

The future of work in the automotive sector

The challenges of deglobalization

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Summary

This summary report on the future of work in the automotive sector focuses on the major changes facing the sector. These include: the rise of emerging economies, new mobilities, the “greening” of the product, and the digitalization of production. This is in order to identify the main challenges for employment and industrial relations and to assess the institutional and organizational solutions adopted by the various stakeholders to confront these developments. The aim is twofold – i) to develop robust scenarios on the basis of current trends; ii) to identify levers of action for embarking upon alternative paths – whenever desirable and feasible – to help create jobs, improve their quality and foster social dialogue.

Two major approaches were adopted to conduct this research agenda:

- an analysis of the structuring/restructuring processes at work in the major regional and national automotive plants (I);
- an analysis of the strategies and productive models adopted by the major automotive companies in the light of these developments (II).

1. The processes of structuring new automotive industries and restructuring mature ones: an approach by the automotive regions of production

Our first area of research consisted of evaluating the impact on working conditions and employment. These were brought about not only by the accelerated structuration processes of new automotive industries in the emerging economies, but also by the restructuring processes of mature automotive industries in developed countries. It was particularly relevant to assess whether the high quality level generally associated with jobs in this sector could be maintained in high wages countries, despite the widespread restructuring that is currently underway. Also, whether this quality could be reproduced in the emerging economies – in light of the dominant position of foreign investors. In other words, are we dealing with “High Road” dynamics – i.e. those geared towards improving the quality of jobs and work with a view to increasing non-cost

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competitiveness – or with “Low Road” dynamics, where priority is given to optimizing cost competitiveness to the detriment of the quality of employment and work?

We first turned our attention to the structuring processes of new inward-looking automotive industries – those fuelled by the growth in their domestic market. The focus here was on China, the world’s largest market, and India, the world’s sixth largest market and the one with the greatest growth potential. We initially assumed that this type of inward-looking development might give rise to a Neo-Fordist setup. Here, the growth of demand, production and wages would reinforce each other, resulting in more coordinated forms of collective bargaining and improved employment and working conditions. This was in accordance with the model followed by the Western automotive industries during the thirty “golden years” of continuous growth after the Second World War (Aglietta, 1976; Boyer and Freyssenet, 2000). On the contrary, we found that the trajectories of the Chinese and Indian automotive industries had increasingly started to distance themselves from the Fordist model from 1990 and 2000 onwards, with a marked liberalization of the sector (opening up to foreign direct investment (FDI), increased competition, deregulation of the labour market, etc.).

In the case of China, we highlighted a two-fold anti-Fordist dynamic. First, at the market level, the accelerated growth of the 2000s was not driven by the demand from the middle-classes but rather by the “premium” demand of the urban elites. These were the main beneficiaries of the country’s boom in industrial exports and of the massive investment policies in infrastructure and industrial production. Second, precisely on account of this relatively atypical market configuration for an emerging economy, the structuring process of the Chinese automotive industry was placed under the control of multinational foreign manufacturers. It was carried out in accordance with the global standards of their advanced production systems. This structuring process involves very high capital intensity in the final stages of manufacturing and assembly, of which the costs are amortized by a flexible use of the labour force and a considerable amount of subcontracting. Amongst the consequences of this development, we have highlighted the polarization and the increasing segmentation of the labour force (Lüthje, Luo and Tian, 2015). At the top of the subcontracting pyramid, in the assembly plants, there is a core of urban wage earners who benefit from good working and employment conditions, and this may be associated with the model of High Road development (Jürgens and Krzywdzinski, 2016), without being in any way Fordist. Indeed, one of the main challenges for the manufacturers and first-tier component suppliers is to train and retain a skilled core workforce to keep the high capital intensity side of the production apparatus going. However, alongside this highly qualified core of workers, there is an increasing number of migrant and precarious workers even in the carmakers’ assembly plants (Cho, 2006), while the rest of the value chain is characterized by poor and worsening working and employment conditions, which corresponds to the Low Road model of development. This two-fold Anti-Fordist dynamic recently led to a series of wildcat strikes that particularly affected the second-tier and third-tier component suppliers (Lyddon et al., 2015). More importantly, it is in opposition to the increasing need to rebalance the Chinese growth model of exports and investment towards one more geared to domestic demand (Smitka, 2016).

In the case of India, domestic sales have not developed upmarket as in China, but have downscaled to enable the Indian middle classes to buy a car. This was made possible thanks to the joint venture between Maruti and Suzuki, promoted by the State, to

guarantee the production of reasonably-priced cars under 5,000 dollars. Until the end of the 1990s, Maruti-Suzuki enjoyed a quasi-monopoly on the domestic market and, during this period, implemented a strategy that might be described as Fordist. This meant that output rather than margins was prioritized; there was a high level of vertical integration; paternalistic management of the workforce, with a policy of high wages (Becker-Ritterspach, 2009; D’Costa, 2009 and 2011). Nevertheless, the transition towards more liberal policies in all areas of the economy at the beginning of the 2000s (Srivastava, 2012) curtailed this type of development. As in China, the massive influx of foreign investors intensified competition and inevitably led to an increased pressure on costs. This situation and takeover of Maruti-Suzuki by the Japanese partner, following a change in the political majority, marked an Anti-Fordist turning point. Instead of a decline in informal sector employment, as had occurred during the previous decade alongside the growth in industrial production, the opposite occurred. The “informalization” of employment, including in the organized sector of automotive manufacturing, went hand in hand with a strong intensification of work at constant wages (D’Costa, 2011; Majumdar and Bhattacharjee, 2013). As in China, the proliferation of wildcat strikes bears witness to the socially unsustainable nature of this type of development, leading in a number of cases to deadlock. Contrary to the situation in China, however, we found that increasingly organized and institutionalized alliances were being formed between permanent and contractual workers in India, with an emerging militant political agenda likely to assume national proportions – also bearing in mind the presence of strong national trade unions (Novak, 2014). In terms of scenarios, this led us to envisage that a rebalancing of employment relations benefiting wage earners and trade unions was, in the medium term, more likely to occur in India than in China. In the case of China, we considered that the Central Government’s capacity to impose both the democratization of the market to enable the middle classes to own a car, and the pacification of industrial relations to prevent the proliferation of disputes, will play a decisive role in the future of labour in this sector.

Unlike China and India, we did not expect to find neo-Fordist configurations in Mexico and the Central and Eastern European (CEE) countries. What we expected were development patterns in line with the notions of “Peripheral Fordism” (Lipietz, 1998) or “dependent market economy” (Nölke and Vliegthart, 2009). These were countries in which the structuring of new national automotive industries in the 2000s and 2010s had been almost exclusively driven by the growth of exports towards high-wage countries (“Peripheral Fordism”), and in which the dependency on FDI had resulted, in varying degrees, to the interests of wage earners being subordinated to those of foreign investors (“dependent market economy”).

For Mexico, we found that the relative good employment and working conditions, during the import substitution stage of the 1970s and the beginning of the 1980s considerably worsened after the creation of the export driven *maquiladora* sector, which spread throughout the industry in the 2000s and 2010s (Bensusán and Bayón, 1998; Carrillo, 2000). As in the cases of China and India, the massive influx of foreign investors during this period, particularly following the signing of the North American Free Trade Agreement (NAFTA) in 1994, was accompanied by a very strong upgrading of production structures to guarantee the manufacturing of compact cars and pick-ups for the American market. Despite this trend, even the permanent staff in the assembly plants was affected by restructuring. At best, real wages stagnated here whilst the workload increased. Elsewhere in the value chain and in the assembly plants of new

investors, real wages declined and the worsening of working conditions was more marked. The polarization of employment was felt as keenly between permanent and contractual staff as between older employees and new recruits - the latter being confronted by conditions of access to employment that were increasingly discriminatory, particularly in the newer plants (lower wages, precarious jobs, flexible work schedules, high production rates) (Bensusán, 2016; Carrillo, 2013; Carrillo and Benusan, 2015; Carrillo and Contreras, 2012).

In the CEEs, we found that the underlying trend was basically the same but tempered by the repercussions of European integration on the employment market. On one hand, the new Member States are bound to respect a number of fundamental rules concerning workers' rights – for example, with respect to working time, occupational safety and health protection and social dialogue. On the other hand, the integration in the Single Market enables skilled workers from these countries to migrate to high-wage countries in pursuit of jobs, which are better paid than those offered by foreign investors. In a context of strong industrial production growth, particularly in the automotive sector, the phenomenon of migration results in a scarcity of skilled workers, which explains to a great extent the relatively high wage growth in this sector in the 2000s (Jürgens and Krzywdzinski, 2009; Meardi, 2007; Scepanovic, 2012). However, even during this period, the automobile plants established in the CEEs were in fact testing grounds for new European ultra-flexible labour relations, characterized by very low job protection and extreme labour flexibility (Jürgens and Krzywdzinski, 2009; Mikulikova, 2002; Scepanovic, 2012; Sperling, 2004). Furthermore, foreign employers rapidly adjusted their recruitment strategies to handle this lack of skilled manpower and counter wage inflation by importing foreign workers through employment agencies. Since the 2008-09 crisis, real wages have tended to stagnate in a context in which the competition of European production sites for the allocation of investments and production has stiffened. This has been driven by two factors. One, “competitiveness agreements” in Western European countries, which have allowed employers in these countries to considerably reduce labour costs in exchange for new investments. Two, new FDI in the Balkans and the Maghreb, which have made it possible to widen the scope of European competitiveness to production areas where wages are even lower than in the CEEs.

One of the paradoxical results of this export-driven restructuring process of the automotive industry, both in Mexico and the CEEs, is the disconnect between these new industries, whose products are aimed at foreign high-wage markets, and their domestic markets, despite the considerable potential of growth in the two cases. In the CEEs, this outcome is even more paradoxical given that access to high-growth markets was one of the main justifications for integrating these countries into the European Union and for the first wave of FDI in the sector. It was initially predicted that four million new cars would be sold by 2020 in the CEEs, but the figure is likely to be four times less. This is largely the result of the massive import of second-hand cars imposed on these countries in the name of the freedom movement of goods within the Single Market (Pardi, 2015). In Mexico, after NAFTA came into effect, the number of second-hand cars imported from the United States increased considerably, although recently the Government has indicated that it is determined to limit their volume. This implies that in both cases, the development of these new automotive industries has not contributed to local market growth, and only occurs to the detriment of the automotive industries already implanted in the United States, Canada and Western Europe.

In the mature economies, restructuring processes are, indeed, to a very great extent, the consequence of the relocation of automobile production to the CEEs, in the case of Western European countries, and to Mexico, in the case of the United States and Canada, respectively. Although the extent and nature of these two restructuring processes differed in the 2000s, with a much higher number of jobs lost in the United States, we have shown that they tended to converge during the subsequent period. Among the aspects they share, we highlighted: the assessment of the crisis in terms of overcapacity; a shift of the barycentre of automotive production towards the South, in the United States, and towards the East, in Europe; and a downward adjustment of labour relations (large-scale destruction of jobs, reduction or stagnation of real wages, two-tier pay systems or new fixed-term contracts that particularly discriminate against new entrants, increased labour flexibility at constant wages).

Although, in both cases, the crisis opened a window of opportunity to change the dynamics of the restructuring on the basis of “new deals” that were both ecological (rapid transition to popular-selling clean cars) and social (retaining a strategic industry that provided quality high-wage jobs) (Helper, Krueger and Wial, 2012), this was not exploited. In the United States, no attempt was made to loosen the financial world’s grip on the governance of the sector, which led to the re-establishment of the status quo with foundations that were even shakier than those of the previous period (interest rates at 0 per cent, sharp decline in real wages, subsequent extension of consumer credit to uphold demand) (Dziczek, 2016; Jetin, 2015; Lazonick, 2014; Lazonick and Hopkins, 2015). In Europe, as a result of the success of German and British “premium” brands for export, particularly towards China, upmarket positioning became the cornerstone of EU industrial policy for the automotive industry, while the generalist carmakers, in crisis, requested the European Commission for the right to restructure on a massive scale to re-establish their profitability by lowering their break-even point (Julien, Pardi and Ramirez, 2014)².

It is still possible, though, that this window of opportunity might present itself once again in the medium term. In Europe, the Volkswagen emissions scandal (“dieselgate”), which erupted in 2016, had two important repercussions from this standpoint. First, it brought the issue of the greening of the automobile fleet – today very polluting because of the emissions of fine particulates caused by the increase in diesel-engine vehicles during the past twenty years - once again to the forefront of the discussion on the “new mobilities”. Second, it implied a considerable tightening of anti-pollution constraints for car manufacturers, with a new certification test for cars, more in line with their actual usage, to become effective in 2017. In this context, there is the renewed possibility that the “green” policy at present applied, which is extremely lenient with respect to premium brands and the tendency to go upmarket, might be transformed into a policy that is socially and ecologically much more geared to the actual greening of the car fleet. It could also encourage, to a very great extent, the development of new uses for the automobile (i.e. carsharing and carpooling), which are today extremely restricted by the hold that the traditional model of private ownership of automobiles has

² Fiat, PSA and Opel asked the European Automobile Manufacturers’ Association to intercede on their behalf with the European Commission to negotiate a plan to reduce production capacities on the basis of the scheme adopted for the steel industry. However, this initiative failed following opposition from the German manufacturers.

on the market (Jullien and Rivollet, 2016). Finally, a policy of this nature could make it possible to regulate the import of used cars in the CEEs and finally pave the way for these forgotten emerging markets. Although this scenario looks much less likely today in the United States and Mexico, it might come about in the long term. Especially, if the preservation of status quo in the United States, in the form of a highly unequal distribution of national income, would feed into a new speculative bubble around household credit, and lead to a new wide-sweeping economic and financial crisis.

II. Transformation of the strategies of major car manufacturers: a productive models approach

Our second area of research focused on the transformation of companies' productive models. We concentrated on the sixteen major world manufacturers, accounting for 95 and 88 per cent of the world production of private cars in 2000 and 2014, respectively. Following on from our first approach, we were interested in analysing the way in which these large multinational companies had structured new industries in the emerging countries, by setting up production subsidiaries and R&D centres, and restructuring their domestic bases.

In order to analyse these transformations in a systematic manner, we drew a distinction between two ideal-typical strategies, against which we subsequently measured the major world companies for comparative purposes. The first strategy may be defined as dominant or imperialist. It is associated with the centralized, global model, as in the case of manufacturers such as Volkswagen and Toyota today (or more recently Hyundai). The second strategy is new and emerging, and is exemplified in companies that are becoming "polycentric" or "multi-domestic", such as General Motors (GM), Renault, Suzuki-Maruti and Fiat, or in a number of mega-suppliers such as Valeo, which already have these characteristics. We considered that these two strategies were the poles of a continuum of possible positions they might adopt, with a view to comparing the major challenges, alternatives and trade-offs inherent in this new stage in the internationalization of the automotive industry. The aim of this analysis was to try to understand how these trade-offs affect the development of labour and employment in these enterprises, and more widely in the production areas concerned.

As we proceeded with our research, we were able to show that although the global and centralized model of internationalization still prevails today, both in terms of volume of production and cultural hegemony, it nevertheless shows signs of strain and has considerable limitations. The strains are mostly evident in the attempt to forge a consistent approach towards "transplants" at the production level – the factories must comply everywhere with the same industrial standards – with the aim of optimizing local costs. We found that a number of difficulties arise from these discrepancies:

- the modern nature of these factories, and their high capital intensity, generate additional costs and a quality of production that exceeds market needs, thus bringing additional pressure to bear on costs through the global value chains (Jürgens and Krzywdzinski, 2016);
- the adoption of advanced lean manufacturing methods gives rise to needs for considerable and costly flexibility, which do not always correspond to the dynamics of these markets – as may be evidenced by the paradoxical situation in which, in a period of high growth, there is massive recourse to contractual

labour to take on board this flexibility and absorb its high costs; a situation that is in itself a source of tension and provokes local industrial relations disputes (Lüthje and Tian, 2015);

- These modern factories also require very specific training needs to guarantee the implementation of world production standards, and the maintenance of sophisticated machinery and robots. This ad hoc training is often financed by local governments, but it does not result in individual and/or collective apprenticeships that can be widely applied as it is geared towards implementing standards that are drawn up and stabilized by the central corporate engineering departments;
- all these difficulties imply that there is considerable recourse to expatriate staff, which is also costly and problematic in the long term (Adick et al., 2014);
- these same observations apply to the suppliers, who are mostly global because they also have to comply with world standards to obtain supply contracts; consequently, they also have to confront the same problems of integration in the local context;
- the pressure on labour costs gives rise to a very high segmentation of employment – on one hand, between the protected cores of permanent wage earners required to maintain the quality and efficiency of production and the mass of contractual workers that provide low-cost flexibility; and between, on the other hand, those working in the global manufacturing factories and world suppliers and those involved in second-, third- and fourth-tier subcontracting, where capital intensity is much less or even non-existent, but the pressures on the costs of employment and work are very high and increasing.

The limitations of this strategy are particularly apparent at the level of the product policy, but also concern the international productive model as a whole:

- At the product policy level, we insisted that it was curbed by the constraints imposed by global platforms designed for mature markets and guided by centralized engineering organizations, far from the emerging markets. Although the modularization of these platforms allows for a certain leeway to adapt the products to emerging markets, the modules remain fundamentally global. This is because they have to comply with product's specifications that are defined on the basis of markets that are the most demanding in terms of quality;
- For the same reasons, innovation can only be gradual and cumulative, according to a “trickle-down” model of diffusion from upmarket products towards the low-range level, and from mature markets towards emerging markets, including when the structure of emerging markets would rather require a “trickle-up” effect (creation of new markets for low-cost products, and leapfrogging towards new engine technologies) (Christensen, 2013; Midler, Julien and Lung, 2017).

By contrast, the multi-domestic internationalization strategy, as we define it, is only just emerging. The enterprises that implement it either adopt it because they do not have the means to do otherwise: the case of GM using the Korean manufacturer Daewoo in order to make up urgently for the lack of models adapted to the Chinese market (Dunne, 2011)); or because they are taking on projects of marginal importance, far from the centre of decision-making and less subject to its control – such as in the case of Dacia within Renault (Jullien, Lung and Midler, 2012) and of the alliance with Maruti within

Suzuki (Becker-Ritterspach, 2009; Khattar, 2014). The advantages on this strategy for the development of emerging markets are nonetheless striking:

- models are designed and developed specifically for these markets, thereby ensuring that they are better adapted to their levels of income and specific mobility requirements;
- the innovation process is reversed: it starts from the needs and features of emerging markets to design, develop and launch new technological solutions (Radjou, Prabhu and Ahuja, 2012);
- local skills are significantly developed: i) in the areas of R&D, with the setting up of R&D centres entrusted with the design of new models and their first industrialization, ii) in the area of production, taking into account the specific characteristics of each factory (local optimization takes precedence over global optimization);
- local suppliers are integrated into the process of reverse innovation (widespread upgrading) (Midler, Jullien and Lung, 2017);
- a more balanced power relationship is established between management and the workforce – this results in either marked improvements in employment conditions (the Romanian example of Dacia, or the Brazilian branches of several world manufacturers), or, on an ad hoc basis, in large-scale social disputes (the example of Maruti-Suzuki in India), likely to lead to significant institutional changes (Delteil and Dieuaide, 2008; Nowak, 2014).

The tensions inherent in this emerging strategy may be attributed to a great extent to its fragile and ambiguous status within the enterprises concerned. Even when it is highly successful, as in the three cases mentioned above, it does not become a model and continues to be subject to centralized and global organizational planning. For instance, in the case of Dacia, the central management did not opt to consolidate the development of Dacia in Romania. Rather, it organized the production of the ‘Entry range’, according to the same model as that of the conventional range – optimizing costs by opening production areas to competition. It consequently created a production site in Morocco, which was even lower-cost than Romania. The central engineering department in Renault is also trying to “standardize” the exceptional status of the Entry range, subjecting it to global regulations and standards, as it does for the classic range (Midler, Jullien and Lung, 2017). At Maruti-Suzuki, it was also the decision of Suzuki’s Japanese headquarters to “standardize” operations after the privatization of the joint venture, which triggered the disastrous labour dispute in the second factory in Manesar (Becker-Ritterspach, 2009; Sen, 2011). There does not, therefore, seem to be any questioning of the centralized and global model, despite the fact that the difficulties encountered by some of these enterprises with their classic range (Renault, GM, Fiat) might have, and should have, encouraged them to think along these lines.

The success that these global strategies continue to have on the major world markets most likely has a role to play in the world manufacturers’ decision to retain this well-established model of organization. Clearly, the crises experienced by these enterprises have not been serious enough to make them rethink the model in place based on lean principles and cost optimization, which were already the main response to the crises of the 1980s and 1990s. The issue is then to understand under what conditions a “political coalition” (March, 1962), which would be in favour of extending the model of

decentralized and multidomestic organizations, might spring up within these enterprises.

Two prerequisites seem to us necessary to envisage such a scenario: a development in the growth of emerging (and mature) markets favourable to the expansion of this strategy; and the construction of a coherent productive model in order to implement such a strategy.

With respect to the first prerequisite, our first area of research on the major world markets helped us identify a number of scenarios that might result in such an outcome. Developments in the Chinese market will clearly play a key role at this level, given its weight (25 per cent of world sales). Very open until now to global centralized strategies, embodied by conventional and expensive world cars, it might completely change course – especially given the gradual decline of the urban demand of the wealthy classes (Smitka, 2016). A shift in market growth towards the less wealthy urban classes and rural households would transform the competition policy system and encourage downscaling in products and organizations. This would also feed into approaches of reverse and frugal innovation associated with the multi-domestic strategy. This is the scenario that is unfolding at present in India. If the Indian market growth were to continue at a sustained pace, the weight of this very “specific” market might consolidate the role of multi-domestic strategies within enterprises that have already embarked upon this course. This would encourage other firms to adopt a similar approach. With respect to markets of the CEEs, for whom a product like the Logan was designed, we have shown that their growth has been stifled by European integration and the deregulation of second-hand car imports. There should, in this case, be a change of direction in European policy with respect to transport and the reduction of CO₂ emissions to enable these markets to finally take off. This would involve changing from the objective of greening the product - this tends to make the market structure more high-end by introducing solutions that are technologically advanced but initially very expensive - towards an objective of greening the automobile fleets, which would bring about a downscaling in the market towards clean and reasonably priced cars.

Finally, we should not forget that Renault-Dacia’s Entry range was an unexpected success in mature markets. This may be attributed to the fact that buyers, who would normally have bought a second-hand car, preferred to buy a car that was less sophisticated in terms of design and equipment, but more efficient in terms of user costs. It is important to recall that in the case of working-class and middle-class households, many of whom live in peri-urban and rural areas, the heavy use of old cars involves high user costs (fuel, maintenance, repairs and insurance). Buying a new car allows them to cut considerably these costs, provided that the purchase price is within the budget of these households (Jullien and Pardi, 2011). Reverse innovations associated with the creation of new mass markets in emerging countries might contribute towards the rediscovery of “forgotten” markets in mature countries, provided that these new R&D forms of organization are disseminated among the central organizations. This development would be all the more welcome given that the tightening of regulations on CO₂ emissions and fine particulates might go so far as to ban traffic in urban centres, or introduce fiscal penalties for owners of older vehicles. This would discriminate against the working classes who are the most dependent on their cars for mobility and access to employment (Demoli, 2015). Furthermore, the forthcoming introduction of new regulations following the repercussions of

Volkswagen's "dieselgate" will require manufacturers to step up considerably, in terms of their reduction of polluting emissions. This might persuade them to rethink their product in terms of what is "just necessary", so that they reduce the weight, mass and performance of cars offered on the market.

The second prerequisite implies the introduction of a productive model that corresponds to the needs of this strategy of internationalization. This is already in place in areas where multi-domestic strategies have been successfully deployed. The challenge lies in building up a "political coalition", which would agree to retain this emerging productive model in the face of "standardization" threats emanating from the "centre". Additionally, to impose it on the groups concerned as an alternative to the global centralized model that continues to dominate them. In contrast to the initial scepticism about the Logan's "success" that was encountered in the 2000s, the literature in management and organizational science has since acknowledged the importance of this new model of innovation within and beyond the confines of the automotive industry. The well recognized concepts of reverse and frugal innovation, as well as *jugaad* (Radjou, Prabhu and Ahuja, 2012) bear witness to the change in the status of this type of "low-end" strategy. A number of major consultancy firms also consider that the future of the automotive industry will be characterized by a much wider dissemination of "low-end" strategies (Kalmbach et al., 2001, p. 25). Henceforth, it is possible to envisage that, in a favourable market context (first prerequisite), multi-domestic strategies will be expanded and consolidated. This will, in turn, give rise to a coherent productive model that will be entirely devoted to this strategy, including with respect to employment relations.

Of course, this does not mean that all world manufacturers are going to switch over to this new model. There will rather be a shift along a continuum of possible configurations between the ideal-typical pole of the pure global and centralized strategy, and that of the multi-domestic and decentralized strategy. Such a scenario would make it possible to view the future of work and employment in the automotive sector in a new light. The tenets of deglobalization (diversity of products, local optimizations as a result of reverse innovations, localized R&D and subcontracting, competition by downscaling that is propitious for sustainable market development) would foster more equitable power relations between capital and labour, both in the emerging economies and in mature countries. The upgrading of labour relations to the High Road approach would no longer depend upon the good will of the large groups who take decisions based on their specific and cyclical needs in accordance with a CSR (Corporate Social Responsibility) policy, as for example envisaged by Jürgens and Krzywdzinski (2016). It would rather imply that collective bargaining at branch level would return to the fore.

III. General conclusion

The analyses carried out by region (Europe and North America) and by country (China, India, Mexico, CEEs – in particular Poland and Romania, the EU 15 – in particular France, Germany, Italy, Spain and the United Kingdom – and the United States), which were developed in the summary report's first area of research, revealed that the processes of structuring new industries in the emerging countries and the restructuring processes in mature countries are, to a large extent, over-determined by global and

“globalizing” trends. These are associated with the extension of free-trade zones, the pivotal role of FDI in the dual process of structuring and restructuring that is in play in these countries, and the integration of these industries in global value chains. This goes hand in hand with the extension and standardization of global production platforms. Such an evolution, which is also accompanied by a strong “financialization” of the sector (Favereau, 2016), reinforces the domination of multinational enterprises – OEMs and first-tier suppliers – on national automotive markets and industries. As a result, the capacity of these companies to shape national employment relations to suit their interests is also reinforced. In most of the countries studied, this situation also results in an increasing lack of solidarity between the former “national champions” and their domestic bases, especially in the United States and Western Europe. In these countries, restructuring processes have taken on an unprecedented scale and significance, during the period under review.

Given that these processes are accompanied by increased competition in each of these markets, they inevitably tend to lead to deteriorating employment and working conditions. The underlying trends are towards greater job insecurity and increased labour flexibility, with constant or declining wages. These trends were apparent in all the countries reviewed, with the exception of Germany. But this development was far from being homogenous. In the emerging countries, the extension of global platforms prompted multinationals to opt for solutions that were closer to the High Road approach for their higher capital-intensive production sites. This was in order to establish, by means of ad hoc wage policies, a strong core of skilled workers (Jürgens and Krzywdzinski, 2016). However, the workers concerned by these positive developments usually only account for a minority of the employment in the sector. Moreover, at least in the case of Mexico and India, even these permanent workers are being affected by deteriorating employment and working conditions as regional integration continues to strengthen.

In the industrialized countries, particularly in North America and Europe, restructuring processes do not tend to undermine the job quality of the permanent workers employed, but the numbers of workers in this category are falling fast. The new recruits who replaced permanent workers during and after the 2008-09 crisis experienced a marked deterioration in their working and employment conditions. In addition, the introduction of new fixed-term contracts and two-tier pay system, resulted in wage cuts ranging from 20 to 50 per cent, and much more flexible work.

The major paradox of all this is that the anti-Fordism underlying these developments, and embraced by the main automotive companies, is admittedly a response, albeit in the short term, to the competitive constraints to which OEMs are subjected. But, it will have an adverse effect on the development of the automotive industry in the long term. It focuses on winning over the market of a minority of wealthy households, consisting of an older clientele that is highly solicited by other offers of transport and leisure – resulting in fiercer competition and spiralling costs (Jullien and Pardi, 2014). For the same reasons, this approach forces the sector to adopt an all-out strategy to cut costs. This limits its potential for innovation and its ability, *inter alia*, to take on the challenge of developing new affordable carbon-free vehicles. Finally, it causes a decline in employment and working conditions, which bring dissatisfaction, disputes and turnover in their wake, while the growing sophistication and complexity of production

increasingly requires the stronger voluntary involvement of a skilled and experienced workforce.

Taken as a whole, the contradictions and limitations inherent in the scenarios that sustain globalizing tendencies allowed us to envisage alternative scenarios that would move towards a deglobalization of the automotive industry and a renewal of the Fordist dynamics that traditionally shaped it. In the report's first area of research, we identified a number of preconditions for creating these scenarios. Ideally, this should make it possible to reconcile the companies' sales growth and world profits, with the prosperity of peoples and countries.

The main alternative scenario we identified hinges upon increasing political and regulatory constraints to force manufacturers to come up with new dedicated product policies for the emerging countries. A case in point is India, where the market is structured around fiscal policies that encourage the purchase of cars of less than four metres, affordable for the middle classes. These new "low cost" designs represent a downscaling of the product and are characteristic of "reverse" innovation (Midler, Jullien and Lung, 2017; Radjou, Prabhu and Ahuja, 2012). This responds in a frugal manner to the challenges, inter alia, of pollution, urban congestion and car ownership in rural areas. Making these vehicles available to the middle classes constitutes a vector of democratization and sustainable market growth, encouraging national governments and enterprises to promote more expansionary wage policies. These should enable permanent workers in industry and the services sector to own a car during their career in accordance with the Fordist doctrine during the "golden years" after the Second World War. Thereby, this would provide a macroeconomic foundation to the attempts to improve sectoral and local employment and working conditions. This would also consolidate the power of wage earners and trade unions in their relationship with the multinational enterprises, which would prompt the growth of new forms of collective bargaining at branch level. In the longer term, this trend is likely to give rise to a sectoral-based regulation of employment and working conditions, either as a result of disputes or coordination. This would curb polarization and job segmentation. From the manufacturers' standpoint, these developments would give a boost to those who have already embarked upon decentralized multi-domestic strategies, and provide the possibility for these strategies to become a model, which is likely to transform the governance and organization of enterprises in the sector.

In mature countries, we envisaged a variant of this alternative scenario. This could be prompted by the fact that there is a growing gap between the global and standardized car model that is being developed to target richer and older households, and the growing specific mobility needs of more modest households in urban, suburban and rural environments (Jullien and Pardi, 2011; Jullien and Rivollet, 2016). The present situation is characterized by a price increase in over-equipped models, which we have learned (after the scandal of rigged cars at Volkswagen) are not even compliant with ecological standards. They are also more cumbersome, heavy and powerful. This state of affairs prevents the development of models that would be more in line with people's needs and aspirations for new forms of transport. Today, in order to satisfy their mobility needs, working-class and middle-class households are forced into buying increasingly older second-hand cars, entailing high user costs (petrol consumption, insurance, maintenance and repairs) (Demoli, 2015; Julien and Pardi, 2014). Politicizing this issue might lead to a shift from the present sectoral policy concerned

with greening the supply of new cars – which we have clearly shown is ineffective – towards a policy of greening the car fleet as a whole. This would be much more ambitious, both from an ecological standpoint (reduction of CO₂ emissions and fine particulates) and from a social standpoint (larger and faster diffusion of clean affordable cars with low user costs). A policy of this nature would be perfectly in line with the rise in new car services such as car sharing and carpooling. It would also have a positive impact on employment and working conditions since it would give a boost to production by creating new markets and broadening its national and local integration.

This policy's impact would be even more positive if it were applied in neighbouring low-cost countries. In the case of the CEEs, this would be a natural outcome, given the structuring role of the European Commission in regulating pollutant emissions and transport within the Single Market. In Mexico, this would be more contingent upon civil society's aspirations and ability to mobilize, and upon the political elites (Covarrubias, 2015). In any event, placing the greening of the automobile fleet on the agenda – and more generally providing access to a green and modern form of transport – would allow domestic markets to take off, thus reducing these countries' dependency on FDI and the role of relocations in their own growth patterns.

There are many conditions that might allow the fulfilment of these scenarios. They might arise in part because of the above-mentioned crisis and weakening in the “globalizing” dynamics that currently prevail. They may also come about because of the spread of new aspirations, especially among the social groups and generations hitherto excluded from the present model of new car ownership. They might also arise with the establishment of large alliances that are focused on the issues of green transport and cheaper access to automobiles for working-class and middle-class households and of the quality of products and jobs in the sector. These alliances could include workers, trade unions, consumers, NGOs, and other stakeholders both in countries concerned by the deindustrialization of the automotive industry and those still excluded from access to green and safe cars.

Viewed in this light, the deglobalization that we are proposing does not imply any improbable return to forms of economic protectionism or nationalism. It would, quite simply, encourage more efficient market configurations that would respond to the societal challenges existing today. These include: ecological transition, the availability of green transport for the middle and lower classes, the maintaining and creation of quality jobs, and the improvement in working conditions. In other words, it would set out to ensure that markets would become (once again) drivers of progressive change in their capacity as political and social institutions. It would also lend support, alongside these developments, to those asserting their rights to better employment and work in the automotive sector. This would push manufacturers themselves, and the industrial ecosystems they promote, to become (once more) the agents of social progress.

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