Among multinationals, the automobile industry most strongly facilitates the movement of persons and goods. It can either improve or hinder mobility infrastructures like power, rail, and road transport. It is to a large extent an assembly industry: the parts have diverse origins and are combined in branched networks alongside supply chains. The main actors in these complex value chains are the final assemblers. The automobile industry depends upon “an industrial infrastructure for parts and components, skilled labor, and a sizable domestic market” (Shapiro, 1996: 28). Unlike other industries, however, it is both labor intensive and capital intensive. This makes large economies of scale essential. The barriers to entry for newcomers are high, because the industry requires large fixed investments, distribution and service networks (including importation, homologation, research, sales and marketing, warranty, after sales service, finance), and brand-name recognition (Volpato, 1989). Car markets themselves in each country have two peculiarities: the strength of the second-hand market, which influences strategies for car models; and the availability of financing for installment plans for both customers and dealers. These features have created an industry dominated by a small number of multinational corporations whose strategies are interdependent.

Auto multinationals are also political or semi-political organizations: they may create jobs, boost consumption, generate substantial income and financial flows, or potentially increase road accidents and damage natural resources (with hevea culture or oil extraction) and the environment at the national and global levels. They deal directly with governments before they enter, work in, or leave a country. Their executives exert political influence to obtain subsidies, reduce firms’ tax burdens, and shape public policy. Their political power is also evident in international trade agreements. Yet car manufacturers are forced to adjust to certain conditions regarding national production systems with specific rules for local investment and distribution. For instance, during the import-substitution industrialization regime in Mexico from the 1970s up to the 1980s, and after the economic opening of China in the 1980s, producers were obliged to comply with local production quotas (Gandlgruber et al., 2014). Automobile executives thus develop political capabilities akin to other multinational industries like oil.

Mainstream economics explain the birth and development of automobile multinationals through the advantages created by economies of scale and scope. They partly account for the differences in firms’ trajectories through political factors and see the main impact of their history as the flow of capital that each firm carries for the purpose of foreign direct investment (FDI). One early exception was the British economist George Maxcy (1981). On the other hand,
radical economics present multinational firms as tools to uniformize technology and consumption, exploit low wage populations, send profits outside the nations of production, and pollute massively (Hymer, 1979). Similarly, industrial sociology emphasizes the spread of an all-powerful Fordism that was replaced by an all-powerful Toyotism, from 1988 onward renamed lean production or often simply “lean.”

Business history’s narrative is different in many ways. Building on Mira Wilkins and Frank Hill’s pioneering work of 1964, it focuses on actors, networks, chains, on practices and representations, and on how change emerges: after crises, Fordism transformed, so did Toyotism. It is often counter-intuitive: because cars and trucks are heavy, producing abroad would have seemed logical once financial resources were available, but history shows why some managers were reluctant. Moreover, business history has other priorities. First, it is interested in how the products of these multinationals fostered mobility. Second, it wonders whether hegemonic methods or learning processes develop both among multinationals and host countries. Third, it takes multinationals seriously, as creating webs of links between different countries. Fourth, it considers auto multinationals not as eternal powers but as fragile entities; their size does not protect them from decline or death. Fifth, it does not explain the trajectory and strategy of a leading multinational according to the primacy of the domestic market or simply economies of scale. On the one hand, it analyzes the conditions and demands of “each nation (and region)” and “all kinds of ongoing multilateral interrelationships” (Wilkins and Hill, 2011 (1964): XV). On the other hand, it outlines the structuring presence of the state on business strategy both at home (Tolliday, 2000, 1995) and in host countries, be they as different as Britain or Iran (Pardi, 2017; Mehri, 2017).

Finally, business history takes into account the varying cultural meaning of the same model in different countries, such as the Volkswagen Beetle. In West Germany, it symbolized an economic miracle; in the United States, suburbia and then hippie counterculture; in Latin America “sturdy” toughness necessary to thrive amid “economic instability” (Rieger, 2013: 331). At the other end of the market, a Mercedes is an upper-middle-class car in Europe and the US; in Russia it is often a car for the mafia; in Japan it long was the favorite car for yakuza, whereas today a number of them choose high-class Japanese models. The same multinational models have a second life as used cars in emerging countries where they may cripple domestic makers. In Africa, the state of Benin is the cornerstone of the continent’s second-hand market of cars coming from Europe and the US (Beuving, 2004). Japanese used cars, auctioned mostly by Pakistani companies, finish their career in northern Russia and in Pacific islands (Shioji, 2018).

The business history approach also benefits from the development of global economic geography (Bloomfield, 1978; Dicken, 1986 [2015], whose relevant chapter is called “Wheels of change”). It also converges with research in international business (IB) emphasizing internationalization as a process where learning, experiential knowledge, and networks matter and stressing the importance of subsidiaries in decision-making (Forsgren et al., 2015).

In this chapter, we first present an overview of how the auto industry became multinational, including two related sectors beyond cars: trucks and buses, and parts makers. Then we move outside production, illuminating several dimensions of the process still neglected in the literature and illustrate considerable change over the years. Finally, we focus on challenges for both companies and societies when auto manufacturers go global.

History

Our historical overview differentiates the trajectories to globalization of the industry’s three branches: cars, trucks, and components makers. The volumes produced, the customers, and the business cycles are not the same (Tilly and Triebel, 2013).
In cars, after built-up vehicles were exported, European auto companies were the first to develop distribution organizations. Then an American firm (Ford) created manufacturing facilities abroad. To expand the competitive advantage of the mass-produced Model T, Ford opened its first foreign factory in Canada (1909), and a second one in Britain (1911). On a much smaller scale, Europeans chose three different patterns: a free standing company, which English venture capitalists founded in 1902 to acquire one of the French leaders, Darracq; a joint venture, which the French firm Peugeot operated in Turin, Italy, from 1905 to 1914; an assembly subsidiary, as another French maker, Renault, after creating a distribution subsidiary in Russia in 1914, opened a factory in Petrograd the same year and another one in Rybinsk in 1916 (Bardou et al., 1982).

Crossing national boundaries thus began before World War I. After 1918, Ford’s assembly plants spread far and wide: before World War II it had assembly plants in Canada, Mexico, Argentina, Chile, Brazil, Uruguay, England, Ireland, France, Belgium, Holland, Germany, Denmark, Spain, Italy, Romania, Turkey, Japan, India, Malaya, Australia, New Zealand, and South Africa. Ford spread its assembly plants over all continents, as the subtitle of Mira Wilkins and Frank Hill’s book, *Ford on Six Continents*, suggests (2011). GM also began its overseas operations by exporting complete cars and by shipping abroad completely knock-down kits. It was initially less pervasive and more inclined to acquire shares of a company abroad: in Britain, Australia, Germany. The latter type of entry is quicker but has a higher risk and low flexibility.

In his best-selling memoirs from 1963, Alfred P. Sloan, GM’s long-time president, chairman, and CEO, shows that going multinational was not a replica of home production and distribution. Producing outside home country constantly concerned management:

For the overseas market is no mere extension of the United States market. In building up our Overseas Operations Division, we were obliged, almost at the outset, to confront some large, basic questions: We had to decide whether, and to what extent, there was a market abroad for the American car – and if so, which American car offered the best growth prospects. We had to determine whether we wanted to be exporters or overseas producers. When it became clear that we had to engage in some production abroad, the next question was whether to build up our own companies or to buy and develop existing ones. We had to devise some means of living with restrictive regulations and duties. We had to work out a special form of organization that would be suitable overseas. All of these problems were considered fully within the corporation for a period of several years in the 1920s when the basic policies were established. (Sloan, 1963: 313–314)

Even after World War II, the proportion of overseas production was relatively small.

In 1955, the world looked like a very different place. Four out of every five cars in the world were made in the US, half of them by GM. No other car companies had the capital or the know-how to enter the global car business. GM’s main US rival, Ford, was half its size. The largest foreign carmaker, VW, was little bigger than GM’s own German subsidiary, Opel and only had one model – the VW Beetle. And Toyota was not even on the horizon. It made 23,000 cars in 1955 in Japan, compared to 4 million manufactured by GM in the US. (Schifferes, 2007)

Still in 1962, just 12 percent of total production at GM – then the largest auto company in the world – occurred overseas. Sloan hoped to vastly expand overseas, because he found even
the European Common Market underdeveloped. There was only one car for every nine people, compared to one for every three in the US (Sloan, 1963: 313–314). This suggested that both European makes and latecomers such as the Japanese, and later the Koreans, could acquire large markets if the company could offer vehicles and services satisfying customers there.

Alongside the desire to become multinational, the emergence of many regional free trade associations was key. First the European Common Market (1957) and the European Free Trade Association (1960) were created, then after 1990: Mercosur 1991, ASEAN 1992, European Union 1992, North American Free Trade Agreement 1994. FDI surged, with automobile companies playing a significant role. Many of them became multinationals in those years, some beginning outside their region (like the Swedish Volvo in Canada in 1963, the German BMW in South Africa in 1973, or the Korean Hyundai in 1985, also in Canada) (Wilkins, 1981; Laux, 1992; Lansbury et al., 2007; Biss, 2017).

These free trade associations also influenced car companies’ behavior: they did not just cross borders, but also sought to handle each region as a whole (Carrillo et al., 2004). The two leading American firms created Ford of Europe in 1967 and GM Europe in 1979. These reorganizations were traumatic, yet the European operations were able to bail out their parent companies between 1967 and 1989. Especially, it became important for them to build efficient supply chains among countries in the region, or between the region and the home country because cars’ heft and bulk made rationalizing production vitally important. For instance, a GM US model, “modified with a better engine,” was introduced in Europe in 1981 as both the Opel Ascona and the Vauxhall Cavalier. “Its engines came from Australia, transmissions from Japan and the United States, stampings from Germany, and carburetors from France.” Its sales were quite successful (Laux, 1992: 223). Alongside the proliferation of regional trade associations (RTAs), auto companies faced the establishment of the World Trade Organization (WTO), in 1995. Like other RTAs, the WTO lowered customs and import duties.

Top managements were faced with a series of dilemmas which were not just “make or carry,” as both the Honda and Toyota cases in the US make clear. In 1980, in a climate of trade frictions on imports of Japanese cars, Honda announced it would be the first Japanese auto manufacturer to open a plant in the US. But it had to change the organization of its operations and create a specific engineering division for the US. In November, 1982, its first car rolled off its Ohio assembly line (Demizu, 2003). Toyota had received proposals from numerous states.

**Figure 25.1** FDI inflows, global and by groups of economies, 1980–2006

*Source: UNCTAD (2007: 3).*
Yet it was more cautious and chose a joint venture with Ford as partner. But their long negotiations failed. Shortly after, in 1981, GM offered a proposal for a joint venture in California. Although a joint venture “required relatively little investment,” Toyota’s Production Related divisions felt uneasy about publicly disclosing production expertise in a joint venture plant, and the Sales and Marketing Division was worried about supplying a leading model to a competitor. In addition, cooperation with the United Auto Workers Union (UAW) was also a major issue.

Despite these concerns, the joint venture, called NUMMI, opened in 1984 on a shuttered GM site; the joint venture lasted until 2010.

Already in 1985, however, Toyota began to consider establishing its own plant as the voluntary export restraints imposed on Japan by the US in 1981 “were causing supply shortages, and as a result, expanding supply by setting up independent operations” (Toyota, 2012) became the preferred option. Some executives opposed the idea because it would be much less expensive to ship finished cars to the US. But the CEO Eiji Toyoda thought that the company had to establish a plant in the US because of the political situation. After selecting and building the plant in

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**Figure 25.2** The acceleration in regional trade agreements, 1955–2008

Kentucky, which opened in 1989, Toyota faced difficulties getting good parts because most Japanese component makers had not built their own plants. Toyota also had not experienced American supplies yet. In such situations, the extensive use of container ships in the late 1980s (Levinson, 2006) helped Toyota and its suppliers to reduce costs. Toyota set up a collection center for parts, where parts suppliers brought their own parts and then Toyota would handle bringing them by container ships. Such measures reduced costs.

This focus on regional trade associations was quite fruitful in emerging countries, as the Toyota case illustrates again. The plants located there often had excess production capacities to supply their own home markets. From now on, each plant specialized its products and several countries jointly produced finished cars, bringing their parts together. Maybe it would increase costs but otherwise the plants in the emerging markets could not survive. In fact, during the Asian currency crisis in 1997, the plants in Thailand faced a crisis of survival. From the early 2000s onward, the pace of globalization quickened and many car makers made themselves able to use regional trade associations as a springboard to the whole world. Toyota launched a platform, the Innovative International Multi-purpose Vehicle (IMV) project in ASEAN (Association of Southeast Asian Nations) countries, and then the project widened to include countries such as South Africa and others in the Southern Hemisphere.

Pattern dot black arrows show shipments from main assembly plants to the market. Hashed black arrows show “backup supplies” from assembly plants. Because of the increasing demand
or any other reasons, main assembly plants could not supply enough cars to the market, and some assembly plants, originally aimed at supplying a particular market, were mobilized to serve other markets. In 2014, South Africa plants produced 124,000 cars; Thailand 610,000; India 91,000; Indonesia 155,000; Argentina 93,000. In addition to the above plants, knock-down production was carried out in eight other countries.

In the early years of the IMV project, Japan’s plants assisted the operations of plants in ASEAN. Also, plants were located to take advantage of lower customs and import duties while parts, engines, or bodies were moving around among the ASEAN countries. The IMV project enabled an easier globalization, a greater solidarity within the multinational, and the design of multilocal cars.

The relationship to markets and consumers was not the same in the trucks industry, as it is an equipment industry. This makes it very cyclical once customers are equipped. Multinationalization thus occurred differently. Unlike cars, truck making is a business-to-business industry. Truck makers produce vehicles for specific companies, fleets, road haulers, and for government or the army. Therefore, they must have common possible designs and be able to design highly specialized vehicles. This fostered an organization of research and development (R & D), which is closer to engineering or aircraft than autos. Here the role of production methods is less important than R & D. The series are smaller and the dealers’ network is different. In recent years, for large road trains, a division has appeared between the driving platform which is made by truck makers and the trailers which are quite different companies and often very specialized.

By 1955, the US share of world car manufacturing was 71.6 percent on cars, but only 43.3 percent on trucks and buses (Automobile Manufacturers Association, 1956: 28). Multinationalization of both distribution and production came later, on a smaller scale, and more often through multiple takeovers and resales of truck companies in search of profitability. Over the last 40 years, this increasing concentration has led to the dominance of two regions: the state of Michigan and the southern half of the major island of Japan, Honshu.

The multinationalization of components makers has been even more diversified. Here, we only discuss component makers specializing in the auto industry, who are both business-to-business and business-to-consumer. This also means that the international distribution of parts for the after-sales market is part of the product lifecycle. The internationalization of manufacturing began early, for Bosch in Paris in 1905 or Michelin in Turin, Italy, the city of Fiat, in 1906, then the US in 1907 (Bähr and Erker, 2015). However, there were alternative options. This was due to both the economic advantages of exports and to the protection offered in some of these sectors by international cross-licensing (which in the interwar years gave a comfortable monopoly to the British firm Lucas Industries over the British auto makers) (Nockolds, 1976–1978).

Moreover, different patterns emerged. For some components, the suppliers were subsidiaries of the car makers (see Peugeot and Faurecia, or Toyota and Nippondenso, later Denso). In other cases, auto firms twisted the arm of suppliers who did not want to invest in manufacturing countries (Scranton and Fridenson, 2013). Three trends are important. First, sometimes component makers went multinational to take advantage of their specific competitiveness, without following car makers (see in the US the Budd Company, a major supplier of body components to the auto industry, or in Germany Bosch for electrical parts) (Bähr and Erker, 2015). Second, the sensitivity to economies of scale led to the concentration of the domestic industry and to the internationalization of the domestic leaders’ distribution and production by the multiplication of subsidiaries abroad. This is certainly true of the tire industry, whose leaders today are Michelin (French) and Bridgestone (Japanese), followed by Goodyear (US), and, far behind, Continental (German) (Erker, 2005). Third, the same suppliers became partners of different multinational
companies, specializing in certain areas and combining their own knowledge base and adaptation to each consumer. But a major change appeared when some car makers, instead of embarking on production abroad with their usual components makers, decided in the mid-2010s to rely on local suppliers, in a move to reduce costs and benefit from local capabilities, as for Renault-Nissan in India for up to 98 percent of parts on the low-cost model developed for the subcontinent (Midler et al., 2017).

Throughout this long history, four main sets of dynamics occurred.

**Long term dynamics**

On the whole, multinationalization is a process which changes the multinationals themselves and tends to bring them closer to their customers. First, design and development moved from centralization to partial localization. The initial logic of international production was centralization. Doing R & D and design/style at headquarters and producing identical models abroad was meant to exemplify economies of scale. After World War I, Henry Ford imposed British Model T to have left-hand drive. Sales dropped, and in 1922 Ford had to return to right-hand control (Wilkins and Hill, 2011). British consumers taught the leading multinational that local conditions might warrant modifications to its product. Furthermore, in the 1930s European consumers showed that they could not be satisfied by American models exceeding their wishes and needs. Therefore the two main US multinationals, Ford and GM, moved from indifference to local needs to partial adaptation and designed Ford or GM models for European markets (Tolli-day, 2000) or for Australia (from where in turn GM models were exported to Asia) (Conlon and Perkins, 2001).

After World War II, European car makers producing abroad stuck to economies of scale for a long time. The best example is the Volkswagen Beetle that was successful abroad far longer than at home (Rieger, 2013). From the 1960s, a number of European makers produced models in Latin America, Africa, or Iran which were obsolete on the domestic European market. Only since the 1990s have most multinational car makers shifted to the idea that partially or totally adapting the product was both suitable and economical. The only exception remains the German premium brands, who however have built many plants abroad (Biss, 2017). This trend has extended to designing specific models for national or regional markets. A new key ingredient has been localizing parts of design centers in Spain, Germany, California, etc. For instance, the Korean Hyundai Ceed which appeared in 2018 was designed in Frankfurt, Germany, and produced in Slovakia. A further development happened when a car designed for a region other than its metropolis was sold in other regions at the price of significant adaptations, and produced elsewhere, which therefore can be called multilocal. Since 2003 the Renault company has made this strategy a specialty for its low-cost cars. This has also become the practice of Toyota in Asia, and of Hyundai.

A second dynamic is the management of cadres and of the labor force. Initially, auto multinationals appointed expatriates to run their foreign subsidiaries for homogeneity and control. But history soon showed the difficulty of top management from a distance. These expats enjoyed de facto great autonomy which created regular conflicts with headquarters over more investment or calls for local adaptation. Local employees or managers came to resent the glass ceiling for their promotion. Since the 1980s, auto multinationals worldwide have ended the existence of local kings, and have organized international careers with both regular mobility and consideration of local performance (Reiche et al., 2012). Expats are in small numbers because they are a rare and expensive resource and because headquarters aim to train local managers. Yet, as a thorough comparison of German and Mexican car companies reveals, problems remain in
terms of “constant participation in decision making, knowledge flow and control procedures” as well as “assigning adequate jobs to the returning expatriates.” Also different mobility patterns have appeared despite similar tendencies, because of differences in terms of size and production volume, in positions within the global value chain of the car industry, and in localization of factories and research centers (Gandlgruber et al., 2014: 81–83).

A much broader issue is that of blue collars. Attempting to transfer the knowledge, organization, and pace of work of the home country at lower wages has been the credo of multinationals. This implied more and more detailed rules or training periods sticking to the original routines, with the Japanese doing their best to transfer their wage and overtime system. From the start, workers demanded unionization, and Ford rejected it, sticking to the open shop, thus setting a pattern for other companies (Wilkins and Hill, 2011). Only in a minority of transplants has unionization prevailed. Moreover, the ability of national unions to coordinate internationally within one multinational has proved either weak or fragile (Bonin et al., 2003; Fetzer, 2012). A local labor force might prove more productive than domestic labor, which in some cases was a lesson to a nation-centric management but in other cases, combined with wage levels, was an incentive to deindustrialize the home countries. The growth of information technologies contributed to these changes in human resource management.

The growing impact of information systems is the third, more recent, dynamic. It is obviously essential for internationalizing components makers, their multiple partnerships, and growing use of local suppliers. It is key for project management and styling and design. It is the base for the leading innovation which was the creation of modularization and platforms from the 1990s onward. It matters for the economy of variety which characterized most makers from the 1970s onward. What is not often underlined, however, is the connection between the spread of company activity beyond national boundaries and efficient use of communication systems. The spread of activities came to require the formation of supply chains. Speedy communication became necessary to manage the resulting international supply system efficiently. Furthermore, an efficient production of assembly products such as automobiles required a thorough list of all the parts needed (and eventually reducing their number). Toyota pioneered such a list, called the bill of materials (BoM). It used to be paper-based but moving toward a digital list happened in the domestic market in the 1970s. This specifications management system (SMS) ensured more efficient domestic production. But, until the mid-1990s, data transmission across borders was limited. This was one reason for Toyota’s smaller globalization. The spread of the Internet facilitated new solutions; in the 2000s, Toyota strove to build a new SMS, attuned to more advanced information and communication technology, which could cover the entire planet. Inter alia, it allowed Toyota to cope better with variety while shortening the lead time to the final product (Wada, 2015). Other manufacturers faced similar problems. Making information systems more fluid, flexible, and resource-oriented became a cornerstone of globalization.

The fourth dynamic was building finance capabilities integral to the international activities of the auto companies themselves. The car makers which crossed borders had generally created their own installment plan financial subsidiary for both consumers and dealers; this competed with traditional retail banks. Once again moving abroad did not replicate domestic situations. Holdings and financial subsidiaries had to be built (Biss, 2017). Installment plans would not necessarily be the same. A variety of new risks had to be faced (exchange rates, interest rates, political crises, changes in tariff barriers, international conflicts, etc.). The lack of foreign currency among emerging countries or communist nations had to be overcome. The spaces for learning were quite limited: London, New York, Switzerland, with Switzerland also providing low taxes.
Car makers and components manufacturers made progress thanks to a series of new opportunities: first the development of the Eurodollar market and of the early regional trade associations, later the opening of foreign capital markets and a trend toward securitization and disintermediation in financial markets. Gradually companies created new organizational forms and conducted new types of financial activities in response. They turned the new risks into sources of profits, shortened payment periods, and offered consumer loans and leases to car buyers abroad, as well as business loans and lines of credit to dealerships, while being able to issue bonds. In Europe since 2010 the growth of lease with purchase option increased the sales of new cars and customer loyalty: it sold more than one out of two new cars in 2017, at the expense of traditional time payments and the share of banks. These financial arms also issued commercial paper and other debt instruments. GM and Ford, then Chrysler, who had pioneered domestic specialized financial entities, moved ahead with foreign subsidiaries. But today only one of these financial arms survives as such: Ford Credit. The other two have been either spun off or sold in the aftermath of the financial and automotive industry crisis of 2008–2010.

In Europe, Michelin and Renault were the pioneers and founded their main financial arms in Switzerland from 1960 onward (Fridenson and Fixari, 2009). The Japanese auto multinationals created their international finance subsidiaries much later. Toyota’s managers learnt the tricks of the trade in London. After the establishment of financial subsidiaries both in Australia and the US in 1982, Toyota Finance Corporation emerged in 1988. Today it covers the company’s operations on global financial markets and in 35 countries. The Koreans followed suit. Hyundai Capital Services since 1993 has grown steadily, later developing a strategic partnership with the US conglomerate General Electric, which increased its know-how in treasury, risk management, finance product design, IT, and corporate culture. After China, it is establishing footprints in emerging markets. These international financial activities have generally been quite profitable because of the size of the flows involved. However, their ultimate refinancing depends on banks. Hence auto companies may suffer when banks are in crisis internationally. So, these financial activities are the product of industry, but their volatility may result from financialization itself. Like in other multinationals, transfer pricing methods came into use to determine costs when divisions transact with each other, to get funding across the group, and to assess the taxable income (Financier Worldwide, 2010).

While internationalizing the auto industry brought achievements, it is also fraught with problems linked to the growing diversity of their markets and their products.

Challenges

Like all multinationals, auto multinationals face a high uncertainty due to the variety of their markets, but also to consumer choices on each national market. Let us take the example of the year 2016. Large pick-ups (Dodge and Ford) are very popular in the US. Latin Americans prefer heavy-duty vehicles. Indians privilege micro-cars. In Europe the market is dominated by French urban and German compact autos. In Iran, a sedan: the Peugeot 405 reigns. These differences reflect geopolitical effects, cultural specificities, purchasing power, installment plan regulation, condition of the road network, oil and fuel prices, and taxes. The leading multinational on each market in that year does not dominate more than ten nations; even then, a different model dominates in each nation (auto-moto.com, 2016). Such variety calls for enormous resources in terms of information, coordination, knowledge and skills, finance, and logistics. It is compounded by floating exchange rates since the Nixon shock of 1971 and by political instability in many emerging countries.
Auto multinationals face three main challenges: the relation to each host country’s state, the necessary amount of interfirm co-operation, and the rate of exits and failure. None of these challenges is peculiar to auto multinationals, but their intensity is characteristic.

In this industry, politics matter. It goes far beyond the traditional issues of tariff barriers or taxes. Because the auto creates jobs and wealth, national governments may want to create their own firm and bar private foreign multinationals from their land: see the Soviet Union (1929–1989) or capitalist Malaysia with Proton (1983–2017), then half-sold to a Chinese firm. Similarly, the Indian government supported the birth of a national champion, Maruti in 1981, but it became a Japanese-owned subsidiary (Hansen and Nielsen, 2017). Even in officially open markets, domestic firms may lobby government to limit foreign competition. In Fascist Italy, Mussolini backed Fiat’s request to prevent Ford’s expansion in 1926, though this after Ford missed the chance to reach an agreement with Fiat (Toninelli, 2009). In India, most domestic car makers were subtler when they proposed and in 2013 obtained the creation of a tax on cars longer than four meters to forbid the entry of multinationals planning to produce a low-cost car.

In emerging countries, governments want to attract one or several foreign auto companies. Latin American governments in the 1970s followed three distinctive approaches: export promotion in Brazil and Mexico; market liberalization in Chile and Argentina; (unsuccessful) import substitution in the Andean Pact. By the 1980s, however, common trends prevailed: progressive internationalization of capital, heightened competition, and the homogenization of market products and demand (Jenkins, 1987). Iran is a nice case in two different and successive ways. After the Islamic revolution of 1979, the new government nationalized two private producers that had made foreign models under licensing agreements with a minority of their capital held by the foreign makes. From 2002 onward, soliciting Western and Asian companies, industrial nationalists “constructed a network of politically effective relationships to open up space for successful local industrial development, and then tapped into a set of important global linkages to create an industry with high local manufacturing content.” It is the nation’s largest source of employment, producing more than one million vehicles per year with 60 percent local content (Mehri, 2017: 4). Similarly, in 2014 the Russian government sold the state-owned company AvtoVaz to Renault-Nissan provided it kept 49 percent of the capital.

Such relations occur in developed economies too. Local US states have funded multinationals to build greenfield plants since the 1980s. Paradoxically, during the late 1970s and early 1980s, the British government bargained for many months with the Japanese company Nissan and subsidized its establishment despite the fact it was injecting substantial amounts of capital into the recently nationalized firm British Leyland. This was not because of the Tory government’s neoliberalism, but rather a strategy to keep alive the main British suppliers. In the 1990s Nissan was followed into the UK by Honda and Toyota (Demizu, 2003; Pardi, 2017). Continental European governments did the same later with Japanese then Chinese firms.

In both emerging and mature economies, local and national governments exert a continuous pressure to increase the local contents of the parts and vehicles produced and sold by multinationals. In the long run, these pressures have been successful and increased the industrializing power of these auto companies. On the other side, since the late 1960s safety, energy, and environment issues have been added to the panoply of government’s relations or deals with auto multinationals, often at the request of consumers or citizens’ movements. Here governments have deeply altered the technology and cost perspectives of the international auto industry.

All in all, these multiple developments show that corporate business has had to develop political capabilities. They include cutting a deal, long term strategy, adaptations to unexpected ups and downs (such as political shakeups or state managers’ sudden fall from grace). There is a thin
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line to avoid the perils of corruption or, as with car emissions tests, of deceiving drivers and regulators (which may also happen with domestic firms). Simultaneously, car companies must balance between making concessions to enter new territories and maintaining quality and technological standards to preserve the make’s global reputation. Market and production scale may be large locally but international competitiveness weak for a while. There is, however, no single pattern of response by auto multinationals to national considerations. Let us consider Russia since the late 2000s. As for modes of entry, “Hyundai-Kia, VW, and GM make ample use of outsourced production. Renault-Nissan is strengthening its commitment via M&A. Toyota uses the least foreign capital of all.” For models, “all of the manufacturers other than Toyota have a multi-brand strategy, selling models in all segments. Toyota has the lowest rate of local production and the lowest rate of outsourced production.” And for local strategic cars, three manufacturers “have developed local strategic cars and launched vehicles adapted to the Russian market: Hyundai-Kia, Renault-Nissan-Avtovaz, and the VW Group. Moreover, these three groups have a high rate of local production that they undertake themselves” (Tomiyama, 2016: 63–66).

Politics matter on a much broader scale. Like oil or armament multinationals, auto companies may also be confronted with the risk of international economic sanctions against the local government, as South Africa, Iran, and Russia have experienced. War too changes calculations. Even before war the military may interrupt a major agreement between auto multinationals and national firms in the name of national security. In December 1939, the Japanese military killed a joint venture between Ford, Nissan, and Toyota to manufacture civilian cars in which Ford would have had the majority. This short term decision may have changed the future of both the Japanese and US car industries (Wada and Yui, 2002). Governments also press multinationals to get involved in arms production. Subsidiaries of the same multinational may be situated in enemy nations (Turner, 2005; Wilkins and Hill, 2011; Bähr and Erker, 2015; Imlay and Horn, 2014). A resulting peace may lead either to the loss of markets or plants because of their own nation’s role in the war or to new borders, which may reshape the commitments of auto multinationals.

The second set of challenges is interfirm co-operation, as in many other industries. Co-operation has increased over time, whether as contractual tie ups or formal joint ventures. They all are an alternative to straight competition; in the auto industry, the same two companies can be both partners and competitors. Co-operation reduces the flow of direct investment and in theory reduces the risks attached, though it is not straightforward.

Co-operation may result from political constraints or incentives. This definitely applies to Communist countries. The Soviet Union in the 1930s with Ford and in the 1960s with Fiat (or Renault for trucks) used Western multinationals as contractors to build or update a national automobile industry. Similarly, Communist Poland from 1965 onward renewed Poland’s prewar connections with Fiat and in 1968 started production of models under license. After the Eastern bloc’s return to the market economy, in 1992 Fiat purchased one of the Polish factories (Castronovo, 2005). China opened its doors in Shanghai in 1985 to Volkswagen as a 50–50 joint venture. It still benefits from a first mover advantage. However, during the same period China invited two smaller Western companies: American Motors (for the Jeep) and Peugeot. As has frequently occurred elsewhere since the 1960s, Peugeot sent outdated, complete knockdown kits that could neither compete with imported cars nor foster technology transfer. Therefore in 1994 when China generalized joint ventures as a mode of entry on the domestic market for multinationals, it imposed regulations on the use of domestic content and majority shares for state-owned Chinese companies as partners (Chin, 2010). Today, a company like GM says on its Chinese website that it “has ten joint ventures and two wholly owned foreign enterprises as
well as more than 58,000 employees,” offering “the broadest lineup of vehicles and brands” (GM China, 2018). The Party–state’s strategic use of foreign investment and technology increased the Chinese individual’s mobility, made China the world’s largest auto market, transferred technologies and methods, as well as trained a labor force and a dedicated population of employees. It soon became profitable to foreign multinationals but it also enabled some Chinese firms to invest in Western firms like Volvo (totally) or (in minority) later PSA Peugeot Citroën, in order to prepare themselves to become multinationals.

In capitalist countries, local or national governments may encourage co-operation with multinationals to boost employment or innovation. Toyota tried independently in 1950, but was stymied by the Korean War. Thereafter, the Japanese government insisted on co-operation with Western makers in the early 1950s. This saved other Japanese first movers time in order to update and increase their capabilities (Cusumano, 1985). In the late 2000s, the state of California created an experimental station in Sacramento, where rival multinationals tested electric vehicles and exchanged information about their practices among themselves and with state representatives. On the other hand, in the same capitalist countries co-operation may develop for purely economic motives, mostly to share the costs of adding competences for a new vehicle or a new technology. One typical example is the joint venture between Ford and Volkswagen in Brazil: Autolatina (1987–1995) (Wellhöner, 1996). Another is the joint venture in the Czech Republic between Toyota and PSA Peugeot–Citroën, decided in 2001 and underway since 2005 for entry vehicles. It was later extended to commercial vehicles made by Peugeot in France.

Components makers have championed international co-operation since the 1960s as they often serve competing car makers and have increased the technological level of their R&D. The German Bosch and Continental, the French Valeo and Faurecia, the Canadian Magna, the Japanese Denso et al. are successful in such a position as they specialize on high value segments. They develop huge staffs of R & D and deep partnerships with each of their clients. Cooperation may be combined with capital controls (Hiraoka, 2000). If this does not guarantee either success or resilience, control may also take advantage of partners’ complementary strengths. The Renault–Nissan alliance, which started in 1999, reduced costs, increased the attractiveness and variety of their products, and enabled entry into new countries. The alliance also led Japanese employees to pay greater attention to shareholders as one category of stakeholders. Since 2009, it added elements of integration in the following way. The visible parts of the car belong to each brand (design, product, marketing, strategy, selling); the invisible may be handed to the Alliance. The latter has built gradually common entities: first purchase, logistics, human resources, engines, production, engineering; then (2018) aftersales, quality, and business development. These entities serve as a toolbox. Analysts debate the pros and cons of alliance vs. full integration. Meanwhile, the Alliance has grown production and opened to other partners such as Daimler and Mitsubishi. This has made the Alliance one of the world’s top producers alongside Volkswagen and Toyota. No American firm belongs any more to that circle.

The third and final set of challenges is frequent failure and exit on foreign markets. This applies to pocket multinationals, such as the Italian Lancia, only produced in France from 1934 to 1937 (Amatori, 1996). More broadly, economies of scale and scope are no permanent protection abroad. Some exits are linked to political risks: the few foreign auto companies present in Russia before 1917 lost their factories in the post-revolutionary nationalizations, or after the revolution in Iran in 1979, followed by the Iran–Iraq war (1980–1988) and US sanctions against the regime. Other exits are due to a combination of poor knowledge of the foreign market, insufficient organization there, and product quality problems. Renault left the US in 1960 after five years of boom; Nissan and Toyota initially failed in California in 1960 (Rae, 1982); the Korean company Hyundai’s first foreign venture into Canada opened in 1989 and failed in 1993.
Local management and shareholders may revolt, as with the merger of Volvo in Sweden with Renault, planned since 1989 but rejected in 1993 (Fridenson, 2015).

Other exits show the decline of competitiveness on a foreign market: Ford and GM left France in the 1950s, Chrysler left Europe in the 1970s (Hyde, 2003), BMW failed to make Leyland profitable, Peugeot left Nigeria in 2005, in 2007 Ford sold the British Jaguar and Rover to the Indian Tata and the Swedish Volvo to the Chinese Geely, and in the 2010s Ford abandoned Japan and GM left not only India and South Africa (Fourie, 2016) but also Germany and Britain. The same is true for suppliers. By 1996, two of Lucas Industries’ strategic sites for diesel fuel injection, Japan and California, closed (Cheeseright, 2005). This last type of exit shows the intensified competition with greater globalization. GM’s Opel was in the red from 2000 to 2017. It had an 80 percent use rate of its factories in 2017. The ratio of the payroll to the turnover was 16 percent instead of 10.3 at its European competitors. The dealers’ network was too dense and disparate (PSA, 2017). GM’s Vauxhall experienced similar decline and losses. Both subsidiaries were sold by GM to the French PSA in 2017. Multinationalization needs investment and a sense of local changes. Otherwise multinationals may destroy value. By 2017, all Japanese and American makes had pulled out of Australia. Unlike other fields, American firms have withdrawn from numerous countries and shown a diminishing ability to be global.

Yet comeback is possible. On a small scale, GM and Ford returned to France in the mid-1960s as producers of specialized parts for their global empire. On a big scale, Japanese first movers returned to the US in the 1960s. After increasing the quality and style of their models while cutting costs, they became immensely successful. In 1999 Nissan helped Renault back to Mexico. Both Renault and Peugeot have recently returned profitably to Iran, at least until the US economic sanctions of 2018. Renault’s second entry to the US from 1979 shows that returns do not always work; by 1986 it had failed again. Return is possible; but it has a high intellectual, organizational, human, and financial price.

International competition can be brutal. For instance, during the 1980s, the ten Japanese auto companies established themselves to some extent in the world market. But during the 1990s they faced tough competition. By the end of the twentieth century, most of them had to associate with foreign companies, and only two companies (Honda and Toyota) remained independent.

Three effects are clear. First, auto multinationals have increased the technical and commercial base, the skills, and productivity of host countries. This includes the supply of top managers. Heinz Nordhoff, VW’s first CEO, came from GM’s Opel, Shotaro Kamiya, Toyota Motor Sales’s first president, from GM Japan, Jose Lopez, VW’s recent cost-killer, also from GM. Conversely, wages as well as industrial and commercial employment increased in host countries. Second, multinationals have increased auto pollution worldwide, with extreme levels in countries like Nigeria, South Korea, China, and India. Third, most car firms have repatriated most of the profits, making home country firms and elites richer. However, each of these three features may be qualified. The spread of dealerships and factories never quite ensured the convergence of products (and consumption). Hybridization became the rule in host countries. Although the number of parts in a model diminished and commonalization of parts between models increased, the variety of products and technologies became wider. In a major revision, Bosch, a leading proponent of diesel engines, began to go green after 2003, making losses in the solar business (Bähr and Erker, 2015). In a number of countries, local state elites have brought their own savings to nascent foreign manufacturing subsidiaries: see FASA in Spain for Renault in 1950, Oyak in Turkey in 1969 also for Renault, and Peugeot in Nigeria in 1970 (Laux, 1992) and thus got a share of the profits yielded by the multinationals. Contemporary China may emulate this pattern.
Conclusion

This chapter has stressed not only the underlying trends in the automobile industry’s globalization, but also how the industry itself has changed over time: from multidomestic to multilocal as firms better adjusted to market variety and developed more fluid information systems. Many promising avenues for research remain. One is the place of auto multinationals in postcolonial nations, particularly Africa. Did the state see them as too independent (which may explain for instance why Indian governments in 1960, 1970, and 1977 abandoned projects to attract multinationals in order to develop mass mobility) (Maxcy, 1981)? How do former colonial makers lose a factory and a thriving market (Loubet, 2016)? How are foreign cars “used differently outside the centers of global capitalism” and stand in for both “patriarchal power and capitalist achievement,” as in West Africa (Green-Simms, 2017: 5)?

On the other hand, we still know too little about how far host countries can influence the strategy and workings of auto multinationals: by expressing distinctive consumers’ preferences and uses of vehicles, by building institutional incentives or barriers in areas such as energy and environment, safety, mobility, infrastructures, but also fiscal policy, labor relations, government relations with industry, national involvement in regional trade associations, by “understanding that learning is a two-way process, that the local operation almost certainly will have something to teach the rest of the global organisation” (Olcott, 2009: 55). Finally, coordination within auto multinationals may attract new interest: how do they assess at each period the potential of different countries? How are performance management systems developed to increase managers’ results? Do common rules and tools plus multicultural management really weaken national differences within auto multinationals or alliances (Chiapello and Godelier, 2015)? Or do they touch preferably “people who are really open to other cultures, very globally minded, with a lot of understanding of different points of view,” as a French manager at Nissan explained in 2007 (Olcott 2009: 248)? How do headquarters combine competition and co-operation with similar firms, suppliers, and inventors of today’s start-ups? How do they comply with national regulations, lobby governments to have them modified, or simply cheat when they are threats to their profitability as we have seen in various scandals implicating diesel engine producers (like VW)?

There was “nothing at all inevitable” about how car companies became multinational, GM’s Alfred Sloan remarked (1963: 313–314). At that point, auto multinationals still conducted relatively little economic activity abroad, compared to their cultural influence in labor and leisure. There was nothing inevitable about their dramatic expansion in the five following decades. International sales and production became strikingly important to the auto multinationals. An array of new players from emerging countries appeared, whereas a number of preexisting multinationals had to withdraw from countries where they were no longer profitable. In two countries, Britain and Sweden, local multinationals ceased to be independent or were dismantled. Pure players in the truck industry disappeared, and specialized component makers became major sources of innovation. Meanwhile buying new cars in the old industrial countries became the privilege of either companies (with fleets) or of the better-paid and older segments of the population, while such purchases attracted a growing part of the population of emerging countries.

The core of these multinationals is currently changing. Multinationalization has often led to competition with home countries, causing smaller pension allowances and a smaller labor force. This trend also affects the engineering and design centers in headquarters. Since around 2000, employment there has generally declined in favor of new technical centers and design studios located in the BRICS (Brazil, Russia, India, China, and South Africa) or Europe which host large numbers of engineers (some 10,000 people for a typical auto multinational). The continuous growth of onboard electronics and the industrial requirements to meet more demanding
clean energy standards necessitate new knowledge and new organizations; they also open up new forms of value. With the help of suppliers and start-ups, these multinationals have kept up with challenges like searching for alternative energies, developing connected or autonomous vehicles, and creating efficient information systems. They also open the field to new entrants and innovative models produced by other industries such as software giants and aircraft makers. Global alliances flourish, with first-tier suppliers as cornerstones, although their success will not be easy. One massive alliance for autonomous vehicles includes Bosch, Tesla, Apple, Google, Intel, Baidu, and Lyft. Ridesharing platforms like Uber and Lyft have made “car ownership less aspirational” and Toyota has invested in Uber, VW and GM in Uber’s rivals Gett and Lyft (Goyal, 2017). Automobile multinationals face fierce new and old competition; national and international regulation prompted by emissions and accidents also remains challenging. Alongside the unceasing pressure of global shareholders and financial markets, politics continue to matter.

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