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ABSTRACT

We use exogenous variation in the degree of restrictions to bank competition across Italian provinces to study both the effects of bank regulation and the impact of deregulation. We find that where entry was more restricted the cost of credit was higher and - contrary to expectations- access to credit lower. The only benefit of these restrictions was a lower proportion of bad loans. Liberalization brings a reduction in rates spreads and an increased access to credit at a cost of an increase in bad loans. In provinces where restrictions to bank competition were most severe, the proportion of bad loans after deregulation raises above the level present in more competitive markets, suggesting that the pre-existing conditions severely impact the effect of liberalizations.

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As Barth, Caprio and Levine (2006) exhaustively document, the banking sector is probably the most intensely regulated sector throughout the world This is hardly surprising. If we espouse a benign view of government regulation, there are several rationales that justify a government intervention. But the same is true if we think government intervention is driven by political and electoral interests, rather than by the desire to address market inefficiencies. The two views of government interventions obviously differ in their implications: one predicts a positive effect of government regulation, the second a negative one.

In spite of the opposite predictions, these two views of regulation are hard to disentangle empirically. According to the benign view of regulation, governments intervene more where markets fail more. Hence, any attempt to estimate the effects of bank regulation would spuriously attribute a negative effect to bank regulation unless the pre-existing degree of market failure is controlled for (an almost impossible task). Only if the extent of regulation was exogenously imposed, we could hope to identify the true effect of regulation.

In this paper we claim that the Italian banking law of 1936 represents such a natural experiment. Introduced after major bank failures, the 1936 law had the objective of enhancing bank stability through severe restrictions on competition. While homogeneously imposed throughout the country, these restrictions had different impact in different areas, because they granted a different flexibility to expand to different types of banks. Thus, an unintended consequence of the law was a different degree of competition across Italian provinces, determined on the basis of the conditions pre-existing the 1936 law. We exploit this exogenous variation to assess the impact that restrictions on competition have on the structure of the banking industry. Since all these regulations were removed during the 1980s, we also exploit this difference in the starting points to assess how differentially repressed financial systems respond to liberalization.

We first establish that the 1936 banking law curtailed competition in Italian banking industry pre deregulation (i.e., pre 1990s) and differentially so depending on the type of banking institutions present in 1936. In particular, the interest rate spread (lending minus deposit rate) charged to customers in different provinces (a measure of monopoly power) is directly related to measures of banking structure in 1936.

Then, we use a local indicator of the interest rate spread pre-deregulation as a measure of lack of competition and we study the effect of this lack of competition on the functioning of the banking industry and the real economy. We find that in provinces where there was more competition there was more access to credit (contrary to what predicted by Petersen and Rajan, 1995) for both households and firms, more firms, and higher growth. Consistent with the goals of the 1936 Banking Law we find that provinces where there was less competition

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experience a lower percentage of bad loans. Finally, consistent with Jayaratne and Strahan (1996), we find that competition does not impact the quantity of loans.

Between the late 1980s and early 1990s Italy experienced several banking reforms. Entry was liberalized (1990), the separation between short and long-term lending was removed (1993), the Savings and Loans legal structure was transformed into a normal corporation, facilitating acquisition and mergers (1993), and starting in 1994 all the major State-owned banks were privatized. Hence, we study the effect of deregulation as a function of the level of competition in the banking sector before deregulation. We find that provinces that had a less competitive banking sector during the regulation period experience a significant increase in the number of households who have access to credit. They also experience a reduction in the cost of borrowing, but also an increase in the percentage of bad loans. The overall effect is that after deregulation the provinces that were more penalized by the restrictions in competition experience a higher-than-normal aggregate growth rate.

We are not the first to identify the costs of bank regulation. The closest papers to ours are Jayaratne and Strahan (1996), Dehejia and Lleras-Muney (2003), and Guiso et al. (2004). The first two papers use the cross sectional variation in banking regulation across U.S. states to assess the impact of financial development on growth. The major difference is that U.S. states are free to choose their own regulation. Hence, it is difficult to disentangle the effect of regulation from the effects of the political and economic conditions that lead regulation to be enacted or lifted. Such problem does not exist in our sample, since the legislation is homogenous and we use the cross sectional difference in the tightness of this regulation. As we discuss in the text, this cross sectional difference in tightness is determined by historical accidents and is unlikely to be correlated with the phenomena we study. As Guiso et al. (2004), we use the cross sectional variation in regulation across Italian provinces as an instrument. That paper, however, only focuses on the effect of access to credit on aggregate growth during the regulation period. By contrast, in this paper we measure the degree of competition across different local markets and relate it to several characteristics of the banking industry, as well as aggregate growth, both before and after deregulation. In so doing we are better able to study the cost and benefits of banking regulation.

Our paper can also be seen as a within country analog of Demirgüç-Kunt, Laeven, and Levine (2003), who study the effect of banking regulation on the cost of credit across countries. They find that regulation increases the cost of credit but this effect disappears once they control for property rights protection, leading them to conjecture that banking regulation may reflect broader features of a country approach to competition.

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Our within country approach enable us to disentangle these two effects and isolate the costs (as well as the benefits) of banking regulation.

Our paper is also related to Bertrand, Schoar and Thesmar (2004) who analyze the effects of banking deregulation on the industrial structure in France in the 1980s. Their advantange is that they can rely on firm-level data to trace the effect of financial liberalization on entry and exit. Our paper focuses instead on the effect of banking regulation and deregulation on the structure of the banking industry. The advantage of our research design is the exogeneity of the tightness of regulation, which gives us an opportunity to shed some empirical light on the trade off between banking competition and banking stability studied by Allen and Gale (2004).

The rest of the paper proceeds as follows. Section 1 provides a brief history of Italian banking regulation. Section 2 describes the data. Section 3 shows that the 1936 Banking Law had an enduring effect on bank competition, which translated into higher markups. Section 4 analyzes the impact that the different levels of competition had on access to credit, quantity of credit, percentage of bad loans, and aggregate growth. Section 5 repeats a similar analysis focusing on how the initial conditions affected the impact of deregulation. Section 5 concludes.

I   The History of Italian Banking Regulation

In response to the 1930-31 banking crisis, in 1936 Italy introduced a new banking law, which imposed rigid limits on the ability of different types of credit institutions to open new branches and extend credit. According to the law, each credit institution was assigned a geographical area of competence based on its presence in 1936 and its ability to grow and lend was restricted to this area. A further directive, issued in 1938, regulated differentially the ability of these institutions to grow. National banks could open branches only in the main cities; cooperative and local commercial banks could only open branches within the boundaries of the province they operated in 1936; while Savings banks could expand within the boundaries of the region - which comprises several provinces - they operated in 1936. Furthermore, each of these banks was required to try and shut down branches located outside of its geographical boundaries.

As Table 1 shows, this regulation deeply affected banks' ability to grow. Between 1936 and 1985 the total number of bank offices grew 87%. During the same period the number of bank offices in the United

States increased by 1228%.[1] But Table 1 also shows that different types of banks grew at a different rate. Savings banks and cooperatives' (both local banks) offices grew on average 138%, while big national banks grew only 70%. Since these types of banks differ only in their legal structure but not in their functions, it is hard to explain these differential growth rates with different growth in the demand for their service. A more plausible explanation is that regulation allowed savings bank more latitude to grow. This regulation remained substantially unchanged until the end of the 1980s.

We will exploit these differences in the tightness of financial regulation across local credit markets to study the effects of restriction on competition. For this variation to be a good natural experiment, however, we need to show that i) the number and composition of banks in 1936 is not linked to some characteristics of the region that affect the ability to do banking in that region and of firms to grow; ii) this regulation was not designed with the needs of different regions in mind, but it was "random"; iii) the reason why this regulation was maintained until the end of the 1980s has nothing to do with the actual needs of different regions.

A   Why Regions Differ in their Banking Structure in 1936

As discussed in Guiso et al. (2004), the number of bank branches in 1936 was not an equilibrium market outcome, but the result of a Government-directed consolidation during the 1930-33 crisis. The Italian Government bailed out the major national banks and the Savings Banks, but chose to let smaller commercial banks and cooperative ones fail.

Furthermore, the regional diffusion of different types of banks reflects the interaction between the subsequent waves of bank creation and the history of Italian unification. The high concentration of savings banks in the North East and the Center, for instance, reflects the fact that this institution originated in Austria and expanded first in the territory dominated by the Austrian Empire (Lombardia and the North East) and in the nearby states, especially Tuscany and the Papal States. By contrast, two of the major national banks (Banca Commerciale and Credito Italiano) were the result of direct German investments in the most economically advanced regions at the time (Lombardia and Liguria).

As a result, as Guiso et al. (2004) show in Table 4, the four indicators of banking structure in 1936 - the number of total branches (per million inhabitants) present in a region in 1936, the fraction of branches owned by local versus national banks, the number of savings banks, and the number of cooperative banks per million

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[1]See http://www2.fdic.gov/hsob

inhabitants – are not correlated with economic development in 1936, once we control for the South dummy.

B Why Did the 1936 Law Favor Savings Banks?

There are two reasons why the Fascist regime favored Savings banks. First, Savings Banks were non-profit organizations, which had to distribute a substantial fraction of their net income to "charitable activities". Until 1931 these donations were spread among a large number of beneficiaries. Subsequently, however, the donations became more concentrated toward political organizations created by the Fascists, such as the Youth Fascist Organization (Opera Balilla) and the Women Fascist Organization (OMNI), (Polsi, 2003). Not surprisingly, the Fascist regime found convenient to protect its financial supporters!

The second reason is that the 1930-33 banking crisis was mainly due to the insolvency of major national banks. This fear of the disastrous consequences of the failure of large banks created in the legislator a natural bias against large banks.

C Why Was This Structure Maintained For So Long?

These differential restrictions, thus, have a clear rationale within the Fascist regime. But when in 1946 the Bank of Italy restarted to authorize the creation of new branches, "the new authorizations were mainly given to Savings Banks and – to a smaller extent – to cooperative banks and local commercial banks" (Cotula and Martinez Oliva, 2003). Hence, the two biases exhibited by the Central Bank during the Fascist period –hostility toward national banks and favor towards Savings Banks – continued after the war. Why? All the historians mention the quest for stability as an important factor. The memories of the 1930s crisis was still very vivid in the Central Bank administration and continued to inform its action. This explanation could at best account for the hostility towards large national banks, but what about Savings Banks? One opinion – prevalent among historians inside the Central Bank – is that this policy was aimed at promoting the investment of local savings in loco, supporting the less developed areas (Albareto and Trapanese, 1999). This argument, however, is based on the wrong assumption that excess deposits cannot be "recycled" in the interbank market, as it indeed occurred. A second, more credible, interpretation has it that Donato Menichella (governor of the Bank of Italy from 1948 to 1960) promoted the development of local banks at the expenses of national State-owned banks "for the desire to see the power of the Central Bank vis-a-vis the banking system strengthened" (De Cecco, 1968, p. 67). De Cecco, however, is not entirely clear on the channel through which this relation worked.

One possibility is that stronger national banks could acquire too much lobbying power vis-a-vis the Governor, reducing his autonomy. Another possible channel is the institutional structure of the Bank of Italy. After 1936 the Bank of Italy was formally owned by the State-owned national banks and by the Savings banks, which jointly elected the Central Bank's Board. The Board nominated the Governor, who was subject to the approval of the Government. Since the State-owned national banks were much more concentrated, by increasing the power of the fragmented Savings banks, the Governor could play a "divide et impera" strategy, to maximize his autonomy. Regardless of the specific channel, however, this interpretation suggests that the hostility against the big national bank was not determined by economic reasons, but was the result of a power struggle within the Government bureaucracy. While both the previous arguments have some merits, we think that the main reason for these policy biases is that the Christian Democratic party inherited the political clientele of the Fascist Party, including the network of local notables and the right to direct Savings Banks' donations to the favorite charitable organizations. By inheriting this network, the Christian Democratic party inherited also the Fascists' party interest in promoting Savings Banks at the expenses of all the other types of banks. The Savings Banks also maintained their advantageous position relatively to other local banks because they were government owned. After the Second World War government banks were controlled by politics and especially from the mid-fifties the practice of political appointments of top executives in state-owned banks became the way for politics to insure strong ties with the public banking system (Sapienza, 2000).

D   The Deregulation Process

This regulatory system was maintained almost unchanged until the late 1980s. What triggered change was the process of European integration and in particular the prospect of the application of the European Banking Directive, mandating free entry, scheduled to be introduced in 1992. In anticipation of this change in 1986 the procedure to open new bank offices was eased. Instead of requiring an explicit authorization of the Bank of Italy, the authorization was considered granted unless explicitly denied within 60 days from the request.

Entry was then entirely liberalized in 1990. In 1993 a new banking law (incorporating the Banking European Directive) was approved. The separation between short and long-term lending was removed and banks were allowed to underwrite security offerings and own equity. The same year the legal structure of Savings Banks was changed. From mutual organizations, they were transformed into standard corporations, facilitating acquisition and mergers. Finally, in 1994 the Government started to privatize all the major State-owned banks.

II   Data Description

To capture different aspects of the problem in this paper we use four different dataset.

To measure the number of registered firms, their rate of formation, and the incidence of bankruptcy by province we collected data coming from the Italian Statistical Institute (ISTAT) from a yearly edition of "Il Sole 24 Ore", a financial newspaper. Table 2a reports summary statistics for these data. The Italian territory is divided into 20 regions and each region is made up of a several provinces. Since new provinces have been created over time, depending on the years considered we will be working either with the 93 province classification or with the one with 103 provinces.

The second dataset, containing information about households, is the Survey of Households Income and Wealth (SHIW). This survey, which is conducted every two years by the Bank of Italy on a representative sample of about 8,000 households, collects detailed information on Italian household income, consumption, and wealth and portfolio allocation across financial instruments. For each household, the data also contain information on characteristics of the households' head, such as education, age, place of birth, and residence. An interesting feature of this survey is that each household is asked to report whether it faced any problem in obtaining loans from financial intermediaries. We use this information to create an indicator variable for households that were rationed in the market either because were turned down or discouraged from borrowing. Table 2b reports the summary statistics for this sample.

The third dataset draws data from the 1988-2001 Survey of Investment in Manufacturing Firms (SIM) which is run yearly by the Bank of Italy on a sample of about 1,000 firms with at least 50 employees. The main purpose of the survey is to collect information on firms fixed investment, realized and planned for the future. It also collects information on firms' demographics and hiring and firing decisions. Since 1988, the Survey of Investment in manufacturing asks questions on access to the loans market similar to those asked to households in the SHIW, allowing us to construct an indicator for whether the firm was rationed in the loans market. Table 2c shows summary statistics for this dataset.

Finally, the fourth dataset contains financial information about firms. It is from Centrale dei Bilanci (CB), which provides standardized data on the balance sheets and income statements of about 30,000 Italian non-financial firms. Data, available since 1982, are collected by a consortium of banks interested in pooling information about their clients. A firm is included in the sample if it borrows from at least one of the banks in the consortium. The database is highly representative of the Italian non-financial sector: a report by

Centrale dei Bilanci (1992), based on a sample of 12,528 companies drawn from the database (including only the companies continuously present in 1982-90 and with sales in excess of 1 billion Lire in 1990), states that this sample covers 57 percent of the sales reported in national accounting data. In particular, this dataset contains a lot of small (less than 50 employees) and medium (between 50 and 250) firms

For some of the years prior to liberalization we have been able to have the CB data merged with the Credit Register and thus obtain information on the interest rate charged by each bank (among those reporting to the credit register which account for about 80% of total loans) that lends to the firms in our sample. In addition, we can identify a number of characteristics of the lending banks, such as their size, profitability and relevance of non-performing loans, by linking the merged dataset to an additional database that contains information on the banks balance sheets. Table 2d reports the summary statistics for these data.

III   The Effects of Banking Regulation on Competition

We want first to establish that regulation of bank entry designed in 1936 affected the working of the banking industry before deregulation, i.e. until the late 1980s. To this purpose, we start by testing whether the characteristics of the 1936 banking system have any impact on the structure of the banking industry along two dimensions: the number of bank offices and the level of interest rates.

To characterize the regional structure of the banking system in 1936 and thus the tightness of regulation we use four indicators that are inspired by the 1936 anti-competitive regulation: (1) the number of bank branches per 1000 inhabitants in the region in 1936 (regions with more branches in 1936 should have suffered less from the freeze); (2) the share of bank branches owned by local banks over total branches in a region as of 1936 (the higher this ratio the less binding should have been the CICR regulation); (3) the number of Savings banks (the higher the number of Savings banks in 1936, the less tight the 1936 regulation was; and (4) the number of cooperative banks per thousand inhabitants in the region in 1936 (conditional on the proportion of local banks, cooperative banks were relatively disadvantaged in their ability to grow). If the 1936 law had any bite, we should find opposite effects of these last two indicators.

A Effects on the number of bank offices

To assess the effects of differences in the bite of regulation on the level of the banking activity Table 3 regresses the number of bank offices in a province in 1985, before deregulation started, on the 1936 local bank structure. As Table 3 column I shows, provinces with more bank branches per thousand inhabitants in 1936 also have more bank branches per thousand inhabitants in 1985. This is hardly surprising, since it might simply reflect that certain provinces are richer and so have more banks. But this effect persists, albeit smaller, even after we control for the logarithm of the value added per capita in the province (column II). Even this reduced effect is very noticeable quantitatively. A province that started with a level of bank branches per inhabitant one standard deviation higher in 1936 had 17% more bank offices per inhabitants in 1985.

More interestingly, the proportion of bank offices controlled by local banks in 1936 affects the number of bank offices present in 1985. As we said, local banks were given more room to expand locally compared to national banks. This could explain why the total number of bank offices increased more in provinces where in 1936 the banking market was dominated by local banks. This effect is also quantitatively large. One standard deviation increase in the fraction of branches controlled by local banks in 1936 leads to a 6 percentage points increase in the number of bank branches per inhabitants in 1985 (a 20% increase).

As we said, among local banks the 1936 law granted more room to expand to Savings Banks, rather than to cooperative banks. Once we control for the fraction of branches controlled by local banks this distinction does not seem to make a big difference. As expected, in column I the coefficient on the number of cooperative banks is negative and statistically significant, but when we insert the log of the GDP per capita the significance disappears.

These four variables that summarize the structure of the banking system in 1936 can explain 27 percent of the provincial variation in the number of bank branches before liberalization. Importantly, this effect is not just a North-South divide. While ceteris paribus Southern provinces have fewer bank offices (see column III of Table 3), the level of bank offices per inhabitant and the proportion of local banks remain statistically significant after we insert a South dummy.

B Effect on the Cost of Credit

The second aspect we investigate is the effect of the 1936 law on the cost of credit. Table 4 presents some estimates using the matched firms-bank register data that allow us to obtain a measure of the interest rate

on credit lines charged by each of the banks lending to a given firms. Since we do not have data for the year 1985 we use data for the 1991, the earliest available year, before many of the liberalization steps were undertaken. This assumption is supported by Angelini and Cetorelli (2003) who by using bank-level balance sheets, convincingly show that mark ups in the Italian banking industry remained unchanged until 1992, and declined only after the liberalization started to unfold.

The dependent variable is the interest rate charged by each bank to each client. To control for differences in riskiness across firms we insert a firm's return on sales, its leverage, and its size (measured as log sales) as explanatory variables. In addition, we also control for the Altman Z-score, which captures the probability of bankruptcy, where a larger score value reflects a higher probability of default. This score is computed by CB and is used by the banks belonging to the CB consortium to price their loans. Finally, we control for three bank characteristics – size, share of non-performing loans and return on assets – which capture differences in bank's market power and efficiency that may be reflected in interest rates on loans.

The first two columns show that the loan rates paid by firms are affected by the bottlenecks created by the 1936 law. The strongest effect is due to Savings banks. In provinces where Savings banks were more in 1936, we observe a lower spread between loans and deposits in 1991. By contrast firms in provinces where cooperative banks were more diffuse in 1936 have ceteris paribus higher lending rate in the 1980s.

These effects are also economically significant. One standard deviation increase in the number of savings bank per million inhabitants in 1936 reduces the lending rate by 239 basis points, while one standard deviation increase in the number of cooperative banks in increases the lending rate by 157 basis points. Demirgüç-Kunt, Laeven, and Levine (2003) also find that banking regulation increases the cost of credit using cross country variation. However, they also find that this effect disappears once they control for national indicators of property rights protection, leading them to argue that banking regulation reflects broader features of a country approach to competition. Our approach, based on within country variation in the bite of regulation, is able to separate the effect of banking regulation on the cost of credit from other institutional features which are automatically controlled for.

One potential problem is that the bank controls are few and the characteristics of 1936 banking structure may be capturing unobserved bank characteristics that are relevant for interest rate setting, such as efficiency. Since the same bank lends to multiple firms in different provinces we can account for unobservable bank characteristics by adding bank fixed effect. When we do this in columns III and IV results are similar to those

in the first two columns.

In sum, the restrictions on entry imposed by the 1936 legislation seem to have substantially affected the degree of local competition in the banking industry until the end of the 1980s. Having established this, we can now study the effect of this lack of competition on the allocation of credit and, ultimately, on economic growth. To do so, however, we need to construct a meaningful measure of the degree competition of the local credit markets before deregulation and show that this measure of competition differs depending on how strong was the effect of the 1936 regulation on the various local markets. Only after doing so can we analyze the real impact of competition, using the structure of local credit markets in 1936 as instruments.

C   Measuring competition in local credit markets

As a measure of competition we use a bank's ability to charge its clients above its marginal cost (i.e., its spread or mark up over the deposit rate).[2] We use the CB data merged with the credit register to compute the mark-up on deposit rates that a bank can charge to a given firm. This is computed by subtracting the average rate on deposits in a province from the interest rate on the loans paid by the firm. Differences in this spread could be due to differences in banks' market power or differences in the riskiness of local borrowers.

In order to isolate the first effect from the second, we run regressions where we control for a number of indicators that capture firms quality: the firm return on sales, its leverage (as a proxy for financial fragility), its size (measured by log assets) which captures the fact that smaller firms are more likely to fail, and the firm propensity score. For our purposes of controlling for the firm risk, the latter is a particularly important variable. It is directly computed by the CB in order to obtain a synthetic indicator of the probability of default. This score is than used by the banks that belong to the CB consortium to decide whether to grant a loan and to price it. It is likely, thus, to capture most of the information on which banks condition for assessing firms' risk.

Besides controlling for these firm characteristics we also include several bank controls: the size of the lending banks (measured by log assets), its returns on assets, the ratio of non-performing loans on total loans outstanding, and dummies for state or local government bank ownership (the first dummy is equal to 1 if the bank is a Savings bank, the second is equal to 1 if the bank is state-owned). These variables may affect the loan rate as they capture differences across banks that are not picked up by the average deposit rate in a

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[2]The reason why most studies use a Herfindhal index of loans or deposits is that they do not have access to the bank-firm data we have access to. Our measure speaks more directly to the effective market power banks have at a local level.

province. For example, state-ownership of banks affect the lending rate, as state owned bank subsidize loans [3]; similarly, bank profitability and non-performing loans affect the bank's cost of raising funds.

To measure differences in the competition across local markets we insert a full set of dummies, one for each Italian province for a total of 96 dummies and take the coefficient on the province dummy as a measure of the market power enjoyed by the banks lending in that market. The presumption is that the province – a geographical unit close in size to a US county – is the relevant local market. There are two reasons why this assumption is reasonable. First, according to the Italian Antitrust authority the "relevant market" in banking for antitrust purposes is the province. Second, this is also the definition the Central Bank used until 1990 to decide whether to authorize the opening of new branches.

To transform the measure of market power into an indicator of the degree of competition in the local credit markets we compute *Competition = max(coefficient on provincial dummies) – (coefficient on provincial dummies)* so that the least competitive local market is standardized to zero and the units of the measure of competition are deviations of the interest rate spread from the province where it is largest. Obviously, if provincial markets were not geographically segmented – e.g. because firms could indifferently borrow in any local market and could thus arbitrage away differences in lending rates – the coefficients on the provincial dummies should not differ from each other. Thus, finding that these coefficients are indeed different can be regarded as a test of local market segmentation. The F statistics for the hypothesis that the province effects are equal to zero is 7,556.35 (p-value = 0.0000), suggesting significant geographical dispersion in banking competition.

Table 5, Panel A, lists our measure of local market competition sorting provinces from the least to the most competitive one. The range of variation implies that in the most competitive province (Ravenna) the interest rate spread is, ceteris paribus, 363 basis points lower than in the least competitive province (Catanzaro) while in the median province the spread is 192 basis points lower than in the least competitive. The magnitude of these figures implies that prior to liberalization local credit markets were markedly segmented.

Figure 1 shows visually how banking competition differs across local credit markets. While a North-South divide is a clear feature of the data, there is considerable variation in the degree of competition suggesting that one can rely on variation within the Center-North and the South to identify the effect of competition on banking outcomes.

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[3]See Sapienza (2004).

Table 5, panel B, shows how differences in the tightness of the 1936 regulation across regions has affected banking competition. The first column regresses our measure of competition on the four indicators of 1936 regulation. In areas with more local banks and more savings banks and thus with less restricted opportunities to compete in local markets, interest rate spreads are lower. A one standard deviation increase in the number of bank offices belonging to local banks in 1936 lowers the spread by 18 basis points while a one standard deviation increase in the number of savings banks per capita lowers the spread by 22 basis points. The number of cooperative banks has, as expected a negative impact on the degree of competition in the local credit market but is not statistically significant and similarly the number of bank offices in 1936 has a positive effect but not statistically significant. Overall, these 1936 variables explain 27 percent of the variation in the degree of competition 50 years later. The hypothesis that they are joint significantly equal to zero can be rejected at conventional level of significance, as shown by the value of the F-test.

The second column shows results when the two insignificant variables in the first regression are dropped; the amount of variation explained falls to 22 percent but remains substantial even if only these two characteristics of the 1936 banking structure are used to predict competition. The F-statistic for the joint significance of these two variables raises to 14.24.

In the third column we regress our competition index on the indicator of local credit market development constructed by Guiso, Sapienza and Zingales (2004), based on the ease of access to credit. These two measures are highly, but imperfectly, correlated suggesting that cost and availability of credit are two separate aspects of a credit market.

IV   The Effects of Restrictions on Bank Competition

In the previous section we have shown how the peculiarities of the Italian Banking Law of 1936 affected the degree of bank competition at the provincial level. This link allows us to treat the component of the variation in bank competition explained by the 1936 law as a random treatment. Hence, we can study how arbitrary variations in the degree of competition across otherwise identical provinces can affect the allocation of credit and, ultimately, economic performance. To this purpose, we will look at the effect of competition on a number of indicators of banking and economic performance. Interestingly, we can do this exercise both for the regulated period and for the deregulation period. We start with the regulated period.

A   Effects of Restrictions on Competition on the Supply of Loans

Limits to competition induced by regulation could restraint the supply of loans and access to credit. We explore this issue by looking at the effect of competition on the aggregate volume of loans and on the degree of rationing.

Table 6 shows the effect of our measure of competition on the ratio between loans and value added at the provincial level. If we regress this ratio on our measure of competition alone (column I), there seems to be a positive and significant effect on loans supply. Increasing competition by one standard deviation raises the loans/value added ratio in a province by 2.76 percentage points. This effect, however, is not robust to the introduction of a South dummy and to controlling for provincial value added per capita, as shown in columns II and III. In fact, the coefficient becomes negative albeit not statistically significant. Instrumenting competition with the 1936 proxies for regulation raises the point estimate, but it remains not statistically significant. This result is consistent with Jayaratne and Strahan (1996), who find that the deregulation of the banking sector in the United States (which increased competition) did not in case the quantity of loans, but only the quality.

Table 7 looks at the impact of competition on the availability of credit. Panel A deals with household's rationing, while Panel B with firm's rationing. In Panel A we use the two earliest households" surveys available 1989-91 that clearly belong to the pre-liberalization period. Since each year of the Survey of Investment in Manufacturing only includes 1,000 firms and since the fraction of rationed firms in normal times is small (around 2.5-3 percent of the sample), in order to obtain sufficient information to carry the estimates, in Panel B we pool the surveys for the earlier years starting in 1988 (the first year the rationing question was asked) and until1995 (when liberalization experienced an acceleration as universal banking started to be implemented); this interval include the 1993-1995 recession when the share of rationed firms peaked to 13 percent (in 1993).Since competition varies only at the province level, standard errors are adjusted for provincial clustering.

Panel A, Column I shows that in a OLS regression more competition lowers the probability that a household is rationed.[4] This effect is not only statistically significant but is economically important: raising competition by one standard deviation lowers the probability a household is rationed by about 20 percent of the sample

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[4]The rationing variable is equal to 1 if a household was denied credit or was discouraged from applying over the year and relies on the following two questions asked in the SHIW: "During the year did you or a member of the household apply for a loan or a mortgage from a bank or other financial intermediary and was your application turned down?" and "During the year did you or a member of the household think of applying for a loan or a mortgage to a bank or other financial intermediary, but then changed your mind on the expectation that the application would have been turned down?". We create the variable "rationed" equals to one if a household responds positively to at least one of the two questions reported above and zero otherwise.

mean. The second column instruments the degree of competition with the four indicators of the 1936 banking structure. The estimated effect of competition retains its statistical significance and is more than twice as large: a one standard deviation increase in competition lowers the probability that a household is shut off from the credit market by 50 percent of the sample mean. This result is true even controlling for several households' characteristics: household income, household wealth (linear and squared), household head's age, his/her education (number of years of schooling), the number of people belonging to the household, the number of kids, and indicator variables for whether the head is married, is a male, for the industry in which he/she works, for the level of job he/she has and the size of the town or city were the individual lives. To capture possible local differences in the riskiness of potential borrowers we control in this regression for the percentage of firms that go bankrupt in the province (average of the 1992-1995 period). We also add to the regression the percentage of non-performing loans on total loans in the province; this control should eliminate the potentially spurious effects of over lending.[5] The estimate is left unchanged by the insertion of a South dummy, as shown in the last column.

Panel B reports the estimates for firms rationing.[6] We control for firm size (the log of employment), nature of ownership (state owned or private), whether the firm is hiring or firing workers (to proxy for perceived future growth opportunities), the investment/sales ratio, and the share of sales abroad. Regressions also include a full set of year dummies to account for the business cycles and contractions/expansions in money supply. The OLS estimate of the effect of competition on the probability that the firm is turned down (totally or partially) when applying for a loan is negative but its effect is small and is not statistically significant. Instrumenting competition with the 1936 variables results in a much larger and statistically significant coefficient estimate. A one standard deviation increase in competition lowers the probability that a firm is rationed by about two percentage points, equivalent to 43 percent of the sample mean. The last column shows that this result is not due to a correlation of our competition proxy with the North-South divide: adding a South dummy leaves in fact results unchanged.

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[5] If in certain areas banks lend excessively (i.e., even to non creditworthy individuals), it would be easier to have access to credit, but we can hardly claim this reflects a better functioning local market for loans. The percentage of non performing loans should eliminate this potential spurious effect.

[6] In the Survey of Investment in Manufacturing firms are asked three questions: a) "In the previous year, at the interest rate that was prevailing in the market did your firm want a larger volume of loans?" b) "Was your firm willing to pay a slightly higher interest rate in order to obtain the extra loan?" c) "Did your firm apply for the obtaining more loans but was turned down?". These three questions, which mirror the questions asked in a Bank of Italy SHIW, can be used to identify credit rationed firms. We defined as rationed all firms that applied and were turned down, i.e. all those that answered "yes" to question (c). This is the indicator we use as left hand side variable in Table 7b.

These results are inconsistent with Petersen and Rajan (1995) who predict that more oligopolist markets ease the access to credit of the more risky (marginal) firms, because a lender with market power can recoup the cost of lending over time. Petersen and Rajan find evidence consistent with their hypothesis by using variation in the degree of competition across U.S. regional markets. The difference in the results can probably be attributed to two factors. First, Petersen and Rajan does not have any instrument for differences in competition. When we do not instrument, our coefficient is basically zero. Second, our dataset does not contain the really small firms, which are the most likely to be rationed. That we find the same effect with household, however, speaks against this second interpretation.

B Effects of Restrictions on Competition on the Efficient Allocation of Credit

The 1936 banking law purposefully restricted competition with the goal of increasing bank stability. The underlying idea was that "excessive" competition will lead to an increase in the fraction of bad loans, with adverse consequences on the stability of the banking sector.

In Table 8 we test this hypothesis. Our dependent variable is the proportion of bad loans to total loans in a province (in percentage terms) during the pre-deregulation period. Since we have data starting only in 1984, as a measure of the pre-deregulation period we use the average 1984-1986. We compute this ratio both in terms of number of loans (first five columns) and in terms of quantity of loans (second five columns). Since the results are virtually identical, we will comment only the first measure.

If we regress the proportion of bad loans on our measure of competition alone (column I), there seems to be no effect. But once we control for the North-South divide (column II) and even more so for differences in income per capita (column III), higher competition appears to be associated with more bad loans. One standard deviation increase in competition increases the proportion of bad loans from 2.6% to 2.8% (a 20% increase). This result is consistent with Beck et al. (2003), who find that banking crises are less likely in more concentrated banking markets.

To address potential endogeneity questions, in column IV we instrument competition with our four indicators of the banking structure in 1936. Not only the coefficient remains statistically significant, but quadruple in size. If we accept the IV estimates, thus, the effect is quite sizeable: one standard deviation increase in competition increases the proportion of bad loans from 2.6% to 3.2% (a 75% increase).

C   Effects of Restrictions on Competition on Number of Firms and Aggregate Growth

The previous estimates have shown both costs and benefits of bank competition.

More competition increases access to credit but it also increases the percentage of bad loans. What is the overall impact?

To address this question we turn to real economic variables. We analyze the impact of the degree of bank competition on the number of firms present in a province and the aggregate rate of growth of a province. If banking regulation, by limiting competition, affects the availability of loans it should also affect the number of firms operating in a given area and the rate at which existing firms are able to grow, and thus the level of aggregate regional growth.

In Table 9 panel A we regress the number of firms present in a province per 100 people living in the same area on a set of provincial control and our measure of bank competition.[7]

Column I shows that provinces with higher levels of GDP per capita have more firms per 100 inhabitants. In Column II we add our measure of banking competition in the province to this specification. This has a positive and statistically significant effect on the number of firms but the economic effect is small: a one standard deviation increase in the degree of competition increases the number of firms by 0.33 per 100 inhabitants in the province. However, when we instrument competition with the variables that describes the structure of the local banking market as of 1936 we find that the effect of competition becomes almost six times as large suggesting a very strong impact of bank competition on entrepreneurship. A one standard deviation increase in bank competition increases the number of firms in that province by 20 percent. This effect is consistent with our previous finding of a positive effect of bank competition on the availability of credit. This result is also consistent with Black and Strahan (2001) who find that in the U.S. competition in the banking market is associated with higher level of new incorporations because banking competition leads to more credit availability.

In Panel B of Table 9 we test the effect of bank competition on aggregate growth. We measure growth as the rate of growth of per capita GDP in a province between 1951 and 1991 (i.e, the pre-deregulation period). Per capita GDP is the per capita net disposable income in the province in million liras. As in the standard growth regression (Barro, 1991) we control for the initial (i.e., 1951) GDP per capita in the province. In addition, we control for the preexisting level of infrastructure (defined as the sum of all the infrastructural

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[7]Ideally, we would like the number of firms in 1990. Unfortunately, we were able to find only the data for 1996-1998, hence we use the average of these three years. The problem is not so severe because the number of firms does not change so rapidly.

investments in the period 1936-1951 divided by the 1951 GDP per capita), and for the South dummy.

In column IV we insert, in addition to all these controls, our measure of bank competition. The coefficient is positive, but it is not statistically significant. But if we instrument bank competition with our proxies for exogenous restrictions on entry, we find that the degree of bank competition significantly affects GDP growth rate of a province. Increasing competition by one standard deviation raises real economic growth by a quarter of a percentage point per year. Almost half of the 60 basis points of difference in growth rate between the Center-North and the South can be explained by the difference in the level of bank competition in these two areas.

D   How the Starting Level of Competition Affects the Impact of Deregulation

By looking at the long-term effects of regulatory restrictions, in the previous section we have shown that bank competition has positive economic effects, except for an increase in the percentage of bad loans. An independent validation of the causal nature of this relationship comes from analyzing what happens when these restrictions are removed. If the previously observed economic costs are really due to the lack of local bank competition, after deregulation we should observe a catching up of those areas where the banking market was less competitive during the regulation period.

This analysis of the effects of deregulation as a function of the pre-existing level of competition is interesting also from another point of view. Many developing countries have liberalized their banking market without a full understanding of what the cost and benefits of the transition are. This analysis can give us a sense of these costs and benefits as a function of the starting conditions.

E   Effects of Deregulation on the Supply of Loans

To study the effect of deregulation on the supply of credit to households in Table 10a we pool the two earliest surveys (1989 and 1991) with the two latest ones (1999-2001) and test the effect of the initial level of competition on access to credit at a time of deregulation.

As Column I shows, deregulation brings a significant reduction in the number of households shut off from the credit market (1.9% of all the households, equal to a reduction of 73% of the shut off households). Once again this effect cannot be attributed solely to deregulation because many other things change at the same time. Nevertheless, it is hard to find any other plausible explanation for a reduction of this size.

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As in Table 7a, households located in provinces with more bank competition are less likely to be shut off from the credit market.

What Table 10a adds is that this effect disappears entirely after deregulation. Not only the coefficient of the interaction between competition and deregulation is positive and statistically significant, but its magnitude is almost exactly identical to the coefficient of competition alone. As expected, thus, deregulation makes all local markets equally competitive, eliminating the effect of the initial conditions.

As column II shows, these results are robust to insert a South dummy. Similarly, column III shows that they are robust to instrumenting our measure of competition with the characteristics of the credit market in 1936.

In Table 10b we perform a similar type of analysis with the firms' sample. We re-estimate the specification in Table 7b pooling also the surveys after 1995 (de facto the surveys for the years 1998 and 2001).

As in Table 10a we insert year dummies and an interaction between our measure of competition and a liberalization dummy equal to 1 for the years 1998-2001. The pattern of the results is similar to the one seen in Table 10a, but the effect is weaker. While the competition variable remains negative and statistically significant and the interaction term is positive, the latter is not statistically significant and its size is an order of magnitude smaller than the coefficient of competition alone.

One possible interpretation of these results is that there is not sufficient information in the data to estimate precisely both effects given the size of the sample (each survey only includes 1,000 firms) and the small fraction of rationed firms in normal times (around 2.5-3 percent). The pre-deregulation period includes the 1993-1995 recession when the share of rationed firms peaked to 13 percent, while there is no similar recession in the post deregulation period. Hence, the higher magnitude of the coefficient and its statistical significance before but not after might simply be due to this asymmetry in the data.

An alternative interpretation, however, is that the effect of deregulation is more immediate on household credit than on business lending. This makes sense since it is much easier to create ex novo a consumer lending department and find clients (given the high number of rationed households) than to initiate new relationship with firms. The expertise associated to business lending is also more difficult to improvise.

If we accept this interpretation, this result carries an important implication for the effect of bank liberalization: consumer spending might react faster than business investments to the increased supply of credit. This interpretation is consistent with Ayoumi (1993), who finds that consumption behavior is deeply affected

by financial liberalization in England in the 1980s.

F   Effects of Deregulation on the Efficient Allocation of Credit

Table 6 showed that provinces with more bank competition experienced a higher fraction of bad loans during the regulation period. How does the fraction of bad loan respond to the increase in competition generated by deregulation? We look at this in Table 11. As a measure of the percentage of bad loans after deregulation we use the average of 1999-2000 (the last year in our data). Our dependent variable is the difference between this variable and the pre-deregulation level of bad loans, measured as in Table 6. For ease of read, the difference is multiplied by 100, so it is expressed in percentage points.

Interestingly, after deregulation the percentage of bad loans dropped, more in quantity (from 3.1% to 2.5%) than in number (from 2.6 to 2.4%). We cannot, however, attribute this effect just to deregulation. Since, unlike in Jayaratne and Strahan (1996), deregulation occurs simultaneously across the different provinces, we cannot separate the effect of deregulation from other business cycle effects.

We can, however, study how this drop in percentage of bad loans relates to the initial level of competition in the local banking market. This is what we do in Table 11. In the first column we show that the drop in the percentage of bad loans is particularly pronounced in provinces that started the deregulation period more competitive. One interpretation of this result is that local competition forced bank officers to be more skillful in lending and this superior skill reduced the percentage of bad loans. Another interpretation is that in more competitive areas, the percentage of bad loans was already high to begin with and so did not increase as much (or decreased more) after deregulation.

If we look at the magnitude of the effect, however, the second explanation seems to be insufficient. During regulation one standard deviation increase in competition increased the proportion of bad loans by 20 basis points. After deregulation one standard deviation increase in the initial level of competition decreased the proportion of bad loans by 54 basis points. Hence, the proportion of bad loans in non competitive areas not only catches up to the level of competitive area, but exceeds it by 34 basis points. This suggests that lack of competition has long lasting effect on banks ability to lend, which persist even after deregulation has taken place.

As columns II and III suggest, the effect of the initial level of competition is not just a North-South effect and it is not driven by differences in the GDP per capita. When we instrument competition with the structure

of the banking industry in 1936, the effect is much bigger in magnitude (one standard deviation increase in competition decrease the proportion of bad loans by 134 basis points). The pattern is very similar if we use the proportion of bad loans in terms of quantity rather than in terms of numbers (columns V to VIII).

G Effects of Deregulation on Number of Firms and Aggregate Growth

As for the level of regulation, we find that deregulation has both positive and negative effects: the supply of loans increases but so does the percentage of bad loans. To assess the overall welfare effect we resort, once again, to study the impact of deregulation on some real measures: the growth rate in the number of firms and the aggregate growth rate.

In Table 12 panel A we regress the number of new firms in a province per 100 people living in the same area (average of 1996-98) on a set of provincial control and our measure of bank competition at the beginning of deregulation.

Column I shows that provinces with higher levels of GDP per capita seem to have more creation of new firms, but this effect is not statistically significant. Sourthern regions experience less firm creation. In Column II we add our measure of banking competition in the province to this specification. This has a positive and statistically significant effect on the creation of new firms after deregulation. This is somewhat surprising. We would expect that the initial level of competition had no effect or even possibly a negative effect, since with deregulation the other regions are catching up to the level of firm creation prevailing in the areas that started more competitive. This effect persists when we instrument competition with the variables that describes the structure of the local banking market as of 1936. Hence, it is not spurious.

While surprising, this result is consistent with our findings on the supply of credit. Deregulation does not have an immediate impact on the supply of credit to firms and hence does not have an immediate impact on the creation of new firms.

In Panel B of Table 12 we want to capture the effect of deregulation on the aggregate growth rate. If we start from the standard growth regression used in Table 9b

$Growth_{it} = \alpha \log(GDP)_{it-1} + \beta Competition_{it} + \gamma South_i + \delta I_{it} + \varepsilon_{it}$

where "i" indexes the region and "t" the time, then the effect of deregulation can be assessed by taking the first difference between this equation before and after deregulation. Assuming that after deregulation all the areas achieve a similar level of competition that we set equal to zero, and denoting $Competition_{ib}$ the index

of competition in region i before deregulation, we have

$$\Delta Growth_{it} = \alpha \Delta \log(GDP)_{it-1} - \beta Competition_{ib} + \delta \Delta I_{it} + \Delta \varepsilon_{it}$$

Panel B of Table 12 runs this regression. We take the difference in the average growth rate after deregulation (period 1991-1999) and the average growth rate before (period 1951 -1991). We regress this on the difference in the log of the per capita GDP at the beginning of deregulation (1991) and the log of the per capita GDP at the beginning gof the regulation period (1951). As we can see from column I, areas that started with a more competitive banking sector grows relatively less during the deregulation period. Hence, deregulation allows less competitive areas to catch up. This effect is present even if we control for the change in the initial level of infrastructural investments (difference in infrastructural investment is the difference between the sum of all the infrastructural investments before deregulation (1951-1991) divided by the 1991 GDP per capita and the sum of all the infrastructural investments before the regulation period (1936-1951) divided by the 1951 GDP per capita). The effect doubles in magnitude when we instrument our measure of competition with the 1936 banking structure variables.

Hence, while the effect of deregulation is not felt immediately on the entry of new firms, it is felt right away on the growth rate.

V   Conclusions

In spite of the pervasiveness of bank regulation throughout the world, there is precious little evidence of its welfare effects. By using some exogenous variation in the extent of restrictions on competition, this paper is able to assess both the costs and benefits of regulation and the cost and benefits of deregulation.

We find that restrictions to competition reduce the supply of credit but also reduce the percentage of bad loans. By contrast, deregulation increases the supply of credit and increases the percentage of bad loans. Overall, restrictions on competition have negative effects on aggregate growth, effects that are undone when bank regulation is lifted. We also find that in areas where competition was restricted, after deregulation the percentage of bad loans raises above the level of competitive areas, suggesting that lack of competition has a long lasting effect on a bank ability to grant credit in an efficient way.

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Table 1. Number of banks and bank branches:1936-1974

The table reports the number of banks and bank branches in 1936 and 1974 divided by type of banks. Source: Bank of Italy.

	Number of bank branches		
	in 1936	**in 1985**	**% change 1936-85**
National state-owned banks	1542	2623	70.10%
Savings Banks	1448	3643	151.59%
Cooperatives	1161	2555	120.07%
Others	2121	2898	36.63%
Total	6272	11719	86.85%

	Number of banks		
	in 1936	**in 1985**	**% change 1936-85**
National state-owned banks	8	9	12.50%
Savings Banks	91	73	-19.78%
Cooperatives	329	86	-73.86%
Others	1590	97	-93.90%
Total	2018	265	-86.87%

Table 2. Summary statistics for the samples used in estimation

Panel A reports summary statistics of the major characteristics of each province. Panel B reports summary statistics for the households in the SHIW for the surveys 1989, 1991, 1998, and 2000. Panel C does the same for firms from SIM. Panel D shows summary statistics for the matched firms-banks dataset used to estimate banks mark up on the deposit rate. In Panel B credit rationed is a dummy variable equal to one if a household responds positively to at least one of the following questions: "During the year did you or a member of the household think of applying for a loan or a mortgage to a bank or other financial intermediary, but then changed your mind on the expectation that the application would have been turned down?;" "During the year did you or a member of the household apply for a loan or a mortgage to a bank or other financial intermediary and your application was turned down?." Age is the age of the household head in the household sample and the age of the individual in the individual sample. Male is a dummy variable equal to one if the household head or the individual is a male. "Years of education" is the number of years a person attended school. Net disposable income is in millions liras. Wealth is real wealth of the household. South is a dummy equal to one if the household lives in a region South of Rome. Per capita GDP is the per capita net disposable income in the province in millions of liras in 1990. GDP per capita in 1951 is the 1951 per capita value added in the province expressed in 1990 liras. Judicial inefficiency is the number of years it takes to have a first-degree judgment in the province. Number of firms present per 100 people living in the same area (average of 1996-98, source ISTAT). In Panel C credit rationed is a dummy equal to one if the firm has applied for a loan during the year preceding the interview and was either turned down or unable to obtain the full amount required; employees is the number of employees measured at the firm level. In Panel D interest rate minus deposit rate is the difference between the firm level interest rate on credit lines charged by each bank lending to the firm minus the average rate on deposits in the province were the lending bank is located; return on sales is firm profits divides by sales; leverage is firms total debt as a share of firm's liabilities; size is the log of firm's assets; score is a firm propensity score computed by the CB; size of the bank is the log of the assets of the lending bank; non performing loans is the total value of non-performing loans of the lending bank as a percentage share of its outstanding loans; return on assets of the bank is the share of lending bank profits to total bank assets.

Panel A:

	Mean	Median	Std. Dev.	Min	Max	N
Bank branches per millions inhabitants (1985)	0.28	0.26	0.18	0.04	1.15	95
Index of competition	1.91	1.94	0.75	0.00	3.63	95
Fraction of bank offices owned by local banks (1936)	0.76	0.74	0.15	0.46	0.97	95
Number of savings banks per million inhabitants (1936)	2.72	2.05	2.92	0.00	11.98	95
Number of cooperative banks per million inhabitants (1936)	8.60	7.57	5.62	0.00	21.66	95
Bank offices per million inhabitants (1936)	0.21	0.22	0.12	0.06	0.53	95
# of bad loans/total # of loans (1985)	2.59	2.51	0.83	1.04	5.07	95
Quantity of bad loans over total quantity of loans (1985)	3.14	2.81	1.78	0.78	11.28	95
Ratio of loans to GDP (1985)	0.27	0.22	0.20	0.02	1.29	95
Log GDP per capita in 1951	8.19	8.21	0.33	7.65	9.03	95
Log GDP per capita in 1991	9.43	9.52	0.26	8.89	9.83	95
Social capital	0.80	0.83	0.08	0.60	0.92	95
Growth rate in value added per capita between 1951 and 1999 (						
Total investment in public infrastructure 1926-1951/ value added 1951	1.52	1.44	0.84	0.17	3.62	95
South dummy	0.36	0.00	0.48	0.00	1.00	95
Number of firms per 100 inhabitants in 1995 (obs=103)	9.19	9.03	1.55	5.97	13.55	103

Panel B:

	Mean	Median	Std. Dev.	1st	99th	Obs.
Credit rationed	0.026179	0	0.159669	0	1	47,748
Financial liabilities	0.644576	0	5.113731	0	10	47,748
Number of people living in the household	2.952564	3	1.356721	1	6	47,748
Age	53.54373	53	15.20849	25	86	47,748
Net disposable income (10 million lire)	4.281415	3.49374	3.414256	0.54	16.07994	47,748
Net disposable income (squared)	29.98741	12.20622	121.7991	0.2916	258.5644	47,748
Net real wealth (10 million lire)	21.23139	11.4	43.76575	0	162.4	47,748
Net real wealth (squared)	2366.173	129.96	67064.46	0	26373.76	47,748
Size of the town	2.452836	3	0.984335	1	4	47,748
Years of schooling	8.389168	8	4.682775	0	18	47,748
Dummy if male	0.755906	1	0.429553	0	1	47,748
Dummy if married	0.726921	1	0.445546	0	1	47,748

Panel C:

	Mean	Median	Std. Dev.	1st	99th	Obs.
Credit rationed	0.0451232	0	0.207581	0	1	14,565
Dummy=1 if state-owned	0.04144828	0	0.199331	0	1	14,565
Log of sales	5.459437	5.32301	1.238917	3.135494	8.908965	14,565
Dummy=1 if firm has hired workers during the year	0.43165251	0	0.495322	0	1	14,565
Dummy=1 if firm has fired workers during the year	0.48966805	0	0.499908	0	1	14,565
Ratio of investment over sales at $t-1$	0.13833931	0.03344481	5.682062	0	0.476459	14,565
Employees	675.35961	205	2939.194	23	7398	14,565

Panel D:

	Mean	Median	Std. Dev.	1st	99th	Obs.
Interest rate minus deposit rate	1.950231	1.415647	2.528095	-1.61566	10.25854	37538
Return on sales	8.682313	7.935716	7.078794	-8.37142	33.26308	37238
Leverage	66.57482	69.36	18.72835	12.4	97.67	37286
Size	9.927334	9.784704	1.386472	7.003066	13.97307	37538
Score measuring the probability of default	3.933134	4	1.671317	1	7	37538
Located in the South	0.176914	0	0.381601	0	1	37538
Size of the bank	10.31674	10.67667	1.116506	7.521859	11.68105	37538
Percentage of non-performing loans of the bank	14.87396	8.4	18.65453	0	90.47	37471
Return on assets of the bank	0.454587	0.40833	0.263825	0.050715	1.164295	37538

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Table 3. Effects of the 1936 banking regulation on the banking structure before deregulation

The dependent variable is the number of bank offices per 1000 inhabitants in 1985. Standard errors, reported in brackets, are adjusted for regional clustering. (***): coefficient significant at less than 1%; (**): coefficient significant at the 1%; (*): coefficient significant at the 5%. A constant is also included in the regressions (coefficient not reported).

	Number of bank offices on population		
	I	II	III
Fraction of bank offices owned	0.431**	0.365**	0.325*
by local banks in 1936	(0.166)	(0.172)	(0.181)
Number of savings banks per 1000	-1.359	-2.942	-3.841
inhabitants in the region in 1936	(4.769)	(5.883)	(5.658)
Number of cooperative banks per 1000	-7.556*	-5.035	-3.901
inhabitants in the region in 1936	(3.967)	(4.917)	(4.813)
Bank offices per 1000 inhabitants	0.537***	0.427**	0.368**
in the region in 1936	(0.141)	(0.164)	(0.161)
Log of provincial value added pro		0.085	0.063
capita in 1951		(0.122)	(0.125)
South dummy			-0.036
			(0.032)
Observations	95	95	95
R-squared	0.268	0.272	0.274

Table 4: Effects of the 1936 banking regulation on the level on interest rates on firm loans before deregulation.

The table shows the effects of the 1936 banking structure on interest rates on loans charged to firms on credit lines before deregulation. The data include a cross-section of bank-firm loan contracts for the year 1991. The dependent variable is the interest rate charged to firm i by bank k at time t minus the prime rate at time t. Size of the firm is the logarithm of sales. We measure the size of the bank by logarithm of total bank assets. The percentage of non-performing loans is a bank specific variable and it calculated as the ratio of non-performing loans over total loans. Heteroscedasticity robust standard errors, reported in brackets, are adjusted for regional clustering. (***): coefficient significant at less than 1%; (**): coefficient significant at the 1%; (*): coefficient significant at the 5%.

	Interest rates on loans			
	(1)	(2)	(3)	(4)
Share of branches from local, non-national banks: 1936	-0.6668*	-0.6403	-0.1010	-0.1449
	(0.3737)	(0.4394)	(0.4117)	(0.4387)
Number of savings banks per capita in the region: 1936	-0.8266**	-0.8192**	-0.6308**	-0.6466*
	(0.3037)	(0.3218)	(0.2856)	(0.3154)
Number of cooperative banks per capita in the region: 1936	0.2622***	0.2785**	0.1492**	0.1248
	(0.0803)	(0.0983)	(0.0616)	(0.0884)
Number of branches per inhabitant in the region: 1936		-0.0014		0.0023
		(0.0053)		(0.0057)
Return on sales of the firm	0.0040	0.0040	0.0052*	0.0052*
	(0.0033)	(0.0033)	(0.0029)	(0.0028)
Leverage of the firm	0.0036**	0.0037**	0.0044***	0.0044***
	(0.0014)	(0.0014)	(0.0012)	(0.0012)
Size of the firm	-0.6602***	-0.6599***	-0.6092***	-0.6095***
	(0.0211)	(0.0209)	(0.0180)	(0.0181)
Score measuring probability of default of the firm	0.1842***	0.1839***	0.1835***	0.1838***
	(0.0180)	(0.0175)	(0.0178)	(0.0176)
Size of the bank	0.0285	0.0285		
	(0.0357)	(0.0356)		
Percentage of non-performing loans of the bank	-0.0129***	-0.0129***		
	(0.0009)	(0.0009)		
Return on assets of the bank	-0.5717***	-0.5653***		
	(0.1882)	(0.1795)		
Bank fixed effect	no	no	yes	yes
Observations	35527	35527	35590	35590
R-squared	0.174	0.174	0.243	0.243

Table 5. Estimating the degree of competition in local markets

Panel A of the table shows the coefficients on the provincial dummies from a regression of firm level interest rate spread on firm characteristics, bank characteristics and a full set of provincial dummies. The interest rate spread is computed as the difference between the interest rate charged by each bank lending to the firm and the average interest rate on deposits in the province where the bank is located; firm characteristics include the return on sales, leverage, size (log assets), firm propensity score; bank level controls include log assets, returns on assets, the ratio of non-performing loans on total loans outstanding and dummies for state or local government bank ownership (the first dummy is equal to 1 if the bank is a Savings bank, the second if the bank is state-owned). The coefficients on the provincial dummies are our measures of the financial intermediaries monopoly power in the local market. To transform them in a measure of degree of competition we compute Competition = max(coefficient on provincial dummies) - coefficient on provincial dummies so that the lowest competitive local markets is standardized to zero. Panel B shows a regression of the competition indicator on the 1936 bank characteristics (first column) and on the indicator of easiness in the access to the local credit market computed by Guiso et. al (2004)

Panel A:

Province name	Competition index	Province name	Competition index	Province name	Competition index	Province name	Competition index	Province name	Competition index
Catanzaro	0	Potenza	1.388207	Sassari	1.816366	Imperia	2.196466	Massa	2.62023
Benevento	0.031895	Ascoli	1.400714	Perugia	1.828679	Ragusa	2.211654	Firenze	2.6363341
Sondrio	0.253221	Bolzano	1.456479	Milano	1.84595	Ancona	2.22633	Mantova	2.6414935
Cosenza	0.391934	Rovigo	1.485434	Treviso	1.882854	Trento	2.228845	Aosta	2.6528422
Napoli	0.528824	Como	1.492609	Lucca	1.904548	Siena	2.236245	Trieste	2.6982466
Taranto	0.535311	Nuoro	1.514542	Torino	1.905712	Vicenza	2.236333	Piacenza	2.7345644
Isernia	0.560263	Avellino	1.541625	Bari	1.90797	Agrigento	2.270138	Caltanisetta	2.7908675
Enna	0.653263	Padova	1.556788	Palermo	1.923697	Terni	2.289703	Parma	2.8373181
Caserta	0.822046	Frosinone	1.579069	Laspezia	1.94058	Bergamo	2.29452	Udine	2.8790204
Latina	0.871723	Cagliari	1.597684	Pistoia	1.957966	L'Aquila	2.294854	Reggio E.	2.8798281
Chieti	0.933558	Arezzo	1.634093	Genova	2.010391	Oristano	2.319269	Bologna	2.9404274
Salerno	0.975705	Cremona	1.65746	Siracusa	2.032775	Cuneo	2.357154	Forl	3.0157763
Brindisi	1.055466	Verona	1.688914	Alessandria	2.04661	Trapani	2.372764	Modena	3.3349854
Reggio C.	1.108448	Messina	1.700405	Pordenone	2.085999	Savona	2.431444	Pesaro	3.3868081
Vercelli	1.122587	Teramo	1.704814	Belluno	2.117552	Foggia	2.45185	Rieti	3.4483715
Matera	1.152155	Catania	1.753228	Gorizia	2.121684	Macerata	2.488825	Ravenna	3.627566
Lecce	1.21183	Brescia	1.754628	Pavia	2.125591	Ferrara	2.490959		
Pescara	1.284543	Novara	1.755903	Asti	2.12889	Livorno	2.514496		
Grosseto	1.351493	Varese	1.786024	Viterbo	2.166587	Pisa	2.553943		
Potenza	1.388207	Roma	1.814504	Venezia	2.180604	Campobasso	2.581165		

Panel B:

	Index of bank competition		
	I	II	III
Local financial development			2.779***
			(0.561)
Fraction of bank offices owned	1.167***	1.296***	
by local banks in 1936	(0.473)	0.453	
Number of savings banks per 1000	79.946***	92.710***	
inhabitants in the region in 1936	(27.818)	(25.507)	
Number of cooperative banks per 1000	-19.946		
inhabitants in the region in 1936	(14.420)		
Bank offices per 1000 inhabitants	1.429		
in the region in 1936	(0.860)		
Observations	93	93	93
R-squared	0.269	0.2234	0.2121

Table 6. Effects of competition on the value of loans extended

The table shows the effect of competition in the local credit market on the extension of loans prior to liberalization. The left hand side is the value of loans extended scalded by value added in 1985. South is a dummy equal to one if the firm is located in a region south of Rome. Competition is our measure of bank competition, based on interest rate spreads, derived in Table 5. IV estimate use as instruments the 1936 measures of the structure of the banking system. Standard errors, reported in brackets, are adjusted for regional clustering. (***): coefficient significant at less than 1%; (**): coefficient significant at the 1%; (*): coefficient significant at the 5%. A constant is also included in the regressions (coefficient not reported).

	Ratio of loans to value added			
	I	II	III	IV
Competition in the local	0.037**	0.008	-0.009	-0.161
banking market	(0.016)	(0.020)	(0.021)	(0.098)
South dummy		-0.101**	0.073	0.087
		(0.043)	(0.080)	(0.089)
Log of provincial value added pro capita in 1981			0.382***	0.633***
			(0.131)	(0.206)
Observations	95	95	95	95
R-squared	0.019	0.064	0.102	

Table 7. Effect of competition on access to credit

In panel A the left hand side variable is a dummy equal to 1 if a household is credit constrained (i.e., declares it has been turned down for a loan or discouraged from applying) and zero otherwise. The estimates include data from two SHIW surveys prior to liberalization (1989-1991). Competition is our measure of bank competition, based on interest rate spreads, derived in Table 5. In panel B the left hand side variable is a dummy equal to 1 if a firm is credit constrained (i.e., declares it has been turned down for a loan or discouraged from applying) and zero otherwise. The estimates include observations from the surveys covering the years 1988-1995. IV estimate use as instruments the 1936 measures of the structure of the banking system. Standard errors, reported in brackets, are adjusted for regional clustering. (***): coefficient significant at less than 1%; (**): coefficient significant at the 1%; (*): coefficient significant at the 5%.

Panel A:

	Probability a household is rationed		
	I	II	III
Degree of bank competition	-0.0074***	-0.0177***	-0.0170**
	(0.002)	(0.006)	(0.0081)
Percentage of firms bankrupts	0.0004**	0.0004**	0.0004*
in the province	(0.0002)	(0.0002)	(0.0002)
Percentage of bad loans in the province	0.0016	-0.0005	-0.0005
	(0.0017)	(0.0025)	(0.0025)
Financial liabilities	0.0073***	0.0074***	0.0074***
	(0.0020)	(0.0020)	(0.0020)
Number of people living in the household	0.0075***	0.0067***	0.0067***
	(0.0015)	(0.0016)	(0.0016)
Age of the head of the household	-0.0007***	-0.0007***	-0.0007***
	(0.0001)	(0.0001)	(0.0001)
Net disposable income (000 lire)	-0.0000	0.0006	0.0006
	(0.0015)	(0.0016)	(0.0016)
Net disposable income (squared)	0.0000	0.0000	-0.0000
	(0.0000)	(0.0000)	(0.0000)
Net real wealth (000 lire)	-0.0002***	-0.0002***	-0.0002***
	(0.0001)	(0.0001)	(0.0001)
Net real wealth (squared)	0.0000**	0.0000**	0.0000**
	(0.0000)	(0.0000)	(0.0000)
Size of the town	0.0043**	0.0041**	0.0041**
	(0.0017)	(0.0018)	(0.0018)
Years of schooling	-0.0004	-0.0005	-0.0004
	(0.0005)	(0.0005)	(0.0005)
Head is a male	-0.0065*	-0.0063*	-0.0063*
	(0.0034)	(0.0034)	(0.0034)
Head is married	0.0027	0.0027	0.0027
	(0.0034)	(0.0034)	(0.0034)
Head is a male	-0.0065*	-0.0063*	-0.0063*
	(0.0034)	(0.0034)	(0.0034)
1991 dummy	0.0192***	0.0188***	0.0188***
	(0.0031)	(0.0031)	(0.0031)
South dummy			0.0008
			(0.007)
Observations	16451	16451	16451
R-squared	0.022	0.02	0.02

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Panel B:

	Probability a firm is rationed		
	I	II	III
Degree of bank competition	-0.0059	-0.0258**	-0.0270**
	(0.0053)	(0.0122)	(0.0128)
Share of exported output	-0.0011	0.0019	0.0024
	(0.0144)	(0.0144)	(0.0146)
Firm is state-owned	0.0548***	0.0509***	0.0504***
	(0.0151)	(0.0149)	(0.0152)
Log(employment)	-0.0139***	-0.0142***	-0.0139***
	(0.0021)	(0.0022)	(0.0022)
The firm is hiring workers	0.0339***	0.0357***	0.0357***
	(0.0102)	(0.0104)	(0.0104)
The firm is firing workers	0.0507***	0.0521***	0.0520***
	(0.0096)	(0.0098)	(0.0098)
Investment/sales in the past year	-0.0001***	-0.0002***	-0.0002***
	(0.0000)	(0.0001)	(0.0001)
South dummy			0.0088
			(0.0103)
Year dummies	YES	YES	YES
Observations	8,126	8,126	8,126
R-squared	0.027	0.024	0.024

Table 8. Effects of competition on bad loans

In the first five columns the dependent variable is the average flow of the number non-performing bank loans as a fraction of the number of existing loans in a province in the period 1984-1966. In the remaining five columns it is flow of the value of non performing loans on outstanding stock of loans in a province over the same period. South is a dummy equal to one if the firm is located in a region south of Rome. Competition is our measure of bank competition, based on interest rate spreads, derived in Table 5. IV estimate use as instruments the 1936 measures of the structure of the banking system. Standard errors, reported in brackets, are adjusted for regional clustering. (***): coefficient significant at less than 1%; (**): coefficient significant at the 1%; (*): coefficient significant at the 5%. A constant is also included in the regressions (coefficient not reported).

	Bad loans (number)				Bad loans (quantity)			
	I	II	III	IV	V	VI	VII	VIII
Competition in the local	-0.074	0.138	0.217*	0.802*	-0.356	0.068	0.179	1.908**
banking market	(0.113)	(0.130)	(0.125)	(0.427)	(0.336)	(0.333)	(0.315)	(0.948)
South dummy		0.726***	-0.092	-0.147		1.450***	0.304	0.142
		(0.213)	(0.404)	(0.432)		(0.394)	(0.970)	(1.055)
Log of provincial value added pro capite in 1981			-1.800**	-2.766***			-2.523	-5.378**
			(0.726)	(0.987)			(1.744)	(2.541)
Observations	95	95	95	95	95	95	95	95
R-squared	0.004	0.145	0.196		0.022	0.144	0.166	

Table 9. Effect of competition on number of firms and economic growth

In panel A the dependent variable is the number of firms present per 100 people living in the province in 1996-1998. In Panel B it is the average real annual growth rate (in percentage points) in the per capita valued added in the province in the period 1951-1991. South is a dummy equal to one if the firm is located in a region south of Rome. Infrastructural investment is the sum of all the infrastructural investments in the period 1936-1951 divided by the 1951 GDP per capita. Competition is our measure of bank competition, based on interest rate spreads, derived in Table 5. IV estimate use as instruments the 1936 measures of the structure of the banking system. Standard errors, reported in brackets, are adjusted for regional clustering. (***): coefficient significant at less than 1%; (**): coefficient significant at the 1%; (*): coefficient significant at the 5%. A constant is also included in the regressions (coefficient not reported).

Panel A:

	Number of firms per 100 people in province		
	I	II	III
Log of provincial value added	1.493	1.065	-0.197
	(0.952)	(1.007)	(1.560)
South dummy	-0.971*	-0.717	0.031
	(0.516)	(0.539)	(0.998)
Competition in the local banking market		0.588***	2.318***
		(0.162)	(0.854)
Observations	103	103	103
R-squared	0.285	0.352	

Panel B:

	Growth rate				
	I	**II**	**III**	**IV**	**V**
Log of provincial value	-1.342***	-2.217***	-2.217***	-2.237***	-2.296***
added in 1951	(0.186)	(0.149)	(0.149)	(0.154)	(0.189)
Investments	-0.048	-0.071	-0.071	-0.081	-0.113
	(0.081)	(0.052)	(0.052)	(0.052)	(0.071)
South dummy		-0.954***	-0.954***	-0.895***	-0.718***
		(0.082)	(0.082)	(0.086)	(0.167)
Competition in the local				0.086	0.344**
banking market				(0.056)	(0.162)
Observations	95	95	95	95	95
R-squared	0.419	0.734	0.734	0.742	0.672

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Table 10. Effect of credit market liberalization on access to credit

In panel A the left hand side variable is a dummy equal to 1 if a household is credit constrained (i.e., declares it has been turned down for a loan or discouraged from applying) and zero otherwise. The estimates include data from two SHIW surveys both prior to liberalization (1989-1991) and after liberalization (1998-2000). In panel B the left hand side variable is a dummy equal to 1 if a firm is credit constrained (i.e., declares it has been turned down for a loan or discouraged from applying) and zero otherwise. The estimates include observation both for the period prior to liberalization (1988-1995) and after liberalization (1997-2001). IV estimate use as instruments the 1936 measures of the structure of the banking system. Competition is our measure of bank competition, based on interest rate spreads, derived in Table 5. Standard errors, reported in brackets, are adjusted for regional clustering. (***): coefficient significant at less than 1%; (**): coefficient significant at the 1%; (*): coefficient significant at the 5%.

Panel A:

	Probability a household is rationed		
	I	II	III
Degree of bank competition	-0.0087***	-0.0211***	-0.0241***
	(0.0023)	(0.0063)	(0.008)
Competition*liberalization dummy	0.0078*	0.0235***	0.0238***
	(0.0045)	(0.0074)	(0.0076)
Percentage of firms bankrupt	0.0001	0.0001	0.0002
	(0.0002)	(0.0002)	(0.0002)
Percentage of bad loan in the province	-0.0000	-0.0006	-0.0005
	(0.0013)	(0.0019)	(0.0021)
Financial liabilities	0.0002*	0.0002*	0.0002*
	(0.0001)	(0.0001)	(0.0001)
Number of people living in the household	0.0055***	0.0050***	0.0051***
	(0.0011)	(0.0012)	(0.0012)
Age of the head of the household	-0.0008***	-0.0008***	-0.0008***
	(0.0001)	(0.0001)	(0.0001)
Net disposable income (million lire)	-0.0010	-0.0009	-0.0009
	(0.0007)	(0.0007)	(0.0007)
Net disposable income (square)	0.0000	0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)
Net real wealth (million lire)	-0.0001*	-0.0001*	-0.0001*
	(0.0000)	(0.0000)	(0.0000)
Net real wealth (square)	0.0000	0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)
Size of the town	0.0034***	0.0034**	0.0034**
	(0.0013)	(0.0013)	(0.0014)
Years of schooling	-0.0002	-0.0001	-0.0002
	(0.0003)	(0.0003)	(0.0003)
Head is a male	-0.0006	-0.0002	-0.0002
	(0.0031)	(0.0031)	(0.0031)
Head is married	-0.0036	-0.0035	-0.0036
	(0.003)	(0.003)	(0.003)
Size of the town	0.0034***	0.0034**	0.0034**
	(0.0013)	(0.0013)	(0.0014)
Years of schooling	-0.0002	-0.0001	-0.0002
	(0.0003)	(0.0003)	(0.0003)
Head is a male	-0.0006	-0.0002	-0.0002
	(0.0031)	(0.0031)	(0.0031)
Head is married	-0.0036	-0.0035	-0.0036
	(0.003)	(0.003)	(0.003)
1991 Dummy	0.0193***	0.0191***	0.0192***
	(0.003)	(0.003)	(0.003)
South dummy	45		-0.0035
			(0.0056)
Observations	29102	29102	29102
R-squared	0.014	0.012	0.011

Panel B:

	Probability a firm is rationed		
	I	II	III
Degree of bank competition	-0.0075	-0.0280**	-0.0301**
	(0.005)	(0.012)	(0.013)
Degree of bank competition X	0.003	0.005	0.004
liberalization dummy	(0.006)	(0.012)	(0.012)
Share of exported output	-0.0072	-0.0035	-0.0026
	(0.0094)	(0.009)	(0.0094)
Firm is state-owned	0.0447***	0.0416***	0.0403***
	(0.0123)	(0.012)	(0.0124)
Log(employment)	-0.0119***	-0.0118***	-0.0113***
	(0.0017)	(0.002)	(0.0017)
The firm is hiring workers	0.0122	0.0141*	0.0138*
	(0.0078)	(0.008)	(0.0080)
The firm is firing workers	0.0244***	0.0260***	0.0257***
	(0.0080)	(0.008)	(0.0081)
Investment/sales in the past year	-0.0001***	-0.0002***	-0.0002***
	(0.0000)	(0.000)	(0.0001)
South dummy			0.0144*
			(0.008)
Year dummies	YES	YES	YES
Observations	15,565	15,565	15,565
R-squared	0.023	0.019	0.019

Table 11. Effects of credit market liberalization on bad loans

In Panel A the dependent variable is the change in the average flow of the number non-performing bank loans as a fraction of the number of existing loans in a province from 1985 to 1998. In Panel B it is the change in the flow of the value of non performing loans on outstanding stock of loans in a province over the same period. South is a dummy equal to one if the firm is located in a region south of Rome. Competition is our measure of bank competition, based on interest rate spreads, derived in Table 5. IV estimate use as instruments the 1936 measures of the structure of the banking system. Standard errors, reported in brackets, are adjusted for regional clustering. (***): coefficient significant at less than 1%; (**): coefficient significant at the 1%; (*): coefficient significant at the 5%. A constant is also included in the regressions (coefficient not reported).

	Change in bad loans (number)				Change in bad loans (quantity)			
	I	II	III	IV	V	VI	VII	VIII
Competition in the local	-0.726***	-0.454**	-0.419**	-1.690**	-0.827	-1.067*	-0.892	-3.712**
banking market	(0.149)	(0.200)	(0.211)	(0.675)	(0.516)	(0.622)	(0.599)	(1.588)
South dummy		0.929***	0.574	0.694		-0.818	-2.621	-2.356
		(0.338)	(0.579)	(0.676)		(0.835)	(2.224)	(2.346)
Log of provincial value added pro capita in 1981			-0.782	1.316			-3.970	0.684
			(1.106)	(1.605)			(3.858)	(4.976)
Observations	95	95	95	95	95	95	95	95
R-squared	0.185	0.284	0.288		0.039	0.052	0.069	

Table 12. Effects of credit market liberalization on firm creation and growth

In panel A the dependent variable is the number of new firms created per 100 people living in the province (average of 1996-98, source ISTAT). In Panel B it is the difference between the average growth in the per capita valued added in the province in the period 1991-1999 and the average growth rate in the same area in the period 1951-1999. The difference in the log GDP is the difference between the log of the per capita GDP at the beginning of deregulation (1991) and the log of the per capita GDP at the beginning of the regulation period (1951). Difference in infrastructural investment is the difference between the sum of all the infrastructural investments before deregulation (1951-1991) divided by the 1991 GDP per capita and the sum of all the infrastructural investments before the regulation period (1936-1951) divided by the 1951 GDP per capita. Competition is our measure of bank competition, based on interest rate spreads, derived in Table 5. IV estimate use as instruments the 1936 measures of the structure of the banking system. Standard errors, reported in brackets, are adjusted for regional clustering. (***): coefficient significant at less than 1%; (**): coefficient significant at the 1%; (*): coefficient significant at the 5%. A constant is also included in the regressions (coefficient not reported).

Panel A:

	New firms created per 100 people in province		
	I	II	III
Log of provincial value added	1.493	1.065	-0.197
	(0.952)	(1.007)	(1.560)
South dummy	-0.971*	-0.717	0.031
	(0.516)	(0.539)	(0.998)
Competition in the local banking market		0.588***	2.318***
		(0.162)	(0.854)
Observations	103	103	103
R-squared	0.285	0.352	

Panel B:

	Growth Rate		
	I	**II**	**III**
Difference in the log of the provincial	-0.024***	-0.025***	-0.025***
value added at the beginning of the period	(0.002)	(0.003)	(0.003)
Competition in the local	-0.002**	-0.002**	-0.004***
banking market	(0.001)	(0.001)	(0.002)
Change in infrastructural investments		-0.001*	-0.001
		(0.001)	(0.001)
Observations	103	103	103
R-squared	0.508	0.521	0.470