Industrial Leadership and the Long-Lasting Competitiveness of the Swiss Watch Industry

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Abstract

Despite the Swiss watch industry has been challenged several times by US and Japanese companies during the last two centuries, it showed a strong resilience. Switzerland is still today the uncontested world's largest watchmaking nation. This chapter explores the role played by few entrepreneurs that express a strong industrial leadership, that is, a leadership which went beyond the boundaries of their own firms and contributed to strengthen the competitiveness of the Swiss watch industry as a whole. Since the late nineteenth century, Ernest Francillon, Sydney de Coulon, Nicolas G. Hayek and Jean-Claude Biver have established successively themselves as the leaders of the Swiss watch industry.

1 200 Years of Industry Challenges

Since the advent of industrial revolution, global competition resulted in a permanent relocation of industries throughout the world. European manufacturers were challenged by US entrepreneurs then by Japanese firms. More recently, production shifted to East Asian nations, particularly China (Dicken 2015). Natural resources, knowledge, capital, and labor flow freely in a globalized world so that most industries lost their regionally rooted specificities (Bouwens et al. 2017).

The watch industry is a notable exception: Switzerland has dominated the global watch industry since the early nineteenth century (Landes 1983; Glasmeier 2000; Donzé 2011). However, this supremacy has been repeatedly challenged by global competitors and disrupted by technological and market changes. In each case, Swiss entrepreneurs were able to answer these threats. They implemented strategies to save

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not only their own firms but also the Swiss watch industry as a whole. In this sense, these men were more than leaders in a single company or organization: they were industry leaders. This chapter examines the narratives and actions that allowed these men to repeatedly reinvent and save the Swiss watch industry.

During the last two centuries, the threats that the Swiss watch industry faced have varied. New technologies, production methods, and consumer habits were opportunities for American and Japanese firms to position themselves as newcomers and to adopt new business models that gave them a competitive advantage against Swiss-dominant watch companies. Of such threats, three episodes came the closest to destroying the Swiss watch industry altogether: the adoption of mass production methods in the United States during the 1860s and the 1870s, the transfer of production and technology from Switzerland to other countries during the interwar years, and the competition by Japanese watch companies in the 1970s and 1980s.

This chapter begins by examining these episodes in detail before outlining how each generation of Swiss watch industry leaders responded.

1.1 The Mass Production of Watches in the United States (1860s–1870s)

During the first part of the nineteenth century, the growth of the watch industry in Switzerland and its comparative advantage relied on its organization as an industrial district made of hundreds of legally independent but economically interconnected small companies (Porter 1990; Veyrassat 1997; Linder 2008). The flexibility of this production system and the use of cheap labor in the Swiss countryside enabled watch makers to provide a broad range of products and to answer all the needs and tastes of customers worldwide (Donzé 2011).

However, in the middle of the nineteenth century, the first industrialized watch plants appeared in the United States. They soon challenged Swiss supremacy in the US domestic market, the world's largest. Based on the concept of the interchangeability of machine-produced parts, the principle of which was transferred from the manufacturers of weapons and clocks, these watchmaking companies were the first in the world to mass produce cheap watches.

The two main enterprises were the American Watch Co. (based in Waltham, Massachusetts) and the National Watch Co. (based in Elgin, Illinois), respectively founded in 1854 and 1864. Several other less important watchmaking companies were established, but none could challenge the quasi-monopoly of the two big American makers, which controlled about 80% of the domestic watch production at the end of the nineteenth century (Harrold 1984). Their output was indeed phenomenal. At the American Watch Co., growth was particularly sharp in the 1860s, with production rising from 3000 watches in 1860–1861 to 91,000 in 1872–1873. As for the National Watch Co., it produced 30,000 pieces in 1867–1868 (Koller 2003, p. 105). The growth of the American watch industry was even more pronounced in the 1870s. At the American Watch Co., output rose from 91,000 items in 1872–1873 to 882,000 in 1889–1890, while it reached 100,000 items in 1879–1880 and 500,000 in 1889–1890 at the National Watch Co. (Koller 2003, p. 105). As a comparison, the output of Longines, which was then one of the most modern Swiss watchmakers, was only 20,000 watches in 1885 (Henry Bédat 1992).

This difference in scale gave an unquestionable advantage to US companies. Although only a small proportion of this production was exported around the world—where it challenged traditional, expensive, and luxurious watches—it rapidly dominated the US market. The value of watch export from Switzerland to the US dropped from more than 18 million francs in 1872 to less than four million in 1877 and 1878 (Koller, 2003, p. 114). In Switzerland, this decline led to a major crisis and to lively discussions about the proper way to face the American challenge. While some entrepreneurs proposed a deep modernization of the productive structure of the watch industry as a whole, others preferred to promote technical excellence and handicraft (Koller 2003; Donzé 2011). A collective reaction was, however, necessary. It was the opportunity for the apparition of a first generation of industrial leaders.

1.2 Relocation Abroad of Production Facilities and Technology Transfer (1910–1930)

After the end of World War I, the development of protectionism around the world presented the Swiss watch with a new challenge: the transfer of technology and production plants abroad. In order to avoid paying the high customs duties on finished watches, some entrepreneurs started exporting disassembled watches and assembling them in the countries in which they were sold, a practice called "chablonnage" (Koller 2003; Donzé 2011). Yet chablonnage led to a transfer of techniques and know-how within assembly workshops set up abroad. The consequence was the emergence of new rival firms, which challenged the dominant position of Switzerland.

On the basis of Swiss foreign trade statistics, it is possible to determine the part played by chablonnage in watch exports (Fig. 1) and to evaluate its spread after World War I. Up until 1914, Swiss watchmakers were not unduly concerned about the practice. Exports of movements showed a steady increase, rising from 297,000 units in 1890 to 1.2 million in 1914. In relative terms, however, this growth was not that significant: movements as a share of Swiss watchmaking exports (number of units) rose until 1906 (13.6% as against 5.9% in 1890) then fell during the years leading up to the war. Likewise, the spread of mechanized production at the beginning of the twentieth century made interchangeability of parts possible and facilitated the export of disassembled watches as assembling no longer required fitting: "before the war, we exported chablons [sets of parts ready to be assembled] only after having assembled the watches beforehand to check that they worked. The watches were then disassembled and the chablons exported" (Feuille fédérale 1931). After the war, however, movement exports began to pose a problem. Such exports not only rose sharply in absolute terms (2.4 million units in 1918, peaking at 5.6

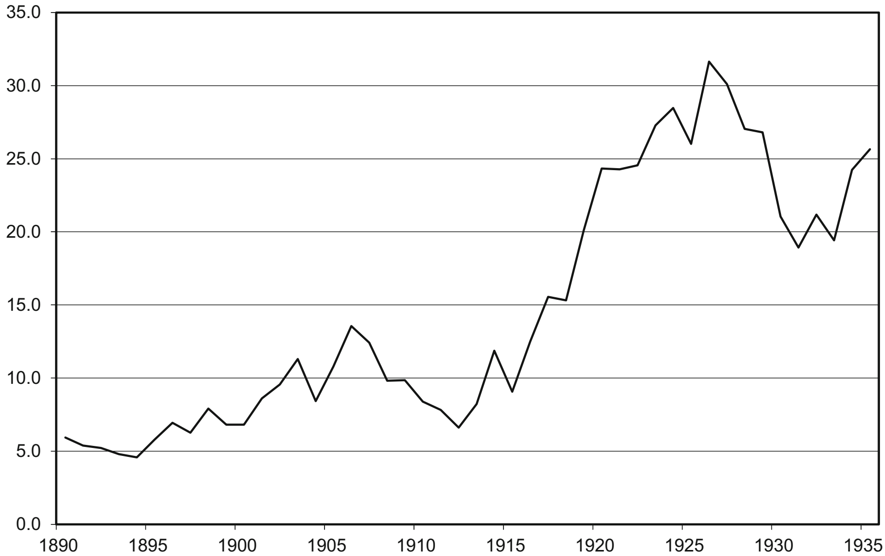

Fig. 1 Swiss exports of movements as a percentage of total exports, 1890–1935 (number of units). Source: Statistique du commerce de la Suisse avec l'étranger, Berne: Département fédéral des Douanes, 1890–1935

Table 1 Main destinations of movement exports for Swiss watches, 1900–1930

	1900	1910	1920	1930
Movements exported, no. of units	498,892	873,522	3,340,982	3,421,959
USA (%)	40.7	29.1	70.3	36.3
Russia (%)	15.3	21.4	–	–
Japan (%)	19.8	10.3	10.9	8.6
Germany (%)	9.8	7.7	–	8.7
Canada (%)	9.6	21.6	9.1	11.2
Other (%)	4.9	10.0	9.7	35.2

Source: Statistique du commerce de la Suisse avec l'étranger, Berne: Federal Customs Department, 1900–1930

million units in 1929) but above all tended to become a dominant practice in exports (their relative share of watchmaking exports went from 11.9% in 1914 to a high of 31.6% in 1926). In general, movements averaged 25.1% of watchmaking exports from 1920 to 1935, as compared with 11.5% for 1900 to 1920.

In fact, *chablonnage* was limited to a small number of countries up until the mid-1920s, when it became more widespread as a result of customs protectionism (see Table 1). Before 1930, North America (USA and Canada), Germany, Russia, and Japan absorbed nearly 90% of Swiss exports of watch movements. They were the main outlets of the Swiss watch industry. In these countries, chablonnage led to the emergence of new competitors—often with the support of some Swiss watchmakers. For example, Bulova transferred technology and production to the United States and became the largest American watch company, and Citizen Watch was founded in Japan (Donzé 2011).

Putting an end to this phenomenon required a specific action at the level of the industry, not by single firms. The leadership challenge was to bring together a broad range of actors (federal government, banks, and watch companies) to set up a new organization that could control the transfer of technology: a cartel supported by the Swiss federal government.

1.3 Competition by Japanese Companies (1970s–1980s)

The period of crisis, which the Swiss watch industry was coping with between the middle of the 1970s and the middle of the 1980s, is usually considered to have been a direct consequence of the quartz revolution (electronic technology rather than mechanics) and the inability of Swiss industrialists to adopt this innovation (Donzé 2012a). Yet even if it is true that Swiss enterprises faced huge difficulties in the shift toward the industrialization of electronic movements (Pasquier 2008), Japanese competitors took several years to incorporate this technology. Omega and Longines mastered quartz technology perfectly and as early as their Japanese rivals. Even if Seiko was the first company in the world to launch a quartz watch, on Christmas Day 1969, it was above all a marketing operation planned by the management. In the following years, Seiko's quartz watch production was still very low (3000 pieces in 1971 and 64,000 in 1972, that is, less than 0.5% of the overall volume of production), and it was only in 1979 that it exceeded that of mechanic watches.

The crisis experienced by the Swiss watch industry was thus only the indirect result of a technological change linked to the nature of the product. It appears more to be the consequence of structures unsuitable to globalized capitalism. While maintaining an industrial base composed of hundreds of small and medium-sized firms, interdependent but autonomous, the cartel organized during the interwar to control technology and production transfer delayed the industrial concentration, which was necessary for a rationalization of production and marketing on a competitive world market. The strength of Seiko, in the 1960s and the 1970s, was precisely the ability to mass produce and mass distribute Swiss-like quality watches (Donzé 2017).

The evolution of the production of mechanical watches by both countries during the period 1970–1985, the advent of quartz watches, sheds light on this phenomenon. While Switzerland, after having reached a peak of 84.4 million pieces in 1974, entered an inexorable fall until the middle of the 1980s, marked by an annual average production of 31.3 million pieces for the years 1982–1984, Japan did not experience any crisis in the production of mechanic watches. Of course there was a change from the previous decades characterized by very high expansion (0.7 million pieces in 1950 and 7.1 million in 1960). Nevertheless, although it was the pioneering nation in the development, and especially the marketing of quartz watches, Japan continued to produce mechanical watches and even had some growth, although small, in this sector during the 1970s: it amounted to 23.8 million pieces in 1970, 27.7 million in 1975, and 32.4 million in 1980. In 1984, the production of mechanical watches in Japan (32.5 million) exceeded Swiss output (32.3 million) for the first time. Thus, the appearance of the quartz watch is not a sufficient factor to explain the "watch-making crisis."

The lack of competitiveness of the Swiss watch industry on the world market during the 1960s led to some attempts to reform the industrial structures and to progressively abandon the cartel in order to enable a rationalization of production and distribution. The concentration into groups of enterprises and the globalization of production were a first answer to the Japanese challenge. A second was the transformation of the nature of the watch from a useful product (an instrument measuring time) to a brand product (a luxury fashion accessory). Adding value through branding and marketing enabled to overcome the bottleneck of being costly competitive in a high-wage country such as Switzerland (Raffaelli 2013).

2 Varieties of Leadership

Because each of the three challenges during the nineteenth and twentieth centuries was unique, each required a different type of leadership response. In each episode, there was no consensus about what the right answer was. Unique to all three contexts is that the threat to Swiss industry was existential. And in each of the three challenges, a small set of entrepreneurs established themselves as industry leaders. They had a clear vision of what the Swiss watch industry needed for maintaining its comparative advantage on world markets in a long-term perspective. Hence, they were active not only to implement their ideas in their own companies but also to promote them throughout the industry. They mobilized other entrepreneurs to take collective decisions and to make actions; they became the voice of the industry. This section explores how.

2.1 The Industrialist and the Politician: Ernest Francillon

The American challenge gave way to two kinds of answers by Swiss watchmakers. At first, at the individual level, some entrepreneurs engaged in the modernization of their own company and adopted production methods inspired by the mass production system. The most known were the brothers Brandt (Omega), Georges Favre-Bulle (Zénith), Ernest Francillon (Longines), and Henri Sandoz (Tavannes Watch). During the last decades of the nineteenth century, they set up modern factories equipped with machines and organized for the industrial manufacture of watches (Henry Bédat 1992; Donzé 2012b). However, individual actions were not enough to help the Swiss watch industry recovering its competitiveness against US producers. A second reaction, at the collective level, was necessary. Francillon, the owner of the company Longines, engaged as early as the mid-1870s to analyze the causes of the loss of competitiveness of Swiss watches on the American market and to organize collective institutions to strengthen the Swiss watch industry as a whole. These actions made him the uncontested leader of the industry.

Ernest Francillon (1834–1900) was born in the city of Lausanne, in a family of wealthy merchants engaged in many businesses, including the manufacture and sales of watches. He was trained in business, stayed in Stuttgart, and learned watchmaking before taking over the management of a watch company owned in Saint-Imier (canton of Berne) by his uncle Auguste Agassiz in 1854. He had a business partner, François Secrétan, until 1861, then headed the firm alone. In the early 1860s, he transformed it into a fully industrialized factory, which would become one of the leading watch manufacturers in Switzerland. In 1867, he built a factory and engaged engineer Jacques David to assist him in the organization of this new manufactures. Little by little, during the 1870s–1900s, the management of Longines concentrated workers within the factory and introduced machines. The number of employees increased from 170 in 1870 to 667 in 1901. As for production, it was also increasing: the annual output was 20,000 watches in 1885 and 93,000 in 1901.

The modernization of his company occurred in the context of the reaction against the American challenge, as the US was a major outlet for Francillon. Yet this must be understood within the context of a collective action that he engaged to set up. Understanding the causes of the raise of US watch companies was a necessary step, and the Centennial International Exhibition held in 1876 in Philadelphia was the opportunity to do it. In April 1876, 16 watchmakers and politicians gathered and organized a trade association, the *Société intercantonale des industries du Jura* (Intercantonal Society for the Jura Mountains Industries, SIIJ). In June 1876, Francillon stressed the absolute necessity to take the opportunity of this exhibition "to carry out a serious and detailed survey of the organization, the equipment, the financial circumstances and in general of all what relates to American watch companies."[1] The SIIJ sent two delegates, among whom Longines' chief engineer Jacques David, to realize this investigation. Their main message was the necessity to keep intact the ability of making a broad range of watches in order to answer the various demands from all foreign markets while controlling production through the standardization of key components. For example, Francillon made the SIIJ adopt new measurements based on the metric system as early as 1876. The next year, this rationalization function was entrusted to a technical subcommittee, whose president was Jacques David. It adopted many measures, such as the unification of screw sizes (1879).

Marketing was a second major issue. Swiss watch companies had to organize their participation to fairs and exhibition. In particular, it was necessary to select properly brands and products that would represent Switzerland and Swiss watches abroad. Building a strong national brand became imperative. From 1877, Francillon took charge of the organization of the Swiss delegation to the Universal Exhibition at

[1]Musée international d'horlogerie, La Chaux-de-Fonds (MIH), minutes of the meetings of the Société intercantonale des industries du Jura (SIIJ), 30 June 1876.

Paris, which was held in 1878. He began by supervising a preparatory exhibition in Switzerland in order to select the watchmakers who would be sent to Paris, with the aim of choosing only high-quality products. In addition, Swiss watchmakers, together with local authorities, published a historical pamphlet on Swiss watchmaking, of which 50,000 copies were distributed in Paris (Koller 2003, p. 291). Based on this experience, the SIIJ organized the delegations of watchmakers to different fairs from then on. It was particularly the case at Chicago (1893), where Swiss watchmakers, returning to the United States nearly 20 years after Philadelphia, wanted to show to the world that they had successfully overcome the American challenge.

Finally, the struggle against labor unions and suppliers of parts organized in small cartels was the last important concern to deal with at the collective level. Francillon was the president of the *Syndicat des fabriques de montres* (Watch Factories Union), founded in 1886 by the owners of large and modern watch companies. In 1903, it had 28 members, employing about 7500 workers, that is, about 30% of all people active in watchmaking.

The experiences of the late 1870s showed the necessity to carry out a strong collective action for the sake of the whole industry. Francillon went further and engaged actively in politics. A member of the radical party, which promoted the formation of a modern state in Switzerland and defended the interests of large and export-oriented industries, he was in particular a deputy at the Parliament of canton Berne (1878–1882) and a member of the National Council (federal parliament, 1881–1890). He actively supported the intervention by the state to promote industrial development through legislation on economic matters, such as the federal law on trade in gold and silver (1886) and the constitutional article on the protection of trademarks and inventions (1887). He also defended the adoption of liberal customs tariffs, especially with France, Italy and Austro-Hungary.

The successful engagement of Francillon for collective institutions supporting the development of the Swiss watch industry relied on a dense network within national elites. He made a career as an army officer to the rank of lieutenant colonel, was a freemason, and was a member of associations such as gymnastics and shooting. The leadership of Francillon in the Swiss watch industry resulted from his action not only as a modern industrialist in his firm but especially as the organizer of collective institutions and the representative of the watch industry in federal parliament. He contributed to let the Swiss watch industry shift from free competition and laissez-faire to organized capitalism (Humair 2004), a change that helped this industry to overcome the American challenge and to keep its dominant position on world markets.

2.2 The Bureaucrat: Sydney de Coulon

The reaction against the transfer abroad of production units and technology required both organizing skills and a strong ability for networking. It appeared necessary to set up strict rules for the control of the export of parts, but it was very hard to

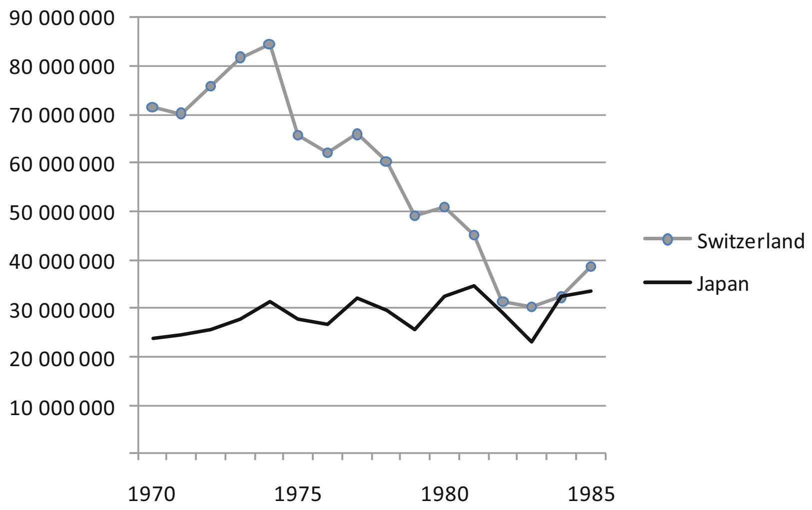

Fig. 2 Production of Swiss and Japanese mechanical watches, volume, 1970–1985. Sources: Statistique du commerce de la Suisse avec l'étranger, Berne: Département fédéral des Douanes, 1970–1985, and statistics communicated by the Seiko Institute of Horology, Tokyo. Note: For Switzerland, the volume of electronic watches being negligible before the Swatch (launched in 1983), the volume of export of all watches was taken into account. For Japan, the estimations of the years 1972–1974 are based on an extension at the national level of the production of electronic watches by Seiko

implement efficiently such a policy in a sector organized as an industrial district made of hundreds of small companies—in 1929, the Swiss watch industry included a total of 1134 firms, according to a federal survey (Feuille fédérale 1931, p. 193).

The basic idea among the largest watch entrepreneurs, supported by banks, which have invested huge amount of money in this industry through loans since the beginning of the twentieth century (Mazbouri 2005), and by the federal government, which wanted to ensure social stability in the watchmaking regions, was to organize a cartel that would control the activities of all watchmaking companies (Boillat 2014). It was realized through a two-stage process (see Fig. 2). First of all, the various watchmaking companies banded together according to their branch of activity: watch manufacturers within the Fédération horlogère (FH, 1924) and producers of *ébauches* (movement blanks) within the company Ébauches SA (1926), while the other subcontractors came together in the Union des branches annexes de l'horlogerie (UBAH 1927) (Feuille fédérale 1950, p. 68). Subsequently, in 1928, these three groups signed a series of agreements known as the *watchmaking conventions*, whereby they undertook to do business exclusively with each other, to respect the minimum prices for the purchase of watch components, and above all to avoid resorting to *chablonnage*. However, the cartel did not intervene with regard to production quotas and shared commercial outlets. To tighten control over the production of watch movements, the banks and the federal authorities backed the establishment in 1931 of a holding company financed by watch enterprises, banks,

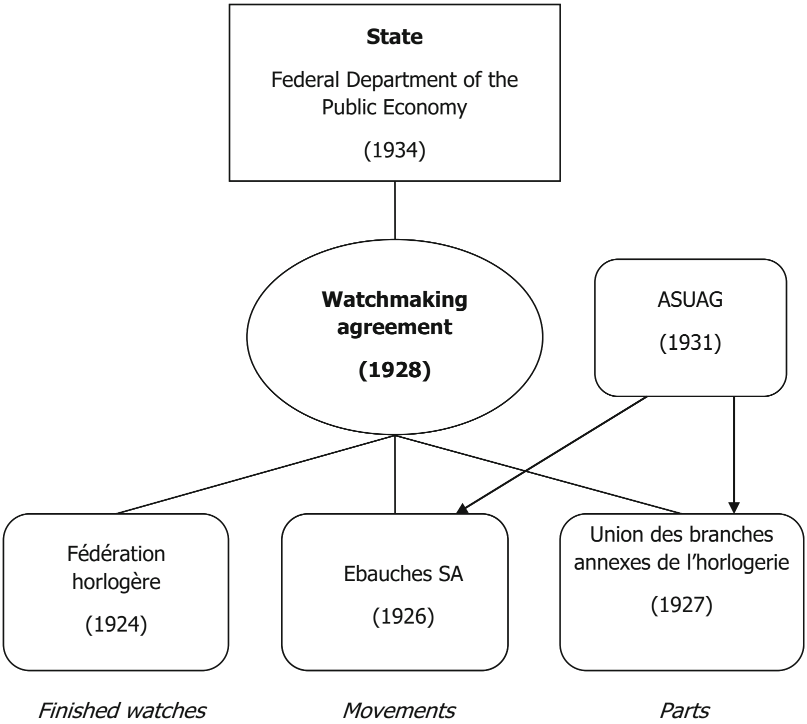

Fig. 3 Organizational structure of the Swiss watchmaking cartel, 1934. Source: drawn up by the author

and the federal government, ASUAG, which bought up virtually all manufacturers of movement parts (ASUAG 1956). This organizational structure was strengthened by State intervention in the early 1930s, designed to consolidate these agreements by making them binding, as breakaway firms were their weak point. In 1934, the Swiss federal government adopted a federal decree making the watchmaking conventions binding. Activities of watchmaking companies (prices, recruitment of workers, mergers, production techniques, etc.) were strictly controlled by the Swiss Federal Department of Public Economy (see Fig. 3). *Chablonnage* became illegal, and exports of machine tools were henceforth subject to governmental approval.

This system was built and managed by a new generation of entrepreneurs. They were not any longer industrialists that modernized their firm and organized a strong trade association to defend the interests of the industry, like Francillon did in the late nineteenth century. The implementation and the management of the cartel made necessary a new kind of leadership: being able to gather watch entrepreneurs, banks, and politicians with a similar objective.

One of the main personalities of this system was without a doubt Sydney de Coulon (1889–1976), a man who came from finance and became one of the key leaders of the watch industry under the regime of the cartel (Boillat 2014). Descended from a former aristocratic family of Neuchâtel, he was the son of a private banker and began his career in this business. After an apprenticeship in the United Kingdom, he worked in a bank at Lausanne, and afterward he became a member of the Board of Directors of the Swiss National Bank. His marriage to a daughter of Paul Robert-Tissot, head of the ébauche factory of Fontainemelon, one of the biggest in Switzerland, led to his involvement in the watch business. He became a director of this firm and from the 1930s participated in the management of the new companies created by the concentration process. Thus, he was notably an executive officer (1931–1933) and member of the Board of Directors (1933–1951) of ASUAG and particularly managing director of Ébauches SA, ASUAG's subsidiary, which controls the production of movement blanks (1932–1964). Besides, since 1932, he has been a director of many companies controlled by ASUAG. Consequently, he established himself as the most powerful industrialist in Swiss watchmaking.

Finally, de Coulon began a political career in the 1940s. A member of the Liberal Party, he was a member of the Parliament of the canton of Neuchâtel (1941–1954) and a deputy at the federal Parliament (National Council, 1947–1949, and State Council, 1949–1963). Networking with federal politicians and bureaucrats was essential as the watch cartel was ruled by federal legislation until the early 1960s.

Born in a former aristocratic family and firstly trained as a private banker, Sydney de Coulon was not a charismatic leader engaged in popular associations like shooting and gymnastic. However, his discretion, his diplomatic attitude, and his ability to connect various elite circles (watch industry, banks, and federal politics) were precisely what made him an industrial leader under the regime of the cartel.

2.3 The Organizer: Nicolas G. Hayek

Nicolas G. Hayek (1928–2010) is unanimously acclaimed today as the savior of the Swiss watch industry (Hayek 2006; Wegelin 2010; Donzé 2014). During the summer of 2010, the Swiss and international media paid a vibrant tribute to him. The American business magazine *Forbes* celebrated "a legend [. . .] credited engineering the rebirth of the Swiss watch industry" (Forbes 2010), while *The New York Times* wrote about "a flamboyant figure [who] saved the Swiss watch industry with the introduction of the Swatch" (The New York Times 2010). His reputation as a heroic industrialist relies on three major elements.

First is his action as a consultant and as the reorganizer of the Swiss watch industry. In the early 1980s, at the deepest of the watch crisis, the two largest groups (ASUAG and *Société suisse pour l'industrie horlogère* (SSIH)) faced bankruptcy and survived only with support from banks. The two main difficulties of both of these groups were the management of inadequately integrated groups and the unsuitability of products for the market. Only a strategy of industrial restructuring and of market rationalization could ensure their survival, and beyond them the survival of all industry in Switzerland. Banks had recourse to the advice of consultant Nicolas G. Hayek in order to realize this reorganization.

Born at Beirut in 1928 and trained at the University of Lyon (France), Hayek founded a consulting company at Zurich in 1963. Called Hayek Engineering, it was active in the counseling of enterprises and working notably for several watchmakers whose restructuring was a necessity within the framework of the mutations of the Swiss watch industry (liberalization, development of quartz watches, and foreign competition). In the report he gave to the banks, Hayek proposed as the main measure the merger of ASUAG and SSIH into a new group, the *Société Suisse de Microélectronique et Horlogerie* (SMH). It was created in 1983 and gave birth to the largest watchmaking group in the world, which took the name Swatch Group in 1998. Hayek acquired the majority of the capital in 1985 and the following year became chairman and chief executive officer of the Board of Directors. Heading this enterprise, he had the opportunity to carry out an innovative industrial policy that largely contributed to the rebirth of the Swiss watch industry. The principle of this new policy was the primacy of marketing over production: as the quartz revolution made it possible for anyone to manufacture watches, the issue was no longer how to make them but rather how to sell them. The features of this new industry were the creation of watchmaking groups built on the concentration of old enterprises, which enabled the rationalization of production and distribution networks, as well as the adoption of a marketing strategy controlled at the group level (brands positioning).

This industrial concentration led to a rationalization policy. At first, it concerned production and, more particularly, watch movements. The R&D activities and the technical departments of the various factories were gradually closed down and centralized within ETA. Omega stopped producing its own movements in 1985 and Longines in 1988. This rationalization of movement production made possible a better control of costs, thanks to economies of scale, and it allowed the different companies in the group to concentrate on commercial aspects. The definition of a new marketing paradigm was the main feature of the industrial strategy pursued by Hayek. From then on, the different brands of a group were not autonomous enterprises producing specific watches. The result of this rationalization was the launch of very similar products, whose external design (case, dial, and hands) and mode of selling were the only variations.

Second, the legendary status of Hayek relies on the worldwide success of a product innovation: the Swatch. In the Swiss collective memory, and also according to the story told by Swatch Group and academic works, the Swatch played a crucial role for the comeback of the Swiss watch industry on the world market (Carrerra 1992). Developed by a team of ETA engineers under Thomke's supervision with the goal to beat the Japanese competition, the Swatch was designed as a fashion product and a plastic-made quartz watch manufactured in Switzerland (Garel and Mock 2012). It was launched in 1983, and it experienced growing popularity in the world from the late 1980s onwards. Its success supposedly enabled Swatch Group to invest in taking over and restructuring other brands, thereby relaunching the entire industry in the process. According to the "Swatch legend," Hayek's launching of a cheap quartz watch, a product that traditional watchmakers did not trust because of their conservative mindsets, is said to have made it possible to rescue the Swiss watch industry and enable it to compete with Japan once again. Hayek is hence not the actual inventor of the Swatch, but it was the entrepreneur who made possible its fast success around the globe. He embodies the Swatch.

Nevertheless, even though it generated large profit margins, which gave the company part of the capital that it needed for restructuring, Swatch is more important as a marketing object than in terms of its financial impact. For the first time, Hayek demonstrated everything that could be done with a watch: it became a subject for *storytelling* and major world *events*. Swatch quickly moved into sponsoring extreme sports events for the young, like the Freestyle Ski World Cup in Colorado (1984) or the Impact Tour (BMX and skateboard) in California (1988). This commitment to sponsoring sports events culminated at the 1996 Olympic Games in Atlanta, when Hayek carried the Olympic flame during the opening ceremony.

But one of Swatch's real innovations was the fact that it was sold as a global brand, that is, a product that is not adapted to local markets but is marketed throughout the world in exactly the same way. Until the 1980s, Swiss watch brands followed a great many different approaches worldwide. Many watch manufacturers exported only naked movements (44% of the total volume of watch exports in 1980), which were encased in Hong Kong or the main markets on which they were sold. This strategy provided a meaning of cutting production costs, which were high in Switzerland, and offering consumer products that matched local tastes. The design, functions, price, communication, and image attached to brands often varied considerably from one country to another, to such an extent that one cannot speak of a "global brand" during this period. Consequently, the Swatch marked a real break in this field.

Third, Hayek adopted a new marketing strategy based on a portfolio of complementary brands, from cheap watches for kids (Flik-Flak) to luxury goods (Breguet). Initially, centralization did not have any impact on marketing strategies for the various brands. It primarily concerned logistics (administration, finance, after-sales service, and computers). In the second half of the 1980s, Swatch Group as a whole did not really have a brand policy as such, even though senior management decided to drop some underperforming brands that it had acquired during the 1983 merger which targeted the low end of the market, such as Atlantic Watch, Baume, Derby Watch, or Record Watch. This rationalization was designed to limit the number of brands so as to improve positioning and boost complementarity between brands. Likewise, the only two new brands launched during this period, the Flik Flak children's watches (1987) and the Pierre Balmain fashion watches (1987), did not reflect a desire to diversify the Group's brand portfolio. Rather, this followed a completely different line of reasoning, which could be called an industrial logic. These two brands came straight from the Group's movement factory, ETA SA, which saw an opportunity to expand, against a backdrop of efforts to overcome the crisis, whose success was by no means guaranteed, and keen competition with Japan.

In 1990, N.G. Hayek reorganized the operational management at Swatch Group in order to introduce brand management Group-wide, characterized by brand differentiation and market segmentation—a strategy requiring closer coordination between those responsible for the Group's different brands. Accordingly, the Executive Group Management Board, the body tasked with overseeing the merger and streamlining the company during the 1980s, was restructured, becoming the platform for coordination between brands and the adoption of a global strategy. Two key changes occurred at this juncture: Ernst Thomke left, accompanied by several of his close business partners, and the Extended Group Management Board was established with some 15 members, which was to become a veritable marketing platform (1990). Thomke's departure after a falling out with N.G. Hayek is a textbook example of a shift from rationalization-driven management to marketing-oriented management. Most of the men who left senior management in 1989–1991 were former managers active within the holding company, like Müller, in charge of finance and administration (1989); Mangold, director of human resources (1990); Walther, deputy finance director (1990); and Gautier, communications officer (1991). Subsequently, these positions were no longer represented on the Group Management Boards. Clearly, the managers responsible for applying the Swatch Group policy no longer sat on the Board, which shifted from the operational aspect to strategy. Thus, in addition to Anton Bally, who took over from Thomke and ran production (ETA), the eight people appointed to the Extended Group Management Board in 1990 were mainly brand managers: Walter von Kaenel (Longines), Hans Kurth (Omega), Peter Petersen (Swatch), and Roland Streule (Rado). There was also one representative each of technology businesses (Willi Salathé) and watch finishing manufacturers (Paul Wyers). Finally, two new managers from marketing and distribution joined the Extended Board. The first was Raymond Zeitoun, CEO of the distribution firm SMH France since its founding in 1988. He had many years of experience in the French watchmaking market, as he had initially been tapped by Seiko to run Matra Holding Horlogerie in the early 1980s, before founding his own company in 1984, Inthor SA, which distributed Tissot and Rado watches in France, bringing him closer to Swatch Group. The second new member was a manager with a marketing and communication background, Franco Bosisio, in charge of the Italian market and the Swatch brand in Italy, whose recruitment was a real coup for Swiss watchmaking. This centralization of marketing power made it possible to adopt a global strategy and oversee its implementation on the various markets.

In the years that followed, subsequent appointments to the Board and the Extended Group Management Board confirmed these bodies' role as marketing platforms. Rather than competing with each other, as had been the case previously, Swatch Group brands could now target different, complementary publics. As far as the implementation of this market segmentation strategy is concerned, the acquisition of Blancpain, in 1992, marked a watershed. Jean-Claude Biver then took charge of the repositioning of Omega toward luxury, during the 1990s, to make it a strong brand that would be able to compete against Rolex (see below). Subsequently, Hayek purchased fashion and luxury brands to complete his portfolio: CK Watch (1997), Breguet (1999), Léon Hattot (1999), Glashütte Original (2000), and Jaquet Droz (2000).

However, beyond these actions, Hayek established himself as the uncontested leader of the watch industry through storytelling. Since the early 2000s, he delivered a simple message to explain his success in Swiss and foreign medias, in universities and business schools around the world, and in a broad range of international meetings with global elites. First, he needed to restructure the Swiss watch industry and launched the Swatch. Second, with the profit of these activities, he purchased brands in segments he did not have (particularly luxury) in order to build a full portfolio of brands from mass market to exclusivity. He had a clear strategy and implemented it gradually since 1983. The message is simple and easy to understand. It was taken over and repeated continuously by journalists, consultants, and professors of management at Harvard Business School (Radov and Tushman 2000).

Yet such a discourse is Hayek's *ex post* perspective on his own past that gives full logic to his actions. However, uncertainty about the future is the most common feature of the decision-making process in management. As the manager does not know the future when he takes action, he does not know that his action will fit or not in a logical and successful path. Hayek himself made several attempts that were not pursued in later years, like the launch of the Smart car (1990), the development of telephones (1996), and the production of cheap watches made in China (1997). All these activities were abandoned during the last years of the 1990s, when Hayek decided to focus on watchmaking and luxury. They had very few impact on the long-term development of the company, but they showed that Hayek did not know, contrary to his stories, what the future of his company was.

However, his simple and beautiful story made Hayek the savior and the leader of the Swiss watch industry. When he decided to stop delivering movement blanks and parts to rival companies such as Richemont, in 2002, he put this action in line with his leadership, explaining that the future of the Swiss watch industry relied on the innovativeness of all the enterprises. Hence he wanted to force other companies to invest in research and development (R&D) and production. After his death, his son Nick did not show any ambition to pursue this industrial leadership. Richemont and others became openly rivals, and Nick Hayek declared in business media that his company was going to stop delivering parts to competitors. It was a matter of competition, not of ensuring the future of the Swiss watch industry. The death of Nicolas Hayek and the new position of his son, Nick, created a vacuum in terms of leadership in the Swiss watch industry. It was time for a new manager to assert himself as the new voice of the industry: Jean-Claude Biver.

2.4 The Storyteller: Jean-Claude Biver

Jean-Claude Biver had already a long and successful career when he established himself as the new leader of the Swiss watch industry after Nicolas Hayek's death (Lelarge 2015). Born in Luxembourg in 1949 and a graduate from HEC Lausanne, he started his career in the high-end watch company Audemars Piguet then moved to Omega (SSIH group). In 1983, together with Jacques Piguet, director of the firm Frédéric Piguet SA, one of the rare independent manufacturers of high-end movements, Biver purchased the brand Blancpain, which belonged to a small company called Rayville SA and was taken over by SSIH in 1961.

Biver became the CEO of his own company, Blancpain SA. His strategy went in the opposite direction to the entire watch industry: he categorically rejected quartz and built the image of a brand based on tradition and technical excellence, laying the foundations for the brand to move upmarket. He then relocated the company to Brassus, a village in Vallée de Joux, which is the historical seat for the production of ultracomplicated watches. This move to a region that typifies watchmaking excellence and that has also been hosting such firms as Audemars-Piguet and Jaeger-LeCoultre ever since their founding in the nineteenth century, confirmed Blancpain's legitimacy, which sourced its movements from the movement manufacturing firm of its shareholder Jacques Piguet. Moreover, by taking the date of 1735 as the date of the company's founding, Blancpain declared itself the "world's oldest watchmaking brand" and rapidly succeeded, selling its watches, often equipped with complications (moon phases, tourbillon, erotic figures, etc.) as objects of tradition or high-end productions.

Blancpain was a big success. Its turnover was booming (CHF 8.9 million in 1985 and 56 million in 1991, just six short years later). In 1992, Swatch Group purchased the two companies, Blancpain and Frédéric Piguet. These takeovers enabled Hayek to acquire new know-how in the field of marketing and the production of complicated pieces rather than make rapid market share gains. Indeed, this acquisition provided an ideal opportunity to internalize the proven marketing abilities of Jean-Claude Biver—who was appointed first to the Extended Group Management Board (1992) then to the Executive Group Management Board (1993)—and his team, then apply them to the Group as a whole. What is more, beside the direction of Blancpain, Biver was soon tasked with revitalizing the Omega brand, for which he was placed in charge of international marketing (1993) then appointed to Omega's Board of Directors (1997). The challenge was to reposition Omega as a luxury brand and to compete head on against Rolex on world markets. It was successfully realized between the mid-1990s and the beginning of the twenty-first century (Donzé 2014).

However, despite this achievement, Biver left Swatch Group in 2003. This departure is undoubtedly linked to the appointment of Hayek's grandson, Marc A. Hayek, to the position of Blancpain's marketing manager (2001) then CEO at the age of 31 in 2002. Marc Hayek was also appointed to the Extended Group Management Board (2002) then to the Executive Group Management Board (2005). He gradually took charge of the luxury brands of the group.

Biver pursued his career as the CEO of Hublot (2004), a small company founded in 1980 and that specialized in the manufacture of so-called fusion watches, that is, gold watches with rubber straps. Biver developed this concept and redefined the true nature of luxury watches using new materials and targeting new categories of wealthy customers. Hublot experienced a fast growth and was sold to the world's largest luxury conglomerate, LVMH, in 2008. In 2012, Biver resigned from the position of Hublot's CEO. He continued his engagement as the chairman of the company and was appointed president of LVMH Watch Division in 2014. LVMH engaged indeed in watch business in 1999 through the takeover of several Swiss watch companies like Tag Heuer and Zénith (Donzé 2014; Lelarge 2015). Biver's new challenge is to supervise the repositioning of LVMH's watch brands to make them complementary to each other. In particular, as the CEO of Tag Heuer since

2014, he refocused this brand as accessible luxury through mediatized actions such as the launch of a smartwatch in cooperation with Google and Intel in 2015.

However, since he left Swatch Group, Biver has not only become a successful manager. He became more and more present in the mass media and started to gradually establish himself as the new voice of the Swiss watch industry. This leadership became uncontested after the demise of Nicolas Hayek. Biver's industrial leadership relies of course on the numerous successes he encountered, from Blancpain to Omega, from Hublot to Tag Heuer. Another important dimension of his leadership is his ability to popularize luxury brand management. He is a great communicator with a talent for explaining with passion and simple words how to manage a brand and the necessity of doing things differently. As he did during his stint in the companies he managed, he tells stories to worldwide media about his success.

Moreover, another dimension of Biver's industrial leadership is the training of a new generation of managers, sometimes called "Biver Boys" by journalists. In particular, Omega's marketing department during the 1990s was a real incubator of talents (Richon 1998). The managers who shared this background were instrumental in moving the entire Swiss watch industry up into the luxury segment. The career of Michele Sofisti is an excellent case in point. After leaving Omega in 1999, he briefly headed up Christian Dior Watches, which was part of the LVMH Group (1999), then came back to Swatch Group to lead the Swatch brand (2000), which he subsequently left again in Biver's wake (2005). After that, he directed the watchmaking department of Gucci Group, in which the French luxury group Pinault-Printemps-Redoute or PPR (now Kering), took a majority interest in 2003, before being appointed the general manager of Sowind Group (which includes the brands Girard-Perregaux and Jeanrichard) after it was taken over by PPR in 2011. As for Aldo Magada, who was appointed Omega's marketing director in 1996, he left Swatch Group in 1997 to take over the marketing at Ebel then continued his career in various watchmaking companies (Gucci, Reuge, Breitling).

Likewise, the members of the management team working under Sofisti and Magada shared similar characteristics. Several went on to pursue careers outside Omega and Swatch Group. The experience they had acquired in terms of communication, advertising, and brand management was put to work for the benefit of other watch brands. For example, this was the case with Béatrice de Guervain, who worked on this team from 1994 onward and was promoted to head of marketing for Omega on the US market in 1997. When she left Omega, she joined Chopard (1999), Harry Winston (2004), followed by Hublot (2010), where she teamed up with Jean-Claude Biver once again. Venanzio Ciampa is yet another example of this new breed of managers. This Italian marketing consultant was appointed marketing director for Omega when Sofisti became the managing director for the brand in 1997. Two years later, Ciampa left Swatch Group for LVMH, before returning to head up the Swatch watch segment, then found his own communication agency specialized in the luxury industry and watchmaking, The Promotion Factory, in 2004. The 1997 shake-up of the marketing team also led to the appointment of Yolande Perroulaz as public relations officers and Valérie Bastardoz for advertising. The former went on to pursue a career within several Swatch Group companies (Longines, Eterna) and the watchmaking divisions of other luxury multinationals (Montblanc, Fendi), whereas the latter joined the banking industry in 2002 after having worked with several Swatch Group brands. These career paths clearly show how significant an impact the marketing managers who joined Omega after Biver's arrival had on the entire Swiss watch industry. This is a key dimension of Biver's industrial leadership since 2010.

3 Discussion and Conclusion

The four entrepreneurs whose career has been presented in the former section were all successful businessmen in their firms. Longines at the end of the nineteenth century, ASUAG since the 1930s through the 1960s, Swatch Group since 1983, and the various companies led by Jean-Claude Biver were among the most important watch companies at the time discussed above. Francillon, de Coulon, Hayek, and Biver were all major public personalities that embodied competitive and modern corporation at their time. Figure 4 shows the number of occurrences of their names in the local newspapers *L'Impartial* and *L'Express*, published in the canton of Neuchâtel, a major production center of the watch industry. Despite the low presence of Francillon in the late nineteenth century, this expresses well the changing leadership between these four entrepreneurs.

Nevertheless, their individual success is not enough to make these entrepreneurs the leaders of a whole industry. Their industrial leadership is linked to the innovation strategy that they adopted in their firm and that they promoted outside of it. As

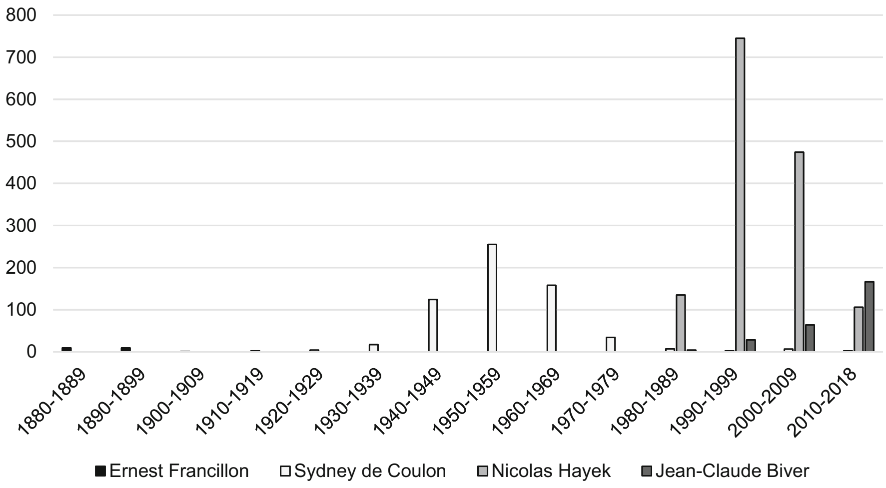

Fig. 4 Presence of watchmaking industrial leaders in Swiss newspapers *L'Impartial* and *L'Express*, 1880–2018. Source: Own creation, based on online archive of newspapers *L'Express* and *L'Impartial*, http://www.lexpressarchives.ch

entrepreneurs, all the four leaders presented here were keen promoters of market-based competition. Hence, one can wonder why they supported the transformation of the whole Swiss industry and not only their own firm. The main reason is that individual action at the head of their own company was not sufficient to achieve a long-term success. They needed a strong Swiss watch industry to strengthen their own competitive advantage.

First, while Longines was one the largest watchmaking firms, Francillon needed a dense network of suppliers for the production of parts and especially watch traders for encase his movements and export them throughout the world. He also needed a collective organization to lobby the federal authorities in order to promote free trade and to implement the standardization of some major parts, such as screws. The modernization—and the competitiveness—of his company required a transformation of the whole industry.

Second, the ASUAG was the core of the cartel system. This firm had a de facto monopoly on the supply of movement blanks and key parts such as springs. The collective supervision of the whole industry, with the support of the state and banks, was the role of ASUAG in this cartel. It owned nearly no watch brands, and its growth relied on hundreds of independent producers.

Third, although Hayek is commonly presented as the savior of the Swiss watch industry, his company, Swatch Group, was also dependent on other watch producers until the late 1990s. Indeed, it produced not only finished watches but also a huge quantity of watch movements, supplied to the whole Swiss watch industry. The concentration and the standardization of the production system implemented by Swatch Group under the direction of Hayek enabled this firm to provide high-quality and affordable movements to other companies that became its competitors after 2000—when Swatch Group refocused on the production and sales of finished watches.

Four, Jean-Claude Biver repositioned several brands and contributed to improving their competitiveness on world markets. His actions as an individual entrepreneur seem far from what his predecessors did. However, the core of his argumentation is the Swiss nature of luxury watches. It led him buying a chalet in the Alps and making his own cheese (Lelarge 2015). Consequently, the management of luxury watchmaking implemented by Biver necessitates also a collective promotion of the Swiss tradition of watchmaking, which is the competitive advantage of all this industry on global markets.

Consequently, industrial leadership is embodied by entrepreneurs that understand what the industry needs in order to keep its collective advantage. They were first movers in their own firm and, at the same time, the promoters of a broader industrial transformation.

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