

**MULTINATIONAL FIRMS IN ITALY: TRENDS
IN THE MANUFACTURING SECTOR**

Giovanna Segre

(University of Torino)

September 2000

Abstract

The paper describes the position of Italian economy within the international scenario of production internationalisation. Trends of foreign direct investment flows in Italy are analysed both considering FDI inflows and FDI outflows. Moreover, the degree of industry passive and active multinationality of the Italian manufacturing sector is analysed. To this aim, we computed two indices by looking at the share of multinational firms' production in Italy, using three-digit level data. The comparison between passive and active multinationality highlights the peculiar position of Italian economy characterised by a low level of active multinationality and a high level of passive multinationality in science based sectors. In specialised sectors the importance of active multinationality is, on the contrary, higher than for passive multinationality.

Jel Classification: F14, F15

Keywords : Foreign Direct Investment, Italy, Manufacturing industries

WORKING PAPER CERIS-CNR

Anno 2, N° 13 – 2000

Autorizzazione del tribunale di Torino

N. 2681 del 28 marzo 1977

Direttore Responsabile

Secondo Rolfo

Direzione e Redazione

Ceris-Cnr

Via Avogadro, 8

10121 Torino, Italy

Tel. +39 011 5601.111

Fax +39 011 562.6058

E-mail *segreteria@ceris.cnr.it*

Segreteria di redazione

Maria Zittino

Distribuzione

Spedizione gratuita

Fotocomposizione e impaginazione

In proprio

Stampa

In proprio

Finito di stampare nel mese di novembre 2000

Copyright © 2000 by Ceris-Cnr

All rights reserved. Parts of this paper may be reproduced with the permission of the author(s)
and quoting the source.

Private edition

INDICE

1. Introduction.....	7
2. FDI flows in Italy	8
3. The degree of industry passive multinationality in Italy.....	13
4. The degree of industry active multinationality in Italy.....	15
5. Consistence of FDI in Italy.....	16
6. The geographic dimension of industry passive and active multinationality ...	21
7. Conclusion.....	24
Bibliografia	25

1. Introduction

Strong empirical evidence indicates the remarkable relevance of the phenomenon of foreign direct investment (FDI)¹. The process of globalisation is characterised by the growth of international production, the part of production of good and services of countries that is controlled and managed by firms headquartered in other countries. Following the UNCTAD 1999 report, the relevance of international production activity may be highlighted by the analysis of the number of firms involved in it and of their location. Over 500,000 foreign affiliates are in operation world-wide, established by about 60,000 parent companies. To this a number of firms would have to be added that are linked to each other through non-equity relationship. The share of developed countries in worldwide FDI outflows further increased from an already high ratio of 86 percent in 1997 to about 92 percent in 1998, while their share in inflows increased even more from 59 percent to 72 percent. registered record levels of FDI inflows and outflows in 1998. Developed countries registered record levels of FDI inflows and outflows in 1998 amounting respectively to \$460 billion and \$595 billion. It means 68 percent more than 1997 level for inflows and 46 percent more for outflows. As in the past, EU, Japan and United States still represent the main players, accounting for about 93 percent and 91 percent of FDI inflows into and outflows from developed countries in 1998.

Within this scenario, we concentrate our analysis on the phenomenon of FDI in Italy. Section 2 analyses recent trends of FDI flows in the Italian economy as a whole. Section 3 and 4 consider recent trends in the Italian manufacturing sector, concentrating, in particular, on the degree of industry passive and active multinationality, respectively. In Section 5 a comparison between the degree of industry passive and active multinationality is presented. Section 6 analyses the geographic dimension of industry passive and active multinationality and Section 7 concludes.

¹ Foreign direct investment indicates both cross-border mergers and acquisitions of existing firms and a greenfield investment. Multinational corporations are the main source of FDI. The two expressions will be used indifferently in the paper.

2. FDI flows in Italy

The position of Italian economy within the international scenario of FDI flows and stock is fairly weak. The Italian economy is characterised by a minor level of FDI flows when compared to the average EU level, particularly low for FDI inflows.

However, since 1996 FDI outflows grew substantially, from 9.000 billion lire to 19.000 in 1998, through 17.500 billion lire in 1997. At the end of 1998 the FDI outward stock was 273.000 billion lire and the FDI inward stock was 174.000 billion lire (Banca d'Italia, 1999). Nevertheless, the importance of FDI outflows in Italy, even if increasing, is still significantly low when compared with the Italian share of exports in the world economy. It is important to notice that the increasing FDI outflows level is accompanied by a declining level of exports.

The role of FDI flows in Italy can be highlighted by the following two tables. Table 1 represents total FDI inflows, as a percentage of GDP, in all the member states of European Union and for the EU as a whole. Table 2 represents total FDI outflows. In order to allow for comparison both the table contain data for the United States. In Table 1, total FDI outflows are displayed for the Japanese economy as well, in order to give a more complete idea of the FDI patterns in Europe. In both the tables, European countries are ranked by considering the average level of FDI flows between 1983 and 1997.

Table 1. FDI inflows: European countries ranked by the average level of FDI (GDP percentage)

	1983-85	1986-88	1989-91	1992-94	1995-97	Average
Belgium	1,15	1,07	3,67	4,63	3,98	3,02
Netherlands	0,57	1,21	3,36	2,47	2,37	2,02
Greece	1,04	1,09	1,25	1,75	3,87	1,87
United Kingdom	0,72	1,68	3,17	1,56	1,75	1,84
Spain	1,06	1,41	2,35	2,12	1,39	1,63
Sweden	0,30	0,54	0,91	1,57	3,82	1,60
Portugal	0,69	1,00	2,97	2,33	0,92	1,59
Ireland	0,94	0,32	0,36	2,26	1,51	1,15
France	0,34	0,44	1,18	1,31	1,38	0,98
Denmark	0,09	0,15	0,79	0,99	1,99	0,86
Finland	0,15	0,33	0,51	0,40	1,11	0,55
Austria	0,27	0,26	0,41	0,42	0,88	0,47
Italy	0,25	0,26	0,55	0,29	0,32	0,33
Germany	0,16	0,13	0,29	0,16	0,18	0,17
EU15	0,41	0,59	1,26	0,98	1,07	0,89
US	0,47	0,86	1,09	0,49	0,82	0,77

Source: OECD, IMF, different years. Own calculations.

Table 1 highlights that Belgium and the Netherlands were the country attracting the highest level of FDI flows between 1983 and 1997. However, in the last period considered in the table, Greece and Sweden emerged as important destination of FDI flows. On the contrary, Italy and Germany, over the all period, were the less involved economies in the process of production internationalisation through FDI. EU economy as a whole, since the period 1989-91, registers a level of FDI inflows as a percentage of GDP higher than the United States, suggesting the importance of FDI for the EU-economy.

The analysis of recent Eurostat data on FDI flows highlights the particular position of United Kingdom. This economy attracted a remarkable level of FDI flows between 1997 and 1998, passing from 23 billions of ecu to 49 billions of ecu in 1998, a level more than twice higher. The Netherlands and France emerge as well as important destination for FDI flows, that in 1998 where, respectively, 28 and 25 billions of ecu.

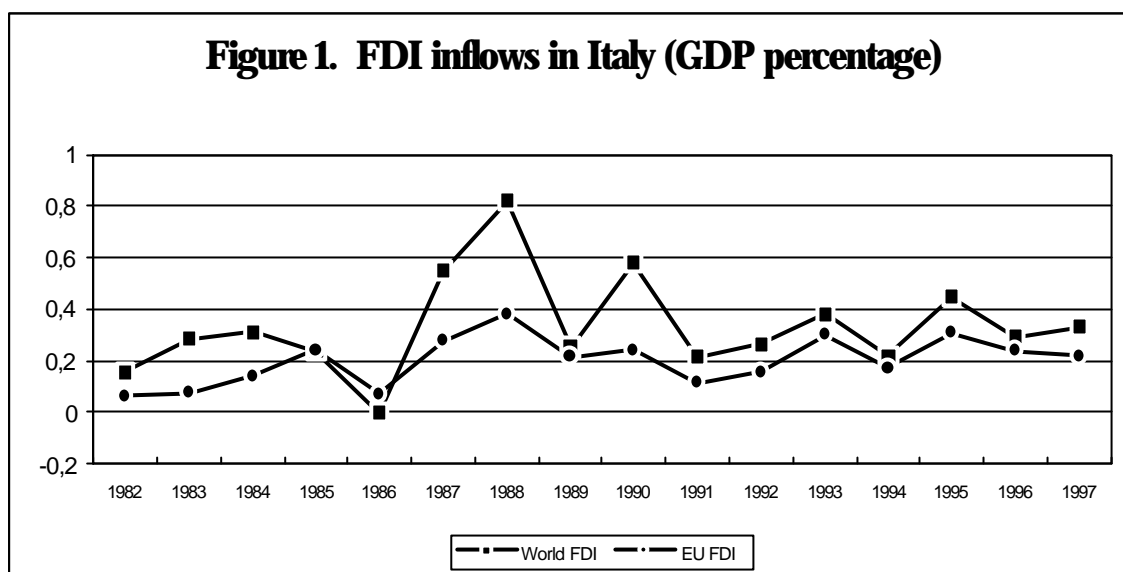
Table 2 FDI outflows: European countries ranked by the average level of FDI (GDP percentage)

	1983-85	1986-88	1989-91	1992-94	1995-97	Average
Netherlands	1,80	2,80	4,99	4,36	5,31	3,96
Sweden	1,45	2,57	5,30	1,28	3,36	2,93
United Kingdom	1,71	3,33	3,51	2,00	3,19	2,85
Belgium	0,23	1,14	2,97	3,17	2,49	2,04
Finland	0,48	1,04	2,42	0,29	2,82	1,55
France	0,44	0,71	2,30	1,99	1,61	1,48
Denmark	0,19	0,62	1,22	1,29	1,90	1,13
Germany	0,53	0,93	1,30	1,05	1,24	1,05
Spain	0,20	0,19	0,48	0,59	0,78	0,54
Italy	0,42	0,39	0,53	0,62	0,52	0,53
Austria	0,20	0,24	0,65	0,86	0,56	0,51
Portugal	0,05	0,01	0,19	0,50	0,57	0,36
Greece	NA	NA	NA	NA	NA	NA
Ireland	NA	NA	NA	NA	NA	NA
EU15	0,65	1,11	1,79	1,26	1,50	1,33
US	0,22	0,43	0,53	0,81	1,10	0,67
Japan	0,40	0,68	1,51	0,57	0,45	0,71

Source: OECD, IMF, different years. Own calculations. NA indicates not available data.

In the EU economy, FDI outflows are as important as FDI inflows. In particular, during the period 1983-1997, the Netherlands was the country investing abroad the highest level of FDI/GDP. Sweden and United Kingdom are, respectively, the second and the third investor abroad. The lowest level of FDI outflows came from Austria and Portugal. Following Rondi e Sembenelli (1998), the analysis of the top 100 EU owned companies over years 1987-1993, that is the IMP implementation period, further confirms the previously presented evidences. A general acceleration of multinational activity is found by the authors, that conclude that multinational activity became a particularly profitable way of serving foreign market as the completion of IMP proceeded. Moreover, it is shown that German, Belgian and Italian companies achieved the most pronounced increases in foreign penetration within the EU.

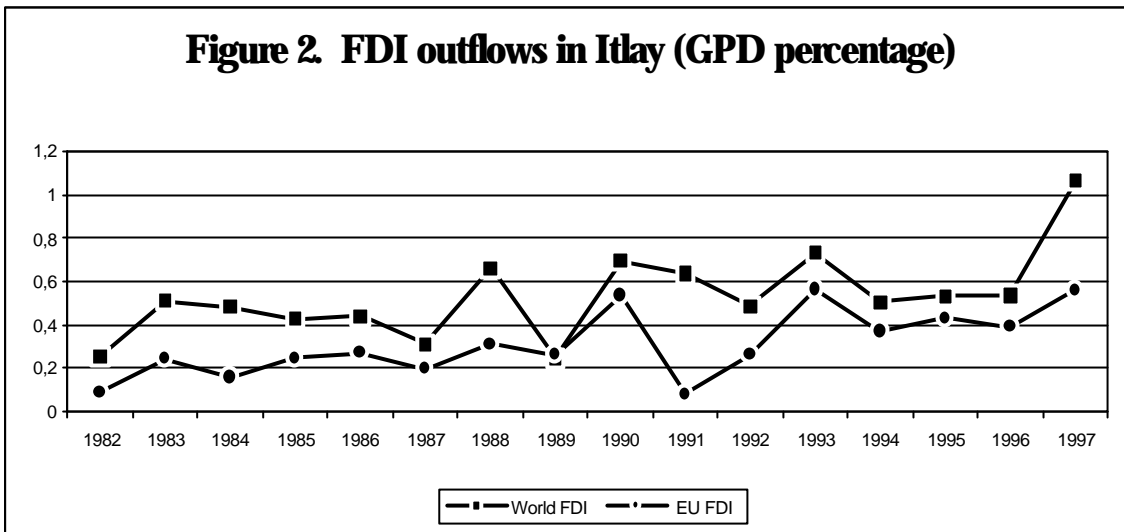
The pattern followed by FDI flows in the Italian economy over the years 1982-97, is further illustrated by the following two figures, where FDI values are computed, as above, as GDP percentage. Figure 1 represents FDI inflows pattern.



Source: OECD, IMF, different years. Own calculations

The analysis of FDI inflows highlights the single market expectation effect for the Italian economy. Between 1986 and 1988, FDI inflows in Italy grew consistently. During the 1990s, however, the interest of foreign investors for Italy has been decreasing. Since 1991 on, the level of FDI inflows, both in absolute term and as GDP percentage, has been around a half of the level reached between 1986 and 1990.

Figure 2 describes the pattern of FDI outflows of the Italian economy. The analysis of the data highlights that, since 1989, an increasing trend is observed in Italian FDI outflows. The increase in FDI outflows is mainly driven by extra-EU flows, in particular by FDI to Eastern Europe.



Source: OECD, IMF, different years. Own calculations.

The general analysis of FDI flows, however, only approximately describes the trends of internationalisation of production in the economy. The measures of FDI are based on the current account values and are then inadequate to give the exact measure of the degree of multinational's operations in the economy. Therefore, the position of Italy in regard to the presence of multinational firms in the production structure has to be further analysed by looking at a stock FDI variable. In order to address the issue of the Italian production structure internationalisation, we adopt a particular measure of FDI. We call such a measure "FDI consistence". The measure of FDI we use is an important point to be underlined, given the fact that the literature on FDI, in general, has often missed the true role played by multinational activity. Our estimates of the degree of industry multinationality in Italy provide an adequate measure of the importance of multinational enterprises in the production structure.

We measure the level of industry multinationality for each three-digit industry within the manufacturing sectors as the production² of multinational enterprises. A firm is considered to be part of a multinational enterprise when it represents plants located in

² Firm's production is measured as the value of sales of goods classified in the three digit industry produced by the various plants of the multinational firm. We assume that the effect of stock is negligible.

Italy and owned for more than 50 per cent by a foreign firm. This is the case of passive multinationality. Italian headquartered firms with plants located abroad are multinational enterprises and represent active multinationality. The data we use are estimated in collaboration with CERIS-CNR of Turin for the year 1993.

We refer to consistence of FDI in the sense that we are aiming at measuring the significance of the presence of multinationals in the economy. We define the degree of multinationality for each industry as the sum of the shares of output produced by multinational enterprises in each industry. However, for reasons of data availability, the index can be precisely calculated for only the industry five leading³ firms.

We calculated two different indices⁴ of industry multinationality for Italy, indicated as MNE and MNEITA in the paper. The first index refers to the consistence of foreign affiliates located in Italy. It is based on Italian production of foreign-owned firms and it represents Italian passive multinationality. The second index is estimated considering the production in Italy of Italian firms that went multinational and it represents Italian active multinationality. Before the exposition of the analysis of MNE and MNEITA indices, in the next two paragraph we concentrate in particular on evolution of Italian economy in term of passive and active multinationality.

3. The degree of industry passive multinationality in Italy

Passive multinationality indicates the presence of foreign owned plants in the economy. The presence in Italy of subsidiaries of multinational enterprises represents then a case of passive multinationality. This concept corresponds to the index indicated as MNE. The index MNE, however, is based only on firm's sales and it does not refer on the number of firms.

Following the taxonomy of Pavitt (1984)⁵, the evolution of FDI in Italy can be analysed at the sectoral level. In this sense, one dimension of analysis is the number of domestic firms involved in the process of internationalisation. We considers firms

³ We define a firm as 'leading' in an industry if it is one of the five largest Italian producer in that industry.

⁴ See Segre (2000b) for the precise definition of the indices.

⁵ See Cominotti and Mariotti (1997) for the precise definition of the composition of the four Pavitt sectors followed in the present study.

operating in the manufacturing and mining sectors. This analysis highlights that, between 1985 and 1995, the pattern of FDI by industry in Italy has not greatly changed. The major change was the shift of part of inward FDI from science-based sector to scale intensive sector. This situation is summarised by the following table, where the number of firms located in Italy and controlled by foreign firms and their level of sales are shown.

Table 3. Evolution of the number and sales* of foreign affiliates in Italy

	1985		1993		1995		1998	
	N.	%	N.	%	N.	%	N.	%
Traditional sectors	109	9.8	137	10.2	144	10.4	152	9.9
Scale intensive sectors	510	45.7	639	47.4	663	48.1	763	49.8
Specialised sectors	213	19.1	266	19.7	267	19.4	306	20.0
Science-based sectors	283	25.4	306	22.7	304	22.1	311	20.3
<i>Total</i>	<i>1115</i>	<i>100</i>	<i>1348</i>	<i>100</i>	<i>1378</i>	<i>100</i>	<i>1532</i>	<i>100</i>
	Sales	%	Sales	%	Sales	%	Sales	%
Traditional sectors	NA	NA	7635	5.4	10713	6.3	11522	5.3
Scale intensive sectors	NA	NA	72029	50.9	84807	49.9	117075	53.9
Specialised sectors	NA	NA	15825	11.2	23717	14.0	31947	14.7
Science-based sectors	NA	NA	45956	32.5	50588	29.8	56620	26.1
<i>Total</i>	<i>NA</i>		<i>141445</i>	<i>100</i>	<i>169825</i>	<i>100</i>	<i>217165</i>	<i>100</i>

* Billions of Italian lire. NA indicates not available data.

Source: Cominotti and Mariotti, different years.

When we concentrate on passive multinationality in Italy in 1993, a medium level of concentration is observable. Over the 868 multinational firms with foreign affiliates in Italy, 227 belongs to the list of the biggest 450 multinationals in the world. According to Mariotti (1995), in 1993 the degree of passive multinationality is estimated to be at the level of 16 per cent, a level close to that of other big European countries and bigger than the level in the United States.

4. The degree of industry active multinationality in Italy

Active multinationality refers to the presence of Italian firms that went multinational. This concept is, however, different from the index indicated as MNEITA. The index MNEITA measures active multinationality referring to the weight of Italian firms involved in the process of internationalisation of production. It considers, then, the sales of Italian multinational firms in Italy and not the sales of foreign affiliates of Italian firms, as in the following table.

Table 4. Evolution of the number and sales* of foreign affiliates of Italian firms

	1985		1993		1995		1998	
	N.	%	N.	%	N.	%	N.	%
Traditional sectors	99	17.5	309	25.7	389	27.8	436	28.5
Scale intensive sectors	319	56.5	631	52.5	717	51.2	720	47.0
Specialised sectors	72	12.7	146	12.1	169	12.0	241	15.7
Science-based sectors	75	13.3	116	9.7	126	9.0	134	8.8
<i>Total</i>	<i>565</i>	<i>100</i>	<i>1202</i>	<i>100</i>	<i>1401</i>	<i>100</i>	<i>1531</i>	<i>100</i>
	Sales	%	Sales	%	Sales	%	Sales	%
Traditional sectors	NA	NA	12386	12.5	16146	14.8	20395	13.7
Scale intensive sectors	NA	NA	72616	76.3	77810	71.2	105533	70.7
Specialised sectors	NA	NA	7915	8.0	9748	8.9	16412	11.0
Science-based sectors	NA	NA	5787	5.9	5538	5.1	6965	4.7
<i>Total</i>	<i>NA</i>		<i>98704</i>	<i>100</i>	<i>109242</i>	<i>100</i>	<i>149305</i>	<i>100</i>

* Billions of Italian lire. NA indicates not available data.

Source: Cominotti and Mariotti, different years.

The analysis of Table 4 reveals a declining trend in sales and number of foreign affiliates in scale intensive sectors and science-based sectors. On the contrary, between 1995 and 1998 the number of firms and their sales increased in specialised sectors. In traditional sectors the number of foreign affiliates continuously increased between 1985 and 1998, but sales of the sector between 1995 and 1998 declined as percentage of total sales. This should reflect the increasing number of small firms involved in the process of internationalisation of production in Italy. This situation describes the peculiar

situation of industrial structure of Italian economy, particularly weak in hi-tech industries and developed in specialised activities. Given the general importance of internationalisation of production in science-based sectors, the declining trend in Italy indicates a growing difference between Italian economy and the pattern in the rest of developed countries.

In 1993 the number of Italian multinationals was estimated to be of 445 (Cominotti and Mariotti, 1994). Small multinational firms are 73 per cent of total, but such firms contribute only little to the consistence of FDI in foreign countries. Small Italian multinationals controlled 31 per cent of Italian foreign affiliates and contributed only for 5 per cent to the level of sales of the foreign affiliates. The 16 biggest Italian multinational firms represents over 43 per cent of total Italian foreign affiliates, contributing to 76 per cent of foreign affiliates' sales. According to Mariotti (1995), however, in 1993 the degree of active multinationality is estimated to be at the level of 18,5 per cent. Contrary to the situation for passive multinationality, this level is notably lower than the level characterising the other developed economies, a part for the Japanese case.

5. Consistence of FDI in Italy

The FDI consistence variable for Italy, computed following the methodology described in Segre (2000b), is wholly illustrated in the following table.

In Table 5, three-digit industry level data are displayed for Italian manufacturing sector. The degree of industry multinationality is expressed by referring at the computed indices MNE and MNEITA. Data refer to year 1993.

Table 5. FDI consistence in Italy in 1993, by industry

Nace	MNE	MNEITA	TOTMNE	Industry definitions
1510	0,09	0,10	0,20	Production, processing and preserving of meat and meat products
1520	0,59	0,11	0,70	Processing and preserving of fish and fish products
1530	0,38	0,42	0,80	Processing and preserving of fruit and vegetables
1540	0,23	0,58	0,81	Manufacture of vegetable and animal oils and fats
1550	0,80	0,20	1,00	Manufacture of dairy products
1560	0,28	0,47	0,75	Manufacture of grain mill products, starches and starch products
1570	0,15	0,00	0,15	Manufacture of prepared animal feeds

1580	0,17	0,77	0,95	Manufacture of other food products
1590	0,61	0,00	0,61	Manufacture of beverages
1600	0,38	0,00	0,38	Manufacture of tobacco products
1711	0,20	0,27	0,48	Preparation and spinning of textile fibres and textile weaving
1730	0,00	0,90	0,90	Finishing of textiles
1740	0,00	0,46	0,46	Manufacture of made-up textile articles, except apparel
1750	0,00	0,22	0,22	Manufacture of other textiles
1761	0,13	0,60	0,73	Manufacture of knitted and crocheted fabrics and articles
1811	0,00	0,44	0,44	Manufacture of leather clothes and of other wearing apparel and accessories
1830	NA	NA	NA	Dressing and dyeing of fur; manufacture of articles of fur
1910	0,00	0,00	0,00	Tanning and dressing of leather
1920	0,42	0,00	0,42	Manufacture of luggage, handbags and the like, saddlery and harness
1930	0,00	0,46	0,46	Manufacture of footwear
2010	0,00	0,00	0,00	Sawmilling and planing of wood, impregnation of wood
2020	0,00	0,13	0,13	Manufacture of veneer sheets, and of plywood, particle and fibre board
2030	0,00	0,00	0,00	Manufacture of builders' carpentry and joinery
2040	0,00	0,00	0,00	Manufacture of wooden containers
2050	0,00	0,00	0,00	Manufacture of other wood prod, of cork art, straw and plaiting materials
2110	0,10	0,12	0,21	Manufacture of pulp, paper and paperboard
2120	0,49	0,00	0,49	Manufacture of articles of paper and paperboard
2210	0,00	0,58	0,58	Publishing
2220	0,13	0,00	0,13	Printing and service activities related to printing
2231	0,44	0,37	0,81	Recorded media and manuf. of television and radio receivers, sound or video recording
2320	0,06	0,56	0,62	Manufacture of refined petroleum products
2410	0,07	0,86	0,94	Manufacture of basic chemicals
2420	0,62	0,23	0,84	Manufacture of pesticides and other agro-chemical products
2430	0,87	0,00	0,87	Manufacture of paints, varnishes, similar coatings, printing ink and mastics
2440	0,63	0,00	0,63	Manufacture of pharmaceuticals, medicinal chemicals and botanical products
2450	1,00	0,00	1,00	Manufacture of soap, detergents, cleaning and polishing prod., perfumes
2460	0,47	0,44	0,91	Manufacture of other chemical products
2470	0,00	0,85	0,85	Manufacture of man-made fibres
2510	0,55	0,38	0,93	Manufacture of rubber products
2520	0,00	1,00	1,00	Manufacture of plastic products
2610	0,59	0,22	0,81	Manufacture of glass and glass products
2621	0,40	0,24	0,64	Manufacture of non-refractory ceramic goods and refract. ceramic prod.
2640	0,00	0,00	0,31	Manufacture of bricks, tiles and construction prod., in baked clay
2650	0,08	0,47	0,55	Manufacture of cement, lime and plaster
2660	0,00	0,57	0,57	Manufacture of articles of concrete, plaster and cement
2670	0,00	0,00	0,00	Cutting, shaping and finishing of stone
2680	0,53	0,00	0,53	Manufacture of other non-metallic mineral products
2710	0,00	0,89	0,89	Manufacture of basic iron and steel and of ferro-alloys
2720	0,04	0,55	0,59	Manufacture of tubes
2730	0,00	0,73	0,73	Other first processing of iron and steel
2740	0,00	0,17	0,17	Manufacture of basic precious and non-ferrous metals
2750	0,08	0,67	0,75	Casting of metals
2810	0,19	0,47	0,66	Manufacture of structural metal products
2820	0,20	0,22	0,41	Manufacture of tanks, metal reservoirs, container central heating radiators and boilers
2830	0,18	0,69	0,87	Manufacture of steam generators, except central heating hot water boilers
2840	0,00	0,38	0,38	Forging, pressing, stamping and roll forming of metal; powder metallurgy
2850	0,21	0,62	0,83	Treatment and coating of metals; general mechanical engineering
2861	0,27	0,35	0,51	Manufacture of cutlery and general hardware, of metal products, of weapons
2910	0,32	0,68	1,00	Manufacture of machinery for the production and use of mechanical power
2920	0,39	0,20	0,59	Manufacture of other general purpose machinery

2930	0,00	0,52	0,52	Manufacture of agricultural and forestry machinery
2940	0,26	0,68	0,94	Manufacture of machine - tools
2950	0,00	0,85	0,85	Manufacture of other special purpose machinery
2970	0,52	0,34	0,86	Manufacture of domestic appliances n.e.c.
3000	0,69	0,31	1,00	Manufacture of office machinery and computers
3111	0,46	0,44	0,90	Manufacture of electrical equipment
3150	0,88	0,00	0,88	Manufacture of lighting equipment and electric lamps
3211	0,47	0,48	0,95	Manuf. of electronic components, television and radio transmitters, telephony line
3310	0,47	0,53	1,00	Manufacture of medical and surgical equipment and orthopaedic appliances
3321	0,27	0,56	0,83	Manufacture of instruments for measuring and of industrial process control equipment
3340	0,09	0,09	0,18	Manufacture of optical instruments and photographic equipment
3350	0,21	0,23	0,44	Manufacture of watches and clocks
3410	0,00	0,93	0,94	Manufacture of motor vehicles
3420	0,00	0,13	0,13	Manufacture of bodies for motor vehicle, and of trailers and semi-trailers
3430	0,19	0,81	1,00	Manufacture of parts and accessories for motor vehicles and their engines
3510	0,00	0,67	0,67	Building and repairing of ships and boats
3520	0,06	0,56	0,63	Manufacture of railway and tramway locomotive and rolling stock
3530	0,00	0,77	0,77	Manufacture of aircraft and spacecraft
3540	0,16	0,67	0,83	Manufacture of motorcycles and bicycles
3550	NA	NA	NA	Manufacture of other transport equipment n.e.c.
3610	0,00	0,36	0,36	Manufacture of furniture
3620	0,00	0,00	0,00	Manufacture of jewellery and related articles
3630	0,27	0,00	0,27	Manufacture of musical instruments
3641	0,39	0,11	0,49	Manufacture of sports goods
3660	0,19	0,00	0,19	Miscellaneous manufacturing n.e.c.

Source: Own calculations from unpublished CERIS data.

Table 5 shows that the industry with the highest degree of passive multinationality –represented here by MNE variable - is the manufacture of soap, detergents, perfumes, and cleaning and polishing products, where firms as Procter and Gamble – in Italy the leader of this sector in 1993 – Unilever, Henkel, L’Oreal, and Benckiser are present. Manufacture of lighting equipment and electric lamps and manufacture of paints, varnishes, printing ink and mastics are, respectively, the second and the third industry in terms of degree of passive multinationality. In the former industry, are present Siemens, Philips, General Electric, and Asea Brown Boveri. In the latter, PPG, Basf, Akzo, and Total are the most important multinational firms operating in the industry.

On the side of active multinationality – represented here by the MNEITA index - Table 5 highlights that manufacture of plastic products, manufacture of motor vehicles and finishing of textiles, have the highest degrees. In the manufacture of plastic products all the top five firms – Manuli, Eni, IAO, Vibac, and Olivetti – are multinationals. In the manufacture of motor vehicles the presence of Fiat represents the main contribution to the high degree of multinationality. In the finishing of textiles industry, among the top five firms, Gruppo Tessile Miroglio, Edizione Holding,

Vincenzo Zucchi and Legler Industria Tessile have foreign subsidiaries. For all these industries, as well as for many other industries where the degree of active multinationality is high, the degree of passive multinationality is very low.

Industries with Nace codes 1910, 2010, 2030, 2040, 2050, 2640, 2670, 3620 are industries where both passive and active multinationality is zero. In all these industries the presence of either zero or very low degree of multinationality is confirmed also at the European level by the study of Davies and Lyons (1996, Table A2.1, pp. 258-260).

The data reported in Table 6 are obtained by calculating, from the data presented in Table 5, the percentage distribution of sectors multinationality's degree following the same Pavitt taxonomy used for Table 3 and Table 4, in order to allow from comparison between the two measure of multinationality. In Table 6 active multinationality is measured as the consistence of FDI referring to Italian firms involved in the process of production internationalisation. The comparison between the percentages obtained from the variable referring to the number of firm involved in passive and active multinationality presented in Table 3 and in Table 4 and the percentages obtained from the computation of MNE and MNEITA indices show that there is not a significant different between the two measures. The main difference between our calculations and Cominotti and Mariotti's data seems to refer to the importance of foreign affiliates in traditional sectors. MNE index in traditional sectors, however, is a value comprised between the number of firms and the level of sales. This reflects the fact that MNE index measure FDI consistence relative to the importance of national firm in each industry.

Table 6. Passive and active multinationality in Italy in 1993

	MNE	MNEITA
	%	%
Traditional sectors	18,6	20,9
Scale intensive sectors	45,9	54,9
Specialised sectors	6,3	14,5
Science-based sectors	29,2	9,7
<i>Total</i>	<i>100</i>	<i>100</i>

Source: own calculations from unpublished CERIS data.

Table 6 highlights the different distribution between the presence of active and passive multinationality in Italy. The main characteristic of Italian manufacturing sector concern the low level of Italian multinational enterprises in science based sectors, where, on the contrary, passive multinationality is largely higher. In specialised sectors, however, the importance of Italian firms involved in the process of production internationalisation is higher than the degree of passive multinationality. This situation reflects the peculiar situation of Italian production, highly developed in specialised sectors and weak in hi-tech sectors.

In order to further describe the phenomenon of FDI in Italy, we present the results of a simple quantitative analysis on passive and active multinationality in Italian economy. Including in the analysis some trade variables, computed by industry, we estimated a simple equation with OLS estimator. The trade variables considered are exports from Italy to European country – EXPINTRA variable - and to non-European country – EXPEXTRA variable- and the sum of export and import for European and non-European values – TRADEI and TRADEE variables, respectively.

The coefficients estimated for MNE index indicate that industries with higher degree of passive multinationality are characterised by higher level of export towards European member states, lower level of export towards non-European countries. A dummy variable for science-based sectors (DSBS) is significant and positive, indicating a higher degree of passive multinationality in such sectors. The estimated coefficient are presented below, with t-statistics in brackets.

$$MNE = 0.163 + 0.454 EXPINTRA - 0.509 EXPEXTRA + 0.361 DSBS$$

(3.41) (2.00) (-2.27) (4.90)

R-squared: 0.266

The same experiment is done for the MNEITA index in order to investigate active multinationality in Italy. Estimated coefficients for MNEITA are presented below, as above with t-statistics in brackets.

$$MNEITA = 0.217 + 0.362 \text{ TRADEI} - 0.465 \text{ TRADEE} + 0.149 \text{ DSCIS} + 0.384 \text{ DSPS}$$

$$(3.28) \quad (2.32) \quad (-2.46) \quad (2.22) \quad (3.46)$$

R-squared: 0.240

The degree of active multinationality is higher in sectors more open towards European member states and less open towards non-European countries. The sum of export and import gives the best indication for the characteristic of Italian active multinationality. Italian firms that goes multinational are firms producing in sectors more linked with the rest of EU economies through trade. Two dummies variables are significant and positive - the first for scale-intensive sectors (DSCIS), the second for specialised sectors (DSPS) – indicating a higher degree of active multinationality in such sectors.

6. The geographic dimension of industry passive and active multinationality

The analysis of Italian industry's passive multinationality can be further developed following the geographic dimension. The analysis shows that foreign affiliates with parent company located in EU countries have a level of FDI consistence higher than affiliates with parent company located in non-EU countries. Table 7 represents FDI consistence for passive multinationality in Italy, distinguished by country of origin of the parent companies, for year 1993. Index MNEEU indicates the consistence of FDI coming from countries of the European Union, for each manufacturing industry. Index MNENEU indicates the consistence of FDI coming from extra-European countries, for each manufacturing industry.

Table 7. FDI consistence for passive multinationality in Italy in 1993, by industry

Nace	MNEEU	MNENEU	Industry definitions
1510	0,00	0,10	Production, processing and preserving of meat and meat products
1520	0,59	0,00	Processing and preserving of fish and fish products
1530	0,23	0,15	Processing and preserving of fruit and vegetables
1540	0,12	0,11	Manufacture of vegetable and animal oils and fats
1550	0,48	0,31	Manufacture of dairy products

1560	0,28	0,00	Manufacture of grain mill products, starches and starch products
1570	0,00	0,09	Manufacture of prepared animal feeds
1580	0,00	0,17	Manufacture of other food products
1590	0,31	0,34	Manufacture of beverages
1600	0,00	0,22	Manufacture of tobacco products
1711	0,00	0,20	Preparation and spinning of textile fibres and textile weaving
1730	0,00	0,00	Finishing of textiles
1740	0,00	0,00	Manufacture of made-up textile articles, except apparel
1750	0,00	0,00	Manufacture of other textiles
1761	0,00	0,13	Manufacture of knitted and crocheted fabrics and articles
1811	0,00	0,00	Manufacture of leather clothes and of other wearing apparel and accessories
1830	NA	NA	Dressing and dyeing of fur; manufacture of articles of fur
1910	0,00	0,00	Tanning and dressing of leather
1920	0,00	0,42	Manufacture of luggage, handbags and the like, saddlery and harness
1930	0,00	0,00	Manufacture of footwear
2010	0,00	0,00	Sawmilling and planing of wood, impregnation of wood
2020	0,00	0,00	Manufacture of veneer sheets, and of plywood, particle and fibre board
2030	0,00	0,00	Manufacture of builders' carpentry and joinery
2040	0,00	0,00	Manufacture of wooden containers
2050	0,00	0,00	Manufacture of other wood prod, of cork art, straw and plaiting materials
2110	0,10	0,00	Manufacture of pulp, paper and paperboard
2120	0,15	0,33	Manufacture of articles of paper and paperboard
2210	0,00	0,00	Publishing
2220	0,13	0,00	Printing and service activities related to printing
2231	0,44	0,00	Recorded media and manuf. of television and radio receivers, sound or video recording
2320	0,00	0,06	Manufacture of refined petroleum products
2410	0,07	0,00	Manufacture of basic chemicals
2420	0,62	0,00	Manufacture of pesticides and other agro-chemical products
2430	0,57	0,28	Manufacture of paints, varnishes, similar coatings, printing ink and mastics
2440	0,48	0,15	Manufacture of pharmaceuticals, medicinal chemicals and botanical products
2450	0,71	0,29	Manufacture of soap, detergents, cleaning and polishing prod., perfumes
2460	0,00	0,47	Manufacture of other chemical products
2470	0,00	0,00	Manufacture of man-made fibres
2510	0,46	0,10	Manufacture of rubber products
2520	0,00	0,00	Manufacture of plastic products
2610	0,51	0,08	Manufacture of glass and glass products
2621	0,23	0,19	Manufacture of non-refractory ceramic goods and refract. ceramic prod.
2640	0,31	0,00	Manufacture of bricks, tiles and construction prod., in baked clay
2650	0,00	0,08	Manufacture of cement, lime and plaster
2660	0,00	0,00	Manufacture of articles of concrete, plaster and cement
2670	0,00	0,00	Cutting, shaping and finishing of stone
2680	0,53	0,00	Manufacture of other non-metallic mineral products
2710	0,00	0,00	Manufacture of basic iron and steel and of ferro-alloys
2720	0,04	0,00	Manufacture of tubes
2730	0,00	0,00	Other first processing of iron and steel
2740	0,00	0,00	Manufacture of basic precious and non-ferrous metals
2750	0,08	0,00	Casting of metals
2810	0,19	0,00	Manufacture of structural metal products
2820	0,00	0,20	Manufacture of tanks, metal reservoirs, container central heating radiators and boilers
2830	0,08	0,10	Manufacture of steam generators, except central heating hot water boilers
2840	0,00	0,00	Forging, pressing, stamping and roll forming of metal; powder metallurgy
2850	0,21	0,00	Treatment and coating of metals; general mechanical engineering
2861	0,32	0,09	Manufacture of cutlery and general hardware, of metal products, of weapons

2910	0,24	0,09	Manufacture of machinery for the production and use of mechanical power
2920	0,15	0,24	Manufacture of other general purpose machinery
2930	0,00	0,00	Manufacture of agricultural and forestry machinery
2940	0,13	0,13	Manufacture of machine - tools
2950	0,00	0,00	Manufacture of other special purpose machinery
2970	0,32	0,21	Manufacture of domestic appliances n.e.c.
3000	0,11	0,58	Manufacture of office machinery and computers
3111	0,45	0,01	Manufacture of electrical equipment
3150	0,77	0,12	Manufacture of lighting equipment and electric lamps
3211	0,40	0,06	Manuf. of electronic components, television and radio transmitters, telephony line
3310	0,19	0,13	Manufacture of medical and surgical equipment and orthopaedic appliances
3321	0,21	0,05	Manufacture of instruments for measuring and of industrial process control equipment
3340	0,09	0,00	Manufacture of optical instruments and photographic equipment
3350	0,12	0,09	Manufacture of watches and clocks
3410	0,00	0,00	Manufacture of motor vehicles
3420	0,00	0,00	Manufacture of bodies for motor vehicle, and of trailers and semi-trailers
3430	0,00	0,19	Manufacture of parts and accessories for motor vehicles and their engines
3510	0,00	0,00	Building and repairing of ships and boats
3520	0,06	0,00	Manufacture of railway and tramway locomotive and rolling stock
3530	0,00	0,00	Manufacture of aircraft and spacecraft
3540	0,00	0,16	Manufacture of motorcycles and bicycles
3550	NA	NA	Manufacture of other transport equipment n.e.c.
3610	0,00	0,00	Manufacture of furniture
3620	0,00	0,00	Manufacture of jewellery and related articles
3630	0,00	0,27	Manufacture of musical instruments
3641	0,00	0,39	Manufacture of sports goods
3660	0,19	0,19	Miscellaneous manufacturing n.e.c.
<i>Average</i>	<i>0.14</i>	<i>0.09</i>	

Source: Own calculations from unpublished CERIS data.

The analysis of the geographic dimension of Italian industry's active multinationality is less clear than the analysis of Italian passive multinationality. It is impossible to distinguish between EU and non-EU Italian multinationals, given the fact that foreign affiliates of the same Italian parent company are located both in EU and non-EU countries. There are few exceptions. Three industry (1740, 2820, 3420) are characterised by Italian multinational firms with foreign affiliates only in European countries. Two are the industries where Italian multinationals control foreign affiliates located exclusively in non-European countries (2020, 1510).

7. Conclusion

In this descriptive paper we concentrate on the analysis of phenomenon of FDI in the Italian economy. The analysis of recent trends of FDI flows in Italy highlights the particularly weak position of Italian economy. Italy is characterised by a minor level of FDI flows when compared to the average EU level, particularly low for FDI inflows. However, since 1996 FDI outflows grew substantially.

The analysis of FDI in Italy has been further developed by considering FDI in the Italian manufacturing sector, concentrating, in particular, on the degree of industry passive and active multinationality. In order to properly analyse the importance of production internationalisation, we computed two indices of industry multinationality for Italy based on multinationals' production. The first index refers to the variable labeled in the paper "consistence" of foreign affiliates located in Italy and it is computed from data of Italian production of foreign-owned firms. It, therefore, represents Italian passive multinationality. The second index is estimated considering the production in Italy of Italian firms that went multinational and it represents Italian active multinationality.

The comparison between the degree of industry passive and active multinationality highlights the low level of Italian multinational enterprises in science based sectors, where, on the contrary, passive multinationality is remarkable. In specialised sectors, however, the importance of Italian firms involved in the process of production internationalisation is higher than the degree of passive multinationality. This situation reflects the peculiar situation of Italian production, fairly developed in specialised sectors and weak in hi-tech sectors.

Bibliografia

- Alzona G. and Rondi L. (1993) La localizzazione degli investimenti diretti italiani nella CEE nella prospettiva del mercato unico. *L'Industria* XIV71, 13-34
- Balcet G. (1997) *L'economia italiana: evoluzione, problemi e paradossi*. Milano: Feltrinelli.
- Balcet G. and Enrietti A. (1998) Global and Regional Strategies in the European Car Industry: the Case of Italian Direct Investments in Poland. In J. Mucchielli, P. J. Buckley, and V. V. Cordell (eds.), *Globalization and Regionalization: Strategies, Policies, and Economic Environments* (pp.197-230). New York: International Business Press.
- Banca d'Italia (1999) Assemblea generale ordinaria dei partecipanti. *Considerazioni finali* anno 1998.
- Barrell R. and Pain N. (1997) The Growth of Foreign Direct Investment in Europe. *National Institute Economic Review* 160/2, 63-75.
- Buigues P. and Jacquemin A. (1994) Foreign Investment and Exports to the European Community. In M. Mason and D. Encarnation (eds.). *Does Ownership Matters*. Oxford: Clarendon Press.
- Buigues P. and Jacquemin A. (1989) Strategies of Firms and Structural Environments in the Large Internal Market. *Journal of Common Market Studies* XXVIII/1, 53-67.
- Cantwell J. (1987) The Reorganization of European Industries After Integration: Selected Evidence on the Role of Multinational Enterprise Activities. *Journal of Common Market Studies* XXVI/2, 127-51.
- Casson M. (1990) *Multinational Corporations*. Aldershot: Edward Elgar.
- Caves R. E. (1982) *Multinational Enterprise and Economic Analysis*. Cambridge: Cambridge University Press.
- Clegg J. (1996) US Foreign Direct Investment in the EU - The Effects of Market Integration in Perspective. In F. Burton, M. Yamin and S. Young (eds.), *International Business and Europe in Transition*. New York: St. Martin Press.
- Colitti M. (1996) La globalizzazione dell'impresa e gli investimenti all'estero. Mimeo.
- Cominotti R. and Mariotti S. (1990) (eds.) *Italia multinazionale 1990*. Milano: FrancoAngeli.
- Cominotti R. and Mariotti S. (1994) (eds.) *Italia multinazionale 1994*. Milano: Etaslibri.

- Cominotti R. and Mariotti S. (1997) (eds.) *Italia multinazionale 1996*. Milano: FrancoAngeli.
- Davies S. Rondi L. and Sembenelli A. (1998) S.E.M. and the changing structure of EU manufacturing, 1987-1993. Ceris-CNR Working Paper 5.
- Davies S. and Lyons B. (1996) *Industrial organisation in the European Union: structure, strategy, and the competitive mechanism*. Oxford: Clarendon Press.
- Dunning J. H. (1995) The Role of Foreign Direct Investment in a Globalizing Economy. *Banca Nazionale del Lavoro Quarterly Review* XLVIII/193.
- Dunning J. H. (1997a) The European Internal Market Programme and Inbound Foreign Direct Investment. Part I. *Journal of Common Market Studies* 35/1, 1-30.
- Dunning J. H. (1997b) The European Internal Market Programme and Inbound Foreign Direct Investment. Part II. *Journal of Common Market Studies* 35/2, 189-223.
- Guerrieri P. and Milana C. (1990) (eds) *L'Italia e il commercio mondiale*. Bologna: il Mulino.
- Mariotti S. (1995) Le nuove frontiere dell'Italia multinazionale. *L'Impresa* 2, 52-62.
- Mori A. and Rolli V. (1998) Investimenti diretti all'estero e commercio: complementi o sostituti? *Temì di discussione Banca d'Italia* 337.
- OECD (1992) *International Direct Investment. Policies and Trends in the 1980s*. Paris: OECD.
- OECD (1993) *International Direct Investment Statistical Yearbook 1993*. Paris: OECD.
- OECD (1996) *Globalisation of industry: Overview and Sector Reports*. Paris: OECD
- OECD (1998) *International Direct Investment Statistical Yearbook 1998*. Paris: OECD.
- Padoan P. C. (1996) *Dal Mercato Interno alla crisi dello SME*. Roma: La Nuova Italia Scientifica.
- Pavitt K. (1984) Sectoral patterns of technical change: towards a taxonomy and a theory. *Research Policy* 13.
- Rondi L. e Sembenelli A. (1998) Integrazione nell'Unione Europea: commercio internazionale e attività multinazionale. *Economia e Politica Industriale* 97.
- Sanna-Randaccio F. (1996) New protectionism and multinational companies. *Journal of International Economics* 41, 29-51.

- Sanna-Randaccio F. (1999) The impact of foreign direct investment on the home and host countries with endogenous R&D. Mimeo.
- Segre G. (2000a) Business cycles correlation in the European Union: does trade affects production fluctuations? Quaderni di Ricerca Dipartimento di Economia S. Cognetti de Martiis.
- Segre G. (2000b) Foreign Direct Investment and Trade: are they complementary or substitute in Business Cycles Fluctuations? CERIS Workin paper N. 7.
- UNCTAD (1996) World Investment Report 1996: Investment. Trade and International Policy arrangements. New York: United Nations.
- UNCTAD (1999) World Investment Report 1996: Foreign Direct Investment and the Challenge of Development. New York: United Nations.
- UNCTC (1993) From the Common Market to EC 92: Regional Economic Integration in the European Community and Transnational Corporations. New York: United Nations.

WORKING PAPER SERIES (2000-1993)

2000

- 1/00 *Trasferimento tecnologico: analisi spaziale*, by Mario Coccia, March
- 2/00 *Poli produttivi e sviluppo locale: una indagine sulle tecnologie alimentari nel mezzogiorno*, by Francesco G. Leone, March
- 3/00 *La mission del top management di aziende sanitarie*, by Gian Franco Corio, March
- 4/00 *La percezione dei fattori di qualità in Istituti di ricerca: una prima elaborazione del caso Piemonte*, by Gian Franco Corio, March
- 5/00 *Una metodologia per misurare la performance endogena nelle strutture di R&S*, by Mario Coccia, April
- 6/00 *Soddisfazione, coinvolgimento lavorativo e performance della ricerca*, by Mario Coccia, May
- 7/00 *Foreign Direct Investment and Trade in the EU: Are They Complementary or Substitute in Business Cycles Fluctuations?*, by Giovanna Segre, April
- 8/00 *L'attesa della privatizzazione: una minaccia credibile per il manager?*, by Giovanni Fraquelli, May
- 9/00 *Gli effetti occupazionali dell'innovazione. Verifica su un campione di imprese manifatturiere italiane*, by Marina Di Giacomo, May
- 10/00 *Investment, Cash Flow and Managerial Discretion in State-owned Firms. Evidence Across Soft and Hard Budget Constraints*, by Elisabetta Bertero and Laura Rondi, June
- 11/00 *Effetti delle fusioni e acquisizioni: una rassegna critica dell'evidenza empirica*, by Luigi Benfratello, June
- 12/00 *Identità e immagine organizzativa negli Istituti CNR del Piemonte*, by Paolo Enria, August
- 13/00 *Multinational Firms in Italy: Trends in the Manufacturing Sector*, by Giovanna Segre, September
- 14/00 *Italian Corporate Governance, Investment, and Finance*, by Robert E. Carpenter and Laura Rondi, October
- 15/00 *Multinational Strategies and Outward-Processing Trade between Italy and the CEECs: The Case of Textile-Clothing*, by Giovanni Balcet and Giampaolo Vitali, December
- 16/00 *The Public Transit Systems in Italy: A Critical Analysis of the Regulatory Framework*, by Massimiliano Piacenza, December

1999

- 1/99 *La valutazione delle politiche locali per l'innovazione: il caso dei Centri Servizi in Italia*, by Monica Cariola and Secondo Rolfo, January
- 2/99 *Trasferimento tecnologico ed autofinanziamento: il caso degli Istituti Cnr in Piemonte*, by Mario Coccia, March
- 3/99 *Empirical studies of vertical integration: the transaction cost orthodoxy*, by Davide Vannoni, March
- 4/99 *Developing innovation in small-medium suppliers: evidence from the Italian car industry*, by Giuseppe Calabrese, April
- 5/99 *Privatization in Italy: an analysis of factors productivity and technical efficiency*, by Giovanni Fraquelli and Fabrizio Erbetta, March
- 6/99 *New Technology Based-Firms in Italia: analisi di un campione di imprese triestine*, by Anna Maria Gimigliano, April
- 7/99 *Trasferimento tacito della conoscenza: gli Istituti CNR dell'Area di Ricerca di Torino*, by Mario Coccia, May
- 8/99 *Struttura ed evoluzione di un distretto industriale piemontese: la produzione di casalinghi nel Cusio*, by Alessandra Ressico, June
- 9/99 *Analisi sistemica della performance nelle strutture di ricerca*, by Mario Coccia, September
- 10/99 *The entry mode choice of EU leading companies (1987-1997)*, by Giampaolo Vitali, November
- 11/99 *Esperimenti di trasferimento tecnologico alle piccole e medie imprese nella Regione Piemonte*, by Mario Coccia, November
- 12/99 *A mathematical model for performance evaluation in the R&D laboratories: theory and application in Italy*, by Mario Coccia, November
- 13/99 *Trasferimento tecnologico: analisi dei fruitori*, by Mario Coccia, December
- 14/99 *Beyond profitability: effects of acquisitions on technical efficiency and productivity in the Italian pasta industry*, by Luigi Benfratello, December
- 15/99 *Determinanti ed effetti delle fusioni e acquisizioni: un'analisi sulla base delle notifiche alle autorità antitrust*, by Luigi Benfratello, December

1998

- 1/98 *Alcune riflessioni preliminari sul mercato degli strumenti multimediali*, by Paolo Vaglio, January
- 2/98 *Before and after privatization: a comparison between competitive firms*, by Giovanni Fraquelli and Paola Fabbri, January
- 3/98 **Not available**
- 4/98 *Le importazioni come incentivo alla concorrenza: l'evidenza empirica internazionale e il caso del mercato unico europeo*, by Anna Bottasso, May
- 5/98 *SEM and the changing structure of EU Manufacturing, 1987-1993*, by Stephen Davies, Laura Rondi and Alessandro Sembenelli, November
- 6/98 *The diversified firm: non formal theories versus formal models*, by Davide Vannoni, December
- 7/98 *Managerial discretion and investment decisions of state-owned firms: evidence from a panel of Italian companies*, by Elisabetta Bertero and Laura Rondi, December
- 8/98 *La valutazione della R&S in Italia: rassegna delle esperienze del C.N.R. e proposta di un approccio alternativo*, by Domiziano Boschi, December
- 9/98 *Multidimensional Performance in Telecommunications, Regulation and Competition: Analysing the European Major Players*, by Giovanni Fraquelli and Davide Vannoni, December

1997

- 1/97 *Multinationality, diversification and firm size. An empirical analysis of Europe's leading firms*, by Stephen Davies, Laura Rondi and Alessandro Sembenelli, January
- 2/97 *Qualità totale e organizzazione del lavoro nelle aziende sanitarie*, by Gian Franco Corio, January
- 3/97 *Reorganising the product and process development in Fiat Auto*, by Giuseppe Calabrese, February
- 4/97 *Buyer-supplier best practices in product development: evidence from car industry*, by Giuseppe Calabrese, April
- 5/97 *L'innovazione nei distretti industriali. Una rassegna ragionata della letteratura*, by Elena Ragazzi, April
- 6/97 *The impact of financing constraints on markups: theory and evidence from Italian firm level data*, by Anna Bottasso, Marzio Galeotti and Alessandro Sembenelli, April
- 7/97 *Capacità competitiva e evoluzione strutturale dei settori di specializzazione: il caso delle macchine per confezionamento e imballaggio*, by Secondo Rolfo, Paolo Vaglio, April
- 8/97 *Tecnologia e produttività delle aziende elettriche municipalizzate*, by Giovanni Fraquelli and Piercarlo Frigero, April
- 9/97 *La normativa nazionale e regionale per l'innovazione e la qualità nelle piccole e medie imprese: leggi, risorse, risultati e nuovi strumenti*, by Giuseppe Calabrese, June
- 10/97 *European integration and leading firms' entry and exit strategies*, by Steve Davies, Laura Rondi and Alessandro Sembenelli, April
- 11/97 *Does debt discipline state-owned firms? Evidence from a panel of Italian firms*, by Elisabetta Bertero and Laura Rondi, July
- 12/97 *Distretti industriali e innovazione: i limiti dei sistemi tecnologici locali*, by Secondo Rolfo and Giampaolo Vitali, July
- 13/97 *Costs, technology and ownership form of natural gas distribution in Italy*, by Giovanni Fraquelli and Roberto Giandrone, July
- 14/97 *Costs and structure of technology in the Italian water industry*, by Paola Fabbri and Giovanni Fraquelli, July
- 15/97 *Aspetti e misure della customer satisfaction/dissatisfaction*, by Maria Teresa Morana, July
- 16/97 *La qualità nei servizi pubblici: limiti della normativa UNI EN 29000 nel settore sanitario*, by Efsio Ibba, July
- 17/97 *Investimenti, fattori finanziari e ciclo economico*, by Laura Rondi and Alessandro Sembenelli, rivisto sett. 1998
- 18/97 *Strategie di crescita esterna delle imprese leader in Europa: risultati preliminari dell'utilizzo del data-base Ceris "100 top EU firms' acquisition/divestment database 1987-1993"*, by Giampaolo Vitali and Marco Orecchia, December
- 19/97 *Struttura e attività dei Centri Servizi all'innovazione: vantaggi e limiti dell'esperienza italiana*, by Monica Cariola, December
- 20/97 *Il comportamento ciclico dei margini di profitto in presenza di mercati del capitale meno che perfetti: un'analisi empirica su dati di impresa in Italia*, by Anna Bottasso, December

1996

- 1/96 *Aspetti e misure della produttività. Un'analisi statistica su tre aziende elettriche europee*, by Donatella Cangialosi, February
- 2/96 *L'analisi e la valutazione della soddisfazione degli utenti interni: un'applicazione nell'ambito dei servizi sanitari*, by Maria Teresa Morana, February
- 3/96 *La funzione di costo nel servizio idrico. Un contributo al dibattito sul metodo normalizzato per la determinazione della tariffa del servizio idrico integrato*, by Giovanni Fraquelli and Paola Fabbri, February
- 4/96 *Coerenza d'impresa e diversificazione settoriale: un'applicazione alle società leaders nell'industria manifatturiera europea*, by Marco Orecchia, February
- 5/96 *Privatizzazioni: meccanismi di collocamento e assetti proprietari. Il caso STET*, by Paola Fabbri, February
- 6/96 *I nuovi scenari competitivi nell'industria delle telecomunicazioni: le principali esperienze internazionali*, by Paola Fabbri, February
- 7/96 *Accordi, joint-venture e investimenti diretti dell'industria italiana nella CSI: Un'analisi qualitativa*, by Chiara Monti and Giampaolo Vitali, February
- 8/96 *Verso la riconversione di settori utilizzatori di amianto. Risultati di un'indagine sul campo*, by Marisa Gerbi Sethi, Salvatore Marino and Maria Zittino, February
- 9/96 *Innovazione tecnologica e competitività internazionale: quale futuro per i distretti e le economie locali*, by Secondo Rolfo, March
- 10/96 *Dati disaggregati e analisi della struttura industriale: la matrice europea delle quote di mercato*, by Laura Rondi, March
- 11/96 *Le decisioni di entrata e di uscita: evidenze empiriche sui maggiori gruppi italiani*, by Alessandro Sembenelli and Davide Vannoni, April
- 12/96 *Le direttrici della diversificazione nella grande industria italiana*, by Davide Vannoni, April
- 13/96 *R&S cooperativa e non-cooperativa in un duopolio misto con spillovers*, by Marco Orecchia, May
- 14/96 *Unità di studio sulle strategie di crescita esterna delle imprese italiane*, by Giampaolo Vitali and Maria Zittino, July. **Not available**
- 15/96 *Uno strumento di politica per l'innovazione: la prospezione tecnologica*, by Secondo Rolfo, September
- 16/96 *L'introduzione della Qualità Totale in aziende ospedaliere: aspettative ed opinioni del middle management*, by Gian Franco Corio, September
- 17/96 *Shareholders' voting power and block transaction premia: an empirical analysis of Italian listed companies*, by Giovanna Nicodano and Alessandro Sembenelli, November
- 18/96 *La valutazione dell'impatto delle politiche tecnologiche: un'analisi classificatoria e una rassegna di alcune esperienze europee*, by Domiziano Boschi, November
- 19/96 *L'industria orafa italiana: lo sviluppo del settore punta sulle esportazioni*, by Anna Maria Gaibisso and Elena Ragazzi, November
- 20/96 *La centralità dell'innovazione nell'intervento pubblico nazionale e regionale in Germania*, by Secondo Rolfo, December
- 21/96 *Ricerca, innovazione e mercato: la nuova politica del Regno Unito*, by Secondo Rolfo, December
- 22/96 *Politiche per l'innovazione in Francia*, by Elena Ragazzi, December
- 23/96 *La relazione tra struttura finanziaria e decisioni reali delle imprese: una rassegna critica dell'evidenza empirica*, by Anna Bottasso, December

1995

- 1/95 *Form of ownership and financial constraints: panel data evidence on leverage and investment choices by Italian firms*, by Fabio Schiantarelli and Alessandro Sembenelli, March
- 2/95 *Regulation of the electric supply industry in Italy*, by Giovanni Fraquelli and Elena Ragazzi, March
- 3/95 *Restructuring product development and production networks: Fiat Auto*, by Giuseppe Calabrese, September
- 4/95 *Explaining corporate structure: the MD matrix, product differentiation and size of market*, by Stephen Davies, Laura Rondi and Alessandro Sembenelli, November
- 5/95 *Regulation and total productivity performance in electricity: a comparison between Italy, Germany and France*, by Giovanni Fraquelli and Davide Vannoni, December
- 6/95 *Strategie di crescita esterna nel sistema bancario italiano: un'analisi empirica 1987-1994*, by Stefano Olivero and Giampaolo Vitali, December
- 7/95 *Panel Ceris su dati di impresa: aspetti metodologici e istruzioni per l'uso*, by Diego Margon, Alessandro Sembenelli and Davide Vannoni, December

1994

- 1/94 *Una politica industriale per gli investimenti esteri in Italia: alcune riflessioni*, by Giampaolo Vitali, May
- 2/94 *Scelte cooperative in attività di ricerca e sviluppo*, by Marco Orecchia, May
- 3/94 *Perché le matrici intersettoriali per misurare l'integrazione verticale?*, by Davide Vannoni, July
- 4/94 *Fiat Auto: A simultaneous engineering experience*, by Giuseppe Calabrese, August

1993

- 1/93 *Spanish machine tool industry*, by Giuseppe Calabrese, November
2/93 *The machine tool industry in Japan*, by Giampaolo Vitali, November
3/93 *The UK machine tool industry*, by Alessandro Sembenelli and Paul Simpson, November
4/93 *The Italian machine tool industry*, by Secondo Rolfo, November
5/93 *Firms' financial and real responses to business cycle shocks and monetary tightening: evidence for large and small Italian companies*, by Laura Rondi, Brian Sack, Fabio Schiantarelli and Alessandro Sembenelli, December

Free copies are distributed on request to Universities, Research Institutes, researchers, students, etc.

Please, write to:

MARIA ZITTINO

Working Papers Coordinator

CERIS-CNR

Via Real Collegio, 30; 10024 Moncalieri (Torino), Italy

Tel. +39 011 6824.914; Fax +39 011 6824.966; m.zittino@ceris.cnr.it; <http://www.ceris.cnr.it>

Copyright © 2000 by CNR-Ceris

All rights reserved. Parts of this paper may be reproduced with the permission of the author(s) and quoting the authors and CNR-Ceris