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BANKING STRUCTURE AND REGIONAL ECONOMIC GROWTH: LESSONS FROM ITALY

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Abstract
Following the literature on the comparative advantage of small versus large banks at lending to small businesses, and in light of the worldwide decline in the number of intermediaries that specialize in this type of lending associated with deregulation in the banking industry, we examine the role that specific categories of banks have played in the context of Italy's regional economic growth. Over the estimation period, 1970-1993, which ends in the year of full implementation of the banking reform that introduced statutory de-specialization and branching liberalization, Italy featured not only a substantial presence of SME's in the real sector, as is still the case, but also a large and heterogeneous set of credit institutions with different ownership, size and lending styles. Exploiting these peculiarities we study the role of specific intermediaries and gather indirect evidence concerning the likely effects, *ceteris paribus*, of the current consolidation processes. The main findings, stemming from panel regressions with fixed effects, are as follows. The overall size of the financial sector has a weak impact on growth, but some intermediaries are better than others: Co-operative banks and Special credit institutions play a positive role, Banks of national interest (basically large private banks) and Public law banks (government-owned banks) either do not affect growth or have a negative influence depending on how growth is measured. Co-operative banks were mostly small banks and Special credit institutions were all but large conglomerates with standardized credit policies, hence our results lend support to the current world-wide concerns of a reduction in the availability of credit to SME's resulting from consolidation and regulatory reforms in the banking industry.

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1. Introduction

There are two distinct streams of literature related to our application. The first is the large body of work on financial structure and economic development originated by Goldsmith (1969), its follow-up within the endogenous growth literature (see the surveys by Pagano, 1993, and Levine, 1997, 2003). The second is a relatively smaller and scattered set of contributions which investigate the relationship between various dimensions of the banking firm (e.g. ownership, as in La Porta et. al., 2002, or organisational structure, as in Berger and Udell, 2002) and its lending behaviour.

As it is well known, Goldsmith (1969) provided considerable evidence on the positive correlation between indicators of financial development and the level of economic activity, but due to data limitations and insufficient theoretical underpinning, was unable to lay bare causal links and growth effects. This task has been carried out by many scholars within the endogenous growth research programme, by stressing the role of financial intermediaries in a world of imperfect information[1].

In an influential paper by Greenwood and Jovanovic (1990), for instance, trading arrangements are costly to establish and technological shocks have two components -aggregate and project specific- which cannot be observed separately. Organisational structures, like financial intermediaries, arise endogenously to facilitate trade in the economy: "[T]hrough a research type process, intermediaries collect and analyse information that allows investors' resources to flow to their most profitable uses. By investing through an intermediary, individuals gain access, so to speak, to a wealth of experience of others" (p. 2). Thanks to their large portfolios intermediaries can infer the aggregate productivity shock and select the best technology relative to the current realisation of the shock. Furthermore, by performing their traditional risk pooling activities, they are able to offer individuals both a higher and safer return. As the economy grows it becomes possible to implement costly financial structures, which in turn promote growth by allowing a higher rate of return to be earned on capital.

Bencivenga and Smith (1991), instead, derive new links from the basics of banking, i.e. borrowing from and lending to large numbers of agents, holding liquid reserves against withdrawal, matching maturities and reducing the need for self-financing. By providing these services optimally, the banking industry reduces the fraction of savings that

society has to hold in the form of unproductive liquid assets and increases the rate of capital accumulation. If growth is modelled as an endogenous process, this is going to affect positively the rate of economic growth.

A direct mechanism was suggested by King and Levine (1993a, 1993b), who restated in a modern general equilibrium framework Schumpeter's idea that profit-seeking innovators are the main actors of economic growth. Accordingly, financial institutions stimulate growth by sorting and funding innovative entrepreneurial activities, i.e. by accelerating the pace of technological change[2].

These new insights have produced a large empirical literature. We provide a short account of these applications in the next section. It is worth stressing, however, that although most findings are broadly consistent with the prediction that countries with better-developed financial systems grow faster, they are still controversial and, what's more, provide little guidance to policymakers. As pointed out recently by Zingales (2003), there are at least six weak links in the quest for a reliable relation between finance and growth[3]. Our attempt here addresses directly one of these, namely the limitations of measures of financial development, and has the ambition of providing some clue to policymakers for evaluating the present-day consolidation.

The second stream of literature relevant for our work focuses on two closely related aspects: the interaction between lending styles and the organisational structure of the banking firm; the influence of ownership on bank behaviour.

Following Berger and Udell (2002) lending can be categorised into four different technologies: financial statement lending, asset-based lending, credit scoring and relationship lending. The first three technologies, also known as transaction based lending, require as input "'hard' information that is relatively easily available at the time of loan origination and does not rely on 'soft' data gathered over the course of a relationship with the borrower"[4] (p. 36). On the contrary, under relationship lending "the lender bases its decisions in substantial part on proprietary information about the firm and its owner gathered through a variety of contacts over time" (p. 37). A pivotal role within relationship lending is played by the loan officer, who collects and provides to the bank soft, hard to quantify information concerning the firm, its owner and the local community. Clearly, this type of lending is worthwhile with informationally opaque customers, like many small businesses. In any event, in order to offer relationship lending, greater authority must be

delegated to the loan officer, with the twofold consequence of worsening agency problems between the officer and the bank and creating the need for an organisational structure capable of coping with them.

Viewing bank lending as the outcome of a hierarchy of contracting problems in which the interaction between the loan officer and the small business borrowers is just the first layer of contracting[5], Berger and Udell (2002) show that small organisations may do better than large organisations in activities based on soft information. Several studies confirm this prediction (see, in addition to the works referred to in the paper, Berger et. al. 2002 and Cole et. al. 2004), hence we should expect larger institutions to be less likely to make relationship loans.

As to the influence of ownership on bank behaviour, two recent works need consideration here. La Porta et. al. (2002) investigate the consequences for economic and financial development of government ownership of banks according to two different perspectives, the "development" view and the "political" view[6]. The former places government ownership of banks within a broader plan for reaching social objectives through government control of strategic economic sectors. The latter emphasizes political objectives, i.e. the provision through the control of enterprises (including banks) of employment, subsidies and other benefits in exchange for votes and political support. Both views imply greater pervasiveness of government ownership in poorer countries or, more generally, countries with less well functioning institutions. However, *ceteris paribus*, the development view imply that government ownership of banks should benefit subsequent economic development, whereas the political view imply a detrimental effect due to crowding out of private firms. The empirical findings, using data from 92 countries around the world, support some elements of the development view but are overall more favourable to the political view (p. 267).

Much in the same vein, Paola Sapienza (2002) considers three main views of state-owned enterprises (social, agency and political) and tests their validity by looking at the differences in the credit policies of both privately owned and state-owned banks. The analysis, based on a unique dataset on over 37,000 Italian firms, examines the interest rate charged to similar companies (in terms of risk profile) by the two types of banks. Overall, the results are supportive of the political view and suggest that "state-owned banks serve as a mechanism to supply political patronage" with "distorting effects on the financial allocations of resources" (p. 3).

In light of these intuitions it is evident that a large body of the current empirical research on finance and growth, based on aggregate cross-

country measures, is neglecting an important trait of the financial structure. Our contribution exploits the peculiarities of the Italian context before the unification of the European financial market to fill this gap. Using a panel approach we find that, irrespective of ownership, large banks are, if anything, negatively correlated with growth, whereas Co-operative banks and Special credit institutions do have a positive influence.

The remainder of the paper is organized as follows. The next section selectively discusses recent empirical work on finance and growth. Section 3 documents the importance of SME's for economic performance across the main world economies and their dependence on external finance provided by banks. Section 4 describes the Italian context over the estimation period. Section 5 presents the methodology and the main empirical findings. Section 6 concludes.

2. Empirical research on finance and growth

The growing body of empirical research on financial development and economic growth has employed several econometric techniques, ranging from pure cross-country regressions to microeconomic studies based on the natural experiment approach. Here we limit the discussion to four empirical investigations which have direct bearings with our study.

King and Levine (1993a,b) explores the linkages between finance and growth using data on 80 countries from 1960 through 1989. They start with a "base" regression in which the growth rate of real per capita GDP depends on the logarithm of initial income, the logarithm of the initial secondary school enrolment rate, and four indicators of the level of financial sector development. These are intended to capture, respectively, the overall size of the formal financial intermediary sector, the incidence of those financial intermediaries which are more likely to provide the services suggested by the theory, the extent to which total credit is allocated to the private sector and the weight of this monetary aggregate relative to GDP.[7] The cross-country evidence indicates a strong link between financial indicators and long run growth. This result survives a number of sensitivity checks, which include altering the conditioning set of information, using different subperiods of time and subsamples of countries. To overcome endogeneity problems, the authors also examine the relationship between the values of the financial indicators at the start of the period and subsequent economic growth (King and Levine, 1993a); in addition, using instrumental variable methods, they evaluate whether the predictable component of financial indicators are

significantly related to growth (King and Levine, 1993b). Both extensions of the analysis support the original finding that financial indicators tend to be strongly associated with economic growth.

Along similar lines, De Gregorio and Guidotti (1995) include in the basic specification of Barro (1991) a measure of financial development, termed CREDIT, which corresponds to domestic credit to the private sector as a fraction of GDP. The reason why other candidate indicators are discarded is that one can easily envisage situations in which they reflect financial underdevelopment rather than development[8].They find that per capita real output growth is positively and significantly correlated with their preferred indicator of financial development, while the remaining parameter estimates conform to previous works. This result does not change if in the regression the average value of the variable CREDIT over the estimation period is replaced by the same variable measured at the beginning of the period (so as to circumvent endogeneity problems). To explore the robustness of this result across different stages of development, they also run the same regressions across subsamples of countries, and find that CREDIT has an increasing impact on growth as one moves from high-income to low-income countries. Finally, they concentrate on the Latin American countries and carry out estimations of the basic specification using panel data (pooled cross-section averaged over six years period) with random effects. Surprisingly, the impact of CREDIT is significantly negative, despite the remaining parameters stand in line with earlier results. The suggested interpretation of this finding is that "it may reflect the effects of experiments of extreme liberalisation of financial markets followed by their subsequent collapse" (De Gregorio and Guidotti, p. 443).

From a different perspective, Samolyk (1994) examines the empirical relationship between banking conditions and regional economic growth using state-level data for the US economy between 1983 and 1990. The hypothesis, here, is that "the health of the regional financial sector (in terms of the credit quality of local banks and nonbanks borrowers) can influence investment activity and regional economic growth by affecting a region's ability to fund local projects" (Samolyk, 1994, p. 261). Thus, in the basic empirical model, the relative state personal income growth is regressed on its lagged values and a set of variables representing different aspects of local credit conditions (like, for instance, the bank return on assets (ROA) and the share of nonperforming loans). The results from panel estimation are broadly consistent with the credit view hypothesis. Further evidence in favour of the hypothesis is found by splitting the

sample, via interactive dummy variables, into low and high lagged-income-growth groups, and testing whether there is a different association between credit conditions and output.

Finally, we ought to mention two closely related papers by Levine, Loayza and Beck (2000) and Beck, Levine and Loayza (2000) which use panel techniques to study the relationship between financial intermediary development and, respectively, growth and the sources of growth (i.e. productivity of growth and physical capital accumulation). The measures of financial intermediaries development included in the regressions are LIQUID LIABILITIES (currency plus demand and interest-bearing liabilities of banks and non banks financial institutions), COMMERCIAL-CENTRAL BANK (commercial bank assets relative to commercial bank plus central bank assets) and PRIVATE CREDIT (credit issued by banks and other financial intermediary to the private sector divided by GDP). These are meant to capture, respectively, financial depth, the extent to which society's savings are allocated by private banks, and the size and quality of financial sector. To assess robustness, various conditioning information sets are used. The overall results indicate a positive relationship between the exogenous component of financial development and both growth and the sources of growth.

More recent investigations, in particular the massive effort carried out at the World Bank by a number of researchers (see Demirgüç-Kunt and Levine, 2001) working on a unique dataset on financial systems around the world, have taken advantage of the quantity and quality of indicators of financial structure now available in order to test for the influence of both banks and stock markets. The indicators of financial institutions used are richer than in earlier studies and not only distinguish among central banks, deposit money banks and other financial institutions (institutions that serve as financial intermediaries while not incurring liabilities usable as means of payments) but also reflect activity and efficiency of intermediaries. Due to their cross-country nature, however, they are only able to capture the role of broad categories of intermediaries (central banks, private banks, others).

In what follows we exploit the characteristics of our regional dataset to address basically the same questions of the above investigations. We adopt a full panel approach that allow for both economy-wide fixed effects by year and region-specific fixed effects that might reflect persistent differences across regions, such as initial conditions and

cultural differences. Unlike previous studies, we are able to introduce a meaningful institutional breakdown among banking intermediaries.

3. Small businesses and small business credit

The importance of small businesses across the main world economies can be immediately appreciated by looking at Table 1, which depicts the size class structure and share of employment for non-primary sector private enterprises in Europe-19[9], USA and Japan. The vast majority of enterprises are SMEs, with LSEs accounting for only 0,25% of all enterprises. In Europe and Japan, SMEs provide a job for about two thirds of the occupied persons, whereas in the U.S., where many micro enterprises are sole proprietors, the employment shares of SMEs and LSEs are pretty close.

Tab. 1 – Private Enterprises in USA, Japan and Europe-19

	SME				LSE
	Micro	Small	M-sized	Total	
Enterprises					
USA, 2000	94	5	1	100	0
Japan, 2001	n/a	n/a	n/a	100	0
Europe-19, 2003	92	7	1	100	0
Employment					
USA, 2000	22	15	12	49	51
Japan, 2001	n/a	n/a	n/a	67	33
Europe-19, 2003	39	17	13	70	30

Source: Estimated by EIM Business & Policy Research – Observatory of European SMEs, 2003/7. Micro: less than 10 occupied persons; Small: between 10 and 50 occupied persons; Medium-sized enterprises: between 50 and 250 occupied persons; LSE: 250 or more occupied persons.

Looking at the role of SMEs in Europe-19 through the indicators presented in Table 2, it can be seen that SMEs export a lower share of turnover and create a lower value added per occupied person than do larger enterprises.

Tab. 2 – Basic features of SME and LSE in Europe 19, 2003

		SME				LSE	TOTAL
		Micro	Small	M-sized	Total		
Number of enterprises	*(,000)*	17820	1260	180	19270	40	19310
Employment	*(,000)*	55040	24280	18100	97420	42300	139710
Occupied person per enterprise		3	19	98	5	1052	7
Turnover/n. of enterprises	*(,000€)*	440	3610	25680	890	319020	1550
Value added/n. of enterprises	*(,000€)*	120	1180	8860	280	126030	540
Exports/turnover	*(%)*	9	13	17	12	23	17
Value added/occupied persons	*(,000€)*	40	60	90	55	120	75
Labour costs/value added	*(%)*	57	57	55	56	47	52

Source: Observatory of European SMEs*, SMEs in Europe 2003*.

As suggested in the Observatory Report (2003b, p. 26), the export performance indicates that most small enterprises serve only limited local and regional markets. The productivity gap instead can be influenced by the distribution of enterprises across different sectors and by industry structure. Indeed, when adjustments for differences in industry structure are made "a rather different picture emerges, as the differences between small, medium-sized and large enterprises to a large extent disappear; only micro enterprises still lag behind with respect to value added per occupied persons" (p. 26). This latter size-class dominates in 10 countries and reaches its lowest ratio of occupied person per enterprises in Greece and Italy (2 and 4 respectively). Similar patterns can be observed in the Acceding and Candidate Countries (ACC), but within this group large differences exist between the Central and Eastern European Countries and the Mediterranean Countries. The former tend to have a larger enterprise size than the average of ACC and Europe-19; the latter seem to conform to the structure of Southern EU countries (p. 33).

Turning now to the relationship between SMEs and banks, it is worth stressing that the study of enterprises access to finance, unlike demographic studies, has to rely on a wider and diverse range of sources. Some basic facts, however, can be inferred from the BACH (Bank for the Accounts of Companies Harmonised) database of the European Commission and the ENSR Enterprise Survey 2002 (see Observatory Report, 2003a). First, there is no clear link between the equity ratio (equity as a percentage of total capital) and firm size, i.e. in some countries the ratio of small enterprises is higher than in medium-sized enterprises, and vice versa (Observatory Report, 2003a, p. 20)[10]. Second, despite the presence of both bank-based financial systems (Germany,

Austria, Italy) and market-based financial systems (United Kingdom), the majority of European SMEs depend on bank financing and rely more than large firms on this source of capital. Estimates provided by the Group of Ten (2001) and partly based on BACH, concerning a subset of EU countries (Belgium, France, Germany, Italy and Netherlands) plus Canada, Japan and the U.S., indicate an average share of bank debt to total debt for small enterprises of about 54% for EU countries, 53% for Canada, 28% for Japan and 41% for the U.S. The average share of large firms, not available for Canada and U.S., is obviously smaller but still remarkable, equalling 33% both in Europe and Japan.[11]

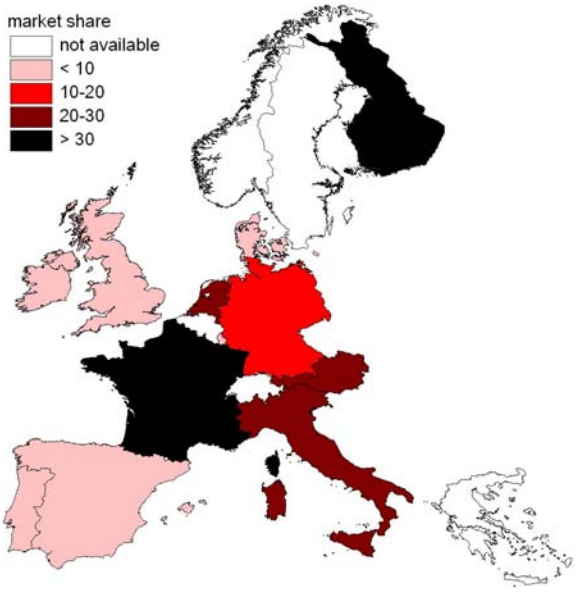
More insights into the importance of bank financing for SMEs can be gained from the ENSR Enterprise Survey (see Observatory Report, p.22-23). The majority of SMEs that have credit lines with banks interacts with just one bank, and the credit amount is relatively small (less than 100,000 euro). The highest percentage of SMEs that concentrate all their credit lines in one bank is found in Denmark (90%) and Norway (80%), whereas in several southern European countries the percentage is smaller. Indeed, according to our calculations based on the Survey of Manufacturing Firms (SMF) by Mediocredito Centrale,[12] Italian firms interact on average with 6 banks (see Table 3).

Tab. 3 – Relationships between enterprises and banks in Italy

	Turnover (million of euros)					
	Whole sample		Below 5		From 5 to 50	
	Obs	Mean	Obs	Mean	Obs	Mean
Number of banks	4445	6	2380	4.5	1687	8.0
Share of first bank on debt	3300	38%	1755	42.27%	1261	34.2%
First bank is in province	4339	65.1%	2335	68.5%	1641	62.2%
Years of relationship with first bank	4279	16	2300	15.0	1622	17.4
Need more credit	4440	13.7%	2374	15.5%	1685	12.6%
Wish to pay higher interest rate	4437	5.0%	2370	5.6%	1686	4.9%
Applied for credit but it has been denied	4440	3.6%	2373	4.0%	1685	3.2%
Firms employing innovative financial instruments	4487	3.8%	2395	2.2%	1706	5.3%

Source: Mediocredito Centrale - Survey of Manufacturing Firms (SFM), 1998.

Figure 1 – Market Sares of Cooperative banks, Europe 15, 2001



Source: European Association of Co-operative Banks, Activity Report, 2000-2002

For the vast majority of firms the first bank in the pool is located in the province and the relationship between the firm and the first bank lasts on average more than 15 years. Also, the share of the first bank on debt ranges from 42% to 34%.

Differences in the relationship between banks and enterprises by country might be explained by a host of factors (e.g. tax system, financial system, legal framework, business culture) which cannot be studied further here. It is apparent however that SMEs depend on banks and that such dependence, though not expected to change dramatically in the near future, might nevertheless evolve in tandem with the transformations of the banking industry. Today, regulatory reforms and consolidation of financial institutions are the overriding features of the world financial landscape. Both phenomena may result in restricted

credit availability to SMEs due to the decline in the number of intermediaries that traditionally specialise in small business lending. As shown in Figure 1, the latter still have significant market shares in many European countries[13].

Before the completion of the EU, Italy featured a variety of banking institutions, its stock market was rather modest and the economic growth of its regions was driven by SMEs. Which bank type, if any, had a positive impact?

4. Italy's credit markets

Some characteristics of Italy are well-known: the leading role of SMEs in promoting growth, the uneven pattern of regional economic development, the persistence of the North-South divide. Others, like the presence of over 1,000 banks scattered throughout the country, the segmentation of the banking markets along regional lines, and the heterogeneity of intermediaries -by size, ownership and range of services supplied- are less well-known. The role of national and regional financial institutions has been a recurring issue in both the political and academic debate and has prompted a large literature. In this section we limit the presentation to the salient features of the banking system with an eye to the subsequent empirical analysis.

Despite the important transformations that took place in the 1980's -mostly associated with the construction of the European economic and monetary union- and that culminated in the 1993 "Testo Unico in materia bancaria e creditizia"[14], until recently the Italian banking system was regulated by the 1936 "Legge Bancaria". This act, adopted soon after the financial crisis of the 1930's, achieved three important goals: (i) it gave the Bank of Italy the status and functions of Central Bank, (ii) it created a government body for the supervision of the banking system, with wide discretionary powers that in 1947 were transferred to the Bank of Italy, (iii) it established the two basic classes of banking intermediaries that could operate in the country, i.e. "Aziende di credito" (or simply banks) and "Istituti di credito speciale" (special credit institutions). The former were allowed to carry out all standard banking operations and to provide only short-term (up to eighteen months) credit. The latter could provide medium- and long term credit but could not issue short term liabilities[15]. As of December 1990 assets and loans by banks amounted respectively to 76.8% and 63.2% of the total. Therefore banks play a prominent role in the intermediation industry and, given the thinness of the stock market, in the whole financial system[16].

Table 4 summarises information on the number of banks in the various categories and their market shares at the end of 1990. Contrasting this data with those of any major Western country, one might get the impression of a somewhat overbanked and underbranched configuration. As a matter of fact, this was truly the case before the recent wave of reforms: supervision authorities would systematically put stability before competition and both government interferences in the management of major banks and obsolete legislation would reduce incentives for mergers and acquisition among intermediaries. Indeed, the modernisation process prompted by the Bank of Italy in the 1980's was triggered by the urge to boost the capital structure of banks, especially of the State-owned ones, and to foster their entrepreneurial nature relative to European rivals.

table 4. Credit banks in Italy (1990)

	Banks	Branches	Total assets (%)	Domestic customer loans (%)	Domestic customer deposits (%)
Public law banks	6	2449	20.1	19.4	19.2
Banks of national interest	3	1459	14.4	14.0	10.6
Ordinary credit banks	106	3981	23.2	25.6	23.9
Cooperative banks	108	3290	15.0	15.3	17.2
Savings banks	75	4498	24.4	23.7	28.4
Rural and craftsmen's banks	715	1792	0.4	0.4	0.6
Central credit institutions	5	5	2.5	1.1	0.1
Total	1018	17474	100.0	100.0	100.0

Source: Bank of Italy

For a long time these different categories of intermediaries have played quite distinct roles. Some of them, in particular, have revealed a strong propensity to long-term lending relationships with small businesses within the local markets. This is certainly the case for the "Cooperative banks" (CB) and the "Rural and craftsmen's banks" (RCB), which have pursued consistently these goals across time and space[17]. Today some of these banks rank among the largest Italian banks, but they are generally smaller banks and "their geographical competence is still largely restricted to the regions of origin (although nowadays, this is not caused by regulation constraints)"(*Commission of the European Communities*, 1993, p. 151). It is unclear whether they will survive the ongoing process of financial liberalisation. For our purposes, however, what matters is their historical role of credit providers for information-intensive borrowers,

i.e. of good empirical counterpart for the kind of intermediary specialising in relationship lending.

To complete this outline of the Italian financial context we ought to mention two more things, namely the financial backwardness of Southern regions and the segmentation of banking markets along regional lines.

As to the first question, that was hotly debated and that received a prominent part in the *1988 Annual Report of the Bank of Italy*, there is no doubt that a financial issue existed (and still exists) in Southern regions: "with respect to the rest of the country there are important differences regarding both the thinness and the competitiveness of markets, the efficiency of intermediaries, the cost and quality of credit provided" (Galli and Onado, 1990, p. 2). However, this financial backwardness of Southern regions might reflect both qualitative differences in the behaviour of customers and inefficiencies by banks.

Over the sample period, households in the South held around 17% of their savings at the Post Office[18], despite the fact that returns and services were often dominated by those attached to bank deposits. On the contrary, in the North only 7% of household savings were held at the Post Office, and a significant fraction was invested in treasury bills (BOT, CCT, BPT). Firms in the South would not exploit the array of financial instruments alternative to standard loans, even classical financial instruments such as leasing and factoring. They depended heavily on bank loans, especially of government subsidised loans.

table 5. Credit market structural indicators

	GDP per branch (millions of lire)	Branches per capita (10,000 inhab.)	Employee per branch
North			
70-72	47.97	2.38	
82-84	58.86	2.69	49.67
90-92	48.92	4.03	51.50
South			
70-72	53.87	1.34	
82-84	63.34	1.51	24.58
90-92	52.43	2.21	26.29
North/South			
70-72	0.89	1.78	
82-84	0.93	1.78	2.02
90-92	0.93	1.83	1.96

Source: Authors' calculations on Bank of Italy data

table 6. Regional concentration index (top five banks loans over total loans)

	83-85	92-94	var % 83-94
Piemonte-Val D'Aosta	0.52	0.53	1.9
Lombardia	0.31	0.32	3.2
Trentino Alto Adige	0.47	0.43	-8.5
Veneto	0.47	0.43	-8.5
Friuli Venezia Giulia	0.49	0.40	-18.4
Liguria	0.55	0.50	-9.1
Emilia Romagna	0.37	0.38	2.7
Toscana	0.61	0.50	-18.0
Umbria	0.62	0.53	-14.5
Marche	0.51	0.42	-17.6
Lazio	0.48	0.53	10.4
Abruzzi	0.61	0.45	-26.2
Molise	0.95	0.75	-21.1
Campania	0.53	0.56	5.7
Puglia	0.44	0.42	-4.5
Basilicata	0.80	0.78	-2.5
Calabria	0.79	0.72	-8.9
Sicilia	0.64	0.60	-6.3
Sardegna	0.85	0.82	-3.5

Source: Authors' calculations on Bank of Italy data

Tables 5 to 7 below provide a number of indicators of the spatial features of the banking market. The structural and dimensional measures reported in Table 5 show that while the ratio of GDP to branches is rather steady and very close to one (it was 0.89 in the seventies and it has been equal to 0.93 since the eighties), the number of branches for 10,000 of the population in the North is twice as much as in the South. Moreover, despite the increase of this index both in the North and in the South[19], the gap between the two macro-regions, instead of decreasing, has slightly widened. As for the level of competition, Table 6 shows the concentration ratio (top five banks loans to total loans) by regions (there are 19 regions because data about Valle d'Aosta and Piemonte are not separately available) in the early 1980's and 1990's. This index has many limitations[20], nonetheless it provides a clear idea of the degree of oligopoly at the regional level over the sample period. The concentration index is higher in the South than in the North and, with the exception of Abruzzo and Puglia, suggests tight oligopoly in the former area and of loose oligopoly in the latter. Over the period the levels of concentration have generally decreased (Lazio being the only case of serious increase in the concentration ratio, from 0.48 in the early eighties to 0.53 in the nineties), as a result both the gap between the two macro-areas and the interregional variability of the indicator have slightly declined, but substantial differences still existed at the end of the period, with the concentration index equalling 0.35 in Lombardia and 0.82 in Sardinia.

table 7. Credit market efficiency in Italy

	loans/deposits	loans per employee (millions of lire)	loans and deposits per employee (millions of lire)	value added per branch (millions of lire)	value added per employee (millions of lire)
North					
70-72	0.65				
82-84	0.55	1200.37	3898.39	268.82	14.61
90-92	0.80	1829.78	4978.93	254.88	19.92
South					
70-72	0.62				
82-84	0.44	816.93	3254.25	182.61	11.24
90-92	0.61	1233.24	4053.29	187.09	15.66
North/South					
70-72	1.06				
82-84	1.26	1.47	1.20	1.47	1.30
90-92	1.33	1.48	1.23	1.36	1.27

Source: Authors' calculations on Bank of Italy data

Finally, let us examine the efficiency measures for the two macro-regions in selected sub-periods since 1970 (Table 7). Again, value added per branch or per employee is much higher in the North than in the South. The two additional rough measures of market efficiency (or labour productivity) considered, i.e. the ratio of deposits plus loans, and loans alone, on the number of employees, increase overtime, but the regional gap tends to widen, rising worries about the effects of the deregulation process. Similarly, the loan to deposit ratio, which was almost the same in the two macro-regions in the 1970's, becomes 30% higher in the North than in the South towards the end of the period.

Additional insights on the credit market conditions of the two areas can be gained by looking at the interest rate differential. The interest rate in the Mezzogiorno is constantly a few points above the interest rate in the North. Although a substantial part of the observed gap is accounted for by differences in risk conditions[21], extensive research on this issue has made clear that a significant part can also be attributed to other factors, mostly related to lack of competition among banks[22].

In the post-sample decade Italy's financial market has changed significantly. The stock market has grown larger and so has the number of listed companies. The banking industry has seen the privatisation of former government-owned banks (though this has happened fully in the juridical for rather than in the governance of institutions), and a massive process of mergers and acquisition has taken place.

Table 8 – Italian banking system merger and acquisition activity (1993-2002)

			Merger and acquisition				Majority acquisition	
	No of banks		No of deals		Total assets		No of deals	Total assets
year		BCC		BCC		BCC		
1993	1.029	667	38	25	0.63	0.05	6	1.50
1994	994	643	42	25	1.59	0.05	10	1.90
1995	970	619	47	28	1.57	0.10	19	4.50
1996	937	591	37	25	0.47	0.05	19	1.08
1997	935	583	24	12	0.80	0.05	18	3.42
1998	921	562	27	18	2.65	0.08	23	11.02
1999	876	531	36	23	0.39	0.06	28	14.35
2000	841	499	33	22	1.50	0.09	24	4.86
2001	830	474	31	21	0.08	0.06	9	1.55
2002	814	461	18	16	0.06	0.05	11	4.94
Total			**333**	**215**	**9.67**		**167**	**36.79**

*At the end of the year before the deal and relative to total assets of the system
Source: Bank of Italy, *Annual Report for the year 2002*

This activity (see Table 8) has involved a large number of Co-operative Credit Banks. It goes without saying that this doesn't necessarily imply a worsening of credit opportunities for SMEs, but due to the strong ties of BCC with small business it is certainly a matter of concern that calls for careful investigations.

5. Empirical analysis

5.1. Market segmentation

The study of economic growth using regional-level data makes sense only if local markets are not fully integrated. So, as a preliminary, we tested for market segmentation. Instead of the standard inspection of the interest rate differentials between locations, which can exist and persist simply because of higher risk, uncertainty and transaction cost, we applied a straightforward test -widely used by economic historians to study the integration of capital markets (Odell, 1989)- which focuses on the time profile of interest rates across different geographical areas. For, in integrated markets, marginal movements in the interest rates of different regions should be alike. Accordingly, we estimate the following equation

$$\log r_i = a + b \log r_j$$

where r_i and r_j are the interest rates in region *i* and *j* respectively. Basically this specification relates the demand and supply in two different markets, captured by the corresponding interest rates:"[I]n a world of perfectly integrated markets, equal transaction costs, uncertainty and risk premia, and speedy transmission of local shocks, the constant term *a* would equal zero (no interest differential) and the coefficient *b* would equal one (movements in the hinterland rate would not differ significantly from movements in the centre rate)" (Odell, 1989, p. 304).

We run the above regression using every possible combination of 2 regions. The results for the intercepts and the slopes, with benchmark regions listed by columns[23], are reported in Table X. As the data reported in these tables indicate, the intercepts of Southern regions with respect to Northern regions as benchmarks are always much greater than zero (only in 5 cases out of 96 the constant is not significantly different from zero); whereas the corresponding slopes are all less than unity (only in 13 cases out of 96 we cannot reject the hypothesis that the coefficient is equal one). The regression evidence, therefore, indicates the existence of significant fixed interregional price gaps, related to regional capital market peculiarities, such as different operating costs and/or disparities in risk levels. Moreover, marginal movements in the interest rates do not generally correspond (estimated slopes are different from one), indicating that capital mobility between regions is far from perfect.

Instances of integration can be found only within the two macro-areas. Furthermore, if integration is measured against the two central financial locations of Rome and Milan (proxied, respectively, by the interest rates of Lazio and Lombardia), then most regional markets appears to be isolated, confirming the idea of an imperfectly integrated national capital market.

These findings are consistent with the historical evidence indicating the existence of a dualistic financial structure, with weak price linkages between local and central financial districts, and significant instances of integration only between regions belonging to the same macro-area. They also imply that Italy can be an interesting country in which to study the interplay between finance and growth., provided that spillover effects among neighbouring regions within the two macro-areas are controlled for in the empirical analysis.

Table 9. Integration indexes (intercepts)

	PIE	VDA	LOM	TAA	VEN	FVG	LIG	EMR	TOS	UMB	MAR	LAZ	ABR	MOL	CAM	PUG	BAS	CAL	SIC	SAR
PIE		0.10 *	-0.01	0.08 *	0.04 *	-0.01	-0.05 *	0.01	0.03	0.01	0.03	-0.02	0.12 *	0.17 *	0.15 *	0.17 *	0.17 *	0.21 *	0.23 *	0.26 *
VDA	-0.09 *		-0.10 *	0.00	-0.05	-0.10 *	-0.14 *	-0.08 *	-0.06	-0.08 *	-0.07	-0.11 *	0.03	0.09 *	0.06 *	0.08 *	0.07	0.12 *	0.14 *	0.19 *
LOM	0.02	0.11 *		0.09 *	0.06 *	0.01	-0.04 *	0.03	0.05	0.03	0.04	-0.01	0.14 *	0.19 *	0.16 *	0.19 *	0.19 *	0.23 *	0.24 *	0.28 *
TAA	-0.07 *	0.03	-0.09 *		-0.04 *	-0.08 *	-0.13 *	-0.07 *	-0.04	-0.06	-0.05	-0.10 *	0.05	0.10 *	0.08 *	0.10 *	0.10	0.15 *	0.16 *	0.21 *
VEN	-0.03	0.06 *	-0.05 *	0.04 *		-0.05 *	-0.09 *	-0.03	0.00	-0.03	-0.02	-0.06 *	0.08	0.14 *	0.11 *	0.13 *	0.13 *	0.18 *	0.19 *	0.23 *
FVG	0.01	0.11 *	0.00	0.09 *	0.05 *		-0.04 *	0.02	0.04	0.02	0.04	-0.02	0.13 *	0.18 *	0.16 *	0.18 *	0.18 *	0.22 *	0.24 *	0.27 *
LIG	0.05 *	0.15 *	0.04 *	0.13 *	0.09 *	0.04 *		0.07 *	0.08 *	0.06 *	0.08	0.03	0.17 *	0.22 *	0.19 *	0.22 *	0.22 *	0.26 *	0.27 *	0.30 *
EMR	0.00	0.09 *	-0.02	0.07 *	0.03	-0.01	-0.05		0.02	0.00	0.01	-0.03	0.11 *	0.17 *	0.14 *	0.16 *	0.16 *	0.20 *	0.22 *	0.26 *
TOS	-0.02	0.08 *	-0.03	0.06	0.02	-0.03	-0.07 *	-0.01		-0.02	-0.01	-0.05 *	0.09 *	0.15 *	0.12 *	0.15 *	0.15 *	0.18 *	0.21 *	0.23 *
UMB	0.00	0.09 *	-0.02	0.08 *	0.04	-0.01	-0.05	0.01	0.02		0.01	-0.03	0.11 *	0.17 *	0.14 *	0.17 *	0.16 *	0.20 *	0.22 *	0.26 *
MAR	0.02	0.11 *	0.01	0.09 *	0.05	0.01	-0.02	0.02	0.03	0.02		-0.01	0.10 *	0.18 *	0.15 *	0.18 *	0.17 *	0.20 *	0.23 *	0.26 *
LAZ	0.04	0.14 *	0.02	0.11 *	0.08 *	0.02	-0.02	0.05	0.06 *	0.04	0.05		0.15 *	0.21 *	0.17 *	0.20 *	0.20 *	0.24 *	0.26 *	0.28 *
ABR	-0.08	0.01	-0.09	0.00	-0.05	-0.09	-0.13 *	-0.08	-0.06	-0.08	-0.10 *	-0.12 *		0.09	0.05	0.08 *	0.06	0.11 *	0.14 *	0.19 *
MOL	-0.16 *	-0.06	-0.18 *	-0.08	-0.12 *	-0.17 *	-0.22 *	-0.15 *	-0.13 *	-0.14 *	-0.14 *	-0.18 *	-0.04		-0.01	0.02	0.01	0.07	0.08	0.14 *
CAM	-0.14 *	-0.05	-0.16 *	-0.05	-0.10 *	-0.15 *	-0.20 *	-0.13 *	-0.12 *	-0.14 *	-0.13 *	-0.18 *	-0.03	0.03		0.04	0.02	0.07 *	0.10 *	0.14 *
PUG	-0.17 *	-0.08 *	-0.19 *	-0.09 *	-0.14 *	-0.19 *	-0.23 *	-0.17 *	-0.14 *	-0.17 *	-0.16 *	-0.21 *	-0.06	0.01	-0.02		-0.01	0.05	0.06 *	0.12
BAS	-0.13 *	-0.05	-0.15 *	-0.05	-0.10	-0.14 *	-0.19 *	-0.13 *	-0.11	-0.13 *	-0.13 *	-0.17 *	-0.04	0.04	0.00	0.03		0.07	0.10 *	0.15 *
CAL	-0.20 *	-0.10 *	-0.21 *	-0.11 *	-0.16 *	-0.21 *	-0.26 *	-0.20 *	-0.18 *	-0.20 *	-0.21 *	-0.24 *	-0.10 *	-0.01	-0.05	-0.02	-0.04		0.04	0.08
SIC	-0.23 *	-0.14 *	-0.25 *	-0.15 *	-0.19 *	-0.24 *	-0.29 *	-0.23 *	-0.20 *	-0.23 *	-0.23 *	-0.26 *	-0.12 *	-0.05	-0.08 *	-0.05	-0.06	-0.01		0.06
SAR	-0.24 *	-0.13	-0.26 *	-0.14	-0.19 *	-0.26 *	-0.30 *	-0.23 *	-0.22 *	-0.23 *	-0.23 *	-0.28 *	-0.11	-0.04	-0.08	-0.04	-0.06	-0.03	0.01	

*: significantly different from zero at the 5% level.

Table 10. Integration indexes (slopes)

	PIE	VDA	LOM	TAA	VEN	FVG	LIG	EMR	TOS	UMB	MAR	LAZ	ABR	MOL	CAM	PUG	BAS	CAL	SIC	SAR
PIE		0.94 *	1.01	0.94	0.98	1.01	1.05 *	0.99	0.99	1.00	0.99	1.02	0.93	0.90 *	0.92 *	0.90 *	0.91 *	0.88 *	0.86 *	0.80 *
VDA	1.05		1.06	0.99 *	1.02	1.06	1.09 *	1.04	1.03	1.05	1.04	1.07	0.98	0.95	0.97	0.95 *	0.97	0.93 *	0.91 *	0.84 *
LOM	0.99	0.93 *		0.93	0.97 *	1.00	1.03 *	0.98	0.97	0.99	0.98	1.01	0.92 *	0.89 *	0.90 *	0.89 *	0.90 *	0.87 *	0.85 *	0.79 *
TAA	1.05	0.99	1.06 *		1.03 *	1.07 *	1.10 *	1.05 *	1.04	1.05	1.05	1.08 *	0.98	0.95	0.96	0.95 *	0.96	0.92 *	0.91 *	0.84 *
VEN	1.02	0.96	1.03 *	0.97 *		1.03 *	1.06 *	1.02	1.01	1.02	1.01	1.04	0.95	0.92 *	0.94 *	0.92 *	0.94	0.90 *	0.88 *	0.81 *
FVG	0.98	0.93 *	1.00	0.93 *	0.96 *		1.03 *	0.98	0.97	0.99	0.97	1.01	0.91 *	0.89 *	0.90 *	0.88 *	0.90 *	0.86 *	0.85 *	0.79 *
LIG	0.95 *	0.90 *	0.96 *	0.90 *	0.93 *	0.97 *		0.95 *	0.94 *	0.95 *	0.94	0.98	0.88 *	0.86 *	0.87 *	0.85 *	0.87 *	0.83 *	0.82 *	0.76 *
EMR	1.00	0.95 *	1.01	0.95 *	0.98	1.01	1.04		0.99	1.00	1.00	1.02	0.94	0.90 *	0.92 *	0.90 *	0.92 *	0.88 *	0.87 *	0.80 *
TOS	1.00	0.95	1.01	0.95 *	0.98	1.02	1.05	1.00		1.01	1.01	1.03	0.94	0.90 *	0.92 *	0.90 *	0.92 *	0.89 *	0.87 *	0.81 *
UMB	0.99	0.94 *	1.00	0.93	0.97	1.00	1.03	0.99	0.98		0.99	1.02	0.93 *	0.89 *	0.91 *	0.89 *	0.91 *	0.88 *	0.86 *	0.79 *
MAR	0.97	0.93 *	0.98	0.92 *	0.96	0.98	1.01	0.98	0.97	0.99		1.00	0.93 *	0.88 *	0.90 *	0.88 *	0.91 *	0.88 *	0.85 *	0.79 *
LAZ	0.97	0.91 *	0.98	0.91 *	0.95 *	0.98	1.01	0.96	0.96 *	0.97	0.96		0.90 *	0.87 *	0.89 *	0.87 *	0.89 *	0.85 *	0.83 *	0.78 *
ABR	1.03	0.99	1.04	0.98 *	1.02	1.05	1.08	1.04	1.03	1.05	1.06 *	1.07		0.94	0.96	0.94 *	0.97	0.93 *	0.91 *	0.83 *
MOL	1.08 *	1.03	1.10 *	1.03	1.06	1.10 *	1.13 *	1.08 *	1.07	1.08	1.08	1.11 *	1.02		1.00	0.98	1.00	0.95	0.94	0.86 *
CAM	1.08 *	1.03	1.09 *	1.02	1.05 *	1.09 *	1.13 *	1.07 *	1.07 *	1.09 *	1.08 *	1.11 *	1.02	0.98		0.97	1.00	0.96	0.94 *	0.87 *
PUG	1.10 *	1.05 *	1.11 *	1.04	1.08 *	1.12 *	1.15 *	1.10 *	1.09 *	1.11 *	1.10 *	1.13 *	1.04	1.00	1.02		1.02	0.98	0.96	0.88 *
BAS	1.05	1.01	1.06	1.00	1.03	1.07	1.10	1.05	1.04	1.06	1.06	1.08	1.01	0.96	0.98	0.96		0.94	0.92 *	0.84 *
CAL	1.11 *	1.06	1.12 *	1.05	1.08 *	1.12 *	1.15 *	1.11 *	1.11 *	1.12 *	1.13 *	1.14 *	1.06 *	1.00	1.03	1.00	1.03		0.97	0.90 *
SIC	1.14 *	1.09 *	1.15 *	1.08	1.12 *	1.15 *	1.19 *	1.14 *	1.12 *	1.14 *	1.14 *	1.16 *	1.07	1.03	1.05	1.03	1.05	1.01		0.92
SAR	1.18 *	1.11	1.19 *	1.11 *	1.15 *	1.20 *	1.23 *	1.17 *	1.18 *	1.18 *	1.18 *	1.21 *	1.10	1.06	1.09	1.06	1.08	1.06	1.03	

*: significantly different from unity at the 5% level.

5.2 Some estimation issues

Regional economic growth can be effectively proxied either by the growth rate of gross domestic product per capita or by the growth rate of regional value added per worker. We use both indicators for two reasons. First, because they are not perfect substitutes (the former is an imperfect measure of welfare whereas the latter is a measure of productivity); second, because this allows us to test for the robustness of results with respect to the proxy for economic growth.

Unfortunately, both rates are likely to be affected by the national business cycle. Therefore, in order to focus on genuine regional growth, it is essential to get rid of this component. In what follows, this is achieved by including time fixed effects, which control for idiosyncratic year effects due not only to the interregional business cycle but also to other unobserved institutional changes through time[24].

To begin with, we run a "base" regression featuring the level of economic growth in the starting period[25], human capital, proxied by the secondary school enrolment rate, and government consumption. This formulation controls for the main economic phenomena which according to available evidence (Di Liberto, 1994) are robustly associated with growth and which are at work at the regional level. We extended this "base" conditioning set by including several measures of regional financial development and, in particular, of credit markets. As far as the aggregate level of financial intermediation is concerned, we considered various measures of both the banking product relative to regional GDP (such as deposits, loans and deposits plus loans) and its spatial coverage (branches per inhabitants, or per GDP, by region). All such variables prove weakly and unrobustly related to economic growth. Next, we introduce our institutional breakdown. We consider four types of intermediaries: Banks of National Interest, Co-operative and rural banks, Special Credit Institutions and Public Law Banks. As discussed in the previous sections, historically Co-operative banks have provided credit to small entrepreneurs operating within local markets, and they still play this role, despite the fact that some of them grew very large and have attracted among their clients even major industrial corporations. The Banks of national interest (private banks) and the Public law banks (government-owned banks), on the other hand, are large geographically diversified banks with, in few cases, a significant international presence. Both should be better equipped to support local economies thanks to more opportunities for cross-subsidisation and to economy of scale and scopes. Finally, the special credit institutions -that disappeared as a separate category after the recent banking reform- during the sample period were the main institutions specialised in medium and long term lending to private and public companies. They were not allowed to collect savings directly from depositors and were controlled, directly or indirectly, by the government. Most of public "subsidised credit" to private firms, in the form of interest rate reductions and capital grants, has been channelled through these institutions. It goes without saying that there are other intermediaries that play the function of screening and funding local projects and provide financial services capable of increasing the social productivity of investment. The above categories of banks, however, operate everywhere in the country and for a number of historical, economic and legal reasons mirror more closely the type of financial institution found in the theory[26]. To take account of possible time impacts of financial development on economic growth we estimate

three panel regressions: a full panel regression with one-year growth rates, and two other panel regressions with average growth rates of the dependent variable for three and five years respectively. The former panel includes, as a result, 420 observations, and it is meant to focus on the short-run impact of financial development on economic growth, whilst the second (consisting of 140 observations) and the third panel (with 80 observations) concentrate on the medium and the long-run impact respectively.

Finally, it is worth noting that the equations include regional fixed effects and are estimated by using weighted least squares so as to control for heteroscedasticity across regions. Moreover, in order to avoid problems of simultaneity, all regressors are referred to the initial period (t-1, t-3 and t-5 respectively). No problem of autocorrelation in the residual is detected.

5.3 Main findings

Panel regressions results for the 20 Italian regions over the 1970-1993 period are presented in table 11 (for value added per worker) and table 12 (for gross domestic product per capita). The aforementioned four indicators of financial specialisation are added to the subset of robust regressors from earlier studies on the determinants of growth. The first column, in the two tables, shows estimates from the more general formulation which allows one to focus on the short run relationship, whilst in the second and the third column one finds the estimates for the medium and the long run impact respectively. The parameter estimates of the control variables (that is, lagged dependent variable, human capital and government consumption) are in line with previous evidence. It is worth stressing that the coefficient on government consumption is usually positive and significant in the short run whilst it loses such significance and sometimes it changes sign for longer lags. This may be interpreted as a signal that such expenditures affect just temporarily regional growth and that it effects die out quite quickly.

table 11. Regression results

method: generalised least squares (cross section weights) with temporal and fixed effects
dependent variable: growth rate of value added per worker

	420 observations, short-run analysis (i=1)	140 observations, medium-run analysis (i=3)	80 observations, long run analysis (i=5)
value added(t-i)	-0.14	-0.17	-0.13
	(-6.22) *a*	(-6.36) *a*	(-6.67) a
human capital(t-i)	0.11	0.02	0.04
	(5.28) *a*	(1.34)	(2.86) a
public consumption(t-i)	0.05	0.00	0.01
	(2.18) *b*	(0.21)	(-0.61)
public banks(t-i)	-0.009	-0.009	-0.01
	(-1.18)	(-1.63)	(-1.84) c
banks of national interest(t-i)	-0.016	0.004	-0.001
	(-2.15) *b*	(0.66)	(-0.17)
cooperative banks(t-i)	0.004	0.004	0.001
	(2.09) *b*	(3.75) *a*	(1.50)
special credit institutions(t-i)	0.012	0.005	0.008
	(2.09) *b*	(0.96)	(-2.01) b
Adjusted R-squared	**0.65**	**0.80**	**0.95**

t-student in parentheses, a= significant at 1% level, b=significant at 5% level, c=significant at 10% level

table 12. Regression results

method: generalised least squares (cross section weights) with temporal and fixed effects
dependent variable: growth rate of gdp per capita

	420 observations, short-run analysis (i=1)	140 observations, medium-run analysis (i=3)	80 observations, long run analysis (i=5)
value added(t-i)	-0.12	-0.44	-0.21
	(-5.70) *a*	(-3.87) *a*	(-9.76) a
human capital(t-i)	0.11	0.13	0.07
	(4.98) *a*	(2.25) *b*	(5.51) a
public consumption(t-i)	0.10	0.13	-0.04
	(3.96) *a*	(1.28)	(-1.78) c
public banks(t-i)	-0.022	-0.049	-0.004
	(-3.07) *a*	(-2.63) *b*	(-0.78)
banks of national interest(t-i)	-0.023	-0.047	-0.028
	(-3.06) *a*	(-2.17) *b*	(-4.89) a
cooperative banks(t-i)	0.004	0.01	0.004
	(2.25) *b*	(2.20) *b*	(5.93) a
special credit institutions(t-i)	0.011	0.011	0.005
	(2.03) *b*	(0.83)	(1.92) c
Adjusted R-squared	**0.68**	**0.75**	**0.96**

t-student in parentheses, a= significant at 1% level, b=significant at 5% level, c=significant at 10% level

As for the role of different financial institutions, results show some similarities and some differences depending on the variable used to

proxy for economic growth. As far as the similarities are concerned, the most robust result refers to the Co-operative banks, which display a positive impact (in the short, medium and long run) on the rate of regional economic growth irrespective of how this is measured (gdp per head or value added per worker). The significance of such a positive coefficient is however rather unstable. This result is certainly interesting and confirms the finding of similar cross-sectional studies based on provincial data[27]. Special credit institutions, again, have a positive and significant impact in most regression[28]. We tend to interpret this result as a signal of the importance of government financial intervention to foster the process of structural change which has characterised public policies for the Mezzogiorno until the 1980's. As for the differences, banks of national interest and public banks often have a negative but insignificant impact on value added per worker; whilst such a negative impact proves significant when gross domestic product per capita proxies growth. This is a somewhat puzzling result, as these banks are expected to be more efficient and highly specialised in the provision of innovative services to firms. We take this result as indirect evidence that their organisational structure has prevented them from dealing effectively with information-intensive borrowers, particularly those small businesses that drive economic development in most Italian regions.

6. Conclusions

Following the tradition of cross-countries studies of growth, this paper has examined the empirical linkages between financial development and economic growth in Italian regions before the unification of the European financial market. Taking a full panel approach we find that indicators of financial development are positively associated with economic growth. We control for unobserved region-specific differences and unspecified interregional fluctuations and, relative to previous efforts in this area, we introduce a finer institutional breakdown. Although the overall size of the financial sector does not have a robust impact on growth, two types of intermediaries, Co-operative banks and Special credit institutions, appear to play a role, whilst two other types of intermediaries, Banks of national interest and Public law banks, either do not affect growth (when measured by valued added per worker) or their influence is negative (when growth is measured by GDP per capita). Italian regional development is mostly driven by the performance of information-intensive SMEs, hence our results lend support to the idea that smaller and less complex banking

institutions are better equipped than large hierarchical banking corporations at funding these important economic actors. Since the ongoing process of consolidation in financial markets is producing larger and more complex institutions, these results raise serious worries about the final impact on SMEs. At the same time, the apparently inconsistent result concerning the role of Public law banks and Special credit institutions, shows that both the "political" and "development" function of government ownership can be simultaneously at work. After all, as stressed by Rodrik (2002), economic progress is everywhere the result of orthodoxy and local heresies.

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[1]In this context, a potential entrepreneur who wants to rise investment capital for a project with substantial expected returns and who has superior knowledge about his business than anyone else, might not be able to raise the desired amount of capital because of three problems: (i) *adverse selection*; (ii) *moral hazard*; (iii) *ex-post verifiability*. In such a context, it can be shown (see Leland and Pyle (1977), Stiglitz and Weiss (1981), Diamond (1984), van Damme (1994)) that resorting to an intermediary that screens potential borrowers, evaluates their projects and ensures that money is well used, can be preferable to a situation of direct finance. Therefore, putting together the traditional functions of intermediaries, arising from maturity mismatch, with the newer ones, associated with imperfect information, financial institutions can be seen to play at least three critical roles: transformation of savings into investment; screening and monitoring; provision of payment services.

[2] It must be stressed that in many of these models the higher rates of return from better resource allocation due to financial development may discourage saving rates and, in some circumstances, decelerate growth.

[3]These weaknesses concern the following: 1) high correlation between measures of financial development and measures of good government institutions; 2) measures of financial development often do not reflect effective access to finance by firms; 3) channels through which finance works are generally neglected; 4) role of international financial integration are hardly considered; 5) single-minded fous on aggregate economic growth (instead of, e.g., investment and total factor productivity); 6) little attention to what promotes financial development.

[4] According to the authors, the decision to lend and the term of the contract are primarily based on the strenght of balance sheet and income statement in the case of Financial Statement Lending, on the quality of the available collateral under Asset-Based Lending, on the financial condition and history of the principal owner, in addition to financial statement ratios, when Small Business Credit Scoring is used.

[5] The remaining layers concern the sequential contracting within the bank between loan officer, senior management, stockholders, creditors and regulators.

[6] The authors relate the “development” perspective to the work of Alexander Gershenkron (1962) and the “political” view to the research of Kornai (1974) and Shleifer and Vishny (1994).

[7] These four indicators are termed, respectively, LLY, BANK, PRIVATE and PRIVY, and are measured as follows (see King and Levine, 1993a, pp. 720-21): LLY = "M3" (or "M2")/GDP; BANK = deposit money bank domestic assets/(deposit money bank domestic assets + central bank domestic assets); PRIVATE = claims on the nonfinancial private sector/(total domestic credit - credit to money banks); PRIVY = claims on the nonfinancial private sector/GDP.

[8]This is particularly true for monetary aggregates such as M1 and M2, which reflect the ability of the financial system to provide liquidity services, but do not necessarily reflect its ability to allocate credit -a function which is more directly connected to investment and growth. These aspects of financial intermediation are not necessarily related. In particular, high level of monetization can be the result of lack of financial sophistication and low monetization may be associated with very advanced financial structures (see the examples discussed in De Gregorio and Guidotti, 1995, p. 438).

[9] Europe-19 indicates EU-15 (i.e. Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Itay, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom) plus Iceland, Norway and Swutzerland (incl. Liechtenstein).

[10]Data refers to 2000. It is worth stressing that the BACH dataset overestimates the equity ratio of small enterprises. Indeed, in a parallel calculation on data from the Survey of Manufactoring Firm by Mediocredito Centrale, we found that in 1997 the equity ratio of Italian small and medium-sized firms was significantly smaller than the one from BACH, averaging 22,9 (small) and 23,9 (medium-sized) with very tiny (around 0.15) standard deviations.

[11] Regarding medium-sized firms, our calculations for three consecutive year (1995-1997) from the SMF-Mediocredito Centrale show an average share of bank debt to total debt of 56.4%.

[12] The survey excludes the micro size and concentrates on a stratified sample of Italian firms with at least 11 and up to 500 employees plus all manufacturing firms with more than 500 employees.

[13] It goes without saying that co-operative banks are not the sole intermediary specialising in small business lending and that in some countries, in many respects, they are closer to larger diversified banks than to small local banks.

[14] Decree 1st September 1993, n. 385.

[15] These limits have been gradually removed. In 1987 short-term banks have been allowed to provide credit up to a maximum of five years. Since 1993 the distinction between these two type of intermediaries has been abolished and they can carry out the whole range of banking operations.

[16] For an up-to-date picture of the Italian financial system see the special report on Italy in *Commission of the European Communities*, n. 1, 1993.

[17] CBs are limited liabilities companies with special partnership features (e.g. one shareholder one vote), whereas RCBs can be either limited or unlimited companies and, usually, set ceilings on the amount of credit that can be extended to non-members.

[18] This behaviour, however, cannot be ascribed to irrationality of Southern economic agents. The Post Office has a pervasive network, hence transport and other transaction costs may partially explain this preference.

[19] Since 1990 the opening of new branches has been essentially liberalized. Before then it was impossible to open new branches, and close old ones, without formal permission from the Bank of Italy, which would call banks to apply for new branches occasionally, in connection with the so-called "Piani Sportelli", and would decide whether or not to accept their applications discretionally. The latest "call for branches" took place in 1978, 1983 and in 1986.

[20] The Herfindal index would be more suitable, but unfortunately it is not available with the same frequency. The correlation ratio between the two measures, however, is usually very high.

[21] In 1994, for instance, the quota of nonperforming loans in the South was 17.0, whilst it was just 6.1 in the North.

[22] See, for instance, Jappelli (1983) and Faini et al. (1992). In this latter work, based on microdata, it is shown that despite the cost of credit from outside banks is systematically and significantly lower, Southern firms accept to borrow at different rates from outside and inside banks. This can be interpreted as evidence of the fact that information is imperfect and asymmetric. In other words, in the South captive relationships between firms and banks are implemented thanks to the market power of the latter, and this leads to a widespread phenomena of rationing and potentially distorted allocation processes.

[23] For the sake of clarity we have not reported all the usual diagnostics (standard errors and R-squared). Suffice to note here that standard errors are such that the slope coefficient is always significantly different from zero at the 1% level and that the adjusted R-squared ranges between 0.91 and 0.99 and its average is 0.97.

[24] It is worth noting that this problem has been solved differently by Samolik (1993), who subtracted the national growth rate from the regional one in order to obtain the dependent variable. This method has pros and cons with respect to ours. On the one

hand, it reduces the number of right hand side variables; on the other hand, unlike our method, it fails to consider additional time effects different from the business cycle.

[25] This corresponds to test for convergence, a problem we are not directly interested in. For a more detailed analysis see DiLiberto (1994) and Paci and Pigliaru (1998).
[26]The bulk of the excluded categories is represented by the "Savings banks".
[27] See Ferri and Mattesini (1995). These authors use as indicator of financial development the ratio of provincial income to bank branches and control for the effect of Cooperative banks by including in the regression the fraction of total branches held by this category. Neither spillover effects nor other intermediaries are considered.

[28] Strangely enough, the coefficient is significant for the short and the long-run regression but not for the medium one.