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The structure of Italian capitalism, 1952-1972: new evidence using the interlocking directorates technique

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ABSTRACT:

The paper explores the structure of Italian capitalistic system by focusing on the relationships between financial - banks, insurances and holdings- and industrial firms in Italy during the period 1952-72 through the analysis of the interlocks that existed between them. By an interlock is meant the link created between two firms when an individual belongs to the board of directors of both. The analysis is based on a database -Imita.db- containing data on over 300,000 directors of Italian joint stock companies for the years 1952, 1960 and 1972. After showing a descriptive statistics of the firms and the directors included in the database, the paper develops a network connectivity analysis of the system. This is integrated by a prosopographic study about the *big linkers*, defined as those directors cumulating the highest number of offices in each benchmark year. The paper confirms that Italian capitalism maintained substantial peculiarities in the period investigated. In particular, it argues that interlocks played an important role in guaranteeing the stability of the positions of control of the major private firms and their connections with State owned firms. In 1952 and 1960, the system, centred on the larger electrical companies, showed the highest degree of cohesiveness. That centre dissolved after nationalisation of the electricity industry in 1962 and was replaced by a less strong and cohesive one, hinged on banks, insurances and the major finance companies.

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1. Introduction

The proprietary structures and organisational formulas -with a large presence of holdings, a wide diffusion of family properties and State owned firms, and a relatively low average firm size compared to that of other developed countries- characteristic of Italian capitalism are among the aspects most debated by historiography. From Grifone's formulation (1945) on the centrality of financial capital to Bonelli's arguments (1979) on capitalism and the State-controlled enterprise, up to the neo-Chandlerian interpretations of the same phenomenon proposed by Amatori (1995) and Chandler, Amatori and Hikino (1997), the subject has passed through the various seasons of Italian economic historiography.

The control of a firm is the exercise of an influence over its strategic directions and over the choices used to materialise them. The subject of ownership positions of control and of the mechanisms which regulate the change in them has assumed considerable importance in all industrial economies, and an analysis of the relationships between those who have the wealth and subjects capable of managing it has attracted the attention of numerous scholars, who have discussed the efficiency of the various configurations (Grossman-Hart, 1986; Chandler, 1990; Kreps, 1990; Milgrom-Roberts, 1992). Allocation of the control over firms and the rules which govern its changes have thus contributed to determining significantly the efficiency of the Italian economic system (Barca, 1994; 1997).

The aim of this study is to reconstruct, using network analysis techniques, some characteristics of the structure of Italian capitalism during the post World War II period: in particular, ownership positions and the groups structure that followed from these, with particular reference to the relations between State-owned and private firms. It likewise seems just as important to examine in detail those mechanisms that guaranteed the consolidation and defence of the control positions of the group structures. Within this context, it becomes very important to determine the weight and influence of the *special* relations existing between groups of firms and the banking system, by verifying the effects that the 1936 banking Law had on the entire system. The paper is organised as follows: in Section 2 we review the empirical literature which, by using more or less formalised network-analysis techniques, has dealt with the subject of informal connections between firms during the second post-war period in Italy; in Section 3, we give a brief illustration of the source utilised for carrying out the study. Sections 4 and 5 contain the main results of our research: in Section 4 the characteristics of the system are illustrated through the use of several indicators typical of network analysis, while in Section 5 we examine in detail the connections generated by

the central actors of the system, the so-called *big linkers*. The paper concludes with some conclusive considerations.

2. Review of the literature

While the empirical studies which analyse the structure of Italian capitalism through a reconstruction of the connections between firms during the fascist period is limited to a couple of pioneer works (Zorzini, 1925; Luzzato Fegiz, 1928), the panorama of studies available to us for the period following World War II is unquestionably more consistent.

Already immediately after the War, the Economic Commission of the Constituent Assembly made a very detailed survey of Italian joint-stock companies (Ministero per la Costituente, 1947). The study became the object of a political clash; but, thanks to the pressures of De Gasperi and of Gronchi, the Minister of Industry, it was never published (Barca, 1996: 172-178; Cassese, 1974). Nevertheless, the results were made known in numerous works, due to the commitment of one of the members of the Commission, Emanuele Rienzi (CGIL, 1948; Radar, 1948; Rienzi, 1947-8; Zerini, 1947a; 1947b; 1947c). The main results of the survey consisted of verifying the existence, in spite of the presence of a large number of small share-holders, of a small number of large capitalistic groups which exercised a very strong domination over the entire Italian economic life by controlling -either directly or indirectly- three-quarters of the share capital of private firms. The concentration of capital was greatest in the mining, iron and steel, mechanical, electrical, chemical, and textile industries. Within this framework, due to their pre-eminent position, the four large electrical-commercial holdings: Edison, Società Adriatica di Elettricità (Sade), La Centrale, and Strade Ferrrate Meridionali (Bastogi), were particularly prominent. A well-knit intertwining of relations linked these companies to each other and to the other major State-owned and private groups. Rienzi himself also analysed -availing himself of techniques that were not particularly refined- the role played by a series of personalities whose presence on boards of directors was especially recurrent. He concluded that, «boards of directors do not fail to attract attention, because of their somewhat unexpected monotony, their rhythmic and cadenced precision: a true symposium of the same names, rotating only slightly around a pivot [Bastogi], a collection table of that great Olympus of the investments that dynastically sustain the fates of production, value and profit» (Radar, 1948: 44).

The permanence of the phenomenon of the concentration of the Italian capitalistic system was subsequently pointed out also by studies relative to the 1950s and 1960s. Again, the existence of a «power of availability» -concentrated above all in the hands of several financial groups linked to the former electricity companies that had just been nationalised- was confirmed, which managed a

dense network of connections that branched out somewhat in all directions and towards all the other industrial sectors (Benedetti-Toniolli, 1963). When analysing the effects of the nationalisation of electricity, we noted that this put an end to a system of industrial and financial relations founded on the great electrical-commercial firms which maintained close relations with the banking and insurance systems. The consequence of this was the emergence of a new order in which the great family capital returned to occupying a central position (Ragozzino, 1970).

During the 1980s, two works by Antonio Chiesi (1982; 1985) -written within the framework of a comparative research project of the ECPR Research Group on the Intercorporate Structure (Stokman-Ziegler-Scott, 1985)- introduced to Italy the use of formalised network analysis techniques. The author pointed out the peculiarities of Italian capitalism, attributing them to the range and modalities of State intervention in the economy and illustrating the existence in the mid 1970s of a centre of the system inside of which two large poles cohabited, based respectively on State and on privately-owned firms[1]. Their integration was guaranteed by the *zipper* function carried out by several companies -such as SME, Bastogi and, to a lesser extent, Snia-Viscosa and Tubificio di Brescia- on the boards of directors of which sat several of the major exponents of firms from both poles. Another aspect emphasised by Chiesi regarded the absence of the two most important private groups: Fiat and Pirelli, from the centre of the network. This exclusion, which was consequent on a more complex marginalisation of the private groups, to the advantage of the State-owned groups, intervened after the electricity industry had been nationalised, and -in contrast with what Ragozzino held (1970) -owing «to the fact that the companies that still depend on family groups in general occupy marginal positions in the overall structure of the network» (Chiesi, 1982: 594)[2]. Chiesi's analyses also dealt with the classical theme of relations between banks and firms, observing that the absence of large banks -with the sole exception of Imi and Efibanca- from the centre of the system depended on the effects of the 1936 banking Law which, by separating the function of the collection of deposits from industrial credit, had rendered it impossible to re-establish those close relations between banks and industries that had so strongly distinguished the period prior to the crisis. Instead, a recent study by Giovanni Ferri and Sandro Trento (1997) arrived at substantially different results: basing themselves on a reduced sample of companies, they held that the relations between State owned and private firms were a characterising trait of the Italian

[1] The importance of the State in the Italian economy was considerably greater than in the other Western countries. Around the middle of the 1970s, State owned firms in Italy furnished the entire production of energy, 53% of which was mining, 49% steel and iron industry, 10% mechanical, 9% chemical, in addition to having the monopoly over the telecommunications system and to controlling 26% of the transport sector.

[2] In reality, at least two exponents of the Fiat and Pirelli groups -Giovanni Nasi and Leopoldo Pirelli- were a part of the limited financial *élite* of 220 individuals identified by Chiesi. The interests of Fiat and Pirelli were, therefore, represented within the centre of the network, even if the two firms were excluded from it.

capitalistic structure, at least up until 1970. Also as regards the relations between banks and firms, the empirical evidence demonstrated by Ferri and Trento is considerably different from what Chiesi proposed. In fact, the two authors assert that, in spite of the implicit prohibitions in the banking Law, the solid cooperative connections between banks and firms represented a permanent trait of Italian capitalism.

In summary we can note that there exists in the literature a widespread consensus on the permanence of very concentrated group structures that condition the efficiency of the entire Italian capitalistic system. The evaluations on relations between State owned and private firms and, within the latter, on the positions assumed by family capitalism within the system, seem more controversial. Even less clear are the empirical verifications on the dynamics of the relations between banks and firms, while relations between the large groups and that aggregate of small and medium-size firms which -already during the 1960s- characterised the Italian productive fabric, have not been greatly explored. In the following pages, we shall try to deal -by combining the quantitative analysis made with the help of network analysis and of qualitative analysis of a prosopographical type- with the themes outlined above, by making use of a new data set that contains data on a very representative sample of firms.

3. The source

The source used for this work is *Notizie Statistiche sulle principali Società Italiane per Azioni*, edited by the Associazione fra le Società Italiane per Azioni (ASIPA). The project of making an electronic version of this source, which was started a few years ago, has given rise to the realisation of IMITA.db. The latter contains information regarding companies, boards of directors, and balance sheets of a large sample of Italian joint-stock companies for several benchmark years[3]. The *Notizie Statistiche* includes all companies rated on one of the Italian stock exchanges, as well as those companies located in Italy which, at the close of the last budget, had a deposited capital in excess of a certain threshold[4]. In view of the characteristics of the data set, it must be said that the results obtained in this paper may tend to slightly overestimate the density of the whole system of interlocking directorates (ID), as there is a strong correlation between the number of IDs and the size of firms.

[3] Data sets for companies and boards of directors are available for 1911, 1913, 1921, 1927, 1936, 1952, 1960, 1972; for balance sheets, time series covered are from 1900 to 1971. Version 5.1 of IMITA.db has been used for this paper.
[4] Said threshold was 10 million Italian Lire for 1952, 50 million Lire for 1961, and 100 million Lire for 1973. Thus sample comprises 26.5% of all joint-stock firms for 1952, 21% for 1960 and 26.1% for 1972 and represents more than 95% in terms of capital for all three years.

The data processing was carried out for all the Italian joint-stock companies that are present in the source, excluding Italian companies abroad and foreign companies based in Italy. As far as the directors are concerned, only those data regarding the members of a board of directors in the strict sense have been utilised, thus leaving out the members of *Collegi sindacali*[5]. The sample used in this work, based on three benchmark years, includes more than 100,000 seats belonging to almost 25,000 firms, for a total of more than 85,000 inter-company links. The names of the directors have been carefully standardised, so as to make them as homogeneous as possible. However, it is possible to estimate that the information on boards of directors contained in IMITA.db has a margin of error of about 1%, as is the case with other similar databases (Mintz-Schwartz, 1985). These errors are mainly due to cases of homonymy, misprints, or shortcomings in the source.

4. Characteristics of the system: a quantitative approach

An interlock is the link that is formed between two companies when a person is present on the boards of directors of both. The individual who is the subject of this link is called a *multiple director* (MD). In this work, we have used primary interlocks without taking into consideration either the directionality of the links or their strength[6] (Pennings, 1980; Wassermann-Faust, 1994). In the first case, it is considered the role covered within the board of directors by the individual director, by assuming that the direction of the interlock goes from the company in which the director covers a more important position to that in which his position is of a lesser importance. In the second case, connections between two companies are weighted by taking into account the number of directors who sit on the board of directors of both. In order to understand the structure of a system by means of ID analysis, this must be studied from two viewpoints: one concerns the single subject -i.e. the director-, and the other concerns the firm. Since the establishment of a system is the result of an accumulation of offices by the directors on the various boards of directors, it is necessary to start precisely from this aspect.

The average size of a board of directors in Italy decreases over time, as can be seen from Table 1. These values are also considerably lower than those observed in the period before World War II, when they fluctuated around an average of 6 members per board (Vasta-Baccini, 1997). However, it must be kept in mind that, for the first two benchmark years, the sizes of the sample were quite similar. Instead, for 1972, the sample was considerably larger, and thus included a higher number of small and medium-sized firms, which usually had smaller boards. As we will see further

[5] *Collegi sindacali* are special committees of auditors for firms, and are similar to supervisory boards. See, for example, (Scott, 1985).
[6] The sole exception concerns the intensity of the links between banks and various sectors, in the calculation of which the strength of the connection was also taken into consideration (see Table 19).

on, the decrease in the average number of available places constitutes a limit to the possible connectivity of the system over a given period.

An important measurement in the description of the system is offered by the ratio of MD to the total number of directors. As shown in Table 1, this ratio is always guaranteed by a similar proportion of directors, although for 1960 it reaches the highest level (25.8%), with a considerable decrease for 1972 (23.4%). However, the value of the ratio is analogous to what was observed for the period prior to World War II (Vasta-Baccini, 1997)[7]. Another synthetic measurement of the system is the *cumulation ratio* (CR), namely the average number of positions held by a single director. This, too, is constant over the long-term period. The two indicators show a high level of concentration of the system when the latter is observed from the director's point of view. The high CR is due to both the elevated ratio of MDs over the total number of directors and the remarkably high number of positions held by MDs.

Table 1. Descriptive statistic of the system

	1952	1960	1972
Firms	6,180	6,371	11,802
Seats	27,424	28,813	45,543
Directors	17,371	17,917	30,180
Average size of the board	4.44	4.52	3.86
CR Cumulation Ratio	1.58	1.61	1.51
MD % Multiple directors	24.6	25.8	23.4

The existence of a conspicuous number of MDs holding a total of more than 10 offices is indicative of the concentration of the structure. The total of the chairs held by these directors was always greater than 4.5% (5.3% in 1952 and 4.8% in 1972). Indeed, in 1960, this value reached its peak (6.3%), showing the existence of a stronger concentration in the system. These directors are commonly referred to as *big linkers*. The analysis of their behaviour which will be made in the following section is extremely useful for interpretative purposes, especially when the agents involved are seemingly of second-order importance or even almost unknown. As can be seen from Table 2, the directors holding only one office constituted almost three-quarters of the total, and covered less than half of the offices for all three benchmark years. What is most striking, in addition to the presence of values that point to a fairly remarkable concentration, is the very high stability of the system of individual IDs.

[7] However, this result is not perfectly comparable with what was published in that work, as in the present paper we have counted only once the directors who appeared twice or three times -with different positions- on the same board. The values recalculated for the three benchmark years prior to WWII are: 26.1 for 1911, 25.0 for 1927 and 25.8 for 1936.

Tab. 2. Distribution of directorship per individual in boards of directors ranked by size (absolute value and percentage)

	1952				1960				1972			
Number of seats	Members of boards		Total of seats		Members of boards		Total of seats		Members of boards		Total of seats	
	ab. val.	%	ab. val.	%	ab. val.	%	ab. val.	%	ab. val.	%	ab. val.	%
1	13,103	75.43	13,103	47.78	13,298	74.22	13,298	46.15	23,106	76.56	23,106	50.73
2-10	4,174	24.03	12,864	46.91	4,500	25.12	13,710	47.58	6,929	22.96	20,273	44.51
11-20	84	0.48	1,163	4.24	104	0.58	1,395	4.84	131	0.43	1,791	3.93
21-30	6	0.03	144	0.53	10	0.06	227	0.79	11	0.04	265	0.58
31-40	2	0.01	64	0.23	5	0.03	183	0.64	2	0.01	66	0.14
41-50	2	0.01	86	0.31					1	0.00	42	0.09
>50												
Total	17,371	100	27,424	100	17,917	100	28,813	100	30,180	100	45,543	100

If the system is examined from another point of view, that is by looking at the relations between companies, some differences appear over the period which do not emerge as clearly in the other analytical perspective (i.e. when the directors are considered). In the present case, it is important to measure the degree of cohesiveness of the system. To this end, some indicators, defined and used mainly by sociologists, have been employed. These are generally referred to as measurements of connectivity (Scott, 1991; Wassermann-Faust, 1994), three of which will be employed here. The first is the traditional sociometric measurement of density, defined as the ratio between the number of links between pairs of units and the number of possible connections:

$$D = L(r)/L(p)$$

where L(r) is the number of real connections and L(p), defined as n(n-1)/2, indicates the number of possible connections. The density indicates the degree of overlap between the firms in the system. Given the same number of firms, a greater density means closer relations between the sub-systems. It can be noted that an increase in the number of firms causes a decrease in the density index: with the same number of links, the increase in the number of firms determines a decrease in the density. The index D varies between 0 and 1, i.e. for L(r)=0 and L(r)=n(n-1)/2, respectively. These refer, respectively, to the extreme cases of a total absence of any link and to that of the realisation of all possible links.

The second measurement, known as interlock position ratio (IPR), as defined by Mizruchi (1982), represents the proportion of directors on a board of directors who also sit on another board, relative to the number of places that actually exist on all boards of directors. This measures the orientation of the system towards the outside; it fluctuates between IPR=0 in the case in which no

link exists, and IPR=1 in the case in which each available place on the board of directors gives rise to interlocks.

A third measurement, referred to here as CFF (concentration first four), represents the ratio between all interlocks and those generated by the first four companies graded according to the number of interlocks.

Table 3. Network connectivity

	1952	1960	1972
Density for the entire sample (x 100)	0.127	0.133	0.050
Density for the top 250 firms (x 100)	6.6	6.3	4.0
Density for the top 500 firms (x 100)	3.2	3.1	2.2
IPR	0.522	0.538	0.493
CFF	1.43	1.22	0.93

From the data in Table 3, it is clear that all connectivity measurements for the system decreased during the three years taken into consideration. The density showed a certain stability for the first two benchmark years, followed by a strong decrease of about 60% for 1972. This phenomenon can be partly attributed to the increase of about 85% in the number of companies between 1960 and 1972, thus raising considerably the denominator of the density index. Hence, these results should be considered with great caution. In order to better evaluate the variations in the density index, we also calculated it from a sample that comprised the top 250 and 500 firms in terms of capital. The results of this exercise, which obviously show higher values than those of the whole population of firms, are quite interesting. In this case, it is possible to compare all three benchmark years with no bias, and what emerges is a substantially similar degree of density for both 1952 and 1960 -with the former presenting a higher value- while, once again, a strong reduction is confirmed for 1972. In comparing our results with those obtained for 1976 by Chiesi (1982; 1985) from a sample of 247 big firms, we can note a certain difference: the density calculated by Chiesi in 1976, by adopting a different sample based on qualitative criteria, was 6.8%, about 70% higher than in 1972.

Another proof of the weakening of IDs over time is offered by the decrease in the IPR index, which remained stable from 1952 to 1960, but then decreased in 1972. The CFF also decreased over the years under examination, falling from 1.43% in 1952 to 1.22% in 1960, and then to 0.93% in 1972. In adopting these indicators, it also emerges that there was a strong decrease in the connectivity of the system.

The dynamics of the system could be more extensively understood by analysing the structure of the company links disaggregated according to the sector of activity of the firms (see Table 4).

Table 4. Number of firms interlocked according to sector of activity

Sector of activity	Description	1952			1960			1972		
		TOT	ID	% ID	TOT	ID	% ID	TOT	ID	% ID
A-B	Agriculture, forestry and fishing	97	64	66.0	57	39	68.4	158	112	70.9
CA-CB	Mining and quarrying	127	99	78.0	144	107	74.3	163	116	71.2
DA	Food and tobacco	517	339	65.6	492	337	68.5	775	455	58.7
DB-DC	Textiles and leather, dressing and shoes	645	443	68.7	526	377	71.7	862	557	64.6
DD-DE	Wood, paper, publishing and printing	268	181	67.5	310	213	68.7	543	365	67.2
DF-DG-DH	Coke, petroleum, chemicals, rubber and plastic	491	378	77.0	582	443	76.1	1.034	737	71.3
DI	Other non-metallic products	214	152	71.0	242	163	67.4	639	410	64.2
DJ-DK-DL-DM	Metal products, mechanical and transport products	840	609	72.5	964	699	72.5	2.111	1.429	67.7
DN	Other manufacturing	44	30	68.2	49	33	67.3	167	93	55.7
E	Electricity, gas and water supply	169	146	86.4	167	145	86.8	76	64	84.2
F	Construction	205	150	73.2	188	132	70.2	432	281	65.0
G-H	Trade	686	457	66.6	544	367	67.5	1,085	643	59.3
I	Transport, storage and communication	352	276	78.4	407	323	79.4	640	498	77.8
J	Financial intermediation	416	371	89.2	487	468	96.1	794	684	86.1
J banks	*Monetary intermediation (banks)*	*127*	*112*	*88.2*	*111*	*107*	*96.4*	*138*	*127*	*92.0*
J other financial	*Other financial intermediation*	*218*	*191*	*87.6*	*298*	*285*	*95.6*	*536*	*444*	*82.8*
J insurance	*Insurance and activities auxiliary*	*71*	*68*	*95.8*	*78*	*76*	*97.4*	*120*	*113*	*94.2*
K	Real estate, renting, business activities	943	594	63.0	1,068	710	66.5	2,060	1.374	66.7
L-O	Public administration, other social service activities	135	83	61.5	95	70	73.7	155	110	71.0
N	Health, social work	31	17	54.8	49	29	59.2	108	51	47.2
Total		6,180	4,389	71.0	6,371	4,655	73.1	11,802	7,979	67.6

By looking at the overall data we have confirmation of what was observed previously: the number of companies with links reached its apex in 1960 (73.1%), while it dropped considerably in 1972 (to 67.6%), thus pointing out the existence of a lesser cohesiveness in the system, even if it must be recalled that the increase in the number of companies in that year could have influenced this result. These figures are lower than those observed in the 1911-36 period, when the share of interlocked firms also decreased constantly but remained at a higher level. In fact, in 1911 the companies with at least one ID were about 90% of the total; they dropped to 85% in 1985, while in 1936 the corresponding value barely reached 80% (Baccini-Vasta, 1995:231-2). These insights are further strengthened by an analysis of the average number of interlocks per company, by sector of activity (see Table 5). This indicator, which is not biased by the increase occurred in the total number of firms, confirms that, in 1972, the cohesiveness of the system was considerably reduced with respect to the two previous benchmark years. In fact, the mean number of interlocks per company amounted to 7.8 in 1952, rose slightly to 8.5 in 1960, but then dropped sharply to 5.9 in 1972. Moreover, the decrease in the cohesiveness of the system is made even more apparent by

comparing these date with those concerning the period prior to World War II, when the mean number of interlocks fluctuated between a minimum of 11.0 in 1936 and a maximum of 16.8 in 1927 when it reached its apex[8].

We then disaggregated the data at a sectoral level. The sectors that showed the greatest connectivity within the system were those of financial intermediation firms -made up of banks, insurances, and finance companies- and of utilities. In fact, these two sectors had much higher values than all the remaining ones with respect to both the share of firms interlocked and the mean number of interlocks per firm. Within the financial intermediation sector, the position of banks and, above all, insurance companies was prominent. The latter, in particular, exhibited the highest values of the whole the system for all the three benchmark years considered.

Table 5. Mean interlocks according to sector of activity

Sector of activity	Description	1952	1960	1972
A-B	Agriculture, forestry and fishing	6.1	8.8	4.9
CA-CB	Mining and quarrying	8.7	9.8	6.3
DA	Food and tobacco	4.3	4.6	4.2
DB-DC	Textiles and leather, dressing and shoes	5.2	6.5	5.1
DD-DE	Wood, paper, publishing and printing	5.6	6.3	5.0
DF-DG-DH	Coke, petroleum, chemicals, rubber and plastic	8.4	7.8	6.8
DI	Other non-metallic products	9.8	10.6	5.2
DJ-DK-DL-DM	Metal products, mechanical and transport products	9.3	8.2	5.6
DN	Other manufacturing	7.0	5.3	2.9
E	Electricity, gas and water supply	26.9	26.3	8.6
F	Construction	9.0	10.5	5.6
G-H	Trade	4.4	4.9	3.8
I	Transport, storage and communication	8.8	9.1	8.2
J	Financial intermediation	18.8	21.6	16.3
J banks	*Monetary intermediation (banks)*	*19.2*	*23.6*	*23.6*
J other financial	*Other financial intermediation*	*15.9*	*18.6*	*12.6*
J insurance	*Insurance and activities auxiliary*	*26.8*	*30.2*	*24.0*
K	Real estate, renting, business activities	4.5	4.9	4.3
L-O	Public administration, other social service activities	4.8	5.5	5.1
N	Health, social work	1.5	5.0	2.6
Total		7.8	8.5	5.9

The trend of the indicators over time is particularly interesting. As far as financial intermediation is concerned, its values reached their apex in 1960, when a total of 96.1% of the firms in this sector were interlocked. Also the mean number of interlocks showed higher values in 1960, respectively with 23.6 links for banks, 18.6 for finance companies, and 30.2 for insurance

[8] This result, for the reasons explained in the footnote 7, has been recalculated and thus is not perfectly comparable on what was published in the previous work (Vasta-Baccini, 1997).

companies. In 1972, all the three subsectors had their connectivity reduced within the system, even if it had occurred in quite different ways: both indicators dropped considerably as far as finance companies firms were concerned, while the decrease for banks and insurances was less pronounced. In particular, the mean interlocks for banks is the same as in 1960, with 23.6, but there is a slight reduction in the number of banks interlocked. The mean number of interlocks per bank is slightly higher than in 1927 and considerably higher than in 1936 (Baccini-Vasta, 1995), to indicate that its role within the system did not lose importance in the long run even after the 1936 banking Law.

The trend of utilities, within which the electrical companies were prevailing -until electricity was nationalised- appears to be particularly significant. In fact, the number of interlocked firms in this sector remained substantially stable for the entire period, with values of about 85%. However, the mean number of links kept up by each company changed considerably, passing from 26.9 in 1952 and 26.3 in 1960 to only 8.6% in 1972. The utilities companies which survived in 1972 remained always connected with the rest of the system, but with the disappearance of the electrical companies, they no longer constituted its centre. It is interesting to observe that the enterprises operating in *light* industry (classes DA, DB, DC, DD, DN), within which small and medium-sized firms prevailed, generally showed values lower than the average. It must be noted, however, that these values were not as low as one might have been expected. This can be interpreted as an indication that a proportion of such firms did generated interlocks as well and, therefore was not disconnected from the rest of the system.

The classification of the top firms according to number of interlocks reported in Tables 6a-6c enables us to make several further considerations. For 1952, a strong prevalence of electrical companies can be noted, with fifteen presences out of thirty. At the top of the rank there were four companies -Efi, Coniel, Bastogi, and Ras- which, above and beyond their ownership structure, seemed to function as *bridging* companies between the major State-owned and private groups. Among the remaining fifteen firms, there were five manufacturing companies, three finance companies, and only two banks: Icipu, one of the institutes founded by Beneduce, and Credito Commerciale, a small bank belonging to the Pesenti Group.

In 1960, more than a half of the companies included in the top thirty in the previous benchmark year did not appear any longer, to indicate that a significant change had occurred. Electrical companies dropped to nine, while the financial intermediaries rose to thirteen: five finance companies, four banks and four insurances. Manufacturing firms, in their turn, rose to six. The overall impression is that the presence of *bridging* companies limited to the electricity sector was reduced, and replaced by companies -above all insurances finance holdings- in which the large electrical groups cohabited with the representatives of the other industrial sectors.

Table 6a. Ranking top 30 companies by number of interlocks (1952)

#	Company	Nr. ID	Sector of activity
1	E.F.I. ENTE FINANZIAMENTI INDUSTRIALI	181	J other financial
2	CONIEL COMPAGNIA NAZIONALE IMPRESE ELETTRICHE	180	E
3	SOCIETA' ITALIANA PER LE STRADE FERRATE MERIDIONALI	173	J other financial
4	RAS RIUNIONE ADRIATICA DI SICURTA'	159	J insurance
5	IDROELETTRICA SARCA MOLVENO	129	E
6	EDISON	126	E
7	TORINO ESPOSIZIONI	116	O
8	CONDOR SOCIETA' PER L'INDUSTRIA PETROLIFERA E CHIMICA	111	DF
9	FRANCO TOSI	100	DL
9	CREDITO COMMERCIALE	100	J banks
11	OSRAM SOCIETA' RIUNITE OSRAM EDISON CLERICI	99	DL
11	S.R.E. SOCIETA' ROMANA DI ELETTRICITA'	99	E
11	ELETTRICA SARDA	99	E
14	AUTOSTRADA TORINO MILANO	98	F
15	SOCIETA' ELETTRICA SELT VALDARNO	97	E
15	GENERALE IMMOBILIARE DI LAVORI DI UTILITA' PUBBLICA ED AGRICOLA	97	K
17	CIELI COMPAGNIA IMPRESE ELETTRICHE LIGURI	96	E
17	SOCIETA' PER LO SVILUPPO AGRICOLO DEL MEZZOGIORNO SVAM	96	K
19	ISTITUTO DI CREDITO PER LE IMPRESE DI PUBBLICA UTILITA'	94	J banks
20	F.I.A.T.	93	DM
21	S.I.P. SOCIETA' IDROELETTRICA PIEMONTE	92	E
22	EMILIANA ESERCIZI ELETTRICI	89	E
22	IDROELETTRICA MEDIO ADIGE	89	E
22	OROBIA	89	E
25	LA CENTRALE	87	J other financial
26	VIZZOLA SOCIETA' LOMBARDA PER DISTRIBUZIONE DI ENERGIA ELETTRICA	87	E
26	STEI SOCIETA' TERMOELETTRICA ITALIANA	87	E
28	SADE SOCIETA' ADRIATICA DI ELETTRICITA'	86	E
29	CARTIERE BURGO	85	DE
30	SIEO SOCIETA' IMPRESE ELETTRICHE D'OLTREMARE	84	E

Table 6b. Ranking top 30 companies by number of interlocks (1960)

#	Company	Nr. ID	Sector of activity
1	SOCIETA' ITALIANA PER LE STRADE FERRATE MERIDIONALI	196	J other financial
2	RAS RIUNIONE ADRIATICA DI SICURTA'	186	J insurance
3	ITALCONSULT	150	J other financial
4	FRANCO TOSI	134	DL
5	L'ASSICURATRICE ITALIANA	133	J insurance
6	EDISON	129	E
7	ITALPI SOCIETA' ITALIANA PARTECIPAZIONI INDUSTRIALI	127	J other financial
8	MONTECATINI SOCIETA' GENERALE PER L'INDUSTRIA MINERARIA E CHIMICA	125	DG
9	CREDITO COMMERCIALE	124	J banks
10	EDISONVOLTA	117	E
11	ELETTRONUCLEARE ITALIANA	116	E
12	FINSIDER SOCIETA' FINANZIARIA SIDERURGICA	113	J other financial
13	PIRELLI	112	DH
14	SME SOCIETA' MERIDIONALE DI ELETTRICITA'	110	E
15	ITALCEMENTI FABBRICHE RIUNITE CEMENTO	109	DI
16	TORINO ESPOSIZIONI	105	K
18	STEI SOCIETA' TERMOELETTRICA ITALIANA	104	E
18	CARTIERE BURGO	104	DE
19	GENERALE IMMOBILIARE DI LAVORI DI UTILITA' PUBBLICA ED AGRICOLA	102	K
20	F.LLI BORLETTI	101	DL
21	SADE SOCIETA' ADRIATICA DI ELETTRICITA'	100	E
22	ITALGAS SOCIETA' ITALIANA PER IL GAS	99	E
22	BANCA UNIONE	99	J banks
24	OROBIA	98	E
25	COFINA COMPAGNIA FINANZIARIA INVESTIMENTI AZIONARI	96	J other financial
25	EFIBANCA ENTE FINANZIARIO INTERBANCARIO	96	J banks
25	SOCIETA' ASSICURATRICE INDUSTRIALE	96	J insurance
28	CIELI COMPAGNIA IMPRESE ELETTRICHE LIGURI	94	E
28	ASSICURAZIONI GENERALI	94	J insurance
30	BANCA PROVINCIALE LOMBARDA	93	J banks

Table 6c. Ranking top 30 companies by number of interlock (1972)

#	Company	Nr. ID	Sector of activity
1	RAS RIUNIONE ADRIATICA DI SICURTA'	194	J insurance
2	BASTOGI FINANZIARIA	183	J other financial
3	L'ASSICURATRICE ITALIANA	150	J insurance
4	UNIONE ITALIANA DI RIASSICURAZIONE	124	J insurance
5	FRANCO TOSI	121	DL
6	EFIBANCA ENTE FINANZIARIO INTERBANCARIO	120	J banks
7	CREDITO COMMERCIALE	116	J banks
8	BANCA D'AMERICA E D'ITALIA	113	J banks
9	SNIA VISCOSA SOCIETA' NAZIONALE INDUSTRIE APPLICAZIONI VISCOSA	111	DG
10	GENERALE IMMOBILIARE DI LAVORI DI UTILITA' PUBBLICA ED AGRICOLA	108	K
11	BANCA PROVINCIALE LOMBARDA	105	J banks
12	ITALCABLE SERVIZI CABLOGRAFICI RADIOTELEGRAFICI E RADIOELETTRICI	104	I
13	ITALGAS SOCIETA' ITALIANA PER IL GAS	103	E
14	SME SOCIETA' MERIDIONALE FINANZIARIA	102	J other financial
15	ISTITUTO BANCARIO ITALIANO	98	J banks
15	STET SOCIETA' FINANZIARIA TELEFONICA	98	J other financial
17	LA CENTRALE FINANZIARIA GENERALE	97	J other financial
18	UNIONE SUBALPINA DI ASSICURAZIONI	96	J insurance
19	ITALCEMENTI FABBRICHE RIUNITE CEMENTO	95	DI
19	ISTITUTO DI CREDITO PER LE IMPRESE DI PUBBLICA UTILITA'	95	J other financial
21	CEMENTERIE SICILIANE	94	DI
21	ISTITUTO CENTRALE DI BANCHE E BANCHIERI	94	J banks
21	TORO ASSICURAZIONI COMPAGNIA ANONIMA D'ASSICURAZIONI DI TORINO	94	J insurance
24	MEDEDIL SOCIETA' EDILIZIA MEDITERRANEA	93	K
24	BANCO DI ROMA	93	J banks
26	I.M.I. ISTITUTO MOBILIARE ITALIANO	92	J other financial
27	INIZIATIVE NAZIONALI AUTOSTRADALI SINA	90	K
27	ITALPI SOCIETA' ITALIANA PARTECIPAZIONI INDUSTRIALI	90	J other financial
29	INSUD NUOVE INIZIATIVE PER IL SUD	89	J other financial
29	SIEMENS ELETTRA	89	DL

In 1972, the rate of permanency decreased by only a unit (from 13 to 12) with respect to the previous benchmark year, in spite of the nationalisation of the electricity industry and the transformation of the former electrical companies into finance holdings. However, the utilities sector almost disappeared from the top thirty (with only Italgas remaining in the list), while financial intermediaries marked a further substantial increase: finance companies rose to eight, banks to seven and insurances to five.

5. The big linkers: *a qualitative approach*

An analysis of the behaviour of *big linkers* can be very useful for interpretative purposes. A close examination was thus made of the twenty most important *big linkers* who, in each benchmark year, accumulated the largest number of positions. The list of these personages, together with the age and the attendance figures for each one, is provided in Table 7. Above all, it can be noted that several individuals appear several times. Three personages (Pesenti, Spada and Mizzi) figure in the lists of all three benchmark years; ten (Valerio, De Biasi, Bruno, Bonadè Bottino, Beria, Bozzola, Samaritani, Bobbio, Rossello, Prinetti Castelletti) appeared in 1952 and 1960, but not in 1972. Instead, three others (Torchiani, Radice Fossati and Lazzati), who were absent in 1952, met both in 1960 and in 1972. The seventy-four places available were covered by fifty-five persons, sixteen of

whom (29% of the total) appeared more than once[9]. The continuity appears very strong, above all between 1952 and 1960: of the twenty-four *big linkers* identified in 1952, thirteen of them (54%) also appeared in 1960. Instead, the subsequent interval seems to have been marked by a more accentuated discontinuity. In fact, only six of the twenty-one *big linkers* (29%) of 1960 also figured in 1972. This circumstance seems to have been due -as we shall see further on- above all to the nationalisation of the electrical industry, rather than to a generational change at the summit of Italian capitalism. We can note, moreover, that while the lists of 1952 and 1960 included almost all the major protagonists in the Italian economic life of the time, the same was not true in 1972. For instance, personages such as Enrico Cuccia, Gianni Agnelli, Eugenio Cefis, Giuseppe Petrilli, and Leopoldo Pirelli are missing from the list. The significance of this difference is not immediately perceptible. On the one hand, it could appear to be an indication of a reduced overall cohesiveness of the system. On the other hand, instead, it might be that it was simply the way in which this cohesiveness was guaranteed that had changed: not longer through the direct presence of the principal captains of industry and finance on a large number of boards of directors, but by means of a larger network of administrators.

Table 7. Big linkers *in the three benchmark years*

1952			1960			1972		
Surname and name	Age	Seats	Surname and name	Age	Seats	Surname and name	Age	Seats
1. Valerio Giorgio	48	44	1. Pesenti Carlo	53	38	1. Spada Massimo	67	42
2. De Biasi Vittorio	57	42	1. Spada Massimo	55	38	2. Pesenti Carlo	65	33
3. Bruno Luigi	56	33	3. Bruno Luigi	64	37	2. Zuccolotto Oscar	-	33
4. Ottolenghi Enrico	64	31	4. Bozzola Carlo	-	35	4. Quaratino Licio	-	26
5. Pesenti Carlo	45	28	4. De Biasi Vittorio	65	35	4. Radice Fossati Eugenio	62	26
6. Cartesegna Francesco	70	27	6. Rossello Mario	83	26	4. Riffeser Bruno	46	26
7. Spada Massimo	47	25	7. Samaritani Aldo	56	25	4. Rovelli Nino	55	26
8. Bonadè Bottino Vittorio	63	22	7. Valerio Giorgio	56	25	8. Zurzolo Antonio	49	25
9. Beria Biagio	63	21	9. Bonadè Bottino Vittorio	71	22	9. Monti Attilio	66	24
9. Corridori Giuseppe	64	21	9. Lodolo D'Oria Alessandro	-	22	10. Dosi Mario	69	23
11. Bozzola Carlo	-	20	9. Mizzi Leonida	56	22	10. Ferrari Alberto	58	23
11. Malnati Carlo	43	20	9. Torchiani Tullio	59	22	10. Galeati Giambattista	72	23
11. Nogara Bernardino	82	20	13. Beria Biagio	71	21	13. Bassetti Giovanni	79	22
11. Samaritani Aldo	48	20	13. Marchesano Enrico	66	21	14. Martelli Giuseppe	65	21
15. Boeri Giovanni Battista	69	19	13. Prinetti Castelletti Ignazio	-	21	15. Baldini Riccardo	62	20
15. Parodi Giacomo	-	19	16. Bobbio Carlo	74	19	15. Costa Angelo	71	20
15. Vola Annibale	-	19	16. Radice Fossati Eugenio	50	19	15. Mizzi Leonida	68	20
18. Bobbio Carlo	66	18	16. Rossi Guido	29	19	15. Torchiani Tullio	71	20
18. Camerana Giancarlo	43	18	19. Faina Carlo	66	18	19. Villa Alessandro	-	19
18. Luraghi Giuseppe	47	18	19. Lazzati Gaetano	-	18	20. Bassetti Giansandro	49	18
18. Mizzi Leonida	48	18	19.Zanon di Valgiurata Lucio	66	18	20. Bernero Virginio	-	18
18.Prinetti Castelletti Ignazio	-	18				20. Bucarelli Domenico	-	18
18. Rossello Mario	75	18				20. Capanna Alberto	62	18
18. Valletta Vittorio	69	18				20. Corsi Giorgio	49	18
						20. Jacoboni Attilio	67	18
						20. Lazzati Gaetano	-	18
						20. Lolli Ettore	64	18
						20. Maccaferri Guglielmo	60	18
						20. Valeri Manera Mario	51	18

[9] Seventy-four posts were effectively identified, instead of the sixty theoretical ones since -as can be noted immediately from an examination of Table 7- in all three benchmark years some personages appear in twentieth position with the same number of positions.

Table 8 reports some personal data on *big linkers*. The mean age increased constantly, passing to 59 in 1952 to 61 in 1960 and to 64 in 1972. In contrast, the median age decreased slightly -from 60 to 59- between 1952 and 1960, to then rise to 62 in 1972. In short, it is surprising that the more accentuated renewal which occurred in the population of *big linkers* during the second interval considered (from 1960 to 1972) was marked by an ageing, rather than by a rejuvenating, of the same. Conversely, the variance (s^2) of the sample remained stable between 1952 and 1960, but nearly halved in 1972, to show an increased anagraphical homogeneity of the *big linkers* in the last benchmark year.

Table 8. Big linkers *according to age*

Age	1952	1960	1972
Minimum	43	29	46
Mean	58	61	62
Median	60	59	62
Maximum	82	83	79
Variance (s^2)	130	134	73

Table 9 shows the distribution of *big linkers* according to their region of birth. Above all, it can be noted that seven regions out of twenty never supplied any *big linkers*. Among the regions represented, in 1952 Lombardia was pre-eminent, thanks to its prominent position, even if its importance considerably diminished over time. In contrast, Emilia-Romagna emerged, jumping in first place in 1972. All things considered, while in 1952 and 1960 there was a prevalence of personages born in the regions of the country of most ancient industrialisation -the *Industrial Triangle* formed by Piemonte, Lombardia and Liguria- in 1972 this was no longer the case. In that year, in fact, the *Industrial Triangle* was surpersede by the regions of central and North-Eastern Italy of more recent industrialisation (Trentino-Alto Adige, Emilia-Romagna, Toscana, and Umbria), while the *big linkers* born in Southern Italy and on the islands also increased over the twenty-year period considered.

Table 9. Big linkers *according to birth region*

Region	1952	1960	1972
Piemonte	2	3	1
Lombardia	9	5	5
Liguria	1	-	2
Trentino-Alto Adige	-	-	1
Emilia-Romagna	2	1	6
Toscana	-	1	1
Umbria	1	1	1
Lazio	3	2	2
Abruzzo	-	-	1
Campania	1	1	-
Puglia	-	-	1
Sicilia	-	1	-
Sardegna	-	1	2
Total	19	16	23
Unknown	5	5	6

As far as educational qualifications are concerned (Table 10), the average level of education was very high: there were nineteen university graduates in both 1952 and 1960, and twenty-four in 1972. Significant changes were registered in the type of university degree held. While degrees in engineering prevailed by far in 1952, over the course of time the situation progressively righted itself to the advantage of graduates in Jurisprudence and in Economics and Business management. In particular, in 1972, the latter actually exceeded graduates in Engineering and in Jurisprudence. This might be an indication of a lesser importance for the technical culture, already pointed out by calculating the number of engineers present on boards of directors of all the joint-stock companies, which decreased from 17.7 for 1952 to 14.3 for 1972 (Vasta, 1999: 1077).

Table10. Big linkers *according to education*

	1952	1960	1972
University degree	19	20 (*)	24
- *Engineering*	*10*	*9*	*7*
- *Jurisprudence*	*4*	*8*	*7*
- *Economics and business management*	*4*	*3*	*9*
- *Agriculture*	*1*	-	-
- *Chemistry*	-	-	*1*
Diploma	5	2	3
- *Accountancy*	*5*	*2*	*2*
- *Technical school*	-	-	*1*
Other	-	-	2
Total	24	22 (*)	29

(*) In 1960 the number of university degrees exceeded the number of university graduates by 1, since one of the *big linkers*, Carlo Faina, had two University degrees: one in Jurisprudence, and the other in Economics and Business management.

Tables 11, 12 and 13 report, for each benchmark year, the distribution of *big linker* presences according to sector of activity of the firms for which they were board members. It can be noted above all that many of them distributed their own positions over a very large number of sectors. The extreme case are those of Massimo Spada and Mario Rossello, who in 1960 numbered presences in companies operating in fourteen different sectors. Even more significant are the mean and median values of the sectoral distribution of the presences, which appear to have been very high and stable in time. Thus, we pass from a mean of 8.4 sectors per board member in 1952 to 9.1 in 1960, and to 8.0 in 1972, while the corresponding values for the median are, respectively, 9.0, 8.0, and 8.0. This seems to confirm that the more prominent positions at the top of entrepreneurship require a low content of technical skills specific to any particular sector and are usually reached at a fairly old age (Martinelli and Chiesi, 1981). In 1952, the sector most represented was that of that of the iron works and mechanical industry, with 110 positions out of 557, equal to 19.7%. This was followed by the production and distribution of electricity, gas and water, with 94 presences (16.9%), the chemical, petrolchemical and rubber industry with 50 presences (9.0%), and non banking financial intermediaries and real-estate companies with 48 presences each (8.6%).

Table 11. Big linkers *per activity sector of the firms for which they were board members (1952)*

Surname	A-B	CA-CB	DA	DB-DC	DD-DE	DF-DG - DH	DI	DJ-DK-DL-DM	DN	E	F	G-H	I	J65.1	J65.2	J66	K	L-O	Total
Valerio		1				7	1	11		15	1	2	2		3		1		44
De Biasi		1				5		17		15	1	2	1						42
Bruno	4	2			1	1		3		13		1	1		6		1		33
Ottolenghi		1					2	20		7					1				31
Pesenti		1		1	1	2	7	4			2	2	1	2	2	1	2		28
Cartesegna							2	1		11	4		3		3		3		27
Spada				3	1	1	1	2		1	3	1	2	4	4	1	1		25
Bonadè B.						1	6	3			2		2		2		5	1	22
Beria		3				3	4	4	1			2	2		1		1		21
Corridori			2	1		2		2		2				2	4		6		21
Bozzola				1	2	3	5	6					2		1				20
Malnati			1	7	1	3		1					1	3	1		2		20
Nogara		1	3		1	3				1		1		1	6	1	2		20
Samaritani			1				1				12	1					5		20
Boeri		1	1	2		3			2	2		1		2	1	1	3		19
Parodi			6	1		2		2		1			1	1		1	5		19
Vola	1		2			1	6	3					1		1	1	3		19
Bobbio						3		1		11			2				1		18
Camerana	2				1	1	2	4	1	1	1				2		2	1	18
Luraghi					2			12		3					1				18
Mizzi		1	4	1	1	4		1			2					1	3		18
Prinetti C.								4		11		1	1		1				18
Rossello				2	1	4	1	3		1		1	1		3		1		18
Valletta						1		6			1			1	4	2	2	1	18
Total	7	13	21	19	12	50	37	110	4	94	29	15	22	16	48	9	48	3	557

Table 12. Big linkers *per activity sector of the firms for which they were board members (1960)*

Surname	A-B	CA-CB	DA	DB-DC	DD-DE	DF-DG-DH	DI	DJ-DK-DL-DM	E	F	G-H	I	J65.1	J65.2	J66	K	N	O	Total
Pesenti	1			1	3		10	5	2	1	1	3	3	5	1	2			38
Spada		2		4		1	2	2	3	2	1	3	6	8	2	1	1		38
Bruno	2	3			1	1		3	13		2	1		9		1	1		37
Bozzola	1		1			6	3	10		1	1	2		6	1	2		1	35
De Biasi						6	1	8	12	3		3		2					35
Rossello			1	1	2	4	1	3	1		1	1	3	4	1	2	1		26
Samaritani			1				3	1		3	3					13	1		25
Valerio						5	1	2	13			2		2					25
Bonadè B.						1	6	1		5	1	2		2		4			22
Lodolo		2			1			3	10	1	1	1		2		1			22
Mizzi	1	1	5	1		2						1	2		1	8			22
Torchiani				1		1	2	3	10	1		1		1	1	1			22
Beria		2				7	3	3			2	2			1	1			21
Marchesano					1	2		1	3				3	5	6				21
Prinetti C.	1	2						3	11	1				1		1	1		21
Bobbio						3		1	11			1		2		1			19
Radice F.						4	1		1	3	1	1	1	1	3	3			19
Rossi G.			1	6				4				2	2	3		1			19
Faina		1				2	1	3	1				1	4	4	1			18
Lazzati					1	1	1	1		4				2		7		1	18
Zanon di V.			2			1	2	1					3	3	5	1			18
Total	6	13	11	14	9	47	37	58	91	25	14	26	24	62	26	51	5	2	521

Table 13. Big linkers *per activity sector of the firms for which they were board members (1972)*

Surname	A-B	CA-CB	DA	DB-DC	DD-DE	DF-DG-DH	DI	DJ-DK-DL-DM	DN	E	F	G-H	I	J65.1	J65.2	J66	K	L	N	O	Total
Spada				3		2	3	2		1		2	2	9	8	6	3		1		42
Pesenti	1			1	1	2	9	3					3	4	3	2	4				33
Zuccolotto						29		1							1		2				33
Quaratino	1		4		2	2	1	1		1		2					12				26
Radice F.				1	3	1	3	1			1	1	1	2	3	5	4				26
Riffeser		1	2		4	6					1	2	5		3	1	1				26
Rovelli						20							1		3	1					26
Zurzolo		1	2	2	1	3	2	6			1	5			2						25
Monti	1	1	3	2	4	4	2				1		1		3		2				24
Dosi	1			7	1	1		4					1		5	1	1	1			23
Ferrari			1				2	13			1			2	2		2				23
Galeati		2	3		4	4	1					2	3		1	1	1		1		23
Bassetti G.				6							1						15				22
Martelli	1		1				6	4			1		3		4		1				21
Baldini								15				1			2		2				20
Costa			1	6	1	1	1	2				1		2	1	2	1			1	20
Mizzi	1		7			3							1	2		1	5				20
Torchiani	1					2	2	4				1	3		5	1	1				20
Villa			7			4	1	2			1	1			1		2				19
Bassetti G.S.			3	8	2			1				2		1	1						18
Berbero				8	1	1						1			6		1				18
Bucarelli						12		2				1			1		2				18
Capanna							1	7			2	2		1	2		3				18
Corsi			1	1		5						1		1	5	4					18
Jacoboni			1		1	1		5		2		1			6		1				18
Lazzati				1	1	1		2			1			1	3		7			1	18
Lolli								1					1	4	5	7					18
Maccaferri		2	1			1		9			2				1		2				18
Valeri M.				2	2		2	1	2				4	1	4						18
Total	7	7	37	48	28	105	36	86	2	4	13	26	29	31	81	32	75	1	2	2	652

In 1960 the top position was occupied by public utilities, with 91 presences out of 521 (17.5%), followed by the non-banking financial intermediaries with 62 presences (11.9%). The iron works and mechanical industry dropped to third place with 58 presences (11.1%), and preceded the sector of real-estate activities with 51 presences (9.8%) and the chemical, petrochemical and rubber industry with 47 (9.0%).

What has been pointed out does not, however, seem in itself to be indicative of a loss of importance of the iron works and mechanical industry in the top echelons of Italian capitalism. In fact, it is due above all to the disappearance from the circle of *big linkers* of Ottolenghi and Luraghi, two Iri trustees who, taken together, combined 32 of the 110 presences noted in this sector in 1952. This circumstance seems to have depended on a changed configuration in the chains of control within the Iri group. The impression is that, at Iri in 1952, a system of "long" chains was in force, with individual trustees who also occupied a high number of positions, while in 1960 they had passed to a system of "short" chains - to the point that, in that year, there no longer appeared any trustee of the State holding among the *big linkers*.

The 1972 picture showed up -at a distance of ten years after the electrical industry was nationalised- the almost total disappearance of the public utilities sector, which then numbered barely four presences out of 652. At the top of the classification with 105 presences (16.1%) was the chemical, petrochemical and rubber industry, followed by the iron works and mechanical industry with 86 (13.2%), the non-banking financial intermediaries with 81 (12.4%), the real-estate activities with 75 (11.5%) and the textile and garment industry with 48 (7.4%).

Tables 14 to 16 supply the matrices of the director-by-director adjacencies, which report the ID existing between the *big linkers* during the three benchmark years[10]. Above all, we can note that the overall number of ID between *big linkers* constantly decreased from 514 in 1952 to 460 in 1960 and to 364 in 1972. However, if the diminution in the first interval was entirely due to the reduction -from 24 to 21- in the number of the *big-linkers*, with the mean number of ID per *big-linker* rising from 21.4 to 21.9, the drop in the second interval occurred despite a 38% increase -from 21 to 29- in the number of the *big-linkers*, which made the mean number of ID per *big-linkers* fall even more sharply, from 21.9 to 12.6. This was a reduction which, due to its considerable size, appeared as a further sign of a decrease in the degree of cohesiveness of the system that existed during the second interval under consideration.

[10] In social network analysis, adjacency is the graph theoretical expression of the fact that two agents (in our case, two *big linkers*) are directly related or connected with one another (in our case, by sitting on the same company board). See Scott (1991: 42-50).

Table 14. Matrix of the director-by-director adjacences for the big linkers *(1952)*

Surname	Valerio	De Biasi	Bruno	Ottolenghi	Pesenti	Cartesegna	Spada	Bonadè B.	Beria	Corridori	Bozzola	Malnati	Nogara	Samaritani	Boeri	Parodi	Vola	Bobbio	Camerana	Luraghi	Mizzi	Prinetti C.	Rossello	Valletta	Total
Valerio		33	3	2	2	2	1						2		1			17	1				2	1	67
De Biasi	33		2	2		1									1			14	1				1		55
Bruno	3	2		1		10				1								1				12		3	33
Ottolenghi	2	2	1		1	3	1												1	13					24
Pesenti	2			1		3	6			2			3	1									2	3	23
Cartesegna	2	1	10	3	3			4	1	1			2				1		3			7	1	3	42
Spada	1		5	1	6								1										1	1	11
Bonadè B.						4			7		2			1			6		7					4	31
Beria						1		7			2						4		4					2	20
Corridori			1	1	2	1									1										5
Bozzola								2	2								3		1				1		9
Malnati																									0
Nogara	2				3	2	1							1	3	1							1	1	15
Samaritani					1			1					1								1			1	5
Boeri	1	1								1			3				1	1					2		9
Parodi													1							1					1
Vola						1		6	4		3								6					3	23
Bobbio	17	14	1		1										1								1		34
Camerana	1		3	1		3		7	4		1						6							7	31
Luraghi				13																					13
Mizzi														1											1
Prinetti C.			12			7																			19
Rossello	2	1			2	1	1				1		1		2			1						1	13
Valletta	1		3		3	3	1	4	2				1	1			3		7				1		30
Total	67	55	33	24	23	42	11	31	20	5	9	0	15	5	9	1	23	34	31	13	1	19	13	30	514

Table 15. Matrix of the director-by-director adjacences for the big linkers *(1960)*

Surname	Pesenti	Spada	Bruno	Bozzola	De Biasi	Rossello	Samaritani	Valerio	Bonadè B.	Lodolo	Mizzi	Torchiani	Beria	Marchesano	Prinaetti C.	Bobbio	Radice F.	Rossi	Faina	Lazzati	Zanon di V.	Total
Pesenti		9	1		3	4	1	4				6		3		3			1			35
Spada	9					8		2				5		5		1	1		2			33
Bruno	1			1	1	1				16					17	1	2		1			40
Bozzola						1			4				4									9
De Biasi	3		1			1		21		1		2		1		12	1					43
Rossello	4	8	1	1	1			3		1		4		4		2	2	1	4		2	38
Samaritani	1																3					4
Valerio	4	2			21	3				1		3		2		14	1		1			52
Bonadè B.				4									4									8
Lodolo			16		1	1		1				1			12				1			33
Mizzi																						0
Torchiani	6	5			2	4		3		1				4		2			2			29
Beria				4					4										1			9
Marchesano	3	5			1	4		2				4				1	2		1			23
Prinetti C.			17							12						1			1			31
Bobbio	3	1	1		12	2		14				2		1	1		1					38
Radice F.		1	2		1	2	3	1						2		1				1		14
Rossi						1															1	2
Faina	1	2	1			4		1		1		2	1	1	1							15
Lazzati																	1					1
Zanon di V.						2												1				3
Total	35	33	40	9	43	38	4	52	8	33	0	29	9	23	31	38	14	2	15	15	3	460

Table 16. Matrix of the director-by-director adjacences for the big linkers *(1972)*

Surname	Spada	Pesenti	Zuccolotto	Quaratino	Radice F.	Riffeser	Rovelli	Zurzolo	Monti	Dosi	Ferrari	Galeati	Bassetti G.	Martelli	Baldini	Costa	Mizzi	Torchiani	Villa	Bassetti G.S.	Bernero	Bucarelli	Capanna	Corsi	Jacoboni	Lazzati	Lolli	Maccaferri	Valeri M.	Total
Spada		11			1		1			1				1				5					1	2			9		2	34
Pesenti	11		1		1		1				1			2				6						2			6			30
Zuccolotto							13															8								21
Quaratino								1																						1
Radice F.	1	1												2		1		1									2			8
Riffeser									14			16																		30
Rovelli	1	1	13													1		1				10					1			28
Zurzolo				1							1														3					5
Monti						14						11																		25
Dosi	1												2			1				2			1				3			10
Ferrari		1						1									1								1		2		1	7
Galeati						16			11																					27
Bassetti G.										2										4										6
Martelli	1	2			2													8						1			1			15
Baldini																							2							2
Costa					1		1			1														1						4
Mizzi											1																			1
Torchiani	5	6			1		1							8						1			1	4			2			29
Villa																														0
Bassetti G.S.										2			4					1						1		1				9
Bernero																														0
Bucarelli			8				10																							18
Capanna	1									1					2			1												5
Corsi	2	2												1		1		4		1							1			12
Jacoboni								3			1															1				5
Lazzati																				1					1					2
Lolli	9	6			2		1			3	2			1				2						1						27
Maccaferri																														0
Valeri M.	2										1																			3
Total	34	30	21	1	8	30	28	5	25	10	7	27	6	15	2	4	1	29	0	9	0	18	5	12	5	2	27	0	3	364

In 1952, only one personage was not linked to any of the other *big linkers*, and only six others numbered less than ten ID. At the head of the classification there were two very well-known figures, Giorgio Valerio and Vittorio De Biasi -both Managing Directors of the most important electrical company in the country, Edison- with 67 and 55 ID, respectively. What is striking is the large number of ID (33) that linked these two personages to each other and both of them to another Managing Director of Edison, Carlo Bobbio, who ranked in fourth place (17 for Valerio and 14 for De Biasi). In third place figured a relatively little-known personage, Francesco Cartasegna. He actually jumped to first place if we consider the number of other *big linkers* with whom at least one interlock existed. In fifth place was another very well-known personage, Luigi Bruno -Managing Director of the one of the major electrical holdings in the country, La Centrale.

Also in 1960 there was only one personage who had no ID with other *big linkers*, while another six had less than ten. The personages with the greatest number of ID were still those linked to the electrical industry. At the top of the classification, in spite of his dropping to seventh place in the number of presences on boards of directors, remained Giorgio Valerio with 52 links, followed again by Vittorio De Biasi with 43, 27 of which with Valerio. In third place was Bruno, with 40 links, followed by Bobbio and the President of Edison, Mario Rossello, with 38 links each. Rossello was a very interesting figure. In fact, differently from the other executives of Edison -Valerio, De Biasi and Bobbio- who tended to accumulate their own ID above all among themselves, he had only a few links them, while numbering a total of thirteen other *big linkers* with whom he was interlocked.

In 1972 the drastic reduction in the number of ID existing among *big linkers* was accompanied by an increase in both the personages not connected to any other *big linkers*, who rose to three, and in those connected by less than ten interlocks, at that point equal to thirteen out of twenty-nine. The personage with the greatest number of ID was Massimo Spada, principal trustee of Vatican finance, with 34 links, followed by Carlo Pesenti, boss of Italcementi, and Bruno Riffeser, executive of the Monti group -a conglomerate present above all in the oil, sugar and publishing sectors, which had greatly expanded in the late 1960s and early 1970s- with 30 links each. In fourth place appeared the Managing Director of Bastogi, Tullio Torchiani, with 29 ID, while in fifth place, with 28 ID, was Nino Rovelli, boss of Sir-Rumianca, one of the largest chemical companies in Italy at that time.

On the whole, different types of ID seem to be pointed out which often overlapped even in the presence of the same *big-linker*. The first type consisted of the presences that were superimposed on relations of share control. This was the case, above all, of the presences of the top managers of large State owned and private firms on the boards of directors of controlled companies. To this type of ID could be attributed, for instance, the numerous presences of Valerio De Biasi and Bobbio on the

boards of directors of companies belonging to the Edison Group; of Valletta, Beria, Bozzola, Bonadè Bottino and Camerana in the Fiat Group; of Bruno, Prinetti Castelletti, and Lodolo d'Oria in the La Centrale Group; of Faina in the Montecatini Group; of Corsi in the Montedison Group; of Pesenti in the Italcementi Group; of Monti, Riffeser and Galeati in the Monti Group, and of Rovelli, Zuccolotto and Bucarelli in the Sir-Rumianca Group; of Ottolenghi, Quaratino, Baldini and Capanna in the Iri Group; of Zurzolo and Jacoboni in the Efim Group. We could even hypothesise that there were personages "specialised" in a certain sense in this type of ID, as for example Vola and Luraghi, whose presences in 1952 were entirely concentrated -as to the former- in the Fiat Group and -as to the latter- in the Iri group.

More significant, however, were the IDs that existed between independent companies. Among these can be distinguished above all those which united industrial groups with banks and insurance companies. Only a few of these interlocks showed a directionality -one that was considered typical of the model of finance capital- which ranged from institutes of financial intermediation [banks and assurances] to industrial companies (Hilferding, 1910). This circumstance was not at all surprising, after the banking Law of 1936 had provided for a clear-cut separation of commercial credit from industrial credit. The only cases attributable to this type are probably those of Massimo Spada (whose numerous presences derived above all from being the principal trustee for Vatican finance), Giovanni Battista Boeri (president of Crediop and Icipu) who in 1952 also sat on the boards of directors of companies of the Edison, Montecatini, Sade, Sme, Pirelli and Italgas groups, Giuseppe Corridori (president of the Banca Nazionale del Lavoro [Bnl]), who in 1952 numbered positions also in companies of the Iri, Snia-Viscosa, La Centrale, and Gaslini groups), and Alberto Ferrari (managing director of the Bnl, who in 1972 sat on the board of directors of a dozen companies of the Montedison group, as well as on those of Ibm Italia, Efibanca, and Insud). There was then a fairly good number of banking and insurance company IDs generated by top managers of large industrial enterprises. In this case, the directionality did not range from banks (or from insurance companies) to industrial enterprises (as postulated by the financial capital model), but from the latter to the former. Therefore, in 1952, the president of the Fiat, Vittorio Valletta, also sat on the board of directors of Credit, Efibanca, and Ras, while Giorgio Valerio and Luigi Bruno -managing directors, respectively, of Edison and Centrale- were present on those of Efibanca. In 1960, Carlo Faina, president of Montecatini, was also a board member of Credit, of Assicurazioni Generali, and of the three branches of La Fondiaria [insurance]. In the same way, in 1972, the oil industry executive Nino Rovelli, owner of Sir-Rumianca, also sat on the board of directors of Ras.

While, on the one hand, this type of ID reflected the changed-by-force relations between banks and industries that were consequent on the collapse of the mixed bank, it must not necessarily be seen, however, as an expression of the exercise on the part of industrial enterprises of a

domination in regard to banks and insurance companies[11]. Rather, it would seem to be a case of the ID which Pennings (1980) termed "persuasive". To understand its nature, it is necessary to consider the fact that the role played by banks and insurance companies was that of collecting information on the general trend of business and on the situation of the individual production sectors, which in a certain sense was similar to that of the trade associations. Banks and insurance companies thus ended up becoming depositories of information that the top managers of industries could be very interested in having access to. On the other hand, banks and insurance companies could have an interest in opening up their boards of directors to the executives of those industrial enterprises which, thanks to their size and solidity, could become top clients of theirs.

Another type of ID consisted of the interlocks generated by personages who sat on a large number of boards of directors of firms belonging to different groups, but without having a "strong" or prevalent affiliation with any of them. Perhaps these were more interesting IDs which, most of the time, were generated by relatively little-known personages, such as Francesco Cartesegna, Bernardino Nogara, Mario Rossello, Tullio Torchiani, Enrico Marchesano, and Eugenio Rdaice Fossati, Giuseppe Martelli and Ettore Lolli. These seem to have been, so to speak, *zipper* figures, who could be comparable to the "network specialists" about whom Stokman and Wasseur wrote (1985). In addition to making the circulation of the information quicker, these IDs seem to have performed -as Raffaele Mattioli (1962) had an opportunity to observe in his time- an essential function in guaranteeing the strategic coordination and stabilisation of the positions of control of the major private entrepreneurial groups.

The IDs which united banks, insurance companies and industries also contributed to maintaining the stability of the positions of control, just like those generated by the presences of the top managers of the most important industrial groups on the boards of directors of group companies (often corroborated by the exchange of minority stakes, through finance companies).

A final topic on which the analysis of *big linkers* led us to reflect concerns the relationship between large and small businesses and the presumed dwarfism of Italian industry. In fact, there was no lack of cases of *big linkers* who added up presences on boards of directors of banks, large industrial firms, financing companies, real-estate companies and, at the same time, of medium to small manufacturing companies. Thus, in 1952 the president of the Bnl, Corridori, was also a

[11] Only in a few cases (those of the presence of Carlo Pesenti on the boards of directors of the banks of the Italcementi Group and of Giorgio Corsi in that of a small bank controlled by the Montedison Group) were these IDs manifested in correspondence with the exceptions permitted to the general rule that prohibited industries from having control over credit institutes. In fact, maintaining the major banks under the control of Iri -in the period after World War II- preserved their managerial autonomy from a possible privatising which would have occurred with the money of the same, but to the advantage of the larger industrial groups. On this point, see Conti (1999).

director of a small textile industry, the Torcitura in Pianello Lario (province of Milano); Carlo Malnati sat on the boards of three small banks and, at the same time, on those of a fairly good number of textile firms and a food company, all in the province of Milano. In 1960, Guido Rossi, the future president of Consob, sat on the boards of directors of Pirelli & C., of two banks, three finance companies, and some ten small and medium textile, mechanical and food companies in the province of Milano. In 1972, Virginio Bernero -president of the Professional Accountants' Association of Vercelli- was a member of the board of directors of some ten small and medium-sized Piemontese firms, mainly textile companies.

Also here, the impression is that we are confronting different types of IDs. On the one hand, there were "hierarchical" relationships, the expression of the domination of a large group (financial and non) over the smaller firms: this was the case of the IDs generated by Corridori and Rossi.

On the other hand, it seems that there were links of a different type. We can note, for example, the cases of Malnati and Bernero: both of them did not sit on the board of directors of any large companies, but only on the boards of a number of small medium-sized firms of the province of Milan and of Eastern Piemonte, respectively. Moreover, none of them was linked by any ID to anyone of the other *big linkers*. The impression is that these personages were at the centre of two networks of interlocks strongly connoted on the local level -which unwound parallel with the one based on large firms- an expression of the capacity of a part of the Milanese and Piemontese small and medium-size firms (above all, textile companies) to give rise to network relations among themselves, create alliances and accede to information and strategic resources, without this implicating a subordination in regard to the banks or the larger firms[12].

6. The role of the banks

As we have seen in the preceding sections, during the entire period, the banking sector remained the one with the highest number of links per firm within the entire system, together with insurance companies. This characteristic undoubtedly depended on the size of the board of directors of banks, whose average is almost three times that of the other companies. However, at the same

[12] In the same way -just outside the list of the *big linkers*- in 1972 Donato Cattaneo -owner of Nebiolo, a medium-sized leader firm in Europe in the production of graphics machines- was a member of the board of directors of Olivetti, of the Finanziaria Regionale Piemontese (Fiat Group), of Seimart (Gepi), of Moncenisio (Egam), of Seimm (De Tomaso-Rowan Group), of Linotype (Eltra Corporation group - USA), and of the Fonderie Subalpine (Ferodo Group - France); but was also a board member of small and medium size firms in Piemonte and Lombardia, such as Challier, Nebiolo, Omac, Finigraf, Meccanica Sommariva, Riva Calzoni, and Pivano & C. Cattaneo does not seem to be the vector of a dominance on the part of such large groups as Fiat, Olivetti, Ferodo, Gepi and Egam in regard to the other firms he was a board member of. The impression is that the picture of the relations of these large groups with the smaller firms in the network was more complex that what was commonly believed: while these large groups exercised a hierarchical control in regard to an -even consistent- part of the small firms with which they were connected, there was a second group of lesser firms with which relations were better balanced.

time, it was also the sign of the peculiarity of the role played by the banking sector in the system. As can be noted from Table 17, the number of banks did not undergo important variations during the entire period, while the number of MDs within the banking system (directors with more than one presence on a board of directors of two or more banks) increased, showing values considerably higher than those observed before World War II, when the role of banks was commonly believed to be central to the inner working of the Italian economic system.

Table 17. Descriptive statistics of the bank system

	1952	1960	1972
Firms	127	111	138
Seats	1,318	1,207	1,693
Directors	1,217	1,101	1,468
Average size of board of directors	10,38	10,87	12.27
CR Cumulation Ratio	1.08	1.10	1.15
MD % Multiple Directors	6.74	7.72	11.24

The same remark can be made by observing the CR. It therefore seems that the banking system increased its own cohesiveness, right at the moment -subsequent to the nationalisation of the electrical industry- in which it seemed to be regaining its own centrality within Italian capitalism.

Table18. Number of firms interlocked with banks according to sector of activity

Sector of activity	Description	1952			1960			1972		
		Firms	ID	%	Firms	ID	%	Firms	ID	%
A-B	Agriculture, forestry and fishing	97	15	15.5	57	14	24.6	158	21	13.3
CA-CB	Mining and quarrying	127	22	17.3	144	22	15.3	163	17	10.4
DA	Food and tobacco	517	98	19.0	492	85	17.3	775	88	11.4
DB-DC	Textiles and leather, dressing and shoes	645	148	22.9	526	143	27.2	862	106	12.3
DD-DE	Wood, paper, publishing and printing	268	55	20.5	310	69	22.3	543	69	12.7
DF-DG-DH	Coke, petroleum, chemicals, rubber and plastic	491	101	20.6	582	107	18.4	1,034	123	11.9
DI	Other non-metallic products	214	44	20.6	242	58	24.0	639	80	12.5
DJ-DK-DL-DM	Metal products, mechanical and transport products	840	163	19.4	964	175	18.2	2,111	216	10.2
DN	Other manufacturing	44	9	20.5	49	9	18.4	167	9	5.4
E	Electricity, gas and water supply	169	66	39.1	167	65	38.9	76	16	21.1
F	Construction	205	41	20.0	188	39	20.7	432	52	12.0
G-H	Trade	686	99	14.4	544	60	11.0	1,085	79	7.3
I	Transport, storage and communication	352	80	22.7	407	79	19.4	640	109	17.0
J	Financial intermediation	289	131	45.3	376	164	43.6	656	213	32.5
J other financial	*Other financial intermediation*	*218*	*87*	*39.9*	*298*	*117*	*39.3*	*536*	*152*	*28.4*
J insurance	*Insurance*	*71*	*44*	*62.0*	*78*	*47*	*60.3*	*120*	*61*	*50.8*
K	Real estate, renting, business activities	943	139	14.7	1,068	144	13.5	2,060	194	9.4
L-O	Public administration, other social service activities	135	23	17.0	95	13	13.7	155	26	16.8
N	Health, social work	31	3	9.7	49	8	16.3	108	8	7.4
Total		6,053	1,237	20.4	6,260	1,254	20.0	11,664	1,426	12.2

Table 18 shows the sectors with which the banks kept up the greatest number of links. It also points up several general characteristics of the banking sector. In observing the overall information, we can note in fact that the number of companies linked to banks was stable between 1950 and 1962, while -contrary to what might have been expected, taking into account the results previously commented on- it dropped considerably in 1972, when only about 12.2% of the companies were found to have connections with banking institutes.

Table 19 -where the intensity of the links between banks and other sectors is calculated by considering their strength as well- confirms this result. For each sector, the intensity is measured by the ratio between the number of IDs connecting it with the banks, and the number of all possible IDs:

$$r_{ij} = b_{ij} / \sqrt{d_i d_j}$$

where b_{ij} is the number of ID between sector i and sector j; d_i is the number of places on the boards of directors of sector i, and d_j is the number of places available in sector j. The larger the index, the greater the intensity of the links between the two sectors. In the case of no interlocks, i.e. $b_{ij}=0$, the intensity is $r_{ij}=0$.

As anticipated, in 1972 we can note a decrease in the links of banks with the other sectors; but, in observing the disaggregated data at a sectoral level, we can advance several interpretative hypotheses on the apparent inconsistency emphasised above. Probably, the decrease mirrored both the general drop in the system's general cohesiveness, a good part of which was also due to the differing numerousness of the sample, as well as to -with the increased weight of small and medium-sized firms- the decrease in links between banks and manufacturing companies while, at the same time, those between the banking system and finance companies increased. That is, the banks inherited the role of the electricity companies at the centre of the system, while diminishing their connections with industrial companies.

From an analysis of the data presented in Tables 18 and 19, it was found that, during the entire period, the section with the highest number of links with banks was that of the finance companies: in 1952 and 1960 respectively 45.3 and 43.6 of the companies in this sector were linked with at least one bank. However, the level of intensity of these links rose in 1972 in correspondence with a decrease in the number of linked companies (32.5), when the number of companies in the sector increased considerably. Also the electrical companies showed very high values for 1952 and 1960, with a strong decline in 1972 for the reasons that we have already recalled. Values higher than the average were shown by the textile and clothing sectors in particular in 1960, followed by a considerable drop both in percentage and absolute terms in 1972.

Table 19. Intensity of banks interlocked with other firms according to sector of activity

Sector of activity	Description	1952	1960	1972
		Intensity	Intensity	Intensity
A-B	Agriculture, forestry and fishing	4.21	4.70	3.19
CA-CB	Mining and quarrying	4.80	5.42	2.64
DA	Food and tobacco	9.64	9.18	6.08
DB-DC	Textiles and leather, dressing and shoes	16.22	18.52	10.32
DD-DE	Wood, paper, publishing and printing	7.58	9.73	5.72
DF-DG-DH	Coke, petroleum, chemicals, rubber and plastic	10.74	10.25	7.36
DI	Other non-metallic products	8.15	11.28	9.44
DJ-DK-DL-DM	Metal products, mechanical and transport products	12.07	14.17	10.18
DN	Other manufacturing	2.67	2.98	1.74
E	Electricity, gas and water supply	14.65	15.83	4.69
F	Construction	6.95	8.04	4.79
G-H	Trade	8.47	6.10	5.49
I	Transport, storage and communication	10.26	9.99	10.56
J	Financial intermediation	31.86	33.63	36.64
J other financial	*Other financial intermediation*	*30.25*	*23.90*	*24.34*
J insurance	*Insurance*	*21.97*	*19.01*	*25.80*
K	Real estate, renting, business activities	15.23	15.58	13.33
L-O	Public administration, other social service activities	6.92	2.94	3.92
N	Health and social work	1.15	3.75	2.25
Total		44.77	48.18	37.09

7. Conclusions

The analysis carried out confirms that the structure of Italian capitalism maintained substantial peculiarities also during the period following World War II. These originated from the rescue operations of the 1930s, which had enlarged the State's presence in the economy to an extent that had no comparisons in the other industrial countries of the West. In associating with the reassertion of the central role of private property in the national economic system, this circumstance posed in the first place the need for guaranteeing an equilibrium that would permit a coexistence between the area of State-owned firms and that of private firms, avoiding the prevalence of either of the parties over the other. To this end, it was necessary to guarantee the stability of the orders of control of the major private firms (Barca, 1997), putting an end to the disturbances and conflicts that had distinguished relations during the early decades of the XX century (Mori, 1977).

The stabilising of the orders of control of the major private groups, among which the large electrical-commercial companies stood out, was favoured by the 1942 Italian Civil Code (Teti, 1999) and pursued by resorting to a multiplicity of instruments: i) the pyramidal group, i.e. the

organisation of production activity into an aggregate of legally-separate companies that are linked by chains of control, to the point that the capital owned by the controlling subject was concentrated in a single company placed at the head of the group, and that of the other share-holders was scattered among the subsidiary companies, so as to render ineffective their right to vote; ii) cross participations between head-of-group companies and controlled companies; iii) cross participations between different groups, realised through *bridging* companies; iv) exchanges of shares with insurance companies capable of supplying a cash support; v) the possibility, on the part of the directors, to collect the vote proxies of the small share-holders without any particular informational obligations or fiduciary duties; vi) the presence of statutory regulations aimed at discouraging climbings, such as the right of directors to refuse to enter the names of new share-holders in the members' register (Radar, 1948; Battilossi, 1992; Amatori-Brioschi, 1997). These instruments were accompanied by the sharing of board members (Ferratini Tosi *et al*., 1983; Ferri-Trento, 1997).

The impression is that, in 1952, the function of IDs in this context could be explained through a network of *bridging* companies, divided over two fundamental levels. The first included an aggregate of companies -such as Bastogi, Efi, Ras, Condor, and Generale Immobiliare di Lavori di Utilità Pubblica ed Agricola- which functioned as a *bridge* among all the major State-owned and private groups, both electrical and not. The second consisted of another aggregate of companies -such as Coniel, Idroelettrica Sarca Molveno, Idroelettrica Medio Adige, and Sieo Imprese Elettriche d'Oltremare- which carried out this same role limited to only -also in this case, both private and State-owned- electricity groups.

In 1960 the importance of the top-level *bridging* companies seemed to have increased significantly. Evidently, the incumbent threat of a possible nationalisation of the electricity industry as well as the pursuing of a conglomerate-type diversification strategy had induced the major electrical groups to increase their links with the entire spectrum of interests of the large industrial and financial groups, while the relevance of *bridging* companies internal to the electricity sector had been reduced. New top-level *bridging* companies -among which several insurance and finance companies were conspicuous- were added to those already in existence. The continuance of stable and elevated density indexes between 1952 and 1960 thus seems to have been accompanied by a re-equilibrium of the necessary relations between electricity and non-electricity, with the latter included at that point in a position of equal dignity at the top of the system.

Nationalisation of the electricity industry led to a dissolving of the old centre of the system. Nevertheless, in 1972, a new centre had been formed or was in the process of being formed. Less strong and cohesive than the preceding one, it hinged on financial intermediaries: banks, insurances and a part of finance companies. The rise in the number of finance companies among the top thirty in 1972, accompanied by a contemporary one third drop in the mean number of interlocks per

company may indicate that a bifurcation had taken place within that sub-sector of financial intermediaries. On the one hand, the major and well-established finance companies had been co-opted within the new centre under formation. On the other hand, the considerable increase in the number of finance companies occurred between 1960 and 1972 seems to have been due above all to the reduction -as a result of the inversion of the economic cycle- in the self-financing capacity of the majority of industrial groups. This induced them to utilise this instrument -that is the setting up of new finance companies, often with relatively small boards of directors- in order to maximise their own capacity to incur debts, the net assets being equal, lengthening the corporate chain and optimising the management of the financial resources (Barbiellini Amidei-Impenna, 1999).

The in-depth examination made of the role of banks within the system arrives at conclusions that were similar to those proposed by Ferri and Trento (1997), diverges from what Chiesi (1982; 1985) and Amatori and Brioschi (1997) upheld, and points out that the role of the banks remained important for the entire period, with the permanency of long-lasting structural links with both industrial and insurances as well as with a part of finance companies. After the electricity industry was nationalised, banks returned to being placed, together with insurances and the major finance companies, at the centre of the system, reacquiring -at least in part- the position that they had held in the 1920s (Vasta-Baccini, 1997). However, it must be emphasised that, while the banks maintained overall a fundamental role within the Italian capitalistic system, the 1936 Law produced varied effects on the various subjects. On the one hand, formerly mixed banks were forced to make a profound change in their strategies, which led to an enormous reorganisation. On the other hand, the other banks -particularly the smaller ones- were less affected by the Law's provisions (Gigliobianco-Piluso-Toniolo, 1999). Both Credit and Comit strongly reduced their connections with other companies, which passed from a few hundred in the 1920s and 1930s (Baccini-Vasta, 1995) to a few dozen, with a constantly downward trend, during the period taken into consideration. At the same time, in 1972, some small private banking institutes, such as the Banca d'America e d'Italia, Credito Commerciale, Banca Provinciale Lombarda, and the Istituto Bancario Italiano, were at the top of the classification of the number of interlocks. Thus, it does not seem that we can share the assertion according to which «the interlocks between banks and non-banking companies […] involved the State owned banks to an almost exclusive extent» (Ferri-Trento, 1997: 415-416), while, with the exception of Efibanca, these were, instead, placed in a more peripheral position.

The reduction in the degree of the system's overall cohesiveness does not seem to have been devoid of repercussions on the links between State-owned and private companies, even if the empirical evidence is weaker in this case. In 1952, the two poles appear to be strongly inter-connected. Just think of the fact that 16 *big linkers* out of 24 sat contemporaneously on the boards of directors of State-owned and private companies, and that simply through the links generated by

these personages, the companies belonging to Iri were linked to 15 out of the 20 most important private groups. In 1960, the situation remained substantially unchanged: the *big linkers* who accumulated presences in State owned and private companies amounted to 13 out of 21. Through these, the Iri companies numbered links with 14 of the 20 major private groups. Instead, in 1972, the number of *big linkers* present in both State owned and private companies -although remaining substantial- had decreased to a certain extent (16 out of 29); the Iri companies were connected to 7 of the 20 major private groups, while two other State-owned groups –Eni and Efim- were connected to 5 and 2 large private groups respectively.

Thus, the overall impression is that -differently from the results obtained by Chiesi (1982; 1985) using a different sample, according to which in 1976 the centre of Italian capitalism was marked by the presence of two large poles, one State-owned and the other private, which were clearly distinct one from the other- as far as 1972 is concerned the events following the nationalisation of the electricity industry had led to the formation of one new centre, that included both the State-owned and the private poles even if the ties between them were less cohesive than in the 1950s and in the early 1960s. Among the clues leading to such a conclusion we can underscore the circumstance that -also in 1972- more than a half of the *big linkers* sat contemporarily on boards of directors of both State-owned and private companies, while none cumulated his presences entirely within the State-owned sector. Furthermore, an analysis on the ten State-owned companies included in the top thirty for that year shows that seven of them shared at least a half of their directors with private ones, ranging from six out of eighteen for Icipu (33%) to nine out of twelve for Mededil (75%). And -what is by no means less important- each of them was interlocked with a high number -some dozens- of private firms.

Lastly, the paper has demonstrated that the phenomenon of IDs was not limited to the major groups, but also involved a part of the smaller enterprises. This is an extremely interesting fact, which induces us to reflect on another peculiarity of Italian capitalism, namely the presumed dwarfism of its entrepreneurial base. In fact, while the sharing of one or more directors with another company is an element that makes it possible to broaden a company's confines, we can assert that at least a small part of the small Italian firms was a little less small that what was commonly believed. Perhaps also the scarcity of medium-size firms, a characteristic of Italian capitalism that has been observed quite often in the literature, could find an explanation in the existence of microgroups, gathered around a single ownership, which would make the model of the decentralisation of control less significant than is commonly believed.

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