Corporate governance and bank profitability: empirical evidence from the Italian experience

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1. Introduction

Beginning in the early nineties the vast majority of Italian banks have been affected by a fall in profit margins. A decline in net income from traditional banking business, downward rigidity of operating costs and an increasing share of gross income offset by loan losses have been system-wide trends due in part to structural and external factors. Tendencies, similar in nature if different in timing, emerged in the banking systems of most major countries as a consequence of liberalisation and deregulation. The magnitude of the profit reduction and the persistence of poor profitability nevertheless suggest that the problems of Italian banks stemmed not only from structural factors but also from significant inefficiencies in management. It has been argued that, in the years preceding the profit decline, public ownership of a very large part of the banking system had weakened incentives for the efficient use of real and financial resources. The structurally high profit margins of that era may have enabled banks to compensate for their inefficiencies despite intensifying competition. In short, the adjustment of the Italian banking system could have been hindered by problems of corporate governance, some of them a legacy of the past.

This paper offers an empirical test of this hypothesis, collating two information sets: differences in profitability between Italian banks from 1984 to 1996 and changes in top management during a much briefer period, 1994-96. Like those of other countries, the Italian banking system features broad dispersion in return on assets, due to differences in business specialisation, degree of competition in market segments and, at least in part, differences in both allocative and operating efficiency.

To pinpoint the role of operating efficiency, we have conducted an econometric exercise relating profits to a set of variables that can be interpreted as indicators of efficiency, controlling for the effects of specialisation and market composition. In particular, we have considered two set of variables, one designed to capture banks' capacity and incentives for risk management and one to measure efficiency in the combination of productive factors. To test the hypothesis that inefficiencies, and hence differentials in profitability, are linked to differences in ownership, we also introduced stylised variables for corporate governance, such as type of ownership and stock exchange listing. The methodology differs from the standard one for estimating efficient frontiers in that it permits direct identification of the determinants of differences in profitability. Estimates derive from a fixed-effect panel model. To assess the effect of the governance variables, in addition to gauging their contribution to the individual component of each bank not explained by the other regressors, we analysed their correlation with the most significant indicators of efficiency. This procedure is justified by the pronounced stylisation of the information on governance, which makes it impossible to capture the real diversity of systems.

Finally we analyse the relationship between the earnings performance of banks and changes in top management. The issue is important for two reasons: first, in a system in which banks are directly or indirectly owned by the state, it is likely that managers face different incentives and constraints from those faced by managers in the private sector. If profit maximisation is not the only objective of the leading shareholder, the expected negative relationship between profitability and management turnover will probably be weakened. Second, the period under study was marked by a considerable

deterioration in average bank profitability. As a result, banks began a process of restructuring that, in addition to promoting the supply of innovative services and cost containment, probably affected the quality of top management.

The paper is organised as follows: in Section 2 we briefly review the main arguments of the theoretical and applied literature on corporate governance in banking. Section 3 analyses profit differences among banks both descriptively (Section 3.1) and econometrically (Sections 3.2 and 3.3). Section 4 examines changes in top management, while Section 5 concludes.

2. Banks' efficiency and corporate governance

The relationship between systems of corporate governance and business efficiency is a theme that has attracted economists ever since neoclassical theory was judged inadequate to describe the constraints and purposes of entrepreneurs. Analysis of the various mechanisms by which corporate governance is exercised becomes relevant given two conditions: an agency problem generating conflicting interests between the various parties involved (owners, managers, creditors, employees); or transaction costs so high as to prevent resolution of conflicts by contract between the parties (incompleteness of contracts).[2] The most commonly studied conflicting interests are those of providers of finance (owners and creditors) on the one hand and management on the other and those of suppliers of finance enjoying different preference (equity and debt capital). In the former case, the problem is to oblige management to pursue maximisation of the value of the firm rather than personal advantages. In the latter, differing positions in case of liquidation create differing preferences on risk-taking. Specific forms of ownership correspond to different degrees of informational asymmetry. The problem of monitoring management decisions is presumably much less severe when ownership is concentrated and more severe when shareholding is diffuse. It also varies in severity between financial systems and firms.

Interest in corporate governance in banking has increased of late, chiefly because of the transformation of the financial system in many countries (Prowse (1997)). Banks share with non-financial firms the same sort of governance problems such as the control of shareholders on the management's choices (Tonveronachi (1997)). On the other hand, banking intermediation is based on funds raised from a myriad of small depositors with neither the incentive nor the capacity to gather information or to act to modify management decisions. In most countries, depositors are protected by deposit insurance schemes and their interests are represented by supervisory authorities in a position to intervene if the bank's performance is not satisfactory. The safety net for depositors may set incentives for the banks to exploit deposit protection schemes (and/or lending of last resort). Conversely, the threat of intervention by the authorities, which can foster changes in control, may be one factor in banks' achievement of efficiency (Dewatripont and Tirole (1994)).
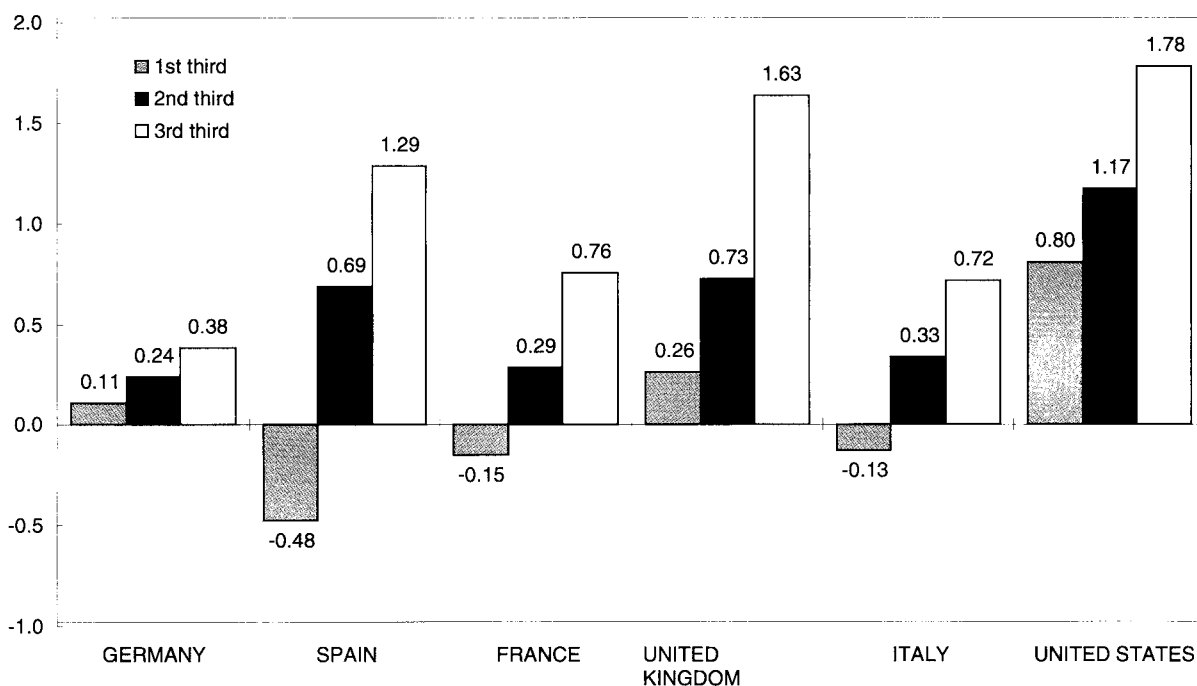
Empirically, the case for studying corporate governance in banking is related to the dispersion of profit margins within most national systems. Figure 1 shows the average values of each of the three thirds of the distributions of return on assets for banks in the main European countries and the United States. The differences reflect differing business specialisations (sometimes due to regulation), out of equilibrium adjustment processes and differences in allocative and operating efficiency.[3] However,

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[2] For a comprehensive survey of the literature on corporate governance see Shleifer and Vishny (1996). The incomplete contract approach is discussed in details in Hart (1995).

[3] Studies of the determinants of bank profitability in Europe (Conti, Ossanna and Senati (1997); Angeloni, Generale and Tedeschi (1997); Generale (1996)) have found significant differences between countries in terms of the composition of margins and costs. In particular, Conti et al. propose a tripartite classification of banking systems according to market structure and regulation: the Latin model, characterised by high net interest margins and inefficiency in controlling costs; the northern European model, operating on narrower margins but more efficient; the Anglo-Saxon model, specialised in supplying innovative services. The completion of the single European market in banking is already blurring the

differences in both profit and cost efficiency on the order of 20% between banks in the same country have been documented by numerous empirical studies.[4] Berger and Mester (1997) investigated the correlation of the efficiency scores for US banks with a number of variables proxying for organisational form and corporate governance. In particular, they considered banks' positions in holding companies, whether parent banks in the holding companies are listed on the stock market, the concentration of ownership and the proportion of stock owned by board members. They found that banks in holding companies and banks listed in the stock market display higher cost and profit efficiency while the ownership variables are not correlated with efficiency scores.

Figure 1
International comparison of distribution of banks' profits
Percentage of total assets, averages for each profit class

Source: Based on BankScope – Bureau Van Dijk data, for 1993-95, on a sample of banks with total assets of more than $1 billion ($5 billion for the United States).

A different strand of the literature has focused on the degree of separation between ownership and control in large corporations with diffuse shareholding, which implies differing preferences between management and shareholders. Gorton and Rosen (1995) empirically check whether the decline in profitability suffered by US banks during the eighties should be blamed on problems of moral hazard involving the owners or on problems of corporate control. In the case of moral hazard, the decisive factor is the owners' incentive to make high-risk loans when a deposit protection scheme is in place and the value of the bank is declining. In the case of control problems, it is the incentives for management that underlie the granting of increasingly risky loans. For this to occur, the manager must hold enough equity to be able to determine strategy but not enough to suffer a serious personal loss if the risky project fails. Gorton and Rosen find empirical evidence for this last effect which contrasts

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differences between national banking systems. Some patterns also recur across countries; in particular, banks with a high ROA also tend to have a high net interest margin, whereas low ROA tends to be correlated with high cost ratios.

[4] For the United States, see Berger and Humphrey (1992) and Berger and Mester (1997); for Italy, see Conigliani (1984), Martiny and Salleo (1997), Resti (1997) and Gobbi (1995).

with previous findings. Saunders, Strock and Travlos (1990) found that banks with an owner more powerful than the managers display a propensity to take greater risks.

Finally a line of research investigated on the effects of the different ways in which management discipline is enforced. One mechanism is corporate take-overs. Schranz (1993) examines the relation between profitability and take-over regulation in different parts of the US, finding empirically that banking profits are higher in the states where take-overs are more frequent.[5]

The recent literature on Italian banks has focused on the ownership structures and, in particular, on the issue of efficiency of publicly owned banks compared to private ones. Bianchi, Di Battista and Lusignani (1997) examine the relation of several corporate governance indicators to banks' performance. They find that publicly owned banks are outperformed by private ones by each of the yardsticks considered. De Bonis (1997) shows that many performance indicators are worse for publicly owned banks even excluding the large crisis-ridden banks in the South. Among private banks several studies have found evidence that those organised in the legal form of cooperative banks are better managed. For example, in the analysis by Farabullini and Ferri (1997) of the ex ante probabilities of underperformance among southern banks, cooperative banks turn out to be less likely to perform poorly.[6] Among publicly owned banks the savings banks are local institutions that have now mostly come under the control of major banking foundations whose role is still debated. Moreover, until recently, saving banks' organisational structures have been more similar to those prevailing in the public administration than in other publicly owned banks. The effect of the stock market in controlling management is less clear: Bianchi, Di Battista and Lusignani (1997) find little support for a market discipline effect of stock exchange listing. Owing to the paucity of detailed information less attention has been paid to other aspects of organisational structure and corporate governance.

This brief survey of the literature suggests the shape of our empirical analysis in Section 3. First, it takes the type of ownership into account. Evidence already available shows that the performance of public sector banks is less satisfactory. Within this group, however, we look in particular at the savings banks; among private banks we examine the cooperative banks, which are characterised by widely diffuse ownership and stability of control. A second element that should theoretically capture the way in which governance is exercised is stock exchange listing and the position within holding companies. A further relevant factor is the relation between corporate governance and the bank's propensity to exploit deposit protection schemes (and/or lending of last resort). For US banks, there is a close correlation between the composition of ownership and the amount of excess risk exposure. For Italy, we need to test whether the indicators proxying for the degree of allocative inefficiency are correlated with type of ownership. To capture these inefficiencies, one must also take into account the level of capitalisation, which is the link between corporate governance and the exercise of prudential supervision. Capital inadequacy may trigger intervention of the authorities and will very likely foster a revision of the system of governance, interacting with the bank's performance. Finally, our analysis will consider the structure of the markets in which banks do business, as this is an exogenous constraint on management decisions.

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[5] Schranz also notes that "When take-over activity is restricted, increased use of other mechanisms that provide an incentive to maximise firm value, such as concentration of equity ownership and management ownership of stock, is observed. However, these alternative methods have a smaller effect on profitability and do not completely compensate for the absence of an active take-over market." On this, see also James (1984).

[6] On the cooperative banks (banche popolari) see De Bonis, Manzone and Trento (1994). On the mutual banks (banche di credito cooperativo), see Padoa-Schioppa (1997). De Bonis et al. note that "In cooperative enterprises, the compromise between safeguards for the shareholders and certainty for managers is based on the powerful bonds of trust among the members, reinforced by the homogeneity of the groups involved, often by their links with the local community and with mutual societies. The incentive mechanism appears to be based on these elements of trust and participation rather than on the external control of the financial markets. Shared values, mutual acquaintance, the regular encounters characteristic of the cooperative culture form a deterrent to management abuses."
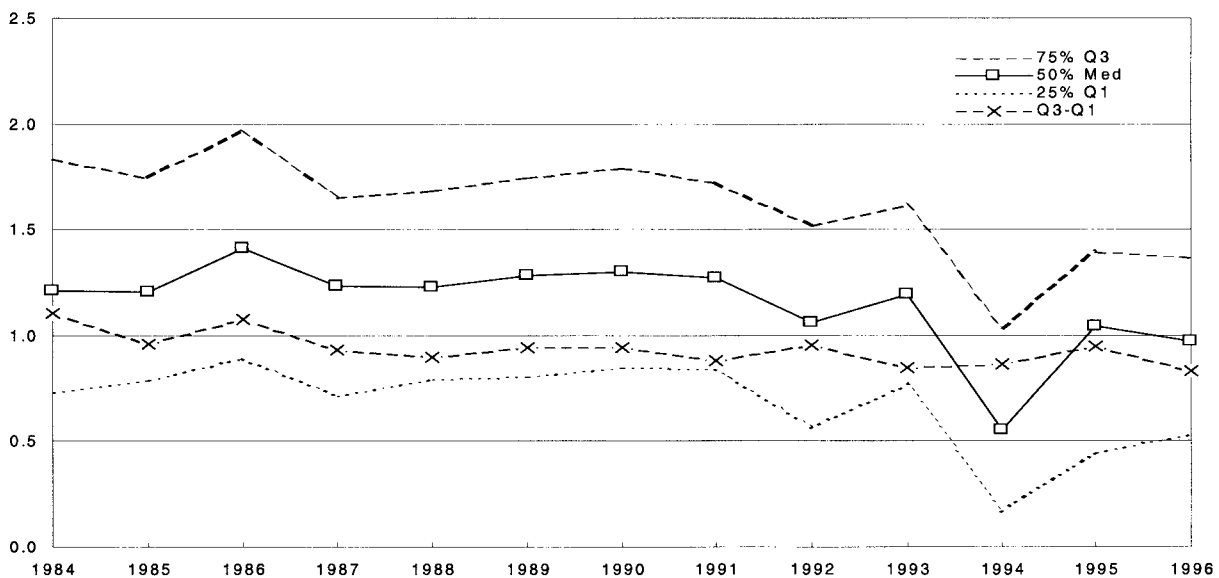
3. Profitability of Italian banks

3.1 Differences in profitability among banks: some facts

To examine the differences in profitability of Italian banks in greater detail, we utilised a larger, more representative sample than that used for the international comparison shown in Figure 1. We have included the banks in the sample used for the construction of the monetary and financial aggregates in Banca d'Italia statistics, but have excluded the branches of foreign banks in Italy, central credit institutions and mutual banks (*banche di credito cooperativo*) because of their very specific lines of business. The data come from supervisory returns and from the reports to the Central credit register. The profit-and-loss and balance-sheet figures of the former special credit sections are merged into those of the institutions to which they belonged for the entire period under review. The sample ranges from a maximum of 316 banks in 1984 to a minimum of 209 in 1996 and refers to the period from 1984 to 1996.

The ratio of profit before tax to total assets was selected as the indicator of profitability.[7] Figure 2 shows the median and the difference between the other two quartiles. In the period considered, the average difference between the third and fourth quartiles was a little less than 1 point: the return on assets of the bank at the 75th percentile of the distribution averaged 2.5 times that of the bank at the 25th percentile. Income before tax was determined by subtracting operating expenses and net value adjustments and readjustments to assets (mainly arising from loan losses) from gross income. For descriptive purpose, we considered the average values for banks within the three groups, ordered according to the profitability indicator. To simplify the exposition, we further aggregated the data into three relatively homogeneous periods: 1984 to 1987, when administrative constraints on lending were phased out; 1988 to 1991, marked by the rise of competitive pressures in the fund-raising and lending markets; 1992 to 1996, distinguished by the sharp contraction in banks' profit margins.

Figure 2
Dispersion of ratio of profits to assets

In each of the three periods, the most important determinant of the dispersion of profits was gross income and, within it, net interest income (Table 1). Banks with high net interest income generally also had high income from services and trading. Differences in gross income were generally not offset by differences in operating expenses. The disparities in operating expenses between groups of banks tended to diminish over time. The qualitative findings obtained by comparing the groups of banks are confirmed by correlation analysis. The correlation coefficient between gross income and profit before tax is positive, high and statistically significant in each of the three periods considered, whereas there is no correlation between operating expenses and profit before tax (Table 2). The component due to value adjustments, and thus indirectly to loan losses, is important but not large enough to reverse the rankings established with reference to net income.

Table 1
Profit and loss accounts for groups of banks*
As a percentage of average balance sheet total

	1984-87			1988-91			1992-96		
	I	II	III	I	II	III	I	II	III
Net interest income	3.04	3.36	4.34	2.99	3.33	4.19	2.45	3.07	3.57
Net income from trading	0.60	0.47	0.60	0.38	0.40	0.51	0.35	0.41	0.47
Other income	0.65	0.53	0.63	0.48	0.53	0.62	0.56	0.68	0.80
Gross income	4.30	4.36	5.57	3.85	4.27	5.33	3.36	4.15	4.84
Operating expenses	3.08	2.39	2.90	2.68	2.58	2.85	2.41	2.57	2.64
of which: staff costs	*2.11*	*1.52*	*1.82*	*1.82*	*1.62*	*1.78*	*1.60*	*1.55*	*1.61*
Net income	1.22	1.97	2.67	1.16	1.68	2.48	0.95	1.58	2.20
Value adjustments and provisions	0.63	0.73	0.75	0.66	0.60	0.53	0.87	0.63	0.72
Profit before tax	0.59	1.24	1.92	0.50	1.09	1.96	0.09	0.95	1.47
Profit after tax	0.31	0.67	1.04	0.27	0.60	1.01	–0.12	0.45	0.62
Memorandum items									
Average balance sheet total	25,189	14,786	7,686	38,205	22,628	9,545	80,604	27,611	17,021
Bad debt ratio (%)	7.00	5.06	5.18	6.52	3.87	3.61	9.33	5.31	4.78
Share of interest-bearing assets acquired with own funds (%)	4.21	5.9	10.21	2.67	5.09	9.74	0.08	4.98	8.69
Capital and reserves/Balance sheet total (%)	3.51	5.74	7.11	5.44	6.51	8.23	6.24	7.04	9.72
Average return on interest-bearing assets (%)	12.61	13.47	13.24	12.37	12.54	12.57	10.68	11.02	10.94
Average cost of funds (%)	9.31	9.81	8.94	8.64	8.62	7.73	7.34	7.33	6.85
Staff costs per employee (millions of lire)	61.59	58.63	57.07	89.99	84.95	83.82	113.09	107.64	103.49
Asset per employee (billions of lire)	2.92	3.87	3.14	4.96	5.24	4.7	7.09	6.93	6.42

* Banks are grouped into thirds in each period according to the distribution of pre-tax profits. In each period the data for banks involved in mergers and acquisitions are consolidated. Ratios for each group were obtained by consolidating the data of the banks therein.

The fact that the differences in profitability are captured mainly on the income side whereas cost ratios do not diverge appreciably from bank to bank is subject to two diametrically opposite interpretations. The first one is that, with technology used and cost factors being equal, the banks with the highest margins are those operating in the least competitive markets. Hence their higher profits are comparable to monopolistic rents that presumably translate into wider spreads between lending and deposit rates. The second one is that the services supplied by banks differ sharply and require

different "technologies". The more profitable banks supply higher value-added services involving high costs. The less profitable banks show they are inefficient by incurring costs virtually equivalent to those borne by the profitable ones but not matched by products of comparable quality. The two interpretations, which are not mutually exclusive, can be examined in the light of the principal characteristics of the banks classified in each third of the sample.

Table 2
Correlations between profits before tax and some performance indicators*

	1984-87		1988-91		1992-96	
	r	p-value	r	p-value	r	p-value
Net interest income	0.60	0.00	0.60	0.00	0.45	0.00
Gross income	0.53	0.00	0.52	0.00	0.45	0.00
Operating expenses	-0.01	0.80	0.06	0.30	0.05	0.50
Staff costs	-0.05	0.34	0.04	0.54	0.00	0.98
Value adjustments and provisions	0.04	0.45	-0.07	0.22	-0.56	0.00
Average balance sheet total	-0.25	0.00	-0.27	0.00	-0.25	0.00
Bad debt ratio	-0.25	0.00	-0.31	0.00	-0.50	0.00
Interest-bearing acquired with own funds	0.45	0.00	0.54	0.00	0.68	0.00
Capital and reserves/Balance sheet total	0.48	0.00	0.48	0.00	0.48	0.00
Staff costs per employee	-0.22	0.00	-0.16	0.00	-0.26	0.00
Assets per employee	-0.09	0.10	-0.13	0.03	-0.11	0.12
Number of banks	309		274		225	

* Profit before tax and profit and loss accounts items are expressed as percentage of average balance sheet total. Assets and staff costs per employee are converted into logarithms.

In every period, larger banks are prevalent among the less profitable institutions. Since larger banks generally operate in more competitive markets, as is confirmed by the data on rates of return on earning assets and the average cost of funds, this might argue in favour of the first of the two aforementioned hypotheses. However, differences in average spreads explain much but not all of the difference in net interest income between the groups of banks; around one third of the difference is attributable to the acquisition of earning assets with the banks' own funds. Not only are the more profitable banks more strongly capitalised, they also have a smaller share of their capital tied up. From the accounting point of view, this is due largely to the lower incidence of bad debts on assets; from the economic point of view, the causal relationship could run in the other direction, i.e. the more strongly capitalised banks have a larger incentive to make an efficient selection of customers and higher net interest income therefore reflects greater allocative efficiency.

The less profitable banks have higher staff costs per employee in each of the periods considered, owing in part to a larger proportion of managers among staff. Differences in productivity, measured by assets per employee, do not appear to be closely correlated with profitability; however, they are significant when we control for bank size. The indicators of operating efficiency would appear to corroborate the second of the two hypotheses set out above.

Overall, simple examination of the data indicates a high dispersion of profitability in the Italian banking system. This situation pre-dates the decline in profit margins that began in the nineties. Descriptive analysis enables us to attribute the differences observed in profitability to operating and allocative inefficiencies; however, it does not allow us either to quantify their effects or to assign part of them to different aspects of corporate governance. In the section below we explore the question further with an econometric exercise.

3.2 A simple model to account for profit dispersion

The aim of the following analysis is to verify whether the differences that still exist in the Italian banking system in terms of size, geographical market and mix of services are able to explain the dispersion of the performance indicators and how much weight, if any, should be assigned to specific components directly correlated with individual banks' efficiency. If such components play a role, it will be necessary to complement the analysis by investigating their relations to the variables attributable to corporate governance.

A widely used measure of the inefficiency of banks amounts to considering the deviation from an efficiency frontier obtained by estimating a cost or profit function. The problem with this approach is that the estimation of inefficiencies requires very restrictive assumptions about the structure of the markets, banks' product mix and production technologies. In particular, one has to assume that banks are price-takers in both output and input markets, an hypothesis which seems particularly strong for analysing the evolution of the Italian banking system in the last decade. On the output side, several studies have documented an increase in competition during the eighties, spurred by the reform in the regulatory framework. This would imply that, for most of the period covered by our analysis, banks had some power to fix interest rates on loans, deposits and commission fees.[8] On the input side, the far most important non-financial factor is labour whose remuneration is the result of a two-stage bargaining process between unions and bankers' associations: one at the national level and the other at the individual bank level. The dispersion across banks of unit labour costs is therefore related to within firm bargaining powers as well as to productivity and staff skills.[9] It is thus possible that some banks may have been less efficient in managing human resources.

Given these problems we preferred to use a reduced-form specification of bank profits, with the aim of directly identifying the main determinants of the differences in profitability.

In accounting terms, profits are represented by the identity:

$$(1) \qquad \pi = pq - wk$$

where π stands for profits, q and k are vectors of the products and factors of production, and p and w are vectors of their respective prices. Assuming that the technology used by the banks can be described in terms of the transformation $k = f(q)$, an individual bank's profits can be written as:

$$(2) \qquad \pi_i = p_i q_i - w_i F(q_i) + \varepsilon_i$$

where ε_i represents a stochastic disturbance having the usual properties.

The differences among banks can stem from: (i) structural differences in the types of products they offer or the markets they serve; or (ii) inefficiencies both on the income side (allocative inefficiencies) and on the cost side (x-inefficiencies). To take account of these factors, (2) can be rewritten as:

$$(3) \qquad \pi_i = (p_i + \eta_i) q_i - w_i [F(q_i) + \gamma_i q_i] + \varepsilon_i$$

where η_i is a set of variables capturing the allocative inefficiencies and γ_i are variables capturing the operating inefficiencies. No assumption is imposed a priori on the structure of the markets, so that p_i and w_i remain specific to the structure of the bank, with differences between banks reflecting differences in market structures and in the quality of the services supplied.

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[8] The competitiveness of loan markets has been investigated, among others, by Ferri and Gobbi (1992) and Angelini and Cetorelli (1998) and changes in the deposit market by Focarelli and Tedeschi (1992); Focarelli and Tedeschi (1994) and Farabullini and Gobbi (1996) report quantitative estimates on the downsloping trend of unit commission fees. Ferri and Gobbi (1997) review the main regulatory changes since the early 1980s.

[9] The bank specific components of staff expenses display an upward trend since the early 1980s (ABI, (1998)).

After specifying the variables that proxy for the factors described in (3), it is possible to obtain an equation of bank profits for econometric estimation. The variables used in the estimation (Table 3) can be grouped in four categories: (i) indicators that proxy for the degree of competitiveness, risk and financial depth of the geographical markets in which the individual bank does business; (ii) variables that proxy for the type of products offered; (iii) indicators of allocative efficiency; and (iv) variables correlated with operating efficiency.

Table 3
Definition of variables

Variable	Definition	Units
ROA	Profit before tax/total assets	%
lta	Log of assets deflated using GDP deflator	Assets: billions of lire
lta2	lta squared	
freec	(Interest-bearing assets (IBA) – interest-bearing liabilities)/IBA	%
freec2	freec squared	
badd	Bad debts/total loans	%
badm	badd due to market specialisation	%
bads	badd–badm	%
cap	Capital and reserves/Total assets	%
cpe	Deflated staff costs per employee	Staff costs: millions of lire
man	Management personell/Total staff	%
cpes	Staff costs/Total operating expenses	%
tape	Total assets per employee (deflated)	Billions of lire
bspread	Average differential between lending rates and yield on Treasury bills	%
bherf	Average Herfindahl concentration index	%
bcreva	Ratio between loans and value added	
bvabr	Value added per branch (logs, deflated)	Value added: billions of lire
popbr	Log of number of inhabitants per bank branch	
ltls	Medium and long-term loans/Total loans	%
lfas	Loans/Financial assets	%
nins	Non-interest income/Gross income	%
du84-95	Time dummies	

Market-geographical segmentation is particularly relevant in Italy for two reasons. First, the differences in regional economic and financial structures are large and have substantial effects on banking markets. Second, banks differ widely with respect to the geographical penetration, ranging from virtually the whole country to a few provinces. We have therefore chosen to take account of geographical difference by using the nearly 100 provinces as local markets and computing for each bank a set of indices reflecting the average conditions of the markets in which it operates. Given a variable I_j defined for province j (e.g. per capita value added or Herfindahl index of concentration of lending), for bank i we have the weighted average:

$$I_i = \Sigma_j \, s_{ij} \, I_j$$

where s_{ij} is the share of bank i loans granted to customers located in province j in total loans granted by bank i.

The *geographical* variables that we have actually used are: the Herfindahl index of concentration of lending (*bherf*) and the average differential between lending rates and Treasury bill rates (*bspread*) as proxies for the degree of competition in local markets; the ratio of bad debts to total loans (*badm*),

which measures the riskiness of the market; the ratio of loans to value added (*bcreva*), the value added per bank branch (*bvabr*) and the number of inhabitants per bank branch (*popbr*) were used as proxies for the extent of bank penetration of the market. As stated the variables at individual bank level were calculated as weighted averages using the bank's share of loans in each province as weights, except in the case of *badm*, which also takes account of specialisation by sector and size of the customer base.

The variables of *business specialisation* are the ratio of loans to interest-bearing funds (*lfas*), the ratio of medium and long-term loans to total loans (*ltls*), and the ratio of income from services to gross income net of dealing income (*nins*).

Three regressors were used as proxies for the level of *allocative efficiency*. The difference between a bank's bad debt/loan ratio and *badm*; this is denoted as *bads* and shows the quality of the loan portfolio compared with the average for banks operating in the same markets. To take account of the way a high level of capitalisation affects allocative efficiency by reducing moral hazard problems, we used the ratio of capital and reserves to total assets (*cap*); we controlled for the free capital effect by using the ratio of the difference between interest-bearing assets and liabilities to interest-bearing assets (*freec*). *freec* actually plays a dual role: first, it serves to control for the accounting effect that free capital reduces the cost of funding; second, a large share of own capital invested in financial assets may signal a suboptimal use of capital. For this reason we have also introduced the square of *freec* (*freec2*).

The variables measuring *operating efficiency* are staff costs per employee (*cpe*), assets per employee (*tape*), the ratio of managerial personnel to total personnel (*mans*) and staff costs in relation to total operating expenses (*cpes*).

Six *organisational form and corporate governance dummies* were used as proxies for corporate governance: private sector bank, listed bank, institutional form of the bank (cooperative bank, savings bank), membership of a banking group and position in the group (parent company/simple member), presence of an executive committee, and dummy for former special credit institutions.

Regarding the interpretation of these indicators, it is well established in the literature that a publicly owned bank may be managed for objectives other than profit maximisation; moreover, where public ownership is predominant, the strategic conduct of private owners as well may deviate from the aims of maximising profit and raising operating efficiency. However, other aspects of corporate governance have to be considered in describing the conduct of a bank. For example, stock exchange listing, which guarantees more stringent control by the markets and should mitigate the tendency to deviate from objectives of efficiency even where banks are publicly owned. The dummy for institutional form (cooperative bank, savings bank, special credit institutions) is designed to identify a specific model of governance in the case of cooperative banks and investigate savings banks in the light of the discussion in Section 2. Position in the group is important to capture intra-group efficiencies of scope; more simply, it can capture the entry of banks in very critical conditions into the group. The dummy for the executive committee is designed to distinguish banks by the existence of this body, which may be viewed as a go-between for settling conflicts between owners and managers.

The estimation was made using a fixed-effect unbalanced panel model, and included controls for the time dimension. The coefficients of the ownership variables were obtained with the procedure described in Hsiao (1986).[10] In principle, if bank inefficiency depends on the form of ownership, this

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[10] Consider the model:

(1f) $y_i = e \, \mu + Z_i \, \gamma + X_i \, \beta + e \, \alpha_i + u_i$

where, given N individual observations and T temporal observations, y is a vector $Tx1$ of the dependent variable, μ is a constant, Z is a matrix of individual characteristics that do not vary over time, X is a matrix of the variables that change over time and between individuals, α is a specific/individual effect and u is random error. In the presence of a correlation between the X regressors and the individual effect, the OLS and GLS estimations produce distorted and inconsistent results (Hausman and Taylor (1981)). In order to overcome this problem, the fixed-effect estimation transforms the equation into deviations from the individual mean. Although the results are not distorted, it is not possible to estimate the effects of the variables that are fixed over time and, therefore, the parameters of γ. One way to overcome this difficulty is to estimate (1f) with a fixed-effect OLS, obtaining:

should be captured primarily by the corporate governance dummies. In reality, the highly stylised nature of the ownership indicators prevents us from capturing the actual control arrangements within each of the groups identified with dummies. It is therefore possible that in the panel model the greater variability of the efficiency indicators would produce an imprecise estimation of the effect of the corporate dummy. In order to verify the indirect effects of these indicators on profitability, a correlation analysis was conducted on some of the regressors used in the panel.

3.3 Results

The study examined the period between 1984 and 1996.[11] A total of 330 banks were analysed, of which 192 were present throughout the entire period. The estimations were conducted using the ratio of gross income to total assets (ROA) as the dependent variable. In order to check for the presence of size effects, the regressors include the log of total assets (lta), inserted also as a square (lta2).

The explanatory power of the panel, measured with a R^2 of 0.38,[12] is satisfactory although, in agreement with most studies of bank profitability indicators, not extremely high (Table 4). As regards the *geographical* variables, *badm* is statistically significant with the expected negative sign: a differential in the ratio of bad debts to loans in the bank's reference market of a similar size to that between North and South (about 15 percentage points) reduces ROA by about 0.6 points. Among the variables correlated with the competitiveness of banking markets, *bspread* is significant and negative. This regressor probably captures the greater riskiness of markets with a wider differential between the lending rate and the T-bill rate. The concentration variable (*bherf*) and the variables that approximate the extent of bank penetration of markets are not significant. Their effect is probably captured by *badm*.

Of the variables for *business specialisation*, only *ltls* is significant with a negative sign, owing to the lower profitability of medium and long-term lending. Among the *operating efficiency* variables, *cpes* is significant and positive. A dual interpretation is possible. One is that rigidities in the use of labour have meant that investment in physical capital has not translated into a reduction in staff costs (Martelli (1987)). Alternatively, a high proportion of other costs may indicate unproductive expenditure. Per capita staff costs are negative and highly significant, indicating that any benefits deriving from the use of more highly qualified personnel are more than offset by the increase in costs. This is confirmed by the fact that the ratio of management-track personnel to total staff enters with a negative sign. The productivity indicator (*tape*) is positive and significant.

The measures of *allocative efficiency* are all significant. For *bads* the negative sign indicates that banks that took on a higher-than-average level of risky credit were not able to compensate with sufficiently high lending premiums;[13] in other words, the increased riskiness seems to be related to poor borrower selection rather than to conscious portfolio decisions. The signs of the variables for capitalisation confirm that they reflect greater allocative efficiency. As regards the size variable, an increase in scale appears to be associated with a decline in ROA.

(2f) $y^*_i - x^*_i \beta = \mu + z_i \gamma + (\alpha_i + u_i^*)$

where the * indicates mean values. Estimating (2f) by OLS after having substituted the estimates of β obtained with (1), it is possible to recover the values of γ. This two-stage procedure is consistent when N tends towards infinity and α is not correlated with z. In the latter case, Hausman and Taylor (1981) solve the problem by a procedure that employs two-stage least squares (2SLS) and uses the elements of the vector x that are not correlated with α as instruments. In this work, we focus on estimating equations (1f) and (2f).

[11] See Section 3.1 for a description of the sample.

[12] The significance of the regressor coefficients does not change significantly when checked for heteroskedasticity in the error.

[13] See Focarelli (1996) on the relationship between bank lending rates and credit risk.

Table 4
Panel analysis on bank profitability
Fixed effect estimate

	Dependent variable: ROA			
	Coefficient	**Standard error**	*t*	$P>|t|$
lta	−1.330	0.232	−5.726	0.000
lta2	0.062	0.014	4.276	0.000
freec	0.051	0.004	12.819	0.000
freec2	−0.001	0.000	−7.309	0.000
bads	−0.055	0.003	−18.041	0.000
badm	−0.042	0.006	−7.630	0.000
cap	0.025	0.007	3.704	0.000
cpes	0.028	0.003	11.009	0.000
cpe	−0.649	0.129	−5.012	0.000
man	−0.014	0.005	−2.510	0.012
tape	0.419	0.104	4.039	0.000
bspread	−0.056	0.023	−2.425	0.015
bherf	−0.314	0.492	−0.639	0.523
bcreva	−0.107	0.106	−1.013	0.311
bvabr	0.149	0.461	0.322	0.747
ltls	−0.004	0.002	−1.964	0.050
lfas	−0.135	0.217	−0.621	0.535
popbr	−0.002	0.471	−0.004	0.997
mins	0.001	0.002	0.373	0.709
du85	−0.003	0.050	−0.058	0.954
du86	0.247	0.062	3.993	0.000
du87	0.032	0.065	0.494	0.622
du88	0.051	0.078	0.655	0.513
du89	−0.033	0.098	−0.340	0.734
du90	−0.006	0.107	−0.055	0.956
du91	−0.017	0.114	−0.145	0.884
du92	0.026	0.110	0.240	0.810
du93	−0.042	0.121	−0.345	0.730
du94	−0.574	0.125	−4.599	0.000
du95	−0.143	0.137	−1.045	0.296
du96	0.036	0.143	0.250	0.803
constant	8.203	2.205	3.721	0.000

Number of observations: 3501
R^2 within: 0.38
$F(31, 3469)$: 62.5

Number of banks: 330
Adjusted R^2: 0.376
Root MSE: 0.563

The estimates of the effects of the indicators approximating the corporate control structure (*corporate dummies*, Table 5) show that cooperative banks are more profitable.[14] As regards banking groups, only the parent company has an increased *ROA*, indicating that the group strategy does not favour all

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[14] The tables show a number of regressions to avoid multicollinearity problems between the dummies, such as between private banks and cooperative banks.

Table 5
Correlation between individual effect and corporate governance dummies

Variable	Specification I				Specification II				Specification III			
	Coeff.	Std. Err.	t	$P>|t|$	Coeff.	Std. err.	t	$P>|t|$	Coeff.	Std. err.	t	$P>|t|$
constant	0.144	0.112	1.280	0.200	0.017	0.104	0.170	0.860	0.206	0.104	1.970	0.040
dupri	0.088	0.087	1.010	0.310								
quo	0.073	0.128	0.570	0.560	0.138	0.122	1.130	0.250	0.088	0.130	0.670	0.500
duex	-0.203	0.104	-1.940	0.050	-0.160	0.100	-1.590	0.110	-0.211	0.104	-2.020	0.040
dugr	-0.074	0.097	-0.760	0.440	-0.074	0.093	-0.790	0.430	-0.070	0.097	-0.720	0.470
ducapo	0.314	0.128	2.440	0.010	0.315	0.123	2.550	0.010	0.307	0.128	2.380	0.010
dics	-0.095	0.135	-0.700	0.480	0.003	0.130	0.020	0.970	-0.137	0.134	-1.010	0.310
dupop					0.367	0.089	4.120	0.000				
ducas									-0.016	0.095	-0.170	0.860

Number of observations: 208			
$F(6, 201)$	2.330	5.150	2.150
$P > F$	0.034	0.000	0.050
R^2	0.065	0.133	0.060
Adj. R^2	0.037	0.108	0.032

Dummies dupri = private bank   dugr = group member   dupop = cooperative bank
 quo = listed bank   ducapo = group parent   ducas = savings bank
 duex = executive committee   dics = former special credit institution

member banks equally, probably because of differences in their starting positions, especially risk levels.[15] Banks with an executive committee to reconcile the demands of owners and managers have a lower ROA. There are two possible explanations for this. One is that the increase in the number of corporate bodies may slow the decision-making process for major changes in corporate strategy; alternatively, the establishment of an executive committee may be associated with banks which already had lower-than-average profitability and for which it was necessary to create a "crisis" committee to mediate between owners and management in the process of revising bank strategy. The coefficients for the other corporate dummies are not statistically significant.[16] As regards the private bank dummy, it is likely that these banks' superior performance is already captured by some of the regressors used in the panel to approximate allocative and operating efficiency. In particular, the indicator of specific bad debts for these banks was significantly lower than average (Table 6), as was that for per capita staff costs. Conversely, savings banks and the former special credit institutions are less efficient than the average bank, both in terms of allocative and operating efficiency. In contrast to what we might have expected on the basis of theoretical considerations, the results of listed banks are not significantly higher than average.

Overall, even though the findings are only partial, given that corporate governance structures are highly stylised, the results indicate that private banks, cooperative banks and the parent companies of banking groups are more profitable than average. In particular, it emerges that the relationship

[15] Berger and Mester (1997) found that: "Banks in holding companies tend to have higher levels of profit efficiency than independent banks, and their cost efficiency is significantly greater as well." As much as the situation of US holding companies differs from that of Italian groups, Berger and Mester offer a possible explanation for the superior profit performance of the parent company: "A potential explanation may be a form of the efficient structure hypothesis – more efficient banking organizations may tend to acquire other banks, ... and the holding company is the vehicle that allows them to do it."

[16] In order to check whether overlapping between the corporate dummies and efficiency indicators would distort the results of the former, the panel was also estimated excluding the latter. The results confirm those presented here, with no significant changes in either the sign or the significance of the dummy coefficients.

Table 6
Correlation between some proxies for allocative and operating efficiency and corporate governance dummies

Variable	Specification I			Specification II			Specification III		
	Coeff.	t	P>|t|	Coeff.	t	P>|t|	Coeff.	t	P>|t|
Left-hand side variable: bads									
constant	-2.719	-2.040	0.040	-3.491	-2.710	0.000	-4.898	-3.970	0.000
dupri	-2.131	-2.060	0.040						
quo	0.389	0.250	0.790	-0.241	-0.150	0.870	0.599	0.380	0.690
duex	-0.165	-0.130	0.890	-0.078	-0.060	0.950	-0.125	-0.100	0.910
dugr	4.463	3.870	0.000	4.351	3.750	0.000	4.543	3.920	0.000
ducapo	-2.314	-1.520	0.130	-2.164	-1.410	0.150	-2.196	-1.440	0.150
dics	3.051	1.900	0.050	3.488	2.160	0.030	4.662	2.920	0.000
dupop				-1.178	-1.060	0.280			
ducas							2.202	1.940	0.050

Number of observations: 208

R^2		0.065			0.104			0.116	
Adj. R^2		0.037			0.078			0.090	

	Coeff.	t	P>|t|	Coeff.	t	P>|t|	Coeff.	t	P>|t|
Left-hand side variable: cpe									
constant	-2.158	-90.890	0.000	-2.161	-96.740	0.000	-2.268	-106.210	0.000
dupri	-0.098	-5.360	0.000						
quo	0.081	2.990	0.000	0.043	1.660	0.090	0.098	3.700	0.000
duex	-0.011	-0.530	0.590	-0.017	-0.780	0.430	-0.012	-0.580	0.560
dugr	-0.011	-0.570	0.560	-0.016	-0.790	0.420	-0.005	-0.280	0.770
ducapo	0.051	1.890	0.060	0.056	2.130	0.030	0.056	2.130	0.030
dics	0.188	6.570	0.000	0.184	6.610	0.000	0.271	9.820	0.000
dupop				-0.119	-6.230	0.000			
ducas							0.127	6.510	0.000

Number of observations: 208

R^2		0.356			0.383			0.393	
Adj. R^2		0.337			0.365			0.374	

	Coeff.	t	P>|t|	Coeff.	t	P>|t|	Coeff.	t	P>|t|
Left-hand side variable: freec									
constant	6.577	5.640	0.000	6.511	5.810	0.000	5.778	5.390	0.000
dupri	-0.307	-0.340	0.730						
quo	-1.380	-1.030	0.300	-1.482	-1.120	0.260	-0.940	-0.700	0.480
duex	1.889	1.740	0.080	1.889	1.740	0.080	1.767	1.640	0.100
dugr	-2.407	-2.380	0.010	-2.422	-2.400	0.010	-2.273	-2.250	0.020
ducapo	-2.773	-2.080	0.030	-2.754	2.060	0.040	-2.791	-2.100	0.030
dics	-3.720	-2.640	0.000	-3.690	-2.630	0.000	-3.050	-2.190	0.020
dupop				-0.259	-0.270	0.780			
ducas							1.616	1.640	0.100

Number of observations: 208

R^2		0.149			0.148			0.159	
Adj. R^2		0.123			0.123			0.134	

Note: For a description of the variables, see Tables 3 and 5.

between the indicators used to describe the form of corporate governance (the corporate dummies) and profitability is weak, while the main determinants of performance differences are allocative and operating inefficiency. Nevertheless, as shown in the auxiliary regressions between indicators of allocative and operating efficiency and the corporate governance indicators (Table 6), there is a positive relationship between the efficiency indicators examined and private ownership, but a negative one for savings banks. The interaction between profitability, efficiency and corporate governance was therefore examined both directly and indirectly: first, the additional explanatory power of the governance dummies was measured after checking the different levels of bank efficiency. Second, it was shown that the significance of some of the efficiency indicators that explained differences in profitability varies depending on the governance structure of the bank. The

limitation of the exercise and, at the same time, a starting point for further research, is the fact that the dummy variables used to distinguish between various bank governance models do not capture differences within groups: even between banks with a given governance structure (for example, public-sector banks) there are significant differences that the form of ownership alone probably does not reveal.

4. Turnover in top management and bank performance

This section analyses the relationship between the earnings performance of banks and changes in top management, albeit only for a short period (1994-96).[17] The issue is important for two reasons: first, in a system in which banks are directly or indirectly owned by the state, it is likely that managers face incentives and constraints which differ from those faced by managers in the private sector. If profit maximisation is not the only objective of the leading shareholder, the expected negative relationship between profitability and management turnover will probably be weakened. Second, the period under study was marked by a considerable deterioration in average bank profitability. As a result, banks began a process of restructuring that, in addition to promoting the supply of innovative services and cost containment, probably affected the quality of top management.

Table 7
Change in banks' management

	Total sample		Public banks		Banks with $ROA > 0$ in period 1994-96	
	No. of banks	%	No. of banks	%	No. of banks	%
1994						
Stability	152	69.1	61	61.6	136	70.8
Partial change	55	25.0	30	30.3	46	24.0
Total change	13	5.9	8	8.1	10	5.2
Total	220	100.0	99	100.0	192	100.0
1995						
Stability	162	73.6	67	69.1	147	76.6
Partial change	46	20.9	24	24.7	38	19.8
Total change	12	5.5	6	6.2	7	3.7
Total	220	100.0	97	100.0	192	100.0
1996						
Stability	168	76.4	74	77.1	153	79.7
Partial change	42	19.1	18	18.8	33	17.2
Total change	10	4.6	4	4.2	6	3.1
Total	220	100.0	96	100.0	192	100.0

Our analysis focuses on changes in the president and managing director (or general manager). Changes in management posts other than natural turnover were studied for each pair of adjacent years.[18] Turnover may be partial (either the president or the managing director leaves) or total (both leave). The data show that in 1994, the top management of 152 out of the 220 banks examined was

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[17] See Ferri and Trento (1997) for a study of management changes in banks between 1940 and 1995.

[18] In order to take account of the fact that changes in top management usually take place in conjunction with annual general meetings, the measurement of annual turnover considers permanence in the position until June of the following year.

completely stable (69%; Table 7); 25% experienced partial turnover while the remainder replaced both of their top managers. The proportions are virtually the same in the second two-year period.

The intensity of turnover is represented by an indicator that takes a value of zero if there was no change or only one partial change over the whole 1994-96 period and a value of 1 if there was more than one partial change or at least one total change.

Banks with an indicator value of 1 had a significantly lower ROA on average than the most stable banks as early as 1990 (Table 8). In 1994 the mean ROA was 0.73 for the stable banks and 0.02 for those that had experienced management turnover;[19] mean ROE was 3.1% for stable banks and -3.9% for the others. The credit risk faced by the least stable banks was higher for the entire period: in 1994 their ratio of bad debts to loans was 13.7%, compared with 8.9% for the stable banks. Analysis of the other performance indicators shows that the lower profitability of the less stable banks can be attributed to a smaller contribution from gross income and higher charges for risky assets.

Table 8
Change in banks' management and performance
Differences between averages*

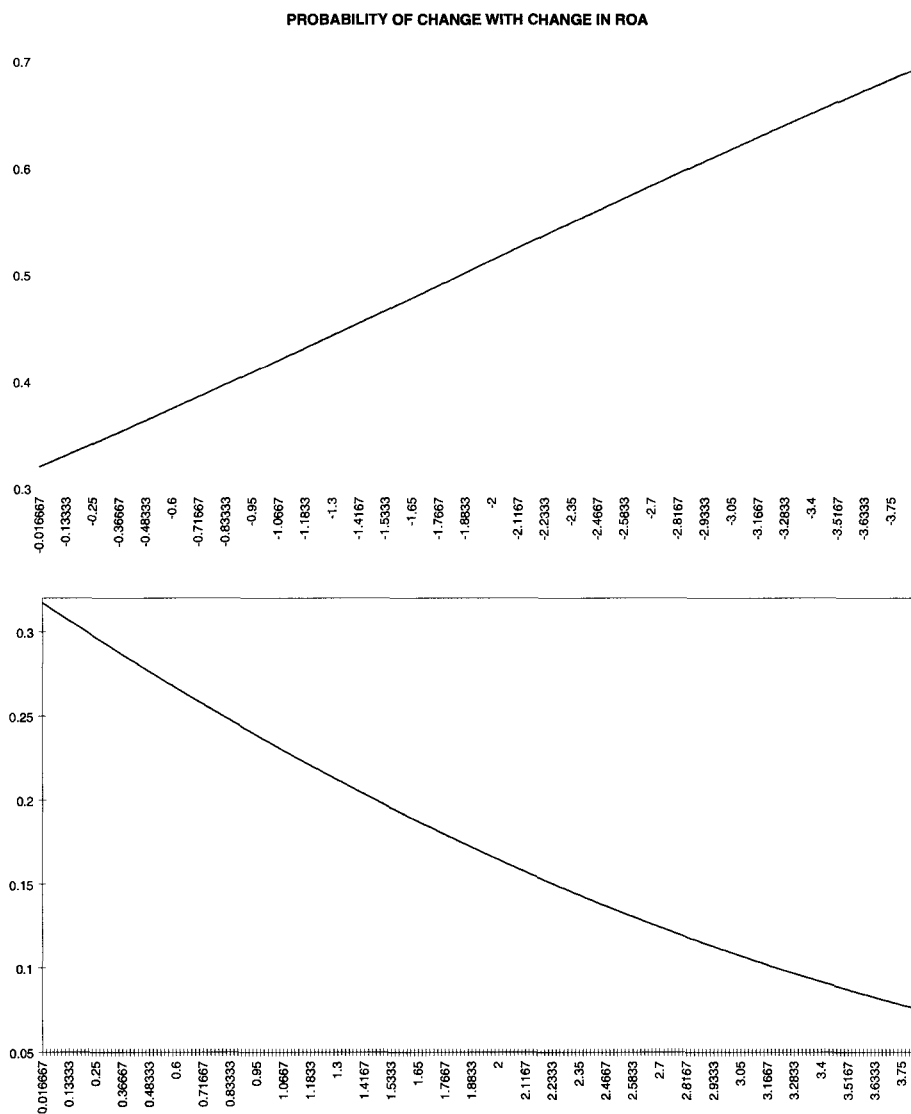| Year	Event	No. of obs.	ROA	ROE	Bad debts to loans ratio
1990	0	156	1.53	13.2	6.3
	1	61	1.18	9.9	8.6
Student-T			3.3*	3.4*	-1.9***
1991	0	155	1.44	12.2	6.4
	1	61	1.14	8.7	8.9
Student-T			2.3**	3.3*	-1.8***
1992	0	157	1.24	7.4	6.5
	1	61	0.74	4.1	9.1
Student-T			2.7*	2.7*	-2.0**
1993	0	158	1.32	6.3	7.3
	1	62	0.77	1.9	10.3
Student-T			3.8*	3.3*	-2.4**
1994	0	158	0.73	3.1	8.9
	1	62	0.02	-3.9	13.7
Student-T			3.5*	3.0*	-3.4*
1995	0	158	1.18	5.6	9.2
	1	61	0.05	-5.8	14.9
Student-T			4.8*	3.6*	-3.6*
1996	0	158	1.16	5.8	10.9
	1	60	0.37	-0.7	16.2
Student-T			5.0*	3.2*	-2.9*

* Event 0: stability; 1: change. The data on change are for 1994-96. * Significant at 1%; ** significant at 5%; *** significant at 10%.

In order to quantify the effect of management turnover on performance differences, we adopted a probit model that estimates for the entire period the probability that a management change will occur following a change in ROA or the ratio of bad debts to total loans. The results show that higher ROAs are associated with a lower probability of management change; at the same time, as the ratio of bad

[19] The result is not substantially changed by the presence of outliers: in 1994 the median ROA for stable banks was 0.75, compared with 0.29 for those that had experienced a change.

debts increases, the probability of a change in management also rises. Figure 3 shows the probability of management turnover in relation to variations in the profitability indicator, which is the most important determinant. The probability that a bank with a *ROA* close to zero will undergo a management change is about 30%, while that for banks with a *ROA* over 1% is less than 10%.

Figure 3
Estimate of probability of management change

PROBABILITY OF CHANGE WITH CHANGE IN ROA

Probit estimate

	Coefficient	Standard error	z	$P>|z|$
roa94	−0.252	0.0988	−2.55	0.01
bad94	0.034	0.0135	2.47	0.01
constant	−0.815	0.1907	−4.27	0.00

Number of observations	= 220
chi2 (2)	= 23.59
prob > *chi2*	= 0.0000
Pseudo R^2	= 0.0902
Log Likelihood	= −119.03172

The analysis reveals the existence of a mechanism for correcting management action: if results are below average, punishment is meted out in the form of removal. Nevertheless, the findings must be treated with caution, as the observation period is quite short. This distorts probability estimates since nothing can be said about past events: if a bank changed its management in 1993, it would probably show up as stable in 1994. In addition, the analysis does not exclude the possibility of an inverse relationship between turnover and performance: it is likely that a certain degree of stability is needed to pursue consistent strategies and, therefore, achieve satisfactory incomes. This is supported by the fact that the less stable banks continue to record unsatisfactory profitability in the years following the change.[20]

In conclusion, our analysis indicates that a relationship does exist between profitability and changes in top management. However, the link appears to be weak, given the low explanatory power of the probit analysis. Moreover, as shown in Table 7, the fact that, at least for the available sample, the expected differences in the strength of the relationship between public and private banks did not emerge, shows a marginally higher rate of turnover for public-sector banks. Consequently, the probit analysis that distinguished between the effects of the determinants of the change according to whether the bank was private or public did not reveal significant differences in the estimated probability.

Finally, future analyses of the relationship between management turnover and bank profitability should throw light on the relationship between turnover and performance and verify whether banks that have experienced changes in their top management record significant variations in performance after enough time has passed for the strategy introduced by the new management to be implemented, which was not possible in this case owing to the brevity of the time period considered. Such a study would enable us to establish a symmetry of behaviour: on the one hand, the existence of punitive mechanisms for managers that are incapable of generating satisfactory returns; on the other, an evaluation of the effects of change on managerial efficiency.

5. Conclusions

The main results of the econometric estimates confirm that the indicators of both allocative and operating efficiency contribute significantly to explaining the dispersion in profit rates. Specifically, the banks with higher-than-average credit risk, adjusting for customer composition, did not succeed in compensating with sufficiently high lending premiums. Even controlling for the share of funds directly invested in interest-bearing assets, the more highly capitalised banks have higher profits; the correlation may be interpreted as a sign that those banks have greater incentives for efficient risk control. We find an inverse correlation between profitability and per capita staff costs, indicating that the benefits from the use of more costly and hence presumably more skilled human resources are more than offset by the additional cost. Under-utilised productive capacity at the microeconomic level is captured in the estimates as a high positive value of the coefficient measuring productivity, i.e. the volume of lending per employee. Finally the stylised variables for corporate governance have limited explanatory power; but it is confirmed that private banks, including the cooperative banks (banche popolari), have higher profitability, thanks in part to better operating and allocative efficiency.

The analysis of management changes finds a weak, though statistically significant, correlation between the bank's profitability and the probability of replacing top management. In view of the short period covered, the results must be handled with caution, but they do suggest the limited effectiveness of the corrective mechanisms for management action. In any case, no appreciable differences are found in this sphere between banks of differing ownership structure.

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[20] In this case too, however, the length of the observation period affects the results and it is likely that more years are needed to observe improvements in performance.

All in all, our analyses pinpointed a significant component of banks' performance that relates to management inefficiencies. The differences due to form of ownership are significant but smaller than those captured by the efficiency indicators. These results, which are consistent with those of other recent studies, should be appraised in the light of three considerations. First, corporate variables have both a direct effect on profits, in that they capture differences between banks that are not explained by the efficiency variables, and an indirect effect, through their interaction with the latter. Second, however, the stylised corporate governance variables only very crudely capture differences in the relationship between management and ownership; even among banks with the same type of governance (e.g., public banks) there are significant differences not reflected solely in the form of ownership. Third, the process of change initiated with privatisation is only marginally captured; as the analysis of top management turnover shows, it takes a period longer than that covered here for the effects to emerge.

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