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INDUSTRY STRUCTURE: EVIDENCE
FROM THE FRENCH BANKING
REFORMS OF 1985**

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*FINANCIAL ECONOMICS and
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ABSTRACT

Banking Deregulation and Industry Structure: Evidence from the French Banking Reforms of 1985*

This Paper empirically investigates the impact of distortions in the banking sector on the structure and dynamics of product markets as well as on firm level outcomes. Our analysis suggests that an increase in the efficiency of the banking industry can have first-order effects not only on the lending relationship between banks and firms, but also on the structure and dynamics of product markets overall. The particular reform we consider is the deregulation of the French banking industry in the mid 1980s. This deregulation eliminated government interference in bank lending decisions and allowed French banks to compete more freely in the credit market. Post deregulation, we find that banks are less willing to bail out poorly performing firms and that these firms experience a steeper increase in the cost of capital. Subsequently, firms in the more bank-dependent industries have a somewhat higher propensity to undertake restructuring measures. At the industry-level, we observe an increase in asset and job reallocation in the bank dependent sectors, mostly due to higher entry and exit rates of firms. We also find an improvement in allocative efficiency across firms as well as a decline in industry concentration ratios. Overall, these findings are consistent with a model where distortions in bank lending create artificial barriers to entry in the real sectors of the economy. A more efficient banking sector therefore appears to play an important role in fostering a Schumpeterian process of 'creative destruction'.

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1 Introduction

A central topic in finance and economics is the role of capital markets, and in particular banks, for economic development and growth. A large macroeconomics literature has documented a strong positive relationship between the development of the financial sector and economic growth.¹ However, much less research effort has been devoted to exploring the specific microeconomic mechanisms driving this macroeconomic relationship. In this paper we empirically study how distortions in the banking sector affect firm-level behavior as well as industrial structure and dynamism in the non-financial sectors. Our analysis suggests that the elimination of such distortions can have first-order effects not only on the lending relationship between banks and firms, but also on entry and exit rates, product market concentration, and the allocation of assets and jobs across firms and industries in the real sectors of the economy.

The particular reform we consider is the deregulation of the French banking industry in the mid-1980s. This deregulation eliminated government interference in bank lending decisions, abolished subsidized bank loans, and allowed French banks to compete more freely in the credit market. According to most observers, the main effect of the reform was to decentralize the decision-making process on loan amounts and interest rates and introduce a stronger for-profit motive for banks. This reform constituted an economy-wide shock that affected all industries but in particular, as we will show, those that relied more heavily on external finance prior to the reform.

While our analysis is restricted to a single country, the types of distortions that were present in France prior to the reform are typical of the distortions still in place in many other countries, e.g. directed lending, subsidized credit, and limited competition. In this regard, the French deregulation experience should provide a perspective on the consequences of banking reforms that is relevant beyond the pure French case, and likely more closely applicable to many emerging markets than previously studied U.S. banking reforms.²

Our focus on France is further motivated by the availability of comprehensive and very detailed firm-level accounting data for this country. While most commonly used international firm-level

¹See for example Gerschenkron (1962), King and Levine (1993a, 1993b), Jayaratne and Strahan (1996), Rajan and Zingales (1998), Demircuc-Kunt and Maksimovic (1998), Levine, Loayza and Beck (2000) and Guiso, Sapienza and Zingales (2004).

²Recent empirical papers by Black and Strahan (2002), Cetorelli and Strahan(2003) document the impact of changes in U.S. interstate banking on firm entry, the number and size distribution of firms in the non-financial sectors.

data sets cover only publicly traded firms, the data used in this paper includes both private and publicly traded firms. The coverage of private firms is central to our exercise. First, since these firms typically have access to few other sources of external finance besides bank loans, they may be most affected by any changes in the banking sector. Second and equally important, these firms represent a large fraction of overall economic activity, and so their inclusion is key to our study of the impact of banking distortions on industry structure and dynamics.

Using a firm-level panel that spans the period 1978 to 1999, we first document large changes in capital structure and banks' lending behavior following the banking reform, especially for the industrial sectors that were most reliant on bank debt prior to the reform. We find a sharp decline in bank debt, especially among worse performing firms. This decline in bank debt is in part compensated by an increase in the use of trade credit, especially for worse performing firms. Following the deregulation, we also find a significant increase in the cost of capital in the more bank dependent sectors, and a widening of the interest rate spread between poorly and better performing firms. Moreover, post-reform, banks appear more reluctant to extend credit to firms experiencing negative shocks to performance. Lastly, we find evidence suggestive of improved bank monitoring and/or screening abilities; specifically, we show that net new loans to individual firms are associated with stronger subsequent improvement in performance post-reform. Overall, these results suggest that banks became less likely to bail out under-performing firms post-deregulation.

After documenting these changes in lending patterns, we move to the central part of our analysis and ask how the banking reform affected firms' behavior and survival, and overall industry structure in the non-financial sector. First, we look at how firms altered their real decisions post-deregulation. On the one hand, we find some limited evidence that firms in more bank-dependent sectors engage in more cost minimizing measures following the reform. We also observe higher firm exit rates in the more bank dependent industries after the reform, and an increased sensitivity of firm exit to poor performance. This last result suggests that the disciplining effects of stricter bank lending works in part on the extensive margin, i.e. by forcing underperforming firms to shut down.

This finding is confirmed in our subsequent analysis of the implications of the banking reform for industry structure and dynamics. We analyze industry-level gross asset and job creation through investments by incumbent firms and entry of new firms, as well as divestitures and exit of incumbent firms. Our results indicate increased reallocation rates in the bank dependent sectors post-reform.

Most interestingly, the increased reallocation rates are driven mainly by the extensive margin, i.e. by entry and exit decisions. At the same time, we find a net increase in employment in these sectors post-deregulation. We also observe a reduction in labor costs in the more bank dependent sectors and some suggestive evidence of increased value added per worker. Allocative efficiency appears to improve in the more bank-dependent sectors post-deregulation, with better performing firms controlling higher market shares after the reform. Finally, product market concentration (measured with a Herfindahl index or based on the market share of the five largest firms in the industry) decreases after the banking reform.

Overall, these findings are consistent with a model where distortions in bank lending create artificial barriers to entry in the real sectors of the economy. New entrants may be discouraged by the easy access to cheap credit for incumbent firms. Once banks become less willing to provide such (cheap) credit to poorly performing firms, prospective new entrants find it more attractive to come in and compete with incumbents. A more efficient banking sector therefore appears to play an important role in fostering a Schumpeterian “creative destruction” process that has been theoretically, and increasingly empirically, linked to higher economic growth.³ Our findings that distortions in bank lending lead to sclerosis and low restructuring levels in the real sectors are also very reminiscent of Caballero, Hoshi and Kahyap (2003)’s discussion of the role of Japanese banks in the slowdown of the Japanese economy over the last decade.⁴ At a broader level, our findings also relate to Rajan and Zingales’ (2003) political economy view that entrenched incumbents can hamper growth and financial development by preventing entry of better performers. Finally, our results also build on a recent literature documenting the widespread involvement of governments in the banking sector in many countries around the world, and the negative impact of such government involvement on financial and economic development.⁵

The rest of the paper is organized as follows. In section 2, we describe in more detail the institutional changes that took place in the French banking industry around 1985. Section 3 presents data sources, sample construction and definition of the major variables used in the analysis. The

³See for example Caballero and Hammour (2000), He, Morck and Yeung (2002) or Aghion et al. (2003).

⁴Also, Jayaratne and Strahan (1996) find efficiency gains after the U.S. bank branching deregulation due to reduction in bad loans.

⁵See for example La Porta et al. (2002) or Dinc (2003). Recent work by Sapienza (1999) and Mian (2000) appears to confirm that state-ownership of banks, the most extreme form of government intervention in the financial sector, leads to distorted lending practices.

effects of the reform on capital structure and banks' lending decisions are reported in Section 4, while Section 5 investigates effects on firm behavior and industry-level outcomes. We offer some concluding remarks in Section 6.

2 The French Banking Deregulation of 1985

The 1985 banking reform marked a dramatic turn for the French banking sector. Before discussing the major changes that took place in the mid 1980s, we start with a historical perspective on the main institutional features of the French banking sector prior to the reform.⁶

2.1 French Banking Prior to the 1985 Reform

Since World War II, the French financial sector had been under the centralized control of the Treasury, whose general aim was to channel savings and deposits into priority industries. To control the credit market, the Treasury set up a deposit network, consisting of savings banks, the postal checking system, the Bank of Foreign Trade, and four large cooperative banks. This network had privileged access to some deposits and the bond market, and a monopoly over the distribution of subsidized loans allocated by the Treasury. Increased governmental control over savings collection and use was also achieved through the nationalization of some of the biggest banks (Société Générale and Banque Nationale de Paris).

The economic turmoil after the 1974 oil shock further strengthened bureaucratization and state involvement in the banking sector. In the aftermath of the oil shock, the French economy experienced a continuous productivity slowdown. A combination of miscalculated government interventions and intense labor-capital conflicts left the French economy with high levels of inflation, large budget deficits and growing unemployment (Blanchard (1997)). In an attempt to revive job creation and stabilize the Franc's position within the European Monetary System, the conservative government of the late 1970s strengthened the system of bank loan subsidies through its deposit network to encourage more investment and exports.

To stabilize exchange rates within the European Union, member countries had set up a system of quasi-fixed parities in 1972 (the "Monetary Snake", replaced in 1979 by the European Monetary System). Given the French government's unwillingness to increase interest rates, the exchange rate

⁶See also Melitz (1990) for a very good overview.

of the Franc began to slide and the franc was forced out of the system two times in 1974 and 1976. To prevent further dishonorable devaluations, a stabilization program was undertaken from 1976 on with the goal of constraining money growth. This was implemented through the “encadrement du crédit” program, which consisted in setting monthly ceilings on credit growth for each bank *individually*. A direct consequence of the “encadrement du crédit” was to further strengthen the relative importance of subsidized loans and government control over lending decisions. Indeed, the credit growth ceilings implied by the “encadrement du crédit” did not apply to the subsidized loans that could only be allocated by members of the Treasury-controlled deposit network. So, while the deposit network under the Treasury’s control could expand credit almost without limit, banks that were not part of that network were asphyxiated. By 1979, subsidized loans amounted to nearly half of all new loans granted to the private sector.

In May 1981, a new socialist government was elected: fiscal policy became more expansionary, and a further nationalization of the banking sector was implemented. While the largest banks had already been state-owned since World War II, several additional smaller banks were nationalized in 1982. The Treasury also increased the pressure on state-owned banks to bail out failing industrial groups. The number of different loan subsidization programs increased dramatically, as the Treasury focused more and more on “job preservation” and preventing the shut down of poorly performing firms. As a result, the credit market became even more opaque, supporting many different interest rates for different loan subsidization programs.⁷ At the same time, banks were increasingly accumulating non-performing loans. By 1983, this interventionist approach was threatening a complete stand-still of the French banking industry (Année Politique, 1983). In fact, the French banking industry at the time was so heavily regulated that prices played almost no role in the allocation of capital (Naouri (1986)).

2.2 The Need For Reforms

The expected benefits from an increased centralization of the banking system did not pan out. First, the balance of payments continued to deteriorate. Most importantly, the centralized approach to bank lending was creating increasing bureaucratic costs. The “encadrement du crédit” system

⁷In the words of Jean Charles Naouri, then leading advisor to the finance minister, “the subtle difference in interest rates [across various loans] reflects less the fine tuning of the procedures than the historical accumulation of procedures both archaic and often extravagantly complex” (Naouri (1986)).

required the continuous monitoring of each bank, which became more and more complex with the exemption of more and more subsidized loans. The subsidized loans system itself had become unmanageable: given the large number of different programs, it was more and more difficult to assess their cost to the state's budget.

In the fall of 1984, the socialist government announced a drastic reversal of policy. The goal was to transform the financial system into a decentralized credit market, where interest rates would be used to match the supply and demand of capital. More specifically, three sets of reforms of the banking industry took place in 1985.

First, starting in 1985, most subsidized loans were eliminated. Only "small firms" (those whose total sales were below 1 billion francs—about 150 million dollars at the time) retained access to subsidized loans, but even the amount of subsidies to these small firms fell dramatically between 1984 and 1986. In addition, the distribution of these remaining subsidized loans was no longer the monopoly of the Treasury-controlled deposit network.

Second, the "encadrement du crédit" was abolished in 1985 and capital flows in the economy became much more determined by market forces. Between 1985 and 1987, credit growth limits were gradually removed and replaced by a system of reserve requirement against deposits. Monetary policy was now conducted through interest rates on the money market and legal reserve requirements instead of quantity controls. Resources became much more available to expanding private banks. The money market was also reformed to stimulate inter-bank lending: private banks could borrow more funds from the Treasury network, which now had little use for them. In addition, the system of capital controls, strengthened in 1981 to defend the Franc, was progressively eliminated through a string of reforms ending in 1990 (Naouri (1986)).

Finally, the 1985 Banking Act partially unified a myriad of banking regulations, and consolidated all banks under the supervision of one authority, known as the "Commission Bancaire." This allowed for more competition between different types of banks across geographic areas and industries. The monopolies (both over deposits and over loans) of some banks were progressively dismantled and banks were now allowed to lend outside of their traditional markets.⁸ Banks also faced more competition from other providers of external finance, as firms' access to the bond and equity market was facilitated.

⁸For example the Farmer's Bank became allowed to open branches and lend in cities, while "regular" banks were allowed to lend to farmers. The BFCE (French Bank of Foreign Trade) lost its monopoly on lending to exporters.

It is important to note that the re-privatization of the majority of banks took place much later (mostly starting in 1993). While the conservative government that came to power in 1986 planned to privatize all banks, the election of another socialist government in 1988 halted this process. Only a few banks were privatized in the mid 1980s. As a result, the majority of bank assets were still controlled by the state at the time of the banking reforms under study here.⁹

2.3 Consequences

The first major consequence of these reforms was an overall decrease in bank borrowing by firms. According to the flow of funds data published by the Bank of France, the ratio of total debt to assets was very high in the early 1980s, around 70%. Two years after the reforms, this ratio went down by 20% and remained stable around 50% over the 1986 to 1996 period (see Figure 1). Half of this decrease in leverage was due to a reduction in bank loans.

Part of this aggregate trend might be explained by the increase in interest rates starting in the mid-1980s. Indeed, monetary policy was tightened from 1983 onwards in order to fight inflation; the resulting increase in interest rates likely reduced the reliance on bank loans. It seems, however, that tighter monetary policy cannot be the sole force behind the sharp decrease in leverage. While the change in capital structure occurred very quickly after 1985 and stabilized thereafter, the increase in real interest rates continued progressively until 1992.

The second widely (at least anecdotally) discussed consequence of the reform was a change in banks' behavior. The reforms signaled that the Treasury was willing to let market forces shape the credit market landscape for the long run. These new conditions forced banks to change their lending practices and restructure internally, in part with the help of the diffusion of new technologies. A survey conducted in 1985 among French bankers showed drastic changes in attitudes about the internal management of banks (Rémy and Sergent (1986)). According to the survey, the focus of bank managers was increasingly on reducing costs, controlling risks and introducing tighter performance monitoring. The greater competitive pressures were most intensely felt by banks in the Treasury network, as these banks had lost their privileged access to deposits and loan markets. The Treasury network's share in all deposits decreased by 28% between 1985 and 1990, and its share of loans went down by some 25% (Plihon (1995)).

⁹We replicated all of the empirical analysis presented below by restricting the time frame to the 1978-1993 period, i.e. excluding the bulk of the re-privatization period. Our results were not affected. See Section 5.4 for more details.

Our goal in the rest of this paper is to assess the real effects of these regulatory changes in the banking sector. As a preliminary step, we will provide quantitative evidence supporting the view that banks did alter their lending practices post-reform. We will then move to the main part of our analysis, where we study how firm's behavior and survival, as well as industry structure and dynamics were affected by the banking deregulation. Before moving to this empirical investigation, we describe the data sources and sample construction.

3 Data

The firm- and industry-level data sets used in this study are based on accounting information for all French firms, public or private, whose annual sales exceed 100,000 Euros in the service sector and 200,000 Euros in other sectors. This accounting data is extracted from the tax files used by the Ministry of Finance for corporate tax collection purposes. French firms above these thresholds are required by tax authorities to fill in a detailed balance sheet and profit statement. Also included in the tax files is a 4-digit industry classification code that is very similar to the SIC coding system in the U.S. In addition, the data also contains reliable firm-level employment figures that have been cross-checked with information from employer labor tax reports. Individual firms can be tracked over time by the use of unique identifier, which allows for the construction of a panel data set.

3.1 Firm-Level Sample

Our firm-level sample covers the period 1978 to 1999. Because the tax files cover some 600,000 firms each year, we decide to focus our firm-level analysis on firms with revenues above 20 million Euros or firms with at least 100 employees. More specifically, firms are included in our sample if they lie above any of these two thresholds for more than three years within the sample period. We track these firms throughout the sample period, i.e. prior to the date they cross the threshold as well as afterwards. Firms drop out of our sample only when they leave the tax files data, either due to true exit or because they fall below a size threshold of less than five employees. This sample construction allows us to track firms' exit and entry throughout the period. We end up with a data set of about 350,000 firm-year observations, which corresponds to about 15,000 firms per year. We exclude firms in the financial sectors from the sample (banking and insurance industries), since

standard accounting measures are less meaningful in this industry.¹⁰

Throughout the text, corporate performance is defined as return on assets (ROA), computed as the ratio of operating profits to total assets. Operating profits are computed as sales minus intermediate consumption minus wages minus employer taxes. We measure capital cost as the ratio of interest payments on financial debt over debt. We define trade credit as the ratio of trade payables over the sum of the book value of equity, debt and trade payables. Equity is defined as the book value of equity over the sum of the book value of equity, debt and trade payables. Outsourcing is defined as the value of intermediate products that are employed in production.

We define debt as the ratio of debt over the sum of the book value of equity, debt and trade payables. In most of our analysis, we will use this measure as a proxy for banking dependence. This is a somewhat controversial measure, since debt also includes group loans, debt owed to the owners of the firms, and payables to the tax authorities and social security administration. We choose to focus on this measure because of a limitation of the data in the pre-1984 period and the need to measure firms' debt uniformly over time. More specifically, due to a change in accounting regulation, we can only isolate the bank debt component of debt post 1984.¹¹ Based on calculation for the post-1984 period, we estimate that non-bank debt represents about 40% of total debt excluding trade payables. We also used the post-1984 data and verified that debt, while likely a noisy estimate of bank debt, is, however, very strongly correlated with it. The correlation is about 0.8. The high correlation of the two measures is not surprising given that two of the main components of non-bank debt, indebtedness to the tax authorities and social security administration, vary little within firm size category.

Based on this firm-level data, we construct a measure of banking dependence by sector in the pre-reform period. Due to the data limitation highlighted above, we define this measure as average debt (over book value of equity plus debt plus trade payables) in each 4 digit-industry over the

¹⁰This encompasses all firms in sectors 88 and 89 according to the industry classification of INSEE.

¹¹Prior to 1984, total liabilities are broken down into: debt and trade payables. Debt is then divided into debt with less than a year of maturity and debt with more than a year of maturity. Debt with less than a year of maturity includes (1) credit lines (2) indebtedness to the state and social insurance and (3) short-term loans from owners and potentially other group firms (if the firm is part of a business group). Debt with more than a year of maturity is divided into bonds (which is rarely above zero in our sample) and other long-term debt. After 1984, there is substantially more detailed information on long-term debt. Total non-trade related debt is broken down into: (1) non-financial debt (indebtedness to tax authorities and social security) and (2) financial debt. Financial debt is then broken down into (1) bonds, (2) bank debt and (3) other financial debt. Other financial debt includes group and owner loans.

years 1978 to 1983. We compute both non-weighted and asset-weighted measures. While we will focus our analysis on the non-weighted measure, these two measures are highly correlated and all of the results reported below are qualitatively unchanged when we use the asset-weighted measure instead.¹²

3.2 Industry-Level Data

The industry-level measures used in the last part of our empirical analysis are constructed from the *full* corporate tax files data set (hence, covering about 600,000 firms each year). Again, we compute these industry measures for the period 1978-1999.

For each 4-digit industry/year cell, we compute two different measures of product market concentration: Herfindhal index and the market share of the 5 largest firms in that industry/year cell, both computed in terms of sales, asset or employment. The data reveal a clear, though moderate, aggregate downward trend in these concentration measures over the period under study.

We also construct yearly measures of asset and employment reallocation within these 4-digit industries. We measure reallocation both on the intensive and extensive margins. Measures of reallocation on the intensive margin are based on incumbent firms. Using firms that were present in the industry in the previous year, we compute the sum of all positive one-year changes in assets or employment in these firms. We define gross asset (job) creation by incumbents as the sum of these positive asset (job) changes. We follow an analogous procedure to define gross asset (job) destruction by incumbent firms.

Measuring reallocation on the extensive margin is somewhat complicated because of the substantial amount of industry switches we observe in the data. It is unlikely that these switches are solely the results of noisy data, as the industry classification we rely on has been cross-checked by INSEE using alternative survey tools on firm activities. However, to be conservative, we separately track “true” entries and exits into an industry and entries and exits due to firms switching industries. For these two types of entry and exit, we compute flows in terms of number of firms (entering and exiting an industry), assets (created by entrants or destroyed by exiting firms) and

¹²As we discussed above, one could compute more precise measures of industry-level banking dependence in the post-1984 data. However, any such measures would naturally be much more endogenous to the reform. For the sake of completeness, we did replicate all of our empirical tests using 1984 and 1990 measures of banking dependence by sector. All of the findings carried through. We also experimented with using changes in industry-level average debt between the 1978-1983 period and the 1985-1989 period (this last measure defining as “more treated” by the banking reform those sectors that experienced the largest changes in debt). Again, we obtained qualitatively similar results.

jobs (created by entrants or destroyed by exiting firms).

Finally, for each industry-year cell, we also compute total employment (measured as the total number of full-time equivalent workers), average labor cost (measured as the ratio of total labor expenses over total number of full-time equivalent workers), capital stock (measured as total fixed assets) and value added per worker (measured as the ratio of total value added over total number of full-time equivalent workers).

3.3 Summary Statistics

The summary statistics in Panel A of Table 1 show that average annual sales per year for the firms included our sample are about 106 million francs, which corresponds to about \$ 17 million. Similarly the average firm in our sample has assets of about 122 million francs, or about \$ 20 million. All of these values are expressed in 1980 francs. The average number of full time equivalent workers per firm is 192. Average bank debt for the firms in our sample is 46%. Trade credit comprises 28% of financing and only 26% comes from equity. These leverage levels are much higher than equivalent numbers for the U.S. Finally, the average cost of capital is 8%, and ROA is 15%.

Panel B provides summary statistics for some industry-level variables. We report industries at the two-digit industry level. The average industry in the sample has about 390,000 employees, a capital stock of about 200 billion francs and value added of 154 billion francs (all expressed in 1980 francs). Labor costs amount to 54 billion francs annually.

4 Changes in Capital Structure and Banks' Lending Practices

The French banking deregulation constituted an economy-wide shock. However, solely studying its effect from the time-series dimension is complicated in the face of the other macroeconomic changes that affected the French-economy over the 1980s (see Section 2). Instead, we propose to isolate its effect on firm behavior and industry structure by studying *differential changes* post-reform in sectors that were more or less reliant on bank finance prior to the reform. At the basis of this empirical strategy is the assumption that industries where banks played a more important financing role prior to the reform were most exposed to the distorted lending practices and should therefore be most affected by the banking deregulation. Our primary goal in this section is to provide direct evidence for this identification assumption.

4.1 Capital Structure Changes

We start in Table 2 with a description of the capital structure changes post-reform for sectors that were more or less reliant on bank financing prior to the reform. The regressions reported in this table follow the standard estimation approach that we will use for most of the analysis. Each regression includes firm and year fixed effects, a control for firm size (the logarithm of lagged sales), and an interaction term of the post-reform dummy (post-1985) with the pre-reform level of bank dependence in the firm’s industry. The regressions also allow for differential linear time trends in capital structure by industry. Standard errors are corrected to allow for clustering of the error terms at the 4-digit industry level.

The findings in this table confirm that firms in more bank-dependent sectors display larger changes in capital structure post-deregulation. Firms in more bank-dependent sectors experience a larger drop in debt (column 1). For example, bank leverage drops by as much as ten percent in industries where more than half of the financing used to come from bank loans. This drop in debt finance is only in part compensated by an increase in equity finance (column 3).¹³ We find that firms in more bank-dependent sectors experience a substantial relative increase in the use of trade credit after the reform (column 5). Finally, the effect of the banking reform is also reflected in an increase in the cost of capital in the more bank-dependent sectors (column 7). This last change likely reflects the reduction in the number of subsidized loans and other forms of forced lending post-reform. Overall, we see that firms in bank dependent industries rely less on bank debt after the reform and substitute towards trade credit and, to a more limited extent, equity.

In the even columns of Table 2, we investigate whether the changes documented above differ systematically based on firms’ financial performance, which we measure as average ROA over the period we observe a given firm in our sample.¹⁴ If banks become more selective in their lending behavior, we should expect the largest changes in capital structure for poorly performing firms. The coefficient of interest in these regressions is that on the triple interaction term “After*Bankdep*ROA₁.” We naturally also include in these regressions the double interaction terms “After*ROA₁” and “Bankdep*ROA₁.” We find that the reduction in debt is especially pronounced for worse perform-

¹³As we discussed before, our sample covers both listed and non-listed firms. We find that the increase in equity financing in previously more bank dependent sectors was especially strong for the listed firms in these sectors.

¹⁴We replicated these regressions using base-year ROA as an alternative measure of performance and found qualitatively similar results.

ing firms in the more bank-dependent sectors (column 2). These firms also experience the largest increase in reliance on trade credit (column 6). This suggests that poorly performing firms may have suffered from more severe capital rationing than better performing ones.¹⁵ Consistently, we also find that the increase in the cost of capital is more pronounced for worse performing firms (column 8) in the bank dependent industries.

Overall, the patterns in Table 2 confirm that the banking deregulation had a substantial impact on the capital structure of French firms, and especially firms in those industries that were previously most reliant on bank financing. However, these results could be driven by changes in the *demand* for bank capital. Due to the increase in the cost of capital, firms might be optimally restructuring their financing by relying less on bank loans. This might be independent of any change in the behavior of banks towards stricter monitoring and screening of creditors. In the next section, we therefore turn to a more direct analysis of any such changes in banks' lending behavior.

4.2 Changes in Bank Lending

To understand in more detail how banks are changing their lending behavior after the reform, we first look at the correlation between new net bank loans and shocks to firm performance. The hypothesis we want to investigate is that banks were more willing to “bail out” poorly performing firms prior to the reform and that this behavior was dampened after the reform. Second, we will analyze whether, conditional on getting new bank loans, firms are more likely to improve their performance after the reform. Reduced distortion in lending and subsequent improvement in banks' monitoring and screening abilities should reduce the provision of credit to firms that will subsequently perform poorly.

In Table 3, we study firm-level changes in bank debt as a function of firm-level changes in ROA. All the regressions in this table include industry and year fixed effects, a control for firm size (the logarithm of lagged total assets) and allow for differential linear time trends by 4-digit industry. Standard errors are clustered at the firm-level.

In column 1, we simply regress the change in bank debt on the one-year lagged change in the rate of return on assets.¹⁶ The estimated coefficient on change in ROA is negative and significant.

¹⁵See Petersen and Rajan (1995) for a discussion of the use trade credit in capital-constrained firms.

¹⁶Note that the results in this table and following tables are qualitatively similar when we use return on sales and other alternative performance measures as well as allow for longer lag structures.

This indicates that firms that experience negative shocks to performance on average receive more net loans. Interestingly, we find that this relationship changes post 1985. Column 2 of Table 3 indicates that the estimated coefficient for the post-reform period is still negative but not significant. Column 3 shows that the more bank dependent industries experience a stronger reversal in lending patterns post-reform. The coefficient on the triple interaction term “After*Bankdep*ROA_{t-1}” is positive and statistically significant.

The results in Table 3 so far suggest that banks may have become more conservative in their lending decisions post reform, especially in those sectors that were most reliant on banks prior to the reform. But increased conservatism by itself is not a sign of better capital allocation, since banks might be inefficiently screening out firms that experience transitory negative shocks but are profitable in the long-run. To partly address this issue, we separately estimate the relationship between new loans and lagged change in performance for firms that have on average higher performance versus those that have lower performance. Banks should be willing to finance well performing firms that face temporary negative shocks, but should not do the same for poorly performing firms.

We define a firm as a high (low) performer if its average ROA over its first four years in our sample falls within the top (bottom) 25 percentile of the firms in its industry over that period.¹⁷ Columns 4 and 5 focus on lower performance firms, while columns 6 and 7 focus on higher performance ones. Columns 4 and 6 correspond to the pre-reform period (pre 1985), columns 5 and 7 to the post-reform period (post 85).

We find striking evidence that the change in lending behavior is much more pronounced for poorly performing firms. While banks were willing to bail out poorly performing firms when they experienced negative shocks in the pre-reform period (the estimated coefficient on lagged change in ROA is negative and significant in column 4), they are no longer willing to do this in the post period (column 5). However, we find the opposite effect for firms that are on average higher performers. These firms receive increased bank debt after the reforms, if they experience negative shocks to performance.

As a further step to understand changes in banks’ lending practices, we analyze whether there is a closer relation between banks’ new net lending and *future* performance of firms post-reform. If banks improved their screening and monitoring practices, we would expect that firms receiving

¹⁷We also repeated these tests measuring performance category based on average performance over the entire sample period. The results are qualitatively similar.

new net bank loans would display more systematic improvement in future performance after the reform. We undertake this analysis in Table 4.

For this purpose, we first compute a measure of residual annual changes in bank debt at the firm level. We regress firm-level one-year change in debt (as a fraction of total assets) on observable firm characteristics (lagged ROA, lagged total assets, lagged employment, lagged fraction of tangible assets, whether a firm is public or private and industry fixed effects). We use the residual from this regression as a measure of firm-level changes in bank debt that cannot be explained by observable firm characteristics. We also repeat this analysis without taking out the part of the debt that can be explained by changes in observable characteristics.

In column 1 of Table 4, we first regress future change in firm performance (between year $(t + 3)$ and year t) on the residual change in firm-level bank dependence (between year t and year $t - 1$).¹⁸ The regression includes controls for firm size, industry and year fixed effects and industry-specific linear time trends. Standard errors are corrected for clustering of the error term at the firm-level. The estimated coefficient on the change in debt is positive and significant over the entire period, indicating that on average firms that receive new net bank loans improve their performance in the following periods.

In column 2, we allow the change in future performance/new net loans relationship to differ between the pre- and post-reform periods. We find that the positive effect in column 1 is entirely driven by the post-reform period. In fact, prior to the banking reform, we find a *negative* relationship between new bank loans and subsequent change in ROA. This seems to indicate that, prior to the reform, banks were lending to firms that subsequently did not improve their performance, while the exact opposite pattern emerges post-reform. Columns 4 and 5 respectively replicate columns 1 and 2 but consider one-year change in actual bank debt (rather than residual change). We find qualitatively similar results, even though the pre-reform effect is now statistically insignificant (with a positive point estimate). Finally, in columns 3 and 6, we reexamine this relationship between new net loans and subsequent performance improvement allowing for differential effects based on the pre-reform banking dependence of the sector of the firm is in. As expected, we find that the changes in lending patterns are more pronounced for the more bank-dependent sectors.

In summary, the analysis we have conducted so far appears to confirm that banks did alter

¹⁸We experimented with a shorter time frame for the future earnings response (between year $(t + 2)$ and year t). The results were unaffected.

their lending practices after the deregulation. These changes are consistent with an improvement in banks' screening and/or monitoring functions after the reform. This likely reflects a change in the explicit objective functions of banks, which now put more emphasis on the credit quality of borrowers when determining loan size and interest rates. It might also reflect a switch from an environment where banks operated under rather soft budget constraints (due to loan guarantees through the government) to a more competitive environment with stricter budgetary rules. This analysis also confirms that the industrial sectors that were more reliant on bank financing prior to the reform were most affected by the changes in lending practices post-reform. We now move to the central part of our analysis and ask whether this new banking environment resulted in changes in firm behavior and industrial structure in the non-financial sectors of the economy.

5 Real Effects of the Banking Reform

We structure our analysis of the real effects of the banking reform into two parts. First, we ask whether the stricter lending practices post-reform generated pressure on firms to engage in more cost-cutting and restructuring activities. Such a response would be expected if firms face stronger incentives to strengthen their credit rating. Second, we investigate the hypothesis that the banking reform improved the dynamics and competitiveness of product markets, and possibly enhanced allocative efficiency within these sectors. This hypothesis emerges naturally if one views the practice of bailing out low performing incumbents pre-reform as an implicit barrier to entry for prospective new firms. Based on our analysis in the prior section, our identification strategy in all the tests presented below relies on studying differential changes in behavior post-reform in sectors that were more reliant on banks prior to the reform.

5.1 Firms' Restructuring Activities

Table 5 studies firm-level restructuring activities. All the regressions in this table include firm and year fixed effects, industry specific time trends as well as a control for firm size. The inclusion of industry-specific time trends is especially important here in that we allow different sectors to follow different trajectories over time. In other words, our identification relies on a break in trend around the time of passage of the banking reform. Standard errors in all regressions are clustered at the industry level.

The first variable we consider is the logarithm of average wage, where average wage is measured as total wage bill divided by total number of employees. We find that average wages went down substantially more in the more bank-dependent sectors after the reform (column 1).¹⁹ Somewhat surprisingly, column 2 shows that this decline in average wage was stronger for the better performing firms in these sectors (with performance measured as the average ROA over the entire sample period).

Another cost driver for firms beyond wages is the decision to outsource part of their operations to other firms. Outsourcing has often been discussed as a viable way for French firms to avoid the high labor costs they face domestically. We study outsourcing activities in columns 3 and 4. Outsourcing is measured as expenditures on intermediary inputs, relative to total sales. We do not find significantly more outsourcing on average in the more bank-dependent sectors after the reform (column 3). However, worse performing firms in these sectors do appear to outsource more post reform (column 4).

The dependent variable in columns 5 and 6 is the logarithm of total assets. The point estimate in column 5 suggests that assets grew significantly more slowly post-reform in the bank-dependent sectors. Column 6 shows that this slowdown in asset growth is more pronounced for poorly performing firms. Our earlier evidence suggests that French firms had access to cheap credit in the pre-period, which might have led to overinvestment. We also showed that the cost of capital went up most drastically for the poorly performing firms. So the results in Columns 5 and 6 might indicate that the tightening of bank lending reduced over-investment of poorly performing firms in the more bank-dependent industries, but had a less significant impact on the firms with better credit within these industries. This again would be in line with an improvement of efficiency of bank lending after the deregulation of the banking industry.²⁰ Similarly, in Columns 7 and 8 we find that the asset to employment ratio went down in more bank-dependent sectors post-reform.

Finally, we examine changes in firm-level return on assets. Column 9 shows a significant relative increase in ROA in the bank dependent industries after the reform. The coefficient on “After*Bankdep” is 0.326 with a standard error of 0.069. This implies that a one standard deviation

¹⁹Note that because our wage measure is average wage per worker, we cannot distinguish between changes in average wage for a given worker or given skill set and changes in the composition of the worker pool at these firms (i.e. a move towards a less-skilled workforce).

²⁰We find qualitatively similar results when we look at capital expenditures. However, this variable is measured with much more noise in our data.

increase in pre-reform industry bank dependence is associated with about an eight percent increase in ROA after the reform. This is an economically large amount. But it is not unrealistic given the variation in ROA in the data: a one standard deviation increase in bank dependence translates into an increase in ROA that is equivalent to a third of a standard deviation. We also checked that this increase in ROA is not only driven by the previously reported decrease in assets. When we use firm profits as an alternative performance measure (results are not reported), we also find a significant and positive increase for firms in bank dependent industries post-reform. Column 10 of Table 5 shows that this improvement in ROA is stronger for firms that were already better performers at the beginning of the sample period.

In summary, we find some evidence that firms in the more bank dependent industries responded to the reform by engaging in more cost-cutting and restructuring activities and also experienced larger improvements in performance than other sectors of the economy. One might have conjectured that poorly performing firms faced the strongest pressures to restructure and improve performance. Interestingly, however, our results suggest that already better performing firms were the ones displaying the strongest increase in performance after the banking reform. This lack of a strong performance response among poorer performers leads to the hypothesis that part of the real adjustment to the reforms may have taken place on the extensive margin, with poorly performing firms being forced to exit. We investigate such industry dynamics effects in the following section.

5.2 Industry Dynamics and Product Market Concentration

We now turn to an analysis of the effects of the banking reform on the rate of asset and job reallocation at the industry level, as well as on the concentration of product markets. If poorly performing incumbents no longer receive easy access to cheap bank loans after the deregulation, they should have reduced survival chances and this may subsequently lower the barriers to entry for prospective new entrants.

We start by investigating changes in industry-level gross capital and job flows after the banking-reform. Our empirical approach to identify the effect of the banking-reform is, as before, to look at differential changes post-reform for industries that were most reliant on banking finance in the pre-reform period. The results of this analysis are reported in Table 6.

As described in Section 3, we construct industry-level time series of gross asset, job, and firm

flows based on *all* firms included in the original tax files data. More specifically, for each industry-year cell, we compute the following variables: number of entering firms, number of exiting firms, creation of assets (jobs) by incumbent firms, creation of assets (jobs) due to entry, destruction of assets (jobs) by incumbent firms, and destruction of assets (jobs) due to exit. When measuring asset flows due to entry and exit, we also distinguish between two categories: true entries and exits, and entries and exits due to firms switching industries.

All the findings reported in Table 6 result from regressing logarithms of these different flow measures on year and industry fixed effects and an interaction of the post-reform dummy with the pre-reform industry-level banking dependence. Also included in each regression are the logarithm of the relevant stock variable (assets, employment, or number of firms) in that industry-year cell. Each cell in this table corresponds to a different regression and contains the estimated coefficient on the interaction term. Standard errors are clustered at the industry-level. The first column of Table 6 focuses on asset flows, the second column on job flows and last column on firm flows (exit and entry).

In row 1 of column 1, we study the creation of assets through entries in the industry. The coefficient is positive and significant, indicating a relatively higher rate of entry post-reform in the more bank-dependent sectors. As to economic magnitude, a one standard deviation difference in the bank dependence of an industry translates into an almost 20% increase in the creation of assets through new entries after the reforms. When we break down these asset flows into newly created firms (row 2) and industry switchers (row 3), we find that most of the economic impact comes from newly created firms. In row 4, we study the destruction of assets through exits. The estimated coefficient on the interaction term is positive but not statistically significant. Again, we divide firm exits into true firm exits (row 5) and industry switches (row 6). We find a positive and statistically significant increase in true exits in the more bank-dependent sectors. The results suggest that an industry that is one standard deviation more dependent on bank financing in the pre-reform period than the mean industry experiences a 20% higher exit rate in post-reform period. Finally, the last 2 rows focus on investment and disinvestment by incumbent firms. The estimated coefficients are insignificant and smaller in economic magnitude, indicating lower changes in asset flows on the intensive margin. We obtain qualitatively similar results when we focus on job flows (in column 2) and firm flows (column 3).

In summary, the results in Table 6 strongly point towards a differential increase in the reallocation rate of assets and employment in the more bank dependent sectors after the reform. This increase in reallocation is mainly driven by changes on the extensive margin. After the reform, a higher fraction of assets are created and destroyed by the entry of new firms and the exit of incumbent firms. These results are consistent with the view that distortions in lending pre-reform may have created effective barriers to entry in the real sectors of the economy.

If increased resource reallocation and firm exit and entry rates are indeed symptomatic of more dynamic and competitive industry structures, we might also expect market concentration to decrease after the banking reform, especially in the more bank dependent sectors. For that purpose we construct two different measures of concentration: a Herfindahl index and a measure of the market share of the five largest firms in each industry-year cell. We compute these two measures based on three different firm-level variables: sales, total assets and employment. All regressions in Table 7 include industry and year fixed effects. As usual, the coefficient of interest is that on the interaction term between the post-reform dummy and our industry-level measure of bank dependence. Standard errors are corrected for clustering of the error term at the industry level.

The results indicate a reduction in product market concentration in the more bank-dependent sectors after the reform. This is true whether we use Herfindahl indices (columns 1, 3 and 5) or concentration measures based on the market share of the largest firms (columns 2, 4 and 6). Similarly, we find consistent results whether we use sales (columns 1 and 2), total assets (columns 3 and 4) or employment (columns 5 and 6) to construct these concentration measures.

5.3 Allocative Efficiency

Higher reallocation rates are often interpreted as a sign of a more competitive and efficient business environment. This view goes back to Schumpeter’s idea of a “creative destruction” process (Schumpeter (1934)). However, an increase in the turnover rate of firms need not imply higher efficiency, if firms are wrongly forced to exit.²¹

To investigate whether the increase in asset reallocation post-reform is symptomatic of an

²¹For example, the credit channel literature highlights mechanisms where frictions in the banking sector can amplify negative macroeconomic shocks through changes in the cost of capital and lead to inefficient turnover of firms. See for example Bernanke and Gertler (1989), Kashyap and Stein (1994) or Holmström and Tirole (1997)

increase in allocative efficiency, we go back to the firm-level data. We present 2 different tests. First, we ask whether exit decisions are more closely related to firm performance after the banking reform. We present the results of this test in columns 1 to 4 of Table 8. The dependent variable in these columns is a dummy variable that equals 1 if this is the last year the firm is present in the data, and 0 otherwise. All regressions include industry and year effects and allow for differential linear trends by industry.

Column 1 simply regresses the exit dummy on firm ROA in the prior year. On average, we find that worse performing firms are more likely to exit. Column 2 confirms the industry-level results of Table 6 in that it shows higher exit probabilities post-reform in the more bank-dependent sectors. Interestingly, column 3 shows a higher (negative) sensitivity of exit to performance post-1985. In column 4, we allow for differential sensitivity of exit to performance post-reform in more and less bank-dependent industries. The coefficient on the triple interaction term “After*Bandep*ROA_{t-1}” indicates that the increased sensitivity of exit to performance post 1985 is especially pronounced in the bank dependent sectors.

For our second test, we ask whether better performing firms have higher market shares within their respective industry after the banking reform. If prior to the reform some firms were given access to financial resources despite their poor performance, we would not expect a tight relationship between firm performance and market share in the pre-period. But this relationship should become stronger in the post-period, especially in the more bank-dependent sectors. The findings in columns 5 and 6 of Table 8 confirm this hypothesis. We regress a firm’s market share in a given year on that firm’s ROA in the prior period.²² In column 5, we find a stronger positive correlation between market share and average ROA in the post-reform period. In column 6, we investigate whether this pattern is especially strong in the more bank dependent sectors. The coefficient on the triple interaction term “After*Bandep*ROA_{t-1}” is positive and statistically significant.

Finally, we directly look at several measures of efficiency and cost structure at the industry level. The regressions in Table 9 follow the same structure as Table 7. Each regression includes industry and year fixed effects. The coefficient of interest is that on the interaction term between the post-reform dummy and our industry-level banking dependence measure. The dependent variable in column 1 is the logarithm of total industry employment. Interestingly, we find that more

²²We also replicated the results using average ROA over the entire sample period and found qualitatively similar patterns.

bank-dependent sectors grew relatively more rapidly after the banking reform. This employment size effect is complemented by a reduction in average wages in these sectors. However, we find no evidence of differential asset growth in these sectors (column 3). This contrast between the employment and asset-based industry size measures may be symptomatic of excessive physical investment in the pre-reform period due to the distortions in banks' lending. Finally, column 4 investigates possible industry-level productivity effects. We use industry value added per worker as a productivity measure. The point estimate in column 4 suggests overall relative improvement in labor productivity in the more bank-dependent sectors post-reform, even though this effect is somewhat noisily estimated.

5.4 Robustness Tests

As we discussed in Section 2, the French banking reform of 1985 consisted of two main components: a drastic reduction of government directed lending through subsidized loans program, and an increase in the competitiveness of the banking sector. The increased competitiveness was achieved both through the elimination of the “encadrement du crédit” program, which had hindered the participation of the banks that were not part of the Treasury-controlled deposit network, and through the passage of the Banking Act, which allowed for more competition between different types of banks across geographic areas and industries. The analysis we have undertaken suggests that the lifting of these two distortions (subsidized lending and limits on competition) had considerable effects on firms' behavior and industry dynamism in the real sector of the economy.

In this section, we discuss a series of alternative tests we performed to first rule out the possibility that other regulatory and environmental changes might explain our results and, second, to better understand the relative contributions of the elimination of subsidized lending and increased competitive pressures in driving our results. While we simply discuss these additional tests here, specific regression results are available from the authors upon request.

5.4.1 Do Other Regulatory Changes Explain Our Results?

While our focus has been on the effect of reduced government directed lending and increased competitiveness of the banking sector post-1985, our discussion in Section 2 indicates that other changes may have affected the banking sector in the period under study. First, one of the first actions by the socialist government elected in 1981 was to nationalize several additional banks.

Also, a re-privatization program started to take speed in 1993. One might ask whether the effects we highlight in this paper are in part driven by these direct changes in the state-ownership of banks. We performed several tests to address this question. First, we replicated all of the results limiting the pre-reform period to the years 1978 to 1981, thereby limiting the influence of the partial nationalization program in the early 1980s. Our results were qualitatively unaffected. Also, we replicated all of the analyses above limiting the sample period to the years 1978 to 1993, thereby eliminating any possible effects of the re-privatization program in the 1990s. Again, our results were qualitatively similar.

We also verified that the real sector changes we have uncovered in our analysis are concentrated around the 1985 event date. We replicated our results using dummies for each year after the deregulation. We find that the changes documented in the paper are particularly strong in the first five years after the deregulation. In other words, most of the real sector changes appear to have fully taken effect by the very beginning of the 1990s. We also repeated our analysis using a set of “placebo” event dates and did not find significant effects around these placebo event dates.

5.4.2 Directed Lending and Competitive Pressures

As discussed above, the regulatory changes of 1985 reflected in part a reduction in government directed lending and an increase in the competitiveness of the banking environment. While both measures are consistent with an increase in the for-profit motive in banks’ lending decision, one might be interested in their relative importance in driving our results. To get at this question, we collected information on all industry-level direct government subsidies to firms. While we would have ideally liked to separate subsidies through loans from other forms of subsidies, such disaggregated data is not available. Keeping this data limitation in mind, we undertook several tests to get at a better understanding of the relative contribution of the subsidization programs and banking sector’s competitive changes. First, we re-estimated most of our firm-level results above restricting the sample to the set of industries that either received no subsidies or subsidies of less than 1% of total credit prior to 1985. The results were qualitatively similar to that in the full sample, but the magnitudes of the estimated coefficients were smaller. We interpret this finding as *suggestive* of the fact that the elimination of the direct loan subsidization programs was not the exclusive driver of our findings.

Second, we repeated the firm-level regressions in Tables 2 and 5, adding to all specifications an interaction term between the post-reform dummy and a pre-reform measure of industry-level subsidies (defined as the ratio of total industry subsidies to total industry assets). The results from this exercise are reported in Appendix Table A1. The point estimates on our main interaction term (After*bankdep) did not change significantly (neither statistically nor economically) when including this control. Finally, we repeated the same set of regressions including *contemporaneous* measures of industry-level subsidies in all specifications. These regressions show that firms in industries that maintained higher levels of subsidies even after the reforms experienced slower adjustment in capital structure and undertook less restructuring activities after the reform. The coefficient on our main interaction term (After*bankdep) was again qualitatively unaffected.

In summary, while data limitations prevent us from undertaking a more refined analysis of which specific aspects of the 1985 banking reform played the largest role in the real sector changes we observe, the empirical evidence discussed above appears to suggest that the reduced direct government intervention through loan subsidization programs was not the sole driver of these changes.

6 Conclusion

In this paper, we study the economic consequences of a reduction in lending distortions in the French banking industry after 1985. The richness of the available firm-level data and the economy wide effects of the deregulation have allowed us to undertake a unique analysis of the effects of these reforms for firm behavior and industry structure.

We first document sharp changes in capital structure and bank lending decisions after the reform which we argue to be consistent with increased efficiency in bank lending. Among other things, we find that worse performing firms experience a significantly higher increase in the cost of capital after the reform as well reduced access to new bank loans. We also present suggestive evidence that banks improve their monitoring and/or screening functions after the reform.

We then show that the banking reform is associated with changes in firm behavior, such as a lowering of average wage and an increase in the amount of outsourcing. While the reform is consistent with overall improvement in firm-level return on assets in the more-bank dependent sectors, such improvement is mostly concentrated in firms that were already good performers. On

the other hand, lower performing firms become more likely to exit after the banking reform. Hence, any disciplining effect of the banking reform appears to be strongest on the extensive margin. This is confirmed by our industry-level analysis of reallocation rates, since most of the increase in reallocation after the reform comes from higher entry and exit rates of firms. Finally, we find that the industry sectors that were most reliant on bank financing prior to 1985 become relatively less concentrated and experience relatively more employment growth after the banking reform.

Overall, our findings suggest that a well-functioning banking sector may play an important role in fostering a Schumpeterian process of creative destruction and improving economic growth. The soft incentives in the banking sector prior to the reform may have created artificial barriers to entry by unduly protecting incumbents in these sectors and thereby dampening the efficiency-inducing effects typically associated with a more competitive environment.

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Table I
Descriptive Statistics^a

<i>Panel A</i>	<i>Firm level data</i>	
	Mean	St. Dev.
Bank Debt	0.46	0.23
Trade Credit	0.28	0.20
Equity	0.26	0.21
Capital Cost	0.08	0.07
ROA	0.15	0.21
ROS	0.12	0.22
Sales	106.5	142.4
Total Assets	122.1	222.6
Employment	192.4	210.8
Average wage	76.12	33.59
Outsourcing	0.42	0.25
Asset/Employee	216.11	338.89

<i>Panel B</i>	<i>Industry level data</i>	
	Mean	St. Dev.
Employment	389.28	239.46
Capital	200.31	281.58
Labor Cost	53.72	65.06
Value Added	154.03	113.96

^aNotes:

1. The sample in Panel A is the firm-level panel dataset constructed from the tax files data set (see text for more details.) The sample period is 1978 to 1999. Sample size is 325928. Total assets and sales are measured in 1980 francs. Labor is total number of full-time equivalent workers (in thousands). ROA and ROS are return on assets and sales, respectively. All financial ratios are calculated as a fraction of total outside financing. Average wage is the ratio of total labor expenses (in 1980 francs) over the number of full-time equivalent workers. Outsourcing is defined as the ratio of intermediary inputs over sales. Assets per employee is the ratio of total assets (in 1980 francs) over the number of full-time equivalent workers.
2. The sample in Panel B contains information for the industry level panel dataset at the two digit industry level. The sample period is 1978 to 1999. The sample size is 11,823. Employment is the number of employees in thousands. Capital is the net stock of capital in billion francs. Labor cost is the sum of expenditures on labor in billion francs. All values are measured in 1980 francs.

Table II
Change in Capital Structure Following the Banking Reform^a

<i>Dependent Variable</i>	<i>Bank debt</i>		<i>Equity</i>		<i>Trade Credit</i>		<i>Capital Cost</i>	
After*Bankdep	-0.344 (0.026)	-0.398 (0.035)	0.031 (0.020)	0.014 (0.026)	0.130 (0.017)	0.146 (0.022)	0.028 (0.007)	0.048 (0.007)
After*Bankdep*ROA ₁		0.155 (0.057)		0.051 (0.030)		-0.059 (0.026)		-0.034 (0.010)
After*ROA ₁		-0.072 (0.024)		0.046 (0.019)		0.012 (0.017)		0.021 (0.013)
Bankdep*ROA ₁		-0.286 (0.073)		0.003 (0.060)		0.126 (0.054)		0.016 (0.005)
Industry-specific trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R ²	0.53	0.53	0.64	0.64	0.70	0.71	0.52	0.58
Number of Obs	325928	325928	325928	325928	325928	325928	325928	325928

^aNotes:

1. The sample is the firm-level panel dataset constructed from the tax files data set (see text for details). The sample period is 1978 to 1999.
2. “Bank debt” is defined as the ratio of all debt excluding trade credit and bonds over total outside financing (debt and book value of equity). “Equity” is the book value of equity divided by total outside financing. “Trade Credit” is the ratio of trade payables over total outside financing. “Capital Cost” is the ratio of interest payments on financial debt over debt. “After” is dummy variable equal to one after 1985 and zero before. “Bankdep” is the average debt at the industry level between 1978 and 1983. “ROA₁” is firm-level average ROA across all years we observe the given firm in our sample.
3. Also included in each regression is the logarithm of lagged total assets.
4. Standard errors are reported in parentheses. Standard errors are corrected for clustering of the error term at the industry-level.

Table III
Change in Firm-Level Bank Debt Following Shock to Firm-Level Performance:
Before and After the Banking Reform^a

<i>Dependent Variable: One-Year Change in Bank Debt</i>							
Sample:	All Firms			Low Perf. Firms		High Perf. Firms	
Time Period:	1978-1999			Pre-85	Post-85	Pre-85	Post-85
ΔROA_{t-1}	-0.003 (0.001)	-0.001 (0.002)	0.027 (0.011)	-0.005 (0.002)	0.038 (0.024)	0.002 (0.003)	-0.002 (0.001)
After* ΔROA_{t-1}		-0.002 (0.002)	-0.026 (0.013)				
After*Bankdep* ΔROA_{t-1}			0.057 (0.030)				
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-specific trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R ²	0.02	0.03	0.03	0.01	0.01	0.02	0.02
Number of Obs	245137	245137	245137	18384	42898	18384	42898

^aNotes:

1. The sample is the firm-level panel dataset constructed from the tax files data set (see text for details). The sample period is 1978 to 1999.
2. "Higher Performance Firms" ("Lower Performance Firms") are firms whose average ROA over the first four years in the sample was in the top (bottom) 25% of the firms in its industry.
3. Also included in each regression is the logarithm of lagged total assets. Also included in column 3 are the two following double interaction terms: "After*Bankdep," and " ΔROA_{t-1} *Bankdep."
4. Standard errors are reported in parentheses. Standard errors are corrected for clustering of the error term at the firm-level.

Table IV
Change in Firm Level Debt and Subsequent Firm Performance:
Before and After the Banking Reform^a

<i>Dependent Variable: ΔROA_{t+2}</i>						
Δ Residual Debt _{<i>t</i>-1}	0.040 (0.005)	-0.026 (0.013)	0.138 (0.076)			
Δ Residual Debt _{<i>t</i>-1} *After		0.078 (0.015)	-0.124 (0.082)			
Δ Residual Debt _{<i>t</i>-1} *After*Bankdep			0.510 (0.195)			
After*Bankdep			-0.398 (0.179)			
Δ Residual Debt _{<i>t</i>-1} *Bankdep			-0.493 (0.069)			
Δ Debt _{<i>t</i>-1}				0.201 (0.020)	0.049 (0.066)	0.345 (0.201)
Δ Debt _{<i>t</i>-1} *After					0.168 (0.072)	-0.217 (0.226)
Δ Debt _{<i>t</i>-1} *After*Bankdep						0.992 (0.493)
After*Bankdep						-0.751 (0.456)
Δ Debt _{<i>t</i>-1} *Bankdep						-0.428 (0.076)
Industry-specific trends	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R ²	0.06	0.06	0.07	0.05	0.06	0.06
Number of Obs	171435	171435	171435	171435	171435	171435

^aNotes:

1. The sample is the firm-level panel dataset constructed from the tax files data set (see text for details). The sample period is 1978 to 1999.
2. “ Δ Residual Debt_{*t*-1}” is the residual from a regression of change in firm-level bank debt between *t* and *t* - 1 on a vector of observable firm characteristics: the logarithm of total assets, the logarithm of total employment, ROA, industry fixed effects, and a dummy for whether a firm is public or private. “ Δ Debt_{*t*-1}” is the change in actual firm debt between year *t* and *t* - 1. “ Δ ROA_{*t*+2}” is the change in ROA between *t* + 2 and *t*.
3. Also included in each regression is the logarithm of lagged total assets.
4. Standard errors are reported in parentheses. Standard errors are corrected for clustering of the error term at the firm-level.

Table V
Banking Reform and Firms' Restructuring Activities^a

<i>Dependent Variable:</i>	<i>Log(Average Wage)</i>		<i>Outsourcing</i>		<i>Log(Assets)</i>		<i>Assets/Employee</i>		<i>ROA</i>	
After*Bankdep	-0.198 (0.028)	-0.012 (0.035)	0.003 (0.018)	0.059 (0.025)	-0.300 (0.110)	-0.306 (0.181)	-0.280 (0.110)	-0.399 (0.143)	0.326 (0.069)	0.008 (0.082)
After*Bankdep* ROA ₁		-0.498 (0.077)		-0.084 (0.044)		0.541 (0.264)		0.065 (0.180)		0.537 (0.211)
After*ROA ₁		0.191 (0.031)		0.73 (0.018)		0.033 (0.056)		-0.121 (0.410)		-0.687 (0.104)
Bankdep*ROA ₁		0.187 (0.097)		0.084 (0.073)		0.384 (0.504)		-0.196 (0.439)		-0.676 (0.303)
Firm F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-specific trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	yes	Yes	Yes	Yes
Adjusted R ²	0.84	0.84	0.75	0.77	0.89	0.88	0.85	0.85	0.43	0.44
Number of Obs	325928	325928	325928	325928	325928	325928	325928	325928	325928	325928

^aNotes:

1. The sample is the firm-level panel dataset constructed from the tax files data set (see text for details). The sample period is 1978 to 1999.
2. "Average wage" is the ratio of total labor expenses (in 1980 francs) over the number of full-time equivalent workers. Outsourcing is defined as the ratio of intermediary inputs over sales. "ROA₁" is firm-level average ROA over the entire sample period.
3. Also included in each regression is the logarithm of lagged sales.
4. Standard errors are reported in parentheses. Standard errors are corrected for clustering of the error term at the industry-level.

Table VI
Banking Reform and Industry-Level Reallocation Flows^a

Flows are:	Asset Flows	Job Flows	Firm Flows
Dependent Variable:			
Creation through entries	1.35 (0.58)	0.67 (0.45)	0.41 (0.20)
Creation through true entries	1.33 (0.60)	0.68 (0.45)	0.36 (0.21)
Creation through industry switches	0.70 (0.85)	0.75 (0.77)	0.65 (0.28)
Destruction through exits	0.68 (0.74)	1.12 (0.52)	0.67 (0.20)
Destruction through true exits	1.36 (0.54)	1.25 (0.53)	0.56 (0.20)
Destruction through industry switches	1.29 (0.96)	0.78 (0.64)	1.30 (0.27)
Creation by incumbent firms	-0.37 (0.39)	-0.04 (0.34)	—
Destruction by incumbent firms	0.41 (0.48)	0.52 (0.36)	—

^aNotes:

1. The sample is the industry-level panel. The sample period is 1978 to 1999. The dependent variables are industry-year measures of asset, employment and firm flows. These measures were computed based on all firms in the French tax files. All of these variables are measured in logarithms. See text for details.
2. Each cell in the table corresponds to a separate regression. Reported in each cell is the estimated coefficient on the interaction term “After*Bankdep.” Also included in each regression are industry and year fixed effects and a control for the logarithm of the relevant stock (asset in column 1, employment in column 2, number of firms in column 3) in that industry-year cell. Full results can be obtained from the authors upon request.
3. Standard errors are in parentheses. Standard errors are corrected for clustering of the error term at the industry-level.

Table VII
Banking Reform and Industry-Level Concentration^a

<i>Dependent Variable:</i>	<i>Sales-based</i>		<i>Asset-based</i>		<i>Employment-based</i>	
	<i>Herfindhal</i>	<i>% of Largest</i>	<i>Herfindhal</i>	<i>% of Largest</i>	<i>Herfindhal</i>	<i>% of Largest</i>
After*Bankdep	-0.11 (0.06)	-0.13 (0.07)	-0.15 (0.06)	-0.16 (0.08)	-0.16 (0.06)	-0.20 (0.07)
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R ²	0.76	0.74	0.74	0.72	0.79	0.76

^aNotes:

1. The sample is the industry-level panel. The sample period is 1978 to 1999. The dependent variables are annual measures of industry concentration computed from all firms the French tax files. See text for details.
2. Standard errors are in parentheses. Standard errors are corrected for clustering of the error term at the industry-level.

Table VIII
Firm Exits and Market Share:
Before and After the Banking Reform^a

<i>Dependent Variable:</i>	<i>Exit</i>				<i>Market Share</i>	
ROA _{t-1}	-0.007 (0.001)	-0.006 (0.001)	-0.003 (0.001)	-0.001 (0.001)		
After*Bankdep		0.003 (0.001)		0.007 (0.011)		-0.056 (0.158)
After*ROA _{t-1}			-0.006 (0.001)	0.009 (0.005)	0.025 (0.005)	0.025 (0.006)
After*Bandep*ROA _{t-1}				-0.016 (0.007)		0.293 (0.091)
Bankdep*ROA _{t-1}				-0.005 (0.008)		0.062 (0.040)
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Industry-specific trends	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R ²	0.08	0.08	0.08	0.08	0.79	0.79
Number of Obs	325928	325928	325928	325928	325928	325928

^aNotes:

1. Sample is the firm-level panel dataset constructed from the tax files data set (see text for details). The sample period is 1978 to 1999. "Exit" is a dummy variable that equals one if the current year is the last year the firm is in existence and zero otherwise. ROA_{t-1} is return on assets one year before the current year. "Market Share" is the firm's market share in its industry in that year (sales-based measure).
2. Also included in each regression is the logarithm of lagged total assets.
3. Standard errors are reported in parentheses. Standard errors are corrected for clustering of the error term at the firm-level.

Table IX
Industry Level Changes Following the Banking Reform^a

<i>Dependent Variable:</i>	<i>Log(Employment)</i>	<i>Average Wage</i>	<i>Log(Capital)</i>	<i>VA per worker</i>
After*Bankdep	1.137 (0.494)	-4.65 (2.86)	0.306 (0.375)	12.11 (7.79)
Industry F.E.	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes
Adjusted R ²	0.33	0.65	0.47	0.12
Number of Obs	11210	11210	11210	11210

^aNotes:

1. The sample is the industry-level panel dataset (see text for details). The sample period is 1978 to 1999. “Employment” is defined as the total number of full time equivalent workers in the industry. “Labor Cost” is the ratio of total expenditure on labor divided by the total number of full time equivalent workers in the industry. “Capital” is defined as total stock of fixed assets in the industry (measured in 1995 francs). “VA per worker” is total value added divided by total number of full-time equivalent workers in the industry.
2. Standard errors are reported in parentheses. Standard errors are corrected for clustering of the error term at the industry-level.

Appendix Table
Industry Subsidies and Banking Reform^a

<i>Dependent Variable:</i>	<i>Bank debt</i>	<i>Equity</i>	<i>Trade Credit</i>	<i>Capital Cost</i>	<i>Average Wage</i>	<i>Log(Assets)</i>	<i>ROA</i>
After*Bankdep	-0.241 (0.034)	0.082 (0.023)	0.076 (0.021)	0.036 (0.008)	-0.098 (0.032)	-0.173 (0.114)	0.047 (0.021)
After*Subsid	3.648 (1.615)	3.302 (0.917)	-0.454 (0.946)	-0.523 (0.432)	0.048 (0.014)	12.58 (4.687)	-5.358 0.436
Industry trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R ²	0.56	0.66	0.72	0.61	0.84	0.91	0.50
Number of Obs	152009	152009	152009	151619	151306	150471	150471

^aNotes:

1. The sample is the firm-level panel dataset constructed from the tax files data set (see text for details). The sample period is 1978 to 1992. All dependent variables are defined as in Table 3 and 6. "Subsid" is the average annual level of direct government subsidies over assets at the 2-digit industry level.
2. Standard errors are reported in parentheses. Standard errors are corrected for clustering of the error term at the industry-level.

Figure 1: Trends in the Aggregate Flow of Funds in France. Source: Bank of France

