American Direct Investment in the Italian Manufacturing Sector, 1900-1940

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The growing focus on the historical dynamics of the multinational enterprise has aroused interest in analyzing the reasons for changes in companies' degree of engagement in international activities, from unsystematic exporting to international production [23]. This study, which deals with the tentative expansion of American foreign direct investment (FDI) in Italy before World War II, is especially indebted to this perspective. The choice of period might seem unwarranted, because American FDI in Italy became important only later, but it is interesting to take a closer look at the experiences that set the stage for brisker postwar developments. Moreover, fifteen of the twenty-nine firms that had entered the Italian market before 1940 were still present in 1958 [29, pp. 93-115].

The tendency of American firms to expand abroad is tied to their remarkable progress in manufacturing technologically complex durables and in serving a huge and dispersed internal market [4]. Europe became a preferred target of this primarily commercial expansion toward the turn of the century, after a severe depression in the United States had rekindled interest in foreign markets. Such activities, however, revealed the difficulties of surviving abroad without organizing a directly controlled local branch; as a result, between 1897 and 1908 the value and number of investments in European manufacturing nearly tripled compared to the years 1881-97, a trend even the First World War could not completely reverse [16, pp. 595, 599; 32, p. 40]. These efforts did not always follow a full-fledged plan; often they were rather gradual responses to the opportunities afforded by the possession of a technological advantage. A commercial subsidiary would be established first, to which plants were added when sales volume reached a certain level or under specific constraints such as the institution of an import tariff or other barriers. Such decisions did not necessarily imply an overhaul of the administrative structure of the parent firm, which was sometimes able to carry out its strategy by slightly expanding the central offices and giving local personnel control of day-to-day operations at the foreign site.

Sales branches accounted for the bulk of American-controlled subsidiaries incorporated in Italy before World War I (Table 1) and for just under half those set up between 1916 and 1934 (Table 2); there were still few incentives to produce locally, and they were hardly separable from purely commercial goals. Between 1896 and 1906 Italy had made crucial progress in the development of its manufacturing sector, and the country appeared to be evolving into a potentially attractive market. FDI from various European countries had played a significant

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Table 1. American Firms Investing in Italy, 1900-1915

Firm	Year established	Initial registered stock (in current lire)	Type of activity stated at the date of establishment
1. Vacuum Oil	1901	200,000	distribution*
2. General Electric	1904	4,500,000	distribution
3. Kodak	1905	100,000	distribution
4. Westinghouse Airbrake Co.	1906	6,000,000	production
5. Westinghouse Electric & Manuf. Co.	1907	4,000,000	production
6. Western Electric	1909	150,000	distribution
7. American Radiator	1909	1,000,000	distribution
8. United Shoe Machinery	1911	1,000,000	services
9. Singer	1914	3,000,000	distribution

Sources: 8, 19, 22, 18.

*The term "distribution" has been used here to indicate a subcategory of investments included in the manufacturing sector, since it refers to the sale of goods produced by the home plants of the parent or by factories owned by the group in third countries.

part in these developments [13, p. 9]. The establishment of two institutions somewhat analogous to the German banks, Banca Commerciale and Credito Italiano, marked a stark departure from the usual practices of the Italian banking system; they were able to act as catalysts for investments directed to Italy's industrial sector [7 III, p. 430]. In Italy, however, this role did not imply a deliberate commitment to lead industrial growth, as had been the case in Germany with the so-called universal banks [13, pp. 156-160; 7, III, pp. 51-68, 425-438]. Despite all the progress made, the size and character of the national market would hardly have warranted such an effort. In comparison to France, its most direct competitor for American FDI, Italy's overall evolution was indeed sluggish: in 1913 the Italian per capita GDP, even allowing for the differences in purchasing power, amounted to 66% of the French figure [35, p. 57]. Market integration, as portrayed by data on transportation and communication, was also slower [21, Tables F1, F2, F8, F9].

Table 2. American Firms Investing in Italy, 1916-1930

Firm	Year established	Initial registered stock (in current lire)	Type of activity stated at the date of the establishment
(1) Zenith Carburetors	1916	1,500,000	production
(2) B.F. Goodrich	1916	250,000	distribution
(3) Bates	1917	2,000,000	production
(4) Allied Machinery Co.	1918	1,000,000	production
(5) Burroughs Adding Machine Co.	1919	250,000	distribution
(6) G.E. (Clerici)	2,400,000	production	
(7) Gillette Safety Razor	1919	300,000	distribution
(8) J.C. Brill Co.	1920		production
(9) G.E. (Generala di Elettricità)	1921	40,000,000	production
(10) Boston Blacking Co.	1921	500,000	production
(11) Otis Elevators	1922	1,000,000	
(12) Worthington Pumps	1922	500,000	distribution
(13) National Cash Register	1922	50,000	distribution
(14) Standard Varnish	1922	4,000,000	production
(15) Babcock & Wilcox	1923	5,000,000	production
(16) Ford	1923	300,000	distribution
(17) Driver-Harris	1924	800,000	production
(18) Libbey-Owens	1924	15,000,000	production
(19) International Harvester	1925	2,000,000	distribution
(20) Alcoa	1927	29,880,000	production
(21) Duco	1928	6,000,000	distribution

Sources: See Table 1.

Table 3. Firms Investing in Italy, 1931-1940

	Firms	Year established	Initial registered stock (in current lire)	Typer of activity stated at the date of establishment
1	I.B.M.	1934	2,300,000	assembl./distr.
2	Norton Co.	1935	4,000,000	production

Sources: See Table 1.

The FDI that did come to Italy was directed strictly toward those few fields that could guarantee a safe investment. Considering that the Banco Commerciale's only consistent support of a specific sector was to the electrical industry, which could appeal to the country's hunger for alternative power sources [7 III, p. 426], it is not surprising that two of the most important American investments in Italian manufacturing before 1915 were made by multinational giants in the field of electrical equipment. In 1907 Westinghouse founded Società Italiana Westinghouse; and AEG-Thomson Houston Società Generale Italiana di Elettricità, established in 1904, was actually a partnership in which General Electric (GE) had been joined by its former German affiliate AEG and by Banca Commerciale itself. Even Thomson-Houston, however, was meant to be a sales subsidiary: it began to produce locally only in 1907. Westinghouse Air Brake Company also established a sizable subsidiary in the wake of the Italian government's takeover of the railway network, which was expected to spur a wave of new investments in that sector.

Other American engagements were generally modest, even when the parent was quite substantial: Western Electric devoted less than $100,000 to establishing its subsidiary, and later acquired a small assembly plant. "Compagnia Singer per macchine da cucire" represented a joint-stock venture involving about $580,000, but it did not yet produce locally. Both American Radiator and United Shoe Machinery established affiliates with start-up capital slightly exceeding $190,000, but only the former built a factory shortly thereafter (Table 1).

In the years 1920-24 the pace of FDI to Europe picked up, then boomed in the second half of the decade. The connections with the effects of World War I are apparent. The strong financial position of the United States with respect to Europe tended in itself to make local production advisable, and almost all the countries engaged in the difficult postwar recovery had raised their tariff barriers [30, pp. 114-119; 28, pp. 153-167; 27]. A comparison of the number of investments and their value suggests that investments were smaller and more numerous [16, 595, 599]: there was a tendency to scatter affiliates around as national markets became both more promising and better protected. There may also have been greater participation in FDI by middle-size firms. This was certainly true for Italy: half of the twenty-odd parent firms that established a postwar affiliate were not among the one hundred largest companies in the United States, compared to three out of nine before World War I [15, Tables 1, 2, 3].

The opportunities for a direct presence in Italy had grown. The country was hungrier than ever for external financial support [28, pp. 164-165], and even before the war it had been suggested that American capital could counter excessive German economic influence [24]. At the same time, some of the most important industrial groups in Italy had gained enormous power and were carrying out ambitious growth plans [3]. Soon some American firms were entering promising alliances: in 1917 Bates Expanded Steel Trust Co. of East Chicago joined Rinaldo Negri, a relative of Pirelli and founder of an important power company, in establishing Società Italiana Espansione Ferro "Bates." Its board of directors included Cesare Fera, a prominent businessman then engaged in the takeover of the giant iron and steel group, Ilva. It is not clear whether "Bates" was to have a role in the group; but quite apart from the events that led to the reorganization of Ilva in 1921, "Bates" had rather poor results and was terminated in the early 1930s [8, 1925 1930; 19, 1932, XXII, p. 155].

General Electric reaffirmed its presence in the country after the formation of its incorporated foreign division, International General Electric (IGEC). In 1921 Compagnia Generale di Elettricità was established, producing electrical machinery and supplies. In this case, too, the investor was very clever in its choice of local alliances: GE's partner was Edison, the most important among the Italian electrical companies [8, 1922]. IGEC also acquired a stake in Società Edison Clerici, a bulb producer tied to the group [8, 1928].

In 1922 a subsidiary of Standard Varnish of New York was founded with the cooperation of the company's other European affiliates and of a few Italian partners [19, 1922, XXIII, pp. 74-79]. In 1924 Libbey-Owens Co. of Ohio, a leader in the automation of glass production [10, pp. 421-445] whose Belgian manufacturing subsidiary was also responsible for organizing affiliates in other European countries [22, 1922], entered a partnership with the Agnelli family. Società Italiana Vetri e Cristalli was formed, with a registered stock of 15 million lire, of which 14 million were underwritten by the Belgian firm [19, 1924, XV, 28; XXVII, p. 259]. The company had quite a respectable size by Italian standards, with a capital of 29 million lire (or $1.5 million) at the end of the 1920s [8, 1930], but its performance was disappointing: profits for 1926-1932 averaged less than 200,000 lire. Libbey-Owens withdrew from the partnership, whose name had been changed to Vetrocoke, in the late 1930s [8, 1934, 1937].

In 1927 Alcoa joined Società dell'Alluminio Italiano; American capital invested in this company was about $1.6 million and would reach almost $2.7 million two years later, or one-fourth of Alcoa's European interests [16, p. 28]. In 1928 Westinghouse Air Brake Co. entered a new partnership with Compagnia Italiana dei Freni e Segnali, and Du Pont joined Nobel, a company of the Montecatini group, in establishing Duco S.A. [8, 1934].

All in all, however, the interest of U.S. firms in being directly present in Italy remained lukewarm. In 1930 American FDI in the country amounted to $113 million, or 8% of the European total, but more than half of it (about $66 million) was accounted for by investments in public utilities--and it is somewhat questionable whether such investments meet the definition of FDI [32, p. 54; 33, 11; 17, pp. 151-160]. FDI in Italian manufacturing amounted to only $13 million (Table 4).

Table 4. American FDI in the European Manufacturing Sector, 1929 (selected countries)

Country	Total investments in manufacturing (000$)	Number of units*	Total FDI (000$)	Number of units*
UK	268,189	169	485,235	389
Germany	138,927	78	216,514	186
France	90,913	86	145,009	203
Belgium	38,269	17	64,246	83
Netherlands	26,869	10	43,224	52
Italy	13,210	24	113,216	87
Total Europe	628,895	453	1,352,753	1,381

* Branches and subsidiaries

Source: 32, p. 10.

Any hopes that American businessmen had nurtured regarding the vitality of the Italian economy soon proved illusory. The country chose a development pattern focused on strengthening its productive potential and on bolstering exports as the one component of demand that could provide an outlet for the industrial sector and simultaneously finance its import needs [1, pp. 1236-1239]. Such a choice implied, however, a rather optimistic evaluation of the capacity of Italian industry to compete in international markets. Its viability was in doubt even before Mussolini staked the prestige of his regime on maintaining the lira at an artificial parity with the pound sterling, thereby sanctioning the abandonment of this policy [31, pp. 97-99]. The trend of American FDI offers further evidence of the diminished resilience of the Italian economy: investments in Italian manufacturing slowed down precisely in those years, 1925-29, when they were at their peak in the rest of Europe (Table 2). The published data on the performances of American subsidiaries also show disappointing results: several firms had their difficulties even before the Great Depression. Yet disinvestments were rare [8, 1922, 1925, 1928, 1934, 1940].

New ventures ceased almost completely in the 1930s. The need to redress some of the technological imbalance resulting from the progressive insulation of Italy from international trade flows [27, pp. 254-256), along with the fairly good results obtained by some firms better entrenched in the Italian environment, explain the few exceptions. Yet, in 1936, the value of American manufacturing investments in Italy had increased by 53% over those of 1929, in contrast to substantial decreases elsewhere in Europe (Table 5). The case studies offer evidence that firms expanded their local activities in the second half of the 1930s to produce the semi-finished goods previously provided by, and final products marketed on behalf of, the parent firm and the European sister companies.

Table 5. American FDI in the European Manufacturing Sector, 1936 (selected countries)

Country	Total investments in manufacturing (000$)	Number of units*	Total FDI (000$)	Number of units*
UK	270,745	224	474,130	411
Germany	151,480	87	227,817	151
France	77,458	77	145,683	164
Belgium	18,394	22	34,890	65
Netherlands	9,211	15	18,836	43
Italy	20,435	26	70,181	57
Total Europe	611,383	543	1,244,952	1,230

* Branches and subsidiaries

Source: 33, p. 9.

Ideal Standard

Società Nazionale Radiatori (SNR), now Ideal Standard, was established in the late 1900s as a fully owned subsidiary of American Radiator Co. The parent company, which produced cast-iron heating elements, was founded in Chicago in 1892. Its U.S. expansion had been impressive: four competitors and sixteen plants were absorbed between 1899 and 1922 [22, 1922]. Beginning at the end of the 1920s, it appeared regularly in the group of the one hundred largest firms in the United States [15, p. 145] and reached astonishing sales volumes at home and abroad [12, p. 81]. International expansion, however, had started immediately after the firm's establishment, as a response to a crisis in the home market; FDI had been a factor in, not a consequence of, American Radiator's successes.

A sales office had been established in London as early as 1895. Shortly afterward the company had begun to produce in France and Germany, where a rising demand was pushing up export costs and stimulating local competition [34, p. 12]. Despite high tariffs, the Italian market was originally served by the German company (though local production had been considered as early as 1907) [34, p. 339]; but in 1909 Società Nazionale Radiatori (SNR) was born as a sales subsidiary [37b, 8/30/1909, 1/20/1910]. Almost immediately, in fact, sales reached the critical level: by summer 1911 a plant was built near Brescia [37b, 10/16/1911]. The other European affiliates contributed technological and managerial expertise, but the connection with the parent, which controlled the majority share, was looser. American Radiator was the beneficiary of a royalty contract, that regulated technological transfers to SNR [37a, 2/22/1911, 4/15/1913; 37b, 8/19/1910], and members of its advisory board for overseas activities sat on SNR's board, along with the head of the German subsidiary [37b, 8/30/1909, p. 34].

The firm's take-off was marked by its participation in Mobilitazione Industriale, the government organization that managed wartime production; a dividend, of 8%, was paid for the first time in 1916 (Table 6). But after the war SNR had to face competition from unlikely quarters. In 1919 an agreement on sales terms had to be reached with three other firms, of which at least two, the sewingmachine producer Necchi and the engineering company San Giorgio, were only loosely committed to producing radiators [37b, 1/27/1919], although San Giorgio had taken over SNR's competitor, Koerting, during the war [25, pp. 36-83]. Moreover, the prices agreed upon were eroded by the rise in raw material and labor costs [37b, 11/27/1919]: the firm completed its recovery only during 1922 (Table 6).

From 1922 to 1929 profits increased almost continuously, and returns on capital stayed high. Prospects seemed good, despite a lull in 1926-27, and in early 1930 SNR began to enlarge the Brescia plant and to construct a new factory in Livorno [37b, 2/20/1930; 37a, 3/31/1930]. The decision to build the Tuscan plant was an egregious case of bad timing. In fall 1931 it was ready but idle, while Brescia was operating at only 50% capacity [37b, 9/24/1931]. When a severe price decline in the traditional product lines prompted SNR to produce toilets at Brescia [37b, 9/18/1933], part of the iron and steel production was reassigned to Livorno, which finally went on-line in July 1934 [37b, 9/8/1934].

American Radiator proved to be committed to the success of its Italian affiliate. Profits were almost entirely reinvested, with substantial amounts earmarked for dividends only in the mid-1920s, after thirteen years in which none had been paid, and in the mid-1930s, when new provisions of Italian legislation tying future assignments and their fiscal position to the average dividend for the immediate past [11, pp. 121, 145-46, 158-59] prompted SNR to set aside the earnings that had not been employed in plant construction. Overall, the pace of accumulation was remarkable, averaging 73% in 1922-32 (Table 6).

Table 6. Società Nazionale Radiatori, Profits and Dividends (in lire)

Year	Profits and losses	Dividends	Return on net capital	Year	Profits and losses	Dividends	Return on net capital
1911	-111.224		-12	1926	5.933.193	4.500.0	38
1912	-55.845		-6	1927	5.177.071	2.000.0	30
1913	26.700		3	1928	6.780.158		34
1914	76.508		8	1929	7.755.018		29
1915	155.943		15	1930	5.716.208		17
1916	1.175.754		70	1931	4.070.267		11
1917	1.535.069		43	1932	5.235.544		12
1918	-217.693		-5	1933	3.707.078	1.800.0	8
1919	-965.954		24	1934	2.401.474		5
1920	1.058.480	160.000	25	1935	3.825.660	25.200.	8
1921	-		-25	1936	665.515	600.000	2
1922	1.646.699		38	1937	2.245.083	2.000.0	8
1923	1.681.812	2.000.000	28	1938	133.322	2.100.0	0.4
1924	3.739.793		49	1939	4.056.987	1.600.0	13
1925	5.294.043	2.750.000	47	1940	814.133	1.660.0	2

Source: FaIS. Minutes of the Shareholders Meetings.

This was not the only channel through which American Radiator was able to reap the fruits of its technological lead. A royalty agreement was still in place in

April 1934 [37b, 4/4/1934]. No data have been found regarding SNR's sales, and it is therefore impossible to determine the magnitude of the sums involved and their weight relative to the distribution of dividends. Nor it is easier to assess the actual contribution given to SNR by the parent in terms of technological transfers and assistance. A survey covering the years 1920-37 has led to the discovery of about a dozen patents, all of them in the heating field. Two of the registrations in Italy refer to patents previously obtained in the United States by an assignor for the parent [14, 1933, 23,167]. Three contain no intimation of prior registration abroad and were therefore probably attributable to Italian inventors. The others refer to patents obtained by European affiliates [18, 1921, no. 185123; 1931, no. 287814; 1933, no. 308208; 1934, nos. 314525, 315590, 319557; 1935, no. 331803, 332730; 1936, nos. 333652, 13522 (transfer); 1937, no. 346197). Overall, although the number of patents involved here was not large, the role of the multinational firm as a vehicle for technological know-how is confirmed, both as a direct relationship and as a stimulus to innovation inside the individual subsidiaries and to the exchange of information among them.

For a long time American Radiator and the other European affiliates continued to provide the management personnel and the directors of SNR. During the decade following World War I, no functional structure emerged: the latitude enjoyed by the various managing directors was in principle great, but each remained in charge for a relatively short time; they appear to have functioned mainly to implement strategies decided elsewhere. In the 1930s the figure of the foreign managing director became less dominant, as SNR's organizational structure underwent a functional differentiation of sorts: Italian managers were put in charge of marketing and of general administration [37b, 3/28/1935]. By the late 1930s the organizational tree was reaching down into each plant [37b, 10/14/1938].

The potential for these changes to alter SNR's outlook radically was limited by the poor performance of Livorno. That plant reported losses for two of the five years of operation before the war [37a, 3/30/1937; 3/31/1939] and generally achieved worse results than Brescia, probably because production of the sanitaries, was becoming the stronghold of the company. Only a 1939 agreement with the other producers of heating elements prompted a price increase that contributed to a plant profit of almost two million lire [37b, 7/28/1938, 12/1/1939; 37a, 3/31/1939, 3/11/1940], but that was unusual.

International events were only distantly echoed in the firm papers, but war with France was bound to have consequences for SNR, given its close ties with Societé Nationale les Radiateurs. During the summer of 1940 a confiscation act was issued, on the (false) grounds that SNR was partly owned by Radiateurs. Shortly afterward, and for the duration of the war, SNR was placed under government control, although authority over the company's operations remained primarily with its management.

Overall the firm came out of the war without enormous damage. The Livorno plant was shut down in 1946 but, given its poor record, this probably was not a terrible loss. The funds set aside in the dividend account, which had not been transferred home because of restrictions on financial outflows imposed by the Italian government, provided a basis for a re-evaluation of the firm's assets that inaugurated brisk post-World War Two growth [37a, 4/14/1948].

Mole Norton

Norton Company of Massachusetts, a venerable, owner-managed grinding-wheel producer that had grown remarkably abroad, decided to invest in Italy only in 1935, when the propensity of U.S. firms toward such activity had greatly diminished.

Among the fifty-odd firms active in the U.S. abrasives industry between the 1900s and the 1940s, Norton had been most successful in innovating the processes for producing both high-performing artificial abrasives and reliable bonds for grinding wheels [6]. In the 1900s it perfected *Alundum*, the first aluminum oxide abrasive to attain widespread commercial diffusion. Like its most direct rival, Carborundum, Norton had sales agents all over Europe and by the end of the 1900s had established a plant in Germany [5, pp. 192-96; 6, pp. 127-28]. By the end of the 1930s Norton owned half a dozen foreign plants [5, pp. 196-206].

The establishment of an Italian factory had been discussed, then indefinitely postponed in the early 1920s [5, pp. 200-202]. Norton instead serviced the Italian market through its British agents, Alfred Herbert Company, and through S.A. Italiana Abrasivi Alfredo Bodi [5, 194; 8, 1932; 19, L, 37]. But Bodi went out of business around 1931 [8, 1928, 1932], and the economic policies of the Italian government were posing ever growing hurdles to imports: the need for a local plant re-emerged [5, p. 204; 26].

Mole Norton was born in 1935 with a registered stock of 4 million lire, 60% of which went to the American parent [38a, 7/15/1935, 7/27/1935], the rest to SAPMARG, a not very successful company formed in 1926 by the pottery firm Richard-Ginori and a major German producer of abrasives [19, 1926, XIII, p. 19; 6, p. 228; 26, p. 8; 8, 1930, 1932]. Norton was eager to accept foreign nationals as minority partners in all its subsidiaries: they had better knowledge of their own markets, and their presence avoided enlarging the parent's organizational structure [5, pp. 195-207].

The Corsico (Milan) factory, like those at Norton's other European sites, hosted the molding, firing, and finishing stages, while abrasives and bonds were sent from Massachusetts [5, pp. 207-8]. Nor was Corsico equipped with the latest technologies: tunnel kilns, which provided substantial advantages in both production and working conditions, and which had been adopted long before the war by both the parent firm and the German affiliate, were introduced at Corsico only in 1949 [5, pp. 211, 146; 26, p. 17]. Nevertheless, and despite a delay in the reorganization of the plant caused by the international consequences of the invasion of Ethiopia in October 1935 [38b, 3/18/1937; 3/18/1938; 5, p. 210], the results were fairly good: in the prewar years invested capital yielded a yearly average return of 8% [38b], and a cautious expansion policy was pursued into the early war years [26, p. 15].

Until 1940 Mole Norton's directors were two representatives from Richard-Ginori and three Norton men: William Neilson, chief of sales for the whole group, who chaired the board; Herbert Stanton, chief of the London office, which supervised all the European interests; and Pierre Baruzy, managing director of both the French and the Italian subsidiaries. The plant was managed by an American and, as usual, only the sales department had been entrusted to locals [26, pp. 8, 12; 5; pp. 206-7; 38b, 5/29/1940]. But when France fell in May 1940 Baruzy had to resign, and the Americans were being repatriated. Although the chief of the German affiliate was put in charge of the European plants, no trace of this connection remains in the available firm papers. Baruzy was in practice replaced by two locals, Luigi Marzoli and Angelo D'Imporzano, who, as representatives of the minority shareholders, were able to control the firm even while it was under government seizure.

Thus, good profits lasting through the early war years allowed the company to accumulate substantial reserves [5, 211-12, 216; 38c, 3/12/1945]. Even in such a difficult period, Mole Norton had managed to consolidate its newly acquired position in the Italian market and to lay the foundations for an even more successful expansion during the postwar recovery.

Driver-Harris

The history of Driver-Harris offers an example of "accidental" FDI and of the simple administrative forms often utilized in managing remote affiliates. It also shows the limits of such methods: it is a story of success postponed for lack of interest rather than of opportunities.

S.A. Italiana Driver-Harris (SAIDH) was born in 1924 as a partnership among British Driver-Harris Company Ltd., S.A. Etablissements Driver-Harris (EDH), and Ettore Ghizzetti of Turin [36i], set up as a means to consolidate a huge debt contracted by Ghizzetti with the two firms [36a, p. 1]; the American parent (Driver-Harris Co. of New Jersey), small and family-managed [22, 1931], had no part in it. Ghizzetti brought into the partnership a plant for the production of refractories, and thus SAIDH entered a different product line than the high-resistance castings and wires that were the technological stronghold of the group [36a, pp. 6-7].

Both Ghizzetti and the new partner who replaced him in 1927 [36a, p. 9; 20, 1927, XXXIX, p. 198; 36a, p. 10; 36b], Camillo Formenti, were given complete control over the firm, but the results were poor [8, 1930]. Formenti, a distributor of electrical supplies, brought the firm to Milan and enlarged the scope of its operations to form a channel for products manufactured by the other European partners [36c, 36d], but he did not boost local production. The group, on the other hand, showed no interest in taking charge of the Italian company, even after Formenti proved to be a dishonest and unworthy partner [36j], or in refocusing it on the more advanced production lines. Responsibility for the firm's operations was eventually given to the managing director of EDH, but a local general manager actually ran the company. In 1933 a contract with Fiat was signed, under which Fiat would manufacture castings from high-resistance alloys for SAIDH, but SAIDH 's role was in fact to serve as an intermediary for Fiat and EDH, the real partner in the technology transfer, and to collect orders [36e].

In 1935 SAIDH made plans to build a plant with a rolling mill, annealing kilns, and a drawing and a winding mill to produce wires, straps, and bands from imported rod steel [36g]; it also began to claim in Italy patents previously registered in the United States by assignors to the parent [18, 1935, no. 332281, 1936, nos. 331584, 333760; 14, pp. 184, 412]. But in 1937 the only new process installed was the drawing mill [36h], and it was finally decided to set up a foundry only in 1940, by which time the rolling mill presumably was activated [36f].

The slowness with which SAIDH responded to the opportunities for import substitution in the growing isolation of the Italian market is reflected in the bleak results of the balance sheets from 1936 to 1939 [19, 1937, XX; 1938, XLIII; 1939, XXVII; 1940, XXVI]. It seems clear that the inadequacy of its organizational structure left SAIDH in the hands of managers who compromised its financial stability and proved incapable of promoting the sector in which the parent firm had a lead. After the war the company managed, through a closer relationship with its American parent, to settle comfortably into the Italian environment, but its postwar successes did not develop from previously acquired organizational and financial bases.

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