

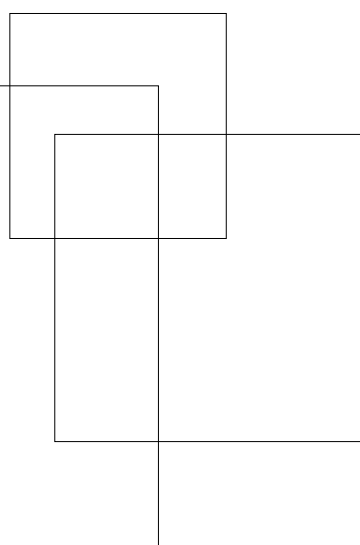


International  
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RESEARCH DEPARTMENT ||||| WORKING PAPER NO. 44 ||||||

# The role of multinational company strategies in structuring global supply chains in the automotive industry

TOMMASO PARDI ||||||



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AUGUST 2019



Research Department Working Paper No. 44

**The role of multinational company strategies in  
structuring global supply chains in the automotive  
industry**

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August 2019  
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## **Abstract**

The article analyses the role of the internationalization strategies of global automobile manufacturers in the governance of global supply chains and their impacts on the economic and social upgrading of the countries concerned. Through the analysis of the 17 main world carmakers' between 2000 and 2014, it characterizes two opposed models of internationalization: the global-centralized model where the internationalization process is pushed by global platforms and standards conceived and controlled by centralized engineering; and the multi-domestic-decentralized model where the internationalization processes is pulled by the greater autonomy given to international subsidiaries in the design and production of low-cost vehicles for emerging markets. The article shows that the centralized global strategy remains today dominant in the automotive industry, but the successful deployment of the multi-domestic-decentralized strategy creates better opportunities for functional and social upgrading in emerging countries.

**Keywords:** global supply chain, automotive industry, upgrading, productive models, transnational enterprises.

## **Acknowledgments**

This work was supported by the ILO Research Department as part of the project “L’avenir du travail dans le secteur automobile: analyses transversals” and the cooperation agreement between the French government and the ILO. We thank in particular Guillaume Delautre from the ILO Research Department for his active monitoring and prompt feedbacks.

The article is the responsibility of the author alone, and its publication does not imply that the ILO endorses the views expressed therein.

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## Introduction

Global Supply Chain (GSC) approaches have highlighted two structuring dynamics in the contemporary evolution of industrial economies: the increasing proportion of international trade in the production of goods; and the extent of the grip of multinational enterprises (MNEs) on these increasingly fragmented and globalized production processes. Two questions in particular occupy a central place in this literature: how different ways of integrating GSCs in various countries generate different types of economic and social upgrading (or downgrading) (Barrientos et al., 2011, Cattaneo et al., 2013); and how different forms of GSC governance are defined by MNEs' policies, standards and practices, but are also influenced and/or negotiated by the strategies of governments, local firms and trade unions (Gereffi et al. 2005).

In this article we wish to link these two issues by focusing on the role of the internationalization strategies of global automobile manufacturers in their GSCs governance and their impacts on the economic and social upgrading dynamics of the countries concerned.

With regard to the first issue, the positive visions that were initially developed in this literature to highlight the advantages that developing countries enjoyed in integrating GSCs (Meyer, 2004) have gradually given way to more critical visions, questioning both the nature of economic upgrading and its translation into social upgrading. The distinction proposed by Humphrey and Schmitz (2002) between different forms of upgrading has made it possible to show the often truncated character of the forms of industrial development observed in emerging countries. Most of the time the economic upgrading only concerns the nature of the products or processes and does not result in a functional transfer of capacities, particularly in R&D and design (Pavlinek, 2004). Analyses in terms of "peripheral Fordism" (Lipietz, 1998) and "dependent capitalism" (Nölke and Vliegenthart, 2009) have highlighted the marginal place that many emerging economies continue to occupy in the international division of production and labour, as well as their difficulties in capturing the value produced by MNEs in their territory. More generally, according to the most pessimistic visions this competition between countries for activities with low added value would lead to a "race to the bottom" (Streeck, 1998): emerging countries (but also increasingly developed economies) deploying subsidies, tax incentives and labour market deregulation to attract (or retain) investments from MNEs with the result of a significant deterioration in employment and working conditions within GSCs. While other analyses offer more positive interpretations of these processes (Nadvi, 2014) based on the cases of emerging countries with very strong economic growth and large domestic markets such as the BRICs (Brazil, Russia, India and China), they nevertheless report a wide variety of situations depending on the regions, sectors and especially segments of the supply chains studied (Lund-Thomsen and Nadvi, 2010; Neilson et al., 2014). For example, numerous studies show that the economic and, to a lesser extent, social upgrading that can be observed in some automobile assembly plants among car manufacturers goes hand in hand with the deterioration in employment and working conditions of both temporary labour and local subcontractors (Carrillo and Contreras, 2012; D'Costa, 2011; Lüthje et al., 2013). The question then becomes to understand under what conditions, on what scale and in what contexts economic upgrading can first take place, and can then be translated into social upgrading (Gereffi and Lee, 2016).

Given the central role of MNEs in the structuring of GSCs, this issue logically occupies an important place in the works concerned with the forms of GSC governance. Building on the distinction made by Gereffi and Korzeniewicz (1994) between producer-driven and buyer-driven supply chains, this literature has progressively deepened the understanding of the role that MNEs play in GSC structuring and governance. It shows that, in addition to "driving" GSCs through their outsourcing and

internationalization strategies, MNEs are organizing the "coordination" of these increasingly fragmented production processes and "standardizing" subcontractors' operations around global standards (Ponte and Sturgeon, 2014). However, the characterization of MNEs' strategies proposed by these works remains general. While it makes it possible to distinguish sectoral configurations and their transformations in relation to the structuring of GSCs in emerging countries (Gereffi et al., 2005), it does not provide much to understand concretely when and why different strategies produce (or not) different forms of economic and social upgrading.

This issue is also addressed by the works on MNEs' Social Responsibility, but this literature is less interested in strategies per se than in the ability of these voluntary schemes to shift GSC standards and norms towards more social upgrading. The conclusions of these works show the limited impact of CSR and call for more "synergistic" forms of private, public and social governance. Mayer (2014) highlights in particular how the incapacity of private governance to meet the demand of society triggers attempts by public and societal institutions to "leverage private governance for public purposes" (p. 345). These can take notably the form of multi-stakeholder actions, such as the Ethical Trade Initiative (ETI) (Barrientos and Smith 2007) or the national plan of action for the garment industry in Bangladesh (Mayer 2014).

It should be noted that most of the works we have cited tend to focus their attention on the meso scale of the sector which they treat as a relatively homogeneous space, structured by the same product architectures (more or less modular or integral) and by the same productive organizations (more or less market-based or hierarchical). In this, the GSC literature differs from approaches in industrial economics that pay greater attention to strategic differentiation between firms in the same sector. These include approaches in terms of worlds of production (Salais and Storper, 1993) or productive models (Boyer and Freyssenet, 2000) that distinguish both empirically and analytically a variety of profit strategies, forms of product valuation, modes of production organization and labour involvement. Numerous studies inspired by these approaches have thus made it possible to advance the characterization of MNE strategies in different sectors, by showing that several product architectures and productive organizations could coexist (Boyer et al, 1998). However, little attention (see for instance Durand, Flacher & Frigant, 2018) has been paid to the way in which these different productive models have structured regional and global supply chains, and thus to the links that can be established between MNEs' strategies, their productive models, forms of GSC governance and the economic and social upgrading (or downgrading) dynamics observed in emerging countries.

It is precisely these links that we wish to explore in this paper by drawing on the analysis of a sector, the automotive industry, which occupies a central place both in the literature on GSCs and in industrial economics. We will focus more specifically on the internationalisation strategies of the world's leading car manufacturers over the period 2000-2014, and how these have structured GSCs in emerging countries over the same period. To analyse the internationalization strategies of these manufacturers, we will rely in particular on the productive models approach. It should be recalled here that a productive model is the historically contingent result of a process of aligning different means of production: the product policy (which concerns the market segments targeted and the design of the products offered and their range); the productive organization (which refers to the methods and means chosen to achieve the product policy); and the employment relations (which consists of the systems of recruitment, employment, expression and representation of workers) (Boyer and Freyssenet, 2000, p. 32). Our purpose is not to identify normative strategic models, but to highlight the tensions inherent in the pursuit of different and concrete internationalization strategies in relation to the objectives pursued by the firms and the economic and social upgrading dynamics they generate. The objective is to show the interest in



bridging the GSC approach with industrial economic approaches in order to better characterize the impact of MNEs' strategies in emerging countries in terms of economic, functional and social upgrading.

The article will be organized as follows. In section I we will begin by briefly recalling the way in which the automobile industry became internationalized in the 1980s and 1990s before developing a synthetic analysis of the internationalization processes of the 17 major world car manufacturers over the period 2000-2014. From this analysis we will identify two opposing models in terms of internalisation strategies: the global-centralised model and the multi-domestic-decentralised model. In sections II and III we will characterize these two models by crossing an approach in terms of productive models with the analysis of the forms of GSC governance and the dynamics of upgrading associated with them. In conclusion, we will return to the links between these different dimensions and their implications for the future upgrading strategies of emerging countries.

## **I. Internationalisation processes in the global automotive industry**

Until the early 1980s, the world automobile industry was characterised by a high degree of vertical integration and by production concentrated in the Triad countries (United States, Western Europe and Japan). During the 1980s and 1990s major outsourcing processes led to the structuring of national and, to a lesser extent, regional supply chains, but production continued to be mainly located in the domestic bases of the major global manufacturers. In 2000, 81% of the production of passenger cars by the 17 major manufacturers (see Table 1), which controlled around 95% of world production, was still made in the Triad countries. At that time, car manufacturers were mainly present in three other countries/regions of the world: Mexico (4% of their total production), where since the creation of NAFTA in 1996 there has been a process of regional integration to produce mainly compact cars and pick-ups for the American market; Central and Eastern Europe and Turkey (3.2%) where a comparable phenomenon was being structured in the context of the Single Market and the European Customs Union; and Mercosur (3.4%) where significant production capacity had been installed in the hope of local market growth.

**Table 1. Difference between the number of units produced in 2014 and 2000 for passenger cars, for the world's top 16 manufacturers (thousands of units)**

Groupe	2014-(2000)	Alena		Mercosur	Europe				Asie			Autres pays	Total			
	Base domestique	US-Canada	Mexique	Amérique du Sud	EU 17	NEM	Turquie - Maghreb	Russie	Japon	Corée du Sud	Chine		Inde	Par constructeur	Par pays	En %
Groupe Volkswagen	567	118	49	24	422	705		179			3212	124	74	4907	6837	33%
Daimler	87	153		-21	118	162		2			150		36	600		
BMW	408	280			735						287		28	1330		
PSA Peugeot																
Citroën	-824			86	-1129	370	6	13	21		691		-63	-5	349	2%
Groupe Renault	-860			204	-995	334	362	214		153		54	28	354		
Fiat	-965		48	65	-977	89	-96	0				21	-14	-864	-864	-4%
General Motors	-2123	-2501	235	224	-1095	-8	0	308		304	3281	34	-117	665		
Ford	-1557	-1961	168	126	-995	33	-31	27			812	51	41	-1729	-1306	-6%
Chrysler	-74	-181	10	-4	-67									-242		
Toyota	9	811	72	152	224	72	117	7	9		960	148	1444	4016		
Nissan	-377	571	491	25	123			106	-377	26	938	223	116	2242		
Honda	-243	658	126	111	45		2		-243		824	174	333	2030	10012	49%
Suzuki-Maruti	122	-18		2	-34	69			122		266	804	122	1333		
Mazda	222	-70	102	-8					222		207		12	465		
Mitsubishi	-90	-153		26	-60			9	-90		76	1	117	-74		
Hyundai-Kia	1186	768		179	631	203	237			1186	1790	610	0	5604	5604	27%
<b>Total</b>	<b>-4512</b>	<b>-1525</b>	<b>1301</b>	<b>1191</b>	<b>-3685</b>	<b>2457</b>	<b>563</b>	<b>1102</b>	<b>-336</b>	<b>1669</b>	<b>13494</b>	<b>2244</b>	<b>2157</b>	<b>20632</b>		100%
En %	-22%	-7%	6%	6%	-18%	12%	3%	5%		8%	65%	11%		100%		

Sources: OICA, CCFA

Croissance &gt; 400 000

Croissance &gt; 200 000

Decroissance &gt; -400 000

Decroissance &gt; -200 000

It was only in the 2000s, therefore, in a context of increasing trade liberalization<sup>1</sup>, that we witnessed the structuring of GSCs in the automobile industry in conjunction with the deepening of regional integration in North America and Europe, on the one hand, and the explosion of emerging markets, and in particular of the BRICs (Brazil, Russia, India and China), on the other.

In 2000, emerging markets accounted for only 19% of world demand for passenger cars; by 2014 their share had risen to 51%. The BRICs' share is preponderant, since they account for 41% of world demand, 30% of which is in China and for 87% of the growth in global car production in the same period. Table 1 shows both the upheavals produced by this change in demand in the geography of world automobile production, and the central role played by the sector's main MNEs in these processes of structuring new industries in emerging countries but also, at the same time, of restructuring their domestic bases. In emerging countries, the production of passenger cars by these car manufacturers increased by 24.5 million units, while in their domestic bases their production decreased overall (excluding Korea) by 5.7 million units.

Table 1 also shows that the role of car manufacturers in this dual process of structuring and restructuring is not homogeneous. We can first distinguish manufacturers from countries whose growth mode was based on exports (Germany, Japan and Korea) from those countries whose growth mode was based on

<sup>1</sup> According to WTO data, 222 free trade agreements entered into force in this period compared to 82 over the period 1952-2000.

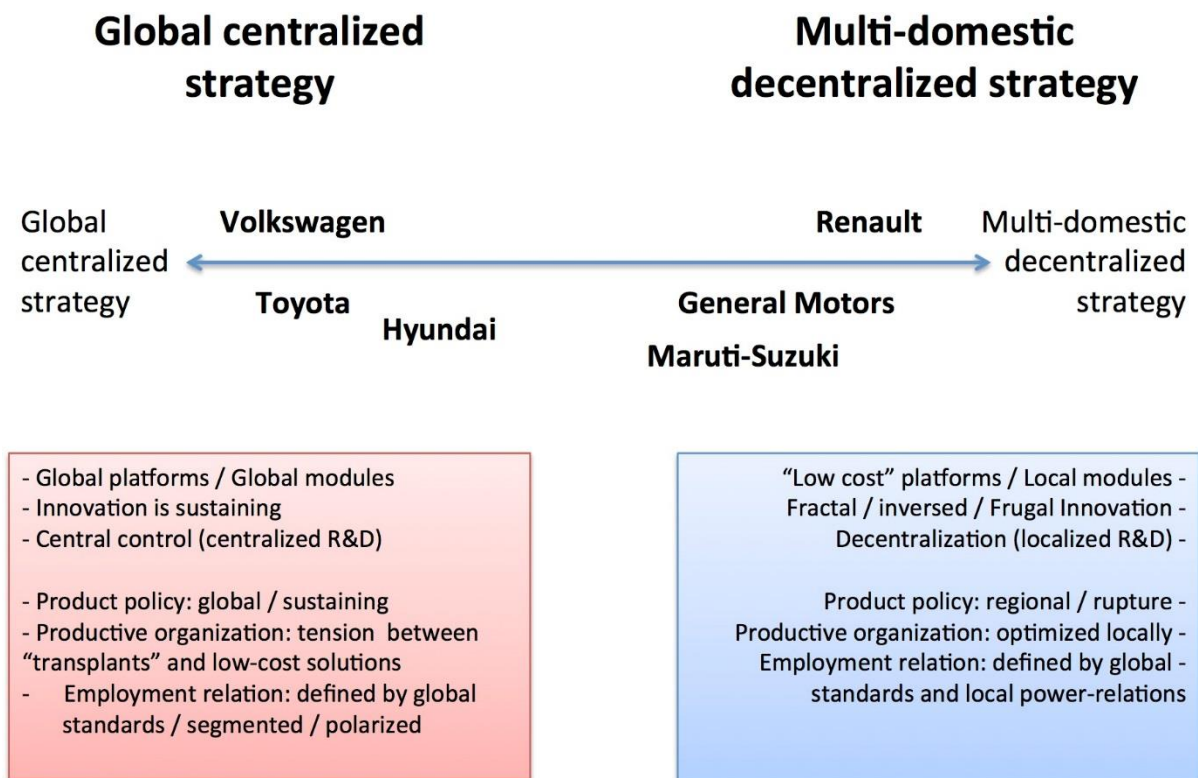
domestic consumption (France, Italy and the United States)<sup>2</sup>. In the first case, we observe the maintenance or even the further development of strong domestic bases, which goes hand in hand with a very significant expansion of production abroad. As a whole, manufacturers in these countries managed to capture the total net growth in global automobile production between 2000 and 2014: 7 million passenger cars for German carmakers, including 5 million for Volkswagen; 10 million passenger cars for Japanese carmakers, including 4 million for Toyota; and 5.6 million passenger cars for the Korean Hyundai-Kia group. This success is explained by a deepening of their international expansion strategies, which is characterised both by a rapid growth in the variety of models exported and produced abroad and by their greater standardisation through the development of modular global platforms. These, however, continue to be designed, developed and managed in the domestic bases by central engineering departments, which then adapt them to emerging markets. For these MNEs, we can thus speak of a global and centralised internalisation model that build up and extend their pre-existing productive models (see table 2 below).

In contrast, manufacturers in countries historically characterized by a domestic consumption-based growth mode have experienced greater difficulty both in taking advantage of growth in emerging markets and in resisting increased competition in their regional and domestic markets. The collapse of domestic production bases in France (-1.7 million passenger cars produced), Italy (-1 million) and the United States (-3.8 million) is the result both of a contraction in market shares (particularly strong for Italian and American carmakers) and of a process of relocating production to countries with low labour costs (Central and Eastern European Countries (CEEC), Turkey, Maghreb in Europe, Mexico in North America) in an attempt to overcome these difficulties. This also made it problematic for these firms to support the internationalisation process from their domestic bases. This is one of the reasons why it is essentially within these manufacturers that we see the emergence of new configurations that can be called multi-domestic and decentralized, characterized by the greater importance and autonomy given to international subsidiaries in the design and production of low-cost vehicles for emerging markets (see table 2 above). GM's tremendous growth in China can be explained almost exclusively by the range of low-cost models designed and developed by its Korean subsidiary (Daewoo); Renault's growth in Brazil, Russia, Romania and more recently in India by the success of its low-cost (Dacia) and ultra-low-cost (Kwid) range also designed and developed in these countries; in the case of Fiat, the failure of the low-cost Palio project did not allow it to follow the same international development trajectory, even if eventually it is the very autonomous Brazilian subsidiary that has become during this period the main producer of passenger cars (35% of the total) ahead of Italy (30%) and Poland (28%). We can also add to this list Suzuki-Maruti, the Japanese specialist who saw its world production double in the period thanks to the growth of its Indian subsidiary in joint venture with the Indian manufacturer Maruti, which is also characterised by an atypical low-cost range designed and developed far from its domestic base.

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<sup>2</sup> We use here the general framework of comparison developed for the period 1970-2000 by Boyer and Freyssenet (2000).

Table 2. Global centralized strategy vs Multi-domestic decentralized strategy



In the following section, we will characterize these almost opposed strategic models of internationalization by paying particular attention to the GSC structuring processes they entail, the forms of governance that characterize them, and the economic and/or social upgrading dynamics they generate. We will focus our analysis on Volkswagen and Toyota for the global and centralized model, on Renault, Suzuki-Maruti and GM for the multi-domestic and decentralized model.

## II. The dominant model of the global and centralized firm

As mentioned above, the global and centralised automotive firm is in line with the internationalisation strategy followed by the main world manufacturers over the last forty years or so. Typically, this has always relied on domestic hegemonic bases where all the models in the range were conceived and developed centrally. These same models, designed for domestic markets, were then produced and sold in emerging markets a few years later. In order to adapt them to the prices and expectations of these markets, their technological content and quality were revised downwards by local engineering that took charge of part of these second industrialisations. Industrial development and production standards were thus downgraded, the objective being to have low-cost production sites adapted to simple, little integrated and little varied production. The diffusion of innovations was slowly done by a double logic of trickle down: from high-end to low-end models; from domestic bases in developed countries to emerging countries (Jullien and Pardi, 2013).

Given the growing importance of emerging countries, this strategy has evolved in the period studied (2000-2014) towards more sophisticated forms of global performance optimization: at the engineering and production level, global platforms and modules have been developed; and at the purchasing and subcontracting level, global supply chains have been structured around a hundred global equipment manufacturers (Frigant, 2009). Optimisation also applies to employment and work, which are governed by global human resources policies based on the parent company model. The organization of production and work is thus the same everywhere. These include the principles of lean production under the acronym HPWP (High Performance Work Practices), international benchmarking against key performance indicators, and the widespread dissemination of "best practices" in the form of global production standards (Adick et al., 2014; Jürgens and Krzywdzinski, 2016). At the core of this internationalisation strategy are the two main productive models of the twentieth century: the volume and variety productive model, which was initially pioneered by General Motors and then optimised by Volkswagen with the introduction of the above-mentioned global modular platforms; and the continuous costs reduction productive model historically embodied by Toyota and which has spread with the diffusion of lean production to all the other carmakers, including Volkswagen.

### 2.1 A global product poorly suited for specific emerging markets

While this type of internationalisation strategy, and the resulting organization of engineering, production and work, makes it possible to control the costs involved by the enlargement of the international product ranges, their accelerated renewal and the extensive integration of new technologies, including in emerging countries, it nevertheless involves a certain number of constraints and limits. These concern in particular innovation policies, which can only be centralised and which are in any case subject to global exploitation logic (economies of scale); and product policies, which suddenly tend to be the same everywhere (the world car), and need therefore to be adapted to local markets.

It is therefore difficult, if not impossible, for these companies to design and produce products dedicated to emerging markets, all the more so as this type of centralised strategy gives very little autonomy to subsidiaries in these countries. In the case of Volkswagen, for example, the management of modular platforms (the Modular Transversal Kit, 'Modularer Querbaukasten') is completely centralised in Germany, where 20 000 of the group's 35 000 R&D employees are located (Adick et al., 2014, p. 49). All strategic decisions on product policy are taken at Wolfsburg headquarters (Jürgens, 2009; Pries, 1999, p. 37), which coordinates all the group's global activities, including the organization of

production. This centralised and highly formalised management is based on a binding global reporting system that is supposed to ensure that subsidiaries comply with the processes and standards defined in Wolfsburg, and this applies to all levels of the organization, from product industrialisation, through component procurement, to vehicle assembly and workforce management (Adick et al., 2014, p. 50; Hauser-Ditz et al., 2010; Walzl and Wildemann, 2014). As at Toyota (Pardi, 2005), this central control involves the long-term secondment of a very large number of German engineers and managers to subsidiaries in emerging countries, which reinforces the centrality of the domestic base: in 2011 there were around 3,000 at Volkswagen and their number was growing very strongly (Adick et al., 2014, p. 52). This also implies that technological upgrading of local engineering in emerging countries remains limited to the less noble functions of production, while activities related to the design of platforms, models and their first industrialization remain concentrated in Germany (or Japan for Toyota).

It is interesting to note that Volkswagen's international successes during this period were concentrated in China, Europe and, to a lesser extent, the United States, markets where the German group did not have to adapt its products to "local" conditions. On the other hand, its growth ambitions in other BRICs, notably in India, where Volkswagen aimed to capture 20 per cent of the market by 2020, have so far failed (2 per cent market share in India in 2014, less than 6 per cent in Russia). The same applies to Toyota, whose attempt to launch a low-cost car dedicated to the Indian market, the Etios, did not produce the expected results, with disappointing market share and significant losses.

If, as we will see later, Renault seems to have succeeded in launching its new ultra-low-cost model at 3500 dollars in 2015, the Kwid, entirely designed and developed in India, Midler et al. (2017) show that the project encountered many difficulties during the start-up of production in the Nissan-Renault Alliance plant in Chennai, managed by Nissan and operational since 2010. What was at issue was precisely the rigidity of the processes applied by the plant, which had to comply with the Japanese manufacturer's worldwide standards to validate production plans (Midler et al., 2017, p. 50), while the innovative nature of the Kwid and the extreme need for reactivity to adjust industrialization along the way required much more organizational flexibility.

## 2.2 Truncated dynamics of economic and social upgrading

Beyond product policies, it is also the productive organizations and employment relationships associated with these centralized global strategies that present important limitations when it comes to their deployment in emerging countries. As Jürgens and Krzywdzinski (2016) show, Volkswagen and Toyota are certainly able to adjust the configuration of their global and modular plants in the BRICs, in particular according to production and labour costs, by varying, for example, the rate of automation in the welding and painting phases. Nevertheless, these sites are designed to meet all the standards of both groups and to implement modern and sophisticated lean production systems. These requirements quickly contradict the search for low-cost solutions and generate significant tensions and dysfunctions (Jürgens and Krzywdzinski, 2016).

It is interesting in this perspective to note that wages in these new very modern factories, established for example by Volkswagen in Brazil and Mexico during the last decade to produce high-end models, tend to be significantly lower than in the old sites which produced, during the previous phase of internationalization, old models in a more autonomous production context. In Brazil, for example, Volkswagen's former São Bernardo plant paid average monthly salaries of 1440 euros in 2012, while the new "model" plant in Curitiba, which produces Audi's premium cars, paid average salaries of 800 euros (Jürgens and Krzywdzinski, 2016). The same is true in Mexico, where the historical Volkswagen, Nissan and Ford sites pay the highest monthly salaries compared to the new sites of the

same groups (Heim, 2016): in the case of Volkswagen, between the old site in Puebla and the new plant in Silao, inaugurated in 2013 for the production of engines (0.8 million in 2014), the difference in 2016 ranged from simple - 311 dollars per month in Silao - to double - 735 dollars in Puebla.

While other factors also account for these important differences, like the selection of green-field sites in less industrialised regions, the hiring of a younger workforce and the possibility to avoid unions or to obtain “friendly” agreements with company unions, the choice of using capital-intensive global platform standards does not leave much room for containing production costs rather than by reducing labour costs and pressuring suppliers. Indeed, the modernisation of older plants seems also to lead to this type of scenario. Cho (2006), for example, found an increasing share of dispatched workers in Volkswagen's Shanghai plant, representing up to 30 percent of the workforce in 2005. He explained this phenomenon by the upgrading of several production lines to global Volkswagen standards in 2004, and by the rising costs associated with these new processes, which also required a more flexible use of labour. Dispatched workers, whose wages were much lower than those of stable employees, were thus used in the least ergonomic and most labour-intensive parts to offset this rise in production costs (Cho, 2006, pp. 34-35).

Another constraint posed by these “modern” production sites, which comply with the high world standards of these groups, concerns training, because these plants have very specific training needs, particularly with regard to maintenance technicians and local engineering, whereas the step-up in production is often very rapid. Jürgens and Krzywdzinski (2016) tend to view this constraint positively as it pushes manufacturers to engage in training activities, and to deploy strategies to retain skilled labour (higher wages than average, permanent contracts, in some cases benefits and career development plans – but only for core workers in the assembly factories). Other analyses, however, take a more critical look at these training activities. First, because they are defined on the basis of the very specific needs of global manufacturers according to standards developed in their domestic bases (for example the German dual system), but benefit from very generous subsidies, or even total coverage, from regional and national governments in emerging countries (Forbes, 2016; Wiemann, 2016). Secondly, since they are very specific and often far removed from the needs of the local industrial fabric, they do not allow employees to acquire sufficiently broad skills and/or qualifications that they could develop in other companies<sup>1</sup>. Finally, the multiplication of these training facilities with the growth of automobile production goes to the detriment of public training systems which tend to deteriorate (Bensusán, 2016). Such dynamics have also been described for the CEECs in connection with the dualisation of their economies and the creation by global carmakers of “cathedrals in the desert” (Pavlinek, 2004).

With regard more specifically to the employment relationship, Jürgens and Krzywdzinski (2016) note, with some surprise, that in the case of Toyota and Volkswagen, the shaping of the employment standards in each of the BRICs is determined predominantly by the overall productive model exported by the two groups, and not by the national employment relationship systems of the emerging countries concerned. Here too, they see this as a positive feature, insofar as these global standards imply forms of upgrading for local employment relations: for example, through the formalisation of employment protection levels higher than those provided by national systems; the development of social dialogue, particularly at Volkswagen, which seeks to replicate in all its world factories the model of the German works council with the integration of a “representative” trade union actor; or the implementation of human resources management systems combining training and careers, including for line workers.

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<sup>1</sup> In Germany trade unions play a central role in ensuring that skills acquired in the dual system are transferable from one company to another, whereas this role is not existent in Mexico.

This positive view, which relates to the idea of the country of origin effect, i.e. the export, particularly from Germany, of progressive models of employment relations to emerging countries (Jürgens and Krzywdzinski, 2010, 2009), has however been largely nuanced and criticised. As regards German firms, much work has shown in the case of the CEECs that they do not really differ from firms from other countries concerning their employment strategies, and that they do not hesitate to exploit favourable power relations to impose on employees a cyclical management of the workforce and employment and working conditions well below German standards (Bechter et al., 2012; Meardi et al., 2012, 2009; Tholen, 2007). Delteil and Dieuaide (2011) introduced the notion of managerial social dialogue to characterize this employment relationship model subject to the hegemony of central MNE management. In particular, they show that even when unions are involved, their role is usually limited to relaying the policies deployed by the central human resources divisions on the basis of global performance indicators that determine the allocation of resources, the level of the wage bill and the allocation of variable bonuses. More generally, the "colonisation" of national employment systems in emerging countries by highly decentralised (at company level) and heterogeneous (in terms of remuneration and standards) hegemonic employment relations models makes it all the more difficult to structure a collective representation of employees' interests at sectoral level. Depending on national configurations, this can lead to a strong and lasting subordination of labour to capital, as in Mexico (Bensusán, 2016; Carrillo and Bensusán, 2015), where real wages in the automobile sector have been falling for two decades, even though productivity gains have been very high, or to the multiplication of local conflicts, often violent, involving wild strikes or acts of sabotage, as it is increasingly happening in China (Lüthje et al, 2013; Zhang, 2008) or India (D'Costa, 2011; Kundu and Sarangi, 2007; Nowak, 2014).

Moreover, given the specific needs of the "global" production sites of carmakers and first-tier equipment manufacturers, and the higher labour costs associated with these needs, the impact of these investments is often a very strong increase in the dualisation of labour with a deterioration in the employment and working conditions of peripheral workforce among second- and third-tier equipment manufacturers. This has been well documented both in China, directly linked to the arrival of more modern plants in the years 2000 (Lüthje et al., 2013), in India (D'Costa, 2011), also in the more recent phase of massive foreign direct investment in the sector, as well as in Mexico (Bensusan and Carrillo, 2010) and the CEEC (Pavlinek, 2004).

The GSC structuring process brought about by this global and centralised internationalisation model thus tends to produce a polarisation of the industrial structure and employment which is to the detriment of both local subcontractors, who are confined to the lower ranks of the GSC and to low added value production, and their employees, whose employment and working conditions are deteriorating. Moreover, the upgrading that occurs at assembly sites created by foreign car manufacturers and first-tier equipment manufacturers is truncated since it does not involve the transfer of skills in industrial design and development, and is limited to production phases with lower added value. This is well illustrated by economic analyses that highlight the value added imported in industrial exports from emerging countries. In the Czech Republic, for example, where the production of the subsidiary VW Skoda and its equipment manufacturers is preponderant in automobile exports, the share of imported value added rose to 52% (37% regional and 15% global) in 2008 compared to 40% in 1995 (Timmer et al., 2015, p. 586). We will see later that in the case of Romania, which rather embodies the model of multidomestic and decentralized internationalization, this share is much lower (33%, including 19% regional and 13% global) (idem), pointing to a much more locally integrated production system.

On the positive side, this global internationalisation strategy appears to preserve good employment relations in the domestic bases of these companies where production levels are stable, even if this is more true for Volkswagen than for Toyota, which has substantially increased the share of temporary



workers in its domestic plants during the period analysed. However, the share of workers concerned by these “high road” employment conditions is rapidly shrinking at the scale of the global footprint of these companies, including the GSCs that they have been structuring, pointing to an overall decline in employment and working conditions under this model of internationalization.

### **III. The emerging model of the multi-domestic and decentralized firm**

This type of emerging internationalization strategy is rarely assumed by the firms concerned because it runs counter to the managerial doxa which is today based on the global firm model (global standards, best practices, global value chains, critical mass, etc.)<sup>2</sup>. It may be the result of a conscious choice but with unexpected consequences, as in the case of the development and production of the low-cost “Entry” (Logan, Sandero, Duster, etc.) range in Romania (then in Russia, Brazil and India), which now represents a little less than half of the Renault group's worldwide sales; or also in the case of the alliance, a priori marginal since it initially involved creating a capacity of only 40,000 cars per year, of Suzuki with the Indian manufacturer Maruti, started in 1982 and which now represents a little less than half of the world production of the Japanese group. It may also be the more accidental consequence of other developments, such as the impact of the 2000 crisis at GM, which led to a great deal of autonomy being granted to the Korean (in charge of the Chevrolet brand) and Brazilian subsidiaries, or the prolonged decline of Fiat in Italy, which reinforced the already significant autonomy of its Brazilian subsidiary.

#### **3.1 Innovative and decentralized product policies**

This strategy is de facto based on a decentralisation of engineering, which encourages the development of local innovations (bottom up) and leads to an internationalisation of R&D. Its main advantage lies in its ability to develop products dedicated to emerging markets (i.e. adapted to their income levels, infrastructures and mobility needs) by drawing on the skills and on the human and industrial resources of these countries. In product engineering, the platforms resulting from this strategy can become global but are structured to respond to flexibly in the diverse and changing needs of emerging countries, which gives their regional integrations quite distinct dynamics. In particular, they integrate modules designed, developed and produced locally that are vectors of local innovation and which can also be very different from one market to another. At the supply chain level, it is the diversified purchasing logic that is essential, with the need to develop local equipment manufacturers as close as possible to production plants.

Similarly, the production organization is also designed, structured and optimized locally: depending on the specific configuration of the products, the rate of integration can vary significantly from one market to another depending on the skills and capabilities of local equipment manufacturers, or the levels of training and compensation of employees. For all these reasons, the organization of human resources and work also tends to be de facto decentralized, even if it is not always an explicit and assumed choice at the central level (Jullien et al., 2012). In general, global standards and “best practices” have less influence here, and there is even an explicit desire to question them as the very conditions for the success of the internationalization projects. The result is greater heterogeneity in management and work practices, which also reflects the sometimes-inverted power relations between parent company and subsidiaries, and between central engineering and project engineering (Midler et al., 2017). In terms of productive models, these emerging configurations have many features of the innovation and flexibility

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<sup>2</sup> “Despite the volumes and profits provided by the Entry range, these programs and the teams that run them continue to promote, within Renault and even within the Alliance, a kind of counter-culture whose integration continues to be a problem” (Midler et al., 2017, p. 80).

productive model historically associated with Honda, and to a least degree to Renault (Boyer and Freyssenet 2000).

In the case of the Logan, the 5,000 euros low-cost car launched by Renault's Romanian subsidiary in 2004, the marginality and precariousness of the project within the Renault organization were highlighted by Jullien et al. as two fundamental conditions for its success (2012, p. 79). However, for the Kwid, the ultra-low-cost \$3,500 car launched by Renault's Indian subsidiary in 2015, the project is no longer marginal or precarious. This is an "Alliance" project, involving Renault and Nissan central engineering, and which has been structured from the start to develop a family of vehicles that will be produced and marketed in all emerging (and possibly mature) countries, starting from India and including China, where Renault is still absent. This time the success of the project seems to depend on the power of the project management within the engineering department. Midler et al. (2017) highlight in particular the institutionalization of a direct link between the project manager, Gérard Detourbet, and Carlos Ghosn, which allows the project team to bypass corporate rules, including, in principle, at Nissan. However, the integration of Nissan engineering in the project proved to be de facto impossible. The obstacle is Nissan's very strong "sustaining" innovation culture, which is based on the kaizen concept and "postulates a cumulative evolution", a "continuous improvement of the existing situation". In the case of the Kwid project, on the other hand, it is a question of systematically and radically calling into question the business standards in place "in the name of their adaptation to the specific objectives of the project - the reduction of costs and the achievement of relevant performance in the specific Indian market" (Midler et al., 2017, p. 26).

This design to cost logic, where the cost and performance objectives structure the evolution of the project rather than the improvement of existing functions according to established rules, is based on a certain number of specific organizational structures: a stable project team, located in situ, bringing together all the engineering functions; intrusive management with weekly meetings to monitor target objectives; flexible planning management based on a concurrent rather than sequential engineering logic; a direct link between the project team, production engineering and purchasing; and the integration of local equipment manufacturers' engineering departments into the project before functional validations and before contracting (Jullien, Pardi and Ramirez, 2014; Midler, Jullien and Lung, 2017). To conceptualize this specific innovation approach, Midler et al (2017) speak of fractal innovation, which underlies the systematic questioning of the product definition and takes place at all scales of industrial development: "from the overall dimensioning of the project to the definition of the characteristics of each element; from the diameter of the cables to the characteristics of the assembly line screwdrivers" (Midler et al., 2017, p. 26).

In terms of a multi-domestic and decentralized internationalization strategy, this amounts to "reversing" the logic of innovation (Govindarajan and Ramamurti, 2011) in relation to the classic global approach: it is not a question of adapting a global platform to emerging markets, but of starting from potential consumers in each emerging market (their income levels, their mobility needs, their aspirations) to design a platform that will become, through diffusion, multiregional. To achieve this, a logic of decentralized and frugal innovation (Radjou et al., 2012) is essential, where the "ingenious DIY" that local engineering can demonstrate takes precedence over the parent company's global standards (Midler et al., 2017).

At Renault, the development of the Entry range, which was the main driving force behind the group's international expansion in the 2000s, is based on a major decentralisation of the R&D function with the creation of five Renault Technologies centres (RTx) throughout the world: RTK in Korea (with the acquisition of Samsung), which is in charge of some of the group's high-end models; RTR in Romania

(with the acquisition of Dacia), which is in charge of most of the design and development activities for the Entry range; RTRU in Russia (with the takeover of Avtovaz), which is in charge of developing the Entry range for Russia and associated Lada models; RTA (America) in Brazil, which is responsible for adapting the Entry range to Mercosur markets and designing derivative models (such as the Sandero Stepway and the Duster pickup truck); finally, RNTBCI in India, which is in charge of designing and developing the Kwid and associated future models. All RTxs coordinate their activities with central engineering at the Technocentre in France (about 10,000 employees) but enjoy real autonomy on which project structures rely to "reverse" the innovation logic for emerging markets (Midler et al., 2017, p. 100).

As at Volkswagen or Toyota, such a global structure implies the secondment of a large number of expatriates. Their number is particularly high in the early phases in order to increase RTx skills, but the long-term objective is to entrust RTx to local engineers (Dalmaso, 2009). At the level of business engineering, these expatriates play the role of trainers and, when they are attached to a project structure, they make the link between the contribution of central skills and the exploration of new solutions. In any case, they are not the guardians of the temple of corporate rules, as it is often the case with global and centralised companies.

### **3.2 Emerging and adaptive productive organizations for successful market creation**

The fractal and inverted innovation logic at work in product policies is also found at the level of productive organizations that are adapted to concrete production needs and to the specific environmental and socio-economic contexts of each emerging market. For example, the new mechanical plant created in Chennai (Oragadam) to equip the Kwid was designed to break with "Alliance standards". First, it is an open factory, "without walls other than the side walls, which are themselves partially open, and without doors": a design unique among all the group's factories that has not only enabled substantial savings to be made in terms of investments, but also to manage heat at the lowest cost because the roof is opaque and sunlight and air enter from the sides (Midler et al., 2017, p.33). In the factory, there is no automatic transfer, useless for small parts, nor computer control, unsuited to the simplicity of the project. The roof also does not respect the "Alliance standards" which integrate the hazards of cold climates (heavy snowfalls) and are completely unsuited to the warm climate of southern India. In total, this "just needed" approach has halved the plant's investment compared to a transplant that would have applied Renault or Nissan industrial standards (Midler et al., 2017, p. 32).

Alongside assembly and mechanical engineering plants, the integration and development of local suppliers play a central role in achieving cost reduction targets, with purchases accounting for 85 percent of the total vehicle manufacturing cost<sup>3</sup>. In the case of the Kwid, the local content rate achieved in India approaches 98 percent (compared to 60 percent for the Duster assembled in India). Here too, global standards have been circumvented: almost all of the Indian suppliers selected (57 percent of the total) would have been eliminated according to the Alliance Supplier Evaluation Standard (ASES). The challenge is to involve these Indian equipment manufacturers in the design-to-cost approach in order to take advantage of their ability to cobble together solutions that would have been impossible to think both by Renault-Nissan engineers and by engineers from global mega equipment

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<sup>3</sup> By local equipment manufacturers, we mean here Indian equipment manufacturers (in Renault jargon, the "real Indians") and not the Indian subsidiaries of international equipment manufacturers.

manufacturers. This work sometimes involves "almost daily monitoring to help the supplier meet standards and meet commitments" (Midler et al., 2017, p. 40). This is also one of the reasons why the supply is located close to the assembly plant. Another reason, no less important, is that transport in India is extremely random and any crossing of borders between states is subject to the payment of taxes (Midler et al., 2017, p. 43). We are therefore in a logic that is the exact opposite of global supply chains, in the same way that the Oragadam mechanical plant is the exact opposite of a transplant logic.

Launched in September 2015, the Kwid has already established itself as the second best-selling model in the under 4-metres segment, which benefits from a significant tax exemption and accounts for 70 per cent of vehicles sold in India. The Kwid has enabled Renault to increase its sales six fold in less than a year becoming by far the first European brand in the Indian market. In both 2016 and 2017 the Kwid was ranked 11<sup>th</sup> amongst the best-selling passenger cars in India. In this ranking, on the twenty bestselling models in India, eleven are produced by the "national champion" Maruti-Suzuki who holds 50 percent of the Indian market, none by Volkswagen and only one, the minivan Innova, by Toyota.

Maruti-Suzuki is another successful example of multi-domestic internationalization. It contains many of the ingredients that have made the Entry range a success at Renault: the initial marginality of the alliance within Suzuki, which enabled the Indian partner to become more powerful; the very early integration of the design to cost that Suzuki mastered as a minicar manufacturer in Japan; the in-house development of production processes adapted to the Indian context (including the design and production of robots); 90 percent local content with mainly Indian supply; strategic support from the state, which only ceded control of Maruti to Suzuki in 2002 and played, as in the case of Dacia in Romania, an important role in market take-off, notably through ad hoc tax policies and facilitated access to credit for households (Bhargava, 2010; Khattar, 2014).

In either case, the result of these multi-domestic internationalization strategies is not the adaptation of one or more models to a given market, but the creation of new markets by innovative models such as the Dacia Logan or the Maruti Alto. For example, following the launch in 2004 of the Logan in Romania, the domestic market doubled in volume in three years and in 2007 Dacia sold 102,000 Logan in Romania (for a market share of 32 per cent), a volume comparable to that of the second bestselling model that year in Germany (the first European market), the VW Passat, with 106,000 units.

The history of General Motors' Korean subsidiary is somewhat different, as we cannot speak here of a "national champion" status. In 2002, the challenge for General Motors was to quickly take advantage of its early entry into China with the establishment of a joint venture with the Chinese manufacturer SAIC in 1997. Following China's accession to the WTO in 2001, the car market which was finally taking off was set to become much more competitive. As GM did not have compact, low-cost models adapted to the Chinese market, it needed to find a solution quickly. The bet then consisted in buying back in 2002 the Korean manufacturer Daewoo, in a state of bankruptcy, for 400 million dollars, and to "badge" in urgency two of its new models, the Lancetti and the Matiz, under the brands Buick and Chevrolet in order to produce them in Shanghai for the Chinese market (Dunne, 2011). Their success quickly exceeded all expectations. The growth of the Chinese market from 2003 was then so great that Daewoo engineers were called upon to design a whole range of models for the Chinese market within a very short period of time, which will then be marketed in other emerging markets and in Europe. In 2014, about 80 percent of GM sales in China (2.8 million vehicles - more than PSA or Renault's global production) were supplied by models designed and developed in China and Korea by Daewoo (annual reports). Under these conditions, and given also the structural crisis of GM's "centre" in the United States, Daewoo's engineering and plants, renamed GM Korea in 2011, enjoyed a very large autonomy which was also the key to their success. Dunne (2011) evokes, for example, the very strong resistance

of the Buick division in the United States against the introduction of a small four-cylinder engine in the Regal and Excelle models. It was a matter of abandoning the brand's characteristic six-cylinder engines and rear-wheel drive architecture. However, given the urgency and the stakes linked to the rise of the Chinese market, it was the Korean engineering supported by the Chinese management of Shanghai GM that had the last word. Gereffi and Güler also stress the special role played by GM in the more general economic upgrading of GSCs in China:

"GM is the most aggressive foreign firm in transferring technology to the country. Under the joint venture with the Chinese SAIC automotive firm, GM's research centre in Shanghai employs 1,300 people, localizing the design of Western models." (Gereffi and Güler, 2010, p. 117).

### 3.3 Strong dynamics of economic upgrading but with contrasting social outcomes

In terms of forms of economic and social upgrading, the success of these multi-domestic strategies favours the creation of conditions in the emerging markets concerned that may recall, from certain angles and to different degrees, those associated with Fordist dynamics. Indeed, one can find here relatively complete industries that integrate all stages of automotive production, large production volumes, a strong level of local integration and a structuring link with the domestic market.

If we take the case of Dacia in Romania, we observe that Renault's low-cost subsidiary has structured a local industry characterized by a very high level of added value (46.7% in 2011, compared to 20.5% in the Czech Republic, of which 67% is generated locally - 49% in the Czech Republic) and by a low import of intermediate products from other European and global automotive industries (9.2%, compared to 18% for the Czech Republic)<sup>4</sup>. This least vertical integration in regional supply chains also results in a potentially more favourable power balance for the employees and the trade unions representing them. For example, since the launch of the Logan in 2004, wage growth in Romania has far exceeded that of the other CEECs: as a comparison between 2004 and 2013, personnel costs per employee in the automobile industry increased by 180 per cent in Romania compared to 79 per cent in the Czech Republic (it should be noted, however, that starting wages were significantly higher in the Czech Republic than in Romania). These data are confirmed by Dacia's analysis of industrial relations trends, which shows a very active social dialogue marked by emblematic conflicts, such as the one-month strike in 2008 which resulted in a 34 per cent pay increase and the introduction of an annual bonus equivalent to at least one month's salary (Delteil and Dieuaide, 2008). At that time, the gross monthly wages of operators and all staff were respectively 19 and 36 per cent higher than the average wage in Romania (Delteil and Dieuaide, 2008). Following a previous conflict at the beginning of 2007, Dacia-Renault also agreed to cap the use of fixed-term contracts at 7 per cent of the total workforce, while the average rates in the automobile industry in the CEECs are generally well above 30 per cent (Scepanovic, 2012).

Another important difference compared to all other Eastern European automotive production subsidiaries is that Dacia has also acquired skills in industrial design and development, with the creation of thousands of engineering jobs within the RTR and a very strong collective learning dynamic (Dalmaso, 2009; Jullien et al., 2012). This goes beyond the scope of the RTR and benefits the entire Romanian supply chain, given the strong integration of local equipment manufacturers in the "fractal" innovation approach associated with the launch of new models.

However, the relative strength of the Romanian subsidiary on the European scene of Renault plants has tended to erode since 2008 as a result of two major changes in this configuration: on the one hand, the

<sup>4</sup> WIOD data (1995-2011), author's treatment.

loss of centrality of the Romanian market, which has suffered the combined effects of the crisis and the deregulation of used car imports after Romania joined the EU in 2007 (Pardi, 2018); on the other hand, the creation in 2012 by Renault of a new European plant with an "initial" capacity of 340,000 vehicles per year for the production of the Entry range in Tangiers, Morocco, where wages are even lower than in Romania. This surprising choice, which calls into question the centrality of the Romanian subsidiary, whose success has been though decisive for Renault's fortunes in Europe, questions in perspective the place of the multi-domestic strategy within the group and illustrates the difficulty of institutionalizing, even within a very particular company like Renault where radical innovation has an important place (Freyssenet, 2009), the conditions for its sustainable deployment.

In the case of Maruti-Suzuki, the picture regarding the evolution of the employment relationship is even more mixed. The literature reports a relatively active social dialogue whose objective since the 1980s has been to ensure social peace in a country where industrial relations are fragile and strikes and conflicts quite frequent (D'Costa, 2011). The generous use of bonuses and different allowances negotiated with the union and the steady increase in real wages, which are among the highest in India in all industrial sectors combined (Ratnam, 2006) have enabled Maruti-Suzuki to resist attempts to set up unions in its factories linked to the country's main political parties, the choice having been to favour a cooperative relationship with an independent company union (Sen, 2011, p. 446). However, the liberalisation of the internal market in 1993 and the gradual increase in competition in the following period led to a series of tensions surrounding the intensification of work rates, the redistribution of productivity gains, the increasing use of contract workers and the early retirement system introduced by the group from 1997 onwards (D'Costa, 2011). If, during the 2000s, social peace seems to have returned in a context of very strong production growth, while the main competitors were experiencing numerous conflicts in this period, a new major crisis erupted in 2011 in the group's second factory, created in 2007 in Manesar (20 kilometres further south of the first factory located in Gurgaon, near Delhi).

The main demand this time concerned the creation of a second independent trade union. The employees complained about the wage gaps compared to the employees of the first factory, and about very intense work pace. They also denounced the status of contract workers, trainees and apprentices, whose share in the factory's total employment has not stopped growing and now exceeded 60 per cent: while their work was identical to that of permanent employees, they received only between a quarter and half of the salary (Nowak, 2014). Finally, the conflict ended in a tragic way, with the death of the local human resources manager and fifty other management representatives injured during a riot in the factory in July 2012. As a result of these events, for which management and trade unions are blaming each other, 2,300 employees were dismissed (1,800 contract workers and 500 permanent staff) and 148 workers were arrested for murder (Nowak, 2014, p. 580). In order to overcome this major crisis, management announced after the plant's closure and restart in August that it would stop using contract workers from March 2013 and that existing contract workers would become permanent from September 2012 (Prasad, 2012).

One of the main causes of the conflict was the willingness of the Japanese headquarters to take over the management of the group following its privatisation in 2003, compared to the greater autonomy enjoyed by Indian HRM in the previous period, under State control (Bhargava, 2010; Khattar, 2014). It is interesting to note in this perspective that the Manesar plant, which had only started production in 2008, was considered a model plant for the introduction in India of "global" standards developed by Suzuki in Japan (Prasad, 2012). Thus, as in the case of Dacia-Renault, we find here the same difficulties in institutionalizing a decentralization of employment relations that would be consistent with the establishment of a local corporate governance compromise in emerging countries. Clearly, one of the

stakes of the Manesar conflict, but more generally of the many conflicts that have shaken the Indian automobile industry since the early 2000s, is the structuring of a collective bargaining system that would allow employees, their unions but also local management to truly "indianize" the employment relationship in the same way that companies like Renault and Maruti-Suzuki have succeeded in "indianizing" their product policies and their productive organizations. This is also undoubtedly one of the conditions for the viability of innovative productive models associated with the multi-domestic and decentralized strategy of internationalization.

With regard to GM-Daewoo, the other example of a multi-domestic strategy that we have analysed in this article, the literature available in English provides very little information on the evolution of the employment relationship after the acquisition of the Korean subsidiary by General Motors, again in a rather tense national context marked by several major conflicts (Cho, 2006). The examples of the Brazilian subsidiaries of Fiat, Ford and General Motors, which are well documented in the literature, seem in any case to confirm the positive dynamics in terms of employment and work associated with multi-domestic forms of R&D and production organization. In particular, there is extensive and active social dialogue, significant collective bargaining, employment conditions and wage levels that are generally better than the average of the other Brazilian subsidiaries (Obaya, 2014).

As an emerging strategy, certain characteristics of the multi-domestic approach are also found among local manufacturers in emerging countries, particularly those that do not rely on global supply chains and the imitation of foreign models to build their offer. This is the case, for example, of another Indian manufacturer, Tata, and its emblematic model, the Nano (Becker-Ritterspach, 2010; Bruche, 2010). This is also the case for producers of low-speed vehicles in China (Li, 2015), as well as manufacturers such as BYD and Geely who are developing a low-cost electric offer (Balcet et al., 2012). Here too, the dynamics of economic and social upgrading seem important (Jürgens and Krzywdzinski, 2016; Lüthje and Tian, 2015), even compared to the high standards imported by the subsidiaries of large globalised groups.

The advantage of having such a strategy developed by local manufacturers is also that the profits generated are invested locally to build for instance export capacity or extend in-house R&D capabilities while this is not often the case for transnational companies. In the case of Brazil for example, where there are no local carmakers or first tier suppliers, between 2005 and 2014 around \$30 billions of profits generated by transnational subsidiaries in the automotive sector have been either remitted to mother-companies or gave to stock-holders as dividends (Serfati and Sauviat 2018). Since the in-flow of FDI during the same period amounted to around \$13 billions, the result was a loss of \$17 billions of investments in the local economy that could have fostered functional and social upgrading.

## Conclusion

In this article we have sought to characterise the internationalisation strategies of the main world car manufacturers over the period 2000-2014 in relation to the GSC structuring process and the associated upgrading dynamics. We have shown that far from approaching emerging markets in the same way, carmakers have developed different strategies that we have analysed on the basis of the opposition between the global and centralised strategy model implemented by dominant manufacturers such as Volkswagen and Toyota, and the multi-domestic and decentralised strategy model embodied by manufacturers such as Renault, General Motors and Suzuki-Maruti.

With regard to the global and centralised strategy of internalisation, although it remains dominant today both in terms of volume of production and cultural hegemony, we have highlighted a number of tensions and limitations that characterise it. The tensions mainly concern the coherence of a “transplant logic” at the level of productive organization - the factories must conform everywhere to the same industrial standards - with the objective of local low-cost optimization. We have shown that this creates several difficulties. First, the modern nature of these plants, and their high capital intensity, generates extra-costs and over quality in relation to market needs, and consequently leads to additional pressure on purchasing and labour costs through GSCs. These modern factories also determine very specific training needs to ensure the implementation of world production standards and the maintenance of sophisticated machines and robots; often supported by local governments, these ad hoc trainings do not lead to strong individual and collective learning since the objective is to correctly execute standards designed and stabilized elsewhere by central engineering departments. These difficulties, as well as the high capital intensity of these production sites, imply a very high use of expatriates which is costly and problematic in the long term. They also exert a very strong pressure on labour costs which translates into polarisation and segmentation of employment along the supply chain.

The limits of this strategy lie mainly at the product policy level, since it is shaped by the constraints imposed by global platforms designed for mature markets and driven by centralized engineering, far from emerging markets. While the modularisation of these platforms provides scope for adapting products to emerging markets, the modules remain fundamentally global because they must be part of a product architecture where constraints are defined on the basis of the most demanding markets in terms of quality.

For the same reasons, innovation here can only be progressive and cumulative, according to a trickle down logic that goes from high-end to low-end products, from mature markets to emerging markets, even when emerging market configurations would require a trickle up approach (creation of new markets by low-cost products, leap-frogging towards new powertrain technologies, etc.).

The multi-domestic internationalization strategy, as we define it, is, by contrast, emergent. The companies which implement it use it either because they do not have the means to do otherwise - for example in the case of the use of the Korean manufacturer Daewoo by GM in order to compensate in urgency for the lack of models adapted for the Chinese market - or because they are initially marginal projects, far from the focus of the centre and less subject to its control - as in the case of Dacia within Renault, and of the alliance with Maruti within Suzuki. However, the advantages of this strategy for market development in emerging countries are obvious: design and development of models dedicated to these markets, and therefore better adapted to their revenue levels and specific mobility needs; reverse innovation to start from emerging markets to design, develop and launch the diffusion of new



technological solutions; development of local skills both in R&D, with the creation of R&D centres in charge of designing models and of their first industrialisations, and in production, taking into account the specificity of each plant (local optimisation takes precedence over global optimisation); integration of local equipment manufacturers, including first-tier ones, into processes of reverse innovation (functional upgrading); creation of a more balanced power relation between management and labour leading either to major improvements in employment conditions (the example of Dacia in Romania, or of the Brazilian subsidiaries of several global manufacturers), or, on an ad hoc basis, to large-scale social conflicts (the example of Maruti-Suzuki in India) likely to lead to institutional changes.

The tensions surrounding this emerging strategy are largely due to its fragile and ambiguous status within the transnational companies concerned. Even when it is very successful, as in the three cases considered, it does not become a model and continues to be subordinated to centralizing organizational logic. Thus, in the case of Dacia, instead of strengthening Dacia's development in Romania, the central management decided to organise the production of the Entry range according to the same logic at work for the conventional range - the optimisation of costs through the competition of spaces - with the creation of a production site in a country, Morocco, with even lower labour costs than Romania. Renault's business engineering teams also want to "standardize" the exceptional status of the Entry range in the form of global rules and standards as for the classic range. At Maruti-Suzuki, it was also the desire for "normalization" driven by Suzuki's Japanese headquarters after the privatization of the joint venture that triggered the disastrous Manesar conflict. There is therefore no questioning of the centralising and global model, even though the difficulties encountered by some of these companies in their traditional range could and should have encouraged them to move in this direction.

Perhaps it will be under the pressure from local companies capable of seeking "the gold at the base of the pyramid" through their own frugal innovations and becoming "rising power firms" (Nadvi 2014)<sup>5</sup> that this bottom-up model of product innovation will be able to impose itself, including to the MNEs that already embody it but do not use all the resources available to develop it into a coherent productive model. As for the strategies that emerging countries can implement to strengthen the economic upgrading of their industrial fabric, the rapid growth of their economies encourages them to rely on this bottom-up model of regional integration into GSCs which allows domestic companies to take advantage of their knowledge of local markets to obtain advantages over MNEs. This involves regulations that promote product downscaling to increase the market size and technological leapfrogging, as we are seeing today, for example, with the electric vehicles in China, or the passenger cars of less than four metres in India. However, the translation of economic upgrading that can result from such strategies into social upgrading is far from automatic. While the multi-domestic and decentralised model of MNEs internalisation produces some of the conditions for social upgrading, this remains dependent on the committed action of local workers and trade unions, often at the cost of difficult and sometimes violent struggles (Sinkovics et al., 2014). At the light of our analysis the multi-domestic model appears in any case as a much more promising configuration to renew the positive synergies between economic growth and social progress that were formerly associated with Fordism and corporatism than the extension of private standards of MNEs driven by global centralized corporate strategies.

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<sup>5</sup> According to Nadvi (2014) "rising power firms" in emerging countries can be defined by six features: rapid and sustained economic growth; increasing participation in international trade with hegemony in some sectors; important economic scale linked to growing domestic markets; a strong presence of the state; promoted by local capital (both private and public) with a growing international presence; and a strengthening presence of civil society (see also on this Lee and Gereffi 2014).

This result highlights the interest of complementing the GSC approach with industrial economic approaches in order to characterize in more analytical terms the actual and potential linkages between different forms of economic upgrading promoted by MNEs' strategies and social upgrading in emerging countries. The use in particular of the productive model approach has allowed to show that the structuring of GSCs does not lead to a homogenization of international sectoral dynamics in which global corporate strategies, on the one hand, and international social standards (incorporated in CSR), on the other, would be the ultimate drivers in the shaping of future employment relations in the automotive sector. Quite the contrary, we have characterised in analytical terms a rather heterogeneous landscape, where differences between internationalization strategies and productive models of global carmakers open up new perspectives for linking economic, functional and social upgrading in emerging countries. This also points to the importance for these countries of coordinating market, industrial and social policies in order to orient MNEs strategies, rather than letting these companies setting the rules of the game.

Finally, in this article we have almost exclusively focused on the main global carmakers, not only because they remain the main system integrators of GSCs in the automotive sector, but also because in the industrial economic literature very little has been written on first-tier mega suppliers that concentrate however a substantial amount of engineering capabilities, employment and power in automotive GSCs. There is therefore a clear need to extend the analysis to better characterize the role of mega automotive suppliers in the structuring of GSCs and this could be also the opportunity of further developing the dialogue between GSC and industrial economics approaches.

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