BANCA D'ITALIA

EUROSISTEMA

Quaderni di Storia Economica

(Economic History Working Papers)

Old and New Italian Multinational Firms

by Giuseppe Berta and Fabrizio Onida

October 2011

number 15

BANCA D'ITALIA
EUROSISTEMA

1861 > 2011 > >
150° anniversario Unità d'Italia

Quaderni di Storia Economica

(Economic History Working Papers)

Old and New Italian Multinational Firms

by Giuseppe Berta and Fabrizio Onida

Paper presented at the Conference "Italy and the World Economy, 1861-2011"

Rome, Banca d'Italia 12-15 October 2011

Number 15 – October 2011

The purpose of the Economic History Working Papers (Quaderni di Storia economica) *is to promote the circulation of preliminary versions of working papers on growth, finance, money, institutions prepared within the Bank of Italy or presented at Bank seminars by external speakers with the aim of stimulating comments and suggestions. The present series substitutes the Historical Research papers - Quaderni dell'Ufficio Ricerche Storiche. The views expressed in the articles are those of the authors and do not involve the responsibility of the Bank.*

Old and new Italian multinational firms

Fabrizio Onida * and Giuseppe Berta **

Abstract

After a quick profile of Italian foreign direct investments since 1900 and a short review of the main explanations of the lagged multinational growth by Italian manufacturing companies, a quick glimpse of business histories is given to the only two still today living "old protagonists" (Pirelli, Fiat) and to three old corporate groups (Olivetti, SNIA Viscosa, Montecatini-Montedison) who had also reached a significant degree of full internationalization early in the XX century, but during the second postwar period underwent profound dismantling of their original business mission. Finally the paper focuses on few cases of "new protagonists," mid-size family companies who undertook a true multinational strategy only in the most recent decades and today represent the core of the Italian "fourth capitalism."

JEL Classification: F23 L60 N63 N64 N83 N84
Keywords: Italian industry-multinational companies

Contents:

* Università "Luigi Bocconi" di Milano
** Università "Luigi Bocconi" di Milano

1. Introduction[1]

Within the whole architecture of "Italy and the world Economy" research project, this paper must be seen as a peculiar mix of some short business histories and a survey of available data on Italian direct investment abroad.

Our protagonists are strictly defined as multinationals (or transnationals), i.e. groups that sooner or later decide to go beyond the pure export strategy (i.e. producing domestically in single or multiple plants and selling to foreign commercial intermediaries or direct foreign clients), by undertaking direct investments abroad, with domestic housequarters keeping majority or full control of production units, or at least commercial units (distribution and after-sale) located outside the domestic boundaries. A rather consolidated body of economic theories explains the decision to "go multinational" rather than simply "selling abroad." This theoretical framework applies to manufacturing and service activities, since the standard foreign direct investments (FDI) in extractive, agricultural and other raw materials sectors are basically targeted at ensuring secure access to natural resources unavailable domestically and subject to geo-political risks. This is the case, among others, of the recent China's massive investment in agricultural land and mining in Africa and Latin America, somehow reminding in a completely different historical context the old European colonial ("land grabbing") investments. In a nutshell, the determinants of this decision of a national exporting firm to become a multinational firm can be summarized in the following way. The home country firm's "ownership advantages" (knowledge, experience, technological and other invisible assets) become more profitable and growth-enhancing in the medium and long run either by: a) achieving a better proximity to local customers, making faster adaptations to the standards of local demand ("market seeking" strategy, looking for a crucial source of market power in pricing and distribution channels), and/or b) exploiting input cost differentials ("cost-saving" strategy), given the role played by economies of scale (multiple plants located in different countries rather than a single domestic plant) and taking distance and related transport costs into account, and/or c) gaining new knowledge from the economic and technological environment of the host country ("non-natural resource seeking"). A large empirical evidence, through direct opinion surveys as well as econometric tests, leads to conclude that "market seeking" is by far the major determinant of foreign direct investments, compared to the more popular "cost saving" (delocalization) and to the rather episodic "knowledge resource seeking."

The choice between undertaking the direct investment abroad or just opting for a "non equity investment," such as licensing own "blueprints" to an independent or majority local partner, depends on the degree of risk aversion, managerial resources, financial strength and ultimate growth targets of the domestic firm. Thus "ownership advantages" combined with "locational advantages" and with "internalization advantages" are the basic ingredients of FDIs. [2]

[1] Strong contribution by Mario Perugini as research assistant is gratefully acknowledged.

[2] Dunning (1983), Cantwell (1989), Markusen (1998). For an in-depth survey of the literature see Barba Navaretti-Venables (2004).

The paper is organized as follows. A quick profile of Italian foreign direct investments over a long time span is provided in Section 2, based for 1900-1981 on the only available study on the sheer number of investors grouped by main sectors and broad geographical areas (Section 2.1). Section 2.3 dwells very shortly on the main explanations of the lagged (compared to other advanced European countries) multinational growth by Italian manufacturing companies. Then a short survey of more detailed data for the most recent quarter of a century, starting in the mid-1980s, is the subject of Section 2.4, based on a new rich database built on collection and selection of various available sources (from balance sheets to press news and direct interviews) by a group of scholars of Milan Polytechnic. This database contains disaggregated data on yearly and cumulative flows of manufacturing turnover and employment, including disinvestments and degree of capital control. Since 2010 ISTAT has started to make available official data on Inward and Outward Foreign Affiliates Sales (FATS), but so far without any previous historical series.

A quick glimpse of business histories is given in Section 3 to the only two still today living "**old protagonists**" (Pirelli, Fiat), who were born in the late XIX century. Section 4 points to three corporate groups (Olivetti, SNIA Viscosa, Montecatini-Montedison) who had also reached a significant degree of full internationalization early in the XX century, but during the second postwar period underwent profound dismantling of their original business mission, through a series of radical dismissals and restructuring, so that today they can be considered "**one-season protagonists**" as Italian multinationals. Section 5 focuses on "**new protagonists**:" dozens of mid-size companies, all family companies with strong external managerial skills, some of them being born even few generations ago but having undertaken a true multinational strategy only in recent years of the postwar period (e.g. Marzotto, Zegna, Piaggio, Italcementi, Recordati, Zambon, Bracco). These companies are fully representative engines of what has been called the Italian "fourth capitalism," spanning over a wide array of traditional and modern sectors. Among this today rather large corporate population, we chose six short case histories drawn from three sectors (clothing, chemicals, motor vehicles). Further examples of this category could be provided in a subsequent work.

Section 6 draws some concluding remarks on the long-term evolution of the Italian multinationals.

2. A quick profile of the long run Italian multinational growth

2.1 From 1880 to early 1980's

Multinational growth of Italian companies lagged behind the historical record of other European countries, where the first internationalization phase for the manufacturing industry started in 1880.[3] Based on data from the only available study on investments by Italian multinationals from 1900 to 1981,[4] the first isolated cases of foreign production expansion date back to the first decade of the 1900s (Table 1). During this period, named as the Giolittian expansionary phase, Italian companies opened six production subsidiaries;[5] partly

[3] Dunning (1983).
[4] Acocella (1985).
[5] Excluding subsidiaries that were solely commercial.

greenfields and partly result of acquisitions or incorporations of pre-existing companies. The reach of the Italian industrial system beyond national borders strengthened in the interwar period; the '20s saw the establishment of six more subsidiaries and in the '30s ten more were created. The largest number of new foreign companies controlled by Italian firms were founded in the four years from 1929 to 1932.

The prevailing explanation of the peak in Italian outward foreign direct investment (FDI) in this period is the response to the deflationary policies implemented since 1927 by the Fascist regime. This reaction, by those companies more oriented toward foreign markets, was intended to compensate for fluctuations in domestic demand on one hand, and on the other hand to reinforce exports, despite the new unfavourable conditions.[6] As the cases of Fiat,[7] SNIA Viscosa[8] and Montecatini[9] confirm, the revaluation of the lira to "Quota 90" vis-à-vis the pound sterling affected the decision to either boost production capacity of foreign facilities or create new ones.

Overall, in the first four decades of the XX century Italian companies founded 22 foreign production branches (Table 1). However, in all likelihood this is a conservative estimate, considering that official statistics do not take into account crucial data such as the Italian participation in foreign joint-stock companies operating both in manufacturing and mining. In the first fifteen years of the century, foreign subsidiaries included textile and food producers (in particular vermouth and alcoholic beverage), yet there were also firms operating in more modern sectors of the Second Industrial Revolution. A case in point is rubber, with Pirelli's production facilities or subsidiaries spread over several countries, as well as an extensive export business since the first decade of the 1900s (see par. 3.1). The interwar period saw a significant rise of leading food companies building up their foreign business (Cirio, Martini and Rossi, and Cinzano), but more importantly some new companies entering the international market, such as SNIA (artificial textiles), FIAT (automobiles), Montecatini (chemical products) and Olivetti (office machines): see Sect. 3 ("Old protagonists") and 4 ("One season's protagonists").

The geographic distribution of investments also reveals a number of remarkably new phenomena. Before the first World War, Italian companies had invested primarily in Latin America (particularly Argentina), while foreign subsidiaries founded in developed countries accounted for only a third of Italy's total, compared to two-thirds for continental European countries. However, in the twenty years following WWI, the geographic range of investments was appreciably enlarged. France became by far the leading area for investments, where four of the ten subsidiaries were established from 1929 and 1932; Germany and the US were also included among the top locations.

Overall, approximately 70% of the new Italian subsidiaries in the interwar period were located in developed countries with a medium to high level of industrialization. This marked a clear reversal of the previous trend before 1914. In addition, FDIs encompassed a wider

[6] Paradisi (1976).
[7] Castronovo (1971).
[8] Spadoni (2003).
[9] Perugini (2009).

variety of sectors with higher levels of specialization. From 1920 to 1939, the more technologically advanced sectors (no longer only food and textiles) made the greatest contribution to the expansion of Italian manufacturers beyond national borders, including rubber and tire, transport equipment, chemicals and artificial fibers, paper, electromechanical engineering, office machines.

Foreign expansion of Italian firms was accelerated during the '50s and early '60s, a period coinciding with the strongest Italian economic growth performance in the postwar period, pulled by a record expansion of both domestic demand, domestic saving and export in a rapidly integrating European market (the so-called "economic miracle"). Keep in mind that in the two decades 1950-71 Italy managed to achieve a 4.9% annual growth of per capita income, well above the 3.8% for the European average. While in 1950 the Italian per capita income was one third that of the US, in 1970 it had become two thirds.[10] In 1963 the investment/GDP ratio reached a record 25%, the Italian saving propensity in those two decades was second only to the Japanese one, well above 20%. Until the 1969 "Hot Autumn," which signed a turning point in industrial relations, in those two decades Italy went through a record growth of output and productivity (pulled by rising capital/labour ratio and younger stock of capital) with a prolonged wage moderation. At the same time an excellent profit performance was a powerful incentive to new investments, which in their turn induced rapid shifts of labour force from traditional to more modern and faster innovating sectors. [11] Thus investing abroad was not a clear priority for business reaping the benefits of a lively domestic expansion.

Anyway, in the '50s, 35 new manufacturing subsidiaries were opened, more than the total number for the entire first half of the century. Direct investment was no longer an exception, but rather it was becoming a common growth path for major companies already more or less strongly export-oriented. In particular, from 1945 to 1954 Italian firms were most active in electromechanical engineering and the office machines sector, with eight international subsidiaries (see again Table 1), mainly reflecting Olivetti's internationalization strategy. The company founded by Adriano Olivetti had already made some FDIs before 1945, but in the following three decades became a protagonist on the world market (Sect. 4.1). In the chemicals sector, mainly due to Montecatini and SNIA (Sect. 4.2 and 4.3), the second half of the 1950s saw a remarkable surge of FDIs, a takeoff by mechanical and electro-mechanical engineering, while a temporary slowdown in the growth of foreign subsidiaries was registered in transport equipment. In the latter case, this was due to a strong focus of Fiat's growth strategy toward the booming domestic automobile market.

In the '60s the number of Italian affiliates operating in the international market rose further, led by the fast expansion of the newly formed ENI-AGIP in the oil and gas extraction worldwide, under the aggressive leadership of Enrico Mattei who challenged the international oligopoly of the oil "seven sisters." Mechanical and electromechanical engineering sectors saw the highest number of direct investments, with 14 and 12 subsidiaries respectively.

[10] Toniolo (2004)
[11] See among others Rossi-Toniolo (1996) and Rey (1982).

In both these sectors three-fourths of the new investors were small to medium sized companies, while there was a downturn in investments by large enterprises, in particular Olivetti. In the first half of the '60s, chemical companies continued to rapidly internationalize production, with extremely aggressive strategies such as Montedison's establishment of Novamont in the US, compared to other major European producers' approach in the same period. However this expansion came to an abrupt halt in the late '60s (see Table 1). The rubber sector was actually the only one that saw an increase in investments in the latter half of the '60s, mirroring Pirelli's growth strategy (Sect. 3.1 below).

The overall economic scenario changed dramatically during the '70s and early '80s: dwindling profit margins under the pressure of rising wages and slowing productivity growth (labour unrest), inflationary impact and rapidly deteriorating trade balance from the first oil shock, accompanied by marked depreciation of the lira following the breakdown of Bretton Woods exchange rates regime. The slowdown in domestic demand spurred major efforts to expand exports, while attempts by the Bank of Italy to put credit ceilings and penalties on short-term capital exports created a domestic macroeconomic environment relatively unfavourable to long-term planning of business multinational expansion. During the 1970s and the 1980s the highest number of investments was concentrated in mechanical engineering (21 subsidiaries), transport equipment (20), electromechanical engineering and office machines (19), rubber (19), and food (15). The internationalization process continued uninterruptedly for the entire period in these industries, albeit following different paths.

On the contrary, expansion among chemical companies became more volatile once again.[12] However, the '70s was also a time of major divestments, in particular in automotive, electric machines and office machines, and in the chemicals industry. As regards the first two sectors, this was primarily the result of reorganizations by Fiat involving its foreign operations, and by Olivetti, preparing for a new internationalization phase which would begin in the early '80s. Divestitures recorded in the chemicals industry, instead, were attributable to a sector crisis rather than foreign portfolio reorganization.[13]

One should also notice that, compared to other major "strong currency" countries such as Japan, Germany, Netherlands, at least until the mid-80s Italian external competitiveness was supported by creeping depreciation of the lira exchange rate, so that Italian companies were relatively less induced to pursue cost-saving strategies of direct investment in low-wage countries aimed at gaining competitiveness in labour intensive activities.

[12] In fact, after the stagnation of the late '60s, investments picked up again from 1970 to 1974 (9 subsidiaries), but in the subsequent five-year period, the slowdown of foreign investments among Italian multinational chemicals companies led to a decrease in the total number of new entries (5 subsidiaries). Other sectors, instead, experienced major growth from 1975 to 1979 (textiles with 8 new entries, and the mineral processing sector with 10), thanks to the entrance of new firms on the market.

[13] Acocella (1985).

The latter half of the '80s brought about a renewed international expansion among major Italian firms, bolstered by the reorganizations of the '70s.[14] Multinational expansion took the form of acquisitions as well as production agreements and partnerships, and was no longer limited to developing countries. On the contrary, priority was given to American, European, and (less often) Japanese partners. However, these moves represented almost the swan song of the large Italian companies on international markets.

2.2 Recent trends

Since the mid-1980s the process of "going abroad" to become multinational companies has been on an upswing trend (data from Reprint) and a new phase began, marked by entry of new players and diffusion of new internationalization models. A significant number of medium-sized firms took the lead, replacing to some extent the large groups which kept a deceleration profile in their multinational growth. The elite club of direct international investors expanded its membership: from 1985 to 1995 the number of Italian companies with international holdings rose from 263 to 621.[15] Underpinning this new phase, on one hand, was the development of specialized medium-sized firms characterized by high organizational flexibility. These companies, often organized in multi-plant groups, also operated in sectors which previously had seen relatively little multinational growth, such as textiles, clothing, and specialized mechanical engineering. Other direct investments involved household appliances, the food industry, and the steel industry.[16] On the other hand, new opportunities arose from the fuller integration of the Single European market, the fast growth in China and other Asian countries, the opening of the economies in Central and Eastern Europe.

It must be emphasised that, given the three main determinants of outward direct investment already reminded in the Introduction, suggested by well established theories (market seeking, cost saving, resource seeking) the growth of Italian multinationals was mainly pushed by the first one (better market penetration of foreign markets, through both purely commercial affiliates and production facilities closer to final customers) than by the other two. One should only add a peculiar propensity, mainly by small and medium-size Italian companies, to undertake a softer approach to international business, through minority joint ventures and a wide range of "non equity investments" (licensing and other forms of technology transfer, commercial agreements, production sharing and the like), especially when entering the market of newly developing countries. [17]

Nevertheless, Italy being a latecomer in this respect, the Italian share of the world stock of outward direct investment (3.06%) still today is between one half and one third compared to the major European countries (France 9.09%, UK 8.70%, Germany 7.25%; Fig. 1), even less than Spain (3.40%). The ratio of this stock to GDP (Fig. 2) grew very fast from 5.3% in 1990 to 27.4% in 2009, but this trend was also common in other European countries,

[14] Balcet (1997). Production realized abroad by the major industrial groups (Fiat-Ifil, Olivetti-Cir, Pirelli, Montedison-Ferruzzi, Eni and Iri) grew by 60% from 1985 to 1988, a result of numerous acquisitions, especially in Europe.
[15] Cominotti-Mariotti (1996).
[16] Onida (1994).
[17] Oman (1984; Onida *et al.* (1985).

so that in this respect in 2009 Italy was much behind Germany (41.2%), Spain (44.2%), France (64.9%) and UK (76.0%).

2.3 Why latecomer Italian multinationals?

The main reasons for Italy being a latecomer as an outward investor in the postwar period can be summarized as follows.

a) A the much higher share of micro and small enterprises (about 55% of manufacturing employment), who face greater entry cost as international producers.[18] This remark symmetrically calls into question the progressive disappearance of big business in the Italian postwar history, starting with the nationalization of the electricity industry in 1964 and going through the managerial failure of the big State holdings (IRI, EFIM, GEPI). But this issue goes much beyond the scope of this paper.

b) The composition of manufacturing industry, with a significantly larger share of output of sectors producing traditional consumer goods and specialized machinery, sectors that are typically less oriented to FDIs while maintaining a high export propensity, in comparison with scale-intensive and science-based industries such as basic chemicals, big pharma, steel and non-ferrous metals, road vehicles, professional and consumer electronics.[19]

c) The macroeconomic environment of the 1970s and early 1980s rather unfavourable to capital outflows: rising external deficit, foreign exchange controls, credit tightening. In addition the prolonged weakness of the lira exchange rate since the early 1970s throughout the 1990s contributed to increase the entry cost for potential Italian investors abroad (symmetrically an appreciation of the real exchange rate acts as an incentive to bear the cost of foreign greenfields or takeovers).[20]

d) The heavy share (until the early 1990s) of State-owned enterprises precisely in those sectors (scale intensive and research intensive) that are more FDI-oriented: indeed for obvious political reasons the State ownership (with the exception of ENI) has always been focused on investing domestically – and in particular in the Mezzogiorno – rather than abroad. [21]

---

[18] In 2007 out of 510.000 manufacturing firms in Italy there were 430.000 micro-firms (1-9 employees), against 212.000 in France, 173.000 in Spain, 118.000 in Germany. These micro-firms accounted for more than 25% of total manufacturing employees (about 1,2 million) against a EU average of 13.9%; reciprocally the share of manufacturing employees in large firms (more than 250 employees) was 22% vs. the EU average of 40.6% (Germany 53.2%, France 46.3%, Spain 26.0% (ISTAT 2010, p. 52). The anomalous size distribution of Italian firms compared with other major countries is a recurrent theme in the literature on Italian economic development: see among others Traù (1999), Onida (2004), Banca d'Italia (2008).

[19] See among many others De Nardis-Traù (2005), Garonna-Gros-Pietro (2004), Banca d'Italia (2008).

[20] Ciocca (2007).

[21] Nardozzi (2004, pp. 61-64). An extensive analysis of the role played by Italian SOEs ("Partecipazioni statali") is provided, among others, by Barca -Trento (1997). According to de Cecco (2004) the political-economic crisis of the early 1970s in the aftermath of the "Hot Autumn" has been a turning point in the postwar Italian industrial development, ultimately leading to a progressive competitive decline in absence of repeated devaluation of the lira before the new euro regime.

As a complementary additional explanation of Italy's lagging propensity to cost-saving FDIs in developing areas – compared to major Central European countries and Japan – one must recall the strongly dualistic pattern of development, which at least in the 50s and 60s implied the relative availability of low-cost suppliers in most domestic Southern regions.

Therefore no wonder that in one of the earliest field studies on strategies of 75 Italian multinationals (in-depth questionnaires-interviews), performed in the mid-80s, the "cost reduction" motivation was far less important than "market penetration," "reaction to protectionism" and even "acquisition of international experience." [22]

The relatively recent growth of Italian multinationals must be seen in the context of a changing macroeconomic framework started since the early 1980s. A major reversal in labour relations, with more accommodative Trade Unions and declining labour unrest, was triggered in Turin by a strong reactions of Fiat's white collars against the overflow of pro-communist TU leadership (the so called "march of 40.000" in October 1980), soon followed by inflation abatement through wage de-indexation (remember the potentially explosive impact of the second oil shock in 1981-82) . Other major events that basically contributed to a growing awareness by SMEs of the opportunities linked to multinational expansion were: the first entry of the lira in the European Monetary System in 1979 (a sort of a disguised crawling peg to the Deutsche Mark); the agreement by all EU members to start an ambitious project of "Single European Market" with strong commitments to gradual reduction of technical non-tariff barriers to intra-European trade and factor mobility (1986); the crash of Berlin wall bringing about (after a first sharp downfall in output) a fast recovery of the new CEE (Central Eastern Europe), rapidly followed by and eventual enlargement of the old EC-16 to EC-27; the end of the Uruguay Round with the newborn WTO (1995) accompanying rapidly expanding international markets.

The dramatic crisis of the lira of 1992-93, quickly followed by a sharp fiscal consolidation and sizeable privatizations paving the way to entry of the lira in the newborn Euro (1998), also contributed to a domestic economic environment not particularly favorable to ambitious multinational expansion by Italian manufacturing firms subject to some financial squeeze and organizational stress.

2.4 An overview of data from Istat and Reprint

Now let us take a look at the only quantitative data available about Italian outward direct investment for little more than the last two decades.

[22] Onida-Viesti (1988, p. 76). With few exceptions the bulk of major operations by Italian multinationals in that period was concentrated in Europe and USA. At the time of this study, aside from ENI-AGIP extractive investments in oil-gas producers and a substantial presence of FIAT group in Brazil, Argentina and Turkey, major cost-saving investments by Italian multinationals in developing areas were GFT in Mexico, Miroglio in Tunisia (both in textile- clothing), Farmitalia C.Erba (Montedison group) in Latin America and Indonesia, SGS Microelettronica in Singapore and Malaysia; see Onida-Viesti (1988).

Only in 2010 **Istat** (Istituto Nazionale di Statistica) has started to monitor the Italian outward FDI according to the European standard definitions of FDI.[23]

In 2008 there were 20.972 foreign affiliates under control by Italian residents, with almost 1.5 million employees, a turnover of €386 billion generating an estimated local value added of €93 billion (net of financial intermediation activities). Manufacturing affiliates were less numerous than service affiliates (31% of the total) but accounted for 50% of employees, 38% of turnover and 44% of local value added. Employees in these foreign industrial affiliates were 16.4% of Italian industrial employment. This "degree of internationalization" was far lower in service sectors (trade, transport and logistics, hotels-restaurants, real estate, business services), except banks and financial intermediation where it was almost 37%.

The other unofficial but very accurate and much more detailed source of information concerning outward and inward Italian FDI is **Reprint,** a database collected by Politecnico di Milano which for many years was restricted to manufacturing activities but has subsequently been covering main non-financial services.

According to the latest report from Reprint[24] on January 1st 2009 there were 6426 Italian direct investors with 22.715 affiliates abroad (82% under full control), accounting for 1.352.070 employees (75% in fully controlled affiliates) and a turnover of €460 billion (80% by fully controlled affiliates; Table 2) Out of the 18.692 affiliates under control, only 5.052 belonging to 2.327 investors were operating manufacturing units (although accounting for almost 689.000 employees i.e. more than 2/3 of the total employment abroad) , while 9.605 were wholesale affiliates (with almost 148.000 employees). The remaining 4.035 affiliates were classified within energy, extractive and construction industries as well as transport, telecom and other professional services. [25] The geographical composition of the stock of employees in foreign affiliates can be found in Table 3.

The comparison with two decades earlier from the same Reprint database can only be made for manufacturing groups. At its starting date 1.01.1986 there were 282 Italian manufacturing investors of which 180 with fully controlled foreign affiliates, accounting for 152.010 employees. Thus since the mid-80s the number of manufacturing investors has seen a more than tenfold increase (from 180 to 2327), while the size of employees abroad has grown about 4.5 times (from 152.010 to 689.000), a clear evidence of the rapidly increasing weight of small and medium-size investing companies.

After a careful classification of company size taking into account their belonging to groups, today (1.01.09) even micro and small companies **(**up to 49 employees) are responsible for almost 30% of the total number of investors, although for only 12.7% of the number of affiliates, 6.9% of employees abroad, 3.8% of foreign turnover. Almost 53% of

[23] ISTAT (2011).
[24] Mariotti-Mutinelli (2010).
[25] Mariotti-Mutinelli (2010, Table 2). About 80% of investors, with same proportion of affiliates and foreign employees, are companies located in Northern regions. Lombardy's weight alone is 35% of the total, followed by Veneto and Emilia-Romagna, each with 14% of affiliates and around 11% of foreign employees: Mariotti-Mutinelli (2010, Table 2.18).

investors, with 38% of affiliates and less than 18% of foreign employees, are medium size groups **(**50-249 employees). Medium-large and large Italian multinational groups (250 employees or more) are only 17% of the total number of investors but are responsible for 49% of foreign affiliates, 75% of foreign employees and 87% of foreign turnover.[26]

The trend of yearly flows (new affiliates) has topped at the end of the 90s, then has been shrinking dramatically until 2003, then slightly recovering since 2004 but more slowly than the prevailing trend in worldwide foreign direct investments. [27]

The balance between new initiatives and dismissals of existing affiliates has been far lower over the 2002-2008 period relative to the 1990s, and the same balance in terms of employees abroad has been near zero in the recent decade (Tables 4, 5, 6 from Mariotti-Mutinelli 2010, p. 42).

Looking at long-run trends in the percentage composition of investors and their affiliates in terms of the four-fold Pavitt classification,[28] the major change has been a substantial increase of "supplier dominated" or "traditional sectors" (basic food, textile-clothing, leather-shoes, furniture, miscellaneous manufacturing) in the first period from 1986 to 2001, reaching a share of 33% of investors and 23% of affiliates (followed by a slight decline) basically at expense of the share of "scale intensive sectors" (fallen from 75% of employees in 1986 to 53% today). [29]

Drawing from the **Reprint** which published a full list of 263 Italian multinational manufacturing investors on **1.01.1992**, we could find: (a) 6 very large-size investing groups (at least one affiliate under control with 5000 or more employees) namely IFI-Fiat, Pirelli, STET-Italtel, Poligrafici editoriali, IRI-Finmeccanica, IRI-Ilva (ENI being ruled out as an extractive and service multinational); (b) 12 large size groups (at least one affiliate under control with 1000-4999 employees): Bonomi-Saffa, CIR (Olivetti-Valeo-Sasib), Cragnotti Partners, ENI, Fata, Ferrero, Ferruzzi (Montedison, Eridania, Farmitalia Carlo Erba, Gardini Srl), GFT, GIM (Orlando), Marzotto, Perfetti, Ruggerini; (c) 22 medium-large groups with at least one affiliate with 500-999 employees): Alpi, Barilla, Belleli, Benetton, Beretta, Buzzi, Candy, Cartiere Burgo, El.Fi (Ocean), Fochi, Findim (Star), GFT, Riva, IRI-Fincantieri, Lanificio Zegna, Merloni Elettrodomestici, Fidenza Vetraria Spa, Parmalat, Piaggio, Redaelli Tecna, Romalfa (Rifil Saninvesti), Rusconi Editore (Cominotti-Mariotti 1992).

[26] Mariotti-Mutinelli (2010, Table 2.13).
[27] Unctad (2010).
[28] Pavitt (1984).
[29] At a more disaggregated level, from 1992 to 2007 the sectoral composition of employees abroad by Italian multinationals saw little changes in food and beverages (around 8%), machinery and equipment (around 13%), chemicals-plastic-pharma-rubber-tires (around 16%) and metals (5.0%); Mariotti-Mutinelli (2010, Table 7). Major changes were a big rise in the share of textile-clothing-leather goods (from 5% to 19%), matched by a substantial decline in the share of automotive from 23% to 12% and of the information electronics-telecom (from almost 9% to about 4%). The ratio of employees in foreign affiliates under control and domestic employment in Italy ("degree of outward internationalization") ranges from about 30% in traditional consumer sectors (fashion and food) to 45-50% in scale-intensive and technology-intensive sectors; see Mariotti-Mutinelli (2010, Table 8).

Almost **two decades later**, not only (as just noticed) did the small and medium investors greatly increased their participation, but **half** of large and very large size groups and about **one third** of the medium-large ones have disappeared or have been replaced or have undergone profound restructuring. On the other hand, **one third** of top 15 Italian multinationals includes today major groups operating in non manufacturing activities such as bank-insurance (Unicredit, Intesa SanPaolo, Generali) and extractive-energy-telecom services (ENEL, ENI, Telecom Italia).

3. Old Protagonists

3.1 Pirelli

Pirelli & C., founded in Milan in 1872, was one of the first Italian industrial groups to undertake an internationalization process. In fact, the company's first foreign direct investments date back to the late 1800s, just a few years after its foundation. As with other European companies,[30] the group's early internationalization was a response to weak growth both on the domestic market, and in Pirelli's specific sector: the production of elastic rubber goods, and in particular electric and telegraph cables. From the outset, this was a sector with strong monopolistic tendencies, in which a number of large European companies were already operating when Pirelli was founded. One of the company's early achievements was successfully breaking into the international market of underwater telegraph cables, thanks to an aggressive commercial strategy.[31]

Pirelli opened its first subsidiary in 1901 in Spain, thanks to the valuable contacts that the company had established with this country in years prior.[32] At the turn of the century, following a decision taken by the Spanish government to raise customs duties on certain products, including electrical conductors, Pirelli had to rethink its penetration strategy for that country. To bypass the costly new import tariffs, and to ensure a greater scope of operations in Spain, the Milanese parent company opted to open a factory near Barcelona, in Villanueva y Geltrù.[33]

In Great Britain the company first established a trading partnership, Pirelli Ltd. of London in 1909, and later built a factory for producing rubber goods in Burton-on-Trent in 1929. Prior to this, Pirelli had already constructed two manufacturing plants for cable production located in Southampton (in 1913) and in Eastleigh (in 1927), partnering with General Electric Co. of London. In the same way, Pirelli founded commercial subsidiaries in

[30] See Jones-Schröter (1993).

[31] In 1886, the company won an important contract with the Italian government for a telegraph link to the minor islands, and maintenance of the Otranto-Valona line, which had been laid in 1864 by the English company Henley Telegraph Works, one of the leading firms in the sector. In 1886, Pirelli succeeded in beating out the London firm Eastern Telegraph Co, which was in negotiations with the Italian government to build and lay cables that were to link the Italian colonies in Africa. Pirelli committed to doing the job in no more than two months, at a lower cost than the British firm; see Bezza (1987).

[32] In fact, after successfully laying underwater cable in the Mediterranean for the Italian government, the Milanese firm was awarded contracts for lines that would connect the Balearic Islands with the Iberian Peninsula; see Pirelli (1946).

[33] Bezza (1987, p. 411).

Austria, Belgium, France, and Argentina in the first decade of 1900; these subsidiaries too were quickly transformed into local companies.

The aggressive commercial strategy, which characterized the group's entire initial internationalization phase, came to an end with the conclusion of World War I. Until that point in time the company's leading products were linked to the electro-technical sector (as we also saw in the development of foreign subsidiaries). However, from the mid-1910s, starting around the time of the crisis of 1907, tires took on greater importance. Tire production had actually begun at the end of the 1800s, with the first bicycle tires produced in the early 1890s. However, it was only with the new century and the advent of the automobile that tires began to have a sizeable impact on the company's revenues. For example, in 1907, tires accounted for only 8.3% of Pirelli & C's turnover, but in 1912 this quota rose to 23.7% of total sales. [34]

Two factors prompted Pirelli to reorganize the entire group, and consequently, its governance model: growth in size at an international level, with an eye to differentiating risk at a sector and geographic level, and the mounting importance of the tire sector. Thus in 1920, Compagnie Internationale Pirelli (CIP) was founded in Brussels in order to take control of foreign holdings, including rubber plantations recently purchased in Java and Malaysia. At the same time, a new company was created in Italy, Società Italiana Pirelli (SIP), which took over control of all production activities previously handled by Pirelli & C. Indeed, Pirelli's two parent companies, one responsible for Italian business and one for activities outside of Italy, would remain a characteristic of the group until the 1980s.

In the mid-'60s, after an unsuccessful attempt to form a partnership with Europe's leading group Michelin, Pirelli began lengthy negotiations with the English company Dunlop in the spring of 1970, with an eye to a merger between the two companies. Weakness in the tire sector was a serious problem for both groups. Dunlop's market share was negatively affected by growing international competition with the group's percentage of the industry's total sales dropping from 50% in the postwar years down to 35% in the early '70s.[35] Likewise, Pirelli was facing competition of American companies – Firestone and Goodyear above all – in Italy, as well as market penetration by Michelin, which had opened a factory on the peninsula in the '60s. Toward the end of the decade Michelin signed an agreement with Fiat stipulating that the Italian car manufacturer would buy part of Michelin's shares in Citroën, and more importantly, that Fiat would abandon Pirelli as a supplier and put Michelin tires on its automobiles instead.

An agreement between Pirelli and Dunlop was signed in June 1971, with a complex share swap. Pirelli's national assets were concentrated in a new operating company – Industrie Pirelli SpA. All this resulted in the creation of a multinational group that ran 210 factories located on five different continents, and employed 178,000 people. The new group – the Union Pirelli Dunlop - realized global turnover in excess of 2 billion dollars, and was third in the world ranking of the tire industry, after Goodyear and Firestone. The Union had a solid level of complementarity both in terms of product offering and geographic

[34] Bigazzi (1981).
[35] West (1984, p. 289).

distribution of its business (at least on paper). If indeed Pirelli was predominantly in the European and South American markets, Dunlop had substantial business in the US, Asia and Africa. Overlap was negligible, limited only to a few European countries: Great Britain, France, Germany and Spain.[36]

Despite the high degree of complementarity, this entity created in the summer of 1971 was never conceived as a true merger. Instead it was seen as a partnership "between equals," limited to the symmetrical exchange of shares with no real repercussions in terms of the financial or production synergies of the two groups, which continued to run their respective industrial operations in total autonomy. The performance of the Dunlop partnership was immediately jeopardized by the rapid deterioration of Pirelli's position on the Italian market, due to a sharp increase in labour costs, a drop in the demand for cars, and competition from Michelin. The heavy losses incurred by Industrie Pirelli SpA (in 1972, over 80 million dollars, more than a third of total share capital) prompted Dunlop to "freeze" its shares and to refuse to contribute to recapitalizing the company. In subsequent years, Industrie Pirelli SpA underwent an extensive series of reorganizations, but the company would not return to profitability again until 1980. In the meantime, by the late '70s the fallout from the international crisis in the tire sector had impacted the English side of the Union, creating additional friction between Dunlop and Pirelli, until the partnership was dissolved in April 1981.

With the dissolution of the Union, Pirelli found itself in the same situation as ten years before, facing the same problems that had prompted the company to seek out an international partnership in the late '60s, namely, the group's activities were still undersized for the tire sector. In a context of progressive market concentration, a global strategy became more and more critical.

Pirelli stepped up its expansion strategy again in 1988, when the company attempted to make two major acquisitions on the international market: Firestone and Armstrong, respectively a big and a smaller American tire producer. The first was a defensive move, intended to thwart a merger between Firestone and Bridgestone. By acquiring the American company, Pirelli would have risen to the third place in the world ranking, behind Goodyear and Michelin, with turnover in the tire sector of over 5 billion dollars. The move would also have solved another troublesome problem: the lack of a direct presence on the US market. Nonetheless, the deal was never finalized, as Bridgestone responded to Pirelli's takeover bid by presenting a counteroffer which the Italian group's executive management considered disproportionately high. So, the decision was made to abandon the takeover attempt.

In the Armstrong takeover, instead, Pirelli had greater success; it took effect in the spring of 1988. However, obviously this last acquisition did not carry the same weight as the Firestone deal would have done. Clearly, there is little comparison between the two groups: one was a local producer, albeit a fair sized one; the other a major international group, with the third highest turnover in the world. Pirelli achieved its goal of initiating production

[36] Bolchini (1985).

activities directly in the US, but had to abandon its hope of dimensional growth, an objective that had been recognized as a key to success in the globalized market that was coming into being.

The early '90s marked a critical juncture for the Pirelli Group. At this time, in fact, a change of strategy evolved that would significantly shape subsequent development. The first consequence was the decision to specialize the company in high value added, niche production and give up the search for an alliance with another major European producer. This reversal followed the company's latest major defeat in the field: an attempt to make a merger with the German company Continental, which took place between mid-1990 and the end of the following year. The operation, scheduled to be finalized by year's end 1991, had propitious beginnings. Indeed, the top management of the most important German financial and insurance institutions, contacted by Pirelli, approved of the project. Pirelli management, confident of a fairly smooth merger, pledged to reimburse the investors who backed the Continental deal if the tire business was not concentrated in a single company by 30 November 1991. The merger would have resulted in a company with a global market share of approximately 16%, and a business volume of over 9 billion dollars, placing Pirelli on par with Bridgestone-Firestone, behind only Michelin and Goodyear.

However, when the Pirelli proposal was formally examined by Continental's corporate boards, it was considered a hostile takeover and rejected as being contrary to the interests of the company. The major German Continental shareholders (Daimler-Benz, Volkswagen, BMW, Deutsche Bank and Dresdner Bank) joined ranks in opposing the project and despite continued negotiations, amid various vicissitudes, until November 1991, the merger agreement never materialized.

The costs of this failure were enormous. As mentioned above, the Pirelli Group had agreed to indemnify the investors who backed the Continental project by 31 December 1991 for loss of assets and costs incurred if the tire business were not unified in a single company. This debt, in addition to the devaluation and the expenses sustained directly by the group, brought the total estimated cost of the Continental operation to over 295 million dollars in 1991.[37]

The catastrophic impact of the deal on the group's finances and the new decline in global tire demand from 1990 to 1991 forced Pirelli to abandon the strategy it had followed since the first decade of the twentieth century, namely trying to become one of the major world players. Instead, the group decided to downsize its production capacity and specialize in market segments with higher value added. This goal was achieved in the '90s by decreasing the level of production diversification and spinning off less profitable production lines. [38]

The reorganization succeeded in regaining financial equilibrium by the mid-'90s, and set a slow transformation of the group in motion. In fact, Pirelli gradually abandoned some of its traditional sectors in order to diversify in new areas: real estate and

[37] Bagley, Dick and Pai (1993).
[38] Sicca-Izzo (1995, pp. 77-126).

telecommunications.[39] From 1999 to 2001, the optical systems and optical components businesses were sold to the American companies Cisco and Corning respectively for approximately €4 billion. In 2001, this liquidity was used to buy controlling interest in Telecom Italia, previously the public telephone monopoly. Only four years later, after the heavy debt incurred to finalize this buyout, Pirelli was forced to sell its historical Cables Division along with Energy Systems and Telecommunications, to Goldman Sachs. With the sale of the Cables Division, Pirelli lost one of its historical production lines, which in the first years of business had enabled the company to establish itself at an international level in a high-tech segment, and later to survive the crises of the '70s and the reorganizations of the '80s.

In April 2007, after several months of tension – at a political level as well –, Pirelli sold its shares in Telecom Italia to Telco, a new finance company created for the purpose of allowing the Spanish firm Telefónica to buy into Telecom Italia's share capital. Thus, Pirelli abandoned the telecommunications sector to focus once again on tires, with investments in new factories in Romania, Russia and China. However, the Group's industrial component, after the divestments of the '90s and '00s, proved to be irreversibly weakened with respect to the predominance it had achieved in its financial and real estate businesses.

3.2 Fiat

The Italian automobile sector, within the broader context of the Italian industry, was the first notable exception to the development model based on import substitution. Italian companies succeeded in acquiring new product and process technologies in a timely fashion and in so doing could compete with the most industrially advanced countries in the world, both on domestic and foreign markets. Fiat, founded in Turin in 1899, rose to prominence for having based its initial development phase on an export strategy.[40] The company's expansion from 1905 to 1907, for example, was fuelled by foreign sales, which accounted for around two-thirds of turnover. During World War I, despite the pressing demands from the Italian front, the supply of trucks and vehicles to Italy's allies made up approximately 40% of total production. Exports rose further to 60-65% in the early '20s, only to plummet to just above 20% in 1933 when the crisis hit.

After opening a Spanish subsidiary in 1919, the company later founded other subsidiaries in almost all the countries in Europe, and some others outside the continent as well.[41] This frenzy of initiatives had powerful reverberations on export trends. In fact, from the late '20s to the early '30s, Fiat was the European automobile manufacturer with the highest ratio of exports to production, with an average quota that exceeded 60%. The expansion of the sales network, however, came to an abrupt halt with the outbreak of the global crisis. For this reason during the '30s only three other affiliates were opened, in

[39] Sicca-Izzo (1995).
[40] Bigazzi (1986, pp. 209-264; 1991, pp. 77-168).
[41] Poland and Turkey (1920); Romania and Switzerland (1921); Yugoslavia and Germany (1922); Argentina (1923); England (1924); Germany, Bulgaria, Ireland, Austria and Czechoslovakia (1925); Greece and France (1926); Brazil (1927); Egypt (1928); Portugal (1929); Denmark and Sweden (1930); see Bigazzi (1991).

Hungary, Malaysia, and the Dutch East Indies. Subsequently the export rate levelled out at around 35% of total production at the end of the decade.[42]

As regards foreign production, instead, prior to the war Fiat had acquired minority shares in two licensees in Austria (1907) and the US (1909). This was a step toward a direct investment strategy in production. However, implementation of this strategy was slowed by the inconsistent results attained from these initial production agreements with foreign companies, which were profoundly shaped by political issues as well as market instability involving various countries in question.[43] A clear strategic turning point in Fiat's foreign business occurred only toward the end of the '20s. The transition from assembly to production in some of the main sales markets coincided with an increasingly difficult export climate, due to the revaluation of the lira, an increase in customs duties, protectionist measures implemented on all markets, and the war against imports waged in several countries by local producers. As a result, at the end of 1928, Fiat began experimenting with assembly lines. In Germany, the company partnered with NSU to buy a factory in Heilbronn, while in England and France, Fiat opened plants in collaboration with local companies.

In 1930-31, it was Spain's turn, where the Turinese company entered the market with a majority share in the *Fabrica nacional de automòviles* of Barcelona and *Hispano* of Guadalajara, retooling the latter's factories in order to assemble cars locally. In 1933, Fiat took control of Austro-Fiat, and in 1934 founded Simca in France; this marked the transition from assembly, done on an increasingly wider scale, to complete production. At this time, the company made plans in various stages to build a production facility in Hungary. Meanwhile, assembly operations began on a much smaller scale in Batavia, in the Dutch East Indies, during the period of economic sanctions against Fascist Italy. In addition to these direct initiatives, the company also entered into production licensing agreements with Walter in Czechoslovakia (1930) and on a much larger scale with the state-owned Pzinz plants in Poland (1931).

Until the start of World War II, the foreign market remained vitally important to Fiat's growth, in particular throughout the '30s. During this period, in fact, exports proved necessary to guarantee the plants in Turin a sufficient scale of production, due to the crisis and, above all, the monetary restrictions implemented along with the autarchic policies in Italy. Nonetheless, exportation represented an activity capable of ensuring acceptable profit margins only in markets that were large in size and easy to reach, both geographically and as far as demand segmentation.

Fiat found these conditions on the French market. In 1926, a subsidiary was created called *Société anonyme française des automobiles Fiat* (Safaf), entirely controlled by Fiat. The new organization quickly achieved impressive results, and in 1928 sales already counted nearly 4,000 units. In 1930, the transition from an *ad valorem* tariff to a weight-based tariff,

[42] Volpato (1999).
[43] For more information on the Fiat experience in the American market in the years prior to World War I, see Volpato (1993).

more costly for imports, prompted Fiat to make a further move. The company decided to make a substantial increase in assembly activity in France, and finally in 1934 the company founded Simca (*Société industrielle de mécanique et carosserie automobile*), with the aim of further boosting the share of value added realized in France. Sales topped 7,000 units in 1936 and peaked at 20,935 units in 1938[44]. With this exploit Simca became the fourth largest car manufacturer in France.

At the end of World War II, Fiat's strategy underwent a profound transformation in order to adapt to the new situation. In Italy, as reconstruction gradually made headway, a strong latent demand for private automobiles emerged. What the market needed was a small size car which, thanks to its low running costs, could satisfy a clientele with limited buying power; this car was to be produced in large volumes in order to adequately exploit the economies of scale made possible by new technologies. In 1955 Fiat presented the first authentic Italian people's car – the *600* – followed by a further consolidation in 1957 with the launch of the *Nuova 500.* The surge in production was spectacular: in 1950 for the first time ever more than 100,000 vehicles were produced in a year, but in 1960 production topped 500,000 units and in 1966 it exceeded 1.5 million mark.

As regards the internationalization process, it is important to emphasize that this accentuated quantitative dynamic should have had a powerful impact on export opportunities for Fiat. In actual fact, however, the competitive advantage Fiat gained from the increased production volumes only had a limited effect, due to the particular production orientation that the Turinese manufacturer had adopted to serve the domestic market. The Italian market, in fact, was characterized by a strong preference for vehicles which, on average, were much smaller in size than cars in demand in other major industrialized countries. Consequently, Fiat inevitably ended up specializing in market segments corresponding to lower categories of cars with respect to other countries. Fiat's forced specialization on small cars not only meant a limited foreign market, but also fewer research and development opportunities capable of generating sophisticated technological innovations in car design. Even the impact on Fiat's image was not insignificant, since outside of Italy the company became known as a carmaker specialized in small vehicles.

By the mid-'60s, it was clear to the owners and top managers that the only solution to the weakened international reach of the group lay in an alliance with another European producer. In 1967, Fiat decided to sell its shares in Simca to Chrysler, in light of an imminent opportunity to buy into Citröen share capital with a sizeable quota. This plan took shape in October 1962 through a cooperation agreement and the purchase of 15% stock in the French group by Fiat, which consequently became the number two shareholder after Michelin. The next step was taken in 1970, when after a capital increase by Citröen, Italian participation rose to 26.9%. At this point, however, opposition from French shareholders began to grow. What Fiat had in mind was to gradually integrate the two product ranges and to rationalize the production capacity to pave the way for a marked increase in productivity

[44] Volpato (1993, p. 190).

and competitiveness of the two brands. For Citröen, instead, the primary intention was to safeguard the identity of the French manufacturer by keeping the two brands distinct.

In addition, opposition from French government circles and from other European carmakers played no small role. In fact, the former objected to the merger on the grounds of national prestige, and the latter was against Fiat strengthening its position on the French market. Finally, the partnership was dissolved in 1973, and in 1976 Michelin sold its controlling stake in Citröen to Peugeot, with the approval of the political powers, who preferred an all-French solution.

The failure of the Citröen agreement coincided with the start of a drastic decline in car demand on the European market, the first after a period of unprecedented, uninterrupted growth since the end of World War II. A relatively brief drop in demand from 1973 to 1975 (recessionary impact of the first oil crisis) was followed by a longer downslide from 1980 to 1984, making it necessary for car manufacturers to initiate deep reorganization processes. In 1984, just when signs of market recovery - and more importantly Fiat's competitiveness - were in sight, the company began to contemplate the possibility of striking a deal with another car maker, specifically Ford. A merger between these two industrial concerns appeared particularly attractive in terms of production economies, in light of the extensive overlap in the product ranges of the two brands.

The simple merger would have made it possible to create a formidable industrial concern with a production capacity of over 3 million cars per year, and a quarter of the European market share.[45] However, if on one hand the far-reaching agreement showed signs of synergies and presented interesting productive and industrial opportunities, on the other hand the very size of the deal emphatically underscored the issue of control of the joint venture which would come into play with the merger. The rift between the two partners on questions of control and governance of the new group led to a breakdown in negotiations in the fall of 1985.

This setback could not help but impact the internationalization strategy of the Turinese manufacturer. The most important repercussion was Fiat's realization that partnerships were only feasible if decision-making power was clearly allotted to the respective partners from the outset. Consequently, as the group resumed its internationalization process during the second half of the '80s, Fiat gave priority to projects involving foreign partners who were both financially and industrially weak. The strategy Fiat adopted was therefore to expand and consolidate the group's presence in Eastern Europe and in emerging economies.

Expansion into emerging markets was considered vital to the Turinese carmaker, which found itself contending with a relentless downslide in European sales; also, in the early '90s, Fiat was definitively overtaken by Volkswagen in the ranking of European car makers. The strategy drawn up to achieve expansion was implemented beginning in 1993 with the development of global production of a family of *world cars*[46] - called Project 178.

[45] Volpato (1999).

[46] This consisted of five models; a two-box, three-door car named *Palio*; a station wagon called *Palio Weekend*; a three-box, four-door sedan called *Siena*, a van and a pickup.

These would be adaptable to a wide range of uses and a number of different emerging markets with particular product needs. These new models were produced first in Brazil in 1996, and later in Argentina in 1996-97. In 1997 production started in Poland and in 1998 in Turkey. Again in 1997 an assembly plant opened in Morocco, followed by one in India and South Africa (1999), Egypt (2000) and China (2002). Despite this, sales results of world cars were much lower than anticipated, peaking at 442,180 vehicles in 1997, and falling to 349,470 in 2001, only a fraction of the one million projected cars sales for that year.[47]

From 1990 to 2001 Fiat's share of the Italian and European market dropped from 52.8% to 34.7% and from 14.3 to 9.6% respectively, only to suffer even more drastic contractions from 2002 on, as the company was hit by an extremely severe crisis. In 2001, the Fiat Group as a whole incurred losses of €4.2 billion, with an overall debt exceeding €6 billion, while in 2002 losses in the automobile sector alone totalled €2.7 billion. A rigorous cost containment plan and an industrial relaunch enabled the group to return to profitability in 2005, but because of the crisis, foreign direct investments were curbed. The critical situation facing Fiat brought about a strategic transformation, underscoring the fact that partnerships with other big manufacturers were unavoidable.

Fiat's search for another carmaker as a potential partner in order to survive the crisis in the automobile market seemed to have come to a successful conclusion in 2000, culminating in an exchange of share capital and a cooperation agreement with General Motors in the field of engine and platform production. However, the GM partnership, which was to lead to Fiat Auto's incorporation in the American group, was dissolved in 2005. This was mainly due to the precarious financial health of the American group, which was forced to pay Fiat 2 billion dollars following a put option by Fiat Auto included in the 2000 agreement.

In the summer of 2009, with new prospects emerging to extend its international reach, Fiat announced that it had finalized a global strategic partnership with Chrysler Group LLC. With this agreement, Fiat acquired 20% of the American group, with the possibility of increasing this share to 35% subject to meeting certain targets foreseen in the contract. The Italian group would later be able to obtain up to 55%, but could not acquire majority shares until Chrysler's debts from US government bailouts were entirely paid back.

4. One season's protagonists

4.1 Olivetti

Olivetti was founded in 1908 by Camillo Olivetti, for the purpose of designing and producing typewriters[48]. In the early '20s the company began to export its products, and at the end of the decade Olivetti opened its first subsidiaries with their own production facilities in Spain (Barcelona) and Argentina (Buenos Aires).

The company's postwar recovery was led by Adriano Olivetti, son of the founder, and was underpinned by a deep transformation of the production structure and commercial strategy. Advances in terms of efficiency and cost cutting were considerable, and made

[47] Enrietti-Lanzetti (2002).
[48] Caizzi (1962).

production diversification possible in the direction of the first calculating machines, a market segment that promised significant opportunities for international expansion. By the mid-'50s more than half of Olivetti's production was exported; from 1950 to 1961 Olivetti exported seven times more typewriters, and an amazing 23 times more calculating machines.

Olivetti expanded its business in Latin American by creating the commercial branches Olivetti Mexicana and Olivetti Colombiana, and by opening a new factory in Argentina. In Europe, instead the company founded British Olivetti Ltd and Olivetti Buromaschinen A.G in Austria. By 1958 three more foreign production facilities opened in Scotland, Brazil and South Africa.[49] Olivetti shored up its commercial network in the years that followed by opening new subsidiaries both in Europe (Denmark and Sweden before 1961; Holland, Greece and Finland by 1969) and in South America (Venezuela, Peru, Uruguay and Chile).

By the end of the '60s, Olivetti had fully achieved an international aspect, with operations in the biggest markets in Europe, and North and South America. At this point there were 30 commercial subsidiaries in countries where Olivetti had set up its own direct network, a number that would more or less remain unchanged until the late '90s. In 1968, the group's Italian turnover accounted for less than 20% of the total, lower than US turnover (27.3%). The company had 33,255 foreign employees, as compared to 27,426 in Italy. However, it was the company's foreign presence as a producer, beyond the international dimension of its market, which made Olivetti a full-fledged multinational. Again in 1968, around 35% of Olivetti's production was realized outside of Italy. In 1969, the group's industrial plants numbered 11 in Italy and 10 abroad, counting assembly plants (Johannesburg, Toronto, Bogotá, and Santiago, Chile) and integrated works (Barcelona, Glasgow, Buenos Aires, San Paolo, Mexico City, and Harrisburg in Pennsylvania).[50]

In this phase, the most important internationalization experience for the company began in 1950 when Olivetti embarked on its commercial penetration of the enormous American market, founding the Olivetti Corporation of America (OCA) in New York. Finding a low level of competition in the calculator segment (with Remington Rand representing the only real competitor), Olivetti was able to base its growth strategy on product quality and innovation, rather than price leadership. By 1958, America had become Olivetti's main export market, absorbing more than 20% of sales realized abroad. In October 1959, after brief negotiations, Olivetti signed an agreement to pay 8.7 million dollars for 35% of Underwood stock, a company with an extensive sales network and a prestigious name in American industry. The aim of the acquisition was to create a solid direct presence on the American market, which was considered crucial to achieving growth. However, there were also negative aspects of the operation, primarily attributable to an underestimation of the serious obsolescence of Underwood's factory in Hartford (Connecticut), the result of a lack of investments in previous years.

Olivetti management carried out a deep reorganization of Underwood at a production and organizational level; in 1960 the daily output of the Hartford factory nearly tripled, while production costs dropped by 30%. Nonetheless, results were very disappointing. The

[49] Caizzi (1962, p. 234).
[50] de Witt (2005).

financial commitment required to turn the American company around was particularly burdensome; additional losses were discovered, previously concealed in Underwood's balance sheets, factories were dilapidated, and reorganizations proved more costly than anticipated. A few years after the fact, Olivetti claimed that it had spent 48 million dollars from 1959 to 1964 to acquire and reorganize Underwood, but according to a Harvard study the actual amount was closer to 100 million.[51]

By early 1963, the costs of the Underwood deal, combined with enormous investments in electronics made by the company beginning in the mid-'50s,[52] had sunk Olivetti into a severe financial crisis, further aggravated by a drop in demand on international markets. In May 1964 a rescue consortium made up of industrial concerns (Fiat, Pirelli) and financial institutions (Mediobanca, IMI, and La Centrale) intervened by acquiring 25% of the group's share capital, and effectively taking over control from the Olivetti family.

In 1964, in order to restore the company to financial health, the new owners decided to sell a 75% stake in the Electronics Division to a new joint-venture – Olivetti-General Electric – created with the participation of the American colossal General Electric, which bought the remaining 25% in 1968. With this deal Olivetti left the sector of medium and large electronic calculators, but continued its work, with its own resources, in designing and producing terminals and small systems only.[53] The technological transition from electromechanics to electronics and computers initiated in the '50s came to a standstill, and an historical opportunity was lost: to move into the new world of computers with a head start on many international competitors. The recovery strategy that management decided to implement from the late '60s to the early '70s involved consolidating the company's position as world leader in "mature" office products: printing calculators (30%), portable and professional typewriters (25%), and adding machines (20%). The company's shares of the global market in these products, in the late '60s, appeared to be of absolute importance.

The first goal the company set for itself was to make the American branch profitable again. The obsolete Hartford plant was closed in 1968 and its typewriter production transferred to the Scottish factory in Glasgow. Olivetti's continuity on the American market was guaranteed by the construction of a new factory in Harrisburg (Pennsylvania) in 1969.

In the short term, reorganizing the production structure around a line of mature office products made recovery possible and also generated solid market success. However, this

[51] Barbiellini Amidei, Goldstein and Spadoni (2010); Soria (1979, pp. 15-25).

[52] Olivetti made its first foray into the electronics sector in 1949, when the company finalized an agreement with the French firm Compagnie des Machines Bull to create a joint-venture, Olivetti-Bull, to commercialize punch card machines. But it was only in 1952 that Olivetti made a clear commitment to the new technology by opening a dedicated US research center, in New Canaan (Connecticut). This was followed in 1954 by collaboration with the University of Pisa to design an electronic computer. In 1957 Olivetti partnered with Telettra and Fairchild to establish a new company, SGS, the first European industrial initiative in the field of semiconductors. In 1958 the Electronic Research Laboratory was founded in Pisa, which in 1959 created the *Elea 9003*, the first electronic calculator entirely designed and built in Italy. In 1962 the Electronic Research Laboratory and Olivetti-Bull both became part of Olivetti's Electronics Division.

[53] In 1968, the company ended its initiatives in the field of electronic components, selling SGS to Stet, from the IRI Group.

decision reflected the absence of a strategic outlook, and an inability to grasp the long-term implications of micro-electronic innovation. This failure was a very serious one for a company open to international markets, and revealed a more generalized lack of preparation for the explosion of new technologies. Olivetti's reorientation toward computers and office automation, which predominated after the early '70s, was for the most part the result of an adaptation dictated by the market and implemented with difficulty and delays by the company.[54]

The crisis that hit the company in the '70s led to a change in the production internationalization strategy. The strong development phase of the '50s and '60s was characterized by growth in protected markets, where commercial penetration required local industrial presence. Production was based on multi-product factories that could manufacture a wide product range and low product volumes, gauged to the size of individual national markets. In the late '70s a new phase of rationalizing production sites began; this facilitated the transition to an industrial structure based on mono-product factories. Global production of portable typewriters was concentrated in the Mexico City factory from 1982 to 1984, while the production lines for manual typewriters were transferred to San Paolo in 1979. In 1980, a new factory was opened in Singapore to fill the demand for calculator production for the entire group. In the meantime, the crisis in the American branch was becoming increasingly severe: the American contribution to Olivetti's sales had collapsed to less than 10% of the total at the end of the '70s. This led to the closing of the Harrisburg plant in the summer of 1981.[55]

In 1978 a new management team took over, led by Carlo De Benedetti, during a period of corporate recapitalization and financial recovery. This marked the start of a new season of internationalization for Olivetti, based on renewed decentralization of the group's multinational production. In addition, the strategy focused on a systematic search for any opportunity for commercial penetration in European and North American countries, and the development of technological interdependencies with new innovative companies that emerged in the international market subsequent to the microelectronic revolution. From 1980 to 1996, Olivetti made 66 venture investments, including 19 companies that then went public, generating a net internal rate of return above 18%.

In 1982 the attempt of solving the serious crisis of OCA culminated in the merger of the latter with Docutel, a leading ATM manufacturer. In 1984 the American telecommunications giant AT&T bought a 25% stake in Olivetti. On a technical/commercial level, the agreement stipulated that Olivetti would distribute AT&T products in Europe, while the latter agreed to buy approximately 250 million dollars worth (in 1984) of Olivetti products to be resold in the US. The agreement also made provisions for collaborating on new product development, trading manufacturing licences, and accessing research labs. In these exchanges between the two companies, the new Olivetti personal computer, the M24, took on a key role. This machine was sold in the US with the AT&T brand. By supplying its American partner over 200,000 units in 1986, Olivetti's PC production reached nearly half a

[54] Ciborra (1986).
[55] de Witt (2005).

million units per year. This made the company the number three producer in the world, and number one in Europe.

Nonetheless, all this was Olivetti's swan song in the international market. Despite the positive sales results form the AT&T deal, the failure to integrate production between the two companies and the inadequate cooperation on new product development prevented Olivetti from competing in the IT sector at the same level as IBM and other market leaders. After Olivetti's management refused to relinquish control of the company, the partnership was dissolved in 1989 with AT&T pulling out of its share capital.

In the early '90s, Olivetti sunk into a deep profitability crisis, with rapid deterioration of its financial situation. A profound group-wide reorganization became necessary, which led to factory closures in Singapore, Spain and Brazil in 1996, and the sale of the personal computer business the following year. The company's center of gravity shifted toward the Italian telecommunications market, with the creation of two new subsidiaries in the mid-'90s: Omnitel, a mobile telephone provider, and Infostrada, active in landline telephone service. In February 1999, Olivetti took control of Telecom Italia, via a mixed takeover bid. The deal was financed with Olivetti selling its Omnitel and Infostrada stock to the German company Mannesmann, and resorting to loans and capital increases. In 2003, Olivetti merged with Telecom Italia and the new company took the latter's corporate name.

4.2 SNIA Viscosa

The chemicals industry in Italy was created much later than in other major European countries. In fact, the vital stimulus which served to launch the sector came about only during World War I, with the temporary disappearance of international competition and the sharp rise in demand for explosives. The first Italian chemical company to attain extensive international reach, was SNIA (Società di Navigazione Italo-Americana). Founded by entrepreneur Riccardo Gualino in Turin in July of 1917, SNIA's original business was transporting coal from the US. In 1918, SNIA acquired control of the International Shipbuilding Company, which owned two shipyards in Pascagoula (Mississippi) and in Texas. Then in 1919 SNIA bought stock in the Marine & Commerce Corp. of America, exporter of American coal to Italy.[56] In 1920 a serious crisis in the shipping business prompted top management to convert the company's production to artificial textile fibers derived from cellulose, in particular rayon (or viscose). To reflect this new development, the company's original name was changed to SNIA Societa' di Navigazione Industria e Commercio, and again in 1922 to SNIA Viscosa (Società Nazionale Industria Applicazioni Viscosa). In the years to follow, SNIA Viscosa continued its expansion, taking over other Italian companies specialized in rayon production (Unione Italiane Fabbriche Viscosa, Viscosa di Pavia, Società Italiana Seta Artificiale). At the same time, the company achieved vertical integration by buying a majority stake in Rumianca, a producer of chemical compounds which were indispensable for manufacturing artificial threads, and SILM, a supplier of plant machinery and equipment needed to produce rayon.

[56] Spadoni (2003).

These investments enabled SNIA Viscosa to participate fully in the international expansion phase of new technology in artificial cellulose fibers. In the early years of the twentieth century until the outbreak of the Second World War, the production of chemical fibers grew notably, with market share progressively increasing with respect to natural fibers. In 1925 the quantity of artificial fibers produced by SNIA totalled 43,000 quintals a day, equalling 70.3% of Italian production, 16.6% of European production, and 11.3% of world production. Along with these results came other important accomplishments: SNIA became the Italian company with the largest share capital (one billion lire), and was also the first to be listed on foreign stock exchanges (London and New York).

The Turinese group also sought to extend its field of action internationally, not only through exports, but also via direct penetration in foreign markets through the establishment of commercial and production branches. By the end of 1920, SNIA Viscosa had created two companies in the US, the Commercial Fibre Corporation and the Industrial Fibre Corporation of America; the latter was to launch rayon production in a factory built in Cleveland (Ohio).[57]

In 1925, thanks to intermediation by the Banca Commerciale Italiana, SNIA acquired majority shares in the Polish company Tomaszowska Fabrika. This investment gave SNIA two distinct advantages: first, the company was able to extend its market share in Poland while avoiding high customs duties, and second, it could exploit the factory's strategic position in close proximity to the Russian market. Over the years, SNIA also opened business firms abroad, and owned as many as six in 1931.[58] However, SNIA's golden age came quickly to an end. Mussolini's monetary revaluation, which took effect in August of 1926 ("Quota 90"), dealt a heavy blow to the company, which exported 80% of its turnover and imported only a minimal portion of raw materials (from 7 to 11% of the cost of production).

SNIA had not yet recovered from the effects of "Quota 90" when it felt the repercussions of the crisis of 1929, which resulted in a sharp decrease in prices and profit margins. Since its entrance in the sector, the company's primary focus was a commercial strategy based on low sales prices; consequently it had not adequately modernized its factories on a technological level. This necessitated investments in new machinery in order to cut production costs. In January 1930, Riccardo Gualino was forced to resign as president, and at that point new executives took over,[59] implementing a radical reorganization of the group in the first half of the '30s.

The autarchic policies implemented by the Fascist regime in the second half of the '30s not only spurred domestic consumption of artificial textile fibers, but drove exports as well. In order to boost foreign sales of goods made of artificial fibers, a sizeable increase in export bonuses took effect in February 1934. SNIA diversified production when it began making

[57] Wilkins (1989, p. 152).
[58] Spadoni (2000, p. 107).
[59] The Milanese industrialist, Senatore Borletti, was elected president, while Franco Marinotti was nominated General Manager. This man was destined to become the symbol of SNIA Viscosa in the years to follow; see Castronovo-Falchero (2008).

viscose staple, a short fiber that could be used as a cotton substitute; in 1934-1935 the company became the world's number one producer of this fiber. SNIA Viscosa also launched domestic production of cellulose, most of which had previously been imported.[60] In this way, during the autarchy SNIA managed to increase production and exportation, while the percentage of the world's total production realized by the group began to rise again, oscillating around 8% during this time. As regards the group's foreign business, instead, exploiting the political affinity with the Franco regime in Spain, in the late '30s SNIACE was founded, a company headquartered in Madrid with production facilities in Torrelavega (Santander).[61]

After the Second World War, SNIA continued its foreign activities with direct investments concentrated in Third World countries, mainly Latin America. During the '50s and '60s, SNIA's foreign production arm extended to other countries as well, India and Russia among them.[62] However, new investments appeared to be essentially defensive moves, all of which were motivated by the goal of substituting diminishing exports on European markets with larger market shares in developing countries. These were nations which implemented import substitution policies and kept tariff barriers high. As far as technology, the delays SNIA were accruing in this area were becoming more and more serious.[63]

The Turinese group made its fortune from rayon, but by the late '50s this material had reached the apex of its commercial success, and was on the verge of a rapid decline due to the increasing popularity of synthetic fibers. In fact, in 1965 synthetic fiber production in Italy already exceeded 110,000 tons, while cellulose production showed the first signs of slowing: 191,000 tons compared to nearly 220,000 tons the previous year. The same year, SNIA recorded a 15.4% drop in sales of rayon thread, and a 21.1% decrease for staple, only partially compensated by an increase of 5.6% of synthetic fiber production.[64] Worldwide growth in this production continued until 1973, while cellulose production decreased in more industrialized Western countries. The 1973-1974 oil crisis triggered a similarly critical situation in the sector, exacerbated by a sizeable excess of production capacity accumulated over the previous years. From 1973 to 1975, SNIA's sales plummeted by more than 40%, and the subsequent financial crisis ultimately moved the company into the orbit of Montedison, which acquired 30% stock in the Turinese group in 1974. In the years that followed, SNIA gradually began spinning off its activities in the fiber sector, including participation in foreign companies, and started diversifying its business in the sectors of chemical products, explosives, and arms. By the late '70s, turnover in the fiber sector accounted for only 40% of the total, and that figure was diminishing continually.

[60] To produce cellulose a 6,000-hectare plantation was created for a particular type of cane, *Arundo Donax*, in Torre Zuino near Cervignano del Friuli, from which substantial quantities of alpha-cellulose were extracted.
[61] Spadoni (2003, p. 140).
[62] SNIA (1970).
[63] Synthetic and artificial fibers differ because while the latter derive exclusively from cellulose extracted from plants, the former are obtained by transforming organic polymers into threads, polymers obtained from a completely synthetic process beginning with raw materials derived from hydrocarbons.
[64] Trinchieri (2001, p. 275).

4.3 Montecatini/Montedison

Montecatini was founded in 1888 to mine a copper deposit in Tuscany. The company entered the chemicals sector with a series of acquisitions undertaken from 1913 to 1920; Montecatini grew rapidly over the next two decades. The most significant industrial initiative involved the field of nitrogen-based fertilizers, with the creation in 1921 of a company which would exploit a process for production of synthetic nitrogen invented by Giacomo Fauser. This move, enabling Montecatini to bypass the technological monopoly created in this sector by Basf, marked the start of a large-scale development plan which led to the construction of five nitrogen fertilizer plants in Italy from 1925 to 1927.

In 1926, building began on the first foreign factory (in Willebroek, Belgium) managed directly by Montecatini through the Belgian company SA Ammoniaque Synthétique et Dérivés (ASED). In January 1929, Montecatini founded the Compagnie Neerlandaise de l'Azote, headquartered in Brussels, with the aim of building a large synthetic ammonia and fertilizer plant in Sluiskil, a small village in the Dutch Flanders. The objective this time was not only entering the promising Dutch market, but also the opportunity to access world export markets thanks to the low production costs available in Holland. The Sluiskil plant began operations in November 1930, and until 30 June 1931 production was restricted by quotas set by an international nitrogen cartel, which Montecatini joined in summer 1930, in the interests of the Neerlandaise. In June 1932 a new international nitrogen cartel took over, lasting two years, and counting almost all the world's producer countries as members. This cartel established a series of agreements setting prices and curtailing production. One of the key accords addressed compensating producers who agreed to limit production. The highest compensation was to be paid to Neerlandaise: 4.5 million gold marks per year in exchange for restricting Sluiskil annual production to 15,000 tons of nitrogen, 30% of the actual production capacity. [65] For Montecatini, faced with a difficult financial situation in Italy due to the global crisis, the agreement also guaranteed protection of the Italian market by preventing other cartel members from exporting to this country. The accords with the International Nitrogen Cartel remained in effect until the outbreak of World War II, and marked the end of Montecatini's internationalization process, for all intents and purposes.

In the early '50s, Montecatini successfully led the way into the new era of petrochemicals by financing research conducted by Giulio Natta. This work led to the discovery in 1953 of a new thermoplastic polymer, isotactic polypropylene, for which production was launched on an industrial scale in 1957 in Montecatini's Ferrara plant. Natta's discovery gave rise to opportunities for the company to develop new initiatives in the field of plastic materials and synthetic fibers, based on owned technology and not depending exclusively on buying licenses or patents.[66] In the second half of '50 Montecatini decided to explore again the possibility of multinational expansion with the aim of fully exploiting the technical capabilities and know how gleaned from industrial processes patented by Fauser and from Natta's more recent discoveries.

[65] Devos (1992).
[66] Saviotti (1990).

In 1955, after having explored the opportunities that various national markets offered, Montecatini management opted to build a chemical plant in the US for the production of polyvinyl chloride (PVC) and eventually production of plastic materials with the technology being developed by Natta's research team. The most noteworthy factor about this initiative was that there was very little economic motivation behind the decision to invest in the US, the most sophisticated market in the world. Instead, building a direct production hub in America was a prerequisite for listing Montecatini on the New York Stock Exchange, and facilitating the extension of the company's patents to encompass the United States.[67]

Despite the reduced size, the new company, called Novamont had a turbulent existence from the outset. In 1959, after putting the investment plan on hold for two years, Montecatini approved the issuance of a 20-year bond worth 10 million dollars on the US market. The cash raised by this move was used to build a plant for isotactic polypropylene production and other petrochemical products, abandoning the original project of producing PVC. A plant in Neal (West Virginia) was opened in October 1961, and its production capacity was doubled from 1965 to 1967. Nonetheless, Novamont began almost immediately to encounter serious difficulties in commercializing polypropylene, due for the most part to Montecatini's extremely frail US sales network, and a series of industrial problems. One such problem was the failed attempt to secure patents, and the consequent bitter competition from local companies such as Hercules and Standard Oil, which were able to introduce process innovations that seriously damaged Montecatini's position on the American market.[68]

The establishment of Novamont, therefore, proved tantamount to "beating a hasty advance." Despite the unquestionable capacity for innovation, demonstrated with the development of propylene, a number of factors signalled that the company was fundamentally ill-prepared to move forward on its own with a direct investment strategy in intensely competitive markets: indecision regarding production options, financial difficulties and an inadequate commercial network.[69] Nevertheless Montecatini did have some degree of success with its other direct investment in the early '60s: the establishment of Paular in Spain, in a joint venture with the public conglomerate INI, for the production of polypropylene for the Spanish market.[70]

The strategy for expanding into petrochemicals, initiated after World War II, called for major investments which gradually increased as the company transitioned from the research phase to pilot plants and then commercial production. The petrochemicals expansion strategy pushed Montecatini beyond the limits of its managerial and financial capabilities, to the point where in the mid-'60s the company was forced to tap external resources, both industrial and financial.[71] In doing so, Montecatini embarked on two major initiatives in 1964: absorbing the former electric company Sade, which brought in large sums of fresh capital from the State with the nationalization of the electric sector; and setting up a joint

[67] Bezza (1990, pp. 346-349).
[68] Saviotti (1990, pp. 393-394).
[69] Amatori (1990).
[70] Pùig (2007).
[71] Saviotti (1990, p. 395).

venture with Shell. Monteshell, as the new company was called, was conceived as the means for overcoming the Italian group's obvious operating limits.

Monteshell took over the Ferrara and Brindisi petrochemicals plants; the Anglo-Dutch group contributed technological know-how and market expertise, capital and new management techniques. However, the partnership did not last long, because it became immediately apparent that the two companies had managerial and technical routines that were far too different to allow them to work together. After this initiative failed, Montecatini's new goal was to merge with Edison, that was finally realized in 1966.

Unfortunately the merger of Montecatini and Edison, which was supposed to resolve the "chemical war" at home and create an internationally competitive Italian champion, did not live up to the expectations.[72] The impressive size of the new company, which in 1969 took the name Montedison, made it the tenth largest group in the world in terms of turnover in the chemicals industry. This meant the company enjoyed a fairly prominent position in international rankings, but only in basic chemicals and derivatives, while in the sectors of fine chemicals and special chemicals, the company had little or no business at all.

Another serious weakness of the Italian company was a much lower level of internationalization, as compared to key competitors, and consequently a greater dependency on the domestic market. Despite an established commercial presence in 20 countries, in 1968 the company's foreign turnover accounted for 36.3% of the total (88% of this was realized in Europe); of this percentage, 81% was exported from Italy and 19% was produced by foreign subsidiaries. This last figure, therefore, corresponded in absolute terms to only 6.8% of the group's global turnover, little more than half the average value compared to the major German companies (Basf, Bayer, and Hoechst) and a great deal less than the 32.5% of the English company ICI and the 33.6% of the French company Rhône Poulenc.[73] Moreover, the new company had been founded without any clear internationalization strategy, merging two companies with serious financial and industrial problems[74].

The crisis at Montedison intensified throughout the '70s, accompanied by further retreat from foreign markets. Only in the early '80s did the financial situation improve perceptibly, when the long painful reorganization process, begun in the late '60s, was complete.[75] The most prominent casualties of this process were the group's major foreign subsidiaries (Novamont, Paular and Compagnie Neerlandaise de l'Azote), sold in 1979. The sale of Novamont sealed Montedison's abandonment of its plan to win a significant share of the American market, a strategy it had pursued through the investments made in previous

[72] Despite the potential benefits accruing from the technological complementarities between the two entities – Montecatini had pursued excellence through an indigenous effort, while Edison's entry into chemicals had stemmed from cooperation agreements with foreign partners – it was the Edison's more modest and finance-driven strategy that prevailed, leading to a radical downsizing of Montecatini's R&D activities; see Amatori (1990).
[73] Marchi-Marchionatti (1992, pp. 40-41).
[74] Barca-Trento (1997, pp. 533-559).
[75] For more information on this process, see Mutinelli (1995); Onida-Viesti (1988).

years. This occurred just when this same market was attracting more and more attention and investments from the major European chemicals groups.[76]

In the early '80s, Montedison fielded a new internationalization strategy based on alliance building with foreign firms. Accordingly, in 1983 Montedison set up a joint venture with Hercules and founded Himont, the undisputed leader in Europe and the US in the polypropylene sector.[77] Himont was the group's most important foreign subsidiary by far with 1,000 employees and turnover of nearly 500 million dollars. Collaboration with established foreign companies, along with enormous investments in new technological competencies, finally seemed to open the door to internationalization for the Italian chemicals giant. Montedison attempted a similar approach in the pharmaceutical sector and in fine chemical products by creating a holding, Erbamont, listed on the New York Stock Exchange in June 1983. In this case, internationalization was promoted through cross-licensing agreements with major international competitors, and with investments targeting the acquisition of pharmaceutical research and development facilities, located primarily in the United States.[78]

In 1985, Ausimont, the Montedison subsidiary active in the production of special plastics, merged with the American company Compo Industries, becoming one of the largest international producers of fine chemical products. Montecatini achieved a greater concentration in its core business after the reorganizations of the '70s; this enabled the company to lay the foundations for raising the level of group internationalization. In fact, foreign turnover rose from 35% in 1983 to more than 40% in 1986, while the portion of production realized abroad increased from around 7% to 16% in 1985.

In the mid-'80s, however, the group's improved international reach was not enough to enable it to rebalance its financial situation, which was a precarious one due to chronic undercapitalization and the heavy investments of previous years. Instead of reorganizing the chemicals business more extensively, management pursued an aggressive growth strategy, backed by major leveraging.[79]

In 1986 Montedison was the target of a takeover bid by the agro-chemical group Ferruzzi; this move further exacerbated the company's financial position. To avoid bankruptcy, Montedison ended up creating a joint venture with Eni, merging the basic chemicals production of the two companies. The new firm, initially called Enimont, was renamed Enichem in 1991 after Eni bought the remaining Montedison stock. During the '90s Montedison progressively abandoned the chemicals industry, and reconverted into an energy company. In order to finance this transformation, in the late '90s Himont was sold first to a

[76] Marchi-Marchionatti (1992, p. 137).
[77] Thanks to the new Spheripol technology, developed by Montedison, by the mid-'80s Himont had succeeded in securing 20% of the world market; see Marchi-Marchionatti (1992).
[78] Onida-Viesti (1988).
[79] Amatori-Brioschi (2010).

joint venture with Shell (Montell) and later to the newly-established Basell, which united the plastics production of Shell and Basf.

5. New protagonists

Besides old protagonists and "one season protagonists," we now focus on the still small but recently fast growing group of medium-size companies that in the last decades made the transition from purely exporters to new multinationals.

Despite being latecomers, Italian multinationals have been able to start growing since the mid-1980s, more in terms of a broadening group of international investors (extensive margin) than through an increased size of the few companies inherited from the past decades. The balance has heavily shifted in favour of mid-size "fourth capitalism." As already recalled at the end of Sect. 2, in the last two decades, half of large and very large groups have disappeared or have been replaced, as well as one third of the medium-large ones. Moreover today one third of the top Italian multinationals are non manufacturing investors (bank-insurance-energy-telecom services).

Some of these latecomers had been founded back in the XIX century (Marzotto, Italcementi, Piaggio), some others in the first half of the XX century (Zegna, Indesit, Danieli, GD-Coesia, Sacmi, Recordati, Bracco), but their true multinational expansion took place much later in the last decades of the XX century. This is why we have included them among "new protagonists."

They all share some characteristics that are typical of the Italian "fourth capitalism" of medium-small and medium-large firms. The size of their turnover: a) €500-1000 million for specialized suppliers of mechanical equipment and components (such as Carraro, IMA, Coesia, Brembo, SACMI, Manuli) and medium-high tech pharmaceutical producers (such as Menarini, Recordati, Zambon, Bracco, Dompé); b) in the range of €1000-2000 million for producers of motorvehicles and components (Piaggio), construction materials (Mapei, Permasteelisa) and plastics (Mossi&Ghisolfi); c) up to €4000 million and beyond for some groups supplying both large scale intermediate products (steel, cement) and specialized engineering (Riva, Danieli, Italcementi) as well as fashion and food producers selling in the mass market (such as Luxottica, Ferrero, Parmalat, Perfetti, Lavazza). On average their size is far below their major American and European competitors, which implies less ability to enter and steadily position themselves in distant large fast-growing markets like China, India, Brazil.

They are all family firms with a strong external managerial involvement. There are few examples of cooperative organizations that have grown multinationals in recent years (SACMI, CMC). Their business is focused on relatively small market niches, with a high diversification within the same niche (in medium and high consumer market segments) and a genuine propensity and ability to customize their product for sophisticated users (in all equipment and components for producer durable goods).

Their motivation to become multinationals (not only strong exporters) is predominantly "market seeking," only occasionally "cost saving" (e.g. Benetton, Miroglio, Italcementi, Buzzi Unicem, Riva, De Longhi), sometimes "knowledge resource seeking" (e.g. Recordati, Dompé, Bracco, Datalogic, STMicroelectronis, Mapei). Their mode of multinational expansion is predominantly based on greenfields, although M&A strategies

have often played an increasing role in more recent years, following their consolidation as multinational players.

Manufacturing abroad is of course a central feature, sometimes aimed at being in the physical proximity to large downstream customers (e.g. Brembo, Sacmi, Carraro) but a crucial element of their multinational growth almost always is also a strong investment in the downstream phases of the supply chain. This holds for both proprietary distributive networks of retail shops (for fashion companies such as Zegna, Armani, Bulgari, Ferragamo, Benetton, Marzotto, Luxottica, Geox) and for the extended network of affiliates for sale and technical after sale assistance (for all producers of consumer durables, equipment and components such as Indesit, De Longhi, Danieli, Piaggio, Coesia, STMicroelecronics, Datalogic).

In almost half of the cases these companies still keep solid roots in their original "industrial district" area, although the range of their specialized suppliers has expanded much beyond the district itself.

The most technology-oriented among them are quite keen on networking with Italian and foreign Polytechnics and science research University departments, investing in R&D significant shares of their turnover (up to 5-10%).

Their financial structure tends to be quite solid, as a result of relatively small leverage and low dependence on bank credit.

Finally one should also mention two very special cases of recent big protagonists of the Italian multinational growth, both belonging to the area of listed companies still today under State majority control: Finmeccanica and ENI. Finmeccanica's international activity has indeed been characterized mainly by production sharing agreements with American and European governments in the field of defense (Alenia Aeronautica, Alenia Aermacchi, Oto Melara, Agusta Westland, Selex Galileo, Selex System Integration) and of rail transport and power generation (Ansaldo Breda, Ansaldo Sts, Ansaldo Energia).[80] ENI has been privatized for about 70% of equity capital but still operates under close control by the Italian Treasury. ENI's strongest multinational presence is in the area of oil&gas exploration, extraction and refinery (AGIP), as well as in engineering and construction (Snamprogetti, Saipem).[81]

The following 6 very short case histories (3 in clothing and fashion, 2 in chemicals, 1 in vehicle industries) are the first examples of some medium and medium-large multinational companies belonging to the postwar Italian "fourth capitalism," chosen for being significantly different in terms of sector, size, age, pattern of growth, motivation for becoming multinationals.

[80] For an extensive treatment of the whole history of Finmeccanica see Zamagni (2009). A short picture of recent acquisitions and agreements is in Mariotti-Mutinelli (2010, p. 172-179).
[81] Mariotti-Mutinelli (2010, p. 169-172).

5.1 Textile – Apparel - Fashion

5.1.1 Ermenegildo Zegna

This is a peculiar example of a large size, luxury and high fashion producer (unlike Miroglio and Benetton in textile-apparel, Marzotto being in medium-high segment), born in a typical Italian old high quality textile district (Biella), in the NorthWest of Italy, with a strongly consolidated international network, mainly distributive but cautiously matched with few focused productive units and suppliers abroad (far less than Benetton and Miroglio).

In 1919 the 18-years old Ermenegildo Zegna (EZ), taking over from his father Michelangelo's small textile business, set the basis of what after a few years became the Lanificio Ermenegildo Zegna (wool mill) in the mountain village of Trivero (Biella). Since the beginning EZ chose to compete with the best cloth producers of the time (British), buying the most updated machinery, training his skilled personnel and selecting suppliers of best quality cashmere wool from Australia-Argentina-South Africa. EZ was the first Italian weaver to brand and advertise his fabrics. In 1945 the EZ clothes were already exported in more than 45 countries.

At the beginning of the 1960s the company had 1400 employees and a turnover of about €4 million. Euros, only about 6% from exports. Then the company started a downstream vertical diversification into knitwear, men's suits and clothing, setting up several commercial offices in the major developed markets within and outside Europe.

In the 1970s Zegna opened clothing production facilities in Spain (1973) and Switzerland (1977).[82]

Since the mid-1970s Zegna started to strengthen its international distribution network, entering the world's high-end department stores and retailers (e.g. Neiman Markus and Barney's in USA). A major innovative step was when the first Ermenegildo Zegna owned store opened in Paris, soon followed by many others in major international capitals Milano, London, New York, Los Angeles, Tokyo and many others. In 1984 the Ermenegildo Zegna Group had 2500 employees and a turnover of €50 million. Euros, 60% coming from exports.

The third generation (cousins Gildo and Paolo, currently Ceo and president) pursued the product diversification and expansion (Z Zegna line, Sport line, leather goods and accessories, luxury sportwear, licensed goods). Specific production units were settled in joint venture with partners, such as Ferragamo for shoes and leather goods. Business relationships were also established with top designers and luxury companies such as Giorgio Armani, Gianni Versace, Gucci, Tom Ford to produce and/or distribute their menswear products. A team of about 50 young designers stimulates creativity and innovation. A persistent search of cutting-edge technologies (e.g. chemical-free dyeing processes, special garments able to give

[82] The Spanish initiative was mainly motivated by penetrating a highly protected market ("tariff jumping"), while the Swiss plant was devoted to the highly innovative "made to measure clothing" targeted to provide high quality personalized garments to customers. Higher Swiss nominal wages were offset by lower social contributions and higher productivity, with a contribution of Italian cross-border skilled workers.

a cooling effect by deflecting sun rays) contributes to pursue quality improvements that combine elegance with comfort. Lanerie Agnona, a luxury small women textile and apparel company, was purchased in 1999 to test the potentiality of the ladies market. In addition new productive facilities were started in Mexico and Turkey. The distribution network strongly expanded in China (where EZ is today market leader with more than 60 fully owned stores and additional 30 franchised in more than 25 cities), Hong Kong, South Korea, Taiwan, Singapore, Australia, Brazil. China's sales already exceed sales in US and Italy. Eastern Europe, Middle East and Latin America have also seen a fast growing number of Zegna owned and franchised shops. Zegna recently entered a deal with part of the India's Reliance Group

In 2009 Zegna had more than 7500 employees (still 500 in Trivero, against 1400 in 1970), a turnover of €797 million. Euros of which 90% originated abroad, 550 exclusive stores of which 56% directly owned.

5.1.2 Benetton

Benetton is perhaps the most widely known brand in the world in the segment of Italian affordable fashion. It is also an interesting case of internationalization strategy initially based upon a widespread exclusive distribution-only system (as Zegna), but subsequently morphed into a mix of international production (including in-sourcing from foreign affiliates) and outsourcing from local suppliers (unlike Zegna).

After the death of his father at the end of the second world war, Luciano Benetton first worked in a clothing store in Ponzano Veneto (small town 30 km. north of Venice), then started a small business with his younger brothers Carlo and Gilberto and sister Giuliana, producing sweaters in bright unconventional colors and selling them door to door. In 1965 they formed the Benetton Group. Three years later the first innovative store (same room for displaying selling and stocking the products, wide range of bright colors and affordable prices) was opened in Belluno, then in Paris in 1968 and soon in other major European cities.

In 1969 the first apparel line for children was started. During the 1970s Benetton went into a broader range of items, producing and selling jeans, trousers, shirts and T-shirts for all ages. By 1978 there were more than 200 Benetton stores across Europe and the Group was reorganized as a limited liability company. By the early 1980s Benetton was opening on average one store a day, including major hits such as New York (1980) and Tokyo (1982). At that time production was distributed among nine factories in Italy, France and Scotland. Since 1984 the campaign "All the colors of the world" (later relabeled "United colors of Benetton") became the central advertising instrument. The Benetton International Holding was headquartered in Luxembourg in 1985, company's shares were listed on the Milano stock exchange in 1986, followed by listing in Frankfurt (1988) and New York (1989).

By the mid-1980s Benetton was present through 3200 exclusive shops in about 60 countries. By the mid-1990s sales in over 100 countries were above US$ 1.5 billions. Today Benetton sales originate from 6300 shops, 900 directly operated, in over 120 countries.

Today net revenues (€2049 million in 2009, €891 million in 1st semester 2010) originate 80% from wholesale business and 20% from direct sales. Geographical sale

composition is (2009) 48% Italy, 34% Europe (incl. CEE and Russia), 14% Asia, 3% Americas, 1% ROW.[83]

Creativity and innovation is strongly emphasized with the help of 300 designers coming from several countries and travelling around the world in search of ideas and trends. About €30 million (1.5% of sales) go to R&D expenditures on new materials (e.g. very light cachemere at affordable prices), spinning-weaving and dyeing technologies, CAD techniques, occasionally in partnership with multinational companies and Universities. Fabrica, a peculiar multicultural research center started in 1994 and located near Treviso, hosts every year young people coming from all over the world to interact with designers, experts of social and cultural communication, photographers, musicians, artists and publishers.

Up until the early 2000s, Benetton's retail was entirely based upon a peculiar licensor-licensee relationship channeled through more than 80 agents.[84] This system became increasingly unsuitable to manage the changing "fast fashion" trend, very popular among young generations who were better served by competitors such as Zara and H&M, owning their shops and offering trendy design at affordable prices in 12 collections a year (as against the 2 collections by Benetton at comparably higher prices). Franchisees became increasingly unhappy about their earnings and Benetton felt a decline in margins profitability. Moreover the division Benetton Sportsystem (rollerblades, sky, snowshoes etc.) turned out to be a failure, causing a forced sale and write-off of €190 million in 2002.

And in 2003 moved quickly to a much more flexible "dual supply chain," aiming at ensuring an almost "continuous collection" with fast adaptation to changing market sentiments and trends, time to market and quick delivery as well as quality control. One (sequential) chain from design to R&D to operations to sales is matched by the other (integrated) chain, which maximizes the speed of coordinated interconnections between these basic stages of the production and distribution process. Five kinds of collections stretch from an extreme of 6-8 months before the season to the other extreme of 1-2 weeks before the season.

Benetton trademark is licensed to third producers in related fields such as eyewear, travel bags, stationery, perfumes, household goods.

Coming to the manufacturing organization, production is performed today in ten factories located in Italy and nine other factories in Croatia, Tunisia, Romania, Hungary and India. The most important foreign affiliate is in Tunisia, which operates with 700 direct employees and 1200 indirect external workforce reporting to 160 "terzisti." They operate both with vertically integrated processes and through outsourcing of labour intensive tasks

[83] Major brands are United Colors of Benetton (casual), Sisley (glamour), both for adults and children with a clear identity of Italian creativity-good quality-affordable price and a wide range of clothing and accessories. A tiny share of sales (2%) comes from the brand Playlife (experimental).

[84] Agents were paid a commission of around 4% of total sales in their region, supervised by seven area managers. The store owners entered agreements with agents, without any written contract with Benetton. There was no license fee or royalty paid by franchisees, but they were committed to stock and sell only items supplied by Benetton, who operated on a no-return basis, upon orders from agents about eight months in advance.

(like stitching, finishing, ironing), while more strategic tasks (like cutting, weaving, dyeing, quality control, logistics) are kept within own factories.[85] Logistics has traditionally been a crucial function within Benetton's approach to production and distribution planning.[86]

5.1.3 Luxottica

Luxottica Group, perhaps the best known trademark in fashion accessories, is today world leader in the premium fashion, luxury and sports eyewear, selling almost 20 million prescription frames and more than 35 million sunglasses in about 6400 different styles. Design and production are concentrated in 6 plants in Italy, 2 plants in China, one in India and two sport sunglass production in the USA. Sales are generated by a wholesale business, covering 130 countries across five continents, and by a retail division which counts more than 6300 stores in Europe, North America, Asia-Pacific, South Africa and the Middle East.

Total direct employment, mainly in distribution, amounts to about 60.000 employees. The combined size of its main Italian competitors (Safilo, DeRigo, Marcolin) is less than half the size of Luxottica sales (€5.1 billion in 2009).[87]

Still today Luxottica is strictly controlled by its founder Leonardo Del Vecchio (born 1935), but management is fully under the responsibility of CEO Andrea Guerra, who a few years ago moved from a similar position in Indesit. Thus Luxottica could be taken as an interesting example of a truly "family-managerial" firm.

Leonardo Del Vecchio in the 1950s started as craftsman in metal engravings and medals and stencils, as well as dies and small metal components for companies in various sectors, including eyewear. In 1961 Metalflex, a Cadore-based manufacturer of frames for eyeglasses and one of Del Vecchio's customers, called him to join as shareholder of a new plant in Agordo (Belluno province), where the eyewear industry was concentrated. Production of complete eyewear started in 1967 and Del Vecchio was keen on putting emphasis on technological improvement. Soon Del Vecchio was able to buy out the other shareholders and upgrade from sub-supplier to integrated manufacturer under the new Luxottica brand, whose first collection was presented in 1971. Initially Luxottica positioned itself in the mid-range market segment, where the price-quality ratio was rapidly winning over its German and French competitors.

---

[85] Outsourcing includes many Central-Eastern European suppliers (including ones from Slovenia, Czech Republic, Poland, Ukraine, Moldavia, Serbia) and has been recently directed to more than 200 contracting and subcontracting Asian suppliers from China (coordinated from Hong Kong), India (coordinated from Bangalore) and East Asian countries like Thailand-Laos-Cambodia-Vietnam-Indonesia (coordinated from Bangkok). Today about 450% of production is done by third parties suppliers. Wool, cotton and other raw materials are purchased by about 180 suppliers worldwide.

[86] A fully robotized logistics center in Castrette (Italy), built on 30.000 square meters with a 1 km. long tunnel and electromagnetic propulsion of pallets, has a total capacity of 800.000 boxes and is able to move 120.000 incoming and outcoming boxes a day, operated by only 28 people. This center works with two hubs in Shenzen and Mexico City, respectively for Asian and American markets.

[87] Proprietary brands are Ray-Ban, Oakley, Persol and others, while brands under license include Bulgari, Ferragamo, Prada, Versace, Dolce&Gabbana, Burberry, Chanel, Donna Karan, Polo Ralph Lauren and Tiffany. Retail brands include LensCrafters in North America and China, OPSM in Australia and Sunglass Hut globally.

Since the early 1970s Luxottica's distribution strategy was targeted to vertical integration and to direct marketing; international expansion began in the 1980s, with acquisition of distributors, opening of branches and joint ventures. In 1981 Luxottica established its first commercial subsidiary in Germany and in the mid-80s it acquired Avant-garde Optics, its exclusive distributor in the USA. At the end of the decade exports already absorbed 85% of the production.

As the eyewear market increasingly became a market for fashion accessories, also due to technological improvements in combining metals and plastics, Luxottica's internationalization strategy was firmly based on: a) emphasis on highly diversified and sophisticated styling through licensing of top fashion brands; b) production efficiency and quality control through six integrated production plants equipped with CAD-CAM systems and carefully tested by close cooperation with machinery suppliers mainly located in the nearby district area; c) listing on the New York Stock Exchange (1990) followed by Milano Stock Exchange (2000) which allowed an aggressive strategy of investment and license acquisition while maintaining full control on the family business and a solid financial structure; d) full customer service through increasing reliance on direct wholesale and retail distribution networks supplanting wholesalers.[88]

Following the acquisition in 1995 of Lens Crafters, the largest optical retail chain in the world, and in 1999 of the ailing eyewear division of Bausch & Lomb (holding a proprietary portfolio of brands such as Ray-Ban, the world's best known sunglass brand, Revo, Arnette and others) Luxottica achieved a remarkably dominant position on the rich American market.[89] The international expansion of Luxottica went on in the 2000s through the acquisition in 2001 of Sunglass Hut, the world leading sun specialty stores chain, and in 2007 of the iconic sport brand Oakley.

The most advanced Luxottica "concept store" is a large open "eye hub" (a pilot project has been implemented in Australia) where clients may find not only wide display of models, but in addition consultancy by optometrist technicians, advanced sight measurement equipment, simulators for sunny and windy weather conditions, corners specialized in luxury sport eyewear, children relax areas.

As in many other cases, the choice to setup production facilities in China reflects a market penetration target (fast growing local and broader Asian markets) more than a pure cost-saving strategy (advanced automation greatly reduces the share of labour costs, and in

[88] The latter concern echoes the same evolution that was mentioned in the Benetton case and is well summarized by the following quotation of Del Vecchio himself (Brunetti-Negro 2004, p. 5): "Wholesalers are barriers because they only sell your product if it's worthwhile for them but then they are free to sell other products […] a good wholesaler never puts all his eggs in one basket with single supplier […] the next day he finds an even better product then he'll abandon you and you lose the market."

[89] Soon after came the shutting down of American plants (including some outsourcing to a Mexican facility), following crash tests that found eyewear produced in America having a resistance of around 20 hours compared to 80 hours of normal Luxottica eyewear.

addition technicians and foremen skills are not abundantly available in China). The number of retail shops in China is planned to grow from 240 today to about 500 within 2013.

5.2 Chemicals

5.2.1 Mossi&Ghisolfi

This is the story of today's largest size private Italian chemical engineering company, grown up through tentative alliances and skill spillovers from bigger producers, strongly oriented to R&D intensive plastic products and technologies for niche markets in mass consumption, capable to manage a fast multinational growth.

Today M&G is the largest world's producer of PET resins for container packaging, PET packaging films for food market (with a capacity planned to exceed 2.5 tons/year after a newly announced North American investments), as well as a major producer of polyester fibers for the textile industry. Its turnover has reached US$ 2.5 billion (80% PET, 75% from outside Italy) with more than 3000 employees.

Its directly operated plants are located in Italy, Brazil, Mexico and the USA. R&D facilities are located in Rivalta (Italy), Sharon Center (Ohio, USA) and Pocos de Caldas (Brazil). M&G is committed to environmental sustainability, including the promotion of recycling activities.

Back in the 1950s the Italian chemical industry was already lagging behind the main European and American competitors in catching up with the increasing domestic and international demand of synthetic chemicals such as resins, fibers and plastics. About two thirds of Montecatini's turnover came from agrochemicals (fertilizers etc.). Major American and European groups, fully equipped to serve this booming demand, entered the Italian market, exporting but also opening Italian subsidiaries and affiliates in chemical and pharmaceutical sectors.

Mossi&Ghisolfi (M&G) was born as a family business in Tortona (low Piedmont) in 1953, led by today CEO Vittorio Ghisolfi (Mossi is his wife's name), as supplier of plastic containers for pharma, soon extended to containers for detergents, cosmetics and similar home and personal products, using as input imported polietilene. In early 1960s the leading private chemical producer Montecatini was strongly hit by the failure of the attempted joint venture (Himont) with Occidental's Mr. Hammer in entering the American market, as well as by persistent technological and financial hardships generated by its big Brindisi's propylene plant. Then M&G was given the opportunity to open a 50-50 joint venture with Montecatini to develop plants for containers in high-density poliethylene (HDPE), soon becoming the largest Italian producer of multipurpose plastic materials. Subsequent joint ventures, first with Shell Chemical, then with Edison soon before the merger Montedison, were unsuccessful. Thus in 1973 the M&G joint venture with Montedison was dismissed.

The turmoil caused by the first oil crisis (1973) brought about a heavy crisis throughout the large-size Italian chemical industry (unlike the reaction of its main European competitors), thus triggering a heavy State intervention through loss-covering subsidies and nationalizations (SIR and Liquichimica plants absorbed by ENI-AGIP). In this context M&G rediscovered its potential as family business, leader in plastic bottles for home products. But a crucial step was a strong R&D effort which led to the original development a new

polyester resin (PET), suitable for food uses and in particular for the very fast growing market of plastic bottles of mineral water, starting from a DuPont patent of a bio-oriented polyester. During the 1980s and 1990s a careful planning of increasing capacity in highly specialized plants, together with heavy R&D expenditures and hiring of many researchers and technicians (spillover from the failing Italian big public and private chemical groups), allowed M&G to become a world leading producer in this booming plastics world market (1/3 of the world capacity for PET in 2000). M&G also became leading provider of plants and related engineering services for this highly specialized production (e.g. supplying Shell's PET plants in UK and Mexico).

Starting in 2000, M&G goes through a rapid full internationalization process, first buying all Shell PET plants in Italy-UK-US-Mexico, then taking over additional PET production plants from the French Rhodia and an American subsidiary of Mitsubishi for chemical and petrochemical plant engineering (Chemtex) with important sub-affiliates in China and India. In 2007 M&G inaugurated the biggest PET plant (450.000 tons/year) in Ipojuca (State of Pernambuco, North Eastern Brazil), today expanded to 650.000 tons/year.

5.2.2 Mapei

Like Mossi&Ghisolfi, Mapei can be classified as an outstanding example of Italian multinational world leader in highly specialized niches of chemical engineering, namely adhesives and intermediates for construction materials.

In 1937 Rodolfo Squinzi opened a small shop (3 employees) producing varnishes and plasters for buildings. Soon after WWII he specialized in floor fitting of different materials (linoleum, PVC, ceramics, wood). The company took off in the 1960s, under pressure of the booming production of Italian ceramics (Sassuolo district), and since the early 1970s his son Giorgio (newly graduated in Industrial Chemistry) has been leading the family firm along a fast domestic and international expansion. A greenfield plant in Canada in 1978, aimed at penetrating the huge North American market, triggered a strategy of rapid multinational growth. The labour force rose from 688 in 1993 to 3500 in 2003 to today's 7000 employees, operating in 65 affiliates with 57 plants in 26 countries over the five continents (9 in Italy). The last decade alone saw an addition of 48 units as a combination of greenfields and acquisitions.

Mapei keeps being supplier of building materials and technical assistance in important world projects: from the Sky Train bridge in Vancouver and airports in Brussels and Dubai to the Petronas towers in Kuala Lumpur, the Sidney Olympic pools and the 2010 Shanghai Expo.

The multinational penetration of the Far East markets started in the mid-90s with the Singapore plant, followed during the years 2000 by operating plants and commercial subsidiaries in Malaysia and Vietnam, as well as by the entry in important building projects in Mainland China (first the three Gorges Dam) through Mapei subsidiaries in Hong Kong, Shanghai and Guangzhou.

Mapei is today second to M&G in terms of turnover (€1.5 billion in 2009) but much larger in terms of direct employees worldwide.

The impressive size of direct employment largely reflects the market niche in which Mapei operates as a provider of some 1300 very specific, often customized products (elastic

sealants, resin floor coverings, mortars, additives for concrete, products for acoustic and thermal insulation, intermediate polymers etc.) whose design and production needs a proximate link with the users, in order to adjust to quite diversified exogenous conditions (climate, building materials, local standards and so on), transport costs and delivery times, besides providing a close technical assistance. Some plants, such as the ones taken over through the acquisition of the Italian Vinavil from Enichem in 1994, play a pivotal role as suppliers of upstream intermediates. Logistics is a crucial ingredient for ensuring an efficient networking within the group and competitive delivery times to the final customers.

Despite a positioning within an apparently low-tech sector (construction materials), Mapei's success greatly stems from a continuous consistent effort to innovate: R&D expenditures absorb 5% of the annual turnover and 12% of overall employment, through 10 central laboratories (3 in Italy, 3 in Europe, 3 in USA, 1 in Canada) and 56 quality control centres.

To some extent Mapei may be called a "forced multinational," since the pure exporting activity cannot fit into those prerequisites for doing business on a worldwide basis. In addition Giorgio Squinzi's type of management has always kept the profile of a peculiar mix of genuine family culture (strong interpersonal links) and multinational complex organization. Another quite not-so-common feature of Mapei has always been a consistent growth strategy through yearly retained earnings, with only limited temporary recourse to leverage (bank lending) for financing major acquisitions, no enlargement of equity capital and therefore no listing in any stock exchange market, no complex international financial structure: just the opposite to the standard big public company. The successful outcome as a leading mid-size multinational is partly explained by its highly focused market niches, far from traditional business diversification.

5.3 Motor vehicles and components

5.3.1 Piaggio

The Vespa scooter is still today a successful example of Italian industrial design and creativity. Besides the 100.000 Vespa scooters, the range of 607.700 vehicles sold in 2009 worldwide by Piaggio & C included more than 300.000 two wheel motorcycles from 50 to 1200 cc with brands Piaggio, Gilera, Moto Guzzi, Derbi, Scarabeo, as well as almost 200.000 light transport 3-4 wheels commercial vehicles whose most important brand is Ape. The Group operates through plants in Italy, Spain (Barcelona), India (Baramati), Vietnam (Vinh Phuc) and 5 R&D centres with about 700 researchers and technicians located in Italy, Spain, India and China. On the whole the group's workforce is around 7000 employees. In addition it manages a minority (45%) joint venture in China (Foshan, Guangdong). The Group, today controlled by Immsi Spa (Roberto Colaninno), in 2009 had a consolidated turnover of €1487 million with Ebitda of €200 million. Sales in more than 50 countries are performed by own commercial affiliates, joined by a network of 11.000 independent distributive agents in Europe, 300 dealers in USA and 250 exclusive dealers in India.

Piaggio & C was started in 1887 by Enrico and Rinaldo Piaggio, initially supplying shipbuilding furniture, subsequently oriented to airplanes and railway equipment. The Pontedera plant (Pisa), where still today are located the Group's Headquarters, was built in 1924 and until WWII was focused on rail and aero transport equipment. At the end of the

war Enrico Piaggio (Rinaldo's son) encouraged Corradini D'Ascanio, an experienced aero engineer and inventor, to design a friendly two-wheel vehicle suitable for short distances and easy travel with baggage. The first Vespa 98cc was launched in 1946 selling for 55.000 lire (about $90), quite an affordable price for young and low-income people in those early postwar period. Production of Vespa under licence started soon in Germany, France, Spain, Belgium and UK. In 1948 Piaggio launched Ape, the three wheel fully covered motorcar, also quickly become very popular as light working vehicle. The cumulative production of Vespa reached 1 million in 1960, 4 million in 1970, 10 million in 1988, 17 million in 2009. Since 2006 annual production exceeds 100.000 units, with multiple versions ranging from 50cc to 300cc. Since the glamourous movie "Vacanze romane" with Gregory Peck and Audrey Hepburn (1953) Vespa has become almost a synonym of scooter.

In 1964 IAM Rinald Piaggio took a separate company status, concentrated on aeroplanes and rail equipment, while Umberto Agnelli joined as shareowner of Piaggio & C. and became its president in 1965 upon the death of Enrico Piaggio. Acquisition of motorcycle brands started with Gilera in 1969. The young Giovanni Alberto Agnelli (Umberto's son) entered the board in 1988, became president in 1994, but after his premature death in 1997 the company's control was first taken over by Morgan Grenfell Private Equity (1999), then by the industrial and real estate holding Immsi Spa (listed in Milano stock exchange) with Roberto Colaninno currently CEO (2003). Since the acquisition of Aprilia-Moto Guzzi group in 2004 Piaggio became the first Italian player in the market of two wheels, with 35% of the Italian market and 24% of the European market, second to the dominant Japanese companies (mainly Honda).

After substantial investment in R&D, also in technological cooperation agreements with the Chinese group Zongshen, in 2007 the company started to sell scooters and commercial vehicles with hybrid and electric motoring at low cost and low environmental impact and suitable for rich as well as emerging markets. Research is also targeting new diesel engines. The hybrid scooter HyS allows completely non-emission driving in urban areas through electric motor and normal gasoline driving at higher speed outside. In 2008 a feasibility plan was signed for producing in Chongquin a range of three-four wheel light vehicles.

After a few failed attempts to enter the promising Indian market, started with a commercial agreements with Bajaj Auto group back in 1960, stopped by nationalization of Bajaj in 1971 imposed by Indira Gandhi and relaunched in 1998 through a joint venture 51-49% with Greaves for developing commercial vehicles, in 2001 Piaggio took over the remaining 49%. Piaggio is currently leader in the Indian market of three wheels vehicles (41% market share) and is targeting the motorcycles market by investing in new plants in 2010-2012.

A new plant with capacity of 100.000 vehicles per annum has been started in Vietnam (Hanoi) in 2009.

While the main planning and research resources are still concentrated by the Italian headquarters in Pontedera, the group is pushing strongly to expand production and commercial network to the fast growing South and East Asian markets (eyeing the African market in perspective) and hopes to reach an overall turnover of €1.9 billion within the next three years. With 16 million two wheel vehicles and an annual growth of 6%, China is by far the largest world market, while demand for 8 million vehicles in India has recently been

growing at an annual rate of 14%. The overall European market in 2009 was less than 1.9 million vehicles, of which 1.2 million scooters. The US-Canada market was less than 500.000 units.

6. Concluding remarks

Looking at the long term multinational evolution of major "old protagonists" and "one-season protagonists" of the Italian industry, one may notice the repeated failure in attempts to carry out durable and successful strategies of alliances and/or mergers with other foreign large and medium-large competitors. The major cases in point that have been recalled are the following:

a) Fiat with Citroen (1970-73), Ford (1984-85), General Motors (2000-05);

b) Pirelli with Michelin (mid-60s), Dunlop (1970-81), Continental (1990-91), not to speak of the failed attempt to buy the American Firestone against the winning offer by the Japanese Bridgestone in 1988;

c) Olivetti with Underwood and GE (1960-68), AT&T (1984-89);

d) Montecatini with Shell (Monteshell 1964) with Hercules (Himont 1983) Ausimont (1985-late 90s).

The explanation of the episodes, and of the consequent failure by the major Italian industrial groups to join and solidly keep position within the world oligopolistic core, must be searched first of all in the myopia and lack of competence of the private entrepreneurship (Fiat, Pirelli, Olivetti): a mixture of lack of stable strong shareowner leadership, volatility in strategic decisions, managerial inadequacy, ambiguities in governance rules following more ambitious international operations, excessive leverage. In addition, concerning the history of major public-private Italian multinationals (Montedison, Enimont), one must point to a stubborn perverse interference or power sharing of the old-fashioned political parties' arm with the domestic big business.

The reasons for Italy being a latecomer in the postwar period as an international investors ("New protagonists") have been pointed out as a mix of: a) sectoral specialization (traditional and specialized suppliers industries inherently less induced to match export with FDI strategies); b) structural composition of industry (exceptionally high share of micro and small enterprises, far less equipped to undertake the cost of entry in world markets as international investors); c) macroeconomic environment up until the late 1980s unfavourable to multinational strategies, including the weak and unstable lira exchange rate; d) the peculiar State-owned enterprise system, whose strategies have been typically oriented (with few exception such as ENI and Finmeccanica) on domestic investment (particularly in the Mezzogiorno) and on job creation within domestic boundaries rather than implementing a fully-fledged role as multinational players.

The failure of large State-owned as well as private companies to conquer and maintain solid positions within the big oligopolistic game of the world's top multinationals (unlike many European competitors) has been accompanied by a rather robust multinational growth by hundreds of medium and medium-large companies well focused on their technological and commercial niches, gradually expanding their market penetration beyond the old and new European borders. These true representatives of the Italian "fourth capitalism," born

inside and outside the traditional industrial districts, include not only producers of final consumer goods belonging to the well known “made in Italy,” but a sizeable number of highly specialized suppliers of complex and often advanced products and components. They are often well positioned as designers and sellers of sophisticated machinery and equipment, as well as of advanced components within the global supply chain of big players on the global market in a variety of sectors, ranging from automotive to air transport, shipbuilding, construction, oil&gas, power generation and distribution, pharmaceuticals, specialty chemicals, engineering. Their competitive advantages are grounded not so much on price-cost margins, but rather on fast technological adaptation, innovative design, quality control, customer-oriented flexible supply.

References

Acocella, N. (edited by) (1985), *Le multinazionali italiane*, Bologna: Il Mulino.

Amatori, F. (1990), "Montecatini: un profilo storico", in Amatori, F. and. Bezza, B. (edited by), *Montecatini 1888-1966. Capitoli di storia di una grande impresa*, Bologna: Il Mulino.

Amatori, F. and Brioschi, F. (2010), "Le grandi imprese private: famiglie e coalizioni", in Barca, F. (edited by), *Storia del capitalismo italiano*, Roma: Donzelli Editore.

Banca d'Italia (2008), *Rapporto sulle tendenze del sistema produttivo italiano*, Roma.

Barba Navaretti, G. and Venables, A.J. (2004) *Multinational Firms, in the World Economy*, Princeton: Princeton University Press.

Balcet, G. (1997), *L'economia italiana. Evoluzione, problemi, paradossi,* Milano: Feltrinelli.

Bagley, C.E., Dick, M.R. and Pai, S.H.Y. (1993), *The Attempted Merger of Continental and Pirelli*, Stanford University Graduate School of Business Case Study.

Banca d'Italia (2008), *Rapporto sulle tendenze del sistema produttivo italiano*, Roma.

Barbiellini Amidei, F., Goldstein, A. and Spadoni, M. (2010), *European Acquisitions in the United States: Re-examining Olivetti-Underwood Fifty Years Later*, Banca d'Italia – Quaderni di Storia Economica, 2.

Barca, F. and Trento S. (1997), "La parabola delle partecipazioni statali: una missione tradita", in Barca, F. (edited by), *Storia del capitalismo italiano*, Roma: Donzelli.

Berta, G. and Michelsons, A. (1989), "Il Caso Olivetti", in Regini, M. and Sabel, F., (edited by), *Strategie di riaggiustamento industriale*, Bologna: Il Mulino.

Bezza, B. (1987), "L'attività multinazionale della Pirelli (1883-1914)", in *Società e storia*, v. 10, n. 35.

—————— (1990), "Una grande impresa chimica fra Stato e mercato", in Amatori, F. and Bezza, B. (edited by), *Montecatini 1888-1966. Capitoli di storia di una grande impresa*, Bologna: Il Mulino.

Bigazzi, D. (1981), "La Pirelli e la Fiat nel mercato mondiale", in Cherubini, G., Della Peruta, F., Lepore E., Mori G., Procacci G. and Villari R. (edited by), *Storia della società italiana. L'Italia di Giolitti*, Milano: Teti Editore.

—————— (1986), "Un'impresa italiana sul mercato mondiale: l'attività multinazionale della Fiat fino al 1940", in *Annali di Storia dell'Impresa*, 2.

—————— (1991), "Esportazione e investimenti esteri. La Fiat sul mercato mondiale fino al 1940", in *Fiat 1899-1930. Storia e documenti*, Milano: Fabbri.

Bolchini, P. (1985), *Pirelli, 1914-1980: strategia aziendale e relazioni industriali nella storia di una multinazionale. Secondo tomo, Il Gruppo Pirelli-Dunlop: gli anni più lunghi*, Milano: Franco Angeli.

Boltho, A (1982), *The European Economy Growth and Crisis*, Oxford: Oxford University Press.

Caizzi, B. (1962), *Camillo e Adriano Olivetti*, Torino: Unione Tipografico-Editrice Torinese.

Cantwell, J. (1989), *Technological Innovation and Multinational Corporations*, Oxford: Oxford University Press.

Castronovo, V. (1971), *Giovanni Agnelli*, Torino: Einaudi.

Castronovo, V. and Falchero, A.M. (2008), *L' avventura di Franco Marinotti. Impresa, finanza e politica nella vita di un capitano d'industria*, Milano: Christian Marinotti Edizioni.

Ciborra, C. (1986), *Le affinità asimmetriche. Il caso Olivetti-AT&T*, Milano: Franco Angeli.

Ciocca P.L. and Toniolo, G. (1976)*, L'economia italiana nel periodo fascista*, Bologna: Il Mulino.

Ciocca, P.L. (2007), *Ricchi per sempre? Una storia economica d'Italia (1796-2005),* Torino: Bollati Boringhieri.

Cominotti, R. and Mariotti, S. (1992), *Italia multinazionale 1992. Radiografia dell'internazionalizzazione dell'industria italiana*, Milano: Etas Libri.

——————— (1996), *Italia multinazionale 1996. Tendenze e protagonisti dell'internazionalizzazione*, Milano: Franco Angeli.

Confalonieri, A. (1982), *Banca e industria in Italia dalla crisi del 1907 all'agosto 1914*, Milano: Banca Commerciale Italiana.

Crafts, N. and Toniolo, G. (1996), *Economic Growth in Europe Since 1945*, Cambridge: Cambridge University Press.

de Cecco, M.(2004), "Il declino della grande impresa", in Toniolo, G.and Visco, V. (edited by), *Il declino economico dell'Italia.Cause e rimedi*, Milano: Bruno Mondadori.

De Nardis, S. and Traù, F. (2005), *Il modello che non c'era. L'Italia e la divisione internazionale del lavoro industriale,* Roma: Rubbettino.

Devos, G. (1992), "International Cartels in Belgium and the Netherlands during the Interwar Period: The Nitrogen Case", in Hara T. and Kudo A. (edited by), *International Cartels in Business History*, Tokyo: University of Tokyo Press.

de Witt, G. (2005), *Le fabbriche ed il mondo: l'Olivetti industriale nella competizione globale (1950-1990)*, Milano: Franco Angeli.

Dunning, H. (1983), "Changes in the Level and Structure of International Production: The Last One Hundred Years", in Casson, M. (edited by), *The Growth of International Business*, London: Unwin Hyman.

Enrietti, A. and Lanzetti, R. (2002), *Fiat Auto: le ragioni della crisi e gli effetti a livello locale*, Quaderni del Dipartimento di Scienze Economiche dell'Università di Bergamo.

Garonna, P. and Gros-Pietro, G.M. (2004), *Il modello italiano di competitività*, Milano: Il Sole 24 Ore.

ISTAT (2010), *Rapporto annuale. La situazione del Paese nel 2010*, Roma: ISTAT.

ISTAT (2011), *Struttura, performance e comportamenti delle multinazionali italiane*, Roma: ISTAT.

Jones, G. and Schröter, H. (edited by) (1993), *The Rise of Multinationals in Continental Europe*, Aldershot-Brookfield: Edward Elgar.

Marchi, A. and Marchionatti, R. (1992), *Montedison 1966-1989*, Milano: Franco Angeli.

Mariotti S. and Mutinelli M., (1996) (edited by), *Italia multinazionale 1996. Tendenze e protagonisti dell'internazionalizzazione*, Milano: Franco Angeli.

——————— (2010) (edited by), *La multinazionale Italia 2009. Le partecipazioni italiane all'estero ed estere in Italia*, Roma: Rubbettino.

Markusen, J.R., "Multinational Firms and the New Trade Theory", *Journal of International economics*, 46, pp. 183-203.

Mutinelli M. (1995), "L'internazionalizzazione dell'industria italiana ad alta tecnologia", in Amendola, G. and Perrucci, A. (edited by), *L'Italia nella competizione tecnologica internazionale*, Milano: Franco Angeli.

Nardozzi, G. (2004), *Miracolo e declino. L'Italia tra concorrenza e protezione*, Bari: Laterza.

Oman, C. (2004), *New Forms of International Investment in Developing Countries*, Paris: OECD Development Centre.

Onida F. (1984), *Technological Transfer to Developing Countries by Italian Small and Medium-Sized Enterprises,* NCTAD/TT/81.

—————— (1994), La *crescita multinazionale dei gruppi italiani di medio grande dimensione: rapporto di sintesi*, Bocconi University – Working papers CESPRI.

—————— (2004), *Se il piccolo non cresce. PMI italiane in affanno*, Bologna: Il Mulino.

Onida, F. and Viesti, G. (1987) (edited by), *The Italian Multinationals*, New York: Croom Helm.

Paradisi, M. (1976), "Il commercio estero e la struttura industriale", in Ciocca P. and Toniolo G., *L'economia italiana nel periodo fascista*, Bologna: Il Mulino.

Pavitt, K. (1984), "Patterns of Technical Change. Towards a Taxonomy and a Theory", *Research Policy,* 13(6).

Perugini, M. (2009), *Grande impresa e Italia autarchica. La Montecatini 1929-1943*, Doctoral Thesis, Bocconi University.

Pirelli, A (1946), *La Pirelli: vita di una azienda industriale*, Milano: Industrie grafiche, A. Nicola & C.

Pùig, N. (2007), "The Global Accomodation of a Latecomer. The Spanish Chemical Industry since the Petrochemical Revolution", in Galambos, L., Hikino, T. and Zamagni, V., *The Global Chemical Industry in the Age of Petrochemical Revolution*, Cambridge: Cambridge University Press.

Rey, M. (1982), "Italy", in Boltho, A, *The European Economy Growth and Crisis*, Oxford: Oxford University Press, p. 502-527.

Rossi, N. and Toniolo, G. (1996), "Italy", in Crafts, N. and Toniolo, G., *Economic Growth in Europe Since 1945*, Cambridge: Cambridge University Press, pp. 427-454.

Saviotti, P.P. (1990), "Il ruolo della ricerca e della tecnologia nello sviluppo della Montecatini", in Amatori, F. and Bezza, B. (edited by), *Montecatini 1888-1966. Capitoli di storia di una grande impresa*, Bologna: Il Mulino.

Sicca, L. and Izzo, F. (1995), *La gestione dei processsi di Turnaround. Un caso esemplare: la Pirelli Spa*, Napoli: Edizioni Scientifiche Italiane.

Soria, L. (1979), *Informatica: un'occasione perduta*, Torino: Einaudi.

SNIA Viscosa (1970), *Mezzo secolo di SNIA Viscosa*, Milano: Pan.

Spadoni, M. (2000), *Le fibre tessili artificiali in Italia dai primi del Novecento alla Seconda guerra mondiale*, Doctoral Thesis, Pisa University.

—————— (2003), *Il gruppo SNIA dal 1917 al 1951*, Torino: G. Giappichelli.

Toniolo, G. (2004), "L'Italia verso il declino economico", in Toniolo, G. and Visco, V. (edited by), *Il declino economico dell'Italia. Cause e rimedi*, Milano: Bruno Mondadori.

Traù, F. (1999) (edited by), *La "questione dimensionale" nell'industria italiana*, Bologna: Il Mulino.

Trinchieri, G. (2001), *Industrie chimiche in Italia. Dalle origini al 2000*, Venezia: Arvan.

UNCTAD (2010), *World Investment Report*, Geneve.

Volpato, G. (1999), "Il processo di internazionalizzazione della Fiat in campo automobilistico (1899-1999)", in Annibaldi, C. and Berta, G. (edited by), *Grande impresa e sviluppo italiano. Studi per i cento anni della Fiat*, Bologna: Il Mulino.

Volpato, G. (1993), "L'internazionalizzazione dell'industria automobilistica italiana", in AA.VV., *L'industria italiana nel mercato mondiale*, Torino: Collana Archivio Storico Fiat.

West, P.J. (1984), *Foreign Investment and Technology Transfer: the Tire Industry in Latin America*, Greenwich: JAI Press.

Wilkins, M. (1989), *The History of Foreign Investment in the United States, 1914-1945*, Cambridge: Harvard University Press.

Zamagni, V. (1990), "L'industria chimica in Italia dalle origini agli anni '50", in Amatori, F. and Bezza, B. (edited by), *Montecatini 1888-1966. Capitoli di storia di una grande impresa*, Bologna: Il Mulino.

—————— (2009), *Finmeccanica. Competenze che vengono da lontano*, Bologna: Il Mulino.

Tables and figures

Table 1. Breakdown by sector of foreign subsidiaries founded by Italian firms (1900-1981)

	1900-1914	1915-1919	1920-1929	1930-1939	1940-1944	1945-1949	1950-1954	1955-1959	1960-1964	1965-1969	1970-1974	1975-1979	1980-1981
Mineral Processing	-	-	-	-	-	-	-	-	5	4	4	10	1
Chemicals	-	-	2	1	-	2	2	7	7	2	9	5	1
Rubber	4	-	1	3	-	-	1	2	4	7	12	7	2
Mechanical engineering (non-electric)	-	-	-	-	-	1	-	3	7	7	12	9	7
Electromechanical engineering	-	-	1	1	-	3	5	4	6	6	9	10	15
Transport Equipment	-	-	1	1	-	-	4	1	3	4	10	10	5
Food	2	-	-	4	1	1	2	4	5	4	7	8	2
TAPCC (Fashion Industries)	-	-	-	-	-	-	-	-	-	4	2	8	2
Wood	-	-	-	-	-	-	-	-	1	1	2	3	-
Paper	-	-	1	-	-	-	-	-	-	-	2	0	1
Total	6	0	6	10	1	7	14	21	38	39	69	70	36

Source: N. Acocella (edited by), *Le multinazionali italiane*, Il Mulino, Bologna, 1985, p. 39.

Table 2 – Italian shareholdings abroad at January 1, 2009, by sector

	Investors	**Firms**	**Employees**	**Turnover (€ mil.)**
		Total		
Mining and quarrying	33	237	12.124	39.783
Manufacturing	2.784	6.378	883.285	204.438
Electricity, gas and water supply	63	813	59.924	46.781
Construction	326	1.076	60.791	10.084
Wholesale trade	3.713	11.143	167.537	122.541
Trasportation and storage	383	1.373	32.704	13.349
Information and communication	189	606	44.983	12.279
Other professional activities	482	1.089	90.722	11.258
Total	6.426	22.715	1.352.070	460.514
		Fully-controlled foreign subsidiaries		
Mining and quarrying	20	182	8.365	37.053
Manufacturing	2.327	5.052	688.764	146.794
Electricity, gas and water supply	35	662	45.884	41.300
Construction	243	695	43.983	7.144
Wholesale trade	3.183	9.605	147.950	109.428
Trasportation and storage	329	1.082	23.405	9.714
Information and communication	153	514	26.375	9.592
Other professional activities	435	900	26.528	5.782
Total	5.699	18.692	1.011.254	366.807
		Equal and minority shareholdings		
Mining and quarrying	15	55	3.759	2.730
Manufacturing	894	1.326	194.521	57.644
Electricity, gas and water supply	30	151	14.040	5.481
Construction	106	381	16.808	2.940
Wholesale trade	994	1.538	19.587	13.113
Trasportation and storage	134	291	9.299	3.635
Information and communication	50	92	18.608	2.687
Other professional activities	103	189	64.194	5.476
Total	1.930	4.023	340.816	93.707

Source: database Reprint, ICE – Polytechnic University of Milan.

Table 3 - Employees of foreign firms owned by Italian companies at January 1, 2009, by geographical location

	Shareholdings				Total	
	Controlling		Equal/Minority			
	N.	%	N.		N.	%
EU-15	*398.021*	*39,4*	*75.140*		*473.161*	*35,0*
– Austria	8.638	0,9	428		9.066	0,7
– Belgium	13.348	1,3	4.595		17.943	1,3
– France	104.635	10,3	31.352		135.987	10,1
– Germany	88.940	8,8	8.192		97.132	7,2
– Netherlands	9.279	0,9	3.652		12.931	1,0
– Portugal	8.485	0,8	7.674		16.159	1,2
– Uk	64.741	6,4	7.162		71.903	5,3
– Spain	72.537	7,2	6.795		79.332	5,9
EU-27	*180.183*	*17,8*	*37.863*		*218.046*	*16,1*
– Bulgary	9.351	0,9	1.424		10.775	0,8
– Poland	48.003	4,7	9.646		57.649	4,3
– Czech Republic	15.833	1,6	4.256		20.089	1,5
– Slovak Republic	16.475	1,6	1.869		18.344	1,4
– Romania	71.620	7,1	10.788		82.408	6,1
– Hungary	10.596	1,0	5.168		15.764	1,2
Other Est European countries	*68.029*	*6,7*	*30.951*		*98.980*	*7,3*
– Russia	24.182	2,4	10.778		34.960	2,6
– Turkey	13.092	1,3	12.963		26.055	1,9
Other European Country	*16.573*	*1,6*	*60.429*		*77.002*	*5,7*
– Svizzera	13.827	1,4	59.873		73.700	5,5
Northern Africa	*27.523*	*2,7*	*11.406*		*38.929*	*2,9*
– Morocco	4.061	0,4	7.142		11.203	0,8
– Tunisia	11.903	1,2	2.848		14.751	1,1
Other African countries	*22.573*	*2,2*	*6.110*		*28.683*	*2,1*
North America	*86.276*	*8,5*	*10.581*		*96.857*	*7,2*
– USA	79.562	7,9	10.006		89.568	6,6
Latin America	*119.194*	*11,8*	*40.335*		*159.529*	*11,8*
– Argentina	13.423	1,3	22.870		36.293	2,7
– Brasil	76.055	7,5	3.769		79.824	5,9
– Mexico	10.079	1,0	2.736		12.815	0,9
Middle East	*5.430*	*0,5*	*2.645*		*8.075*	*0,6*
Central Asia	*17.066*	*1,7*	*12.678*		*29.744*	*2,2*
– India	11.444	1,1	4.709		16.153	1,2
Far East	*63.219*	*6,3*	*52.426*		*115.645*	*8,6*
– China	38.147	3,8	30.796		68.943	5,1
Oceania	*7.167*	*0,7*	*252*		*7.419*	*0,5*
Total	*1.011.254*	100,0	340.816		*1.352.070*	100,0

Source: database Reprint, ICE – Polytechnic University of Milan.

Table 4 - Employees of foreign firms owned by Italian companies by sector, at January 1, 2009

	Shareholdings				Total	
	Controlling		Equal/Minority			
	N.	%	N.		N.	%
Traditional sectors	*140.563*	*20,4*	*39.653*		*180.216*	*20,4*
Primary food products	8.044	1,2	5.321		13.365	1,5
Textile	40.079	5,8	13.408		53.487	6,1
Wearing Apparel	34.321	5,0	5.643		39.964	4,5
Leather and related products	20.135	2,9	8.425		28.560	3,2
Wood and products of wood	10.430	1,5	2.210		12.640	1,4
Printing	10.635	1,5	2.993		13.628	1,5
Other manufacturing industries	16.919	2,5	1.653		18.572	2,1
Sectors with strong economies of scale	*385.638*	*56,0*	*79.639*		*465.277*	*52,7*
Other food products	45.652	6,6	1.680		47.332	5,4
Beverages	2.628	0,4	2.261		4.889	0,6
Tobacco products	0	0,0	0		0	0,0
Paper and paper products	18.405	2,7	265		18.670	2,1
Coke and refined petroleum products	1.948	0,3	12.654		14.602	1,7
Basic chemicals	6.493	0,9	1.899		8.392	1,0
Soap and detergents, cleaning and polishing preparations	1.243	0,2	356		1.599	0,2
Man-made fibres	1.423	0,2	2.845		4.268	0,5
Tyres and rubber products	24.047	3,5	205		24.252	2,7
Plastic products	19.824	2,9	4.650		24.474	2,8
Glass products	8.538	1,2	284		8.822	1,0
Non-metallic mineral products	55.159	8,0	4.747		59.906	6,8
Basic metals	32.370	4,7	9.773		42.143	4,8
Fabricated metal products	33.084	4,8	7.432		40.516	4,6
Electric domestic appliances	21.696	3,1	672		22.368	2,5
Wires and cables	11.377	1,7	1.938		13.315	1,5
Electrical and electronic equipment for motor vehicles	4.948	0,7	688		5.636	0,6
Other electrical equipment	15.414	2,2	205		15.619	1,8
Motor vehicles, trailers and semi-trailers	57.001	8,3	24.216		81.217	9,2
Parts and accessories for motor vehicles	24.388	3,5	2.869		27.257	3,1
Specialist sectors	*86.327*	*12,5*	*11.644*		*97.971*	*11,1*
Machinery and mechanical equipment	74.776	10,9	10.153		84.929	9,6
Electro-mechanical instrumentation	9.160	1,3	1.047		10.207	1,2
Ships, railway locomotives and rolling stock	2.391	0,3	444		2.835	0,3
Technology-intensive sectors	*76.236*	*11,1*	*63.585*		*139.821*	*15,8*
Other chemical products	14.445	2,1	854		15.299	1,7
Pharmaceutical products	8.299	1,2	1.134		9.433	1,1
Office machinery and equipment	1.957	0,3	109		2.066	0,2
Electronics and communication equipment	28.206	4,1	44.964		73.170	8,3
Precision mechanical instrumentation	18.693	2,7	2.270		20.963	2,4
Air and spacecraft	4.636	0,7	14.254		18.890	2,1
Total	688.764	100,0	194.521		883.285	100,0

Source: database Reprint, ICE – Polytechnic University of Milan.

Table 5 – Degree of multinationalisation of Italian manufacturing industry according to the number of employees of affiliates firms, by sector, at January 1, 2009

	Controlling shareholdings (*a*)	Total (*a*)
Food and beverages	30,6	35,6
Textile	31,6	36,6
Wearing apparel	32,6	37,6
Leather and related products	33,6	38,6
Wood and products of wood	34,6	39,6
Paper and paper products	35,6	40,6
Printing	36,6	41,6
Coke and refined petroleum products	37,6	42,6
Chemicals and pharmaceuticals	38,6	43,6
Rubber and plastic products	39,6	44,6
Non-metallic mineral products	40,6	45,6
Basic metals	41,6	46,6
Fabricated metal products	42,6	47,6
Machinery and equipment	43,6	48,6
Office machinery	44,6	49,6
Electrical equipment	45,6	50,6
Electronics and communication equipment	46,6	51,6
Precision mechanical instrumentation	47,6	52,6
Motor vehicles, parts and accessories	48,6	53,6
Other transport equipment	49,6	54,6
Other manufacturins industries	50,6	55,6
Total	51,6	56,6

(*a*) $\frac{\text{Employees of foreign firms controlled by Italian companies}}{\text{Employees in Italy of Italian-based companies}}$

Source: database Reprint, ICE – Polytechnic University of Milan.

Table 6 - New investments of Italian companies in foreign manufacturing firms, by year, 1986-2008 (a)

	Controlling Shareholdings			Equal and Minority Shareholdings			Total Shareholdings	
	Firms	Employees		Firms	Employees		Firms	Employees
1986	93	44.615		23	18.810		116	63.425
1987	123	40.111		40	23.905		163	64.016
1988	155	24.569		37	22.212		192	46.781
1989	145	27.661		67	34.072		212	61.733
1990	202	33.387		107	22.705		309	56.092
1991	247	65.404		87	24.688		334	90.092
1992	408	82.399		119	37.765		527	120.164
1993	236	45.999		95	17.059		331	63.058
1994	335	28.680		92	16.263		427	44.943
1995	303	30.244		110	14.326		413	44.570
1996	346	37.504		110	13.304		456	50.808
1997	366	37.312		141	24.886		507	62.198
1998	450	50.148		192	17.760		642	67.908
1999	525	70.264		122	15.966		647	86.230
2000	328	59.351		61	34.939		389	94.290
2001	312	37.126		104	33.700		421	49.489
2002	270	51.466		39	12.348		311	54.108
2003	178	15.749		22	3.070		248	18.983
2004	271	21.872		88	5.350		359	27.222
2005	217	24.440		95	11.500		312	35.940
2006	226	23.381		92	8.340		318	31.721
2007	265	23.346		113	5.048		378	28.394
2008	198	24.875		92	4.359		290	29.234

(a) There are not considered partial investments (increases of shareholdings in foreign companies already participate), or acquisitions from other Italian investors.

Source: database Reprint, ICE – Polytechnic University of Milan.

Table 7 - Divestments by Italian companies in foreign manufacturing firms, by year, 1986-2008 (a)

	Controlling Shareholdings			Equal and Minority Shareholdings			Total Shareholdings	
	Firms	Employees		Firms	Employees		Firms	Employees
1986	11	1.544		14	2.271		25	3.815
1987	28	7.492		28	5.699		56	13.191
1988	35	8.098		19	16.777		54	24.875
1989	24	5.172		10	2.556		34	7.728
1990	38	13.482		24	6.235		62	19.717
1991	26	6.248		27	15.255		53	21.503
1992	60	16.481		32	39.679		92	56.160
1993	100	24.816		47	35.117		147	59.933
1994	63	12.394		28	7.618		91	20.012
1995	63	13.580		35	12.144		98	25.724
1996	108	37.098		52	25.376		160	62.474
1997	70	9.341		58	16.960		128	26.301
1998	87	17.476		36	4.781		123	22.257
1999	108	17.423		49	18.633		157	36.056
2000	56	8.549		27	21.403		83	29.952
2001	71	14.228		15	9.763		87	16.882
2002	181	57.068		20	6.652		208	63.322
2003	70	14.066		20	2.358		94	15.031
2004	102	44.011		38	414		127	47.734
2005	125	37.193		46	2.200		171	39.393
2006	99	22.063		56	7.529		155	29.592
2007	104	18.096		36	4.274		140	22.370
2008	84	10.622		24	1.479		108	12.101

(a) There are not considered partial divestments (as a result of which the investor still retains a direct shareholding in the foreign firm), or the sale of shareholdings to other Italian investors.

Source: database Reprint, ICE – Polytechnic University of Milan**.**

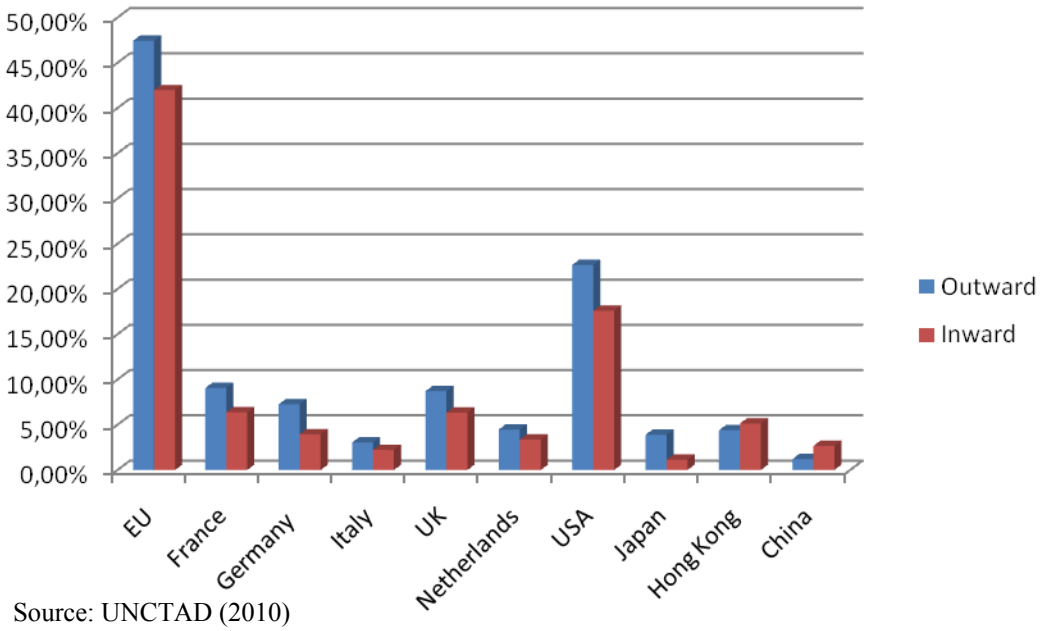
Table 8 - Balance between new investments and divestment of Italian companies in foreign manufacturing firms, by year, 1986-2008 (a)

	Controlling Shareholdings		Equal and Minority Shareholdings		Total Shareholdings	
	Firms	Employees	Firms	Employees	Firms	Employees
1986	82	43.071	9	16.539	91	59.610
1987	95	32.619	12	18.206	107	50.825
1988	120	16.471	18	5.435	138	21.906
1989	121	22.489	57	31.516	178	54.005
1990	164	19.905	83	16.470	247	36.375
1991	221	59.156	60	9.433	281	68.589
1992	348	65.918	87	-1.914	435	64.004
1993	136	21.183	48	-18.058	184	3.125
1994	272	16.286	64	8.645	336	24.931
1995	240	16.664	75	2.182	315	18.846
1996	238	406	58	-12.072	296	-11.666
1997	296	27.971	83	7.926	379	35.897
1998	363	32.672	156	12.979	519	45.651
1999	417	52.841	73	-2.667	490	50.174
2000	272	50.802	34	13.536	306	64.338
2001	241	22.898	89	23.937	334	32.607
2002	89	-5.602	19	5.696	103	-9.214
2003	108	1.683	2	712	154	3.952
2004	169	-22.139	50	4.936	232	-20.512
2005	92	-12.753	49	9.300	141	-3.453
2006	127	1.318	36	811	163	2.129
2007	161	5.250	78	774	239	6.024
2008	114	14.254	68	2.880	182	17.134

(a) There are not considered partial investments or divestments

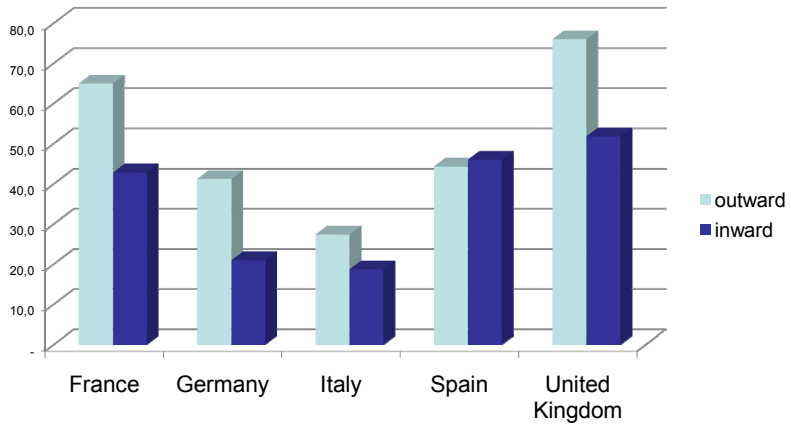
Source: database Reprint, ICE – Polytechnic University of Milan.

Fig. 1 Outward/Inward stock FDI (% of world total, 2009)



Source: UNCTAD (2010)

Fig. 2 Outward/Inward stock FDI/GDP, 2009



Source: UNCTAD (2010)

PREVIOUSLY PUBLISHED "QUADERNI" (*)

N. 1 – *Luigi Einaudi: Teoria economica e legislazione sociale nel testo delle* Lezioni, by Alberto Baffigi (September 2009).

N. 2 – *European Acquisitions in the United States: Re-examining Olivetti-Underwood Fifty Years Later*, by Federico Barbiellini Amidei, Andrea Goldstein and Marcella Spadoni (March 2010).

N. 3 – *La politica dei poli di sviluppo nel Mezzogiorno. Elementi per una prospettiva storica*, by Elio Cerrito (June 2010).

N. 4 – *Through the Magnifying Glass: Provincial Aspects of Industrial Grouth in Post-Unification Italy*, by Carlo Ciccarelli and Stefano Fenoaltea (July 2010).

N. 5 – *Economic Theory and Banking Regulation: The Italian Case (1861-1930s)*, by Alfredo Gigliobianco and Claire Giordano (November 2010).

N. 6 – *A Comparative Perspective on Italy's Human Capital Accumulation*, by Giuseppe Bertola and Paolo Sestito (October 2011).

N. 7 – *Innovation and Foreign Technology in Italy, 1861-2011*, by Federico Barbiellini Amidei, John Cantwell and Anna Spadavecchia (October 2011).

N. 8 – *Outward and Inward Migrations in Italy: A Historical Perspective*, by Matteo Gomellini and Cormac Ó Gráda (October 2011).

N. 9 – *Comparative Advantages in Italy: A Long-run Perspective*, by Giovanni Federico and Nikolaus Wolf (October 2011).

N. 10 – *Real Exchange Rates, Trade, and Growth: Italy 1861-2011*, by Virginia Di Nino, Barry Eichengreen and Massimo Sbracia (October 2011).

N. 11 – *Public Debt and Economic Growth in Italy*, by Fabrizio Balassone, Maura Francese and Angelo Pace (October 2011).

N. 12 – *Internal Geography and External Trade: Regional Disparities in Italy, 1861-2011*, by Brian A'Hearn and Anthony J. Venables (October 2011).

N. 13 – *Italian Firms in History: Size, Technology and Entrepreneurship*, by Franco Amatori, Matteo Bugamelli and Andrea Colli (October 2011).

N. 14 – *Italy, Germany, Japan: From Economic Miracles to Virtual Stagnation*, by Andrea Boltho (October 2011).

N. 15 – *Old and New Italian Multinational Firms*, by Giuseppe Berta and Fabrizio Onida (October 2011).

N. 16 – *Italy and the First Age of Globalization, 1861-1940*, by Harold James and Kevin O'Rourke (October 2011).

N. 17 – *The Golden Age and the Second Globalization in Italy*, by Nicholas Crafts and Marco Magnani (October 2011).

N. 18 – *Italian National Accounts, 1861-2011*, by Alberto Baffigi (October 2011).

N. 19 – *The Well-Being of Italians: A Comparative Historical Approach*, by Andrea Brandolini and Giovanni Vecchi (October 2011).

N. 20 – *A Sectoral Analysis of Italy's Development, 1861-2011*, by Stephen Broadberry, Claire Giordano and Francesco Zollino (October 2011).

N. 21 – *The Italian Economy Seen from Abroad over 150 Years*, by Marcello de Cecco (October 2011).

N. 22 – *Convergence among Italian Regions, 1861-2011*, by Giovanni Iuzzolino, Guido Pellegrini and Gianfranco Viesti (October 2011).

N. 23 – *Democratization and Civic Capital in Italy*, by Luigi Guiso and Paolo Pinotti (October 2011).

N. 24 – *The Italian Administrative System since 1861*, by Magda Bianco and Giulio Napolitano (October 2011).

N. 25 – *The Allocative Efficiency of the Italian Banking System, 1936-2011*, by Stefano Battilossi, Alfredo Gigliobianco and Giuseppe Marinelli (October 2011).

(*) Requests for copies should be sent to:
Banca d'Italia – Servizio Studi di struttura economica e finanziaria – Divisione Biblioteca e Archivio storico – Via Nazionale, 91 – 00184 Rome – (fax 0039 06 47922059).
The *Quaderni* are available on the Internet www.bancaditalia.it.

Printed by the
Printing and Publishing Division
of the Bank of Italy