

The stagflation crisis and the European automotive industry, 1973-85

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The dissemination of Fordist techniques in Western Europe during the golden age of capitalism led to terrific rates of auto production growth and massive motorization. However, since the late 1960s this process showed signs of exhaustion because demand from the lowest segments began to stagnate. Moreover, during the seventies, the intensification of labour conflicts, the multiplication of oil prices and the strengthened competitiveness of Japanese rivals in the world market significantly squeezed profits of European car assemblers. Key companies from the main producer countries, such as British Leyland, FIAT, Renault and SEAT, recorded huge losses and were forced to restructure.

The degree of success in coping with the stagflation crisis depended on two groups of factors. On the one hand, successful survival depended on strategies followed by the firms to promote economies of scale and scope, process and product innovation, related diversification, internationalization and, sometimes, changes of ownership. On the other hand, firms benefited from long-term path-dependent growth in their countries of origin's industrial systems. Indeed, two of the main winners of the period, Toyota and Volkswagen, can rightly be seen as outstanding examples of Confucian and Rhine capitalism. Both types of coordinated capitalism contributed to the success of their main car assemblers during the stagflation slump. However, since then, global convergence with Anglo-Saxon capitalism may have eroded some of the institutional bases of their strength.

Keywords:

Crisis; automobile industry; Rhine capitalism; Confucian capitalism

1. The end of the golden age

According to a vast number of historians and economists, the long phase of growth in the period 1950-73 is considered to be the *golden age* of capitalism. In particular, Angus Maddison pointed out that global recessions (defined as a fall in real GDP) became increasingly rare in advanced economies. By analysing the history of slumps for a sample of sixteen leading OECD

economies since 1871, Maddison confirmed that the worst moment for economic growth was 1931, when fourteen out of the sixteen countries under consideration experienced recession.¹ In 1938 there were still four economies from the sample that were in crisis, and by the end of the Second World War the number of countries in recession had risen again to ten. However, since the late 1940s, the trend in the number of crises tended to diminish. During the period 1959-1966 no country within the sample experienced any recession. Stability prevailed until 1973. The near disappearance of crisis in the most advanced market economies significantly contributed to a sustained improvement in real per capita income in the West. The lack of slumps during the golden age also made possible full employment, the development of welfare states and a steady decrease in inequality within the advanced countries.²

The automotive industry contributed to this post-WWII economic boom through the spread of Fordism. In 1950 automobile production was concentrated in the United States, which manufactured more than 8 million vehicles. At the time, the largest European producer was the United Kingdom, which accounted for less than one-tenth of US output. The best Asian performer was Japan, but its output remained below 32,000 units. The US's astonishing world hegemony within the industry derived from the use of Fordist techniques. According to David Landes, Henry Ford was in fact the most innovative entrepreneur in modern business.³ He adopted innovations such as interchangeable parts and the moving assembling line, standardised the product, replaced piece-work with an hourly wage system of pay and gave control of the production process to engineers. With such innovations, he achieved tremendous economies of scale in production on the eve of the First World War. Such innovations made the Ford Model T increasingly cheaper, and it became the world's blockbuster vehicle prior to 1920. During the interwar years, the plants in Highland Park and River Rouge were visited by the world's leading businessman whose brands are still at the top of the industry today, such as Louis Renault, Giovanni Agnelli and Kiichiro Toyoda.⁴ The experience of the Ford Model T was also very influential on projects to create a very cheap vehicle for the lowest market segment, the main example being Ferdinand Porsche's Volkswagen Beetle.⁵

However, Ford was not the only great innovator of the industry located in Michigan. As Alfred Chandler demonstrated many years ago, Alfred Sloan's General Motors also introduced key changes such as product differentiation, consumer credit and marketing, which enabled the firm to take full advantage of economies of scope.⁶ The extent to which Ford's main rival

¹ Maddison, *Dynamic Forces...*, Table 4.8.

² See, among others: Armstrong, Glyn & Harrison, *Capitalism since 1945...*, 117-200. Marglin, 'Lessons of the Golden Age...', 1-38. Crafts, 'The Great Boom...', 42-62. Temin, 'The Golden Age...', 3-22. Maddison, *The World Economy...*, 125-149. Brenner, *The Economics of Global...*, 157-227. Eichengreen, *The European economy...*, 16-51. Catalan, 'From the Great Depression to...', 15-45.

³ Landes, *Dynasties, Fortunes and...*, 129. Landes, 'L'automobile e lo sviluppo...', 38-50.

⁴ Tolliday & Zeitlin (eds.), 'Introduction...', 3. Shiomi, 'Introduction...', 2.

⁵ Nelson, *Small wonder...*, 42-98. Abelshauser, *The Dynamics...*, 87-106.

⁶ Chandler, *Giant Enterprise. Ford, General Motors...*, 25-175. See also: Chandler, *Scale and Scope...*, 1-49 and 205-212. Chandler, 'Organizational Capabilities and...', 79-100. Chandler, *Shaping the Industrial Century...*, 3-18. The capabilities of large Detroit's firms as key assets of the industry has been recently confirmed by Klepper: Klepper, *The capabilities of new firms...*, 645-666. Klepper, *The origins and growth...*, 15-20. See as well, Boyer & Freyssenet, *The productive models...*, 36-76.

adopted the M-form of organisation is still a matter of controversy,⁷ but the fact remains that this second wave of radical innovation within the industry helped GM to overtake Ford in the 1920s. In any case, capabilities in production, distribution and organisation reinforced the role of Detroit as the world capital of the motor industry until the golden age.

Overseas attempts to imitate Ford and General Motors were unable to achieve full success within the unstable period that culminated in the Great Depression of the 1930s and the Second World War. Neither Ford subsidiaries in Europe or Opel, which was bought by GM in 1929, recorded significant successes when they tried to replicate overseas the innovations conceived in America. Although, there were attempts among most of producers established in Europe, demand was too weak during the interwar period to permit the successful incorporation of mass production techniques. Foreign-exchange controls prevented, as well, acceptable performance of the American subsidiaries in Europe.⁸

But efforts began again with renewed vigour after 1945. During the golden age of economic growth, European firms tried to replicate the innovations coming out of Michigan in their own countries. A lack of recessions encouraged the high investments required by an industry with such large economies of scale and scope. As a result, car production rose very fast in countries with relatively large markets and incomes. Britain's automobile output rose from less than 800,000 units in 1950 to 2.1 million in 1973. France and Germany performed even better, each climbing from less than 400,000 units annually to more than 3 million. Italy was to manufacture nearly 2 million vehicles in 1973, and Belgium and Spain, around 1 million each. Sweden produced approximately a half-million. However, at the other end of Eurasia, Japan was achieving the most impressive record, reaching an output in excess of 7 million of units in 1973 (Table 1).

⁷ Freeland, *The Struggle for Control...*, 295-393.

⁸ Wilkins & Hill, *American Enterprise...*, 270-285. Reich, *The Fruits of...*, 107-119. Turner, *General Motors and...*, 1-12. Nehmer, *Ford, General Motors and...*, 60-156.

Table 1. Main producers of automobiles (Thousands of vehicles)								
	1973		1985		2015			
1	United States	12638	1	Japan	12135	1	China	24503
2	Japan	7081	2	United States	11538	2	United States	12100
3	Germany FR	3949	3	Germany FR	4554	3	Japan	9278
4	France	3242	4	France	3083	4	Germany	6033
5	U K	2164	5	U S S R	2249	5	South Korea	4556
6	Italy	1960	6	Canada	1931	6	India	4126
7	U S S R	1604	7	Italy	1571	7	Mexico	3565
8	Canada	1575	8	Spain	1386	8	Spain	2733
9	Belgium *	1016	9	U K	1349	9	Brazil	2429
10	Spain	823	10	Belgium *	1035	10	Canada	2283
11	Brazil	733	11	Brazil	966	11	France	1970
12	Australia	410	12	Sweden	463	12	Thailand	1915
13	Swden	383	13	Australia	438	13	U K	1682
14	South Africa *	295	14	Mexico	425	14	Russia	1394
15	Mexico	283	15	Poland	388	15	Czech Republ.	1304
Note: (*) Mainly assembled from imported parts								
Sources: United Nations, <i>Industrial Statistics Yearbook</i> , New York. Organisation Internationale des Constructeurs								
d' Automobiles, <i>World Production by Country</i> , Paris.								

During the late golden age, Japan increased its output at an amazing rate and began to inundate the world market with its automobiles.⁹ However, global economic crises reappeared after 1973. According to Maddison, ten out of the sixteen leading industrial countries were in recession again by 1975. In 1981, six countries were still suffering through a slump. Both unemployment and inflation peaked throughout the 1970s and, subsequently, inequality and macroeconomic instability tended to increase in most countries in the developed world. Inflation and unemployment seemed simultaneously out of control until the mid-1980s.

The so-called stagflation crisis was the first significant slump in Western Europe since the 1940s. This crisis not only marked a turning point in terms of growth, but it also revealed that industrial hegemony was beginning to shift from West to East. In the case of the motor industry, the 1970s slump led to Japan replacing the United States as the world leader in the number of manufactured automobiles. In fact, by 1985, Japan's output stood above 12 million units, whereas the US remained slightly below this threshold. The nation of the rising sun was, at the time, the only Asian country appearing on the list of the top 15 car producers worldwide in number of units, but South Korea had already seen remarkable growth during those years¹⁰.

Since 1985 the shift in industrial hegemony towards Asia seems to have accelerated. As can be seen from Table 1, Japan was the only Asian manufacturer on the list of 15 top producers in 1985, whereas by 2015 the list included five countries from the continent, with China, South Korea, India and Thailand joining the club (in 2014 Indonesia appeared, as well, in the fifteenth place of the rank). The reverse tended to happen with Europe, whose number of producers

⁹ Maxcy, *The Multinational Automobile...*, 109-113. Udagawa, 'The Development of Production...', 107-119. Odagiri & Goto, 'The Japanese System of Innovation...', 98-103. Shiomi, 'The Formation of Assembler Networks...', 31. See also Chang in Lin & Chang, 'Should Industrial Policy in...', 488-492.

¹⁰ Amsden, *Asia's Next Giant...* Chang, 'The political economy...', 131-157. Chang in Lin & Chang, 'Should Industrial Policy in...', 488-492. Catalan, 'Strategic policy revisited...', 207-230.

among the top 15 worldwide declined from eight to just five. Germany, Spain, France and United Kingdom survived in the top list, but this was not the case with Sweden, Italy and Belgium. The latter two had already recorded a marked relative decline during the stagflation crisis. The fall of the United Kingdom throughout the slump was also notable: it sank from fifth to ninth position between 1973 and 1985. There was only one European newcomer in the 2015 list: the Czech Republic.

The aim of the special issue of *Business History* is to analyse how the European automobile industry adjusted to the first great slump after more than two decades of fast growth. Our analysis begins by considering country rankings of automobile output based on the conviction that there were macroeconomic and policy factors which affected firm performance during the stagflation crisis. However, success in dealing with the slump and adapting to the new Asian competition depended at least as much on strategic decisions taken by single firms during the later years of the golden age and on the way they adapted to the new conditions created by mounting labour costs, the collapse of Bretton Woods and the skyrocketing price of crude oil during the two consecutive shocks in 1973-74 and 1979-80. As business historians, we must be well aware of the significance of path dependence in the choice of techniques, products and organisational models.

2. Stagflation and the crisis of Fordism

The 1973-85 depression has been seen as a crisis of Fordism. In fact, if we look closely at the main European manufacturing firms on the eve of the slump, we notice that nearly all had based their expansion on taking advantage of large series production of a fairly cheap standardised model for mass consumption. The most notable case was the Volkswagen Beetle, which replaced the Ford Model T as the most produced model in history: by 1972, the *Käfer*, with more than 15 million units built, had overtaken Henry Ford's blockbuster.¹¹

The Beetle enabled the Wolfsburg-based company to become the third largest manufacturer worldwide in number of units by 1973, just behind the traditional leaders who had shared the main positions on the podium since the 1920s, General Motors and Ford. Germany had, however, also made other attempts to manufacture popular models, whose origins date back to the interwar years. An outstanding example is the Opel Kadett, a GM effort.¹² It was launched in 1936, when Heinrich Nordhoff served as technical director of GM's German subsidiary. As is well known, Nordhoff played a paramount role in VW's success during the golden age. In fact, Opel was the German-based brand that most effectively imitated Ford's

¹¹ Eckermann, *Vom Damfwagen zum...*, 166.

¹² Turner, *General Motors and...*, 40-48.

methods of mass production in the country.¹³ Completely new versions of the Kadett were relaunched by Opel from 1962 onwards.

The success of the volume strategy during the golden age can also be seen from the fact that Fiat and Renault were the next highest European brands in the world ranking, holding the seventh and eighth positions, respectively, in the 1973 column in Table 2. The Agnelli family's company had already tried to promote the production of small cars in the interwar years, achieving its greatest success with the 500 Topolino, which was launched in 1936 and recorded sales of around a half-million units until 1955.¹⁴ Throughout the golden age, Fiat's Nuova 500 played a comparable role to the German Beetle in Italy, achieving total sales of about 2.8 million units up to 1975. In 1971, the Turin-based firm launched another future blockbuster in the popular segment, the 127, which was to record sales of 3.7 units through 1983.¹⁵

Renault was nationalised in 1945 and changed its name to *Régie Nationale des Usines Renault*. Pierre Lefauchaux, the chief executive officer, could be considered the French Henry Ford, according to Jean-Louis Loubet.¹⁶ The firm conceived and began to produce transfer machines, which facilitated standardisation. Patrick Fridenson stresses that Renault preceded Toyota in developing the same type of machines by more than ten years.¹⁷

Lefauchaux also gave priority to reducing the number of models manufactured at Billancourt and to launching the first popular vehicle commercialised by Renault, the 4CV. Production of the 4CV climbed from 610 units in 1947 to more than 100,000 units by 1952. Maximum output of the 4CV was reached in 1955, when production was about 140,000.¹⁸ Later, Billancourt's cheapest model suffered acutely from the competition waged by Citroën's 2CV, or *deux chevaux*. But, again, throughout the sixties, Renault's R4 was also responsible for the Billancourt-based brand's climbing positions among the world's top manufacturers. Another success of the firm in the so-called A-segment was the R5 model, which began to be sold in 1972.

¹³ Reich, *The Fruits of Fascism...*, 107. See for the previous period: Flik, *Von Ford lernen?...*, 105-241. Opel also tried to participate in the Volkswagen project, but unsuccessfully. Its truck plant in Brandenburg was a result of this attempt. Turner, *General Motors and...*, 31-48.

¹⁴ Fiat Archivio Storico, *Fiat: Le Fasi della...*, 122. Castronovo, *FIAT 1909-1999. Un secolo...*, 518-564. Landes, *L'automobile e lo sviluppo...*, 59.

¹⁵ Fiat Archivio Storico, *Fiat: Le Fasi della...*, 122.

¹⁶ Loubet, *Renault...*, 105-107. Loubet, *Citroën, Peugeot...*, 49.

¹⁷ Fridenson, *'Fordism and Quality...*, 164.

¹⁸ Loubet, *Histoire de l'automobile...*, 278-294.

Table 2. Top ten manufacturers of automobiles (Thousand units)						
	1973		1985			2015
1 GM	7005	1 GM	7090	1 Toyota		10150
2 Ford	5871	2 Ford	5551	2 Volkswagen		9930
3 Volkswagen	2335	3 Toyota	3541	3 GM		9800
4 Toyota	2308	4 Nissan	2734	4 Renault-Nissa		8220
5 Chrysler	2217	5 Volkswagen	2398	5 Hyundai		7880
6 Nissan	2031	6 Chrysler	1870	6 Ford		6640
7 FIAT	1417	7 Renault	1638	7 FIAT-Chrysler		4610
8 Renault	1415	8 PSA Peugeot	1631	8 Honda		4478
9 BLMC	876	9 FIAT	1420	9 PSA Peugeot		2970
10 Peugeot	766	10 Honda	1265	10 Suzuki		2543
Notes: Ford 1973 & 1985, sales. Toyota 1973 & 1985, production in Japan. Chrysler 1973 & 1985, production in the US and Canada.						
Nissan, output abroad, estimated. FIAT, production in 1974. FIAT, Honda, Peugeot & Suzuki in 2015, production of passenger cars.						
Rest of companies, vehicle sales in 2015.						
Sources: Bordenave (2000). Flynn (2000). Shimizu (2000). Jürgens (2000). Belzowski (2000). Hanada (2000).						
Camuffo & Volpato (2000). Freyssenet (2000). Freyssenet & Mair (2000). Loubet (2000). Freyssenet & Mair (2000).						
Statista (2016), Leading automobile manufacturers in 2015, based on vehicle sales.						

The need to exploit economies of scale more effectively was one of the causes behind the mergers that led to the birth of British Leyland Motor Corporation in 1968.¹⁹ Austin and Morris had already attempted to manufacture small vehicles prior to the Second World War. Moreover, BLMC could rely on the experience accumulated since Alec Issigonis had designed the original Mini in the late 1950s, which, according to Timothy Whisler, would become the most remarkable success of Britain motor industry in foreign markets.²⁰

As can be seen in Table 2, BLMC still played a significant role as a world producer at the outbreak of the first oil shock—namely, eighth position—and its output exceeded 800,000 units in the early 1970s. Similarly, in France, Peugeot had gained familiarity with the most popular market segments since the launch of its 204 model in 1965. According to Loubet, Peugeot shifted from a specialist strategy to a volume one at that moment.²¹ Moreover, when the family bought Citroën in 1976 and created the PSA group, it also inherited the experience of the brand owned by Michelin since 1935: Citroën had manufactured another of the blockbusters of the popular segment during the golden age, the *deux chevaux*.

Although Spain did not have any brand that counted among the world's top manufacturers, its emergence as the tenth leading producer, as seen in Table 1, was a result mainly of the production of popular cars such as the Fiat 600 manufactured by SEAT and the R4 manufactured by FASA, Renault's subsidiary in Spain.²² BLMC's plant in Belgium manufactured the Mini. Ford's plant in Ghent also assembled large series Dearborn models, such as the

¹⁹ Foreman-Peck, Bowden & McKinlay, *The British Motor...*, 89-131.

²⁰ Whisler, 'The outstanding potential...', 8-14. See also Church, *The rise and decline...*, 85-87. Foreman-Peck, Bowden & McKinlay, *The British Motor...*, 137-145. Whisler, *The British Motor...*

²¹ Loubet, *La Maison Peugeot...*, 362-379.

²² Solé, *SEAT (1950-1990)...*, 33-57. García Ruiz, 'La evolución de la...', 133-163. Sánchez, *La implantación industrial...*, 147-175. Tappi, *Una empresa italiana...*, 40-134. Sánchez, *Renault y Citroën...*, 307-328. Catalan, 'Strategic policy revisited...', 207-230. Fernández-de-Sevilla, 'Renault in Spain...', 471-492. Fernández-de-Sevilla, 'Los orígenes del clúster...', 135-151. Fernández-de-Sevilla, 'La emergencia del capitalismo...', 135-168. Catalan, 'The Barcelona Cluster...', 12-23.

Escort, although these were targeted at higher market segments. The common tariff of the EEC and its convenient location within the heart of Western Europe made Belgium an attractive place to assemble cars.²³ In addition to the companies just mentioned, Citroën and Peugeot had also factories in Belgium since the inter-war period. General Motors opened a plant in Antwerp in 1965 and Volkswagen inaugurated its Belgian assembly facility in 1972. Even the Swedish firm Volvo, which can be considered more a specialist brand than a volume firm, assembled cars in Belgium from the mid-1960s.

Outside the US and Europe, the only companies appearing on the list of the world's top producers in 1973 were Japanese: Toyota and Nissan. Both firms began the production of automobiles during the 1930s. Starting in 1935, Nissan manufactured road vehicles in Yokohama, the same location where Ford had been assembling its vehicles for more than a decade. General Motors assembled its Chevrolet trucks in Osaka. Up to 1934, the two American firms together accounted for 90 per cent of the Japanese automobile market. However, since then, their share began to shrink, thanks to the efforts of domestic producers and the nationalist industrial policy adopted by the militarist governments. The latter included tax incentives granted to the Japanese producers, high tariffs and local requirements. It also implied strict restrictions on the import of parts and a prohibition on the American companies buying land. The result was that Nissan surpassed the US producers and became the first automobile manufacturer in Japan on the eve of the Second World War. Toyota reached second place.²⁴

The Toyoda family inaugurated its automobile manufacturing plant in Koromo in 1938. Although they undertook car production under a new brand, Toyota, they benefited from a fairly significant previous experience in business.²⁵ The Koromo factory was planned to incorporate Fordist principles, such as the conveyor belt, that had already been applied by Sakichi Toyoda to the assembly of looms in the late 1920s.²⁶ Moreover, Toyoda tried to complement its Fordist approach with its own innovations. Sakichi invented a device that suddenly stopped a loom when the warp was broken. The development of such an invention opened the door for the conception of the *Jidoka* principle: building machines with autonomy to stop automatically. Similarly, Sakichi's son, Kiichiro, began to develop the concept of Just-in-Time, by proposing to use materials and parts within Koromo's factory in a manner of "organic communication" in 1938.²⁷ A path-dependent pattern of innovation began to emerge at Toyota before Second World War.

Even if Nissan and Toyota had built passenger cars before the outbreak of World War Two, the growing militarization of Japanese society increasingly favoured truck production for the army. Japan had held back on the mass consumption of cars for a long time. In the immediate post-war years, most output was military trucks. However, in the early 1950s, the Ministry of International Trade and Industry (MITI) tried to promote licensing agreements with foreign

²³ Maxcy, *The Multinational Automobile...*, 102-108.

²⁴ Cusumano, *The Japanese Automobile Industry...*, 1-136. Reich, *The Fruits of...*, 278-291. San Román, 'Política económica y...', 74-78.

²⁵ Toyota CMIT, *Toyota Commemorative...*, 119-127.

²⁶ Toyota CMIT, *Toyota Commemorative...*, 280. Narusawa & Shook, *Kaizen Express...*, 52-55.

²⁷ Toyota CMIT, *Toyota Commemorative...*, 124.

manufacturers of passenger cars in order to gain access to technology, requiring 90 per cent of the parts used in their manufacture to be of domestic origin within five years from the start of production. Nissan signed an agreement with Austin. Toyota tried to reach arrangement with Ford, but finally preferred to continue with the development of its own technology. High tariffs and restrictions on foreign investment licensing were maintained in Japan until the second third of the sixties, by which time Japan's car output had already reached 3 million vehicles. Such policies began to change, however, under pressure from the United States, and Japan's tariff on car imports was reduced from 34 per cent to 17 per cent.

Post-war scarcities encouraged Toyota's efforts to create its own path of development, which began by imitating Fordist methods but then significantly improved on them. Kiichiro Toyoda died in 1952, but the engineer Taiichi Ono extended the Just-In-Time concept by developing a new method which reduced inventories significantly in manufacturing plants by using *Kanban* index cards, a precursor of modern barcode systems. Though the first steps in the use of *Kanban* cards began in around 1954, the system entered general use in all of Toyota's plants from 1962.²⁸ The second key principle of the Toyota system came to be known as *Jidoka* and entailed the design of machines able to detect defective parts by themselves.²⁹ It also required autonomy to be given to teams of workers to decide on the speed of operation of the assembly line. In addition, the Toyota system tended to integrate the concept of *Kaizen*, or continuous improvement, which involved the permanent search by managers and workers for new solutions to increase both productivity and quality in manufacturing activities.³⁰ As in many other Japanese firms, Toyota incorporated quality circles, targeting zero defects in car production. As a result, workers' teams met periodically to suggest improvements to production processes.

It should be added that the Toyota system implied long-term cooperation between the manufacturer and its suppliers, by means of the creation of a *kigyoo kereitsu* (or vertical cluster of firms), which also induced competition among them.³¹ The share of added value incorporated by the manufacturer tended to be lower than in other countries and, as a result, market relationships with suppliers had to be complemented by joint projects to develop new products and processes. Moreover, as in most Japanese firms, wages depended heavily on seniority and a commitment to long-term employment was guaranteed by practices with a strong Confucian flavour.³²

The Nagoya-based brand can be considered both a Fordist and a post-Fordist firm. It cannot be denied that, for a long time, Toyota followed a strategy based on volume production of a rather cheap car, making an intense use of economies of scale in production. In fact, its Corolla model, whose first series was launched in 1966, reached a cumulative production of 10 million

²⁸ Ohno, 'How the Toyota production...', 116-134. Womack, Jones, & Roos, *The Machine that Changed...*, 48-133.

²⁹ Shimizu, *Le toyotisme...*, 13-23.

³⁰ Boyer & Freyssenet, *The Productive Models...*, 77-88. Shimizu, *Le toyotisme...*, 31-39.

³¹ Shiomi, 'The Formation of Assembler Networks...', 28-48. Fujimoto, *The evolution of a manufacturing...*, 129-172. Amatori & Colli, *Business History...*, 175-177.

³² Morishima, *Why has Japan "succeeded"...*, 241-250. Koike, 'Internal Labor Markets...', 29-61. Garon, 'The Imperial Bureaucracy...', 441-457. Abe & Fitzgerald, 'Japanese Economic Success...', 1-31. Sugayama, 'Work Rules, Wages...', 120-408.

units in 1983.³³ In a few years more, it would replace the Beetle at the top of the podium of the world's best-selling cars: its cumulative production. In its domestic market the Corolla was to remain the best-selling model for more than thirty years. It would also decisively contribute to the conquest of the US market: Toyota's exports to the United States climbed from 158,000 vehicles in 1967 to 1.4 million units in 1978. Nevertheless, although the Corolla can be considered a Fordist model, lean production and the other principles of the Toyota system made the firm go much further than Ford's European imitators.

3. Departing from Fordism?

If we look again at Table 2, it is apparent that Toyota was one of the clear winners of the stagflation slump, becoming the world's third leading manufacturer in 1985, though at the beginning of the crisis it had already enjoyed a comfortable position in the ranking. But today's leading car producer worldwide was not the only firm to improve its international position in the late 1970s. Nissan rose from sixth to fourth position in terms of volume.³⁴ In 1985, Honda also stood among the world's top manufacturers, although in tenth position.³⁵ Today, Suzuki appears, as well, among the top ten car producers of the world. The improvement experienced by all Japanese companies tends to confirm that, in addition to firm strategy, there was also a country effect in the restructuring experienced by the world automobile industry. As our special issue is devoted to the European car industry, no article in this issue offers an exclusive analysis of the Japanese case. Nevertheless, we are fortunate enough to have a fruitful contribution by James Walker which tries to evaluate the effect of one of the key protectionist measures to be adopted in the West in order to facilitate the adjustment of the automotive industry to the increasing competition from Japanese manufacturers: voluntary export restraint³⁶. As you will see after reading the article, the conclusions are not very optimistic from a European point of view, though the author focuses his attention on the British case. Walker's work suggests that the worldwide success of the Japanese motor industry derived not only from process innovation, as most of the studies on Toyotism tend to suggest, but also from product upgrade. In fact, Japanese firms reacted to quantitative restrictions by entering new market segments such as 4-by-4 and luxury vehicles. The successor of BLMC, Rover, which had been a pioneer in the off-road segment, proved unable to take advantage of its former lead in this technology. As Walker's article also shows, in new attributes as well as in engine size, the Japanese producers improved significantly throughout the 1980s, the period when voluntary export restraint was in operation in both Britain and continental Europe.

³³ Cusumano, *The Japanese Automobile Industry...*, 122.

³⁴ Cusumano, *The Japanese Automobile Industry...*, 265-328. Hanada, 'Nissan : Restructuration pour redevenir', 117-138.

³⁵ A few authors consider the experience of Honda in the world auto market as more innovative than Toyota's own experience. See for instance: Freyssenet & Mair, *Le modèle industriel...*, 139-153. Boyer & Freyssenet, *The Productive Models...*, 89-100. Also: Volpatto, 'The Automobile Industry in Transition...', 200-202.

³⁶ Walker, 'Voluntary export restraints...',

In fact, Britain showed the worst decline in Table 1 and BLMC had disappeared from the list of top manufacturers by 1985 in Table 2. The importance of this topic convinced us of the need to devote two additional articles to explaining the decline of the British motor car industry, in general, and BLMC in particular. The article by Donnelly, Begley and Collins deals with the issue from the perspective of the West Midlands, the birthplace of the British car industry.³⁷ The West Midlands still accounted for about two thirds of UK output at the beginning of the 1970s.

Donnelly, Begley and Collins' research confirms that one of the major long-term problems of the British industry was the existence of too many factories in the area, preventing efficient use of economies of scale. Indeed, the total of 60 plants seems far too great in comparison with Britain's main European competitors. For instance, the Peugeot/PSA group, after taking over Citroën and Chrysler Europe, had around 30 main plants in the Old continent.³⁸ Its main rival in the market of origin and a much less profitable corporation, Renault, had 44 main factories only in France.³⁹

British private entrepreneurs had been trying to deal with the problem of having too many plants to fully benefit from scale economies long before the 1970s crisis. Austin and Morris had merged as early as 1953, and Standard was taken over by Leyland in 1961. The process of concentration continued with the creation of two new groups in 1967, which become BLMC a year later.

The article by Donnelly, Begley and Collins also stresses Roy Church's finding that BLMC prioritised the disbursement of dividends during the years preceding its conversion to public ownership in 1975 and its fully conversion into the British 'national champion'.⁴⁰ It also underlines Wayne Lewchuck, James Foreman-Peck, Sue Bowden, Alan McKinley and Tom Richardson's concerns regarding wrong systems of pay and weak management.⁴¹ In any case, Michael Edwardes, both chairman and managing director of the British *national champion* during the 1977-82's period, is characterised as a turnaround manager. He began to close plants and sack workers on a massive scale in the late 1970s. He also opted for an alliance between British Leyland (the new name of the firm name since 1977) and Honda.⁴² The Honda Ballade model would be built at Canley and launched under the pompous name of Triumph Acclaim, though with much less success than it was expected.

Later, in accordance with the new Tory policy, the luxury subsidiary Jaguar was privatised in 1984. Since 1982, the company had been renamed the Austin Rover group. This new strategy could not prevent rapid decline: production of cars by the British national champion fell from

³⁷ Donnelly, Begley & Collins, 'The West Midlands...',

³⁸ Loubet, *La Maison Peugeot...*, 418-419.

³⁹ Loubet, Renault. *Histoire d'une...*, 265.

⁴⁰ Church, *The rise and...*, 45-130. Church, 'Mass Marketing Motor Cars...', 36-57. See for the precedents, Church, 'Deconstructing Nuffield...', 561-583.

⁴¹ Lewchuck, *American technology and the British...*, 214-215. Foreman-Peck, Bowden & McKinlay, *The British Motor...*, 165-169. Bowden, Foreman-Peck & Richardson, 'The Post-War Productivity Failure...', 54-78.

⁴² Pilkington, 'Learning from Joint Venture...', 90-114.

916,200 units in 1973 to only 396,000 units in 1984.⁴³ Donnelly, Begley and Collin's article confirms that the decline of the British automobile industry was caused by an inter-related set of factors: plants too small to reap the benefits of economies of scale in production; poor managerial decision making; and the failure of long-term strategic planning by entrepreneurs, managers and the government.

Even more provocative is the article by Tomasso Pardi.⁴⁴ Pardi seeks to dismiss Timothy Wisler and Roy Church's insistence on the heavy legacy of the past as an explanation for the inability of BL and Austin Rover to recover during the 1980s. He tends to consider the subsidised establishment of Nissan in Britain in the first half of the decade as quite mistaken.⁴⁵ His article sees the decision as the success of a quite well-organised pressure group, which was behind the Tory government's action. Large suppliers of automotive parts such as Lucas, GNK and Smith Industries won the game and BL, which was interested in outsourcing within the continent, lost it. In any case, Nissan's establishment in Britain, under the condition of using high shares of local parts, did not stop the decline of automotive production in the United Kingdom.

However, it should be noted that the decisions to detach Jaguar from Austin Rover and later the privatization of Leyland Trucks (1987) and the rest of the Rover group (1988), went against the strategies which had been adopted by most of the main actors in the continent since the late 1960s. Volume producers had tried to enter new market segments and often to buy complementary brands, when it became clear that the demand for more popular vehicles and national markets were starting to slow down.⁴⁶ Volkswagen took full control of Auto Union in 1966 and NSU in 1967. Both were merged to create the Audi brand. Much later, in 1982, Wolfsburg signed an agreement with SEAT to commercialise the German brands and produce a few models in Spain. Later it took a stake in the Spanish firm, and gained absolute control in 1986.⁴⁷ Steven Tolliday pointed to the transfer of technology from the up-market Audi range to the Wolfsburg's brand as the key factor in the transition to a new model of product development in Volkswagen.⁴⁸ The takeover of SEAT also helped to consolidate its domination of the low-range segment of the European market.⁴⁹

Jean-Louis Loubet underlined the fact that the Peugeot family tried to create a French version of General Motors by acquiring Citroën from Michelin in 1976.⁵⁰ Another significant step in this direction was taken in 1978, with the agreement to buy Chrysler subsidiaries in Europe. Similarly, the main French producer, Renault, was looking to achieve new scope economies by acquiring a 5 per cent stake in the fourth-ranked US producer, American Motors Corporation.

⁴³ Church, *The rise and...*, 109.

⁴⁴ Pardi, 'Industrial policy and the British...',

⁴⁵ A completely opposed view in Wickens, *The Road to Nissan...*, 182-190.

⁴⁶ Jürgens, Malsch & Dohse, *Breaking from Taylorism...*, 59-62. Tolliday, 'From "Beetle Monoculture...', 118-119.

⁴⁷ Preis, 'Volkswagen: Accelerating from...', 60-66. Catalan, 'La SEAT del Ibiza...', 259-316.

⁴⁸ Tolliday, 'From "Beetle Monoculture...', 118-119.

⁴⁹ Catalan, 'La SEAT del Ibiza...', 259-316.

⁵⁰ Loubet, 'L'automobile française...', 126-130.

Fiat was also attempting to adopt a strategy of benefiting from scope economies by looking at higher added-value segments and taking over Lancia in 1969.⁵¹ However, if we turn our attention again to Table 2, we'll notice that the Turin-based brand appears as another of the relative losers in the stagflation slump. It fell from seventh to ninth position in volume in the world ranking throughout the crisis. As is well known by business historians, it is not so easy to reap the benefits of merging when different entrepreneurial cultures meet. Mercedes Benz would realise this fact a few decades later with its failed attempt to take over Chrysler.⁵² Nowadays Fiat is trying again with Chrysler. The article by Giuliano Maielli addresses this issue and looks for reasons to explain why Fiat, unlike VW, was unable to benefit significantly from the takeover of a quality producer like Lancia.⁵³ Maielli has previously sought to explain Turin's inability to readjust the output mix towards upper segments as a lock-in phenomenon.⁵⁴ In his contribution to this special issue, he comes back to the question and stresses the fact that the survival of Fiat's routines for new design selection triggered the lock-in phase in the 1970s and led to the failure of Turin's strategic readjustment of the output mix.

Maielli's ambitious theoretical approach to understanding Fiat's failure in the 1970s complements the work of classical economic historians such as Valerio Castronovo, who underlined the strategic hesitation within the Agnelli family during the 1970s. In fact, Giovanni Agnelli, in 1975, announced a relative reduction in investment devoted to the launching of new car models.⁵⁵ This could be interpreted as opting for a strategy of unrelated diversification, which would have shocked the firm's earlier managers, under the tight control of *Professore* Vittorio Valetta.⁵⁶ The decisions taken during the stagflation crisis by Giovanni and Umberto Agnelli revealed serious doubts about the future of the automobile sector by encouraging the transformation of Fiat into a multi-sector holding company. The intensification of labour conflict in the Mirafiori and Lingotto plants since the *Autunno Caldo* ["hot autumn"] of 1969 might have helped to convince the family of the need to encourage unrelated diversification. During the three-year period 1977-79, a new wave of strikes and political terror, including the assassination of engineer Carlo Ghiglieno, increased the perceived risk of productive investment in Fiat's auto division. Labour conflict culminated in the occupation of the Mirafiori factory in 1980 by radical workers under the leadership of left-wing organisations and non-cooperating workers' councils.

Umberto Agnelli resigned as chief executive officer in 1980 and a new manager, Cesare Romiti, was appointed. Romiti reminded many of Valetta. Romiti successfully put an end to permanent labour conflict, concentrated the company's efforts on cutting costs through the use of robotics and prepared for the launch of a new volume model, the Uno, which came to market in 1982. According to Volpato, FIAT was the European firm which made the most intensive resort to robots by 1983.⁵⁷ The Uno, another blockbuster of the brand, would

⁵¹ Amatori, 'Impresa e mercato...', 9-148. Berta, 'Cinquant'anni di relazione...', 261-299.

⁵² Köhler, 'The DaimlerChrysler Deal...', 73-102.

⁵³ Maielli, 'Path-dependent product development...',

⁵⁴ Maielli, 'Spot-Welding Technology...', 102-121.

⁵⁵ Castronovo, *Fiat 1899-1999...*, 1346-1347. See also: Friedman, *Agnelli and the network...*, 105-112.

⁵⁶ Amatori, 'Gli Uomini del Professore...', 329-342.

⁵⁷ Volpato, 'The Automobile Industry in Transition...', 218.

eventually rescue the firm (with 6.3 million units produced during its life cycle).⁵⁸ In the meantime, however, the company was saved by Italian public spending through the use of the *Cassa Integrazione* and it enjoyed large subsidies and credits from Brussels. Romiti also decided to retreat from other markets such as Spain, given the dissatisfaction at Corso Marconi with Madrid's policy of liberalisation of the industry and the heavy losses reported by its participated SEAT.

Renault's image in Table 2 looks much better but it must be taken into account that the company was also saved thanks to substantial government support throughout the early 1980s. Tomás Fernández de Sevilla's article gives us a rather optimistic image of the internationalisation process of the Billancourt-based brand during the stagflation crisis by analysing the performance of FASA-Renault.⁵⁹ In fact, Billancourt's Spanish subsidiary recorded the largest output manufactured by Renault outside of France, reaching a total of 224,915 vehicles in 1985, which accounted for nearly one-quarter of the production of all of Renault's subsidiaries abroad (next came Belgium with 145,852).⁶⁰ FASA-Renault showed itself to be a much more successful subsidiary than SEAT throughout the slump. Together with Ford and Opel, it significantly contributed to Spain's improvement in the rankings in Table 1, transforming the Iberian country into the fourth highest European producer of automobiles. Renault was able to take full advantage of the Spanish potential as an exporter of small vehicles to the Old Continent.

But, as Jean-Louis Loubet has stressed, Régie Nationale Renault's strategic choices concerning internationalisation and new locations should be regarded in a rather critical way. Billancourt's stake in AMC rose to 23 per cent in 1980 and reached 46 per cent two years later. The French company began by using AMC's 2,300 selling points to export its R-5 and R-18 models to the United States. As a second stage, it then tried to assemble its R-9 and R-11 models in Wisconsin and commercialised them in the US market under the name of Alliance and Encore. A new AMC plant was built in Canada to manufacture updated versions of the Jeep. Moreover, Renault took a 20 per cent share in Mack Trucks, a prominent US producer of heavy lorries. On the whole, the French company, together with AMC and Mack, assembled an output of 252,123 vehicles in North America by 1984.⁶¹ Facilities in the US replaced Belgian plants as the second largest non-French location for Renault's assembly capacity after Spain.

Renault's high expectations for its North American operations were not matched by facts. Sustained losses from 1981 resulted in out-of-control indebtedness. In 1984, Renault's debt amounted to half of its current sales. And, as can be seen in Table 3, Renault's losses at the end of the international crisis still accounted for 15 per cent of sales. According to Loubet, the situation was one of technical bankruptcy.⁶² The heavy losses were only affordable because of the continuous support of the government during the presidency of François Mitterrand. Pierre Dreyfus became minister of Industry in the cabinet of Pierre Mauroy in 1981. At that

⁵⁸ FIAT Archivio Storico, *FIAT: Le Fasi...*, 122.

⁵⁹ Fernández de Sevilla, 'Growth amid storm...',

⁶⁰ Loubet, *Renault. Histoire d'une...*, 221.

⁶¹ Loubet, *Histoire de l'automobile...*, 412.

⁶² Loubet, 'L'automobile française...', 146.

point, the Billancourt-based company obtained permanent financing by means of public credit and compulsory loans, despite Renault's mounting debts. On the other hand, Bernard Hanon, the chief executive officer who gave priority to the conquest of the US market, accepted defeat by resigning in early 1985.

Profits/Sales in %					
				1973	1985
FORD				3.94	4.77
GENERAL MOTORS				6.70	3.10
TOYOTA				0.79	2.34
NISSAN				4.54	1.57
VOLKSWAGEN				1.94	1.14
PEUGEOT/PSA				2.38	0.54
BLMC/ROVER				3.72	-1.01
RENAULT				0.41	-15.47
SEAT				2.81	-17.55
Note: Profit is defined as net income after tax					
Sources: Own elaboration from Bordenave (2000). Catalan (2010). Freyssenet (2000). Freyssenet & Mair Freeland (2001). Hanada (2000). Jürgens (2000). Loubet (2000). Shimizu (2000).					

Renault, much like Fiat, was confronted with recurring labour conflicts, beginning with the occupation of its main factory in May 1969. According to Michel Freyssenet, the company experienced a sustained labour crisis which structurally squeezed its profit margin.⁶³ Renault's chief executive officer, Bernard Vernier Palliez, was kidnapped in December 1975. Absenteeism reached 9.5 per cent in 1978. Dismissals were also strongly opposed by unions. In

⁶³ Freyssenet, 'Renault...', 420.

fact, Renault, in sharp contrast to most manufacturers during the period, avoided significant redundancies until 1985.

In the long run, Renault's story can be interpreted as that of a Fordist producer (with popular cars such as the 4CV and the R4) which was already searching for economies of scope during the late golden age, when it launched several models for upper segments (such as the R12). During the stagflation crisis, it tried to move beyond a strategy of related diversification and combine this with a large step towards internationalisation by investing in North America. The strategy failed, however, and the company was saved only by strong public intervention (i.e. industrial policy) and by a new Fordist success: the R-5. This lower-segment model gained easy acceptance among consumers who did not have high incomes, such as women and students. The R-5 accounted for the increase in Renault's market share in its main market.

Fordism also triumphed in Spain during the stagflation slump, but at the cost of a dramatic shift in industrial policy which was responsible for the collapse of the former national champion, SEAT.⁶⁴ In 1972 Henry Ford II visited Spain. He obtained permission to build a new factory in the country, which was to work with a lower national content requirement than its rivals (60 per cent versus 90 per cent of parts).⁶⁵ The new plant would be built near Valencia and be devoted to the production of engines and a new model for the lower segment, the Fiesta.⁶⁶ The model, which derived from the Bobcat project for a global car, was ultimately conceived as an improvement of the then blockbuster model of SEAT, the front-wheel drive 127, produced under Fiat licensing. The Fiesta was launched in 1977 and helped to increase Spanish automobile exports, but it contributed to the fall in demand for SEAT, which as a result recorded dramatic losses (see Table 3).

Whereas Britain's share in Ford's European production declined from 46 per cent in 1972 to only 21 per cent in 1985, the Spanish share climbed from nil to 21 per cent.⁶⁷ Gérard Bordenave presented the results of the Fiesta's launch as "a big success for Ford in Europe".⁶⁸ Steven Tolliday confirmed that the Fiesta model accounted for the Dagenham-based brand's sales rocketing in the late 1970s and contributed decisively to Ford Europe becoming the leading producer of cars on the Old Continent. According to Paul Thomes, the Fiesta together with the redesigned Escort model, allowed Ford Werke AG to compensate "for the disappointing sales of the middle-class models Taunus, Consul and Granada".⁶⁹ The new Escort, launched in 1980, complemented the Fiesta's terrific success. It was also conceived as a global car. It would finish its career as another of Ford's blockbusters, with more than 20 million units sold.⁷⁰ Ford's plant in Saarlouis assembled about 250,000 units of the Escort a year (including the Orion variant) during the first half of the eighties. It significantly contributed to maintaining the German branch as the main subsidiary of Ford Europe, accounting for 55 per cent of the

⁶⁴ Catalan, 'Strategic policy revisited...', 207-230. Catalan, 'The Barcelona Cluster...', 12-23.

⁶⁵ García Ruiz, *La evolución de la industria...*, 133-163. Catalan & Fernández-de-Sevilla, 'Die staatliche Industriepolitik und...', 254-284.

⁶⁶ Pérez Sancho, 'La industria del automóvil...', 127-166.

⁶⁷ Bordenave, 'Ford of Europe...', Vol. 2, 286. Tolliday, 'Ford of Britain...', Vol. 2, 144.

⁶⁸ Bordenave, 'Ford of Europe...', Vol. 2, 276.

⁶⁹ Thomes, 'Searching for identity...', Vol. 2, 165.

⁷⁰ Thomes, 'Searching for identity...', Vol. 2, 166.

Old Continent's output in 1985.⁷¹ In short, the rebirth of the Fordist strategy within the company which originally conceived the Model T contributed to restoring its profitability and, as can be seen in Table 3, enjoying even better profit margins than Toyota in the mid-1980s.

Something similar might have happened with General Motors' subsidiary in Europe, Opel. It also decided to build a new plant in Spain to produce another vehicle for the popular segment, the Corsa model.⁷² The factory began to operate in 1982 on the outskirts of Zaragoza. By 1985 Opel had become the top car producer in Spain, with an output of 277,101 units. This result contrasted sharply with GM's trend toward stagnation in worldwide production at around 7 million vehicles, as shown in Table 2. The sales figures and profitability ratios provided by Michael Flynn suggest that the worst moment for the world's leading producer during the stagflation crisis was 1981.⁷³ From that point onwards, the main economic indicators of the firm's performance began to improve. GM, as well as Ford and Chrysler, also benefited from the voluntary restraint agreement with Japan in the US market. According to Flynn, however, operations in Europe contributed significantly to restoring the profitability of the world's leading producer. In the US, General Motors maintained its "Fordist" orientation by implementing its GM10 program, which involved using a common platform in all divisions, with the exception of Cadillac.⁷⁴ The ratio profits/sales, compiled by Freeland, confirm that GM succeeded in restoring profitability to a remarkable level in comparative terms: 3.1 per cent of sales in 1985 (Table 3).⁷⁵

If Toyota, Ford and GM were among the best performers in terms of profitability during the stagflation crisis, and the national champions, BLMC/Rover, Renault and SEAT, among the worst, Volkswagen, Nissan and Peugeot PSA remained in an intermediate position. The latter gave priority to building scope economies during the crisis. Nissan and Peugeot experienced a significant fall in profitability during the stagflation crisis and their stories suggest that a related-diversification strategy did not always pay off. Nissan launched a Fordist model to compete with Toyota's Corolla in 1966, the Sunny, but later orientated itself to rapidly increasing the number of models available.⁷⁶ In 1967, it produced six models. On the eve of the first oil shock, the range increased to ten different vehicles. By 1985, the number of options had reached eighteen models.⁷⁷ Moreover, the Japanese company, which already exported more than 30 per cent of its output in 1973, fostered its effort to internationalize. In 1980, Nissan bought a significant stake in Barcelona's heavy vehicles producer, Motor Iberica.⁷⁸ Three years later, the Japanese firm began to assemble an American version of the Sunny model (Sentra) in Smyrna (Tennessee) and was preparing its establishment in the United Kingdom.⁷⁹ Nevertheless, the clear bets placed by the Japanese firm on economies of scope and internationalization did not prove to be very fruitful strategies. Nissan's profitability in

⁷¹ Tolliday, 'Ford of Britain...', Vol. 2, 144-145.

⁷² Germán, 'Made in GM...', 167-190.

⁷³ Flynn, 'Changement stratégique...', 224-225.

⁷⁴ Flynn, 'Changement stratégique...', 210.

⁷⁵ Freeland, *The Struggle for...*, 328-329.

⁷⁶ Hanada, 'Nissan: restructuration pour...', 121-124.

⁷⁷ Hanada, 'Nissan: restructuration pour...', 124-128.

⁷⁸ Catalan, 'The Barcelona Cluster...', 19-21.

⁷⁹ Hanada, 'Nissan: restructuration pour...', 124-128.

1985 might be seen as acceptable in compared to some other manufacturers in that year, as profits on sales stood at around 1.5 per cent, but it had shrunk dramatically in relation to its performance in 1973, when Nissan's profitability indicator was nearly three times higher.

The Peugeot family, as noted previously, tried to create a French version of General Motors by taking over Citroën and Chrysler Europe and launching the Talbot brand. This policy had a tremendous negative effect on profitability, although Peugeot had been the most profitable French brand prior to 1973 and the demand for its diesel-engine vehicles was encouraged by the rising price of petrol during the twin oil shocks. In fact, the PSA group recorded huge losses every year in the period 1980-84.⁸⁰ The group decided to close Citroën plants in Gutenberg, Javel, Mulhouse, Clichy and Nanterre, as well as the Peugeot plant at Bondy and the Talbot factory at Linwood. By dramatically lowering the number of employees from 263,000 in 1979 to 187,000 in 1984, Jacques Calvet succeeded in restoring the firm's profitability by 1985. However, the margin, as Table 3 shows, was still very slim. On the other hand, Peugeot's dominance of the diesel-engine technique showed the firm's solid R&D capability, which contributed to its long-term survival.

4. Volkswagen and German success

Over the very long run, the most successful firm among European volume producers was Volkswagen. In fact, as Table 2 indicates, the Wolfsburg-based firm today shares the world podium in output together with GM and Toyota. The stagflation crisis, however, was not easy for the German brand to cope with. Volkswagen fell from third to fifth position during the slump and its profitability was also significantly eroded. But, if we look carefully at Table 2, it will be noticed that, in spite of the better performance of Japanese companies, Volkswagen was able to retain its lead among European producers, even at the end of the golden age.

Our conviction is that the success of Volkswagen is explained by the interaction of two different sets of factors: on the one hand, the right strategic choices made by Wolfsburg, in particular since the later years of the golden age; on the other, the long-term development model of German capitalism. Beginning with Volkswagen's strategic choices, studies by Walter Henry Nelson, Werner Abelshauser, Steven Tolliday, Ulrich Jürgens, Robert Boyer, Michel Freyssenet and Manfred Grieger have clarified which decisions taken at the firm level contributed to building competitive advantage over the very long run.⁸¹ As stressed above, VW used to be the most Fordist brand among volume producers in Western Europe. As Walter H. Nelson underlined, Ferdinand Porsche visited the River Rouge Complex in October 1936, when he was preparing for the mass production of the K-d-F Wagen.⁸² The next year, after the creation of the Gesellschaft zur Vorbereitung des Volkswagens, the Austrian designer visited

⁸⁰ Loubet, 'L'automobile français...', 147. Loubet, 'Lorsque Peugeot rencontre...', 403.

⁸¹ Nelson, *Small Wonder...*, Abelshauser, 'Two Kinds of Fordism...', 269-296. Tolliday, 'Enterprise and State...', 277-312. Tolliday, 'From "Beetle Monoculture...', 11-132. Jürgens, 'Le développement du modèle...', 294-306. Boyer & Freyssenet, *The productive models...*, 58-59. Abelshauser, *The Dynamics of...*, 98-104. Grieger, 'Die "geplatzte Wirtschaftswundertüte" ...', 23-75.

⁸² Nelson, *Small Wonder...*, 62.

Detroit again and met with Henry Ford. The objective of his second visit was not only to become more familiar with mass production methods, but also to hire skilled labourers to work in the new plant being built in Fallersleber (later known as Wolfsburg). Although the amount of foreign labour which would be used in Hitler's Autostadt turned to be of little significance, the episode corroborates that Ford and the US provided the key example to follow.

Steven Tolliday opposed Mancur Olson's thesis on the supposed erosion of the elites' power by US occupation. On the contrary, the results of Tolliday's seminal research tended to corroborate the stress in Simon Reich's argument on Volkswagen's fundamental continuity after the Second World War with strategic choices made in the Nazi period.⁸³ It should be added that more recent work by Anders Ditlev Clausager underlines the benefits that the firm reaped from being freed from the control of the Nazis and also its relatively high degree of freedom at the beginning of the golden age.⁸⁴ But Clausager accepts, as well, that a key feature of the success of the German Beetle was that it was a small car, extremely well adapted to demand in its domestic market. He stresses as well that, contrary to the model exported by Britain during the 1950s, the *Käfer* was also very suitable for export markets.

Steven Tolliday, Ulrich Jürgens, Stephanie Tilly, Florian Triebel and Manfred Grieger agree in pointing to the recession year of 1967 as the critical date marking the transition from a volume strategy mainly based on the *Käfer* to a rather diversified range of models.⁸⁵ Up to then the Beetle still accounted for more than two-thirds of Volkswagen production. Heinrich Nordoff had prioritised incremental improvements in the *Käfer* rather than the launch of completely new models. However, the demand for small cars was slowing down in Germany's Miracle, whereas competition from Japanese producers in the world market urged a strategic shift in priorities. During the two-year period 1967-68, the fall in profits experienced by VW AG contrasted with rising profits in the holding company (which had fully included Audi since 1966).⁸⁶

The new chief executive officer, Kurt Lodz, undertook a radical change in Volkswagen's portfolio during the period 1968-74.⁸⁷ On the one hand, he aimed at building new R&D capabilities by substituting air-cooled rear engines for water-cooled front engines. On the other, Lodz decided to look for scope economies and strove to conceive an integrated range of models rather than to develop a new blockbuster car. The strategy involved using all of the potential of the engineers of VW, Audi and Porsche working together. In the short term, it was an expensive strategy and Lodz did not survive in his post, but it allowed Wolfsburg to enter

⁸³ Tolliday, 'Enterprise and State...', 273. See also: Engelhard, 'Making Room for the...', 14-21. Rieger, *The People's Car...*, 42-91.

⁸⁴ Clausager, 'The Rivals...', 228.

⁸⁵ Tolliday, 'From "Beetle Monoculture"...', 112-125. Grieger, 'Die "geplatzte Wirtschaftswundertüte"...', 25-45. Tilly & Triebel. *Automobilewirtschaft nach 1945...*, 5-12. Tilly, *Kooperation in der Krise?...*, 167-184.

⁸⁶ Grieger, 'Die "geplatzte Wirtschaftswundertüte"...', 44.

⁸⁷ Tolliday, 'From "Beetle Monoculture"...', 116. Jürgens, 'Le développement du modèle...', 293-336. Tilly, 'Kooperation in der Krise?... Grieger, 'Die „geplatzte Wirtschaftswundertüte“... 23-75.

the stagflation crisis with radically updated models: the Golf, the Jetta and the Passat.⁸⁸ As underlined above, the crucial factor, according to Tolliday, was the transfer of technology from the quality brand, Audi, to its volume counterpart, Volkswagen. The strategy also included a model for the cheapest segment of the market: the Polo. Ulrich Jürgens categorised VW's strategy during the stagflation crisis as "diversified Fordism".⁸⁹

Up to this point, VW's strategy did not look very different from that of Renault or Peugeot. Like its French rivals, the German brand also made a major commitment to internationalisation during the stagnation crisis, even if Wolfsburg's attempt was the most successful. Like Peugeot and Renault, VW failed in the United States, but unlike Peugeot and Renault, it succeeded in dominating the Mexican market by transferring production of the *Käfer* to Puebla. VW captured critical market shares in Brazil, South Africa and Australia as well.⁹⁰ Under the lead of Carl Hahn, it took a significant step into the Periphery of Europe by taking over Seat. The above operation would be repeated again with the purchase of Skoda after the fall of communism.⁹¹ The pursuing of such strategy in the very long-run, explains the emergence of the Czech Republic as significant auto producer, which we can see in Table 1.

According to Wolfgang Streeck, Ulrich Jürgens, Steven Tolliday and Werner Abelshauser, another advantage of VW relates to its system of conflict resolution. Although Hahn favoured automation to compete better with the Japanese, he also emphasised the capacity of skilled workers to keep costs under control and improve quality. Streeck insisted that more powerful labour organisations and better representation of workers' interests in Germany, in comparison to European rivals and the United States, made flexibility less costly and facilitated quality improvement.⁹² Abelshauser underlined that Wolfsburg's workers cooperation was even more intense than German average because of the policy of the *Industriegewerkschaft Metal* within the company.⁹³ In any case, labour conflicts and aggressive strikes never reached heights in Germany comparable to the episodes experienced in Britain, Italy, France and Spain.⁹⁴ Evidence supporting this interpretation can be drawn from Table 4.

⁸⁸ Tolliday, 'From "Beetle Monoculture" ...', 116.

⁸⁹ Jürgens, 'Le développement du modèle...', 308.

⁹⁰ Wolfe, *Autos and Progress...*, 115-177. Rieger, *The People's Car...*, 255-291.

⁹¹ Lupa, *Volkswagen Chronik. Der Weg...*, 120-151.

⁹² Streeck, 'Successful Adjustmen to Turbulent...', 113-156. Tolliday, 'From "Beetle Monoculture" ...', 126.

Jürgens, 'Le développement du modèle...', 319-320.

⁹³ Abelshauser, *The Dynamics of...*, 100.

⁹⁴ Lewchuck, 'American technology and the British...', 202-214. Church, *The rise and decline...*, 69-87. Foreman-Peck, Bowden & McKinlay, *The British Motor...*, 173-184. Contini, 'The Rise and Fall of Shop-Floor...', 144-167. FIAT Archivio Storico, *Fiat: Le Fasi...*, 161-162. Musso, 'Le relazioni industriali...', 209-231. Loubet, *Renault. Histoire d'une...*, 273-279. Freyssenet, 'Renault: Une stratégie....413-424. Tappi, 'Un'impresa italiana ...', 101-134.

Table 4. Rate of inflation during the stagflation crisis (% increase in Consumption Prices Index)

	Germany FR	Japan	US	France	U K	Italy	Spain
1971	5.0	6.0	4.0	6.0	9.0	5.0	8.0
1972	5.7	4.7	3.8	5.7	7.3	5.7	8.3
1973	7.2	11.7	5.6	7.1	9.4	10.8	12.0
1974	6.7	24.2	11.4	14.2	20.3	18.7	15.3
1975	6.3	11.7	9.4	11.7	24.3	17.1	17.2
1976	3.7	9.3	5.8	9.8	16.8	17.0	17.5
1977	4.3	8.5	6.1	8.9	15.8	18.5	24.5
1978	2.7	3.4	7.7	9.3	8.4	11.8	19.7
1979	4.0	3.8	11.3	10.5	13.3	14.7	15.8
1980	5.3	6.4	13.6	13.6	17.6	20.5	14.9
1981	6.0	5.0	10.0	13.0	12.0	18.0	15.0
1982	5.7	2.9	6.4	12.4	8.0	16.1	13.9
1983	3.6	1.9	3.4	9.4	5.0	14.6	12.2
1984	2.6	1.8	4.1	7.2	4.7	10.8	11.6
1985	1.7	2.7	4.0	6.0	6.8	9.2	8.5
Average 73-85	4.6	7.2	7.6	10.2	12.5	15.2	15.2
Sources: United Nations, <i>Statistical Yearbook</i> . New York.							

As Table 4 shows, inflation was never out of control in Germany throughout the stagflation years. The average increase in the cost of living was about 4.6 per cent in the period 1973-85. This rate was nearly half the US, Japanese and French rates. It was also nearly one-third of the British, Italian and Spanish rates of inflation. Labour market institutions cannot be considered the only cause of Germany's success in keeping prices under control, because the Bundesbank's tight monetary policy also bore part of the responsibility. However, Table 4 underlines the need to do further research into the origins of the German model's success.

Works councils have been pointed out as one of the key institutions to contribute to keeping costs under control in Germany. Their role was substantially expanded during the stagflation slump. Since 1979 new standard working hours and work allocations have depended on the approval of the works councils.⁹⁵ Up to what point they played a central role in encouraging the trade-off between employment stability and better pay during the critical phases of the business cycle is still a matter of controversy. This is the reason why this special issue addresses the topic, with a critical contribution on the subject from Thomas Fetzer.⁹⁶ The value of his article is precisely that it analyses how Opel's works councils coped with the stagflation crisis by changing their priorities in the long term towards defence of employment. Fetzer's work is also remarkable because it deals with the subsidiary of a company, General Motors, which has traditionally been reluctant to open its archives.

⁹⁵ Tolliday, 'From "Beetle Monoculture" ...', 127.

⁹⁶ Fetzer, 'Reversing gear...',

Tables 1, 2 and 4 stress the need to continue discussing the reasons for the success of the German model of industrialisation in the long term, which constituted the second key group of factors explaining VW's relative good fortune during the stagflation slump. The traditional Gerschenkronian interpretation of the monitoring role performed by banks has recently been reappraised based on evidence compiled by Mayer and Whittington, which confirms that German financial institutions in the 1980s owned a much higher stake in industrial firms than their British and French counterparts. On the other hand, the multidivisional firm seems to have had much less importance in Germany than in Britain and the States and family capitalism remained rather healthy north of the Alps.⁹⁷ Recent research also insists in a healthy capital structure and an extended number of subsidiaries as key factors for long-term industrial survival of German firms.⁹⁸

Michael Albert stressed on the fact that Rhine capitalism protected goods such as education, health and even the labour force from the undesirable consequences of a completely free operation of the markets. Werner Abelshauser supplied long-term historical evidence in favour of the thesis of the emergence of such a type of Rhine capitalism since the late decades of the 19th century. He underlined the role of the Great Depression of 18873-96 in creating the conditions for the reorientation of the German development model to a coordinated production regime.⁹⁹ Evolutionary thinkers, such as Christopher Freeman, have always defended the long-term orientation of German firms towards research and development.¹⁰⁰ Other interpretations, such as those offered by Gary Herrigel, Robert Rowthorn, Jukka Pekkarinen, Barry Eichengreen and Stephen Nickell, seem more in accordance with the outcomes of the main authors who focused their interest on labour market institutions.¹⁰¹ Calculations of coordination indexes tend to confirm that West Germany stood among the top corporative states on the continent until the end of the 20th century.¹⁰²

In any case, Volkswagen, with a significant participation of public capital among its shareholders and rather strong works councils, did what British Leyland, Renault and SEAT were not able to do. It also succeeded in restructuring better than purely private firms such as FIAT and the Peugeot-PSA group. An important task for business historians is to contribute to a better evaluation of the share of responsibility for each firm's strategy in relation to the potential of its country of origin.

⁹⁷ Mayer & Whittington, 'Economics, Politics...', 1070.

⁹⁸ Ehrhart & Nowak, 'The evolution of German industrial...', 144-168.

⁹⁹ Abelshauser, *The dynamics of...*, 25-73.

¹⁰⁰ Freeman, 'The "National System of Innovation...', 5-24. Keck, 'The National System...', 115-157. Freeman & Louça, *As Time Goes By...*, 340-355. See also: Tylcote & Vertova, 'Technology and institutions in changing...', 1-37.

¹⁰¹ Herrigel, 'Industrial Order and...', 185-220. Pekkarinen, Pohjola, & Rowthorn, 'Social Corporatism and Economic...', 1-23. Eichengreen, *The European Economy...*, 269. Nickell, Nunziata & Ochel, 'Unemployment in the OECD...', 1-27.

¹⁰² Nickell, Nunziata & Ochel, 'Unemployment in the OECD...', 7.

Conclusions

During the Golden Age, the automotive industry experienced an amazing period of expansion. Rapidly rising per capita incomes, the absence of recessions and the tendency to full employment encouraged massive motorization in the developed world. For the first time, the European working class had access to ownership of private means of transportation, thanks to the strategies of the European car assemblers which imitated the success of Henry Ford and his Model T some decades earlier. The key was to produce an extremely cheap model by benefiting from scale economies with Fordist methods (interchangeable parts, moving assembly lines, process supervised by engineers, standardization and high wage pay). There were examples of such a Fordist model in most of the large car producers: the *Käfer* in Germany, the 4CV in France, the Mini in Britain and the Fiat 500 in Italy. This kind of success was also replicated in Japan, with models such as Toyota's Corolla. The European and Japanese assemblers not only tried to emulate Ford by introducing new methods of production but also took into account innovations in distribution and marketing, such as product differentiation and consumer credit, which allowed General Motors to become the industry leader by the end of the 1920s.

Since the late 1960s, this process began to show signs of exhaustion. The demand for models from the lowest segment tended to stagnate in high-income countries. Full employment encouraged labour conflicts, pushed wages above productivity growth and tended to squeeze profits. Moreover, growing macroeconomic disequilibrium in a few key countries, especially the United States, made it increasingly difficult to maintain the fixed exchange rate system derived from the Bretton Woods agreements, a system which was abandoned entirely in 1971. In late 1973, and as a result of the Yom Kippur war, oil prices began to soar, increasing by fourfold in less than one year. This led to the stagflation crisis, which implied a fall in demand for most car models, an intensification of the labour conflict in a majority of countries and a further erosion of profit margins for the bulk of auto assemblers. After more than two decades of wine and roses, the motor industry had to design a strategy to cope with the slump. The stagflation crisis, characterized by the simultaneous presence of involuntary unemployment and high inflation, did not seem to be over until the mid-1980s.

After comparing output levels in the main producer countries, before and after the stagflation crisis, it appears that the best performers were Japan and Germany. The less successful producers were Britain and Italy. Between these former extreme cases, there were the intermediate experiences of the United States, France and Spain.

The success of Japan and Germany, to a large extent, derived from the strategic choices adopted by some of their main firms, in particular Toyota and Volkswagen, which today, together with GM, stand out as the world's leading auto manufacturers. However, there were also institutional features which contributed to making Japanese and German companies better adapted to compete in the world market, which should merit some attention from economists, social scientists and, of course, from business historians. Long-term commitments between employers and employees, and also between the auto producers and their parts suppliers, tended to be key features of the industrial landscape in these countries. For this reason, both countries were often characterized by sociologists and economists as corporatist states. Many scholars view the dominance of corporatist relationships in these

economies as a means of controlling inflation and encouraging the investment levels required to improve productivity during the stagflation crisis. Some economic and business historians furthermore underscore the privileged relations established between universal banks and manufacturing firms in Germany. Similarly, analysts of the industrial Japanese system stressed the role of banking houses within the *keiretsu*, the new type of group organization which replaced *zaibatsu*, after the formal suppression of the latter by General Mac Arthur shortly after the end of World War Two.

By contrast, the failure of Britain and Italy derived partially from the intensification of the labour market distress in both economies and institutional inability to reach long-term agreements which prevented real wages from growing above productivity and causing profit squeeze. The same was true, with more or less intensity, for the United States, France and Spain. In contrast with Japan and Germany, the above five countries recorded inflation rates of more than two digits during the second oil shock of 1979-80, derived from the triumph of the Islamic Revolution in Iran.

However, the strategic choices adopted by the key auto producers in any of these countries could moderate or amplify the institutional weakness and macroeconomic imbalances of their respective countries, as was the case. British Leyland showed the worst performance in terms of output among the large European producers. FIAT experienced a significant decrease in its world market share. Renault and SEAT were recording dramatic losses at the end of the slump. US companies were unable to avoid a dramatic squeeze of their market shares in America, even if they showed relatively good performance in the European arena. A full understanding of the stagflation crisis therefore requires a deep analysis of the degree of success of the strategies of firms during the period. This discussion allows us to identify at least five strategic choices with which firms were confronted during the period: searching for scale economies; promotion of process innovation; product diversification and innovation; change of ownership forms; and internationalization.

Scale economies are of critical importance in the automotive industry. British Leyland had too many in the United Kingdom which were often also too small. With some delay, many were closed down, although this strategy tended to intensify labour distress. The second largest manufacturer outside the United States also closed its Belgian factory, contributing to the relative decline of the Benelux country as a car assembler. FIAT, which also was confronted with significant industrial conflicts, tried to reap scale economies by promoting the use of robots, a process innovation. Toyota's solution was, among others, Just-in-Time, continuous improvement and increasing autonomy given to workers' teams. Volkswagen and Opel, with a long tradition of looking for scale economies, also benefited from the incentives created by the German industrial system of coordinated capitalism and, in particular, a long tradition of co-determination, and responsible decision-making within the framework of workers councils. They contributed to the moderation of working class expectations by shifting labour priorities from pay rises to preserving employment. Moreover, during the stagflation crisis, they recorded new successes with mass production of cheap models for lower market segments: Wolfsburg with Golf and Polo, and GM's subsidiary with Corsa. Ford anticipated the latter move on the part of its American rival by launching the Fiesta model. In short, the uneven patterns of success of Ford and General Motors, on the one hand in their country of origin and, on the other, in their European subsidiaries, confirm that the relatively good performance of

the above American assemblers was also closely related to the adoption of a *neo-Fordist* strategy overseas: launching very cheap models for the lowest segments of the European market, with the aim of saving costs by reaping economies of scale, in addition to resorting to the supply of cheap labour available in Mediterranean countries.

The Toyota production system also implied innovation in process, although it was not the result of the stagflation crisis but rather a long-term path-dependent story. In fact, it began far earlier, with the invention of machines (initially, looms) with automatic detection of errors and the development of Just-in-Time routines by two generations of the Toyoda family (Sakichi and Kiichiro) at least and, later, during the post-war years, by the engineer Taiichi Ohno. It also involved the building up of a vertical *keiretsu*, which contributed to cost control by inducing competition among component suppliers, and encouraging cooperation in long-term investment between the latter and the assembler. Moreover, the Nagoya-based corporation borrowed some Fordist elements in its long-term growth strategy, given that the Corolla model replaced the *Käfer* as the best-selling model in history. In addition, the bulk of Japanese producers (including relative newcomers such as Honda and Suzuki) were also able to upgrade their products by developing engines of low petrol consumption and high pollution-control standards. They were also able to build competitive capabilities in expanding markets, such as water-cooled front-wheel drive engines and 4-by-4's.

Similarly, Volkswagen, the most generalist among German car producers, succeeded in replacing air-cooled rear engines with water-cooled front-wheel drive engines during the seventies. Wolfsburg, thanks to the transfer of technology from its quality brand, Audi, was also able to make the transition from a single menu offer based on the *Käfer*, to a fairly complete range of updated products. The latter included Jetta and Passat, in addition to the two mass-oriented products, the Golf and Polo models. Such a strategy has been, correctly, categorized as *diversified Fordism*.

However, it should be taken into account that the strategy to upgrade products by benefiting from the technology of quality brands from the same group did not always succeed. The disappointing story of Fiat's takeover of Lancia, which is analyzed in this special issue, points to the need for business historians to understand the culture of organizations better. Similarly, British Leyland was unable to take full advantage of Rover's lead in full-traction vehicles and Leyland's traditional good performance in the trucks market. Moreover, the sale of the Jaguar subsidiary might be understood either as a way to try to restore profitability or as a political preference in favour of privatization, but it is difficult to justify in terms of long-term product innovation.

Again the French, American and Spanish experiences achieved intermediate degrees of success. The Peugeot/PSA group benefited from its good command of the diesel engine, highly appropriate for times when oil prices were climbing. The Fiesta and Corsa, cheap models launched by Ford and Opel for the lowest consumer segment, began to be assembled in updated new green-field plants located in Spain. Renault also expanded its activity in the Iberian country, producing one of its best sellers there, the R5 model. The Spanish plants significantly contributed to improving the profitability of Ford Europe, Opel and Renault. On the other hand, their competitiveness caused losses for the Spanish national champion, SEAT, to rocket.

Efforts devoted to taking better advantage of scope economies by launching new models can be interpreted as a strategic choice in favour of related diversification. An opposite strategy to cope with the slump was unrelated diversification. For instance, the Agnelli family attempted to react to the profit squeeze in FIAT's auto division by investing in other activities with a weak connection to automobiles such as electronics, artificial fibres, school and hospital building, underground equipment, publishing houses and insurance. On the other hand, they also transferred their stakes in car-producing companies located in Spain and Argentina. Given the comparatively poor performance of the Turin-based corporation during the stagflation slump, it seems that such a strategy of diversification did not pay off much in the long-term.

The alternative was, as has been underlined, related diversification. Expanding the product range can indeed be considered to be a key feature in such a type of strategy. Extending and improving the quality of the service offered in the network of assistance was another recurrent path of related diversification. We already stressed that these types of response clearly paid off in the cases of companies which extended their range of activities under the umbrella of their traditional brands, for instance Volkswagen, Ford and Opel/GM. This was also the case of Japanese producers such as Toyota. The above cases suggest that we could conclude that related diversification and the search for scope economies within a main brand were better answers to overcome the slump than FIAT's preference for unrelated diversification.

It should, however, be added that this not always did work. Nissan expanded its product range from ten models in 1972 to eighteen models in 1985. Moreover, it was one of the Japanese assemblers with sustained efforts to conquer the international markets through exports and by establishing production subsidiaries abroad. However, Nissan had too many models to satisfactorily exploit economies of scale and experienced a dramatic fall in its market share in the domestic market. Consequently, its profitability significantly shrank.

Another option was to pursue related diversification by taking over other firms. This pattern was attempted in France by its two main assemblers: Peugeot and Renault. The private group based in the Doubs *département* attempted to create the French General Motors by taking over Citroën and Chrysler Europe. The publicly owned company, Renault, acquired significant stakes in American Motors Company and Mack Trucks. In both cases, results were disappointing in terms of profitability, but losses were much more dramatic in the case of the state-owned firm.

Patterns of ownership in the industry were diverse and, in a few cases, experienced remarkable changes during the period. Family capitalism continued to be represented by key western corporations such as Ford, Peugeot (later PSA group) and Fiat. There were also significant examples among the emerging leaders of Asia, with Toyota and Hyundai. Managerial capitalism had its most outstanding case in General Motors.

Renault and Volkswagen maintained significant stakes of their stock in public hands throughout the period of stagflation, although they also tended to give considerable autonomy to their managers. Conversely, BLMC and SEAT undertook important changes in ownership. The British firm was partially nationalized in 1975. Later, it was renamed British Leyland and, for many, became the UK national champion. However, its market shares in the both domestic and international markets shrank rapidly during the slump, and pressures for privatization tended to increase, in particular after the Tory government took office in 1979. As some of the

authors in this issue suggest, both the conservative government and components suppliers might have coincided in welcoming the establishment of Japanese interests in Britain. However, British Leyland's management also saw it as an interim solution to reach an agreement with Honda to assemble its Ballade model, initially launched under the name Triumph Acclaim. In 1984, the auto division of BL was renamed Austin Rover, whereas its luxury brand, Jaguar, was completely privatized and sold to Ford. Three years later, Leyland Trucks' ownership was transferred to DAF. Finally, the rest of the Rover group was sold to British Aerospace in 1988. During the same year, Nissan opened its assembly plant in Newcastle.

Since its creation, SEAT had the Spanish public holding company INI as a main strategic shareholder. In 1980, INI took full control of the firm, following FIAT's withdrawal from SEAT. Two years later, SEAT signed an agreement with Volkswagen to commercialize some of its models in Spain. In 1985 the socialist cabinet, confronted with dramatic losses of its car assembler, decided to privatize and transfer the full ownership of its national champion to Volkswagen.

The British Tory and the Spanish social-democratic governments alleged sustained incapacity of their respective national champions to restore significant profitability, and opted for selling their public stakes. On the contrary, the Lower Saxony and the French administrations maintained their respective stakes in Volkswagen and Renault. When the success of the four brands is analyzed from a long-term comparative point of view, it seems that the latter choice was wiser.

Last but not least, internationalization was a broadly shared strategy during the period. Peugeot and FIAT seem to have preferred to give priority to grow by taking over national rivals (Citroën and Alfa Romeo, respectively) and were not very successful during the period. On the contrary, the Japanese corporations bought stakes in Western producers and opened green-field plants overseas. Similarly, Volkswagen expanded the activities of its main brand in Mexico and Brazil and bought SEAT in Spain. The main US producers expanded their range of activities within Western Europe.

Nevertheless, the sad Renault experience in the Americas underlines the fact that internationalization did not work at any price. The case of Nissan, which took over Motor Iberica in Barcelona and which opened assembly plants in Tennessee and Newcastle, confirmed that internationalization's benefits were often difficult to capture in the short term. To sum up, comparative analysis indicates that internationalization was a better strategy than growing by taking over national rivals in the domestic market, but usually it only paid off in the very long-run.

It should again be stressed that, apart from firms' strategies, success in the automobile industry also depended on institutional features, which should also be priority in future research. In Germany, workers councils and co-determination seem to have played the role of moderating labour expectations. They encouraged wage demand realism in exchange for employment stability and profits re-investment during the slump. In Japan, the long-term relationship established between assemblers and suppliers, by forming vertical *kereitsu*, has been considered a significant feature of its competitive advantage. Similarly, the diffusion of quality circles and the reluctance shown by managers to sack workers during crises,

contributed to quality improvement and better ability to control costs in the long-term. According to some authors, at the end of the 20th century Germany and Japan were still representatives of national varieties of capitalism, labelled respectively Rhine and Confucian capitalism, which did not fit in strictly with the Anglo-Saxon model. Such an institutional framework helped both countries and their companies to overcome the stagflation slump in a fairly satisfactory way.

However, institutions are far from being stable in the long-term. Starting in the second half of the eighties, Japan undertook radical deregulation. Links between the financial and industrial sectors became weaker. The relationship between assemblers and parts suppliers became more market-oriented. The re-unified Germany also seemed to tend to converge with Anglo-Saxon capitalism from the end of the 20th century. Unionization declined and the power of workers' councils was eroded. Labour market de-regulation resulted in new types of contracts and the diffusion of mini-jobs. Universal banks weakened their links with manufacturing industry, and the capital they lent was increasingly devoted to more speculative investments. The German industrial model of coordinated capitalism based on high quality and generous wages was under stress.

Since the late 20th century Toyota and Volkswagen, like General Motors, have invested heavily in China and contributed to transforming this Asian economy into the first world assembler of cars. Today, these three companies are the world's leading auto producers. China, with an output of more than 20 million vehicles per year, produces double the output of America. However, to date, the Chinese market is mainly in the hands of the Japanese, German and US champions. The above triad of firms, together with a few more corporations from the same countries (such as Suzuki in India), enjoy significant shares of the auto market in the main assembling economies.

Paradoxically, as far as Toyota is concerned, its rise to first place in the ranking of auto producers coincided with a dramatic long-term depression in its economy of origin beginning in the 1990s. The Japanese slump mainly derived from out-of-control speculation in the real estate market. It might not, however, be just a coincidence that the partial erosion of the institutional bases of the Japanese success ended up affecting its national champion. In fact, in spite of its zero defect policy and its canonical vertical *keiretsu*, Toyota was forced to announce the recall of about 5 million vehicles because of the mechanical sticking of its accelerator pedal in 2010. Later, Toyota also recalled vehicles (including some from its luxury brand, Lexus) because of problems with brakes and airbags¹⁰³.

The recent astonishing finding about Volkswagen, which led to the dismissal of its main executive officer, Martin Winterkorn, might be considered even more puzzling¹⁰⁴. Wolfsburg's brand and its subsidiaries had supposedly been cheating for years, equipping no less than 11 million vehicles with software designed to conceal the true levels of pollution of their diesel engines! Mitsubishi also recognized that it had been giving wrong petrol consumption measurements, although these data were far less misleading than what VW did¹⁰⁵. Again, it

¹⁰³ *The Economist*, 'Toyota's recall...', March 19th, 2014.

¹⁰⁴ *The Economist*, 'A scandal in the...', Sept. 26th, 2015. *The Economist*, 'The Volkswagen scandal...', Sept. 26th, 2015.

¹⁰⁵ *La Vanguardia*, 'Mitsubishi reconoce que...', April 21st, 2016.

may just be a coincidence, but it is difficult to understand how and why managers from countries characterized by high quality standards and a traditional search for technical excellence ended up adopting such a short-sighted strategy of profit maximization.

To sum up, the articles presented in this volume and the above analysis tend to suggest that future research in business history dealing with crises and industrial restructuring should not only concentrate on analyzing firms' strategies to restore profitability in the short-term. It should also pay a great deal of attention to the organizational culture of corporations, which might often be the cause for failed attempts at mergers and internationalization. Moreover, more effort should be devoted to the comparative analysis of varieties of capitalism. It would also be appropriate to try to incorporate the strategies adopted by governments, unions and component suppliers into the analysis.

An additional interesting question to be addressed might be whether the second wave of globalization, beginning during the stagflation crisis, significantly eroded the basis of alternative systems of industrial organization which might have been historical alternatives to Anglo-Saxon capitalism. Last but not least, the competitive strategies developed by the large companies from the West and Japan within the most significant markets of Asia should be another important issue on the future agenda, given that an increasing group of these economies, with China in first place, currently, stands out among the main world assemblers.

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