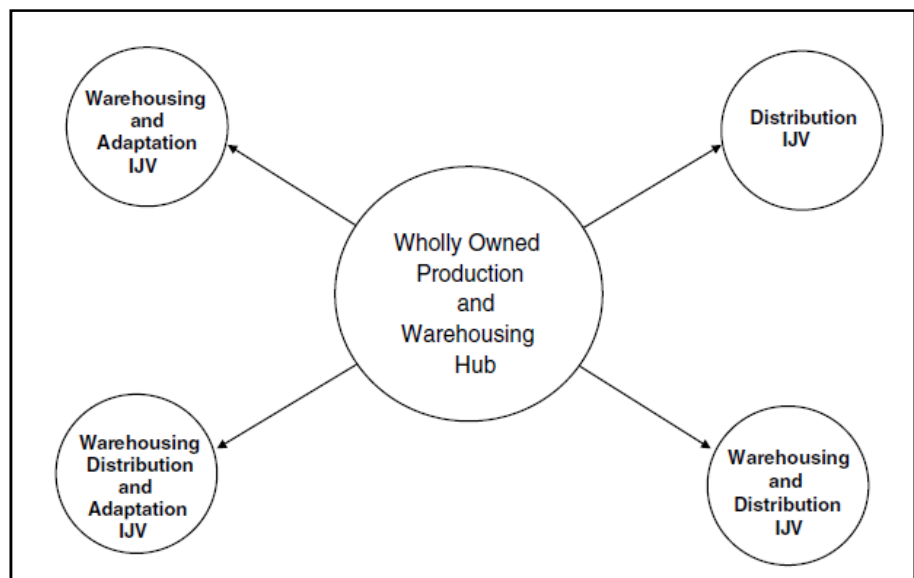


Table 1 - An example of Hub and Spoke structure - P. J. Buckley, P.N. Ghauri, *Globalization, economic geography and the strategy of multinational enterprises*

the new global market challenges. The main idea behind this framework is that, even with a wholly owned hub facility, the combination still affords considerable flexibility to divest or withdraw from any single market (*Buckley, Ghauri, 2004*). The most important competitive advantage arising from this scenario is that, when multinational companies decide to divest, the distribution facility can be sold to the partner, while the production capacity can be diverted to other markets: this is an effective strategic degree of agility from an international perspective. For sure, the same reasoning can be done in the positive way: all the above options in terms of divestment can be done, without any doubt, in relation to further options of market expansion. Furthermore, this managerial approach is fundamental in illustrating that

the concepts of flexibility and volatility play a primary role with respect to the analysis of the entry modes in new foreign markets (*Buckley, Ghauri, 2004*).

Now we will move to the analysis of two other fundamental elements, heavily affecting the modern economic structure and the decisions about the design of the corporate arrangements: they are the outsourcing and logistics issues and they impact on creating new interdependencies among business partners.

Many input functions are now viably outsourced, whatever industry or enterprise we are taking into consideration: because of the existence of the trade-off between globalization and local economies differentiation, nowadays even human departments and procurement are subject to outsourcing-focused strategies, in order to reach a bigger degree of adaptation with respect to the different national markets (*Buckley, Ghauri, 2004*). On the output side, for example, also digital delivery of products and services has an analogous process. From a general point of view, the danger connected to relying on outsourcing strategies is the general loss of core competencies: this development contributes to volatility and increases the mobility of activities on an international base, as a great deal of outsourcing functions are competed for on a global basis (*Buckley, Ghauri, 2004*).

The above analysis describes a particular global trend characterizing and shaping new lines for the Global Value Chain across all the industries: the disintegration of established supply chains is followed by reintegration and consolidation of the latter. On the one hand, the supply chain structure, which in the "old economy" point of view was intended to be internalized within the scope of actions of the company (backward vertical integration), now is subjected to a real process of slicing up and externalization (*Buckley, Ghauri, 2004*). The message here is that, opposite to the Dunning interpretation of the internalization advantage, now, given the actual ongoing situation, a competitive advantage, sustainable over the long-term perspective, can be determined as the perfect mix of both internalization and outsourcing strategies, in the pursuit of both responsiveness and cost flexibility (*Buckley, Ghauri, 2004*). On the other hand, while supply chain structures are progressively going through a breaking down process, the trend to outsource manufacturing is passing through subcontracting to independents: this passage is fundamental, because we have the rise of new key players in the global markets and these are the so called "contract manufactures" (*Buckley, Ghauri, 2004*).

The benefits and risks belonging to rely on a Contract Manufacture must be considered carefully: of course, they must be managed in the perfect way in order to reach flexibility (costs minimization, economies of scale, and so forth), but also responsiveness (quality and

focus improvements). Most of time, managing a company means also managing trade-offs between mutual exclusive benefits, so, also in this case, enterprises must carefully understand and study how to design a dynamic business network based on the deployment of Contract Manufactures.

Moving on, the trend we have explained so far is accelerated by the competitive imperative becoming speed-to-market rather than cost: the consequence is that a linked supply of available factories in different national locations mean that the Contract Manufactures can switch production lines between these units. In this scenario, flexibility is achieved by moving these "shell" factories between principals and the entire production lines can be flown in from another location (*Buckley, Ghauri, 2004*).

This process of vertical disintegration is thus accompanied by specialization: the principal, on the average, concentrates on Research and Development, design and marketing, while the Contract Manufacturing provide a service to the global supplier. So, companies with a strong manufacturing culture and heavy commitment to fixed locations might be out-competed by more agile firm owning no manufacturing facilities at all (for example, mass customization is an important method of reconciling and connecting scale and differentiation or efficiency and responsiveness)(*Buckley and Ghauri, 2004*).

All the previous words are drawing a specific path, along which we can see how the concept of global factory, that we have explained before, will shape and design the new organizational structure: in simpler terms, we have realized so far that the manufacturing system of the future will use a "distributing manufacturing" general approach, where factories are more flexible (*The Economist, 2002, quoted by Buckley, Ghauri, 2004*).

What does adopting a flexible structure means for an enterprises acting in a global perspective?

First of all, one of the most important aspect of the future arrangements of processes will be, as we have seen before, the "speed-to-market" variable, where the ability of being more responsive to customer needs through a good degree of flexibility will be for sure the most important key value driver (*Buckley, Ghauri, 2004*). In flexible factories, all plants within the system can make all the firms' product models and can switch between models very quickly by a combination of software and robots: this is the secret of moving from an "old economy" approach to a more modern view (*Buckley, Ghauri, 2004*). Furthermore, the new concept of global factory will provide a single factory design for its distributed global plants and attention to staff training so that replications and perfect substitutability among plants is

achieved. The consequence is that customers will be able to really dictate which parts they require in the final assembly and the distributed manufacturing function will reassemble: the main idea behind this is that, by adopting this strategic and managerial approach, enterprises will allow final users to shape the new market offerings and to be better or fully satisfied (if we recall the "hub and spoke" model we have seen before, now we see that, in this way, production is pushed from the hub into the spoke) (Buckley, Ghauri, 2004). Furthermore, brand owners will control design, engineering and marketing while outsourcing large areas of production to parts suppliers and they may well contract out final assembly. The products and services launched in the market will be created with "built to order strategy", in the pursuit of the maximum level of closeness to the final customers, according also the different level of differentiation of local economies (Buckley, Ghauri, 2004). In fact, globalization issues imply the design of a location quite near to the customers, not a single large-scale plant. It is the high fixed costs of existing factories, which compel manufacturers to achieve large-scale production, and a reduction of fixed costs means that production itself can be more easily tailored to final demand (Buckley, Ghauri, 2004).

The below Table 2 is the clear answer to our research about how conjugate responsiveness and efficiency, how design a flexible organizational structure, while maintaining always the focus on final clients.

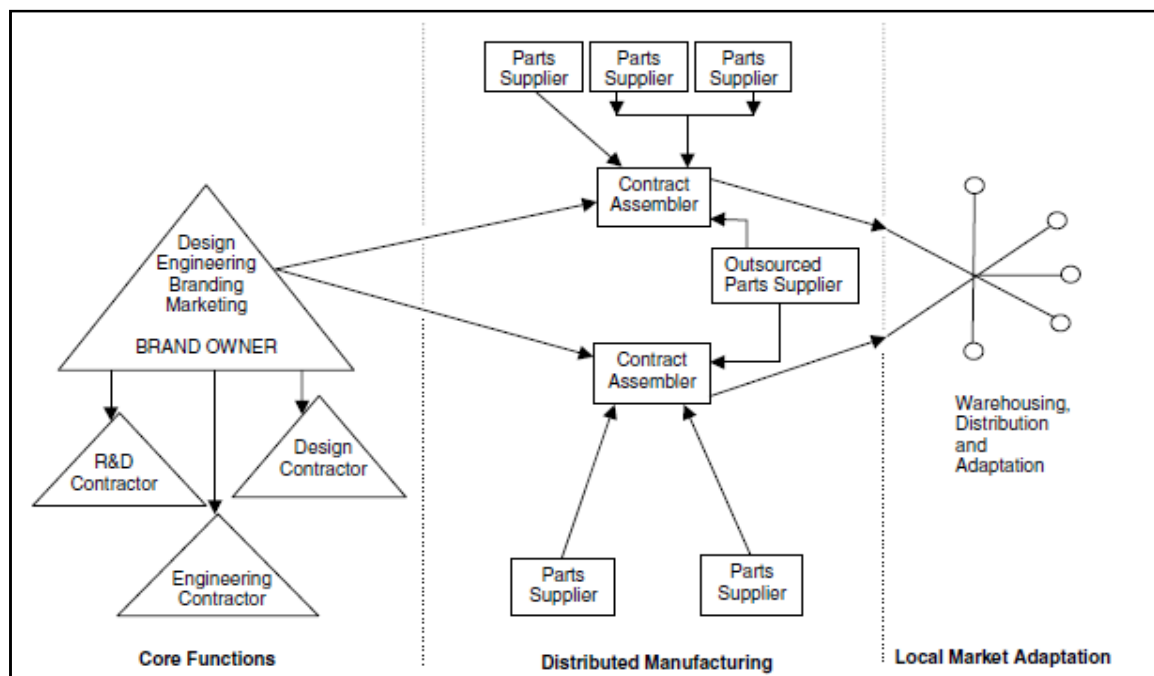


Table 2 - The Global Factory outlook - P. J. Buckley, P.N. Ghauri, Globalization, economic geography and the strategy of multinational enterprises

1.6 The Governance of Global Value Chain

The globalization of the markets has allow firms to better organize their productivity through new channels, both backward and forward: as we have broadly seen before, Global Value Chain methodology allows managers to go through a structural change process of the corporate arrangement:

- design new structures for business operations
- increase efficiency and effectiveness
- leveraging on more flexibility
- reduce overall costs structure thanks to a better localization of activities
- boost operating profit margins
- gaining more competitive advantages
- exploiting core competencies and capabilities
- getting disposal of new competitive assets

These are in brief the overall benefits of engaging into a Global Value Chain arrangement, including profitability indexes, such as costs and revenues, and , next to them, managerial and strategic Key Profitability Indexes, such as improving production rather than developing sustainable competitive advantages in the long run perspective.

On the contrary, all the Key Value Drivers are balanced with many important drawbacks to be managed: the basic rule of thumb is that the ability of Multinational Enterprises to heavily rely on the above benefits deriving from globally disperse economic activities is strictly linked to the effective management of its counter-balance effects, such as problems of ownership and control.

From a general point of view, a company, when managing activities spread out across all over the world or, at least, more than one location, must asses issues such as how to control activities, how to decline the ownership structure and, in general terms, how to deal with all the implications regarding the corporate governance (*Gereffi G., Humphrey J., Sturgeon T., 2005*).

In the previous section, we have seen that one of the pillar of the Global Value Chain analysis is the governance arrangements: now, in this section we will mainly go more in dept into this topic, by explaining three fundamental theories and their implication in the strategic management of the ownership and control issues.

The concept of Governance and its implications are the last issue we analyze in this report, because it is, in some way, the sum of the effects of all the trends and issues we have taken into count so far. On the one hand, we have the globalization of production and trade, which have contributed to the growth of industrial capabilities and competencies in a wide range of emerging and developing economies, and, on the other hand, we have the disintegration of transnational corporations, which are redefining the above core abilities in order to better focus on the following aspects:

- innovation and product strategy
- marketing
- highest value-added segments of manufacturing

The drawbacks of this last trends are quite reliable: all these indexes have dramatically reduced the direct ownership degree over "non-core" functions, such as generic services and volume production (these are the left hand side of the chart regarding the Global Value Chain framework we have seen before) (*Gereffi, Humphrey, Sturgeon, 2005*).

The consequence is that these two shifts, working simultaneously, have laid the groundwork for a variety of networks form of governance situated between arm's length market transactions, and, on the opposite side, large and high vertically integrated corporations. The challenge, nowadays, is being able to find an equilibrium point among all these trade-offs and balance their effects in order to get back all the value created along the value chain.

From a general perspective, enterprises must put together and well manage fragmentation of production, coordination of widely dispersed economic activities and the perfect harmonization of different forms of networks: this is the right mix to be successful over the next decades.

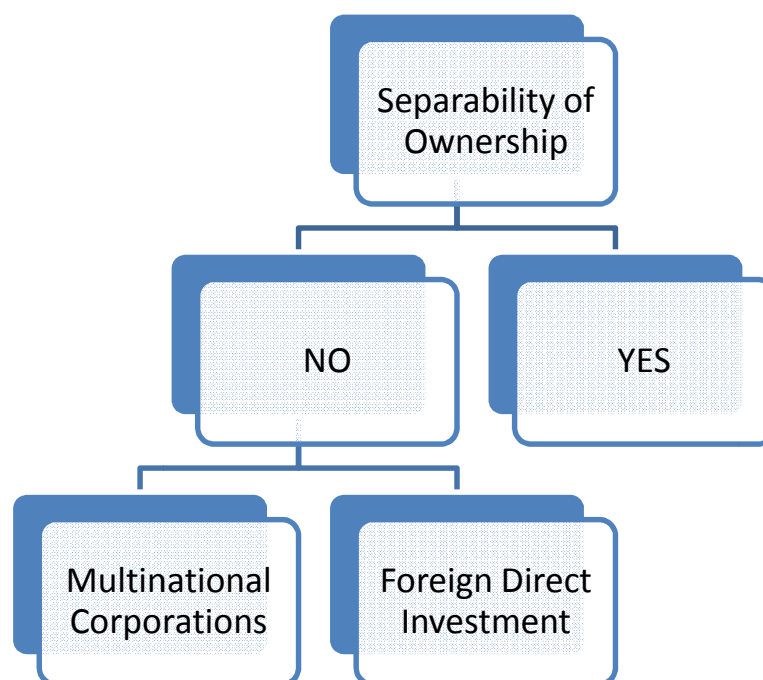
Arndt and Kierzkowski, in 2001, used the term "fragmentation" in order to describe the process of physical separation of different parts of the production set: this has allowed companies to produce in different countries, with the obvious consequence of creating a rising number of cross-border production networks, which can be within or between different firms. This is the first step in the external location of economic activities: once the enterprise has decided to change the location of local process with an external site, the first strategic and managerial issue is the well design and development of new channels and networks along the chain. Consequently, new networks means also new degree of coordination and this increase the difficulty to keep all the steps aligned with respect to each other's (*Arndt and Kierzkowski, 2001, quoted by Gereffi, Humphrey, Sturgeon, 2005*).

One step forward along this path has been made by Feenstra, who stated explicitly the existence of a sort of connection between the "integration of trade" and the "disintegration of production", with respect, of course, to the global economy. The basic idea behind this concept is that the rising integration of world and global markets through trade has created a disintegration of multinational firms, because the latter are finding it advantageous to "outsource" an increasing share of their non-core manufacturing and service activities both in a domestic perspective and abroad. The immediate consequence of this phenomenon is that the overall proportion of international trade occurring in components and other intermediate goods keeps drastically growing (Gereffi, Humphrey, Sturgeon, 2005).

.At this point, the question is: if production is increasingly fragmented across geography space and, mostly, between firms, how are these fragmented and dispersed activities coordinated? Which is the right Governance structure to be applied to effectively manage the existence of all this new relationships?

The options, as explained by Arndt and Kierzkowski, are clear and they follow a specific path, as represented in the below chart. They say that "*Separability of ownership is an important determinant of the organizational structure of cross-border production sharing*"(Arndt and Kierzkowski, 2001, quoted by Gereffi, Humphrey, Sturgeon, 2005).

When separation of ownership is not feasible, multinational corporations and foreign direct investment are likely to play a dominant role. When it is feasible, arm's length relationships are possible and foreign direct investment is less important".



The conclusion we can draw from this graph is that there is a binary view of how global production might be organized: on the one hand, we have the development of new markets and, on the other hand, we have transnational firms. A better clear explanation of this system works is made by a theory, which is the base for the economies involving the creation and management of new networks: I mean the transaction costs theory and its implications (*Gereffi, Humphrey, Sturgeon, 2005*).

Transaction costs economics are a good solution to show the reason why there is the above binary relationships, because they are related to the complexity of inter-firm relationships and to the extent to which they involve investments specific to a particular transaction: in this case, the discriminate variable is the degree of asset specificity (*Gereffi, Humphrey, Sturgeon, 2005*). If we want to make a simple example, arm's-length market transactions work very well in relation to standard products, because of the fact that they are easily described and valued: in this case, coordination problems and costs are reduce in a consistent way not only in virtue of the ease of description of the market offerings, which contributes in making contracts simple to be written, but also because standard products and services can be produced for stock and supplied as needed (make-to-stock production approach, instead of make-to-order). At the same time, because this kind of products are made by a variety of suppliers and, consequently, bought by a large number of customers, problems arising from the extent of the asset specificity are quite low: from this, we can easily understand that, while we are moving from arm's-length transactions towards "separability of ownership", the coordination problems and costs increase proportionally (*Gereffi, Humphrey, Sturgeon, 2005*). Moving on, we can also use the transaction costs theory and approach, in order to analyze the dynamics affecting the decision of enterprises to bring certain business activities in-home or not (*Gereffi, Humphrey, Sturgeon, 2005*).

Before going more in depth into this issue, it is kind of fundamental to fix some important aspects:

- the more customized the product or the services launched in the market, the more likely is it to involve transaction-specific investments: this theme is very delicate and crucial from a managerial point of view, because it raises the risk of opportunism, which either rules out outsourcing approaches altogether, or makes it more costly because safeguards have to be put in place, for matters of protection (*Gereffi, Humphrey, Sturgeon, 2005*).
- transaction costs increase in a reliable way in the case of inter-firm relationships, because this approach requires for sure a greater degree of coordination. Just to

provide some examples, non-standard inputs and integrated product design architectures involve more complex transfers of design information to support the functioning of the business operations and, therefore, intense interactions across enterprises boundaries. On the contrary, integral product architectures are more likely to require non-standard inputs, and changes in terms of design of particular parts tend to precipitate design changes with respect to other areas of the system (*Gereffi, Humphrey, Sturgeon, 2005*).

- coordination costs, on the whole, are likely to increase for parts whose supply is time-sensitive, in relation to the fact that separate processes have to be better coordinated and aligned, with the aim of creating a perfect synergy during the flow of inputs in the value generation process (*Gereffi, Humphrey, Sturgeon, 2005*).

From these above words, it seems that recognizing the importance of transaction costs, which is the base of developing new business and economic relationships, leads to the conclusion that complex and tightly coordinated production systems always result in the need for vertical integration. This is not totally true: in fact, the three major issue we have analyzed so far, asset specificity, opportunism and coordination costs, could be effectively managed at the inter-firm level through the development of a variety of methods. For example, network actors in many instance scan control the opportunism degree through the effects of repeated transactions, reputation and social norms, which are embedded in particular geographic locations or social groups. Furthermore, the theory suggests that elements such as trust, reputation and mutual dependence dampen opportunistic behaviors and the consequence is that complex inter-firm divisions of labor and interdependence, predicted by transaction costs theory, are possible to be developed and well managed (*Gereffi, Humphrey, Sturgeon, 2005*).

Another important theory that we can use together with the transaction costs theory to better explain how governance structure is set within a global value chain system is the resource view, explained by Penrose (*Gereffi, Humphrey, Sturgeon, 2005*): the main important theme, fundamental in our analysis, is the reasons why firms are ready and willing to buy key inputs in the face of asset specificity and, starting from this principle, build up relatively complex inter-firms relationships (*Gereffi, Humphrey, Sturgeon, 2005*).

The resource theory explains how and whether enterprises can capture value along the value-added generation process: in the previous section we have seen the step characterizing the Global Value Chain analysis and our conclusion was that by trying to maximize and manage efficiently them, firms can rise the probability of getting back more slice of value generated.

Now, let's try to connect this approach, in terms of its implications on the governance structure.

The ability of capture the maximum amount of value from business operations depends in part on the generation and retention of competences (resources), which are difficult to imitate for competitors: so, we can say that the extent of the overall asset specificity a company is able to develop is the key factor in allowing the latter to develop a sustainable competitive advantage. If we make a step backward, we can see that this is related to the internal analysis of Global Value Chain (the first point of the analysis)(*Gereffi, Humphrey, Sturgeon, 2005*).

From a practical point of view, even the most vertically integrated companies, both backward and forward, rarely internalize all the technological and management capabilities that are required to bring a product offering to the market: moving back a little more in this report, we have seen the internalization advantages is the third and most important competitive feature that a firm, which want to go on the global market, must have (we will summarize all these themes in the next section, drawing conclusions).

Transaction costs economics and the resource view theory by Penrose find their connections in the employing the variable of frequency (*Gereffi, Humphrey, Sturgeon, 2005*). For example, if an input, even an important one, is required infrequently, then the immediate consequence is that it will likely to be acquired externally: this is an essential argument for the economies of scale. The literature about firm capabilities and learning, on the contrary, shows that the experience and the learning curve required to effectively develop the ability to engage in certain value chain activities may be difficult, time-consuming and more or less impossible, regardless of frequency or scale economies (*Gereffi, Humphrey, Sturgeon, 2005*). The implications are that firms must, in some way, rely on some degree of external resources: moving a step forward, the practical evidence draw a scenario, where firms, which rely on the complementary competencies of other firms and focus more on intensively on their own areas of competence will perform better than firms that are vertically integrated or diversified in an incoherent way (*Gereffi, Humphrey, Sturgeon, 2005*).

These issues are fundamental and can be applied perfectly to the structuring of global-scale production and distribution: they strongly influence the complexity of inter-firm relationships in the global economy and the key insight is that coordination and control of global-scale production systems, despite their complexity, can be achieved without direct ownership (*Gereffi, Humphrey, Sturgeon, 2005*).

Since concluding this first part, we can state that the theories of industrial organizations we have taken into consideration suggest that there are different ways of dealing with the problem of asset specificity, and, consequently, different motivations for constructing complex firm-to-firm relationships in terms of asset specificity, which, by the way, must be controlled and governed. If we want to make a short recap, they are the following:

- market
- hierarchy
- network

From a general point view, we can define the Value Chain Governance as the set of relationships among buyers, sellers, service providers and regulatory institutions that operate within or influence the entire range of business activities, required to bring a product or service from inception to its final use (*Gereffi, Humphrey, Sturgeon, 2005*).

In the previous section, we have talked about the Governance analysis, by identifying the five major types affecting this area: now let's try to understand the reasons why they exist and which is their origin, in relation to the binary view of the global value chain, divided into "producer-driven" and "buyer-driven". In other words, our aim, here, is trying to collect all the information we have seen so far in terms of global value chain structure, control and governance, in order to provide a more dynamic approach to analyze these issues.

In the 1990s Gereffi and others (*Gereffi, Humphrey, Sturgeon, 2005*) developed a really interesting framework, which is quite useful for our situation: this theory is called "global commodity chains", that ties the concept of value-added chain directly to the global organization of industries (then, for sure, enterprises must adapt the model to the different features of the respective industries and markets).

This work has highlighted not only the importance of coordination across firm boundaries, but also the importance of new global players (mainly retailers and brand marketers) as key drivers in the formation of globally dispersed and organizationally fragmented production and distribution networks. This the reason why before we have talked about "producer-driven" chains and, on the contrary, "buyer-driven" chains (*Gereffi, Humphrey, Sturgeon, 2005*):

- "buyer-driven commodity chain": it denotes how global buyers use explicit coordination to help create a highly competent supply-base upon which global-scale production and distribution channels could be built up without direct ownership
- "producer-driven commodity chain": in this situation, we change totally the spectrum of action. By highlighting explicit coordination in disintegrated chains and contrasting

them to the relationships contained within vertically integrated structures, the global commodity chain framework draws attention to the role of networks in driving the co-evolution of cross-border industrial organizations

The basic idea coming out from the Gereffi theory and other correlated studies is that global buyers, in terms of retailers, marketers and traders, can and do exert a high degree of control over spatially dispersed value chains even when they do not own production power, transport or processing facilities: the consequence is that, nowadays, because of the rapidly changing market rules, the need for coordination is getting higher.

The other step forward in order to fully understand why we can divide the governance forms into the previous five categories is understanding the three types of supply relationships, according to the degree of standardization of product and processes (*Gereffi, Humphrey, Sturgeon, 2005*):

- "commodity supplier": this type of supplier provides standard products through arm's length transactions and market relationships
- "captive supplier": it makes non-standard products using machinery dedicated to the buyer's needs
- "turn-key supplier": this type produces customized and tailored products or services for buyers and uses flexible machinery to pool capacity for different customers.

The above categories emphasize the complexity of information that must be exchanged among firms and, most of all, the degree of asset specificity in the production equipment, concept we have broadly analyzed before.

Moving on, other three important theorists, such as Sturgeon, Humphrey and Schmitz in 2000-2002 (*Gereffi, Humphrey, Sturgeon, 2005*), used this concept to extend the entire analysis by adding further considerations. The first one referred to production systems that rely on turn-key suppliers as "modular production networks", because of the fact that highly competent suppliers could be added and subtracted from the global production arrangements on an as-needed basis.

Humphrey and Schmitz make a further distinction, with respect to the suppliers side structure:

- suppliers in quasi-hierarchical relationships with buyers, whose situation corresponds to "captive suppliers"
- network relationships among firms that cooperate, in virtue of their possession of complementary core competencies

The main idea behind this study is that there is an high emphasis towards the role of supplier competence in determining the extent of subordination of suppliers to buyers: the conclusion is that, in the case global buyers need to make some investments in supplier competence, they would definitely need both to specify the product and process parameters to be followed by suppliers and, on the contrary, to guard this investments in the supplier by remaining the dominant, if not exclusive, customer (*Gereffi, Humphrey, Sturgeon, 2005*).

So, we have seen that the governance structural shape is heavily characterized not only by the effective arrangements of the company's manufacturing and production-related business operations, but also, by all the set of the players and actors within the chain, in terms of forward and backward channel allies.

Moving on, in order to explain the origin of the five governance mode, we need to add an extra step. So far we have seen that market-based relationships among firms and fully vertically integrated firms (hierarchies) make up opposite ends of a spectrum of explicit coordination and that network relationships comprise an intermediate mode of value chain governance. By adding this latter distinction to the extension of the network category into the three most important distinct types, such as modular, relational and captive, we obtain the five categories we have broadly analyzed in the Global Value Chain analysis (markets, modular value chains, relational value chains, captive value chains and hierarchy)(*Gereffi, Humphrey, Sturgeon, 2005*).

Governance, in some way, can be associated to the proper power and ability to exert control along the chain: for example, at any point of the Global Value Chain, some firm, organization or institution sets and/or enforces many fundamental parameters, under which all the other actors in the chain itself operate. These parameters address the following key questions:

- **What is to be produced?:** the answer is all the product design arrangement and its specifications
- **How it is to be produced?:** here, we mean the definition of the production and manufacturing processes, including other elements, such as the adopted technology, the quality of systems, labor and environmental standards
- **How much and when is to be produced?:** this is referring to the overall production scheduling and logistics-related dynamics

Once established the answers to these four above questions, actors within the entire value chain set, monitor and facilitate compliance with respect to the "rules" that are pertaining to each of these parameters: in this case, such actors could be firms, in terms of both buyers and

producers, public or private institutions from the economic environment. When moving from local to global markets, different actors may exert more or less influence and the scope of an actor/action's impact can be industry-specific or broadly focused. This is important in order to understand how the principles of governance of a value chain work: the latter exists in the case some firms work to the parameters set by other powerful firms in the chain itself. The consequence is that the enterprise setting the parameters with which other firms in the chain must comply is referred and identified as the lead firm.

From these words, it is clear the companies must face a need of coordination of value chain activities, to keep under control each stage within it: this kind of need comes primarily from two main trends (*Gereffi, Humphrey, Sturgeon, 2005*).

- **Internal trend:** this is linked to the trade-off between outsourcing non-strategic activities that was previously performed in-house. In this case, highly vertically integrated firms, both backward and forward, has led managerial control to be replaced by the need for value chain governance
- **External trend:** product differentiation strategies and the concern for meeting the continuously growing number of environmental and social rules and standards, set by external agents, have led to the increase need for lead firms to exercise control over activities carried out by other firms in the chain

So far, we have seen why managing the governance structure is really important nowadays, but being able to benefit from a value chain structure means understanding which are the lead firms and which are the governance parameters they have set.

All the themes we have explained before are the basis to analysis the governance structure of a Global Value Chain, characterized by a small degree of dynamism affecting the markets shape: now let's consider some other information and issue in order to identify a complete framework of how to design and manage the governance arrangement when the borders across industries are not so clearly well defined.

The basic question we will try to address is the following: under which conditions would we expect market, modular, relational, captive or vertically integrated global value chain governance to arise? In doing this, we will recap lots of the arguments and concepts we have gone through, such as asset specificity and transaction costs theory, with all the implications and consequences it implies.

Firstly, by saying transaction costs, we rather mean "mundane" transaction costs, which are the costs involving in coordinating activities along the entire global value chain: this kind of

coordination or mundane transaction costs rises when value chains are focused mainly on the production of non-standard products, products with integral structural architectures and products whose output is time sensitive (*Gereffi, Humphrey, Sturgeon, 2005*).

Lead firms, in order to try to boost overall productivity, increase complexity when they place new demands along the value chain, in particular in those situations where they seek just-in-time supply and when they increase the degree of differentiation and customization of the market offerings. In any case, the challenge is to adopt strategies to reduce the complexity of all these transactions: the answer we can propose is just developing technical and process-related standards, in order to help them designing consistent rules for the ongoing activities in the business (*Gereffi, Humphrey, Sturgeon, 2005*).

The functional utility of these above instruments is that they allow enterprises to codify information and clean hand-offs among trading partners: where in the flow of economic activities, these standards apply goes a long way toward determining the organization break points with respect to the value chain itself. This is translated into the fact that, when standards for the hand-off of codified specifications are known on a broad basis, then the value chain obtains many competitive advantages, that have been identified in the realm of modular product design, in particular with respect to the conservation of human effort through the re-use of system elements, or modules, as new products are brought on-stream: these are the conclusions of many theorists, such as Langlois and Robertson, Schilling and Steensma and, in the end, Sturgeon (*Gereffi, Humphrey, Sturgeon, 2005*).

Moving on, in the realm of the modularity of value chains, suppliers and customers can be easily linked and de-linked, with the clear consequence of the creation of a very fluid and highly flexible network structure. While the dynamics are market-like, the system remains different from a qualitative point of view, because of the large volumes of non-price information, which keep flowing across the inter-firm boundaries. Moreover, a high level of product and service differentiation can be accommodated and managed with limited information exchange as long as customization itself is well defined by a set of unambiguous and widely accepted parameters (*Gereffi, Humphrey, Sturgeon, 2005*).

At the same time, the growing process of integration of new suppliers into global value chains also allows the increase of coordination challenges. Keesing and Lall in (*Gereffi, Humphrey, Sturgeon, 2005*) argued that producers in developing countries are expected to meet requirements that frequently do not (yet) apply to their domestic markets: the implication is that we assist at the creation of a significant gap between the capabilities required for the

domestic market dynamics and those ones required for the structure of the export market, which raises the extent to which firms must monitor and control their buyers and business partners.

So, since concluding, our dynamic framework for analyzing the governance structure of rapidly changing and global value chains is characterized by the adding of the following three variables (*Gereffi, Humphrey, Sturgeon, 2005*):

- **Complexity of information:** this index is related to the amount of knowledge required to sustain a particular transaction, especially with respect to product and process specifications
- **Degree of codification:** this variable is linked to the extent to which information and knowledge can be processed through standards, able to be well codified and understood by business partners and transmitted efficiently and without transaction-specific investments between the parties involved into the transaction itself
- **Extent of competitive capabilities:** in this section, we are referring to the competences of actual and potential suppliers in relation to the requirements of the transaction

Once we have established the meaning of this new set of variables, we must cross them with the five principal governance types we have analyzed before. If we consider that these three new indexes can have a range of intensity, starting from "low" and arriving at "high", let's see what happens with respect to the governance arrangements (*Gereffi, Humphrey, Sturgeon, 2005*).

- **Markets:** in this case, transactions are easily codified, with the consequence that product specifications are relatively simple and suppliers have the competitive capability to make the market offering in question starting from the disposal of a little input from buyers, asset specificity will fail to accumulate and market governance can be expected. In this type of market structure and exchanges, buyers respond proactively to specifications and prices set by sellers: in virtue of the fact that the complexity of information is relatively slow, transactions and business relationships can be controlled and ruled with little explicit coordination (*Gereffi, Humphrey, Sturgeon, 2005*).
- **Modular value chains:** when the ability to codify specifications is extended to complex products or services, we assist at the rise of a certain degree of modularity within the value chain. This happens in relation to some important factors, such as the


modular product architecture and the technical standards simplifying interactions by reducing component variation and by unifying component, product and process-related specifications; it also happens when suppliers have the capability to supply full packages and modules, which internalizes hard to codify (tacit) information, reduces asset specificity and, consequently, a buyer's need for direct monitoring and control. From a general perspective, linkages based on codified knowledge provide some important benefits associated to arm's-length transactions, like speed, flexibility and access to low-cost inputs, but, on the contrary, are not the same as classic market exchanges based on price. The conclusion is that, because of the fact that there is a certain degree of codification, complex information can be exchanged with little explicit coordination, and so, like simple market exchange, the cost of switching to new partners remains quite slow (*Gereffi, Humphrey, Sturgeon, 2005*).

- **Relational value chain:** in this case, product and service specifications cannot be codified, transaction, on the average, are quite complex and supplier capabilities are high. The reason why of these issues is that tacit knowledge must be exchanged between buyers and sellers and highly competent suppliers provide a strong motivation for lead firms in the industry to outsource to gain access to complementary competencies. The main implication is the creation and arise of a mutual dependence, which can be regulated through reputation, social and spatial proximity, family and ethnic ties and so forth. Otherwise, enterprises could use mechanisms that impose costs on the party that breaks a contract: in any case, the conclusion is that the exchange of complex tacit information is most often accomplished by frequent face-to-face interaction and governed by highly levels of explicit coordination, which makes the overall costs of switching to new partners quite high, differently than the previous cases (*Gereffi, Humphrey, Sturgeon, 2005*).
- **Captive value chain:** when the ability to codify (detailed instructions) and the degree of complexity of market offering specifications are both considerably high, but suppliers capabilities are low, then the consequence is that the value chain governance will tend toward the captive type. The cause of such trend is that low supplier competence in the face of complex products and specifications requires a great deal of intervention and control on the part of the lead firm, encouraging, consequently, the build-up of transactional dependence as lead firms seek to lock-in suppliers, with the aim of excluding other firms from being profitable by their efforts. Next to these considerations, we must add that the suppliers face significant switching costs and are

"captive": such type of supplier is frequently confined to a narrow range of tasks, duties and activities (mainly simple assembly) and is also dependent on the lead firm for complementary activities such as design, logistics, component purchasing and process technology upgrading. The conclusion for this section is that captive inter-firm linkages exercise control opportunism through the dominance of lead firms, while, at the same time, providing enough resources and market access to the subordinate firms to make exit an unattractive business option (*Gereffi, Humphrey, Sturgeon, 2005*).

- **Hierarchy**: when product specifications cannot be codified in any way, products and services are high and highly competent suppliers cannot be found in the marketplace, then lead firms, on the whole, are forced to develop and manufacture products in-house. This type of governance is usually driven by the need to exchange tacit knowledge between value chain activities as well as the need to manage complex webs of inputs and outputs in an effective way and to control resources, in particular the intellectual capital (*Gereffi, Humphrey, Sturgeon, 2005*).

Table 3 is the general snapshot of how the five classic form of governance changes, when the global value chains are quite dynamic and not well shaped: the next graphical representations show the upper analysis, taking into count how the three new variables affect the arise of the governance structure itself. Each government type provides a different trade-off between the benefits and risks of outsourcing: as shown in the last column of the following table, the governance forms comprise a wide spectrum running from low levels of explicit coordination and power asymmetry between buyers and suppliers, in the case we are referring to markets, to high levels of explicit coordination and power asymmetry between the above business partners, in the case of vertically integrated firms(*Gereffi, Humphrey, Sturgeon, 2005*).

Governance type	Complexity of transactions	Ability to codify transactions	Capabilities in the supply-base	Degree of explicit coordination and power asymmetry
Market	Low	High	High	Low
Modular	High	High	High	
Relational	High	Low	High	
Captive	High	High	Low	
Hierarchy	High	Low	Low	

There are eight possible combinations of the three variables. Five of them generate global value chain types. The combination of low complexity of transactions and low ability to codify is unlikely to occur. This excludes two combinations. Further, if the complexity of the transaction is low and the ability to codify is high, then low supplier capability would lead to exclusion from the value chain. While this is an important outcome, it does not generate a governance type *per se*.

Table 3 - Fundamental Governance structures in terms of complexity of transactions, ability to codify transactions, capabilities in the supply-base and degree of explicit coordination and power asymmetry - G. Gereffi, J. Humphrey, T. Sturgeon, *The governance of global value chains*

As we have introduced before, in the Global Value Chain analysis section, the equilibrium within each of these governance approaches is determined by the two following variables (Gereffi, Humphrey, Sturgeon, 2005):

- degree of explicit coordination
- degree of power asymmetry

In order to make a rapid recap and summarize what are the main propositions coming from the different types of governance, we can fix some important points (Gereffi, Humphrey, Sturgeon, 2005):

- In captive global value chains, power is exerted directly by lead firms on suppliers, which can be associated to the direct administrative control that top management at headquarters might exert over subordinates in a offshore subsidiary or affiliate of a vertically integrated firm: this direct control suggest a high degree of explicit coordination and a large measure of power asymmetry with the dominant party (Gereffi, Humphrey, Sturgeon, 2005).
- In relational global value chain, the power balance between the economic players is more symmetrical, because of the fact that both contribute core competences: furthermore, there is a great and considerable deal of explicit coordination, but it is achieved through a close dialogue involving more or less equal parties, as opposed to the more unidirectional flow of information and control between equal partners, such

as in the previous case or with respect to the hierarchies structures (Gereffi, Humphrey, Sturgeon, 2005).

- In modular global value chain, as in the case of arm's length market transactions, switching customers and suppliers is relatively easy: the extent of power asymmetry remains relatively slow, because both suppliers and buyers work with multiple partners (Gereffi, Humphrey, Sturgeon, 2005).

So, in order to conclude our overall analysis, we can make some simple statements related to the changing of the governance structures across all the industries: the need of clearly understanding what are the new future shapes of the different economic scenarios is something really pending with respect to the favorable probability of enterprises to perform well in the next decades.

The last representation (Table 4) I would like to propose is the picture of how the dynamism and the new dialectics in the global markets, because of general globalization, are affecting the designing and the management of the governance form with an industry: one of the main source of future sustainable competitive advantages will be for sure anticipating how the inter-firm relationships and linkages will evolve over time.

Governance type	Complexity of transactions	Ability to codify transactions	Capabilities in the supply-base
Market	Low	High	High
Modular	① ↓ High ② ↑	③ ↑ High ④ ↓	⑤ ↑ High ⑥ ↓
Relational	↓ High	↑ Low	↑ High
Captive	High	High	Low
Hierarchy	High	Low	Low

Dynamics of changes in governance:
 ① Increasing complexity of transactions also reduces supplier competence in relation to new demands.
 ② Decreasing complexity of transactions and greater ease of codification.
 ③ Better codification of transactions.
 ④ De-codification of transactions.
 ⑤ Increasing supplier competence.
 ⑥ Decreasing supplier competence.

Table 4 - Dynamics of changes in Governance - G. Gereffi, J.Humphrey, T. Sturgeon, The governance of global value chains

1.7 Conclusion

So far, we have seen the most reliable pillars in the last decade with respect to the issues of Ownership and Location: now let us try to draw some conclusions, in order to summarize the previous perspectives and the main idea we can derive.

The fundamental structure of the OLI Paradigm, is characterized by a sort of equilibrium among the three elements: the three competitive advantages have more or less the same weight within the strategic outlook. First of all, we have Firm Specific Advantages (Ownership: the existence of real Firm Specific Advantages in the domestic market is the base for creating, developing and sustaining a competitive advantage also in a foreign market situation and to be profitable. The rule of thumb for companies is that the bigger the knowledge they have about themselves, the more likely they will capitalize on new external market opportunities. Then, the second variable we have see is linked to the Country Specific Advantages (Location), which is the weighted average of the benefits and drawbacks derived from the Vertical and Horizontal approach to Foreign Direct Investments in relation to the possible non-domestic sites. The third factors in the paradigm is the Internalization Advantages, which is linked to the entry modes and the strategies to organize process along the Global Value Chain structure. The ability of the firm to internalize processes, procedures and stages during all the Value generating process is the key to reach a sustainable Internalization competitive advantage. Dunning gave the three variables the same importance rating, suggesting how the perfect equilibrium of the latter will ensure the Multinational Enterprise to fully exploit the entire potential of global market opportunities. The step further allowing us to move from this vision to a more actual one, in light of the Globalization consequences and impact is made by passing to the following step: the need of reaching both efficiency and flexibility is configured as the most important challenge for firms in whatever industry they operate. The shapes and boundaries of the whole global economy are less defined than in the past: just relying on a static organizational arrangements is not the optimal solution at all nowadays. The secret is starting thinking to change progressively the structure and the outlook of functions and processes in a way that they will perfectly fit and cope with the exigency of declining an economy of scale within the different grades of differentiation of the local economies.

The concept of the "Global Factory" provide an updated perspective with respect to the OLI one: it stresses the focus of the analysis more on the issues pertaining the Ownership and

Location strategies, especially with respect to the global dimension and development of the processes of the firm. The three models we have seen before are totally concentrated on the reality external to the company: in other words, in the Dunning vision, the first pillar to gain a competitive advantage exploitable all around the world is the presence of strong ownership-related advantages or, in some way, the existence of internal resources or core competencies able to gain a specific sustainable competitive advantage in the international markets. The "Global Factory" vision is more focused on the non-domestic dimension of companies: the three fundamental Key Success Factors are linked to the ability of perfectly handle and manage the implication of Location, Control and Governance issues. Even though the three models we have analyzed present different perspectives, they find their leitmotiv in the analysis of these previous factors. Before making a brief recap of the differences among Gereffi, Grunwald and Flamm and Buckley and Ghauri, we can say that the balancing equilibrium in the pros and cons of the three previous value drivers is the right key to gain sustainable competitive advantages in the international scenario.

	Gereffi (1989)	Grunwald and Flamm (1985)	Buckley/Buckley and Ghauri (2004)
Location	Dispersion of manufacturing but national specialization in distinct industrial sectors and stages of the value chain	Relocation of assembly activities to developing countries	"Fine-slicing" and relocation of activities
Ownership and control	Widening of corporate ownership	Largely internalized in MNEs	Increased externalization of control of operations; increased internalization of knowledge
Governance	Growth of locally owned firms; more varied governance modes	Offshoring; MNE control	Increased control of focal firm through internalization of knowledge and contractual control of operations

Table 5 - Summary of Key Issues in the Analysis of the Global Factory: Location, Ownership and Governance - Buckley P, Strange R., 2015

First of all, Then, let us concentrate on the Grunwald and Flamm model:

- **Location:** relocation of assembly activities of developing Countries
- **Ownership and Control:** largely internalized Multinational Enterprises
- **Governance:** Offshoring linked to MNE control

Then, we consider the Gereffi model and the following bullet points highlight the most important and reliable statement about the three above indicators:

- **Location:** dispersion of manufacturing but national specialization in distinct industrial sectors and stages of the value chain
- **Ownership and Control:** widening of corporate ownership
- **Governance:** growth of locally owned firms; more varied governance modes

The third and the last is the one developed by Buckley and Ghauri:

- **Location:** "fine-slicing" and relocation of activities
- **Ownership and Control:** increased externalization of control of operations; increased internalization of knowledge
- **Governance:** increased control of local firm through internalization of knowledge and contractual control of operations

Nest to these considerations, as we have seen before, Buckley and Ghauri provide a further interpretation of the concepts explained in the model: we have seen that they have provided a framework of organizational structure through the creation of Inter-locking Joint Ventures and the Hub and Spoke model.

All the previous perspective, starting from the first in chronologic order (Grunwald and Flamm) and arriving to the IJV model of Buckley and Ghauri (the most recent one), we can easily notice that the concept of "Global Factory" itself has been subjected to a continuous process of updating: this is mainly due to the changing in the dynamics and contingencies of the Global Markets (mainly due to the consequences of globalization on business development).

The first approach presents a perspective still linked in some ways to the "old economy" traditional model: the principle of highly internalization of processes and procedures and the relocation of activities in order to meet low costs standards are the basic principle. The high degree of internalization is also linked to the idea of heavily vertical integrated Multinational Enterprises: in the past, the common theory of how to deploy the organizational structure was centered in the belief that a solid firm should strive any possible of vertical integration, both backward and forward. When Globalization has started to pose the attention towards new problems and issues such as the need for flexibility and adaptability, because of the new dynamics of Global Markets, the upper traditional theory has seemed not to be the perfect approach: an highly vertical integrated and internalized companies is not so flexible at all and, in this way, it will not be able to adapt to the new shapes and boundaries of the International business environment. As we have already seen before, the most important Key Success Factors nowadays are the pursuit of flexibility and, at the same time, global responsiveness: the ability of the Multinational Enterprises to be "speed to market" and to meet different local economies demands is the principal ingredient to put within business models to be profitable and react to the Global Markets challenges and threats.

The other two models have tried to include in their analysis of Location and Ownership issues the exigency to develop an organizational arrangement able to answer promptly to the needs of different regional demands, both domestic and non-domestic: Globalization has forced Multinational Enterprises to adopt the principle of International Fragmentation of Production, as we have seen before, and, following this reasoning, the Gereffi model is perfectly aligned. This perspective tries to make step further with respect to Grunwald and Flamm models, because it seems to recognize the importance of the principle of geographic differentiation: the presence of different regional markets with specific needs, wants and demands requires the capability of the firm to adapt to different business realities and organize the entire structure both in terms of external sites (location) and ownership. One of the core pillars of this model is that Countries are functional only with respect to few characteristics and well defined stages in the value chain: enterprises might deploy some activities in some specific locations and other processes in other sites and so forth.

Buckley and Ghauri tried to make another step forward: they have recognized the trade-off between the degree of differentiation of local economies and the pressure to internalize or externalize processes. The choices of external location in non-domestic markets is subjected to the careful analysis of the internalization strategies: the step made by Buckley and Ghauri is having recognized the importance of the Internalization Competitive Advantage (as stated by Dunning), which means designing a solid and proper ownership structure involving all the interdependences of enterprise, which means, in turn, setting a right form of Governance with respect to all the stages in the Global Value Chain arrangement. In the end, the model confirms the perspective by which all the Ownership issues and strategies are related to Governance matters: gaining an Ownership Competitive Advantages means deploying a Governance strategies able to manage in the best way as possible all the linkages within the Global dimension of the enterprise.

The biggest challenges of the MNEs, nowadays, in terms of Location, Governance and Control decisions, are subjected heavily to the global requirements of flexibility and responsiveness: this is the main conclusion and this is the basic rule of thumb affecting the dialectics of the global markets and industries, forcing firms, first of all, to adapt their business model in a new arrangement, let's say "modern". The transition from an "old economy"-based vision to a new agile structural logic is the common theme, which the globalization trend has highlighted: the traditional strategic and managerial approaches in terms of the design of functions and productive processes are not valid anymore and the new shapes of the international market impose a rapid and dramatic change within enterprises.

The above words are the perfect prove to explain why I think that the way, by which companies in general, serving both domestic and not-domestic markets, approach to the Internalization-Externalization strategies trade-off, is the real key to success: a company, doesn't matter, as I said before, if it has an international dimension or not, must understand that the secret for future success is heavily linked to the ability of managing the need for flexibility and the pressure to be responsive to each local preferences. The previous analysis suggests this type of decisions are the fundamental question marks to be addressed. The main variable affecting this kind of issues is the geographic variable: we have broadly seen along all this paper that, on an international perspective, the trade-off between internalizing and decentralizing (outsourcing) is influenced by the degree of differentiation of the different local economies. Globalization has made Countries be more closer one to each other, but, at the same time, their ability to attract Foreign Direct Investments has created a big differences among them. So, since concluding, I can state that the step enterprises must do, in order to be more competitive and survive, is to integrate the decisions about the structural organization of processes, by considering elements such as the geographical source of competitiveness, in terms of the existence of "cluster of innovation" and "national systems of innovation".

2. The Automotive Market

This section is totally dedicated to the description of the dynamics of the Automotive market, in terms of future trends and structure, especially with respect to the Globalization process.

In 2015, the Automotive Industry suffered of a particular trend, characterized by two contrasting phenomena: on the one hand, record sales in the U.S. market gave the sector a much-needed boost, but, on the other hand, growing economic malaise with respect to the rest world, especially regarding the emerging economies, led to a flat year on the whole, with the consequence of dampening prospects and opportunities for automakers and *suppliers* (Hirsh, Jullens, Wilk, Singh, 2016).

While the market was showing such situation, companies were facing fundamental challenges to be able to be profitable and the ones with a clear long term strategy were transforming and strongly affecting the key success factors to survive: for example, carmakers were dabbling with new technologies and vehicle concepts that had the potential to change the entire industry (Hirsh, Jullens, Wilk, Singh, 2016).

Since that time, final customers started to see bits and pieces of what the so-called connected car will look like, advanced infotainment systems and apps, vehicle-to-vehicle

communication that let cars on the road "talk" to each other, exchanging basic safety data such as speed and position, real-time location services and routing based on traffic conditions and , in the end, networked Web links able to facilitate vehicle diagnostics and repairs (*Hirsh, Jullens, Wilk, Singh, 2016*).

At the same time, another important driver for the future of the sector started to be highlighted: the intelligent car was fast moving from the drawing board to the streets in the real world. This can be obviously consider as a precursor to the autonomous vehicle, designed to give drivers a first taste of the experience of relinquishing control of the car, with such functions as self-breaking, self-parking, automatic cruise control based on road conditions, automatic accident-avoidance features, computer-operated power steering, electric parking brakes, as well as electronic throttles and engine control (*Hirsh, Jullens, Wilk, Singh, 2016*).

All these aspects are drawing a particular scenario characterized by the presence of a lot of exciting inputs for the long process of transformation in the long time horizon. These new developments represent enormous opportunities even as they augur a perilous and unsteady phase for the industry: original equipment manufacturers (OEMs) must navigate the challenges of designing, manufacturing and upgrading traditional power train models and processes while staking a claim in emerging technologies and improved customer experiences (*Hirsh, Jullens, Wilk, Singh, 2016*).

Now let us concentrate more in depth on the macroeconomic forces affecting the industry, trying to provide an overview of the situations and features of the different geographical markets.

From a general perspective, product cycles and deep capital investments make planning in the automotive industry a complex issue. For the past decades, OEMs and suppliers have generally chased global sales growth. while hoping to improve margins by leveraging automobile platforms in multiple regions and striving for scale wherever possible. Now they turned sour as global economic conditions worsened: this important trend makes any new commitment to invest in a country or region a risky one that must be deliberately crafted using a clear-eyed assessment of the market situation and structure (*Hirsh, Jullens, Wilk, Singh, 2016*):

- **North America:** on the whole, in 2015, U.S. markets were peaking at historical levels, reaching a sales record of just under 17.5 million vehicles, up to 5.7% from the year before. The trend for the next two years will be a little bit different: it will face a moderate downturn in 2018, mainly because of the changing of the economic cycles,

the average rise of the auto loan interest rates by the Federal Reserve and an expected flood of vehicles into the used car markets. I would like to spend few words more for the Mexican industry structure: auto sales outpaced forecasts in 2015, jumping 19% to more than 1.3 million units and are expected to surpass 1.5 million by 2021. This is mainly due to two fundamental factors: the rise of investments in new auto factories and the continuously growing installed capacity, which will be more than 50% over the next five years (*Hirsh, Jullens, Wilk, Singh, 2016*).

- **European Union:** from a general perspective, sales have improved in the European Union since the financial downturn, but the industry is held hostage by local economies that are teetering on the edge of recession. If we take into consideration some data, we can see that, in 2015, registrations for new cars rose 9.3% year-on-year, for an amount of about 12.6 million units. This number is quite far from the record reached in 2007 of more or less 18 million vehicles, because now, in this region, there are many factors such as volatility in profits and losses, fragmented markets and inefficiencies of model proliferation that strongly affect and shape the structure of the sector. The future challenges to be profitable are finding out effective ways to match production capacity to market demand, while simultaneously investing in new potentially strong product areas, as, for example, small SUVs and crossovers (the future profitable product segment) and in new automobile technologies (*Hirsh, Jullens, Wilk, Singh, 2016*).
- **Emerging Nations:** the situation in this case is not so optimistic, because the biggest downward macroeconomic force in the auto industry nowadays is the underperformance of emerging markets, which many years ago represented a significant opportunity for major gains in the global auto sector. Let us provide some data to better analyze this scenario: India's sales remained roughly flat in 2015, China's year-over-year growth slowed to 7.3% from a 10% gain in 2014 and 16% in 2013 (this is mainly due to the rise in new vehicle ownership restrictions in the largest cities, which will further make sales slow in the future years). Russia had its second straight year of decline in 2015, because sales level were almost 50% below the big peak reached in 2012. Speaking about Brazil, we can see that sales fell by nearly 1.3 million units (30%) from its record in 2012. The main problem linked to these emerging markets is that automakers have made massive investments in the past years and now they must react strategically in order not to report losses. In markets, such as Brazil and Russia, companies need to manage effectively the costs structure and the factory

capacity, whereas, in China for example, the story is different, because, in virtue of the fact that the total amount of sales is expected to grow of more than 30 million of units sold by 2020, arranging smart joint ventures with Chinese companies and redesigning pricier models and procedures will be essential and quite fundamental to gain sustainable competitive advantages (*Hirsh, Jullens, Wilk, Singh, 2016*).

- **Middle East and Africa:** the future situation in these areas is more optimistic than previous one. Sales growth is expected to be more consistent and the biggest improvements will be mainly related to markets as Iran, Egypt, South Africa and Nigeria. Since considering some data, the automaker factory activity will increase significantly: by 2021, nearly 3 million cars will be built yearly in the ME&A, an output increase of about 50%. From a general perspective, the main key success factor will be focused on taking advantage of the substantial factory capacity improvements related to this regions: the major players in the global industry will face the problem of satisfying multiple unique local requirements, such as domestic assembly quotas, import and export tariffs and duties for parts and vehicles, gas or diesel preferences and local different customs dictating the design of interior and exterior features. Since concluding, we can state that having a substantial factory and distribution presence will be the two main important key performance indicators (*Hirsh, Jullens, Wilk, Singh, 2016*).

This is an overview of the actual situation of the global markets of the automotive industry and companies need to start from this analysis in order to design the long term strategy able to allow them to have substantial profits.

On the whole, the market now is facing a situation characterized by two opposite trends: on one side, the traditional automotive industry and, on the other side, the presence of software outfits, mainly linked to the connected and intelligent car models. Next to this, the globalization process complicates the dynamics of the trades relationships, because of conflicting cultures, different product development models and business operations (*Hirsh, Jullens, Wilk, Singh, 2016*).

Another important aspect to be noticed is that, next to the rapid rise of the electric vehicles and autonomous cars, the traditional power trains and internal combustion engines are more likely to be the predominant type of item for decades to come. The technology necessary to produce connected and intelligent cars is not an asset actually hold by automakers: this shortcoming is a clear invitation to high-tech companies, such as Google and Apple, which are making moves to develop the technology to "own" critical components of the networking,

autonomous and communication capabilities of automobiles. So, the future will present a situation, where the connections between the two upper sectors will be enforced and enlarged: the technologic industry will not only exert a strong influence in relation to the product development point of view, but also they will play an important role in creating value added, in virtue of their competitive capabilities of creating networks with final customers in terms of information, entertainment, efficiencies and experiences delivered (*Hirsh, Jullens, Wilk, Singh, 2016*).

Before concluding this introductory analysis, we must focused on another important elements, which is and will be so much important for the sector: the increasing stricter regulations. Even if automakers are trying to upgrade the transportation and mobility features of their vehicles, stricter fuel economy regulations are closing in. For example, by 2025, the players fleets in Europe and the U.S. will have to average upward of 60 miles per gallon, a goal that become more difficult if oil prices remain low, stoking consumer interest in popular larger, less-efficient vehicles like pickups and SUVs (*Hirsh, Jullens, Wilk, Singh, 2016*).

The problem is that all these issues must be applied to the traditional internal combustion engine and power train: the basic idea is to improve the petroleum-based vehicle fuel economy by as much as 75% with combustion breakthroughs focused on maximizing engine efficiency and minimizing the formation of emissions within engine cylinders, exhaust after treatment technologies that further reduce emissions and the recovery of energy from waste heat (*Hirsh, Jullens, Wilk, Singh, 2016*).

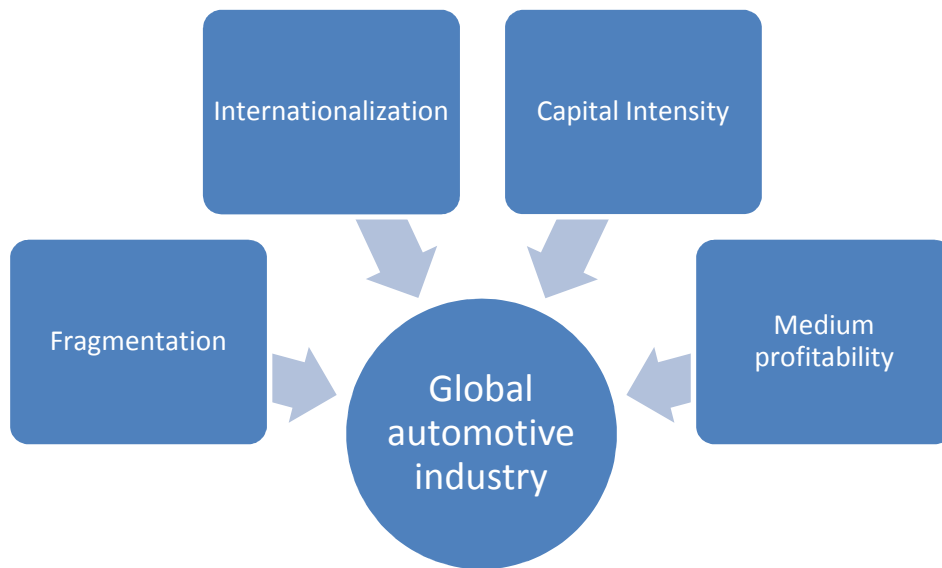
The conclusion from these words is that automakers will have to take risks in product development in order to improve performances: they must consider the tradeoff between the pursuit of innovation and technological changes and the need for traditional automation and mechanical settings, while they must adapt their outputs to international regulations, declining them according to the different Country requirements and legislations (*Hirsh, Jullens, Wilk, Singh, 2016*).

For further details and data about the financial projections of the Global Automotive Industry and about the overall scenario of the Developed and Emerging Countries, please see the Appendix A and Appendix B.

2.1 Industry Developments

So far, in our analysis, we have seen what are the consequences of the globalization process around the world and, now, let's try to summarize all the inputs we have learnt, in order to

propose an as much reliable as possible picture of what the future borders and shapes of the industry are likely to appear.



Among all the topic elements affecting the global market, the most reliable ones, which auto makers have to watch at, are listed below:

- high level of investment in Research and Development is kind of crucial in pursuit of emissions reduction technology and autonomous vehicles
- a considerable degree of lack of geographical diversification is going to put turnovers and margins at severe risk
- the probability of seriously rising profits is the development of premium offers able to clearly communicate the brand value
- from a financial point of view, the future of the global automotive industry will be strongly influenced by high volatility, especially in some developing Countries, such as Brazil and Russia

The three Countries, which will play a fundamental role with respect to the future dynamics of the international sector, are the following ones:

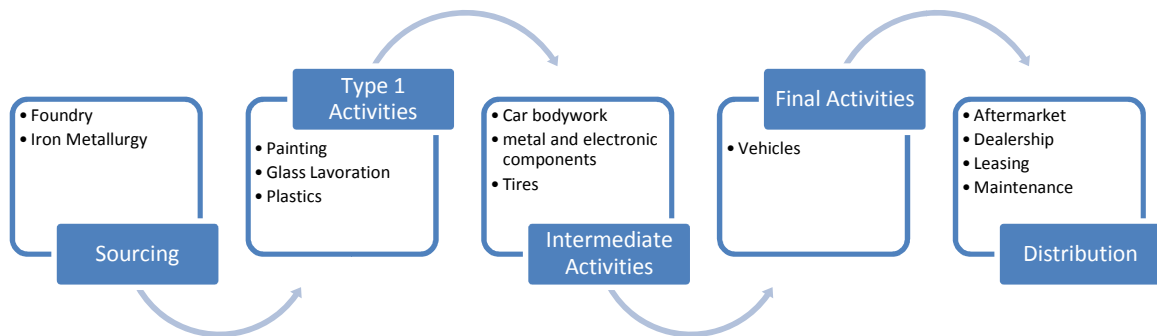
- United States will be the first importer and the second one in the exports
- Germany, on the contrary, will be the first exporter and the second one with respect to imports
- China will be the leading Country in the production process: first worldwide producer and sixth in the ranking as far as exports are concerned

In order to conclude, we can say that the major strengths of the market structure are the continuing global sector growth split between an high level of profitability in the United States and in China and a recovery trend in Europe after several years of decline. On the other side, the biggest weaknesses are linked to the probably difficulties in raising money or assessing capital spending for investments in technology able to keep up with the developments of the market, to the huge threats coming from emerging Countries and, in the end, to the stringent environmental requirements in terms of pollution and CO2 emissions, which will strongly affect the technical components and the performances of the vehicles presented to the market.

2.2 Value Chain Analysis

In this section we will analyze how the Automotive Value Chain is configured in relation to each of its stages and then we will take into count the actual perspectives used to handle with these activities and provide some indications about the future changes in the dynamics regulating the organization of globally dispersed economic activities.

The Value Chain is organized into five different "core" stages and you can see them in the following representation.



This the logic, by which the entire set of activities is organized: backward there is the procurement of the basic raw materials, then there is the stage of the first processing, then the second one (car components and so on) followed by the final activities like assembly and vehicles production. Between the intermediate and final processing steps, there are other Knowledge-based activities like engineering and design, whereas, in the last step, there are all the activities linked to the "distribution" phases: retailing and wholesaling, firms selling car parts, repairing and maintenance, leasing and rental (*Unioncamere, Prometeia S.p.A., 2015*).

The evolution of perspectives and theoretical models related to the issues of Ownerships, Location and Global Value Chain structure we have seen in the first section represents also the managerial attitude of the big Players in the Industry in setting processes and activities: the model explained by Buckley and Ghauri is the current strategic approach Automakers are deploying. If we look at the internal organization of economic activities and processes, we will find that MNEs have relied on the capabilities able to generate a sustainable competitive advantage in terms of differentiation such as marketing, engineering and design, whereas all the other procedures are organized through outsourcing methods: the trade-off between internalization and outsourcing is more weighted on the first variable, by looking at the total volume of activities for each stage of the value chain (Multinational Enterprises tend to recur to externalization approaches rather than internalizing processes).

All the Automotive Industry has been subjected for many years to a particular process, by which it has seen the entire Value Chain being restructured and re-configured in a "de-verticalized" arrangement (*Almone Giglio, Cullino, Fabrizi, Linarello, Orame quoted by*

Unioncamere, Prometeia S.p.A., 2015): the main reason for this approach was the necessity for keeping the structure and fixed costs flatter, on the one hand, and, on the other hand, for gaining some advantage in terms of flexibility with respect to the progressive technological innovation and to the changing in local demands (rapid growing of Emerging Economies and bigger diversification in the final customers' needs and wants) (*Almone Giglio, Cullino, Fabrizi, Linarello, Orame quoted by Unioncamere, Prometeia S.p.A., 2015*).

The most important outcome of this process is that the role of key suppliers have become fundamental: the biggest the degree of externalization, the biggest the importance of having and relying on competitive suppliers (*Almone Giglio, Cullino, Fabrizi, Linarello, Orame quoted by Unioncamere, Prometeia S.p.A., 2015*). Going more in depth, we can see that the entire Value Chain structure of the Industry has assumed a hierarchy shape, composed by "first level" suppliers (tiers 1) having a direct contact with the Automakers (Original Equipment Manufacturer); then we have the "second-level" suppliers (tiers 2), which are specialized in specific components; then there are tiers 3 suppliers, focused on more standardized processes and outputs and so on along the entire Value Chain through different stages and partners adding less valued added (*Almone Giglio, Cullino, Fabrizi, Linarello, Orame quoted by Unioncamere, Prometeia S.p.A., 2015*).

The degree to which Automakers will be able to keep effective control over the Global Value Chain is determined by the influence and role of the tiers 1 Key Suppliers, because their business model and spectrum of actions are going to heavily affect the profitability of OEMs (*Almone Giglio, Cullino, Fabrizi, Linarello, Orame quoted by Unioncamere, Prometeia S.p.A., 2015*). Tiers 1 suppliers are big providers of complex systems, organized in modules and structures often produced in proximity of the assembly buildings: they are companies characterized by a strong propulsion towards the pursuit of innovation, because of the fact that their activities and business model require the use of capabilities and competencies arising from different contexts (*Almone Giglio, Cullino, Fabrizi, Linarello, Orame quoted by Unioncamere, Prometeia S.p.A., 2015*). In the end, this kind of Suppliers have the function of coordinating the other suppliers and of being the node of a strategic network organizing the entire supplier-related chain. This the reason why we can say that the role played by this type of Partners is so important with respect to engineering, innovation and technological progress that it can seriously affect the ability of Automakers the exert governance and control over the Value Chain (*Almone Giglio, Cullino, Fabrizi, Linarello, Orame quoted by Unioncamere, Prometeia S.p.A., 2015*).

The above considerations are the description of the actual situation of the Automotive Industry in terms of Value Chain Structure and Governance: from this point of view, the Big Players in the market presents, as I said before, a sort of uniformity. The key point now is understanding which are the strategic target of the OEMs for the future periods, in order to realize how the Value Chain will change and how the Governance issues should be re-organized not to lose control over the Chain itself. From a general perspective, the following list considers the key strategic and managerial point affecting the future possible shape of GVC:

- the costs reduction will be mainly generated by the integration and sharing of modular platforms (for example, FIAT and Chrysler, Renault and Nissan), by the implementation and extension of new platforms (Peugeot, Volkswagen and BMW) and by the increase of standardized modules. For example, for FCA and the French Groups, the main goal is to get back to fully productive capacity in Europe and in the Country where the headquarter is located with the aim of reduce the overall level of costs and of increasing the efficiency of the productive factors. Following this reasoning, the enlargement of the productive volumes is one of the most important driver to reach economies of scale, which are fundamental for the Industry, mainly because of the presence of fixed costs with high incidence (*Unioncamere, Prometeia S.p.A., 2015*).
- other fundamental drivers for the future will be for sure the use of synergies across platforms or modules to reduce costs, the optimization of the purchases through the development of strategic alliances (PSA-General Motors, Renault-Nissan), the rationalization of investments and Research and Development (*Unioncamere, Prometeia S.p.A., 2015*).
- Modularization, standardization and rationalization will be three fundamental key value driver with respect to the chain regarding all the key suppliers: in this sense, for the latter, the importance of being sufficiently big and present in different locations across the world will be the first fundamental requirement and this is due to the tendency of Groups of increase the volume of purchases in the local markets, next to production and assembly sites (*Unioncamere, Prometeia S.p.A., 2015*).
- As we have seen before, the rise of new technologies, new ideas of mobility and new strategies in terms of emissions reduction, alternative alimentation and so forth, has allowed Research and Development to play a role strategically important in

shaping the degree of internalization and outsourcing of processes related to these stages of the Value Chain (*Unioncamere, Prometeia S.p.A., 2015*).

All the above elements will design a new structure of the entire Global Value Chain for the Industry and they will also dictate the need for setting new methods of Governance and Control along the chain itself. During my working experience in Volkswagen Group, I have discussed these issues with many top managers, in order to understand if these drivers will affect the methodologies, by which procedures are carried out and implemented. I have also discussed the future possible changes in the stages of the production processes and how the trade-off between internalization and outsourcing will affect the degree to which enterprises should adapt their structures: the following lines are the summary of the tips I have collected in the last months.

The strategic targets outlined above show a specific path to which all the Big Groups are going to converge: these are common drivers that are affecting all the players in the Industry. The way in which the Value Chain and the Governance of the latter will change in the future are closely linked to the change of the core business concept: so far, OEMs have produced physical outputs, as result of different backward steps of production, but, as we have seen before, the entire business model is changing towards a new idea of Automation. Automakers will not produce only vehicles, but they will be a sort of "mobility provider": the main idea is to provide different solutions in terms of mobility and this is totally different than selling exclusively cars. This element will influence heavily the structure of the Value Chain, because the current idea of externalizing the majority of processes could not be affordable at all: there are growing new differentiation drivers and companies to understand which are the future core capabilities able to gain competitive advantages.

On the one side, we can say that factors such modularization, standardization and rationalization have created the existence of some basic requirements that each car maker must put within the vehicles sold in the market: on a general perspective, cars must be produced and launched with specific items which are essential to be accepted by the market. From this point of view, there is no need for differentiating: the battle is on cost minimization and on trying to reach economies of scale.

On the other side, the changes in the business idea we have highlighted before, the pressure from big investments in Research and Developments and the rise of alternative competitive sources in terms of innovation and technological progress are going to make the need to develop new internal capabilities be generated. The most important theme, in this sense, is

that there will be a "sourcing-based competitiveness": this means that the progressively consolidation of different engine alimentations, such as electrical, hybrid, and so on, is going to put pressure on the way companies will be able to satisfy the global market with such solutions.

These two paragraphs show a sort of dichotomous paradigm: on the one hand, OEMs must rely on basic specific items and requirements required by customers, but, on the other hand, they need to develop, differentiate and protect specific new capabilities. So, the real source of competitiveness and ability to differentiate the value proposition is directly linked to the capability of rely with innovation and knowledge on those core competencies which will be the most key value driver for being successful in the Industry in the next decades as "general mobility provider". Companies will not sell physical products at all anymore: the challenge will be creating an ecosystem of products able to satisfy the clients: customers, on the contrary, will not buy vehicles, but they will buy services, connected to mobility solutions. The mission is to develop and sustain a platforms, which include physical and non-physical elements: this will allow companies to reach economies of scale on the specific physical output (the car), which will be characterized by a lower contribution margin, because it will have only the basic requirements asked by the market. The real source of profitability will be linked to the capability of differentiate the set of services and derived products connected to the car: this is how the entire Automotive Industry will dramatically change over time.

All the above considerations will, for sure, influence the Value Chain Structure and the methodologies by which companies will exert Governance and Control. We have seen before that the market present an high degree of "de-verticalization": in the next periods, we will assist to an opposite process, because enterprises, in virtue of the above words, will progressively increase the degree of internalization of processes that are currently performed through outsourcing. Such processes are, for example, the creation and development of batteries, the implementation of new engines, the reduction of emissions and so forth. We can say that there will be a process of "functional restructuring" of the Global Value Chain, both in terms of Governance and production stages. I use the word "functional", because of the discriminator to decide which activities and procedures to internalize is the function they have within the business model. All the activities which will play an important role in being a mobility provider rather than simply being a vehicles seller will be internalized: this internalization process can be made through specific strategic alliances and acquisitions. The basic idea is that everything that can be a source of competitive advantages and differentiation must be performed internally, whereas all the other activities linked to the basilar features to

be included in the final output should be performed through externalization or outsourcing approaches. In this sense, the entire market structure is going to be subjected to a progressive process of functional verticalization, where the future core capabilities must be internalized and all the other put outside, in the pursuit of high differentiation in the first case and, in the second one, economies of scale and costs reduction or minimization.

3. SEAT Case

Now let's focus on the analysis of the SEAT case: we will mainly concentrate on the implications on the Volkswagen Group on the brand, the relation of the business activities performed by the latter and the Automotive Global Value Chain structure and, then, the consequent influence on the Ownership and Location strategies. In the last chapter, we will try to provide some future developments according to the possible future changes in the Industry dialectics and their impact on the best practices the brand should adopt.

3.1 SEAT and Volkswagen Group

Volkswagen AG is the parent company of the Volkswagen Group. It develops vehicles and components for the Group's brands, but also produces and sells vehicles, in particular passenger cars and light commercial vehicles for the Volkswagen Passenger Cars and Volkswagen Commercial Vehicles brands. In its capacity as parent company, Volkswagen AG holds indirect or direct interests in AUDI AG, SEAT S.A., ŠKODA AUTO a.s., Dr. Ing. h.c. F. Porsche AG, Scania AB, MAN SE, Volkswagen Financial Services AG and a large number of other companies in Germany and abroad (Annual Report 2016, *Volkswagen Group AG*).

In this section, I will focus my analysis on describing the linkages and business relationships occurring between SEAT and the corporate board of the Volkswagen Group. As we have seen before, Volkswagen owns the majority percentage of equity shares with respect to each brand of the Group, so the strategic and managerial decisions taken by the latter are clearly influenced by the corporate designed path. The below Table 6 represents the entire spectrum of the brands composing the Volkswagen Group.

VOLKSWAGEN GROUP											
Division	Automotive										Financial Services
Brand/ Business Field	Volkswagen Passenger Cars	Audi	ŠKODA	SEAT	Bentley	Porsche	Volkswagen Commercial Vehicles	Scania	MAN	Others	Dealer and customer financing Leasing Direct bank Insurance Fleet management Mobility offerings

Table 6 - Annual Report 2016, Volkswagen Group AG

For sure, Volkswagen Group is one of the biggest holding corporations and, as you can imagine, it is kind of difficult to keep each brand aligned on the same business direction. In the above table, I have also decided to include the Financial Services Division, which is a reliable part of the corporate core business of the entire Group.

The first Touch Point between the Group and each brand (in my case, SEAT) is related to the specific outline of the legal structure of the entire Group: it is kind of fundamental to deeply analyze this issue, because of the fact that the organizational arrangements, in terms of linkages among the brands and the Parent Company, strongly influence the ongoing business operations of each OEM and its margin of decisional power.

The Company's business activities comprise the Automotive and Financial Services divisions. All brands in the Automotive Division – with the exception of the Volkswagen Passenger Cars and Volkswagen Commercial Vehicles brands – are legally independent separate companies.

The specific business activities of the various companies in the Volkswagen Group focus on developing, producing and selling passenger cars, light commercial vehicles, trucks and buses: the product portfolio of the Passenger Cars Business Area ranges from motorcycles to fuel-efficient small cars and luxury vehicles. In the Commercial Vehicles Business Area, the collaboration between the MAN and Scania brands is managed and coordinated under the umbrella of Volkswagen Truck & Bus GmbH. On the other side, a wide array of financial services, which will be gradually expanded to include mobility services rounds off the Company's portfolio. From a geographical point of view, with its brands, the Volkswagen Group has a presence in all relevant markets around the world, with Western Europe, China, the USA, Brazil, Mexico and Turkey currently representing its key sales markets.

Now let us briefly concentrate on the governance structure of the Group, with the aim of understanding and analyzing how this type of outlay is organized. Volkswagen AG and the Volkswagen Group are managed by Volkswagen AG's Board of Management in accordance with the Volkswagen AG Articles of Association and the rules of procedure for Volkswagen AG's Board of Management issued by the Supervisory Board.

At Group level, committees also deal with key strategic issues relating to product planning, investments, liquidity and foreign currency, and management issues (Annual Report 2016, *Volkswagen Group AG*).

Each brand in the Volkswagen Group is managed by a board of management, which ensures its independent and separate development and business operations. The Group targets and requirements laid down by the Board of Management of Volkswagen AG must be complied with to the extent permitted by law. This allows Group-wide interests to be pursued while at the same time safeguarding and reinforcing each brand's specific characteristics. Matters that are of importance to the Group as a whole are submitted to the Group Board of Management in order to reach agreement between the parties involved, to the extent permitted by law. The rights and obligations of the statutory bodies of the relevant brand companies remain unaffected.

The companies of the Volkswagen Group are managed separately by their respective management. In addition to the interests of their own companies, the management of each individual company takes into account the interests of the Group and of the individual brands in accordance with the framework laid down by law.

The basic principle governing the welfare of this organizational structure is based on the following three pillars:

- the sustainable enhancement of the leadership and management
- the leverage on substantial synergies across all brands and business fields
- the creation of a competitive and strategic pool of competencies to be available to all the brands

So, the above points are the soul of the benefits of being part of a big Group and this means having the possibility to rely on well-defined and reliable sustainable competitive advantages, which are fundamental, in my analysis, as we have seen in the first section of the report, to build up a strong ownership or Firm Specific Advantage.

Moving on, operational fine-tuning at Group level has been reduced and, at the same time, greater entrepreneurial responsibility assigned to the brands and regions, making the Group more agile and speeding up decision-making processes. The Group Board of Management can concentrate more on strategy and the management of major areas in which synergies can be created, for example product strategy, toolkits, procurement, plant capacity utilization and key technologies such as digitalization.

Going a little bit more in depth, all the above issues and themes, which describes the interdependencies between the Parent Company and the brand (in my case, SEAT) are related to the Internal Management System (Annual Report 2016, *Volkswagen Group AG*), where the medium and long-term business planning process is used to formulate and check the requirements for realizing strategic projects designed to meet Group targets in both technical and economic terms, and particularly in relation to earnings and liquidity effects. The setting up of all these technical procedures is also fundamental in virtue of the coordination strategies with respect to business areas and strategic actions, such as:

- functions
- processes
- products
- markets

When planning the future of the Group, then the individual planning components are determined on the basis of the timescale involved and this pertains to each brand of the Holding, in the following way:

- the long-term unit sales plan, which sets out market and segment growth and then derives the Volkswagen Group's delivery volumes from them.
- the product program as the strategic, long-term factor determining corporate policy.
- capacity and utilization planning for the individual locations.

From the above words, we can easily understand how the process regarding the decision about volumes, strategies, programs and, also, individual location of economic activities are taken at the corporate level and, then, the effects will influence the future business strategies of the brands. This happens in the same way for SEAT, where the general idea of the business horizon is stated at the top level, together with the practical organization of the specific productive functions (we will see in the next sections the importance of the sharing of synergies among manufacturing platforms and how this creates interdependencies among brands affecting, at the same time, the policies and relationships among them).

Furthermore, the coordinated results of the upstream planning processes are used as the basis for the medium-term financial planning, as we have seen before: the Group's financial planning, including the brands and business fields, comprises the income statement, cash flow and balance sheet planning, profitability and liquidity, as well as the upfront investments needed for alternative products and the implementation of strategic options. The first year of the medium-term planning period is fixed and a budget drawn up for the individual months. This is planned in detail down to the level of the operating cost centers (Annual Report 2016, *Volkswagen Group AG*).

So, since concluding this section, we have clearly seen how trying to describe the processes, procedures, activities and even all the decisions about these previous issues of SEAT means understanding all the linkages structure connecting this brand with the Parent Company: this is a fundamental milestone we must take into consideration during all this part of the report, otherwise we will not be able to fully realize why some specific activities are deployed in a certain manner rather than in another one.

3.2 Ownership and Location Strategies

Understanding the choices in terms of Ownership and Location means, first of all, analyze how the brand has designed the Global Value Chain Structure: we have seen before, in the previous sections, which is the common perspective applied to organize globally dispersed economic activities, then we have seen how the Automotive Value Chain is configured and, in the end, which are the future changes affecting the latter. The decisions of how to locate activities and how to exert Control are related to the proper structure of the Value Chain itself: ownership means exactly choosing the right form of Governance according to the market influences on the GVC architecture.

When analyzing the situation of SEAT SA, it is impossible not to mention the implications of being part of a large group as Volkswagen Group AG is: this factor has a reliable impact on the distribution of the performed activities and on the design of the Global Value Chain structure. In other words, as we will see later on, for the production of specific models of the product mix portfolio, many stages of the GVC or even the entire processing architecture are not under the direct ownership of the Spanish brand: this could be misleading, but it is configured as one of the benefit of being part of a big Group like the German one.

In order to understand which have been the decisions in terms of location and ownership structure made by the brand in the global markets, let's consider firstly the distribution in terms of geographic areas and property of the different stages of the Value Chain structure.

Since considering the Automotive Value Chain architecture we have analyzed in the previous section, we can say that SEAT SA, as a car maker, is in charge of the final processing stage of the chain: this is the core step performed by the brand. If we consider the product mix portfolio, the following representation shows the distribution of the production sites, in terms of assembly (final processing before distribution).

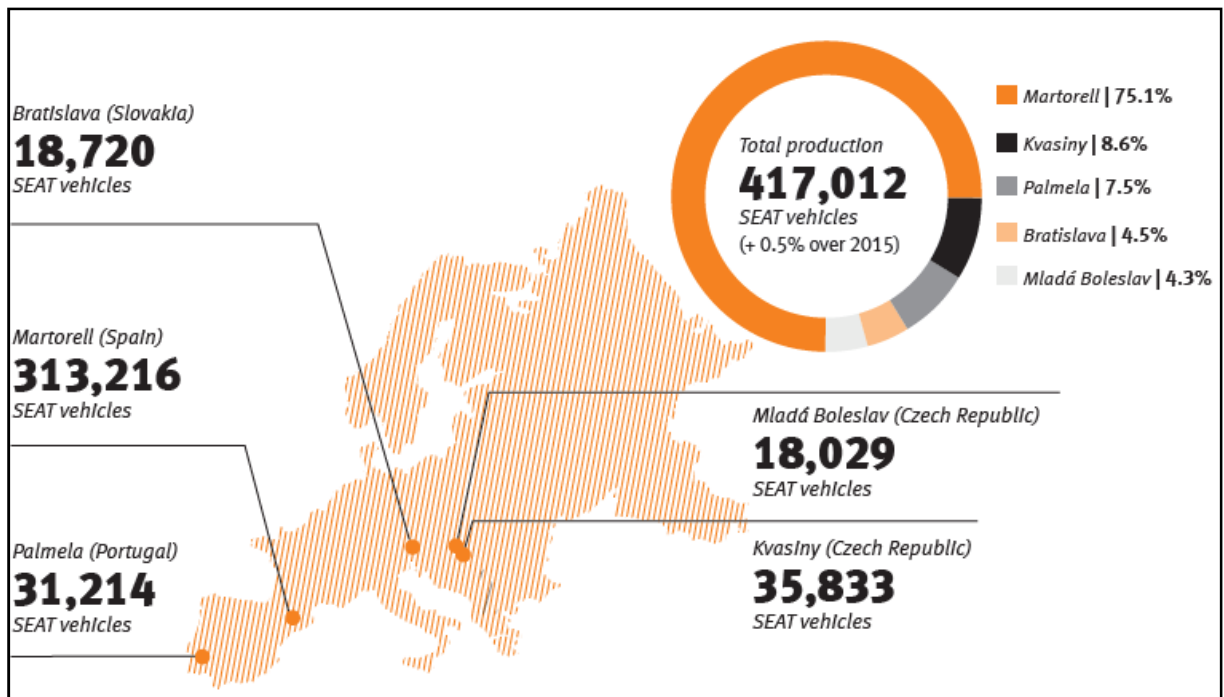


Table 7 - Production of SEAT models in Volkswagen Group plants - Annual Summary 2016

From Table 7, we can see that SEAT actually uses five main production plants, where the entire range of models are allocated according to the different productive platforms for the technical building up of the vehicles: for example, SEAT Ibiza and SEAT Leon are produced in Spain, SEAT Ateca in Czech Republic, SEAT Mii in Bratislava and SEAT Alhambra in Portugal. The strategies behind these choices are in light of the principle of "synergies sharing" among brands: the launch of SEAT Ateca was a resounding success thanks to the close collaboration between the Production and Quality teams of SEAT and ŠKODA. This is a clear source of Firm Specific Competitive advantage to rely on: the ability and possibility, for sure, of benefit of being part of a multinational Corporation is a good starting point in

order to get a Production arrangements based on quality and efficiency standards considerably high.

From these words, we can see that the geographic distribution of the production/assembly processing phases does not coincide with the ownership distribution of these sites: actually, the brand has the property only over the production site of Martorell (manufacturing activities), El Prat (SEAT Componentes: gearboxes) and Barcelona, where body parts are produced in the press shop. In terms of ownership, the Spanish brand owns only the Martorell site in relation to the production of a final output: the activities performed here are related to the intermediate and final step of the entire processing in assembly a car (press shop, body shop, paint shop and final assembly).

If we consider the other two sites, El Prat and the Barcelona ones, they are not related to final stages of the value generating process: both are linked to the "Type 1" and intermediate steps in the vehicle production. So, the brand owns directly only three plants and they pertain to different stages of the Value Chain structure.

From these first considerations, we can already figure out a meaningful picture of the relation between the ownership and property arrangement and the production of the final outputs: among the above five assembly/production sites, SEAT has allocated the final production of the cars among the other four, which are not under its direct control. Let's consider them:

- **Palmela, Portugal:** this plant is the largest foreign industrial investment in Portugal. The plant covers the entire automotive value chain from the press shop to body construction and paint shop, right up to final assembly (the Volkswagen Scirocco, Sharan and the SEAT Alhambra are produced in Palmela). The plant also produces press parts for other Volkswagen Group sites. In 2016, its 51 employees produced 6.364.931 parts. The Tool & Die business unit produces dies for Volkswagen Group plants with an annual volume of €18.6 million.
- **Bratislava, Slovakia:** Volkswagen Slovakia has produced more than 4.5 million vehicles and 6.5 million gearboxes in Bratislava since 1991. The company is one of the country's largest employers, exporters and investors. The Volkswagen Touareg, Audi Q7, Volkswagen up! and the purely electrically powered e-up!, SEAT Mii, ŠKODA Citigo, the body for the Porsche Cayenne and gearboxes are made in the Bratislava plant.
- **Kvasiny, Czech Republic:** cars have been manufactured in Kvasiny since 1934. Kvasiny is ŠKODA's second-largest site in the Czech Republic. As part of the growth

strategy, the site will be comprehensively expanded and modernized in collaboration with Volkswagen Group over the coming years.

- **Mladá Boleslav, Czech Republic:** ŠKODA has been a part of the Group since 1991. Today, ŠKODA AUTO's headquarters are in Mladá Boleslav. Currently, the ŠKODA FABIA, RAPID, RAPID SPACEBACK and OCTAVIA models and all their variants, such as the RS and SCOUT, roll off the production line there. Besides the production of cars, there is also an extensive component production base in Mladá Boleslav. The engine factory produces turbocharged TSI engines that are used in numerous Volkswagen Group models. The gearbox factory manufactures MQ 100 and MQ 200 transmissions. The brand's head office, the development and engine centre, the design centre and the ŠKODA Museum are also located in Mladá Boleslav.

From a production point of view, the previous words show how the final processing in the creation of a new vehicle is allocated: since concluding, we can see that the Spanish brand does not own all the plants and ownership and geographic distribution introduces the next fundamental concept.

We have seen before, in the Automotive Global Value Chain analysis, that the three principles of modularization, rationalization and standardization have a strong influence of the strategies adopted by the Group: when setting and arranging the assembly and production of a new vehicle, the fundamental criterion to organize the economic activities is the "synergies sharing" concept. This means that, because of the fact that, in producing a car, the process is carried out through the use of platforms and modules, one of the benefit of being part of a Group is that brands might benefit from the reciprocal use of the same platform to produce different outputs (reduce the impact of high fixed costs on overall profitability).

The same reasoning can be done for the backward economic activities in the Value Chain: we have seen before that SEAT owns only two plants producing component and intermediate outputs. The basic principle applied here is that each brand can reach economies of scale and costs reduction by the production of not-final products in common plants: for example, the sites in Sarajevo and in Martin (Slovakia) are in charge of the production of components and gearboxes for all the brands in the Group. There are multiple examples of this approach: the basic idea is that the production of the basic requirements for vehicles are allocated to plants and sites to minimize costs and get economies of scale.

Now let's move to the last phase of the Global Value Chain architecture, the distribution one. The below chart represents the set of the markets addressed by SEAT from a worldwide perspective.

Albania	Cyprus	Ireland	Palestine	Spain
Algeria	Czech Republic	Israel	Peru	Switzerland
Andorra	Denmark	Italy	Poland	Syria
Angola	Dominican Republic	Jordan	Portugal	Sweden
Austria	Ecuador	Kuwait	Qatar	Tunisia
Bahrain	Egypt	Latvia	Republic of Azerbaijan	Turkey
Belgium	Estonia	Lebanon	Republic of Macedonia	Ukraine
Bolivia	Finland	Libya	Republic of Mauritius	United Arab Emirates
Bosnia-Herzegovina	France	Lithuania	Republic of Moldova	United Kingdom
Bulgaria	French Guiana	Luxembourg	Réunion Island	Uruguay
Cape Verde	Georgia	Malta	Romania	Venezuela
China	Germany	Martinique	Russia	Yemen
Colombia	Greece	Mexico	Saudi Arabia	
Costa Rica	Guadeloupe	Morocco	Serbia	
Croatia	Guatemala	Netherlands	Singapore	
Cuba	Hungary	Norway	Slovakia	
Curaçao	Iran	Oman	Slovenia	

Table 8 - Markets addressed by SEAT - Annual Summary 2016

Table 9 and Table 10 propose us a clear snapshot of what is the ongoing scenario of the business of the Spanish company: you can also see the data in terms of sales of the top 10 national markets.

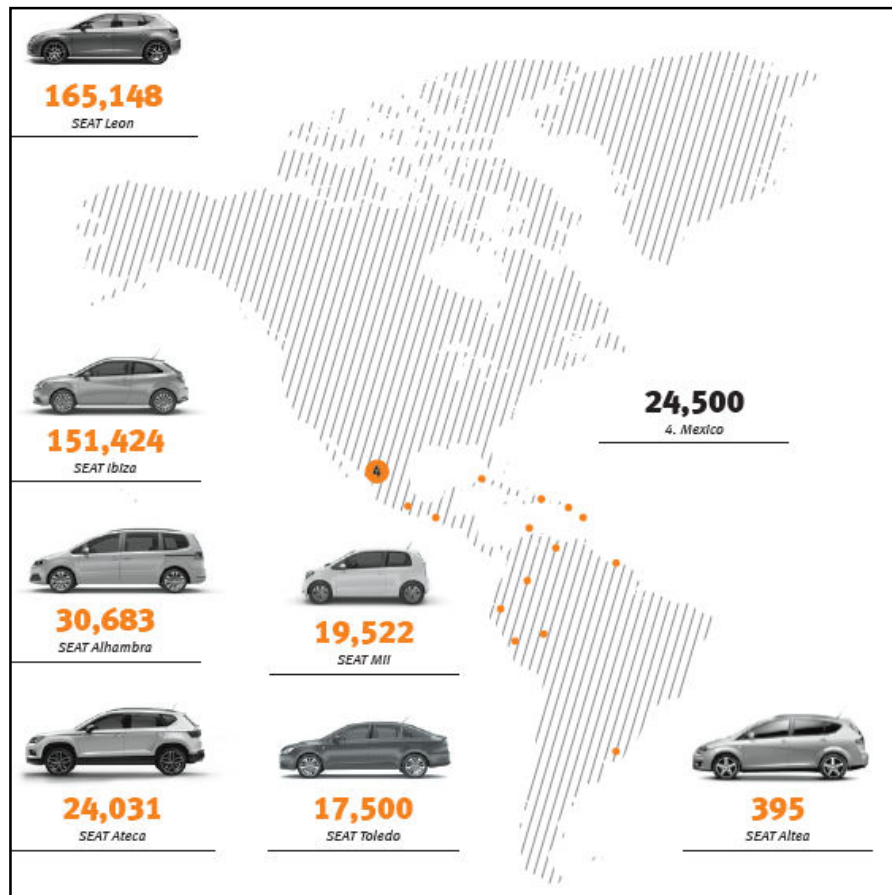


Table 9 - Distribution of 2016 retail sales among the main markets - Annual Summary 2016

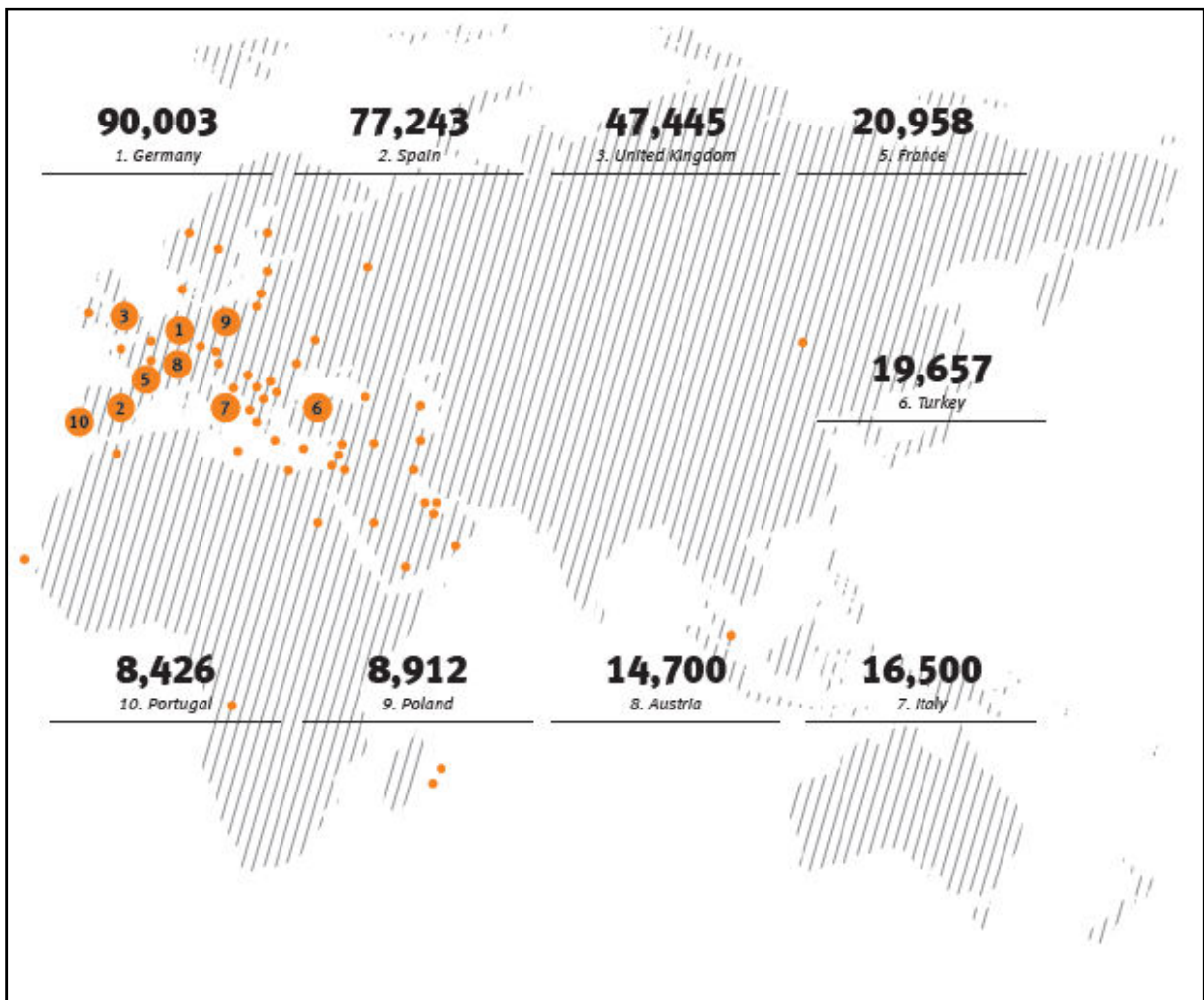
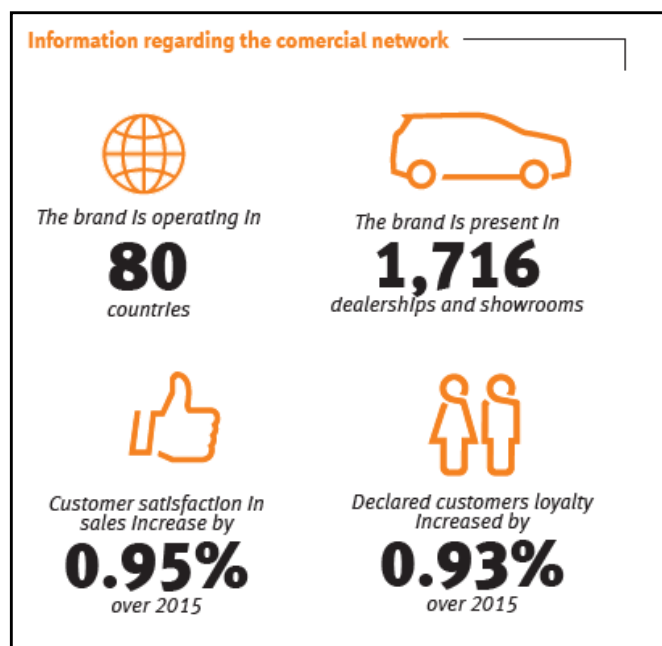


Table 10 - Distribution of 2016 retail sales among the main markets - Annual Summary 2016

Now let us talk about the deployment of the real sales force across the global markets in order to analyze the fundamental points of contact between the brand and the final users. At the end of 2016, SEAT's commercial network had a total of 1,716 dealerships and official showrooms, distributed across 80 countries. The brand has added five new markets (Costa Rica, Ecuador, Iran, Singapore and Uruguay) and now has the challenge of strengthening the current structure, maintaining stability, improving its profitability and adapting to new



technological advances.

In the previous box, we can see the most reliable indexes about the development of the global commercial network: I would like to stress the focus on the worldwide presence (80 countries) and on the positive trend of the Key Performance Indicators regarding the customers' satisfaction reached through the dealerships arrangements: customers are proving to be increasingly satisfied with SEAT's dealership network. General satisfaction with dealerships (CSS) increased 0.95% compared with the same period last year: consumers' recommendation of the company, which is one of the main business drivers, remained stable and declared loyalty increased by 0.93%.

Another important aspect to be considered with respect to the commercial network is the obvious importance of the dealers as fundamental Touch Points, where final consumers can taste the real product. The actual economy has allowed us to see a lot of different platforms to buy goods since times, both offline and online: the e-commerce is a well known frontier representing a consistent market opportunities for business. Speaking about the Automotive Industry, this approach doesn't work still: the only way consumers can buy the car passes through the physical intermediation of the dealership structure. This is the main reason why having a strong and competitive commercial sales network is the first requirements to make clients able to taste the product and close them to the final purchasing decisions. The e-commerce selling approach will be for sure a clear frontier to be overcome also for this market: in the future years, the business model also for carmakers in terms of forward channel allies will change in a consistent way.

Speaking about the actual situation, from a general point of view, SEAT is configured as a big exporter: more than half of its deliveries outside of the Spanish territory is organized through a flowing network of exporting activities. If we consider the methodologies to approach an external market as explained by the internationalization theory, we will see that exporting is the first option to choose, in the case a specific company is at the beginning of its process of going on the global market or in the case it does not have a consistent financial and strategic position. Let's try to consider the main pros and cons when deciding to adopt such an approach. On a general perspective, the advantages of exporting-based strategies can be summarized in the following list:

- enhancing domestic competitiveness
- diminishing the dependence on local market and expanding into new ones
- lengthening the product life cycle

- raising awareness of foreign competition
- stabilizing seasonal market fluctuations
- selling excess product capacity
- increasing profitability
- gaining global market share

As I said before, this approach is, on the whole, the first option when penetrating a foreign new market, because, first of all, it assures a fast market entry. On the opposite side, there are also challenges or possible threats derived from this strategy:

- modifying the product or optimizing packaging
- developing new promotional material
- allocating personnel for travel purposes
- obtaining certain export licenses
- incurring extra administrative costs
- requesting additional financing
- waiting longer for payments

The basic concept and rule of thumb is that every market has different specific demand: needs and wants vary across cultures and represents the peculiarities of the local national markets, determining different preferences and the need for strategically thinking in a more differentiated manner. Next to all the previous consideration, when deciding to adopt an exporting strategy, it is kind of important to assess the likelihood and decisions related to other important factors, such as building and reflecting a solid corporate identity, learning about terms of trade and delivery, international payment methods, ethics of international trade... etc, training your staff well or recruiting experienced people, establishing a professional website, and conducting a structured market demand analysis so as to evaluate the desirability of goods/services within a given demographic.

In particular, going more in depth, the institutional and organizational strategy adopted by the Spanish company is to use a National Sales Company in each market it has targeted (please see the previous box, Table 28). The latter is an off-site export sales department representing the product: another name I can use is Export Management Company (EMC). The main functions of such an organization are the following:

- conducting market researches
- developing market strategies

- using existing foreign distributors or sales representatives to put the product in the new foreign market
- acting as an overseas distribution channel or wholesaler
- taking ownership of goods
- operating on a commission basis

After having considered the broad spectrum of the activities portfolio of a National Sales Company (Volkswagen Group Italia in Verona is a clear example of EMC), let's try to focus the analysis on the advantages and disadvantages of adopting this type of entry mode. On the pros side, it is possible to count:

- better focus on exporting
- lower out-of-pocket expenses
- faster market entry
- opportunity to study methods and potential of exporting

On the other side, among the most reliable cons, I can number:

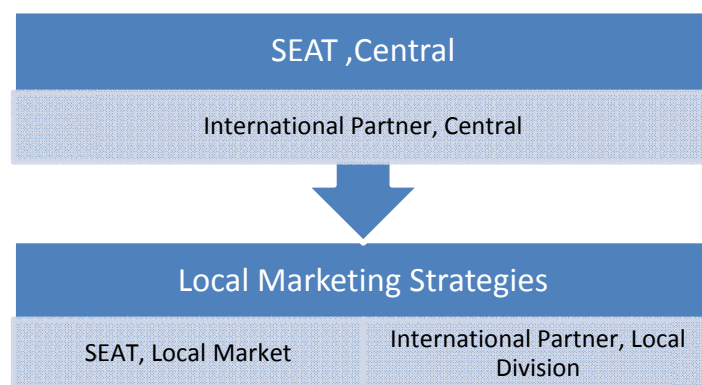
- lack of quality control of export strategies and after-sales service
- possible competition from the EMC's other products
- the reluctance of some foreign buyers to deal with a third-party intermediary
- added costs and higher selling prices owing to the EMC's gross profit margin requirements (unless offset by economies of scale)

Furthermore, in order to propose a more general picture of the actual situation, one advantage of selling overseas is the possibility for the company of increased sales because the company's target market is larger. In addition, by widening its market scope and reaching out to a wider customer base, SEAT can deal in international market shares as well as national ones. In addition to these previous considerations, by selling to multiple countries, the Spanish brand spreads its risk and is not tied to the seasonal or economic fluctuations of a single marketplace. In the end, the company must hire more people to handle overseas operations and order more product to sell to international markets: this means that the size of the company will expand, and it can order more units and cut production costs.

Although there are many benefits of exporting goods, there are also disadvantages. In setting up an international branch, SEAT may face costs in making promotional materials, traveling and handling administrative tasks. Companies that expand overseas may have to modify their products to make sure that safety codes and import restrictions are met (the different product

offensive must be suitable with the specific Country Settings of the local national markets). It is also more complicated to collect payments abroad, and it may be hard to get reliable market information on foreign countries in order to make good business decisions.

The description in the previous lines and pages are a meaningful representation of what is the actual business situation of the Spanish brand and its location and ownership structure around the world: basically, we are talking about a not so big brand in terms of final deliveries and profit margin, with a clear export strategies based on a corporate center in Spain, able to coordinate multiple Export Management Companies around the world, distributed in more or less strategic way, with the aim of being present in the most profitable and advanced markets. Without any doubt, the brand has a National Sales Company in each of the top markets as we can see from the chart of the previous page (Table 28): each developed and consolidated national market, such as Germany, France, UK, Italy and so forth, has a own EMC, which is responsible for the promotion, selling and distribution of the vehicles to the targeted consumers' basis. The last thing I would like to stress regarding the actual situation is related to the relationship among a National Sales Company, like the one I worked for, and the corporate level. In my case, the interdependencies and dynamics are a little bit complicated, because of the fact that the reference players are not only SEAT Central, but also Volkswagen Group AG. Speaking about the value proposition, SEAT has decided to get a sort of top down approach, thanks to the partnerships with several external agencies a forward channel allies: marketing strategies and other related objectives are decided at the top level, in Spain in my case, through the collaboration of an international partner and then all the strategies, in terms of communicating and delivering the added value of the products, are implemented by the National Sales Company together with the Country-specific division of this international partner. Actually the process is quite vertical. allowing to the creation of main disadvantages. Let's consider them (the below graph show this top down approach).



Deciding to adopt such a strategic approach means understanding that there will be the necessity to deal with problems of coordination and communication firstly: the top down model, we have seen in the previous page, requires a quite good extent of flexibility with respect to the deployment of directives and contents from the central headquarter to the each National Sales Company and this implies a certain ability to deal with local difficulties in terms of understanding and adapting the communicated strategies. The second issue arising from this arrangement is the proper balancing of the trade-off between the degree of national differentiation and the pressure to have global corporate common guidelines: during my working experience, I had practical examples of all these practical delays and problems due to the need of conformity with respect to the central indications. So the obvious competitive advantages of delivering common guidelines in the pursuit of a principle of overall uniformity implies, on the other side, the effective management of differences across the specific local markets: as I said before, each market has its specific demand with clear characteristics in terms of needs and wants and also the marketing strategies must be suitable to these features.

Another aspect I would like to take into consideration is the relationships between the single National Sales Company and the corporate headquarter in terms of selling goals and objectives: this is another issue to be clearly considered to understand the dynamics affecting the interdependencies between the two poles. Totally in line with exporting strategy implications and consequences, an EMC, like the one in Verona, the objectives of total number of vehicles sold in the market are given from the central level, following a top down approach: these technical Key Performance Indicators are organized monthly and annually in terms of more or less optimistic designed target for the brand.

3.3 Conclusion

After having analyzed how SEAT is configured within the Automotive Global Value Chain in relation to the issues of Ownership and Location, now let's try to provide some conclusions and suggestions about future possible developments. Even in this case, the Buckley and Ghauri model is applied to designed the overall organization and structure: the "Knowledge and Innovation-based" activities, like design and marketing are internalized. SEAT has an important design and Research & Development center: in this pole, new solutions are studied and developed to satisfy clients and customer needs. Being part of a big Group allows the Spanish brand to externalize backward business activities: all the stages of the Value Chain related to the first and intermediate processing are allocated to plants and sites not owned by SEAT, except for SEAT Components and the building in Barcelona. In this case, we can see

that, from the Group perspective this means internalization, whereas, on the contrary, for the brand it means externalization: this is another important principle within the Group, where the same processing or activity, for one brand could be Insourcing, while, for another one, Outsourcing. A clear example of this is the production of the Audi A1: this model will be produced and assembled in the Martorell plant, together with the New Ibiza: for SEAT, this means Insourcing, whereas, for Audi, this is Outsourcing.

So, from a theoretical point of view, it seems that the Spanish brand follows the Buckley and Ghauri perspective: now, since considering how the market will likely change and how these changes will affect the Global Value Chain structure, let's try to provide some suggestion for future possible developments.

In the future periods, there will be some fundamental structural changes and factors that will heavily define new boundaries and shape for the Automotive Industry, in terms of profitability and new market opportunities to be capitalized. On the one hand, the first important megatrend affecting the global scenario will be for sure the change of the concept of mobility and the relative shift of the geographic importance of the different local economies: we have broadly seen before that the developed Countries will likely have a stable growth in the sector with more or less the same market dynamics, but the focus in terms of deliveries and sales will be mostly driven towards other developing realities. The idea of a future mobility characterized as electric, connected, autonomous and ready to be shared will root in Countries able to attract and capitalize on this new trend: China, for example, will play a fundamental role in shaping the new market environment and, in order to be competitive and survive in the next decades, also SEAT should design its new strategy in light of this element. From the above data, we have seen that actually the Chinese and all the East Asian market are not still targeted by the Spanish brand, whereas the majority of competitors are present there: for sure, this must be a necessary step in the future development of SEAT global business activities. Moving on and speaking about the reliable importance of specific markets, if we consider the first part of the report relative to the market analysis, the South America situation is divided into economies in steady-state, future boom and recession: for example, Countries like Argentina and Brazil are not facing so good situation in terms of market development, whereas, on the contrary, the Chili situation is expected to find recovery during this year and the Peru one is expected to grow a lot. This geographic considerations represents for sure a good starting point for consolidating a strategic location competitive advantage: in the pursuit of the latter, next to the investments in the East markets, the South America ones, I can mention all the North Africa markets, like Morocco and Algeria or,

considering the archipelagos, I can count Philippines. On the other side, all the relevant markets regarding the Middle East are expected to be stable or a little bit in depression. From a general point of view, next to the confirmation of the growth of the big European and North America market, the above consideration draw a specific picture of the potential of the Industry in terms of global demands and this is at the base for developing good strategies to organized dispersed processes.

Now the question to be addressed is understanding which markets to target and which strategies to adopt in order to gain substantial competitive advantages.

When determining the pool of possible foreign locations for the implementation of the business activities, we have seen in the previous pages that it is fundamental to conduct a specific and well focused analysis, by using the following principles:

- Vertical or Horizontal Foreign Direct Investment
- Geography Diversification (Geographic sources of Competitiveness)
- GVC Analysis

So, in light of the previous considerations about the new market opportunities with respect to the different local economies and the above principles, the Spanish company is able to figure out the best possible locations to organize the future structure of globally dispersed economic activities and get the biggest amount of values as possible from the International Fragmental of Production process (please, see the first of the report). In other words, this means considering the following core elements with the aim of editing the final short list for gaining a sustainable location competitive advantage:

- Existence of Upgrading possibilities
- Level of barrier to entry (tariffs,...)
- Public Institutions
- Government Regulation
- Socio-economical instability

All these issues are fundamental in order to migrate from a "narrow" value chain analysis towards a "wide" one: SEAT needs to cope together all the above suggestions to identify the proper pool of foreign possible locations and the pick up one or more than one among them.

All the above decision and strategic tactics must be outlined with the clear image of how Globalization will affect and influence the structure of the entire Automotive Value Chain: in the previous chapters, we have seen that the market structure will likely be subjected to a

process of re-verticalization in the sense that all the activities and processes, able to carry value added and be source of differentiation and competitiveness, will be internalized and get back under the Governance, Ownership and Control of the enterprise. Following this reasoning, for SEAT, being part of the Volkswagen Group is the first base for creating a sustainable competitive advantage: this will allow the company to benefit from economies of scale in terms of basic inputs and components production costs, which will be deployed by the trade-off between Insourcing-Outsourcing within the Group itself. On the sources to create differentiation, the real basis for competitiveness is linked to the following two elements: the forward development of owned infrastructures, like own R&D, and the mutual sharing of the knowledge held by the Group and be put at disposal of each brand.

Let's try now to draw some considerations about the theoretical perspectives we have seen in the first chapter, the future developments of the Automotive Industry and the evidence of the facts of SEAT in relation to its position within the Volkswagen Group. The evolution of the theory describe a specific path towards the approach to Ownership, Location and Governance tactics enterprises should adopt: when the Market is not characterized by instability and exigencies of flexibility (as in the past decades), the traditional strategies is developing strong domestic sustainable competitive advantages to rely on when going abroad (this is the idea proposed by Dunning, according to which the fundamental requirement for gaining a Location and Internalization advantage is the consolidation of an Ownership competitive advantage in the domestic market). When the dynamics and characteristics of market demands has started to change in terms of requiring more responsiveness and, at the same time, more efficiency, also the theoretical approach has started to present a new perspective in dealing with Value Chain Issues: the pressures from Globalization has forced enterprises to localizing stages of the GVC in different regions to meet their specific targets in terms of ability to better customize the market offerings and reach economies of scale. This has lead to a process of de-verticalization of the Industry, where the degree of externalization has started to rise: as we have seen before, also the Automotive Industry has been subjected to such influences (the Buckley and Ghauri model, which is the last in chronologic order within the "Global Factory" concept, shows this approach). SEAT, in this perspective, benefits from being part of a big Group: from the production point of view, modularization and standardization to reach economies of scale is obtained through the "synergies sharing" principle, which allow the Group to produce different models of different brands on the same platform; from the backward activities in the Value Chain, the Spanish brand has a own components center and benefit from the other plants owned by Volkswagen in charge of producing parts and

materials for all the brands of the Group. The evidence of the facts shows that, as Buckely and Ghauri state in their model, SEAT has highly internalized those activities able to bring differentiation: engineering, marketing and design. The future changes in the Industry Key Value Drivers are creating the basis for a forward modification in the Global Value Chain structure: elements such as the introduction of the electric car, the autonomous drive and the progressive introduction of services and connectivity within the vehicles are making enterprises start a process of re-verticalization of many specific processes. Next to the previous activities (engineering, marketing, design and R&D), which will likely continue to be kept within the organization, the battle for the value added generation and differentiation-based competitive advantage will likely be focused also on some backward stages of the Value Chain: development of new engines, creation of batteries, and so forth. All these activities will be brought inside the company, because they will be sources of competitiveness able to bring new competitive advantage, sustainable according to an Industry that will face totally new paradigms: the conclusion from my analysis is that the theoretical model explained in the first chapter presents some limits nowadays in describing how enterprises in the Automotive Industry should approach to Ownership, Location and Governance issues, because the necessity to handle with instability and with changing Value Drivers are forcing MNEs to radically change the setting of their activities in light of new driving sources of competition and value.

Appendix A: Global Value Chain Analysis¹

There are six basic dimensions that Global Value Chain methodology explores and, by following what we have recently said, we can divide them into the two categories of top-down and bottom-up approach. The first three variables refer to international elements, determined by the dynamics of the industry at a global level, whereas the second three ones explain how individual Countries participate in GVCs. Let's consider them (Gereffi and Fernandez-Stark et al., 2016).

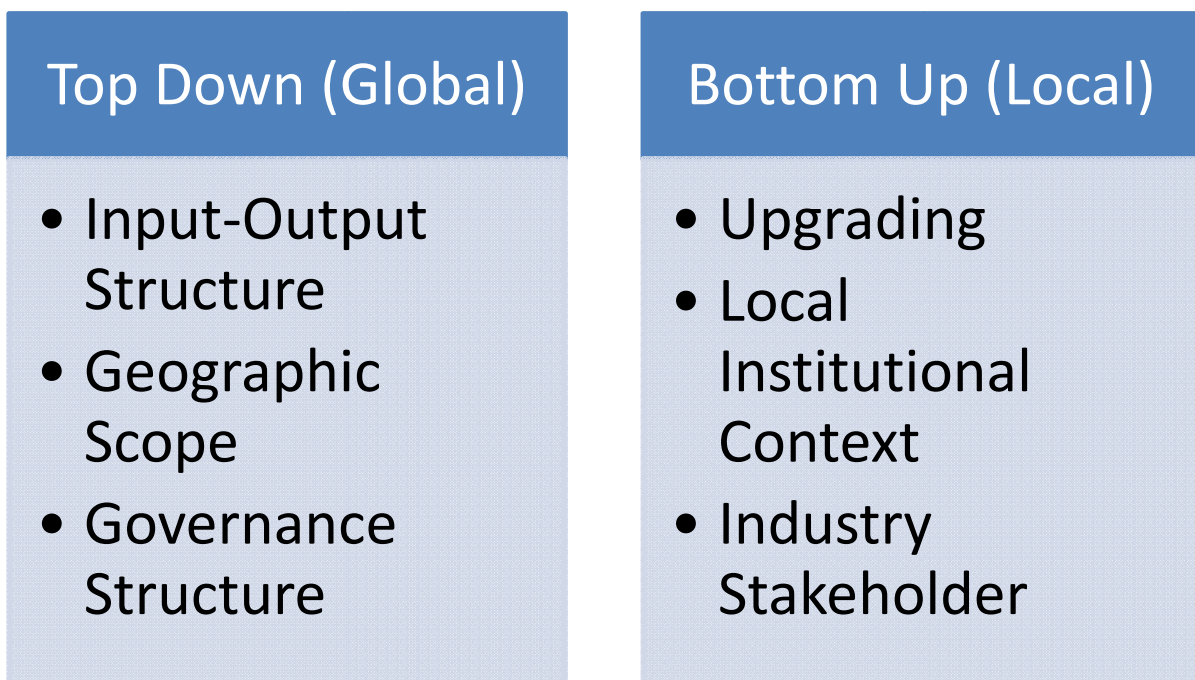
- 1 **Input-Output Structure:** this section is totally dedicate to the description of the process of transforming raw materials into final products. This is the basic starting point of the analysis: we need to take into count how the enterprise generate value through its activities, the degree of integration, both vertical (forward and backward) and horizontal, the degree to which activities are outsourced, rather than performed internally and so forth. All these considerations pertain to the overall structural process at the basis of the entire value creation process.
- 2 **Geographic Scope:** it explains how the industry is globally dispersed and in what Countries the different GVC activities are carried out. In this case, we analyze how enterprises organize the location distributions of the economic activities: the analysis is mainly focused on what stages of the value chains are performed where, on differences and preferences among Countries for specific facilities or particular processes and so forth.
- 3 **Governance Structure:** Lead Firms & Industry Organization. This section will be analyzed a lot in the next sections, because it is very actual: managers need to understand very well not only the structure of processes within the firm itself, but also how to design the new widely dispersed corporate dimensions, in terms of organization, ownership and control. The more the degree of dispersion of the economic activities, the bigger the need to carefully design the proper corporate structure. We can say that choosing the right approach with respect to such issues could be fatal in terms of operating profit margins and overall costs control.
- 4 **Upgrading:** with this word we mean the dynamic movement within the value chain by examining how producers shift between different stages of the chain itself. This concept is defines as firms, countries or regions move to higher value activities in

¹ Gereffi G., Fernandez-Stark K., (June 2016) "Second edition, Global value chain analysis: a primer". Center on Globalization Governance & Competition at the Social Science Research Institute (Duke).

Global Value Chains in order to increase the benefits from participating in the global production. So, in this section we will deal with all the factors determining the upgrading process regarding Countries in relation to multinational enterprises.

- 5 **Local Institutional Context:** this section is focused on the description of the real and objective institutional context in which the industry value chain is embedded in local economic and social elements. This analysis is mainly related to the external local foreign scenario in which economic activities will be offshored.
- 6 **Industry Stakeholder:** the last part of the analysis will be focused on how the different local actors of the value chain interact among each other and with respect to the global company with the aim of achieving the above industry upgrading.

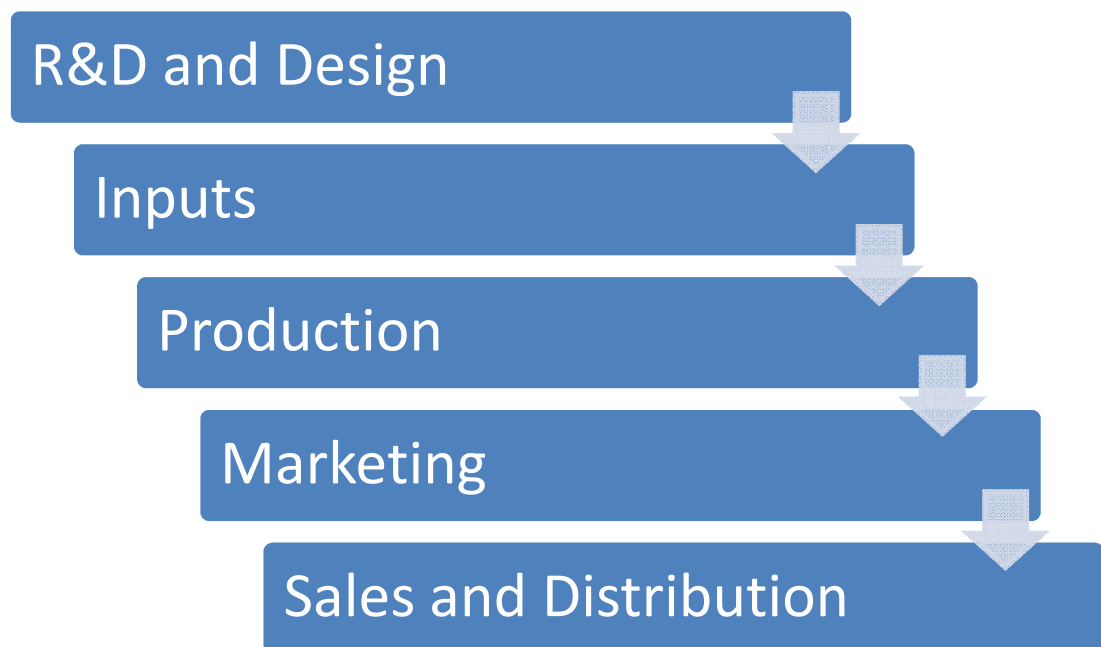
Before moving on, in order to resume what we have said so far, we can state that the Global Value Chain analysis is focused on these two contrasting vantage points: "top-down" or global and "bottom-up" or local. "Governance" is a key concept of the first axis, focusing mainly on the organization of international industries, while, "Upgrading", the main concept of the second axis, focuses on the strategies used by Countries, regions and other economic stakeholders to maintain or improve their reciprocal positions in the global economic environment.



Input-Output Structure

Now let's consider the structure of the industry: in this case, we can highlight two main important dimensions for our analysis:

- ✓ **Identify the main activities/segments in a Global Value Chain:** a chain represents the entire input-output process that brings a product or a service from initial conception to the consumers' hands, as we have seen before. At this point, it is crucial to understand which are the main segments characterizing the different value chains: they vary from industry to industry, but, from a general perspective, we can state that they typically include Research & Development, design, inputs, production, distribution, marketing, sales and, in some cases, also the recycling of products after the use and disposal. This input-output structure involves goods and services, as well as a range of supporting industries interconnected among each others. From a graphical representation, we could imagine this structure as a set of value chain boxes connected by arrows that show the flows of tangible and intangible goods and services, which are critical to mapping the value added at different stages in the chain and to layering in information of particular interest for managing the entire process.



In order to understand deeply the entire structure of the chain, it is kind of fundamental to study the evolution of the industry of reference, the trends that have shaped it and its organization. We can say that, based on general knowledge about the each specific industry, segments of the chain can be identified and differentiated in terms of the extent of value they add to the final product or service: the segments illustrate, step by step, how different value adding processes contribute to the overall market offering and, in turn, the differing returns netted for the chain actors behind them.

This Input-Output structure is the main and fundamental basis for describing the holistic marketing approach in terms of analyzing the flow of value from the creation moment to the effective capitalization of it.

Once enterprises have fully understood how the value is created within the flow of their procedures, they must manage efficiently other three important processes in order to be able to get back all the value created in order to build long-term , mutually satisfying relationships and co prosperity among stakeholders. The first one is the value exploration process, which is focused on identifying new values opportunity in virtue of the ongoing scenario of the business and the inside company situation; then we have the value creation process, aimed at creating new more promising new value offerings, by analyzing strengths, weaknesses, threats and further market opportunities; in the end, the last step is the value delivery process, which is dedicated to the implementation and use of capabilities and infrastructures to deliver the new value offerings more efficiently.

Managing a superior value chain means exploring, creating, delivering and communicating and high level of product services: in this way, the company will be able to achieve quite profitable growth by expanding customer share, building customer loyalty, and, most of all, capturing customer lifetime value.

- ✓ **Identify the dynamic and structure of companies under each segment of the value chain:** each of the segments identified in the previous step have specific characteristics and dynamics, such as particular sourcing practices or preferred suppliers. So we can say that it is kind of important to understand the type of companies involved in the industry and, most of all, their key characteristics, which could be global or domestic, state-owned or private; large, medium or small and so forth. Identifying the firms that participate in the chain will help to understand its governance structure and we will go more in depth into this topic in the next sections. Without any doubt, the increasing degree of globalization has made recognizing the

role of each player within the value chain more difficult: more global and international relationships mean more and more linkages and interdependencies among firms.

So, by following graphically the previous representations, we can conclude the following statements:

- Inputs: in this phase, we consider all the companies related to the "before-production" step, where all the inbound logistic-related interdependencies are the core business (backward vertical integration)
- Production: here we focus on the manufacturing and physical production process within the value chain, where we must identify the ones participating in the creation of the final inputs (horizontal differentiation and outsourcing activities)
- Marketing: this step is related to the players in charge of designing and implementing the marketing strategy, including the value communication and delivery plan
- Sales and Distribution: here, we consider the degree of forward vertical integration, where we analyze the participants in getting the output available to the final consumers
- R&D: this is a constant variable affecting all the processes, because differentiation and, above all, innovation are the constant index affecting the rapidly changing dialectics of all the industries and markets

Geographic Scope

The globalization process of industries that we have broadly analyzed before has been heavily facilitated by a series of improvements in transportation and telecommunications infrastructure and driven by demand for the most competitive inputs in each segment of the value chain. As we have seen in the above sections, today supply chains are globally dispersed and different activities are usually carried out in different parts of the world. The most important things to understand in this sense is the criteria, by which economic activities are located and spread out across the international scenario: we can conclude that, in the global economy, each Country participate in industries by leveraging their competitive advantages in assets. This means that, for example, developing Countries, on the average, offer low labor costs and raw materials, whereas, on the other side, rich Nations, characterized by highly educated talent and, consequently, by an high degree of development and exploitation of intellectual human capital, are behind Research and Development processes

and product design activities. The consequence is that firms and workers in widely separated locations affect one another more than they have in the past.

Geographical analysis is first based on the analysis of global supply and demand: this is done by taking into consideration the trade flows at each stage of the value chain and the drawing conclusions about the equilibrium between the two curves.

One of the main contributions of Global Value Analysis has been to map the shifts in the geographic scope of the global industries and this is quite fundamental in order to manage the changing dynamics of the markets: GVCs operate at different geographical scales, such as local, national, regional and global, and they continue to evolve during time for sure. Now the global trend in this sense is that there may be an evidence toward a regionalization of Global Value Chains in response to a variety of factors, including the growing importance of large emerging economies and regional trade agreements.

Governance

Now let us concentrate on the governance-related aspects of the Global Value Chain: focusing on these issues is fundamental in order to understand which are the dynamics governing the actors participating in the value creation process. In fact, the governance analysis allows one to understand how a chain is controlled and coordinated when certain actors in the chain itself have more power than others.

In the next section, we will deal with one of the most important theory in terms of explaining how companies spread out their business activities in the world: now, it is useful to anticipate a little bit what we will see later, because it is linked to the definition of the governance sphere within GVCs. Gereffi stated that governance could be defined as the "authority and power relationships that determine how financial, material and human resources are allocated and flow within a chain": this is exactly the main idea behind the governance analysis, aimed at describing the logic behind the disposal and exploitation of any kind of asset within an enterprise.

Following the theory, we can split up the chains into two different types: let's see what they are.

- **Buyer-driven chain:** in this situation, we focused on the majority of big global actors, such as large retailers or successful branded merchandisers, which have a strong and heavy bargaining power able to dictate the way the chains should operate, by requiring

suppliers to meet certain standards and protocols, despite limited or no production capabilities.

- **Producer-driven chain:** this business scenario is characterized by a more vertically integration degree along all segments forming the supply chain and by a more ability to leverage the technological or scale advantages deriving from the integration process of suppliers.

In other words, we can say that governance analysis requires identification of the enterprise identity, its location implications, the extent to which it interacts with the supply base and the source of influence and power over the latter.

Now, starting from the above considerations, we can move into the explication of a more elaborative typology of the five most important and widely recognized structures describing the functioning of a Global Value Chain: markets, modular, relational, captive and hierarchy.

All these structures are measured and determined by using three fundamental variables: the complexity of the information shared between actors in the chain; how the information for the production process can be codified, and, in the end, assessing the level of supplier competence. By the analysis of the interactions among these three axis, we can resume the outcomes in the following chart.

Now let's describe these five structures.

- **Market:** this kind of governance requires and involves transactions relatively simple in terms of functioning. Information on product specifications is easily transmitted and suppliers are able to manufacture products starting from minimal inputs coming from buyers. These sort of arms-length exchanges are linked strongly to a little or no formal degree of cooperation among actors and the cost of switching to new partners is low for both producers and buyers. The main consequence is that the central governance mechanism is price rather than a powerful lead firms shaping the market.
- **Modular:** this kind of corporate and market governance is typical when complex transactions are relatively easy to be codified. This means that, in technical terms, typically suppliers in these chains make products in virtue of some customer's specifications and take full responsibility with respect to process technology, by using generic machinery and equipment that spreads investments across a wide customer base. The main economic implication from that is keeping the switching costs quite low and limit transaction-specific investments, even though the relationships between the buyer and the supplier side can be very complex. We can say that linkages are

more substantial than in the previous situation, because of the fact that there is an high volume of information flowing across the inter-firm link. We can conclude by assessing that the keys to the proper functioning of modular governance are the information technology and standards for exchanging information itself.

- **Relational:** this approach to governance is mainly related to the complex flow of information between buyers and sellers, in particular when it is not easily transmitted or learned. The consequence is frequent interactions and knowledge sharing among the involved parties: for sure, this process requires an high degree of trust and generate mutual reliance, being regulated through reputation, social and spatial proximity, family and ethnic ties and so forth. Despite mutual dependence, the behavior of leading firms is particular: in fact, they still specify what is needed in term of value generation process and thus have the ability to exert some level of control and pressure over suppliers. Producers in relational chains are more likely to supply differentiated products and services, mainly based on quality, geographic origin or other unique characteristics. So, since concluding, we can summarize by saying that relational linkages take time to be built, so the costs and difficulties in terms of switching to a new partner tend to be very high in the long run perspective.
- **Captive:** the fourth type of governance structure is the captive one, where the chains are characterized by small suppliers being independent on one or by a few buyers who often wield a great deal of power. These types of network feature an high degree of monitoring and control influence over the firm: the main consequence is that the power asymmetry in captive structures forces the supplier side to link to their respective buyers under a specific conditions set by, and often specific to, that particular buyer, leading to thick ties and quite high switching costs for both parties. We can move on by noticing that, since the core competence of the lead firms in the market tends to be isolated to areas outside the production process, helping their suppliers upgrade their specific production capabilities does not encroach on this core competency, but, on the other side, rather benefits the lead firm by increasing the efficiency and effectiveness of its entire supply chain. The last thing to be notice is that ethical leadership is important with the aim of ensuring suppliers receive a fair treatment and an equitable share of the market price.
- **Hierarchy:** this kind of governance describes all those chains that are characterized by vertical integration and managerial control within lead firms, developing and manufacturing products in-house. This usually happens when product and service

specifications cannot be codified, so products themselves are quite complex, or highly competent suppliers cannot be found in the market. The conclusion about this point is that, while less common than in the past, this sort of vertical integration remains an important feature of the global economy.

So, we have seen the five most important governance structures able to shape the global market: the form of governance can change as an industry evolves and matures over time, and, consequently, governance patterns within an industry can vary from one stage or level of the chain to another. In addition, the increasing implications deriving from the globalization process has shown that many Global Value Chains are characterized by multiple and interacting governance structures and these affect opportunities and challenges for economic and social upgrading.

Upgrading

The Upgrading process is a managerial concept strictly related to the impact of globalization with respect to companies functioning and procedures: in particular, it is defined as the process, by which firms, countries or regions decide to move to higher value generating activities in Global Value Chains in order to increase the benefits, such as security, profits, value-added, capabilities and so forth, from participating in global production.

There are different elements composing and associated with the Upgrading process: for example, we can highlight mixes of government policies, institutions, corporate strategies, technologies and worker skills. All these issues must be carefully analyzed and understood in terms of their contribution to the operating margins, with the aim of realizing if they could work together in a better way. Furthermore, there are different theories trying to describe the phases or the objectives of the upgrading processes: from a general point of view, we can say that the logic behind the working of these trends are mainly four.

- **Process upgrading:** this approach is focused on transforming inputs into outputs in a more efficient way, by reorganizing the production system and procedures or introducing superior technology.
- **Product upgrading:** in this case, the focus is quite different than before. Now the entire process is concentrated on moving the manufacturing system into more sophisticated product lines: differentiation strategies could be an optimal solution when the enterprise realizes that there is a profitable market to target and to serve and,

most of all, when it has the internal core capabilities to extend its product line (without a proper know-how and level of skills, differentiation could be a fatal error).

- **Functional upgrading:** this form of upgrading process is based on acquiring new functions, or, on the other side, abandoning existing ones, in order to increase the overall skill content of the activities
- **Chain or Inter-sectoral upgrading:** this is the last possibilities enterprises have to upgrade the process in terms of production and manufacturing capacity. Moving into new but often related industries could be a chance to gain a lot of competitive advantages, both in terms of boosting profits and brand image, or protecting the existing market share. There are a lot of positive reasons why multinational enterprises decide to diversify their product mix portfolio, by targeting different industries, whatever the form of investment they adopt: we can say that globalization is forcing companies to highly differentiate their product and service offering, because the level of rivalry and competition is getting bigger and because, on the contrary, the period of obsolescence of products is getting smaller.

Next to these four type of declination of the upgrading process, we can identify three other additional types, which contributes to providing a clearer snapshot of the scenario:

- **Entry in the value chain:** this is a point related to the timing of entering a specific value chain, so it is kind of important to be in the right place at the right time. More in depth, by analyzing the entry in the value chain, we focus on where and when firms participate for the first time in national, regional or global value chains. Without any doubt, this is the first and one of the most challenging upgrading trajectories.
- **Backward linkages upgrading:** in this case, we take into consideration the timing and the location, by which local firms, both domestic or foreign, in one industry begin to supply tradable inputs and/or services to companies that are located in the country and are already inserted in a separate Global Value Chain.
- **End-market upgrading:** this the last additional type of upgrading process and it is mainly focused on moving into more sophisticated markets that require compliance with new, more rigorous standards or into larger markets that call for production on a larger scale and price accessibility.

So we have seen the methodologies and the logic behind the upgrading process enterprises can adopt: for sure, the patterns differ in terms of both industry and country, based on the input-output structure of the value chain and considering also the institutional context of each

Nation. For example, going more in depth, certain industries require linear upgrading and Countries must gain some degree of expertise in one segment of Global Value Chain before upgrading into the next one.

The challenge of economic upgrading in GVCs is to identify the conditions under which developing and developed or emerging countries and enterprises can "climb the value chain" from basic assembly activities, by using low-cost and unskilled labor to more advanced forms of "full package", let' say, supply and integrated manufacturing.

However, increasingly many of the economic activities and processes aimed at creating the highest valued added possible are located in pre- and post-production manufacturing services, which challenge host Countries to develop appropriate workforce development strategies to supply these services locally.

Local Institutional Context

Now let's move on to the analysis of how the political scenario could exercise a certain kind of influence on the Global Value Chain organization: in particular, we can affirm that the local institutional framework identifies how local, national and international conditions and policies affect the shaping of a Country's participation in each stage of the value chain. The consequence and the implications deriving from such an approach are that enterprises must carefully asses the potentiality of each foreign Country in terms of positive or negative marginal externalities with respect to the decision of localizing specific activities in that specific Country: when creating a list of the possible external location for a process, firms must seriously consider the political power and the institutional pressure on the economy.

Moreover, Global Value Chains are embedded with local economy, social and institutional dynamics: the proper insertion in GVCs depends significantly on these local conditions. Let's consider them more in detail.

- **Economic conditions:** speaking about this issue, we mainly focus on the availability of key inputs, fundamental for the manufacturing and productive process, such as labor costs, available infrastructure and access to other resources such as finance.
- **Social context:** in this case, we will deal with the degree of governability with respect to the availability of labor and its skill level, in particular in terms of female participation in the workforce and the overall access to education

- **Institutions:** this is a particular set, within which we include the effects of taxation and labor regulation, subsidies, education and innovation policy that could promote or hinder the broader industry growth and development.

So, since concluding, we can easily notice that is not only important focusing on the technical and production-related issues in deciding the foreign location of activities, but also the specific features of the location itself, in terms of a set of variables, external to the enterprise, exerting a reliable influence on the latter.

Because Global Value Chains touchdown in many different parts of the world, the use of such an approach allows managers to carry out more systematic comparative (cross-national and cross-regional) analysis to identify the real impact of different characteristics of the institutional context on relevant economic and social outcomes.

Stakeholders Analysis

From a general point of view, the analysis of the local dynamics in which a value chain is embedded requires, for sure, the examination of the stakeholders involved: we can say that all the industry actors are mapped in the value chain and their main role within it is explained and designed for a specific purpose. Now let us consider and describe them.

The most common stakeholders in the value chain are the following:

- companies
- industry associations
- workers
- educational institutions
- export promotion and investment attraction departments
- Ministries of foreign trade, economy and education

This is the majority of key players having a claim, interest and/or influence on the enterprise ongoing business situation: so we can easily understand that it is kind of important to consider how relations between these actors are governed at the local level and which institutions are in a position to drive changes.

For enterprises, being able to describe and figure out which is the set of overall external forces having an impact on them is something very critical: it becomes especially relevant for industry upgrading recommendations and the development of an industry growth strategy, in

which each stakeholder plays a role in terms of reliable contributions in the general development of the sector.

Appendix B: Industry Top Trends 2017

After having analyzed the dynamics that have shaped the actual situation of the international market, in this section we will provide some information and data about the forecast and outlook of the market for this year: in particular, we will focus mainly on the ratings, the forecasts, the assumptions and the risks linked to the future industry trends.

Ratings Outlook

SUMMARY:

Rating trends across the global automotive industry remain mostly stable and this indicates that prospects for higher or lower ratings are fairly limited for the majority of issuers. This is totally in line with the global market situation, characterized by the following elements:

- steady sales and production volume
- degree of ratings headroom
- better product mix
- higher-technology content
- company-specific progress from asset disposal
- cost reduction from continuous restructuring

Next to these factors, it is kind of important to highlight three other indexes, which contribute to shape the actual borders of the market, even though not directly linked to the industry structure:

- competitive price pressure
- higher regulatory costs
- risk of disruptions to trade flow

From a general perspective, we see fairly limited prospects of further upgrades or downgrades in 2017: the main evident issue is that most of the likely downside that analysts expect is for automotive issuers in Latin America and, to a much lesser degree, in Western Europe. The beside Chart 1 provides a clear idea of the rating distribution for 2017 (globally and by region).

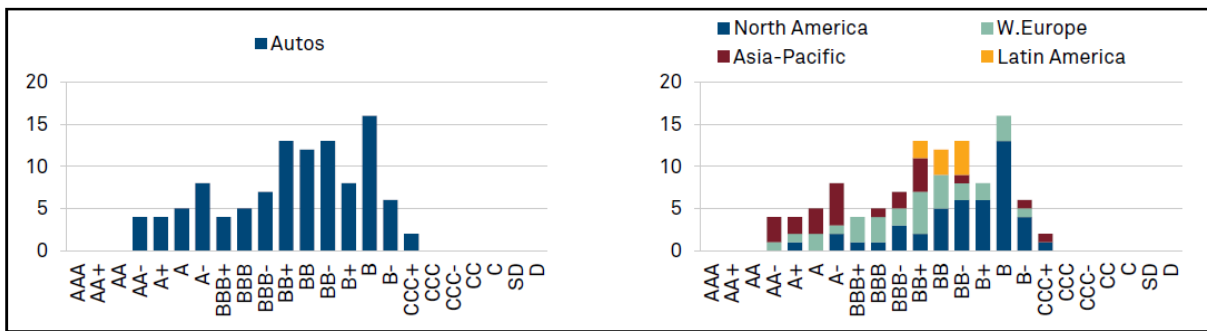


Chart 1 - Ratings Distribution globally and by Regions - Industry Top Trends 2017: Autos, S&P Global Ratings

The most widespread belief among the industry experts is that ratings are approaching a ceiling for the majority of the companies, 80% of which have a stable outlook and profile. Moreover, nearly 70% of rated issuers are at or above pre-recessions ratings levels. For example, by following their upgrade into investments-grade category in 2013-2014, carmakers, such as General Motors and Ford have both seen upgrades in the past nine months to "BBB" section. On the whole, the main idea is that it will be a limited likelihood of the rating indexes rising again over the next 12-24 months, because of the fact that the market conditions in most major end-markets are becoming increasingly competitive.

Industry Forecasts

SUMMARY:

On the whole, credit ratios are likely and expected to deteriorate slightly in 2017, as companies face headwinds in sustaining or improving EBITDA margins. Furthermore, some issuers will also face increasing pressure to use excess cash to reward shareholders. The conclusion is that, given the actual rating headroom auto manufacturers have, as stated before, analysts don't expect that increased competitive pressure amid slow growth globally will have a major rating impact.

In order to better analyze this issue, we must divide our report into two categories: Auto OEMs and Auto Suppliers, because these are two different markets, but, for sure, highly connected.

For **U.S.-based OEMs**, such as General Motors and Ford, the revenue growth is expected to be quite flat, but, on the whole, both will likely to maintain strong cash flow and steady

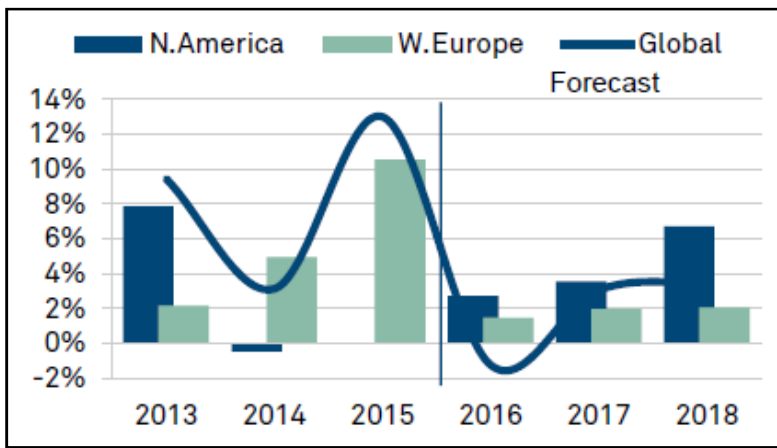


Chart 2 - Revenue Growth (by local currency) from 2013 to 2018 (expected) - Industry Top Trends 2017: Autos, S&P Global Ratings

profitability in 2017 and 2018, despite the progressive slowing of the global automotive demand. Some of the most reliable aspects are the margin headwind derived from pricing pressure, the weaknesses of the pound sterling and the increase in inflation following the U.K.'s

referendum vote to leave the European Union. Analysts also expect that there will be a considerable increase relative to the pressure on General Motors's and Ford's captive units from lower auction values, highlighting increased supply, lower value and increasing residual risks across vehicle segments. For Tesla Motors, for example, the basic assumption is linked to a faster pace of growth in orders in this years, but a marginal decline in average prices, because of the foreign currency headwinds and a shift in product mix to less expensive variants, which more than offset price increases and higher option take rates. The following graphs represent Revenue growth distribution and the EBITDA margin. according to the different regional markets, from past years to the next ones.

As we can see in the above Chart 2, the index related to the **revenue growth** indexes shows a positive trend, started in 2016, and it will be quite stable and flat by 2018. For the North American market, 2015 was a bad year in terms of revenue generation, and now the situation, for the auto manufactures is getting better. Now let's consider the **EMEA-based original equipment manufacturers**. The expectations for this market are characterized, from a

general perspective, by slow revenue growth for mass markets in 2017, supported by higher volumes and offset by ongoing pricing pressures. For premium players, for example, volume and revenue

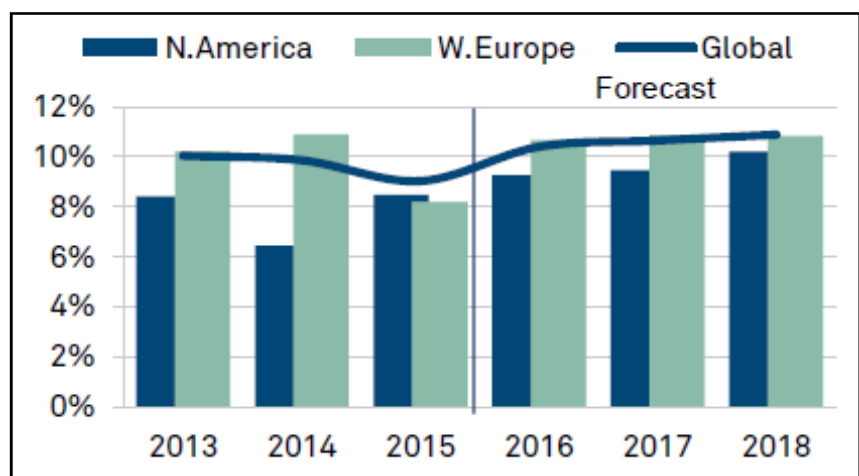


Chart 3 - EBITDA margin (adjusted) from 2013 to 2018 (expected) - Industry Top Trends 2017: Autos, S&P Global Ratings

growth are expected to be stronger, mainly due to the rollout of new and extended models, while high research and development (R&D) costs and regulatory expenses will weigh, for sure, on margins. Furthermore, there are two other important issue to be considered: the risks connected to demand and trade flows within the European Union, because of Brexit and within NAFTA, because of the policies from the United States administration. Chart 3 shows the trend of **EBITDA margin (adjusted)**, which has been quite stable and constant until now, with the only exception for 2015 and which is expected to remain constant over the next years, without so much differences across the different geographical markets.

The conclusion for the EMEA markets of automakers is that the most important expectations are linked to high capital expenditure, due to investments in new vehicle models and new technologies (the logical consequence is a major constrain of the free cash flow generation) and to continued low net credit losses on financing receivables and for residual values on lease assets to remain

broadly state.

Just for having a broader analysis, the next two graphs show other two important financial ratios, which contribute to draw a more meaningful picture.

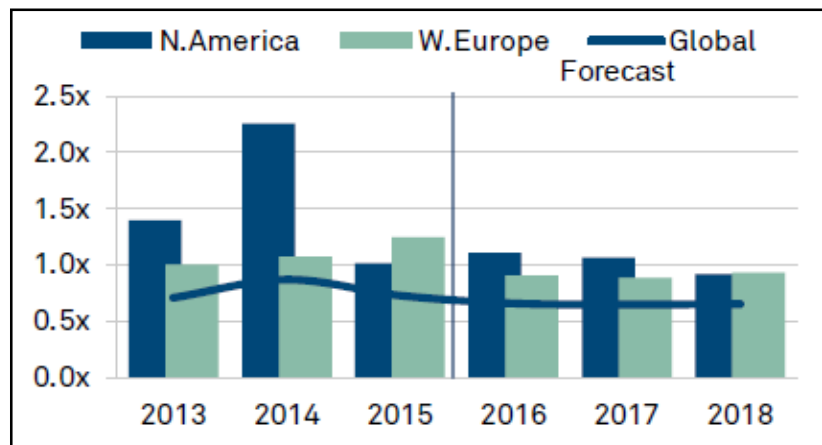


Chart 4 - Debt / EBITDA (adjusted) from 2013 to 2018 (expected) - Industry Top Trends 2017: Auto, S&P Global Ratings

The first one (Chart 4) is provides the relationships between **Debt** over

EBITDA (adjusted) and we can see that it has been stable since 2014-2015 and it is expected to remain more or less the same by 2018, with a quite equality between North American and Western European market. The second one (Chart 5) shows the ratio between **FFO (Funds From Operations)** and **Debt (adjusted)**: the trend is different than before, because, since the last year, the percentage has been higher in the European market, but, by 2018, the two values will be nearly the same for both markets.

Now let's move forward in order to analyze the other side of the industry: the Auto Suppliers market. For the **U.S.-based auto suppliers**, the expectations are relative to a steady low-single-digit revenue growth in 2017, as new business wins and increased content are offset by

foreign currency headwinds and higher commodity prices. Analysts expect EBITDA margins for most U.S. suppliers to flatten out as they look to focus on improving their manufacturing

and engineering footprint and derive operational cost reductions. For the **Europe-based market**, suppliers

are set to generate mid-single-digit revenue growth in 2017, mainly driven, according to analysts belief, by a strong order book and increased content per car through new technology, constrained by foreign currency opposite fluctuations. the main consequence is an expected

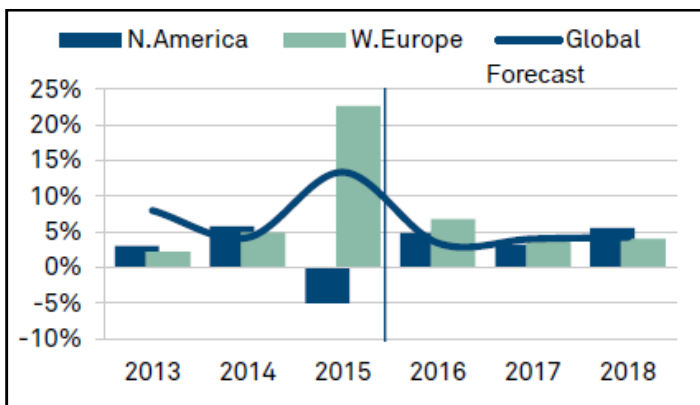


Chart 6 - Revenue Growth fluctuation from 2013 to 2018 (expected) - Industry Top Trends 2017: Autos, S&P Global Ratings

stable or even improving EBITDA margins for this region, because of the continuous focus on strategies such as cost reduction and efficiency improvements.

Chart 6 shows the **revenue growth** fluctuation described by the above analysis, whereas Chart 7, below in the page, highlights the **EBITDA**

margin (adjusted) trend according to the different markets.

For the **U.S. market**, credit metrics are expected to stay stable for the majority of suppliers: the portrait of the actual market sees some Tier 1 suppliers continue to absorb large acquisitions made in the last year and, probably, their appetite for tuck-in purchase towards firms able to close the gap in their technology portfolios is not over. Moreover, for them, analysts expect a commitment to debt reduction as well as ongoing streamlining of cost structure as they look to hold on their

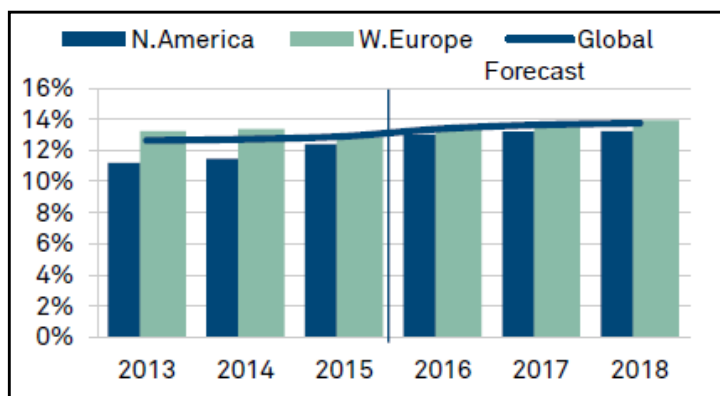


Chart 7 - EBITDA margin (adjusted) from 2013 to 2018 (expected) - Industry Top Trends 2017: Autos, S&P Global Ratings

investment-grade ratings.

For the **European market**, the expectations are in line with the ones of previous year: credit metrics will be more or less stable for the majority of suppliers and, on the whole, improve for the ones spending most of their free operating cash flow to further reduce debt, as opposed to on acquisitions.

The following two representations, as for the previous cases, highlights the **Debt/EBITDA (adjusted)** relationships, in Chart 8 and the ratio between **FFO/Debt (adjusted)** in Chart 9 according to what we have seen before in the above paragraphs.

Before moving forward, it is kind of important to spend few words about the two players in the industry in relation to the Asia-Pacific and Latin America markets.

Speaking about the first scenario, we can state that suppliers, on the whole, maintain more or less significant cash buffers, because of the strong financials of Japanese and Korean players.

Some downside risks remains in the sector's operating cash flow given the fact that the volume of global sales is weak and the pressure on profitability due to higher competition is constantly increasing. Furthermore, capital investments and the average expenses on Research and Development are likely to gradually increase in order to

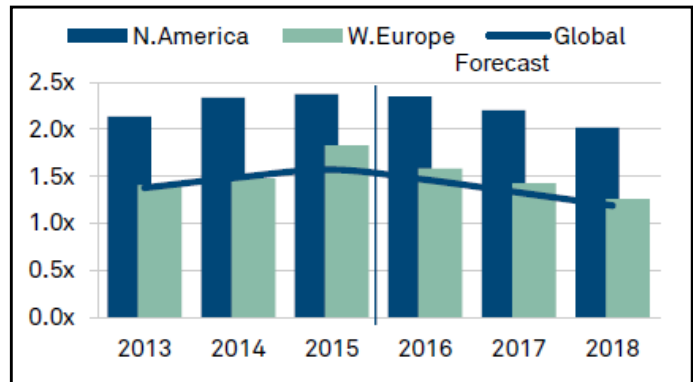


Chart 8 - Debt / EBITDA (adjusted) from 2013 to 2018 (expected) - Industry Top Trends 2017: Autos, S&P Global Ratings

help companies fend off fierce competition and cope with the strict environmental regulation. From a general perspective, the two most important factors are that operating cash flows are likely to cover investments and the credit metrics are not likely to be undermined, in a

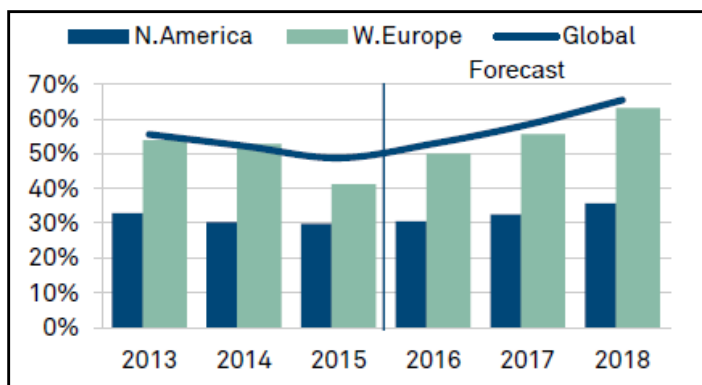


Chart 9 - FFO / EBITDA (adjusted) from 2013 to 2018 (expected) - Industry Top Trends 2017: Autos, S&P Global Ratings

considerable way, because of the strong financial buffer of the regional sector.

Japanese automakers, for example, face a modest increase in earnings in 2017 at best after several years of improvements and developments: factors such as the flat demand growth in the United States market,

their largest profit contributor and the constant increasing of competitive pressure may easily outweigh ongoing efforts to reduce costs. If we take into account the currency, although the weaker yen in recent months has been favorable, a potential fall to extreme currency appreciation could harm seriously the profitability level. In Korea, for example, global important players, like Kia and Hyundai, will see their market position and profitability level out after several years of deterioration, thanks to an improvements in product mix and to the limited potential for a further significant slide in emerging markets in relation to currency and market demand. From a regulatory point of view, for both Japanese and Korean carmakers, there are serious risks associated to the development of a new trade policy under the Donald Trump administration.

Chinese auto OEMs continue facing pressure particularly on cash flow and profitability: the whole national industry remains characterized by tight competition, because of structural overcapacity and this is reflected, consequently, on the downward trend of the margins. A clear witness of this issue is that, since considering the entry-level segment, we can see that the expected launch of an abundance of new models forces OEMs to keep going on spending on products and services upgrades to maintain consumer interests.

In **Latin America**, the most important aspect to be noticed is that the recovery of Brazilian auto suppliers in 2017, which would maintain still weak domestic result in the next quarters, is the consequence of the healthy situation of the markets in the U.S. and Europe: on the whole, the expectations are that there will not be so much relevant pressure on credit metrics, since assuming improved macroeconomic condition. In the case of Mexican auto supplier market, we expect roughly double-digit revenue growth on average, underpinned by the U.S. market demand and new contracts, while analysts think issuers will maintain credit metrics in line with those one of last year.

Industry Key Assumptions

SUMMARY:

Global auto sales increase by about 1%-2% in 2017 and 2%-3% in 2018 and this is directionally consistent with the expectations for the global GDP growth as global light-vehicle sales hover above 93 million units driven mostly by markets such as Asia-Pacific and Europe. In China, auto sales are expected to be lower because of reduced tax incentives.

As for the previous case, we can distinguish the industry basic key assumptions according to OEMs structure and suppliers side. For the **Original Equipment Manufactures**, the most reliable factors to be analyzed are the following.

1. Slowing global growth

From a general point of view, the global autoindustry will become even more fiercely competitive during this year and the next one, as volume growth slows. Global automakers will face hard challenges, such as volatile financial markets, important slowdowns in the Chinese markets, costly emissions regulations and digital disruptions. Next to this indexes, there will be a strong pressure by pricing competition on emerging markets as the demand for vehicles fluctuates.

The U.S. market has seen a strong auto sales structure in 2016, but the expectations are that consumer demand will be a little bit flatten out in 2017 and 2018 after outpacing the growth rate of the entire global economy since 2009. On the one hand the continued economic recovery in this area has been broadly supportive, but, on the other hand, the declining retail demand, the increased use of incentives and the potential that the lending environment will soon become less favorable will likely limit growth prospects. Another important element is that deregulation and financial stimulus seem to be able to boost the economic growth rate, although trade barriers could increase vehicle costs and impact in a negative way on the total volume of sales.

The situation in the Asian zone, in particular with respect to the Chinese market, the situation is not so optimistic: despite the government's extension of a tax break for consumers purchasing small cars, the sales volume will be soft: pricing pressure will increase a lot, because of the weak consumer demand and increased competition, which will be heightened by the diminishing benefit coming from purchase tax exemption and the relatively high sales in 2016. The portrait of this scenario is very particular: global production capacity has increased by 25% since 2013; domestic players have been regaining an increasing share of market from international players since 2014, boosting product quality; the profitability deriving from new product segments, such as the sport-utility vehicles (SUVs) is increasing and local producers have launched on the market a variety of new SUV and MPV models (recently fast growing segment), which have a competitive price and an average quality. All these aspects have prompted global carmakers to slash prices and offer bigger incentives to keep constant their presence in terms of market share.

2. Headwinds to EBITDA margins

The general inflation trend within the Eurozone will diverge in 2017: despite pressures coming from Germany to raise interest rates, the expectations are that the European Central Bank will continue its assets purchase at only gradually declining rates into the first half of 2018. On one side, factors such as combination of pent-up demand, favorable economic conditions and a limited Brexit effect, will make the automotive demand in Europe grow two percentage points to 3%; whereas, on the other side, the current depreciation of the pound sterling could boost the level of exports for the U.K. market and increase the production costs. This phenomenon of depreciation has led to higher prices of imported vehicles and some manufacturers, like Peugeot, have recently announced that there will be a significant increase in the final prices in order to compensate the revenue loss on the currency side.

Among the emerging and developing economies, the situation is a little bit different: the most profitability opportunities are likely to be linked to the Brazilian market, which could grow in the low-to-mid-single digits after several years of steep declines, and to the Russian one (we will better analyze these aspects in the next sections).

On the whole, we can state that there will be limited overall opportunities to improve profitability for most automakers because of increasing pressure from regulatory costs, foreign exchanges, trade uncertainty under the Trump's administration and commodity inflation.

3. High capex and R&D limiting financial flexibility

This theme is strongly related to the continuous increasing pressure from governments to reduce vehicle emissions and pollutions: the stricter regulations are making carmakers invest a lot in industry innovative solutions. The more likely common path in the sector will be working together on technological projects such as automated driving, battery developments for electric vehicles and the designing of more specific engines.

Medium-term partnerships will be created among companies with the aim of sharing technological knowledge and intellectual capital and protecting themselves from being overcharged for the quality in terms of parts they are receiving.

Now let us concentrate on the **Auto Suppliers side**.

1. Mixed revenue growth

The general trend will be the following: pricing pressures, launch costs and adverse mix shifts will likely lead to margin compression for the majority of suppliers. Aftermarket-based

suppliers will face increased competitive threats coming from low-cost Asian imports and the bargaining power of big retailers.

2. Credit metrics peaking for most

The expectations are steady and constant credit metrics for rated auto suppliers in 2017-2018 and the common belief among analysts is that leverage and cash flow are more likely to underperform and to provide not so optimistic results.

3. Balanced shareholder returns and some M&A opportunities

Most large auto suppliers are likely to prioritize investing in their core business, followed by accretive acquisitions mainly focused on new technologies, such as connectivity, e-mobility and infotainment. On the whole, more cash will be likely return to shareholders at the peak of the cycle in most end-markets, because of the fact that priced takeover candidates become scarcer, given the current stage of the auto cycle.

In order to conclude this section, we can say that suppliers, on the whole, must squeeze out their operational efficiencies during the production life of a car in order to survive in tougher environment: on the one hand, raw material prices, which generally contribute for a 40%-60% of auto supplier's costs of goods sold, have been subdued, on the other hand, they may soon face increasing pricing pressure, when improving their market share.

The general expectations are a rise in commodity costs to have an adverse impact on the profitability level of tire makers over the next two years. Most global auto suppliers are also very well positioned towards the slower market, despite the potential for leverage-increasing acquisitions could put some threats in terms of ratings.

Key Risks and Opportunities

SUMMARY:

The most reliable factors in this section are volatility of earnings and free cash flow generation through the entire product life cycle, late compliance with emission standards and possible regulatory violations and the actual inability to adapt to fast-moving technology trends affecting the global market dynamics and structure.

For the **Original Equipment Manufacturers** side, the major comments we can highlight are in the following terms.

1. Slow growth in China

This is one of the biggest challenges car automakers need to face in the next years: this market is the world's largest car sector and most global players have heavily invested in the previous periods and it is expected not to grow so much, threatening to dent joint-venture EBIT margins. Any possible trade war with the United States could emerge as a meaningful risk since it could have an adverse impact on business and consumer confidence.

2. Regulatory pressure

The cost of meeting ever-tougher emissions regulations will for sure exert strong pressure on capital spending: this element is heavily affecting the dynamics of the international market, calling for tighter testing standards. The capex outlays to keep pace with rapid advances and see off the new high-tech challengers bear as many risks as opportunities. The consequence is that some carmakers may benefit, but others will probably suffer. From a general perspective, for the entire global sector, the common belief is that these challengers could constrain ratings over the coming years.

3. Investments in transforming technologies

The industry also is facing significant risks from longer-term trends that are transforming the car industry: automated driving and alternative mobility, such as car-sharing schemes and robo-taxi services, are further technical challenges with the potential to shape the borders and the landscape of the global scenario. The common idea of experts is that some of the investments being made by automakers in this area are as high-risk given the chances of duplicating companies' capital resources: these are likely seen as mostly defensive efforts against risks, making the auto sales decline over the longer term.

For the **Auto Suppliers** side, we can notice the following elements.

1. Launch execution and operational efficiencies

Global car makers are preparing important and big launches in 2017 and the launch execution and exposure to potential volatility is a bigger risk over the next 12 months for suppliers: the main factor is linked to the increase of volatility in production schedules, especially if demand weakens due to higher financing costs or a decline in consumer confidence.

2. Increasing pricing pressure from OEMs

Obviously all the heavy trends that will affect the margins and returns of OEMs will have a strong and reliable impact also on the suppliers side: the expectations are that there will be

more headwinds for the latter, in particular those that are more exposed to lower-value added products.

3. Technology-related investments

The digital transformation of the global auto industry could provide opportunities for the suppliers, if and only if they can provide innovations that add value to chain of the all sector. A key fundamental variable will be for sure the ability to assist car manufacturers in new United States auto fuel consumption standards, as opportunities exist to increase efficiency and effectiveness in this area. Other two important factors, that will strongly shape the landscape of the supplier side market, could be linked to the capability to provide products such as turbo chargers or direct injection improving efficiency of the combustion engine. The conclusion is that, without any doubt, auto suppliers have entered into a transformational process and started to invest heavily into connectivity and e-mobility, in order to offer new ways of appealing to the next generations, that are characterized by totally different and new needs, wants and preferences.

Appendix C: Snapshot of Global Scenario

After having analyzed the structure of the market, its dynamics of the last years and the dialectics affecting the global scenario for the future two or three years, in this section, we will try to provide a broader better understanding of the regional differences of the industry, in terms of business opportunities, strategies and drawbacks, by focusing on which managerial and tactical approaches major brands have assumed. Understanding how brands compete and organize their plans is kind of important not only for visualize the boundaries of the sector, but also to elaborate long term strategies to have superior performances.

From a general point of view in terms of global production, there are two notable trends: one the one hand, the continuously increasing intervention by public policy in market dynamics, and, on the other hand, the growing public fascination with the future of the sector, in particular with respect to the autonomous car concept. In some large Countries, such as United States, China, United Kingdom and Spain, public policies will largely fuel the industry machine, whereas tax incentives, low interest rates and political uncertainty explain why new car registrations are taking off in some

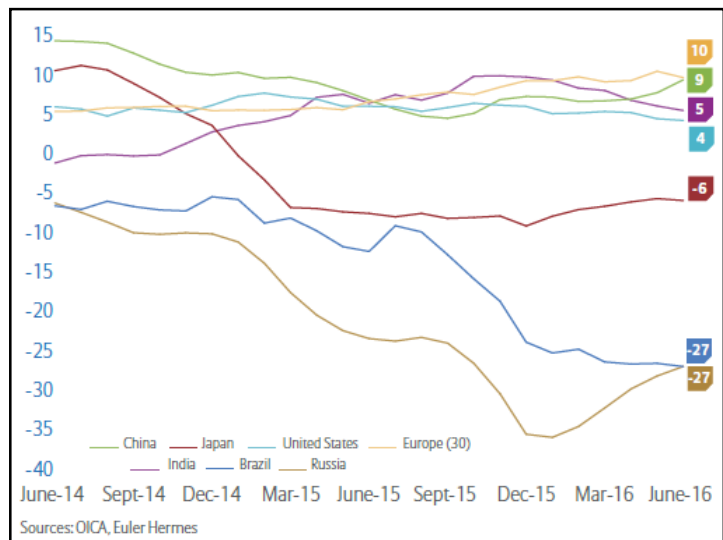


Chart 10 - Growth in new car registrations for top markets -

regions and stagnating in others: some realities are facing hard and heavy economic difficulties, others, for example, have opted for greater competition on value chains, by reorganizing the automotive market via production.

In 2016, the global automotive market remained divided: on one side, Europe, China and the United States reached reliable growth indexes, whereas, on the other side, India was stagnant, Japan was floundering and, in the end, Russia and Brazil continued their dizzying drop. As for the previous year, also for the next periods, public policies will for sure play a determinant role in shaping the boundaries of the international sector.

The upper graph (Chart 10) represents **the growth in new car registrations** for top markets: as we can see, there are some Countries characterized by such a quite stable and constant

trend over the past periods, others, like Brazil, Russia and India, show a steep declining distribution.

After having provided a general overview of the ongoing situation and before going through more in depth into the different regional markets, let's try to summarize with some data the portrait of the single country market structure and dynamics:

- **China:** this is the largest market in the world and it aroused concern last year when the sales level slowed sharply. Thanks to the government intervention, which lowered the VAT rate on small and medium-sized vehicles and was maintained until the end of 2016, the industry got some restore, reaching an 8% growth rate. The situation characterizing the European sector, where the termination of old car-scraping incentives represents a reminder that the end of public stimulus measures leads to stagnation or even a fall in sales, made the Chinese market behave in opposite way: the expectation is that, thanks to the enforcement of these kinds of stimulus during 2017, the entire market will grow at 5%, with a sales level of more or less 24 million vehicles.
- **United States:** the scenario in this region was characterized mainly by low-interest rates and fuel prices, allowing the market to reach a sales level of 18 million vehicles in 2016, but, because of the fact that end of this sort of alignment of the planets points to a slight slackening, the amount of sales are going down.
- **Japan:** the Japanese market has been characterized by a an up and down situation, due to the yen strength and government stimulus policies. The sector, which is still depressed by the 2015 VAT hike causing the total collapse by 14%, now has reached a stabilization point of 5 million vehicles last year and it will grow a little more in 2017, of nearly 5%.
- **Europe:** last years the average growth rate was stable around 5.5% (15 million units sold), but, in 2017, we will probably see a stabilization, because of the Brexit consequences and the end of the Spanish fever (end of the old car scrapping incentives, not offset by a moderate growth in the rest of the continent).
 - **Germany:** in 2016, the market has grown of about 5% with a sales velev of nearly 3.35 million of outputs, regaining its medium-term state. In 2017, there will likely be a stabilization of the industry.
 - **France:** the market is continuing its process of recovery, characterized by a 6% of growth in 2016, after a 7% in 2015 and expecting a 3% during this year.

- **Italy:** the market has obtained a momentum build up in 2016, with a 15% rate of growth, even though it is quite far from its pre-crisis level (1.8 million against 2.4 million units). In 2017, the industry is expected to maintain an average rate of growth of 5%.
- **Spain:** the planned termination of old car scrapping incentives at the end of last year has caused a jolt (+11% in 2016 and an expected -10% in 2017).
- **United Kingdom:** the market has reached a record sales of more or less 2.7 million of vehicles by mid-2016, but now, because of the Brexit effects, the sector is getting down (expectations are a modest growth of 1%, followed by a sharp contraction of nearly 9%).
- **New players:** Brazil has posted 1.7 million new car registrations, down 19% in the wake of its 24% drop in 2015. Russia has seen a third year of decline, characterized by a +10% in 2014, -36% in 2015 and -11% in 2016. India and Turkey has posted +1% and -1% respectively last year and, in the end, the new potential, such as Latin America, the Middle East and Asia, offers without any doubt prospects in the medium term, but their growth has not stabilized and their market will for sure have very contrasting growth patterns.

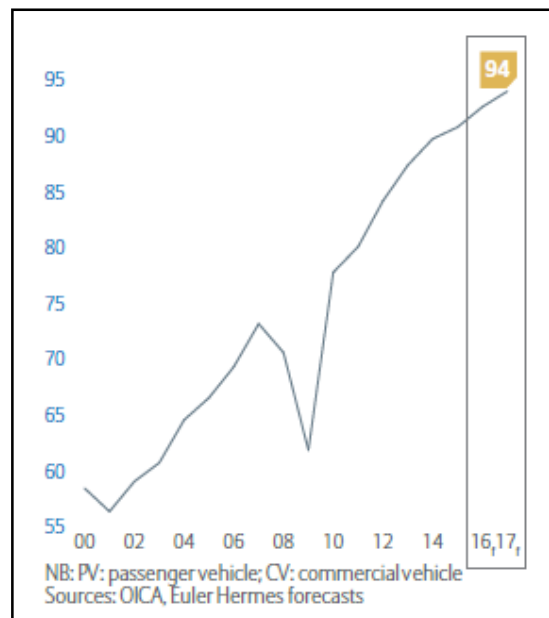
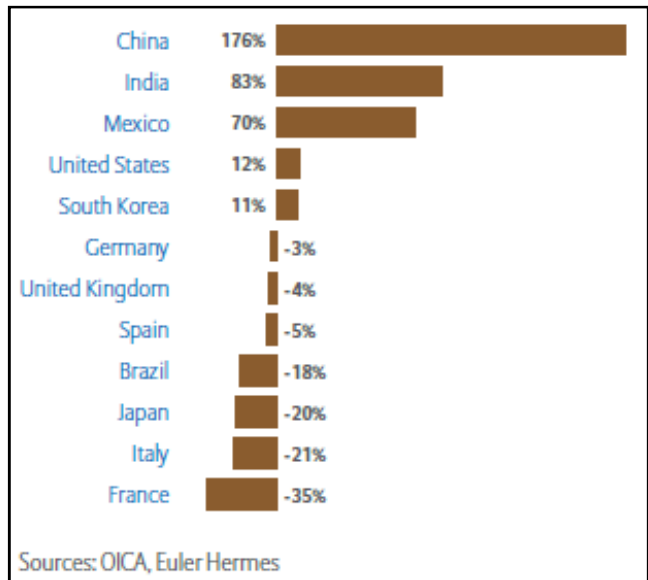


Chart 11 - Global Automotive production in million units from 2006 to 2016

So far we have tried to provide an overview of the ongoing situation of the global automotive industry: on the right, you can see the **global automotive production** in million units (both PVs and CVs) from 2000 to 2016 (Chart 11), including more or less fair expectations about the trend for 2017. The curve is upward in a considerable way: the steepness shows that the entire industry, in some way, is increasing in terms of outputs, despite the regional problems linked to macroeconomic, political and environmental forces. This increase obviously the market opportunities to be capitalized, but at the same time, given the increase of competition, the difficulties of gaining considerable market share and, at the same time, the need of managing a defensive as well as a proactive long-term

strategy, global players need to decide carefully how to organize the synergies along their value chain. The graph (Chart 12) on your right shows another important summary: it is the **Growth in automotive production by Country**, from 2007 to 2015/2016.



Understanding this numbers is kind of important for car makers, because, in international scenario getting more competitive and full

Chart 12 - Growth in automotive production by Country from 2007 to 2015/2016

of players, managing all the steps in the value chain, starting from the backward participants to the upward ones (as we have seen before in the analysis of the OEMs and Auto Suppliers), will be a critical Key Success Factor to be profitable: on the one hand, customers want to customize their car as much as possible and, on the other side, the continuous investments in Research and Development in the pursuit of innovation, will force automakers to rely heavily on costs structure minimization.



- Sound fundamentals; very favorable or fairly good outlook
 - Signs of weaknesses; possible slowdown
- Structural weaknesses; unfavorable or fairly bad outlook
 - Imminent or recognised crisis

Source Euler Hermes, as of June 22, 2016



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- Signs of weaknesses; possible slowdown
- Structural weaknesses; unfavorable or fairly bad outlook
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Source Euler Hermes, as of June 22, 2016

China

As we have said before, the Chinese market has given a big help from the government interventions and policies: in order to boost a slowing automotive sector, in September 2015, the public institutions halved the tax on pollutant emissions from 10% to 5% for bottom-of-range and mid-range vehicles. The consequences of such actions was that the sales level rebounded sharply from that moment, with a output volume exceeding more or less 212 million units. The below picture (Chart 13) on your right represents the **growth in the number of new car registrations**: as we can see, the curve is very steep, especially from 2012 to 2015, then the market suffered of a downward pressure and, after, since that time and the introduction of the above political measures, the sector has seen a period of restore. This

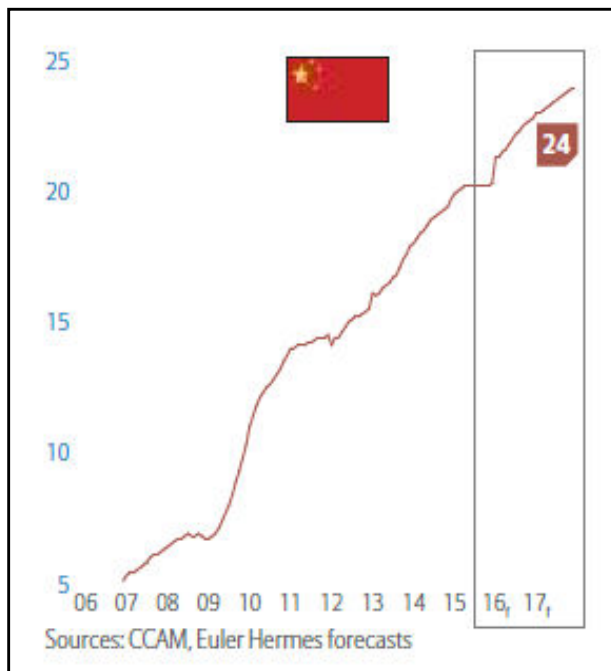


Chart 13 - Growth in the number of new car registrations from 2006 to 2015/2016

tax was extended until the end of 2016 the market has gained a rate of growth of 8%, which is rightly the double of the average growth rate of global industry (exactly the 4%). This advantageous tax system enabled the Chinese brands to look for consumption among less affluent households. This positive trend has forced the governmental institutions to extend this solution in order not to penalize the performance of the Chinese market: the goal is to try to maintain an average rate of growth of nearly 5%, which is about 24 million units sold. Growth will comemainly from the hinterland regions, while the coastal cities,

heavily polluted, are increasingly subjected to registration and traffic restrictions. These regions are considered as the preserve of the Chinese carmakers. If the tax reduction were not extended, the expectations of the market structure is a contraction between -5% and -10%.

All these factors has allowed the Chinese market to gain some competitive advantages in terms of market share of domestic auto makers: the below graphical representation (Chart 14) shows us the **market share by origin of carmakers** in this area.

From a general perspective, the positive ongoing situation of the entire national market has made the Chinese players gain increasing influence and share from 2014 to 2016 (in particular

from 38% to 43%). This situation is a clear consequence of many factors: not only average lower prices, but also a product offering that is renewed rapidly and positioned on crossovers and SUVs, which the Chinese are very fond of (sales growth of 50% and 18% respectively) and which can be considered as the new future quite profitable market segments.

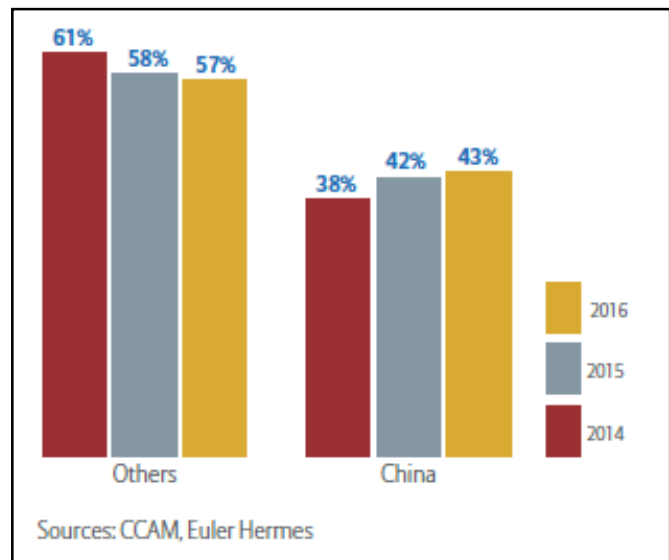


Chart 14 - Market Share by origin of carmakers

Obviously the increasing of tax incentives with respect to car emissions

has made the market grow a lot, as we have seen before, but, for sure, the pollution has increased in a considerable way: so, the entire industry has to find out some way to compensate and overcome this issue.

Firstly, the purchase of a new vehicle in Beijing or Shanghai is subject to a prior lottery, and this extends the purchase time to several years, exception made for an electric vehicle.

Secondly, the incentives can amount to as much as EUR 15,000, by considering central government and regional aids combined, for the purchase of an electric car manufactured by a Chinese carmaker. While it is indisputable that sales of electric car will increase, their market share remains limited.

So, since concluding, we can say that the Chinese market, thanks to the government interventions and incentives, has gained positive general performances, allowing national players acquiring market share during time and enforcing its structure, while preparing the basis for the future development of the whole industry, in terms of innovation and new product idea formulations.

United States

The basic and general idea behind the market structure is that interest rates and fuel prices will provide positive influences to ongoing situation of the business, but not in terms of energy transition. Last year the US market was expected to beat its sales record, at 18 million units, following 17.8 million units of the previous year. The oil counter-shock and the indefinite postponement of US interest-rate hikes will have borne fruit: loan durations extended to more than six years and an obvious oil dividend for purchasing power are supporting the automotive market in its seventh year of growth. Following up these exceptional boosters, which are likely to end very soon, the market probably will see a slight contraction by 2% to a 17.6 million units sold in 2017. The first below graph (Chart 15) on

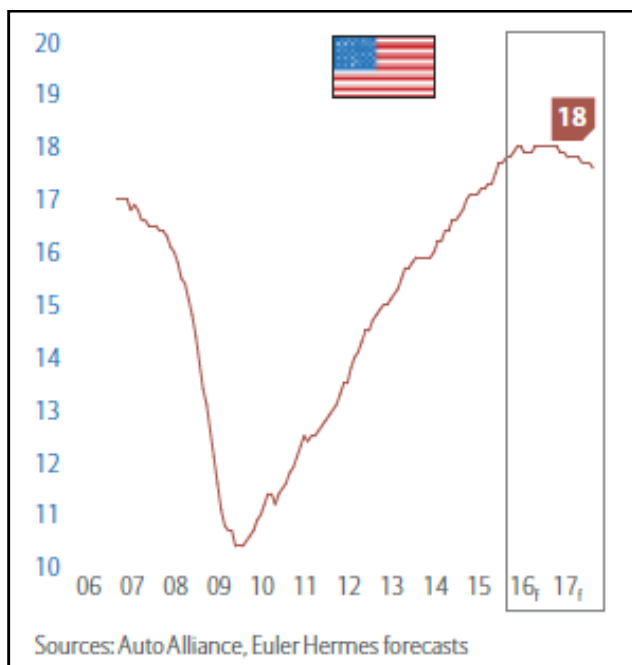


Chart 15 - Growth in the number of new car registrations from 2006 to 2015/2016

the left shows the **growth in the number of new car registrations** in this market: the general trend is quite positive from 2009/2010 and the curve is very steep, despite many up and down movements. Large pickups and SUVs, petrol-guzzling symbols of Made in America, are back in force: the most important thing to notice is that they account for almost 60% of the market and offer big margins for the auto makers. The beside graph (Chart 16) describes the **sales breakdown between PVs and LUVs (light utility vehicles)** and

this trend is totally in line with the international scenario of the industry: the most profitable and performing product segments are the 4WD and pick-up type, such as crossovers and so on. I would like to stress the focus on the trend, since considering the long term perspective: the two curves draw a quite total opposite path, because the one seems to be the reflection of the other. This is totally in line with respect what we have seen in the Chinese market: so, we can assume that there is a common global trend, highlighting a new cluster of customers with new needs, wants and desires. The challenge for the global players is to understand this path and adapt strategy to gain advantages for being profitable in the future years.

Another important key value driver in this market is the technological development, probably more than in other Countries: the land of big companies like Google and Apple, the stress on creating partnerships and collaborations between the automotive industry and the technological sector is very high. Furthermore, both the previous players in addition to the governmental institutions, are planning to devote USD 4 billion to invest on autonomous and intelligent cars over the next ten years.

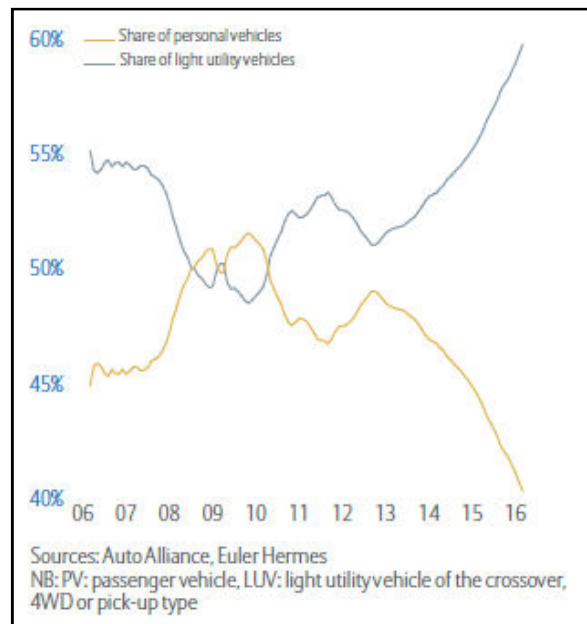


Chart 16 - Sales breakdown between PVs and LUVs (Light Utility Vehicles) from 2006 to 2017

Pending this sort of revolution, we can state that US automotive manufacturers have posted earnings that are considered, in some way, satisfactory but, at the same time, very closely tied (nearly 80%) to the North American continent. The ongoing process of restructuring operations and the upturn in the European market, which will be analyzed in the following sections, could go hand-in-hand with some profits after many years of losses, while South American market is disappointing against the backdrop caused by the Brazilian crisis. So, by following a percentage of 0.6% revenue growth, the expectations for this year is nearly 1% increase in the rate growth, after an increase in this index of 3% in 2016. The operating profit margin will be in the 4.6% range, which will be totally aligned with the 4% percentage points of the global market scenario.

Japan

The leitmotiv of the Japanese market has been for long time a zigzagging trend for carmakers, as you can see from the graph on your right (Chart 17): the **growth in the number of new car registrations** is quite symptomatic of what has happened in this area so far. Starting in 2009 with the financial crisis that has affected all the world, going through the Tsunami consequences in 2011/2012, followed by the earthquake disaster in 2013 and arriving at the VAT hike, that has also characterized

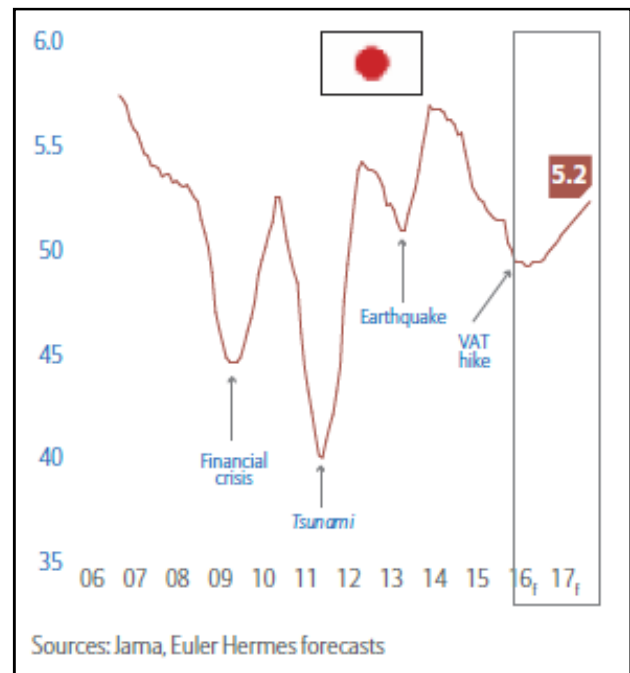


Chart 17 - Growth in the number of new car registrations from 2006 to 2015/2016

the dynamics of the Chinese market, as we have seen before, the entire sector has suffered of a particular trend, which has strongly influenced the profitability growth.

The market is still very volatile, with a sales level fluctuating between 4 and 6 million units if we look at the past ten years: the government has decided to put off until 2019 the VAT hike scheduled for April 2017, since the market still has great difficulties withstanding the hike of April 2015 (this is more or less the same situation as the Chinese market). However, the industry has posted flat new car registrations last year, after a drop of more than 14% in 2015. This year could be a surprise in terms of units sold: the expectation for the profitability growth is nearly 5% (more than the global average), with an amount of 5.3 million cars sold. By the way, the Japanese market is still as closed (in fact the 94% of the market share is held by the national car makers), because of the various technical and customs, which make the barriers to entry be very high, and, so, all these fluctuations described the above curve can't influence in a considerable way the ongoing situation of the global industry.

Japan can be considered for sure the archipelago of global giants: Toyota and Mitsubishi are more or less the only protagonists, shaping the economic landscape. On the one side, Toyota oscillates between the number one or two in the world with respect to the amount of units sold, on the other side, the announced partial takeover of Mitsubishi by Nissan (also an ally of Renault-Dacia) could mean that the latter group will also be in the race for the leading positions. The consequences of this event is that they would automatically marginalize the

other Japanese carmakers of more modest size, favoring major innovative investments in the pursuit of meeting the new future trends of the global industry.

Japan	2011	2012	2013	2014	2015e	2016f	2017f
Rev growth (1)	1.0%	1.9%	12.4%	19.6%	6.9%	6.5%	4.5%
Op profit margin (2)	4.2%	2.9%	5.4%	7.3%	7.6%	7.4%	7.2%

Sources: Toyota, Honda, Nissan, Mazda and Mitsubishi companies, consensus, Euler Hermes forecasts
 (1) Revenue growth relative to prior year
 (2) Op profit margin: Operating profit relative to revenues

Table 11 - Revenue and profit margins trends from 2011 to 2017

The above table (Table 11) shows the **revenue and profit margin trends** in the Japanese market: all the factors that we have analyzed so far would enable the national automotive industry to post an operating profitability ratio close the one of the premium makes. The above data are perfectly aligned with the up and down trend of the market itself: if we look at the current situation, we are in scenario, where the sector is moving from a 6.5% of revenue growth and a 7.4% of operating profit margin to a 4.5% and 7.3% respectively. We can conclude that the data are quite optimistic for the future and in line with average value of the international forecast.

Before moving on, we must spend few words about the technological ideas launched on the market by this market: the limited mileage and a shortage of recharging infrastructure put a cap on the electric vehicle's market share. In fact, Japan have brought to market the first hydrogen models, which, although they are still technically very costly, offer a technology providing similar performance to that of conventional engine-powered vehicles. In these terms, the national carmakers could have a first mover advantage against the rest of players in the whole industry.

Europe

The European market has grown 5.5% in 2016, with a sales level of nearly 15 million units sold: the graph (Chart 18) shows the **growth in the number of new car registrations** and we can see that, starting from 2013, after a period of deep depression due to the economic crisis, the market has gained a positive curve, very steep indeed. By the way, the expectations for this year are describing a different path, a little bit declining. In 2016 all Countries has contributed to this new growth

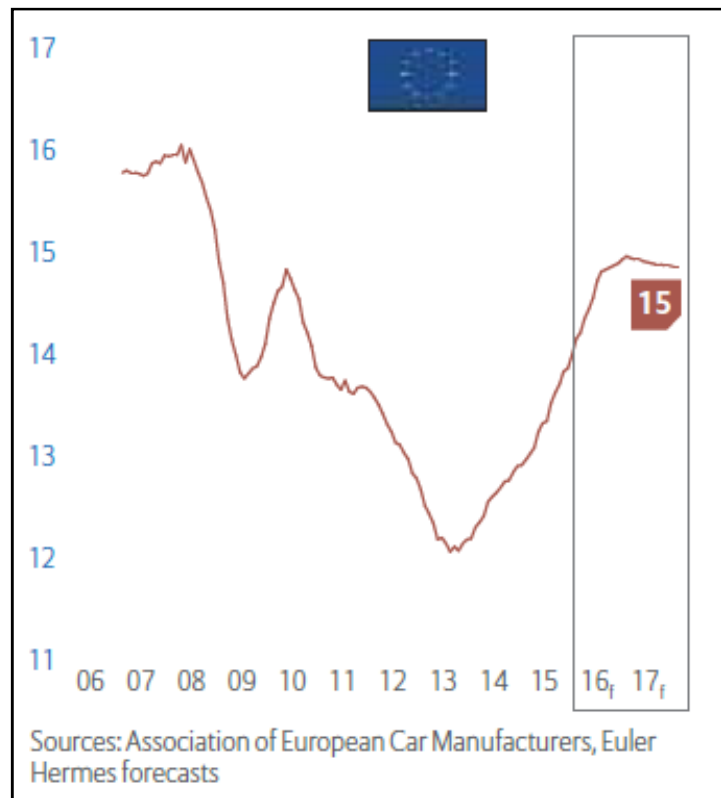


Chart 18 - Growth in the number of new car registrations from 2006 to 2015/2016

trend: Italy and Spain continue their catch-up, with sales growing by 10%, although still below their pre-crisis levels. France and Germany have done better and have gained again, in some way, their pre-crisis level, with a sales growth of 6% and 5% respectively. In the end, in the United Kingdom, new car registrations have peaked at around 2.6 million units.

This year, the British and Spanish engines will experience some misfiring, with the consequence that the overall sales level in Europe will likely stagnate. While the trend for the past periods probably suggests that the level of 15.5 million units sold could be easily reached again in 2017, Brexit and Spain's announcement of the end of its old scrapping incentives have disrupted this optimistic and recovery scenario.

Italy (+5%), France (+3%) and many peripheral countries will continue to forge ahead, but, for example, the United Kingdom is expected to lose 9 percentage points of sales, which is translated into 205,000 outputs, and Spain, from its side, is expected to lose almost 10%, or 100,000 units. Against this backdrop of a market slowdown, there will likely be even more intensive competition among producer countries, which via competitiveness agreements will be awarded contracts for new models and will ensure for sure volume production, and designer countries, which, for what they matter, will offer the best product ranges and the best technologies, with the aim of being in line with end-customers expectations as much as

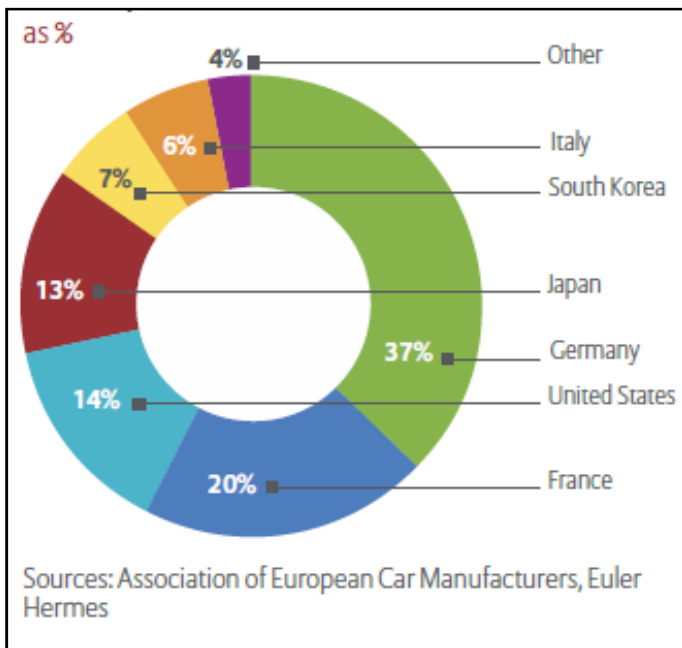


Table 12 - Market Share by origin of carmakers

possible. The consequence is that margins, meanwhile, which have been restored thanks to the low oil and steel prices, are likely to be put under pressure and this is drawing a not so optimistic idea of what the European market could be in the next years. Before moving to the excursus about the different European Countries, let's have a look at the **market share by origin of carmakers** in this continent, in percentage terms (Table 12). The European market is dominated by the German carmakers for an amount of 37%, followed by a 20% of French origin, but, after these two Countries, we find the United States, Japan and South Korea, with a share of 14%, 13% and 6% respectively. Then, in the end, we find Italy and others with a total amount of market share of nearly 10%. If we sum up the values, we discover that the total market share belonging to European players is nearly 63%/65% against the 37%/35% linked to external auto makers: more than half of the market is in the hands of continental companies, but they have to consider that, despite the superiority in terms of numbers, the majority of the total shares is concentrated only in the margins of two Countries (Germany and France) against three external giants, such as US, Japan and South Korea indeed.

Now let's consider the major car producers, in order to analyze more in depth what we have said before.

Germany: in 2016, the German market has posted a positive trend, characterized by a sales growth of 5 percentage points, more or less 3.35 million units sold.

The graph on your right (Chart 19) is the **growth in the number of new car registrations** in this market: the industry had a very positive moment from 2008 to 2009, then, because of the financial crisis, suffered of a steep slowdown. From 2011, the market started to have a more or less zigzagging trend (like the Japanese scenario) and then, after a downward pressure from 2012 to 2013, it has started to get restore until now. The expectations for this year are that the

growing prospects will be a little bit moderate, with an increase of 1% in the sales level (3.4 million vehicles). In contrast with other markets, the share of diesel has continued to increase in the next periods, accounting for 49.6% of sales in the first half of 2016, versus 48% in 2015. In the end, we must say that Germany recently introduced a 4,000 Euro subsidy for the purchase of electric vehicles, and a 3,000 Euro subsidy for rechargeable hybrids: however these amounts are still small as the total market share of electric vehicles was still less than 0.4% in 2015.



Chart 19 - Growth in the number of new car registrations from 2006 to 2015/2016

The below graph (Table 13) is the summary

of the **exports in the automotive sector by destination in the last periods**: Germany is still far the leading European automotive producer, with a volume of 5.8 million units, more than 80% exported in the directions you can see in the previous page. German carmakers' sales level did not really suffer from the Volkswagen scandal, but the entire national industry has nevertheless changed the political approach towards the emissions control: the CO2 emission targets for 2020 will be hard to achieve, but the rapid development of new technologies in terms of innovative cars, such as the rechargeable hybrid engines (necessary, in particular, in order to reduce the pollution level of powerful saloons and SUVs) and

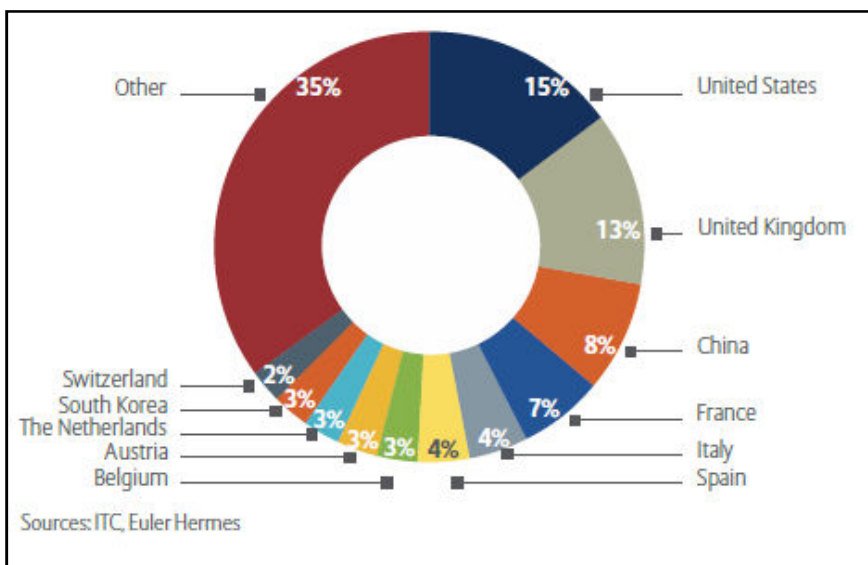


Table 13 - Exports in the automotive sector by destination

numerous EV projects, should, in some way, make it possible to obtain the "green" label, which will be in the future a fundamental key value driver in the global automotive industry.

Before moving on, we must spend few words about the relationship

between Germany and the United Kingdom: if we give a look to the previous chart, we can easily see that the UK ranks second, after the United States, with EUR 29 billion exported, out of 220 billion for the automotive sector (15% of the total share). The 13% share belonging to United Kingdom is quantified in EUR 4.4 billion: Germany appears potentially very sensitive to the economic, political and financial consequences of Brexit. Although the premium segment should be able to raise its average level of price, without any kind of problem, a recession would probably affect the export market drivers during 2017.

France: the scenario of the French automotive market is quite different from the German one, in terms of sales volume trend. The below graph (Chart 20) shows the **growth in the number of new car registrations**: first of all, with respect to the sales volume, on the average, the French industry is quite below the outputs launched on the market by Germany; secondly,

after the financial crisis in 2008, the national industry started more or less to fall down, finding some recovery in 2013 and, then, starting to grow again, whereas, for the German case, the market had a boom trend between 2011 and 2012. If we start considering the market movement from 2015, we can easily see how the percentage increase in the profitability growth are a little bit higher than the German market: so we can say that the French market is growing less in term of outputs and cars volume, but more rapidly than the other. Following 7% growth in 2015 and the 6% in 2016, it is expected to slow



Chart 20 - Growth in the number of new car registrations from 2006 to 2015/2016

down to 3% during this year. By then it will reach around 2.1 million units sold, which is the standard level for renewal of the car fleet. One of the most important factor to consider is the following: the continuous fall in sales of diesel vehicles (53% of total sales in 2016, versus 73% in 2012) is likely to gather momentum due to stricter pollutant emission requirements and extra costs this will entail. On the other side, the electric car still represents only 1.1% of the market share in the first five months of last year, against 0.9% since considering the full year of 2015. The automotive production, for both passenger vehicles and light utility ones, likewise recovered last year, posting 10% growth due to 1.65 million of items sold in the market. In any case, the production level is still nearly two times less than its level of 10 years

ago and this good news regarding production will be short-lived: entry-range models will probably continue to be produced mostly in low-cost countries.

The beside chart (Table 14) regards the **automotive sector exports by destination**: here, we have a different situation than the German market,

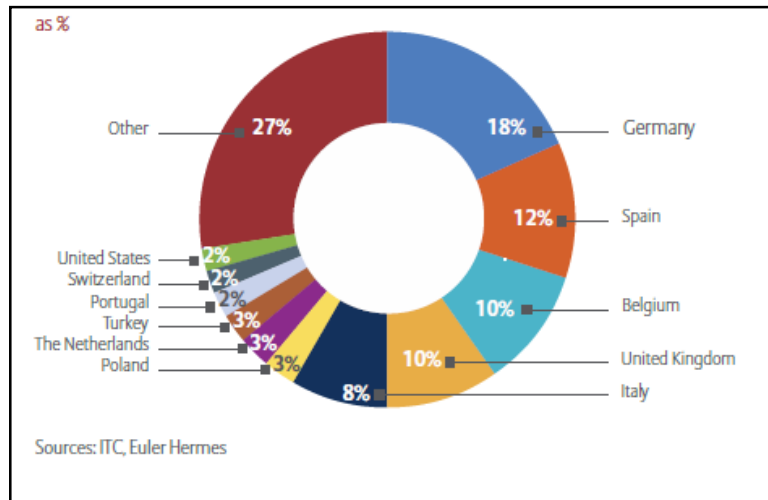


Table 14 - Exports in the automotive sector by destination

because France provides vehicles for an amount of European Countries with a larger market share than in the previous case. The value of trade by France's automotive sector with the United Kingdom is around EUR 4 billion, translated into 10% of the total share. French imports from the UK represent only EUR 1.9 billion. At present, the question is about the currency movements in the euro/pound sterling exchange rate, which is adversely affecting British demand and the total average profitability the market itself in the French carmakers perspective (which do not directly have a local production plant). In terms of pricing policies, we can say that their power is weak, and a rise in selling prices would immediately penalize market share to the benefit of local producers.

Before moving on, I would like to compare the two Countries analyzed so far (Germany and France) with respect to profit margin indexes: let's consider the following table (Table 15).

France	2011	2012	2013	2014	2015 _e	2016 _f	2017 _f	Germany	2011	2012	2013	2014	2015 _e	2016 _f	2017 _f
Revenue growth (1)	6.4%	-4.4%	-2.8%	-1.5%	7.9%	5.0%	3.0%	Revenue growth (1)	17.4%	14.7%	1.9%	5.5%	10.2%	6.0%	4.0%
Op profit margin (2)	1.9%	-4.6%	-1.5%	1.5%	4.2%	4.4%	4.5%	Op profit margin (2)	8.4%	7.3%	7.0%	7.6%	4.0%	7.0%	7.3%

Sources: Volkswagen, Daimler et BMW groups, consensus, Euler Hermes forecasts
 (1) Revenue growth relative to prior year (2) Op profit margin: Operating profit relative to revenues

Table 15 - Profit margins indexes from 2011 to 2017 for France and Germany

On the average, the values for the German market are clearly above the ones of the French industry: the carmakers belonging to the first industry present an operating profit margins of

7% last year with an expected one of 7.3%, whereas in the French case, the operating profit margins is lower (4.4%) for 2016 and the expected one is both lower and less than proportional higher with respect of the German situation (4.5%). French carmakers have gained a satisfactory level of profitability on the whole through a renewal of their product ranges and competitiveness agreements, but, despite this, the gap persists, mainly due to:

- the German competitive advantage in terms of product quality (and consequently of price)
- the global market diversification, which serves as a growth driver
- the returns on past investments, thanks to high profitability over the past six years.

UK and Spain: from the below graph (Chart 21), we can analyze **the growth in the number**

of new car registrations respectively in the two different markets. From a general perspective, the main idea is that the industry trends are nearly similar, in terms of fluctuations and sensitivity towards the principal macroeconomic forces. The main difference is quantified since considering the sales volume, productions and manufacturing overall capacity. Speaking about the United Kingdom, a fall in household confidence and purchasing power is expected to push sales down by more or less 9% during this year. Further out, the country is faced with numerous challenges in renegotiating trade agreements with the European Union and with the 50

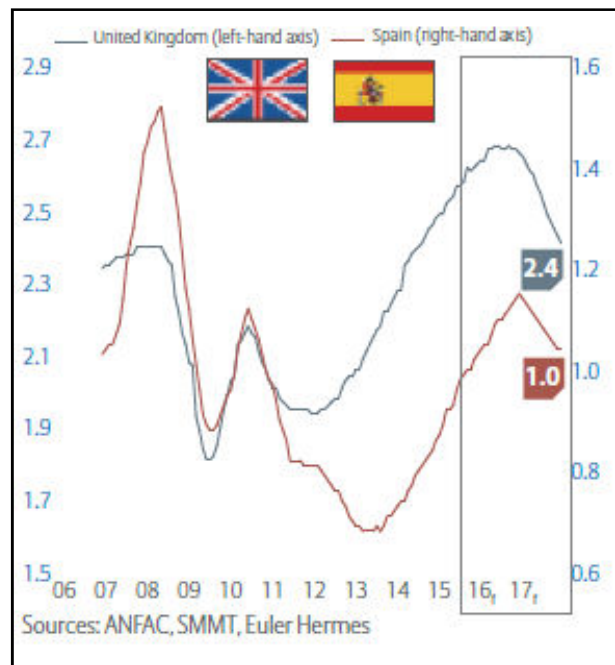


Chart 21 - Growth in the number of new car registrations from 2006 to 2015/2016

Countries, with which it has an agreement via the EU. In 2015, the UK automotive industry's exports were worth EUR 46 billion, of which 43% to the European Union. This kind of dependence is mutual: the first imports motor vehicles and parts worth EUR 70 billion, mainly from Germany (EUR 29 billion) and France (EUR 4 billion). A gentlemen's agreement favorable to both parties is envisaged, but for sure this will require a lot of time. Furthermore we must take into count that, in the long run perspective, if the renewed competitiveness hoped for by exiting the European Union is to be achieved, notably through a more aggressive industrial policy, the consequence is that the national automotive industry will be in the



Chart 22 - Growth in the number of total vehicles exported from 2006 to 2015/2016

limelight. Since most British carmakers are now owned by foreigners, the industry will have to give reassurance and demonstrate its potential if and only if it wants to attract investments and new capital inflows (the expectation for 2017 are not so optimistic: there will likely be a drop in the national market of -9%).

Now let's move to the Spanish scenario: the Country faces the end of the old car scrapping incentives in 2012 and this is a core and fundamental factor we have highlighted many times. The Spanish market, which has been being kept on life support for more than for years, has

gradually gained again some momentum, by reaching more than one million units at the end of 2015 and 1.1 million cars sold at the end of last year. In any case, the whole market, collapsed from 1.5 million of outputs in 2008 to less than 0.7 million ones in 2013, because of the international financial crisis, has never taken back its pre-crisis volumes. The announcement of the termination of these sort of incentives, which are worth EUR 2,000 per vehicle, will lead to a major slowdown in the overall automotive sales during this year. The expectation are in relation to a surge in sales , at the cost of a steeper fall next year, by more or less 10 percentage points. Production, which is really focused and oriented to exports, for an amount of 86%, should remain stable. In order to conclude, we can say that, thanks to its competitiveness agreements on working hours and pay, Spain has become established, without any doubt, as the second-largest European producer, with around 2 million cars produced in 2016. The upper graph (Chart 22) shows **the growth in the number of total vehicles exported**: it easy to be seen that, since 2013, the trend has started to increase a lot and the curve is very steep, highlighting high sales volume variations in short period of time, despite the overall scenario has presented many zigzagging moments. On the whole, the market suffered of two big depression situations: one in 2008 (financial crisis) and the other in 2011/2012.

The BRITs

In this paragraph we will deal with the market dynamics of Brazil, Russia, India and Turkey, which, in some way, are under the magnifying glass because of their rapidly changing situations in terms of industry profitability trends. The below chart (Chart 23) shows the **growth in the number of new car registrations** in the four different above Countries: we can easily see that the trends are not stable and follow a zigzagging movement linked to frequent irregular situations, characterized by up and down scenarios. The dramatic fall of the Brazilian and Russian markets has been surprising: new car registrations have been halved in less than four years. In the case of the first, following a 24% decline in 2015, after a further decline of 16% last year, the expectations for 2017 are in line with a slight rebound by 5% (aligned with average global industry). Speaking about Russia, the collapse, which was quantified in 36% declining of sales in 2015, was expected to be milder last year at an amount of more or less 11%, in light of a kind of recovery during this year of 12%. The most important factors to be taken into consideration is that, despite all these not so optimistic and positive indexes, these two erratic markets remain strategic for the global carmakers, which see long-term growth prospects in the areas. Since concluding, we can state that, in any case, financial strength and manufacturing flexibility are necessary to adapt to such market volatility.

Now let's move to the other two countries: India and Turkey on engine breaking. These two regions are facing a severe slowdown, with sales practically stable in 2016. India has posted only 1% growth in new car registrations, after 10% growth in 2015 and before picking up to 5% in 2017, according to the industry expectations. Despite its

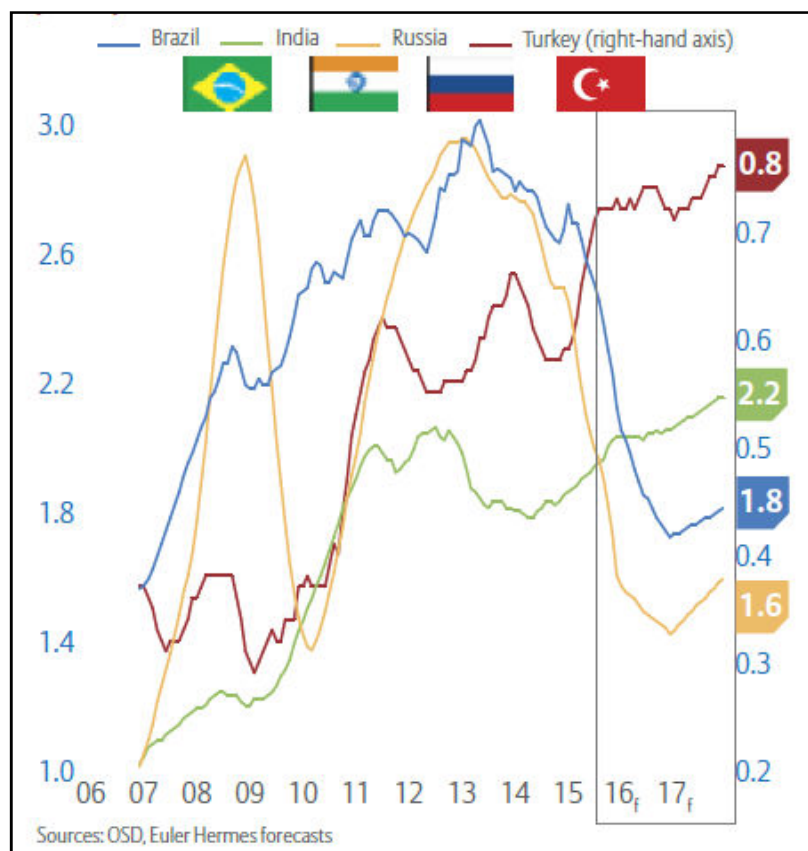


Chart 23 - Growth in the number of new car registrations from 2006 to 2015/2016

population of more than one billion inhabitants, the dramatic element is that only two million vehicles are sold per year. The carmakers are trying to boost growth in this markets with numerous ultra-low cost product and service offerings, and yet, a still-low household purchasing power and limited road infrastructure suggest that India will not take over from China with the next several years.

In Turkey, the last year was marked and characterized by a slight contraction in sales, quantified in amount more or less equal to the one of India (nearly 1%). Recent events, such as the failed military coup attempt are not conducive to a rapid pickup in sale in the following periods: the trend remains positive and the common belief is that the market could recover to a +7% in 2017. The speech we have done for India still remains valid for the Turkish industry: the market dimensions are quite small in comparison with other realities and we are talking about more or less 700,000 sales, but the things to be noticed is that, in the medium term perspective, the potential of overall national sector is very high.

Emerging markets

So far we have analyzed the dialectics in developed and developing countries, taking into count the most important and reliable Key Performance Indicators of the whole industry: total sales volume, revenue margins, operating profit margins and profitability growth. In order to have a better understanding of the global ongoing situation of the world, it is kind of fundamental to spend few words about the emerging markets, in terms of new future possibilities and challenges in shaping the boundaries of the international automotive scenario.

Just for helping having a broader, and, at the same time, immediate feedback of the data and of the future trends of the single different emerging Countries, let's have a look at the following charts.



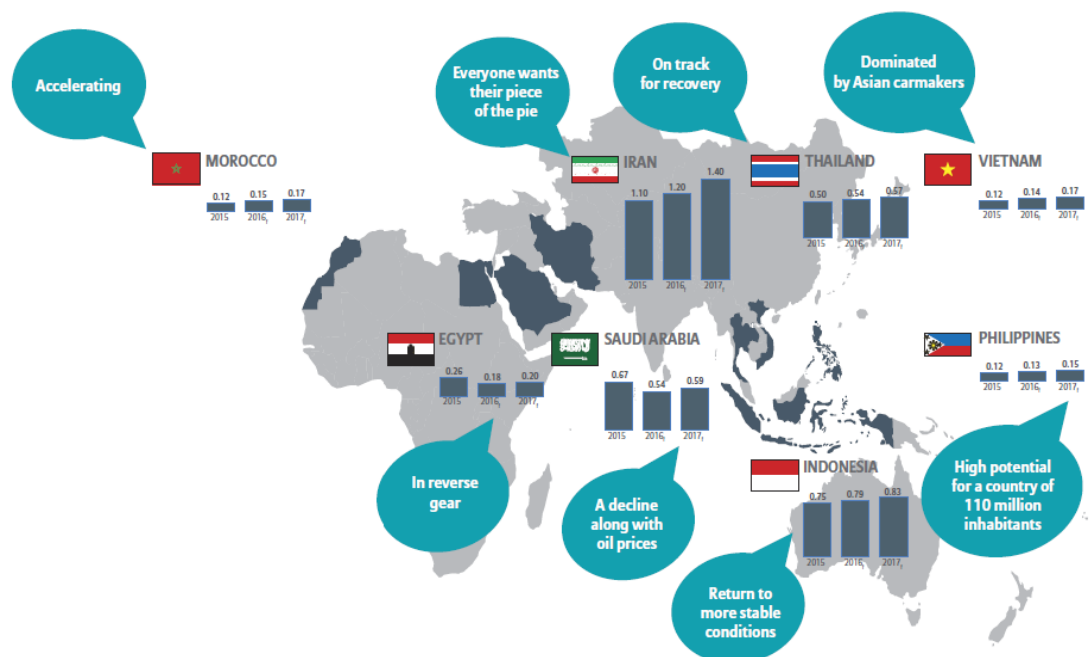
Sources: new car registrations (millions of units) OICA annual data, Euler Hermes forecasts

This is the summary of the overall scenario in the South American markets: the Argentina industry has the bigger data compared to the other three realities and the Colombian market, despite the positive trend in terms of rate of growth and sales volume, is characterized by a reliable degree of immobility. In my opinion, the most noteworthy sectors are the Chilean and the Peruvian ones: the first is characterized by a positive growing trends and during this year it will have a recovery period, whereas the second has very low numbers with respect to the others, but, in the long-term perspective, it will gain a tenfold increase (this could be a real market opportunities for global players).

The representation in the following page describes the market situation of Emerging Countries, in Africa, Asia and Oceania: trends are quite different both in positive and negative sense. Egypt and Saudi Arabia, because of the oil prices and all the consequences belonging to them, are in a not so optimistic situation: declining future performances in terms of profitability are the expectations for the next periods. Indonesia and Thailand are in more

stable scenario: they are getting back to a normalization process of sales volume and going towards a recovery period. While Morocco is increasing a lot its profitability indexes rising good expectations for the next years, the Vietnam market, because of its closeness to the Chinese automotive industry, is suffering a lot the pressure and influence of the latter. The Countries, which are creating solid basis for the future and becoming considerable market opportunities for global players, are Iran and Philippines: the first has an higher trend than the second in terms of new car sold in the market and registered, while the second has an incredible market demand potential, due to the high number of inhabitants living there.

So, global players in the automotive industry must not only take into count the dynamics of the developed Countries, where they have major stakes or market share, but, most of all, consider how to manage the rapid changes in the trends of the sector, by looking at the developing and emerging markets, in order to understand how to exploit further business opportunities, in a world that has still not well defined boundaries: we have seen before that consumers preferences are heavily shaping the environmental landscape, making the global industry moving from the actual situation to a new idea of what is a car, the meaning of the ownership of the vehicles and the behavior towards it.



Sources: new car registrations (millions of units) OICA annual data, Euler Hermes forecasts

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