

THE PERFORMANCE OF SOME RECENTLY PRIVATIZED ITALIAN BANKS

Fabio Farabullini
Research Department
Banca d'Italia

and

Donald D. Hester
Department of Economics
University of Wisconsin – Madison

Abstract

This paper examines changes in the organization structure and profitability of a group of six large Italian banks over an eleven-year period, during which control was transferred from the State to private investors. In this paper, privatization is defined by the transfer of more than 50% of shares to private ownership. It occurred between 1993 and 1998 for these banks, which have about 30% of all Italian banking assets. After privatization, there was an immediate high rate of turnover of top executives and membership of each bank's board of directors. A high rate of branch expansion that occurred before privatization essentially stopped with privatization. Relative to other Italian banks, the number of employees fell sharply and a variety of measures of profitability rose rapidly after privatization; in some cases, the realization of losses from bad loans made a large contribution to subsequent profitability. Results from simple regression models applied to a panel of five of these banks over eleven years, showed that there was a significant effect of privatization on staff costs and profits and, moreover, on trends in costs and profits. Further, privatization coincided with more securitization and with a higher rate of growth of fee income. Thus, while the time span of the post-privatization era is short, the early indications are that privatization is leading to an improved operating performance and more innovation in Italian banking.

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by Fabio Farabullini and Donald D. Hester¹

1. INTRODUCTION

Economists often argue that private ownership yields large benefits. The economic gains from private ownership, relative to public ownership, result from increased competition in markets that induces firms to produce more efficiently and to reward factor inputs according to their marginal productivities. When state enterprises are privatized, they often are sold to the public, which allows for a reduction in public sector debt. In addition, there are “political” gains from private ownership that result from a reduced presence of the public sector (and thus political power) in the economy and the satisfactions and incentives that are provided to individuals by opportunities to create and to participate in the administration of firms².

In contrast with the idea that “Supporters of privatization claim that the private sector can do a better job than the public sector” (Gormley, 1991, p. 6), some observers have pointed out some weaknesses in the case for private ownership. First, “there is not comparative evidence to prove that, within the capitalist world, countries with relatively higher public spending or relatively larger public enterprise sectors have slower rates of economic growth” (Starr, 1991, p. 30). Second, because of the public relevance of some services (both from externalities and from their underlying essentiality), widespread private ownership could require the strengthening of public supervision and regulation in order to protect consumers (Masera, 1994). Finally, privatization is not the only remedy for weak performances by state-owned enterprises. If public firms fail, “. . . public bureaucracies can be improved through institutional redesign” (Gormley, 1991, p. 6).

During the 1990s the Italian Government carried out a large number of privatizations; a wide variety of economic activities were involved in this new policy. The Italian banking system was one of the first sectors to be privatized. It is likely that the robust regulatory framework of the Italian banking market played a crucial role in this choice. The Italian State sold shares of large banks to private investors; in some cases the control of a bank was transferred to a few large companies and in others a bank became a public company with a large number of shareholders.

¹ Respectively, Banca d'Italia, Research Department and Department of Economics, University of Wisconsin-Madison. A large part of the paper was drafted while Farabullini was a visitor at the University of Wisconsin-Madison. The views expressed herein are those of the authors and not necessarily those of the Bank of Italy.

² Among others, see Butler (1991) and Preda et al. (1993).

The largest part of banking privatization occurred between 1992 and 1998. During this period, the *Istituto per la Ricostruzione Industriale* (IRI - a government holding organization) sold the three *Banche d'Interesse Nazionale* (banks of national interest) in its portfolio; four out of six public-law banks, *Banche di Diritto Pubblico*, became private through a public offer; and control of one of the largest savings banks in the world, Cariplo, several smaller saving banks (*Casse di Risparmio*), and special credit institutions were transferred to private owners.

To appreciate the magnitude of this process, in 1993 the seven public sector commercial banks had about 35 percent of total Italian banking system assets. A large part of another 48 percent of Italian banking' assets shifted from foundations and from national and local governments to the private sector between 1992 and 1998 (see Fazio, 1999) through privatizations. According to Paul Betts (The Financial Times, 2000): "The initial catalyst of change [in the banking system] was privatization".

The economics of privatization is a very large topic. At the outset, it is necessary to limit the scope of the investigation. This paper does not consider the techniques of privatization (asset sales, contracting out, vouchers, etc.)³, public and "political" reasons behind banking privatization⁴, or the implications for the entire Italian banking system - i.e., strengthening of competition or differences in the goals of public and private managers⁵. Instead, the main goal of this paper is to analyze performances of large privatized banks in order to examine whether there are improvements in terms of competitiveness and efficiency and, thus, if one of the benefits of privatization predicted by economic theory is being achieved. The approach is to view privatized banks as "new" banks and to compare them with their pre-privatized state and with other groups of banks.

We believe that conclusions from this analysis will be useful for interpreting changes in other banks in Italy and, perhaps, especially those banks where the influence of foundations has been pronounced. The enforcement of a new law (the "Ciampi law"⁶) about the presence of foundations will greatly reduce the importance of a foundation's ownership of a bank's equity; banks previously controlled by foundations are increasingly likely to resemble recently privatized banks.

After this introduction, the second section describes some preliminary issues about data and the sample of banks. The third section examines the impact of banking privatization from an organizational point of view. The fourth section compares, on an aggregated basis, privatized banks and other Italian banks in terms of profitability and efficiency. The fifth section presents results of

³ See Butler (1991).

⁴ See Anderloni (1999).

⁵ See Sapienza (1999).

⁶ L. n. 461/98 and D.Lgs. n. 153/99.

econometric tests of the impact of privatization on individual banks. The sixth section summarizes the findings.

2. THE SAMPLE AND DATA

In order to construct a sample of privatized banks, it is necessary to propose criteria for deciding when a bank has been privatized. Some observers (for example, see de Cecco, 2000) point out that Italian public bodies (including foundations) keep a significant presence in some banks. Such a presence could permit the State to maintain control over the banks and, thus, they should not be considered private. In other words, even after a public offering the State is still able to decide the governance structure of a credit institution, to appoint the board of directors, to choose goals and strategies, etc. There is a large literature on the relation between ownership and control of firms (see Cubbin and Leech, 1983 for references and Messori, 1998 for the Italian public banks).

A formal determination of whether a bank is publicly or privately controlled is beyond the scope of this paper. Instead we propose simple empirical criteria. We include in the sample of banks, and thus we consider privatized, banks that have the following features⁷:

1. Government disposal of a majority or all of its shares through public offer and
2. A majority of shares owned by the private sector.

These points denote a willingness of public bodies to cede control of banks.

The paper “Le privatizzazioni in Italia dal 1992” (R&S, 2000)⁸ identifies six large credit institutions that had recently been privatized. They are the focus of the present analysis. The six banks play a primary role in the Italian credit market and hold about thirty percent of total Italian banking system assets. Three banks, Banca Commerciale Italiana (Comit), Banca di Roma, and Credito Italiano, were banks of national interest that were controlled by IRI; the others belonged directly or indirectly to the Treasury.

Table 1 reports when major stock offerings to the public occurred and when more than fifty percent of a bank’s outstanding stock was first held by the private sector. In the cases of Banca di Roma and Istituto San Paolo di Torino (S. Paolo), the 1997 public offerings were, respectively, 37 and 23 percent of shares, which was sufficient to transfer control to the private sector. At the end of 1998, the public sector held 37 percent of Banca di Roma’s equity and about 25 percent of the equity of S. Paolo⁹. S. Paolo and Istituto Mobiliare Italiano (IMI) merged in 1998. However, the

⁷ In order to avoid discontinuities in aggregated time series, the sample does not include banks that were involved in large mergers and acquisitions.

⁸ This paper was prepared in response to a request from the Italian Parliament, in order to assess the outcomes of Italian privatizations. It analyzes the most important operations from an economic point of view, but it does not deal with banking privatization.

⁹ This information is drawn from web site of the Italian Companies and Stock Exchange Commission (www.consob.it).

two banks are included because both institutions are in the sample and, thus, do not cause a discontinuity in aggregated time series. After 1997, data for S. Paolo reflect the effects of this merger.

We recognize that the criteria adopted are arbitrary but are confident that these banks represent an informative sample for understanding the impact of bank privatization.

There are other banks that have been privatized, so we are not considering all privatizations. Savings banks sold to private investors, banks acquired by privatized banks, and privatizations that occurred after 1998 - e.g., Mediocredito Centrale, - are not considered in this paper. These privatizations have not been carried out with a public offering of stock and thus do not satisfy the first criterion above. In particular, three important privatizations are not considered in this paper: Banco di Napoli, Banco di Sicilia, and Cariplo. The first two privatizations were a consequence of weak operating results and were essentially bailouts; these could be misleading given the goals of this paper. The post-privatization results for these two banks are difficult to assess, because profitability has been mainly reestablished with legislative and/or administrative interventions. We exclude also the Cariplo privatization because it was achieved through a merger with a private banking group, Intesa.

Analysis of this sample is made possible because of the existence of data collected by the Bank of Italy. Information about three of the six banks in the sample includes data on special credit sections since 1990¹⁰. Although some time series have small breaks because of the adoption of new bank accounting regulations in 1993 and the consolidation of special credit sections, we think such anomalies do not substantively distort the following analysis.

3. ORGANIZATIONAL ASPECTS

Organizational structure is what defines a firm. The economic theory of a firm derives from seminal contributions by Coase (1937), Simon (1979), and others. When privatization occurs, a new firm emerges (Cf. Giorgino and Tasca, 1999). A new group of top managers and a new organizational structure represent important changes that may guide a company toward a more efficient and profitable path¹¹. In this section we examine these two aspects. First, we examine the boards of directors of the six banks to see if privatizations led to a change in their composition and assignments, as the literature predicts.

¹⁰ Special credit sections were engaged in the medium and long-term credit market. From 1995, their accounts are consolidated with the accounts of a related commercial bank.

¹¹ Generale and Gobbi (1999, p. 51) find a “weak, though statistically significant, correlation between the bank’s profitability and the probability of replacing top management”.

Second, we investigate if a new organizational decision-making structure appears after privatization. Ideally, information about the internal structure (number and functions of departments, job procedures, etc.) should be studied. Because such internal data are not available, we perform this analysis using information about the number and composition of staff (percentage of managers, officers, and other employees) and the number and importance of domestic branches. This information is likely to signal the presence of organizational change, if it is occurring.

Tables 2 and 3 respectively report information about turnover of top managers and membership of boards of directors for the six banks in the sample. Table 2 shows that the chairman of the board changes in the year of privatization in two cases and during the year after privatization in two other cases. Two changes in managing director (or general manager) occur in the year of privatization and one in the next year. Thus, while there is a high rate of turnover of top officers when Italian banks are privatized, only about fifty percent are replaced. An interpretation is that new owners often sought to retain the skills and experience of these top officers for an undetermined period.

Table 3 shows that in the year after privatization about ninety percent of the members of the boards of directors are new. The change of membership occurs in both the year of privatization and in the following year, but seems to be larger in the latter. Because members of the board represent the interests of owners, it is not surprising that there is a high rate of turnover when a bank is privatized.

Table 4 reports information about the number and composition of personnel in the privatized banks¹² and in other Italian banks. During the decade, the privatized banks have experienced a large restructuring of staff. The decrease in number of employees began in 1992, before that of other Italian banks, and continues with a sharp acceleration in the most recent years when all privatizations were completed. At the end of the period, the cumulative reduction in number of employees was about twenty percent. In part this reflects the “encouraged resignations plans” undertaken by privatized banks (for example, see Banca Nazionale del Lavoro, 1999).

Table 4 also shows an increase in the fraction of personnel who are managers and officers. One plausible explanation for the growing share of managerial personnel is the rapid expansion in number of branches. Many of the new branches are streamlined offices with a small number of employees, relative to traditional branches. Usually an officer is in charge of each branch and the large increase in the number of branches has required an increase in the number of officers. Further, an increasing share of a bank’s employees was deployed in branches, rather than at a bank’s head

¹² IMI is not included in this analysis because data are only available after 1994 and because, before the merger with S. Paolo, IMI did not have branches; all activities occurred at its headquarters in Rome.

office. In many cases, it appears that employees at new branches came from other offices of a bank. The geographic distribution of employees was becoming less concentrated at the same time that the number of bank employees was falling. It is difficult to identify and measure these different changes with available data, but it is easy to conclude that the distribution of staff of privatized banks has changed in order to develop new business (see section four), and to move decision-making in an organization closer to the market.

An interpretation of these trends is that the decrease in personnel is concentrated among older employees, who tend to have the highest salaries. The new managers and officers tend to be young and, therefore, have accumulated fewer seniority-based salary increases. The privatized banks can be understood to be pursuing the dual goals of reducing staff costs and of motivating personnel to increase productivity with promises of possible future merit increases. Data in Table 10 below seem to confirm this interpretation; in the last years of the 1990s, cost per worker in real terms¹³ was decreasing and assets per worker were increasing.

The growth in number of branches and the consequent increase in competition in credit markets is an important dimension of organizational restructuring (see Giorgino and Tasca, 1999). Several recent papers have analyzed the large expansion of branches in Italy in the last decade. (See Calcagnini et al., 1999, for references). This expansion occurred throughout the Italian banking industry and was not simply a consequence of privatization. However, it is interesting to compare branch expansion of the six privatized banks with that at other Italian banks.

Table 5 shows a strong increase in the number of branches of privatized banks until 1996, after which the privatized banks seemed to be rationalizing rather than expanding their branch systems. The growth rate of branches in the years 1997-9 was the lowest in the past decade, which was followed by a slight acceleration in 2000. The number of towns where privatized banks collectively had a branch was essentially constant from 1996 until 2000, when there was a slight increase. The number of branches of the privatized banks had risen very rapidly until 1995. Branches of other banks rose less rapidly than those of privatized banks until 1996, after which the growth rate of their branches was higher than that of privatized banks in every year.

An important point arises from Table 6. Privatized banks' share of small branches (branches with not more than 10 employees) rose rapidly between 1990 and 2000, from 37% to 66% of all branches. This tremendous change in organizational structure of privatized banks entailed even more dramatic changes in job assignments, internal controls of decision-making authority, and responsibilities for employees. In other words, privatized banks experienced a large organizational restructuring in order to improve efficiency, to provide new services for customers, and to adapt to

¹³ In the paper, "real" values are computed using the GDP deflator.

rapid developments in the technology of financial markets. Other Italian banks have always had a large share of small branches; between 1990 and 2000 this share rose from 65% to 81%. Other banks' share was larger because they were smaller banks with branches more concentrated in small towns than the recently privatized banks. In part, the increased privatized banks' share of small branches reflects their rapid expansion between 1990 and 1997, evident in Table 5, into small towns where the mixture of services offered at a branch is less rich. However, it also reflects private banks' enhanced ability to deliver complex services with a smaller employee complement.

4. PROFITABILITY AND OTHER INDICATORS

In this section we attempt to examine whether the "new" Italian privatized banks are more profitable and efficient than the "old" public banks. There is a large literature about the determinants of bank profitability and efficiency. For Italian banks, see, for example Resti (1996) and Calcagnini and Hester (1997). However, there is little theoretical guidance about how to measure gains in efficiency and profitability in the short run, when a small number of banks are transitioning from public to private ownership.

Because the six privatizations occurred between 1993 and the beginning of 1998, we propose to compare selected measures of bank income and expense in the early 1990s (before privatization) and at the end of the decade (when privatization was completed). Table 7 reports some measures of bank profitability for the aggregate of the six banks in the sample¹⁴. Ratios of profits to total assets and the rate of return on equity, both before and after taxes, were high in 1990 and 1991 and again from 1998 to 2000. Profit rates of all banks were much lower in the intervening years.

The table also shows that net interest income, expressed as a percentage of total assets, decreased with falling market interest rates. Farabullini and Gobbi (1996) have attributed a positive correlation between net interest income and market interest rates to the rigidity of interest rates on bank deposits. Because of the presence of close substitutes, such as government bonds, interest rates on deposits are less flexible than interest rates on loans. Consequently, when interest rates fall net interest income falls. Despite falling interest rates in the last years of the decade, privatized banks were able to offset this adverse effect on profitability through innovative management. First, as shown in Table 8, privatized banks creatively adjusted their portfolios by acquiring more high yielding loans, repurchase agreements, and shares and participations and by collecting more funds

¹⁴ The ratios are calculated by using sums of individual bank information for the six banks. Total assets in all tables are a weighted average of total assets. The weights are .125, .25, .25, .25, and .125 and were applied, respectively, to total assets at the end of preceding year and at the end of each quarter of a year.

through low-cost sight deposits, bonds¹⁵, external deposits, and equity. They sharply reduced high-cost certificates of deposit and miscellaneous other assets¹⁶.

Second, as shown in Table 9, fee income from services rose considerably at privatized banks. These fees include commissions from selling new financial products to small investors, who were seeking higher yields as interest rates fell. Low interest rates on government bonds have induced investors to shift funds toward the stock market and portfolio management services - e.g., mutual funds (see Banca d'Italia, 2000).

The low return on assets in 1997 was due to very large write-offs of loans at some of the banks in our sample. Table 9 reports the values of adjustments on loans for the sum of the six banks. It should be recognized that disclosing these losses is a necessary and constructive part of the process of privatization, because it improves the credibility of a bank's accounts. In order to sell shares to sophisticated private investors, a bank's books must be actuarially sound. Privatization of a bank with an undisclosed large amount of non-performing loans could result in failure. Investors would not buy shares or would submit a very low bid for shares, if they believed a bank's value was overstated. In other words, for a privatization to be successful, investors must be persuaded that a resulting new bank can earn a risk-adjusted market rate of return on the funds that they subscribe.

This requirement applies to all privatizations, but seems especially important for bank privatizations where information asymmetries are pervasive. Traditional banking activity is also based on the trust of customers; if institutional and small investors are not in favor of privatization because a bank seems unsound, its customers might shift their accounts to other banks. Bank privatization provides an incentive to reorganize a credit institution and rationalize its financial accounts.

Additional information about restructuring in Italian banks is provided in Table 10 where ratios of assets and costs to the number of bank employees are reported for privatized and "all other"¹⁷ Italian banks. In both groups of banks there has been a large increase in assets per employee over the past decade – slightly larger at the privatized banks. The increase in assets per employee at privatized banks may be effectively understated, because privatized banks have been more active in the securitization of assets, which removes assets from a bank's balance sheet. Securitization is a recent innovation in Italy and it is important to record that recently privatized banks were quick to employ this technique: table 11 shows that the privatized banks have issued 37

¹⁵ Because of a change in tax laws in 1997, it became less costly to raise funds through the issuance of bonds than through CDs.

¹⁶ Other assets include fiscal items, suspense and transit items, accrued interest receivable, and on-balance-sheet derivatives.

percent of all securitized assets of Italian banks during the years 1997-2000, and 60 percent in the first year. Three of the privatized banks are active in securitization.

At the end of the decade, the average cost of an employee at a privatized bank in real terms was very similar to the cost in the initial years, which suggests that costs were being effectively controlled. It was much higher during the years in which privatization was occurring. The average cost of an employee at privatized and other banks was quite similar over the decade, which may reflect nationwide collective bargaining. At privatized banks, as shown in Table 9, the ratio of staff costs to total assets decreased over time and reached its lowest value at the end of the decade. The lower average cost of an employee in the most recent years has contributed importantly to the improved profitability of all Italian banks.

Are the profitability and productivity gains of the six privatized banks due to the new shareholders and changed corporate structure? Or, are they attributable to other external factors, such as a general improvement in the Italian banking system? In order to answer this question, we present a comparison between privatized banks and other Italian banks, which on average are much smaller than the six privatized banks. According to several papers (see Landi, 1990), small credit institutions tend to have higher ratios of net income to total assets than large banks. A better knowledge of local markets is believed to allow small banks to better contain losses on loans. In addition, small banks may have a highly specialized management that is responsive to local conditions and allows lower operating costs¹⁸. On the other hand Calcagnini and Hester (1997), using a statistical cost accounting model that controlled for inter-bank variations in portfolio composition, report evidence of relatively greater profitability at large banks. They attributed higher profitability to the presence of economies of scale, although they also reported finding evidence of competitive imperfections in loan markets, which might favor some small banks.

Our analysis focuses on a comparison of trends in the ratios of summed measures of income and profits to summed total assets at privatized banks with their counterparts at other banks in Italy. Figure 1 shows that the ratio of net interest income fell at both groups of banks, but the difference between them narrowed over time. Privatized banks always had a lower ratio. Figure 2 indicates that the ratio of gross income (net interest income plus all other income) to assets also fell at both groups of banks, but fell less at the privatized banks. In Figures 3 and 4 it can be seen that net current operating income and profits before taxes, respectively, rose at privatized banks relative to other banks. Initially other banks were more profitable than the privatized banks, but not in later

¹⁷ “Other Italian banks” include the credit institutions in the monthly sample used in the publications of the Banca d’Italia until 2000, excluding the six privatized banks. Ratios are again calculated by using sums of individual bank data.

years. The very large realizations of losses at privatized banks in 1997, which are conspicuous in Figure 4, may have been a contributing factor to this improvement, because non-earning loans were removed from balance sheets.

Figure 5 suggests that rising fees on services were an important component of the increase in gross income in the last years of the decade, and that privatized banks have been more aggressive in developing these new financial products than other banks. This can be interpreted as evidence of greater entrepreneurship by “new private” banks and more rapid assimilation of financial market innovations. It should be acknowledged, however, that these banks might have had an advantage relative to other banks when marketing new products because they are large and well known. We cannot distinguish between gains from privatizations and those from size and having a good reputation, when new innovations occur.

Figure 6 shows that the rate of return on equity of the aggregate of the six privatized banks rose sharply after 1997. In part the rise was a consequence of writing off bad loans, but mostly it reflects improved net operating results. Evidence supporting this interpretation appears in the following section.

We have also examined but do not report¹⁹ the ratios shown in figures 1 - 5 for other Italian banks, excluding Banco di Napoli and Banco di Sicilia, which had reestablished profitability largely through legislative and/or administrative interventions; the comparison between this new group and the six banks substantially confirms the foregoing conclusions.

Summarizing, the ratios of profits to average total assets at privatized banks seem to be rising relatively to other Italian banks, especially in the most recent years. Some efficiency measures, such as assets and cost per employee, are difficult to interpret. Privatized banks seem more aggressive and seem to pay more attention to new opportunities available in financial markets.

5. ECONOMETRIC ANALYSIS

In the preceding sections we examined privatizations using tables constructed from aggregate data for two populations of banks. In this section we analyze a panel of data for five Italian banks that were privatized using simple econometric tools, in order to test whether privatization was related to changes in bank variables. There is no formal econometric model underlying this analysis. Rather, we employ simple linear models to test whether observed variables are different before and after privatization. There are 55 observations - five banks over the eleven years, 1990 - 2000. We

¹⁸ For example, Marullo and Passacantando (1986) show that savings and cooperative banks (these categories are mainly made up of medium and small banks) have lower operating costs.

¹⁹ These new ratios cannot be reported in order to safeguard the confidentiality of individual bank data.

have arbitrarily suppressed information about IMI before its merger with S. Paolo, because of its uniqueness – e.g., having no branches, etc²⁰.

The analysis is performed using ordinary least squares estimation. The dependent variables are drawn from income statements and balance sheets of the privatized banks; many of the variables have been discussed above. We consider two specifications. In the first we regress each of 21 variables on a binary (dummy) variable that takes on a value of 1 for each observation in years after privatization, and 0 otherwise. The second specification includes this variable and a second variable that is a post-privatization trend, which takes on a value of 1 in the first year after privatization, a value of 2 in the second year, etc., and is otherwise zero. A linear trend is not likely to be an appropriate specification for ratio variables over long time spans, but it is a useful descriptive device for the few available years of observations that we have after privatization.

Tables 12 and 13 report results for the two specifications. The first nine rows in each table are ratios of income or expense to average total assets in a year. In Table 12 six of the nine coefficients on the binary privatization variable have “t” ratios that are significantly different from zero at the one-percent level in a two-tailed test. In particular, after privatization the banks had higher fee income, lower staff costs, higher net operating income, and higher profits before and after income taxes. Binary variable coefficients are also significantly positive for rates of return on equity, before and after income taxes. These results conform to our expectation of how privatization should affect these variables and to admittedly loose theoretical predictions about the effects of privatization. The ratio of net interest income to total assets fell with privatization, but this is best interpreted as a consequence of steadily falling nominal interest rates in Italy during the 1990s.

Table 13 provides further insight into the effects of privatization on bank income and expenses, because it differentiates between a static “shift” effect that is captured by the binary variable considered in the preceding paragraph and a dynamic “trend” effect. The trend captures the idea that privatization should result in a continued strengthening improvement in performance. By allowing both variables to appear in each equation, we can distinguish between them because the coefficients measure the marginal effect of adding a variable when the other is present. In Table 13 the significance of coefficients of the binary variable in the first nine rows effectively vanishes; only the coefficient on the fee income variable is significant at the five-percent level. For the same nine rows, coefficients on the trend variable are significantly different from zero at the one-percent level in two cases and at the five-percent level in three other cases. Staff costs as a fraction of average total assets fall increasingly in the years after privatization. Fee income, net current

²⁰ The equations described in this section were also estimated using 52 observations, which excluded S. Paolo observations after the S. Paolo-IMI merger. The results were essentially the same for the two samples.

operating income, and profits before tax variables progressively rise in the years after privatization, as do the rates of return on equity before and after taxes. These trends suggest that Table 12 and the earlier tables that report aggregate privatized bank data may understate the gains from privatization because they ignore *intensifying improvements* in performance. The negative trend coefficient on the net interest expense variable strongly supports the interpretation at the end of the preceding paragraph; it reflects steadily falling nominal interest rates.

Rows 12 through 15 in each table concern selected portfolio ratios. The first variable is the ratio of a bank's average loans to its average total assets. In Table 12 the coefficient on the binary variable unexpectedly implies that banks have a lower ratio after privatization; apart from securitization, we have no good story for why this should be observed. In Table 13 the coefficients on both the shift and trend variables are not significantly different from zero. The second variable is the ratio of a bank's nonperforming loans (*sofferenze*) to total assets. The coefficient on the binary variable is insignificant in Table 12, but positive in Table 13; the coefficient on the trend is significantly negative in that equation. Superficially, it seems that at the time of privatization these banks had more nonperforming loans than earlier in the decade, but they were increasingly ridding themselves of them after that date. Somewhat surprisingly, there is no statistical evidence of a relation between the ratio of checking (sight) deposits to total assets and the shift and trend variables. The ratio of certificates of deposit to total assets was negatively related to the binary variable in Table 12 and to the trend variable in Table 13. Because of the aforementioned tax law changes, it is unclear whether this result reflects enlightened behavior by privatized banks or a regime change in the tax code.

The final six rows in the two tables concern various operating characteristics and ratios. In Table 12 three variables involving the total number of a bank's employees have coefficients on the binary variable that differ significantly from zero at the one percent level. As in the earlier tables of aggregates, they imply that after privatization banks had fewer employees (the logarithm of a bank's employees was smaller), more real assets per employee, and a smaller number of employees per branch. In Table 13 the coefficients on the binary variable for these variables are not significant, but the coefficients on the trend variable are significantly negative for number of employees and positive for assets per employee. An interpretation is that privatization accelerated changes in these two variables. There is no evident effect of privatization on the ratio of managers to total employees, the percentage of employees deployed in branches, or in assets per branch in either Table 12 or Table 13. An interpretation is that changes in these variables noted in earlier tables of aggregate data reflect an ongoing restructuring of Italian banks, but there is too much variation across the five privatized banks to associate them with the privatization process.

6. CONCLUSION

In this paper we study the outcomes of privatizations of six large Italian banks, carried out between 1993 and the beginning of 1998. Our choice of banks was guided by a report for the Italian Parliament and banks were defined to be privatized when sufficient shares were distributed through a public offer so that the residual share ownership by public bodies was below fifty percent of outstanding shares. The six privatized banks in our sample hold about one-third of total Italian banking system assets.

We study privatizations looking at organization and profitability. We employ a very simple set of statistical models to test the validity of our conclusions using a panel of the five privatized banks that had branches.

From an organizational point of view, we first examined whether privatizations resulted in changes in a bank's top managers and in the composition of its board of directors. The top officers (chairman and the managing director or general manager) of the six banks had a high turnover rate. About fifty percent were replaced during the year of privatization or the following year. However, almost all members of boards of directors changed during the year of privatization or the following year. This suggests that new owners replaced a large part of the board in order to insure that their interests were being respected. However, new shareholders often chose to keep top executives because, among other reasons, of their skills and expertise. Changing the membership of the board is a first step in the transition toward a new bank, but maintaining some continuity in management is probably essential for a smooth transition.

Second, we examined whether privatization results in a redeployment of lower echelon personnel. Between 1990 and 2000, the aggregate number of employees at the six privatized banks decreased about twenty percent. In the preceding section, an analysis of the panel of five privatized banks suggested that privatization resulted in an acceleration of the reduction of employees, possibly through "encouraged resignations plans," which some privatized banks adopted. The aggregate data also suggested that the percentage of employees who were officers was also rising, which may be associated with rapid growth of branches. However, no evidence of a stable relation between privatization and the share of employees who were officers was found in the statistical analysis reported in the preceding section. Evidently other variables and a more sophisticated model are needed to predict the percentage of employees who are officers.

Branch expansion also plays a role in the reorganization of privatized banks. Before 1996 the banks that were to be privatized greatly increased the number of their branches, but after that year branches of privatized banks rose quite slowly. They seemed to be attempting to rationalize their

branch network and were not interested in more branches. Other Italian banks, by way of contrast, maintained a fairly high rate of branch expansion throughout the 1990s. Shunning branch expansion may prove to be an enlightened policy by the privatized banks in a period of rapid technical progress. Another distinctive policy of privatized banks seemed to be reducing the number of employees at a branch. In aggregate data for privatized banks, the fraction of branches with ten or fewer employees rose sharply and was approaching that of other Italian banks. In the preceding section evidence was provided that the number of employees at a branch was significantly lower after privatization, but we did not focus on the number of branches with ten or fewer employees in that work. The fraction of branches with ten or fewer employees fell most rapidly in the years before privatization when the rate of branch expansion was high.

After privatization, profitability rose. Aggregate ratios of profits to total assets and the rate of return on equity increased; the increase in profitability of the six privatized banks was larger than that at other Italian banks. In the preceding section's econometric results, net operating income and profits before and after taxes, expressed as a fraction of average total assets, were higher after privatization and were usually rising more rapidly after privatization. The same was true for return on equity. The improvement in profitability of privatized banks can be attributed largely to rapidly increasing fee income from providing services and falling staff costs, which are evident both in the aggregate data for privatized banks and in the econometric results. The strong profits results seem to signal impressive gains from privatization and associated restructuring.

In the latter years of the 1990s, privatized banks have greatly increased fee income. In part this reflects a new situation in Italian financial markets, where Treasury bonds are less attractive and professional management of saving is a growing business. Privatized banks seem to have had a more aggressive strategy; organizational redesign may have been important in order to market new, successful financial products.

During the 1990s the ratio of staff costs to total assets at the six privatized banks steadily decreased; the real cost of an employee grew in the early years of the decade, but fell in the second half to about the level of 1990. The number of employees fell steadily. Together these patterns suggest that privatized banks have controlled staff costs and managed to achieve an increase in efficiency, which importantly contributed to improved profitability.

Profits of the six privatized banks, as a percentage of average assets, and return on equity are rising relative to other Italian banks. Cost per employee is strictly controlled at privatized banks, but it is still slightly higher than at other banks. Total assets per employee are similar at both groups of banks. It remains to be seen whether privatized banks' earnings can continue to rise relative to other Italian banks.

In 1997, immediately before privatization, some banks in our sample made large write-offs of bad loans, resulting in large negative profits. This suggests that the public owners had carried out a “cleaning” of bank balance sheets, in order to place sound banks on the market. This is very important for successful privatizations, but especially so in the case of banking because information asymmetries are pervasive. Further, a bank’s customers need to be reassured by having a sound balance sheet, because a bank may no longer have recourse to the State in the event of a failure. Without a sound balance sheet, customers might be tempted to move their accounts to other banks.

Summing up, privatizations resulted in changes in managers and organizational structure and in improved profitability and efficiency. The latter cannot entirely be disentangled from ongoing changes and improvements in the Italian banking industry. This paper represents a first step towards a complete analysis of the impact of privatization on banks. In the next years, it should be possible to increase the sample of privatized banks, which will permit a better understanding of the consequences of privatization. It may be fruitful in future work also to compare the results from studies of privatized banks with those of privatized nonfinancial enterprises.

June 27, 2001

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Table 1

PRIVATIZED BANKS IN THE SAMPLE

Bank		Shares sold (%)	Year	Year of privatization (*)
Credito Italiano		54.8	1993	1993
COMIT		51.3	1994	1994
IMI	1	36.5	1994	1995
	2	19.0	1995	
S. Paolo Torino		23.2	1997	1997
Banca di Roma		36.5	1997	1997
BNL		78.5	1998	1998

Source: R&S

(*) Initial year when public bodies do not have the majority of shares of bank.

Table 2

TURNOVER OF TOP MANAGERS OF PRIVATIZED BANKS

	Changing in the year	
	of privatization	after privatization
Chairman of Board	2	2
Managing Director	2	1

Table 3

TURNOVER OF BOARD OF DIRECTORS OF PRIVATIZED BANKS

Reference period	Members of Board	New members of board		Outgoing members of board	
	number	number	% (1)	number	% (1)
Year before privatization	64				
Year of privatization	73	40	62.5	31	48.4
Year after privatization	67	57	89.1	54	84.4

(1) Percentage is computed over the year before privatization (initial situation).

Table 4

NUMBER AND COMPOSITION OF STAFF

YEAR END	NUMBER OF EMPLOYEES		ANNUAL GROWTH RATE OF EMPLOYEES (%)		MANAGERS AND OFFICERS (1)		EMPLOYEES AT BRANCHES (1) (2)	
	Other	Priv.	Other	Priv.	Other	Priv.	Other	Priv.
1990	233522	97339	1.4	2.0	15.3	17.3	62.7	68.7
1991	240141	97285	2.8	-0.1	15.2	17.7	63.5	68.8
1992	240748	97390	0.3	0.1	14.9	17.8	64.6	69.8
1993	242736	97213	0.8	-0.2	15.0	18.2	65.0	70.3
1994	241971	96966	-0.3	-0.3	14.7	18.3	66.9	71.2
1995	242693	95200	0.3	-1.8	15.2	18.7	64.7	71.9
1996	240010	91126	-1.1	-4.3	15.0	18.6	65.5	72.3
1997	234912	87671	-2.1	-3.8	14.5	18.6	65.3	72.8
1998	232745	84713	-0.9	-3.4	14.3	18.4	67.2	72.1
1999	230573	80896	-0.9	-4.5	14.4	18.7	67.6	71.8
2000	234659	76895	1.8	-4.9	14.7	18.5	67.4	73.5

(1) From 1995, data include special credit institutions. As percentage of total employees.

(2) Including managers at branches.

Table 5

DOMESTIC BRANCHES

YEAR	NUMBER		GROWTH RATE (%)		TOWNS WITH BRANCHES OF	
	Priv.	Other	Priv.	Other	Priv.	Other
1990	2958	13523	-	-	930	4874
1991	3345	14989	13.1	10.8	1054	5003
1992	3681	16106	10.0	7.5	1152	5098
1993	4129	17138	12.2	6.4	1250	5194
1994	4457	17962	7.9	4.8	1347	5296
1995	4603	18801	3.3	4.7	1374	5358
1996	4714	19680	2.4	4.7	1421	5426
1997	4731	20529	0.4	4.3	1454	5456
1998	4760	21516	0.6	4.8	1455	5684
1999	4796	22351	0.8	3.9	1455	5715
2000	4900	23273	2.2	4.1	1461	5713

Table 6

 SHARE OF SMALL BRANCHES
(percentages of all branches)

YEAR	PRIVATIZED BANKS: BRANCHES WITH			OTHER BANKS: BRANCHES WITH		
	1-5 employees (ap)	6-10 employees (bp)	up to 10 employees (ap+bp)	1-5 employees (ao)	6-10 employees (bo)	Up to 10 employees (ao+bo)
1990	16.3	21.1	37.4	33.3	31.6	64.9
1991	22.9	22.6	45.5	37.0	30.4	67.4
1992	27.0	23.2	50.2	39.7	29.8	69.5
1993	30.5	23.6	54.1	41.3	29.9	71.2
1994	35.4	22.4	57.8	43.0	30.0	73.0
1995	36.0	23.9	59.9	44.8	29.6	74.4
1996	36.6	24.2	60.8	46.4	29.2	75.6
1997	35.8	25.1	60.9	48.8	29.3	77.3
1998	36.1	25.9	62.0	50.4	28.3	78.7
1999	36.9	26.6	63.5	51.2	28.6	79.8
2000	37.4	28.1	65.5	52.1	28.9	81.0

Table 7

MAIN INDICATORS ON PROFITABILITY OF PRIVATIZED BANKS

Year	Net interest income (1)	Gross income (1)	Operating income (1)	Profit before tax (1)	Profit after tax (1)	ROE before tax	ROE after tax
1990	2.90	4.08	1.60	0.71	0.53	16.1	11.8
1991	2.82	3.83	1.28	0.68	0.40	12.4	7.3
1992	2.87	3.51	1.08	0.49	0.23	7.8	3.7
1993	2.68	3.77	1.36	0.71	0.24	11.5	3.9
1994	2.36	3.33	0.97	0.29	0.17	4.5	2.7
1995	2.25	3.13	0.95	0.33	0.20	5.2	3.1
1996	2.18	3.30	1.02	0.34	0.19	5.3	2.9
1997	1.97	3.14	0.90	-0.50	-0.65	-7.9	-10.2
1998	2.03	3.66	1.53	0.93	0.51	14.5	8.0
1999	1.78	3.53	1.51	1.17	0.72	17.9	11.1
2000	1.69	3.50	1.66	1.11	0.75	21.6	14.6

(1) Percentages of total assets.

Table 8

COMPOSITION OF BALANCE SHEET OF PRIVATIZED BANKS
(percentage values)

ASSETS											
Year	Reserve requirement	Loans to customers	Interbank	Government securities	Other securities	Repos (1)	Shares and participations	Bad loans	Fixed assets	External assets	Other assets
1990	5.4	44.3	3.7	6.2	3.2	0.0	1.7	2.0	0.7	13.4	19.4
1991	5.0	48.7	2.9	5.2	2.2	0.0	1.5	2.2	0.6	11.7	20.0
1992	4.7	49.1	4.8	5.4	2.2	0.0	2.2	2.2	1.4	10.0	18.0
1993	3.8	49.0	5.5	5.8	1.7	0.0	2.0	2.6	2.0	10.5	17.1
1994	4.0	44.2	5.9	8.6	1.7	0.5	2.0	3.1	2.0	12.0	16.0
1995	3.2	44.1	5.0	9.0	1.7	0.5	2.3	3.8	2.1	12.3	16.0
1996	2.6	43.8	4.9	8.4	1.6	0.5	2.6	4.1	2.0	12.9	16.6
1997	2.8	43.3	4.3	7.2	1.2	0.5	2.6	4.5	2.0	15.0	16.6
1998	2.3	45.3	3.8	6.0	1.3	1.0	2.9	5.0	1.9	14.5	16.0
1999	0.8	45.9	4.2	5.8	1.4	1.7	3.6	4.5	1.8	14.3	16.0
2000	0.8	46.2	7.2	4.0	1.7	1.9	2.8	3.7	1.6	14.0	16.1

LIABILITIES										
Year	Checking accounts	CDs	Savings deposits	Interbank	Bonds	Repos (1)	Equity	External liabilities	Other liabilities	MEMO: Total assets (2)
1990	24.0	8.3	6.2	5.3	6.8	0.0	5.8	16.9	26.7	227984
1991	23.2	9.4	5.4	4.0	7.5	0.0	6.2	16.8	27.5	251033
1992	21.7	10.2	4.4	4.9	7.5	0.0	7.7	17.8	25.8	284524
1993	20.3	11.8	3.8	5.5	7.6	0.0	8.0	17.1	25.9	312873
1994	19.5	11.2	3.5	5.1	8.4	4.5	7.6	15.4	24.8	344006
1995	18.5	11.5	3.1	4.9	8.6	5.7	9.1	21.9	16.7	354071
1996	17.9	11.7	2.8	5.7	9.2	5.9	9.7	20.3	16.8	370819
1997	18.8	9.4	2.8	5.6	10.9	5.9	9.5	20.2	16.9	384253
1998	21.6	6.0	2.9	4.8	12.1	5.2	10.5	20.6	16.3	379497
1999	23.2	3.5	2.7	4.4	11.9	5.0	10.7	22.3	16.3	390694
2000	23.8	2.0	2.4	5.1	10.4	4.8	9.8	25.1	16.6	417292

(1) Before 1994, repos were off-balance sheet items

(2) Amount outstanding in millions of euros.

Table 9

OTHER INDICATORS ON PROFITABILITY (*)

Year	Losses on loans		Staff costs		Non-interest income					
	Priv.	Others	Priv.	Others	Total		o/w : trading income		o/w: fees on services	
					Priv.	Others	Priv.	Others	Priv.	Others
1990	0.56	0.53	1.69	1.74	1.17	0.95	0.54	0.50	0.18	0.18
1991	0.47	0.52	1.76	1.75	1.01	0.97	0.46	0.50	0.12	0.15
1992	0.44	0.50	1.63	1.61	0.64	0.71	0.13	0.29	0.05	0.12
1993	0.54	0.80	1.59	1.51	1.08	1.16	0.56	0.65	0.22	0.23
1994	0.32	0.57	1.59	1.48	0.97	0.84	0.28	0.25	0.27	0.31
1995	0.45	0.76	1.45	1.54	0.89	0.83	0.25	0.25	0.22	0.29
1996	0.49	0.47	1.54	1.50	1.11	0.98	0.36	0.38	0.29	0.30
1997	1.03	0.41	1.46	1.39	1.17	1.04	0.22	0.32	0.45	0.40
1998	0.68	0.39	1.37	1.25	1.63	1.33	0.31	0.32	0.72	0.59
1999	0.47	0.39	1.29	1.21	1.75	1.57	0.17	0.17	0.79	0.73
2000	0.47	0.32	1.13	1.12	1.80	1.73	0.13	0.13	0.81	0.69

(*) Percentages of total assets.

Table 10

RATIOS PER EMPLOYEE (1)

Year	Assets per employee			Cost per employee		
	Privatized	Others	Priv.-Others	Privatized	Others	Priv.-Others
1990	3128.0	3202.4	-74.4	52.8	55.8	-3.0
1991	3164.7	3205.1	-40.4	55.6	56.2	-0.6
1992	3504.5	3645.3	-140.8	57.3	58.7	-1.4
1993	3713.2	3836.3	-123.1	58.9	58.1	0.8
1994	3681.6	3943.6	-262.0	58.4	58.2	0.2
1995	3927.2	3722.1	205.1	57.0	57.4	-0.4
1996	3809.1	3789.8	19.3	58.6	56.7	1.9
1997	3986.0	4033.2	-47.2	58.3	56.1	2.2
1998	3938.7	4263.4	-324.7	53.8	53.3	0.5
1999	4211.7	4295.6	-83.9	54.4	52.1	2.3
2000	4632.5	4611.1	21.4	52.4	51.4	1.0

(1) Millions of euros at constant value of 1995.

Table 11

SECURITIZATION

(percentage values)

Year	Privatized	Others
1997	63.5	36.5
1998	0.0	100.0
1999	59.6	40.4
2000	21.4	78.6
total	37.3	62.7

Table 12

REGRESSION ANALYSIS: IMPACT OF PRIVATIZATION
AT FIVE BANKS

Dependent variable	Constant	Binary variable
1 net interest/total assets	2.641 ** (0.090)	-0.587 ** (0.146)
2 gross income (net of interest expense)/total assets	3.700 ** (0.097)	-0.072 (0.157)
3 nonfee and noninterest income/total assets	0.837 ** (0.052)	0.015 (0.084)
4 fees on service/total assets	0.222 ** (0.040)	0.500 ** (0.064)
5 operating expenses (excluding staff cost)/total assets	0.838 ** (0.023)	-0.044 (0.037)
6 staff cost/total assets	1.742 ** (0.056)	-0.307 ** (0.091)
7 net operating income/total assets	1.119 ** (0.062)	0.280 ** (0.100)
8 profit before tax/total assets	0.306 ** (0.113)	0.583 ** (0.182)
9 profit after tax/total assets	0.103 (0.091)	0.440 ** (0.148)
10 ROE before tax	6.537 ** (1.926)	9.112 ** (3.116)
11 ROE after tax	2.765 (1.471)	6.742 ** (2.381)
12 loans/total assets	47.696 ** (1.846)	-6.475 * (2.987)
13 bad loans/total assets	2.840 ** (0.447)	0.793 (0.723)
14 checking deposits/total assets	20.363 ** (0.813)	2.242 (1.316)
15 CDs/total assets	10.181 ** (0.567)	-4.458 ** (0.917)
16 logarithm of number of employees	9.867 ** (0.022)	-0.194 ** (0.036)
17 logarithm of price-deflated total assets/employee	8.101 ** (0.036)	0.172 ** (0.059)
18 percentage of managers/total employees	18.058 ** (0.220)	0.421 (0.356)
19 percentage of total employees at branches	71.054 ** (2.546)	-3.151 (4.121)
20 logarithm of total assets/branch	-4.322 ** (0.047)	0.000 (0.076)
21 employees/branch	26.072 ** (1.130)	-8.023 ** (1.828)
Number of observations	55	

** significant at the 1% level, * significant at 5% level

Table 13

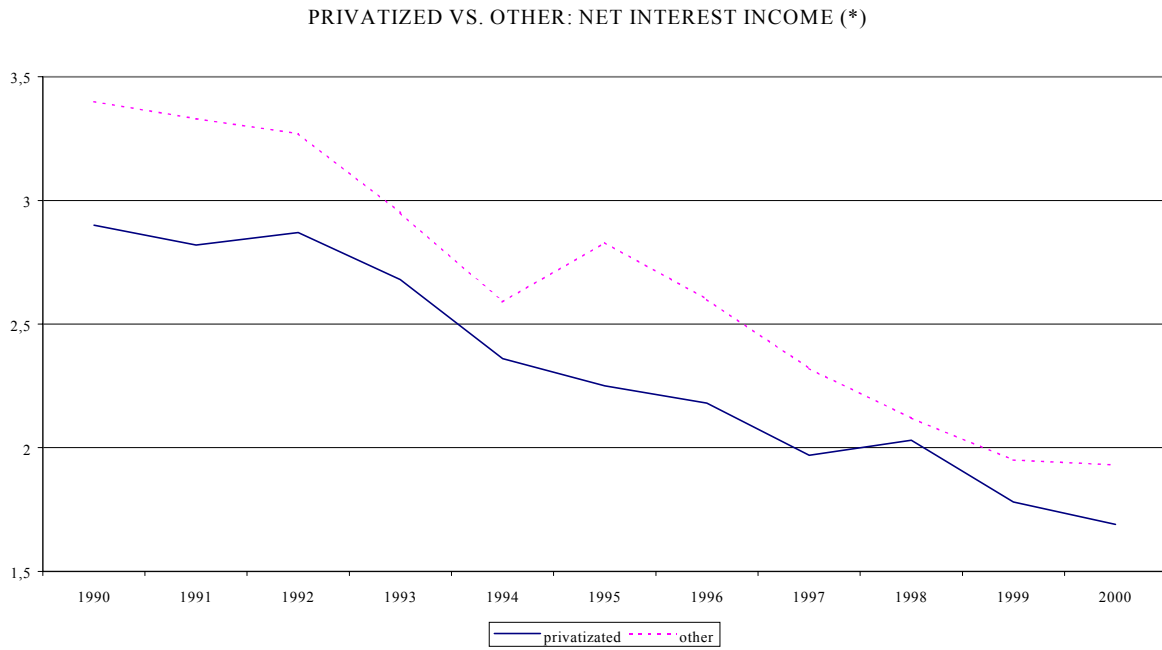
REGRESSION ANALYSIS: IMPACT OF PRIVATIZATION
AND TIME-TREND (1)

Dependent variable	Constant	Binary variable	Post-priv. trend
1 net interest/total assets	2.641 ** (0.086)	-0.134 (0.231)	-0.149 * (0.060)
2 gross income (net of interest expense)/total assets	3.700 ** (0.098)	-0.092 (0.263)	0.007 (0.069)
3 nonfee and noninterest income/total assets	0.837 ** (0.051)	-0.150 (0.137)	0.054 (0.036)
4 fees on service/total assets	0.222 ** (0.035)	0.192 * (0.094)	0.101 ** (0.025)
5 operating expenses (excluding staff costs)/total assets	0.838 ** (0.023)	0.030 (0.061)	-0.024 (0.016)
6 staff cost/total assets	1.742 ** (0.055)	-0.066 (0.147)	-0.079 * (0.038)
7 net operating income/total assets	1.119 ** (0.059)	-0.056 (0.158)	0.110 ** (0.041)
8 profit before tax/total assets	0.306 ** (0.109)	0.074 (0.292)	0.167 * (0.076)
9 profit after tax/total assets	0.103 (0.090)	0.104 (0.241)	0.110 (0.063)
10 ROE before tax	6.537 ** (1.814)	-1.661 (4.868)	3.535 ** (1.274)
11 ROE after tax	2.765 (1.420)	0.008 (3.810)	2.210 * (0.997)
12 loans/total assets	47.696 ** (1.831)	-1.164 (4.914)	-1.743 (1.286)
13 bad loans/total assets	2.840 ** (0.427)	3.009 * (1.147)	-0.727 * (0.300)
14 checking deposits/total assets	20.363 ** (0.815)	3.761 (2.186)	-0.498 (0.572)
15 CDs/total assets	10.181 ** (0.548)	-1.933 (1.470)	-0.829 * (0.385)
16 logarithm of number of employees	9.867 ** (0.019)	-0.004 (0.051)	-0.062 ** (0.013)
17 logarithm of price-deflated total assets/employee	8.101 ** (0.035)	-0.017 (0.093)	0.062 * (0.024)
18 percentage of managers/total employees	18.058 ** (0.221)	0.099 (0.593)	0.106 (0.155)
19 percentage of total employees at branches	71.054 ** (2.563)	0.020 (6.876)	-1.040 (1.799)
20 logarithm of total assets/branch	-4.322 ** (0.046)	0.129 (0.125)	-0.042 (0.033)
21 employees/branch	26.072 ** (1.131)	-5.728 (3.034)	-0.753 (0.794)
Number of observations	55		

(1) Five banks (IMI is not included).

** significant at the 1% level, * significant at 5% level

Figure 1



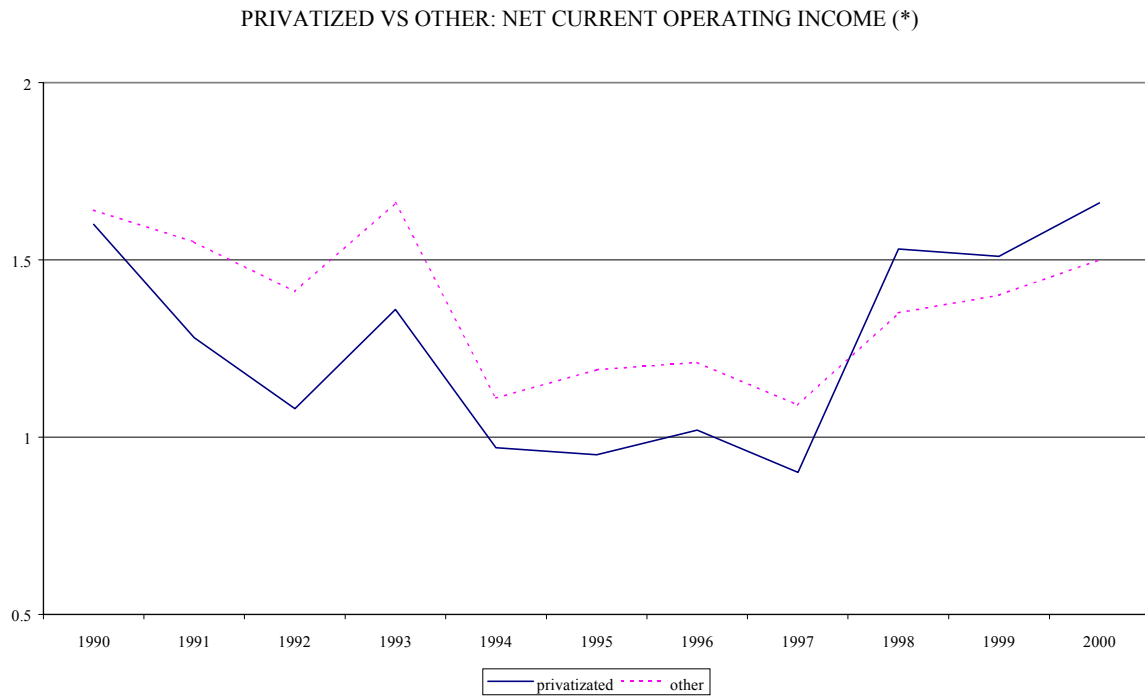
(*)Percentage of total assets

Figure 2



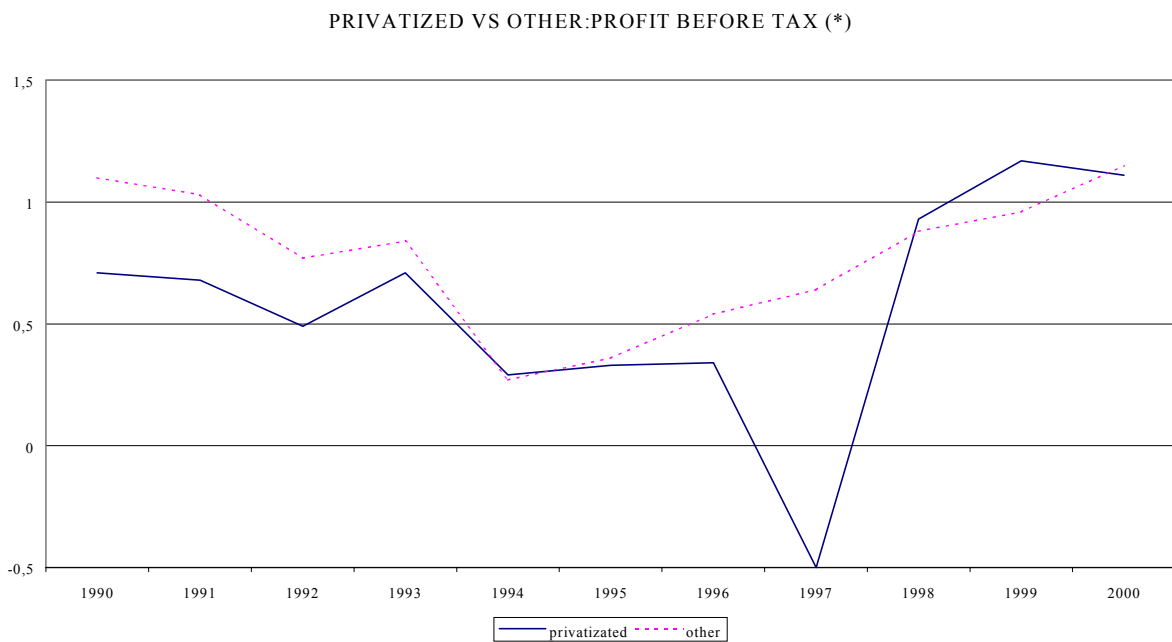
(*)Percentage of total assets

Figure 3



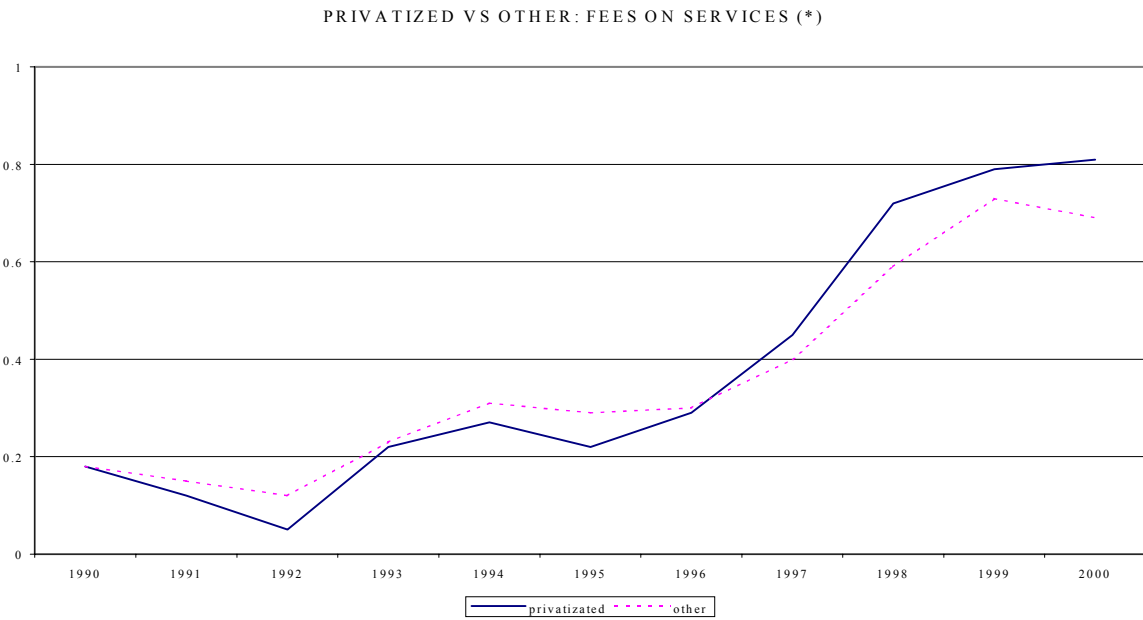
(*)Percentage of total assets

Figure 4



(*)Percentage of total assets

Figure 5



(*)Percentage of total assets

Figure 6

