

# Bank's business models and the hedge against financial shocks

Preliminary and incomplete version  
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## Abstract

This paper analyzes bank's business models in period of financial crisis. I distinguish retail banks from banks that develop market activities along with retail lending (called transaction banks hereafter). The question raised is : How those two banking models supply credit in a period of financial crisis? Relying on a unique database of loan, firm and bank data, I show that retail banks provide a better funding continuation in period of financial crisis contrary to transaction banks. (i) Controlling for credit demand, I find that transaction banks had a lower credit supply during the 2007-08's crisis than retail banks. (ii) Transaction banks adjusted their credit supply in quantity rather than in price. They provided a lower interest rate compared to retail banks in crisis time. (iii) Each business model had specific transmission channels. Transaction banks were deeply impacted by a lack of stable funding whereas retail banks were not. In conclusion, retail banks provided a hedge against financial shocks of the 2007-08's crisis.

## 1 Introduction

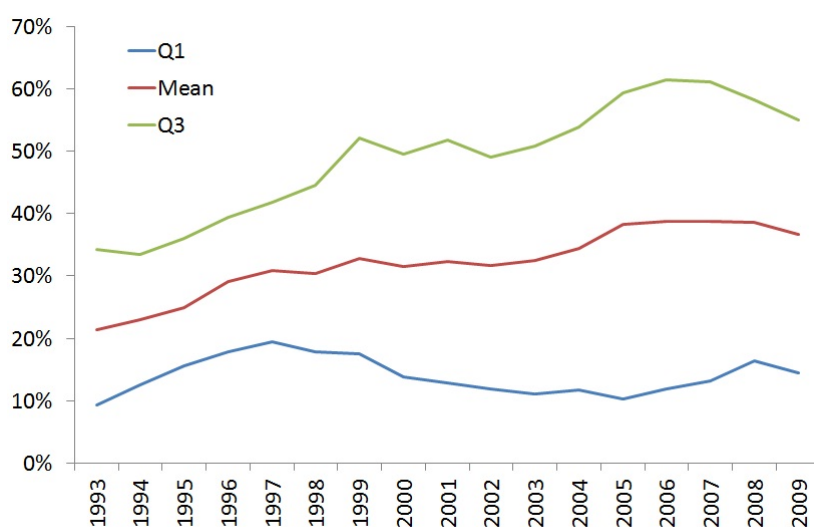
The banking sector has deeply changed since the financial liberalization of the 1980's. That change is strikingly not uniform through banks and led to a banking system with several business models at play : Some banks kept focused on traditional activities of retail lending, while others developed market activities along with retail lending. That heterogeneity raises questions and the 2008's turmoil is the occasion to test them : Do banks differ in their credit supply to the real economy in period of financial crisis according to their business model? Are there specific transmission channels by banking models at that time<sup>1</sup>?

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1. I equally use "banking model" or "bank's business model" throughout the paper.

FIGURE 1 – Bank's share of financial securities over total asset



First I illustrate the heterogeneity in the banking sector from French data. Figure 1 shows the ratio of financial securities over total asset for banks operating in France. This ratio is a proxy to capture the level of market activities of a bank. The figure only retains banks with a supply of credit to the real economy above 1 Mds euros . Over 1993-2006 the average share of financial securities nearly doubles from 21% to 39%. But that increase hides heterogeneous trends. While some banks deeply increased their share of financial securities and went beyond 62% of their assets in 2006 (third quartile in figure 1), others decreased their share of financial securities below 12% in 2006 (first quartile). Those figures provide the intuition of an heterogeneity within the banking sector in terms of market activities. A better way to capture that heterogeneity is to distinguish banks exposed to market risk from banks that are not. In this paper, I call transaction banks, banks exposed to market risk, and relationship banks the ones that are not.

The intuition of the paper is the following. Transaction banks provide numerous sophisticated financial services. They sell derivatives, they arrange and grant syndicated loans, they securitize assets etc. But those activities rely on a "high" market liquidity. As soon as it vanishes, banks find themselves stocked with syndicated loans or securitized assets that could not be sold anymore but with a large haircut. In period of market illiquidity, several binding forces may be at play and spill over into the rest of bank's activities : First keeping assets originally planned to be sold<sup>2</sup> consumes funding that became hard to raise from money markets. Second volatility on market-to-market securities raises market risk that consumes equity. Those two forces prevent transaction banks from supplying further credit in period of crisis.

Contrary to transaction banks, relationship banks focus on retail lending. Roughly said they grant loans and collect deposit, so they are not exposed to market risk. When a liquidity shock occurs on financial markets, relationship banks keep on lending to the real economy. Each banking model has comparative advantages : (i) Transaction banks provide sophisticated financial services<sup>3</sup>, but those services are procyclical with financial markets' liquidity. (ii) Relationship banks do not provide such services but they provide a funding continuation

2. like syndicated loans or securitized assets

3. They arrange syndicated loans, supply derivatives...

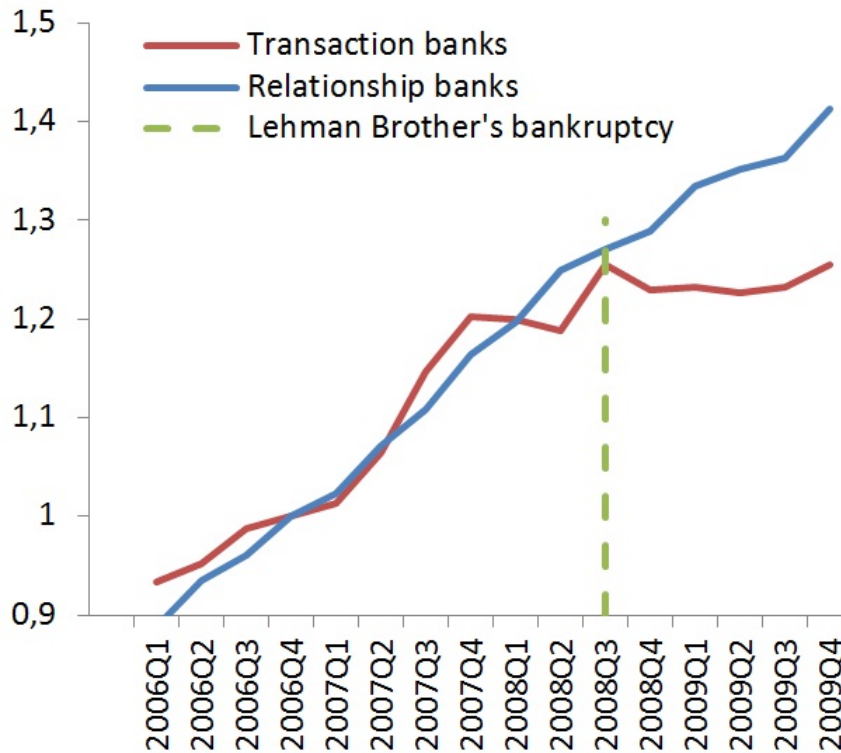


FIGURE 2 – Banks' credit supply by business model

to firms in period of financial crisis as shown in figure 2.

Figure 2 describes the supply of long term loans and available credit line by banks operating in France over 2006-2009. I focus on that credit because my interest is on investment. I show later in the paper that considering this type of credit is relevant to analyse firm's investment. As reported in figure 2, before 2008Q3 both types of banks had a similar credit supply. But since the highest point of the crisis in 2008Q3, transaction banks stopped their credit supply to the real economy while relationship banks kept on lending.

To analyse banks behavior I proceed in three steps. First I define bank's business model from her exposure to market risk. I distinguish two banking models : Banks exposed to market risk (transaction banks) and banks that are not (relationship banks). For the former, I only retain banks that are also engaged in retail lending because I am interested in the funding of the real economy. Second, I rely on a unique database of loan, firm and bank data on France to estimate the credit supply of each banking model controlling for demand effect. Third, I highlight transmission channels of financial shocks that differ across banking models.

The main findings are the followings. (i) Controlling for demand effect, I find that transaction banks had a lower credit supply through the financial crisis compared to relationship banks. (ii) Each bank's business model has specific transmission channels of financial shocks. Transaction banks lack stable funding while relationship banks do not. The higher the level of deposits of transaction banks, the higher they supply credit. But stable funding like deposits does not explain the credit supply of relationship banks. So different binding forces apply depending on bank's business model. (iii) Firm's exposure to transaction banks has real effect on firm's investment. The higher the exposure to transaction banks, the lower firm's investment after the crisis.

To analyse bank's credit supply I need to control for firm's credit demand. I rely on [Khawaja & Mian AER 2008]'s methodology. That methodology relies on firms with several banking

relations and assumes that a firm addresses the same credit demand to all banks of her banking network. So using loan data at bank-firm level, the methodology enables to analyse the credit supply of transaction banks compared to relationship banks through the crisis. France is an interesting example for the question addressed here. First France hosts several international banking groups<sup>4</sup> hosting corporate and investment banking activities (CIB). Those banks will be put in the sample of transaction banks. Second, the 2007-08's liquidity shock is exogenous to France. The 2007-08's liquidity shock came from the real estate bubble's burst in the U.S.A. in 2006-07 that transmitted from the subprime crisis to the interbank market and beyond. So France is a proper framework to analyze the impact of financial shocks on the real economy through the banking system.

My paper is related to three strands of literature. First, the paper is related to the literature analyzing how banks behave through the cycle according to their banking model. The closest paper in that field is [Bolton, Freixas, Gambacorta, Mistrulli 2014] (hereafter BFGM). BFGM compares the role of "relationship banks" and "transaction banks" over the business cycle. In that paper relationship banks grant loans based on firm's information they get through firm's monitoring, while transaction banks do not monitor firms and do not get this private information on firms. In recession time relationship banks provide a better funding continuation to solvent firms based on their superior information. I stand out from BFGM in two striking points. The first striking difference is on the nature of the shock. In BFGM, the shock comes from the real economy as an increase of firms' default. In my paper, the shock comes from the financial system and impacts the real economy through the banking system. A second difference with BFGM is on the definition of banking models. BFGM distinguishes transaction banks from relationship banks according to the geographical distance between the bank and the firm. I distinguish banks according to their share of market activities. All in all, this leads me to focus on the transmission channels of financial shocks and to look for specific channels for each banking models. This analysis is not present in BFGM. My paper is also related to the literature on multi-bank relations. This literature explains why firms build several banking relations. It asserts that multi-bank relations help to "contract the hold up", i.e. firms build several banking relations to increase competition between banks and thus decrease their external funding cost. Without denying this behaviour, I provide another argument for multi-bank relations : Firms build several banking relations with different types of banks because each banking model has a comparative advantage. Transaction banks provide a low cost of intermediation and sophisticated financial services while relationship banks provide a hedge against financial shocks. Eventually my paper is related to the literature on the transmission of liquidity shock to the real economy ([Iyer et al. 2014], [Schnabl 2012], [Cornett et al. 2011]). Those papers take banks as "black boxes". They measure the share of short-term borrowings of a bank (or the share of stable funding like deposits) to explain her credit supply after the shock. But that measure is correlated with others characteristics of banks : Banks with market activities have a low share of deposits (cf. descriptive statistics in part 3). So I challenge the "one-size-fits-all" approach<sup>5</sup> of that literature with a "business model" approach.

Contributions are threefold. The first is methodological, analysing banks by business model highlights specific behaviors that a "one-size-fits-all" approach do not show. The paper is the first to my knowledge to compare bank's business models in crisis time and show empirically that banks hosting corporate and investment banking activities (CIB) transmit more financial shocks to the real economy than retail banks. Second, the paper shows that within a banking group all banks do not adjust their credit supply at the same time, it depends on

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4. Since the crisis they are called Systematically Important Financial Institutions.

5. They do not consider bank's business model.

bank's business model.

The rest of the paper is organized as follows, section 2 presents the data, section 3 the stylized facts, section 4 the identification strategy, section 5 the results and section 6 concludes. The theoretical model is still ongoing, a first version is in appendix.

## 2 Data

### 2.1 Loan data

The credit registry of the Banque de France describes credit exposures of all banks operating in France to all firms operating in France. A bank-firm credit exposure is reported as soon as it is greater than 25K €. Data are updated quarterly. The nature of the credit is described through 13 features. Those features allow to distinguish short-term loans (initial maturity of 1 year or below), medium and long-term loans (initial maturity above 1 year), available credit lines and guarantees. Banks are identified at non-consolidated level. The administrative place of bank's office that granted the loan is reported. Firms are identified through a national identifier. The administrative place of firm's office that gets the loan is also reported. Further available information is firm's name, firm's main activity, firm's credit risk (Banque de France's notation).

### 2.2 Bank's Financial statement

Data on banks come from the French supervision authority (ACPR). They are yearly update and available from 1993 to 2009. They describe bank's balance sheet and financial statement. *Data will be further described in the next version of the paper.*

### 2.3 Firm data

Data on firms come from the Banque de France. They are yearly update and available from 2000 to 2011. They describe describe firm's balance sheet and financial statement. *Data will be further described in the next version of the paper.*

## 3 Stylized facts

### 3.1 Definition of bank's business models

The paper distinguish banks according to their exposure to market risk. The difficulty is that prudential measures of market risk are reported to supervisor at consolidated level. So I can not used those measures to identify banks exposed to market risk at unconsolidated level.<sup>6</sup>

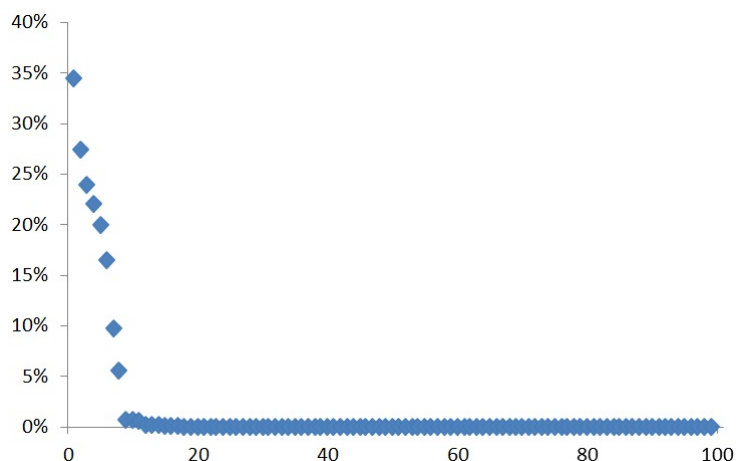
As the trading book contributes to market risk, I build a proxy of bank's trading book at unconsolidated level based on the share of assets valued at marked-to-market within the bank<sup>7</sup>. This measure is plotted in figure 3. There is a clear cut : A few set of banks have marked-to-market assets (over 5% of their total assets), while other banks have nearly zero percent of such assets. So I define banks with more than 5% of marked-to-market assets as

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6. The unconsolidated level of banks is the proper level for my study because firms submit credit demand to individual bank, not at the banking group level.

7. In the banking book asset are not marked-to-market/ préciser ce point.

FIGURE 3 – Proxy of bank’s trading book at unconsolidated level



transaction banks (or T-banks), while the others are defined as relationship banks (R-banks) but 6 banks. Those 6 banks report a market risk to the supervisor (at consolidated level), but they are not captured by my proxy. Actually market risk encounters several dimensions that could not be captured only through the ratio of marked-to-market asset<sup>8</sup>. As my goal is to compare two types of banks which are with certainty exposed or not to market risk, any bank being in an in-between situation should be set aside. So those 6 banks are not taken in my sample for the study.

### 3.2 Descriptive statistics of banks by business model

Tables 1 and 2 provide descriptive statistics of R- and T-banks. Only banks with a credit supply to the real economy over 1 Mds euros in 2006 are considered in the paper. On average R-banks have a higher share of credit over total asset (42% vs 18%), a higher deposit over total asset (16% vs 6%) than T-banks. The same relations are true for median, first quartile and third quartile. Other statistics on banks revenues show that R-banks rely strongly on interest incomes to the real economy contrary to T-banks. So R-banks are in line with a model of retail banks that collect deposit, grant loans to non-financial firms and are not engaged in market activities.

In terms of credit supply, over 2006-09 R-banks supplied more long term loans and available credit line than T-banks as show by the mean (10% vs 3%) and median (9% v-s -1%) in table 1 and 2.

### 3.3 Firms’ banking network by firm’s size

Table 3 describes firm’s banking network by firm’s size. The size is proxied by firm’s sales and measured in 2006.

The number of banking relations by firm is increasing with firm’s size. Very small firms with sales under 1 Million euro have on average one banking relation (1.1 as reported in column 2), while firms with sales over 100 Millions euros have 4 banking relations on average.

The composition of the banking network is also changing with firm’s size. Small firms borrow more from R-banks than large firms do. Eight in ten firms with sales under 1 Millions euro

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8. à détailler

TABLE 1 – Descriptive statistics of relationship banks

	Min	Q1	Mean	Median	Q3	Max	Std	N
Credit / Total Asset (TA)	11%	27%	42%	42%	46%	.	29%	85
Financial securities / TA	3%	7%	11%	8%	11%	60%	9%	85
Proxy of Trading book / TA	0%	0%	0%	0%	0%	1%	0%	85
Deposit / TA	0%	10%	16%	18%	22%	29%	8%	85
Capital / TA	0%	8%	10%	10%	12%	16%	3%	85
Total Asset (Millions euro)	3 025	6 630	15 892	9 194	14 104	298 649	32 933	85
IR incomes to non-bank / all banking incomes <sup>9</sup>	14%	40%	47%	50%	57%	77%	12%	85
Securities custody incomes / all banking incomes	0%	10%	11%	11%	13%	20%	4%	85
Leasing incomes / all banking incomes	0%	0%	3%	0%	0%	49%	9%	85
Change in LT loans and available credit line through 2006-09	-24%	3%	10%	9%	12%	48%	11%	85

TABLE 2 – Descriptive statistics of transaction banks

	Min	Q1	Mean	Median	Q3	Max	Std	N
Credit / Total Asset (TA)	14%	16%	18%	18%	20%	23%	3%	8
Financial securities / TA	36%	52%	58%	58%	67%	76%	13%	8
Proxy of Trading book / TA	5.6%	13.1%	19.9%	21.0%	25.6%	34.4%	9.3%	8
Deposit / TA	0%	2%	6%	6%	7%	17%	5%	8
Capital / TA	4%	4%	5%	5%	6%	10%	2%	8
Total Asset (Millions euro)	28 055	136 609	400 733	265 436	682 386	1 008 945	367 973	8
IR incomes to non-bank / all banking incomes	1%	1%	4%	2%	4%	15%	5%	8
Securities custody incomes / over all banking incomes	0%	0%	1%	0%	1%	8%	3%	8
Leasing incomes / all banking incomes	0%	0%	0%	0%	0%	0%	0%	8
Change in LT loans & available credit through 2006-09	-14%	-4%	3%	-1%	9%	29%	14%	8

have their unique banking relation with a R-bank. In contrary, only 2<sup>10</sup> of the 4 banking relations of largest firms are with R-banks, while the two<sup>11</sup> others are with T-banks. So the larger the firm, the more banking relations with T-banks.

TABLE 3 – Bank-firm relations

Firm's size	Average number of banking relations by firms	% of relations with R-banks	% of relations with R T-banks	Number of firms	Number of employes
sales <1 Million euros	1,1	80%	20%	785 238	TBD
1 ≤ sales <5 M euros	1,3	76%	24%	57 494	TBD
5 ≤ sales <10 M euros	1,7	71%	29%	13 329	TBD
10 ≤ sales <50 M euros	2,1	68%	32%	13 181	TBD
50 ≤ sales <100 M euros	2,8	63%	37%	1 493	TBD
100 M euros ≤ sales	3,8	58%	42%	1 212	TBD

## 4 Identification strategy

To estimate bank's credit supply I need to control for firms' credit demand. Demand of firms borrowing from T-banks could be very different from demand of firms borrowing from R-banks. The former firms could have decreased their credit demand more than the latter. So to control for credit demand, I use [Kwhaja & Mian 2008]'s methodology. The methodology relies on firms with several banking relations and assumes that a firm addresses

10. 58% actually

11. 42%

the same credit demand to all banks of her banking network. Thus the methodology enables to compare the credit supply of T-banks and R-banks to a given firm through the liquidity crisis.

The main equation is :

$$\Delta Loans_{b,f} = \alpha_f + \beta.DummyTBank_b + \gamma.Controls_b + \epsilon_{b,f}$$

Where :  $\Delta Loans_{b,f}$  is the change in long-term loans and available credit lines of a bank to a firm between the pre-crisis period and the post-crisis period. The pre-crisis exposure is the average exposure of a bank to firm over the 4 quarters of 2006. And the post-crisis exposure is the average exposure of a bank to a firm over the 4 quarters of 2009.  $\alpha_f$  is a dummy to set fixed effects at firm level. It captures observable and unobservable characteristics of firms.  $DummyTBank_b$  is a dummy set to 1 for T-banks, otherwise it is set to 0. Coefficients  $\beta$  compares the credit supply of T-banks and R-banks.  $Controls_b$  are additional controls at bank level that include the logarithm of total asset, the ratio deposit over total asset and the ratio capital over total asset.  $Controls_b$  are computed prior to the shock in 2006.

## 5 Empirical results

### 5.1 Main results

Table 4 presents the main results. The dependent variable is the change in long-term loans and available credit lines supplied by a bank to a firm between 2006 and 2009. I focus on those types of credit because they are highly relevant to explain firm's investment (more on this in the next part). As reported in column (1) T-banks supplied 12.1% less credit than R-banks between 2006 and 2009. The estimation is on all bank-firm relations as soon as they exist in 2006 and 2009, i.e. the estimation is on the intensive margin which provides more conservative results<sup>12</sup>.

In columns (2) to (9) I restrict estimations to firms borrowing from at least 2 banks in 2006 and 2009, and among those banks there must be at least one R-bank and one T-bank. As reported in column (2), the main result is unchanged and suggests that the selection on firms with multiple banking relations do not change the credit channel analysis. In columns (3) to (5) I include controls at bank level computed prior to the crisis. The main result remains. One could argue that firms relying more on borrowings from T-banks could have a different credit demand than firms relying less on T-banks. Thus to control for heterogeneity across observable and unobservable characteristics of firms, I add fixed effects at firm level in columns (6) to (9). Thus I compare the credit supply of a T-bank and a R-bank to a given firm, i.e. to a given credit demand. The main result remains significant in all columns. As reported in column (8), the credit supply of T-banks is on average 13.6% smaller than the one of R-banks through the liquidity crisis, even controlling for bank's characteristics and firm's credit demand. This is my main result.

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12. cf. [Kwhaja & Mian, 2008]



TABLE 4 – Transmission of liquidity shock by banking models

Dependent	Change in LT loans and available credit line through 2006-09								
	1	2	3	4	5	6	7	8	9
Dummy T-Bank	-0.121*** (0.019)	-0.178*** (0.032)	-0.165*** (0.031)	-0.159*** (0.032)	-0.266*** (0.074)	-0.177*** (0.043)	-0.136*** (0.046)	-0.144*** (0.050)	-0.281*** (0.090)
Deposit			0.139 (0.176)	-0.281 (0.331)	-0.205 (0.297)		0.405** (0.189)	-0.031 (0.337)	0.116 (0.320)
Capital				1.399** (0.698)	1.827*** (0.523)			1.153 (0.804)	1.761*** (0.586)
log(Total Asset)					0.037* (0.021)				0.050** (0.023)
Constant	0.052*** (0.012)	0.163*** (0.015)	0.143*** (0.031)	0.090*** (0.022)	-0.557 (0.370)	0.163*** (0.015)	0.103*** (0.030)	0.074** (0.033)	-0.815** (0.402)
Observations	655,149	74,066	74,066	74,066	74,066	74,066	74,066	74,066	74,066
R-squared	1%	1%	2%	2%	2%	52%	52%	52%	53%
Adj. r-squared	1%	1%	1%	2%	2%	15%	15%	15%	16%
F test	42.04	30.65	17.05	17.71	23.18	17.20	9.894	12.77	14.15
Prob >F	4.86e-09	3.08e-07	5.40e-07	4.26e-09	0	7.68e-05	0.000132	5.14e-07	5.61e-09
Multi-Bank-Firm Relation	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	No	No	No	No	No	Yes	Yes	Yes	Yes

In this table the regressions provide a comparison of the transmission of a liquidity shock to the real economy by bank's business model. The dependent variable is the change in long-term loans and available credit line at bank-firm level between 2006 and 2009. The exposure of a bank to firm in 2006 (respectively 2009) is the average exposure over the 4 quarters of 2006 (2009). I restrict the regression to the intensive margin, i.e. to bank-firm relations that existed in 2006 and that still existed in 2009. In this way the results are more conservative. *Dummy T-Bank* is a dummy set to 1 for T-banks, otherwise it is set to 0. The coefficient of *Dummy T-Bank* compares the credit supply of T-banks relative to R-banks. Controls are added at bank level and computed on 2006 data : *Deposit* is the share deposit over total asset ; *Capital* is the share of capital over total asset ; *Log(TotalAsset)* is the logarithm of total asset. Columns (2) to (9) are restricted to firms with several banking relations including at least an T-bank and a R-bank. Columns (6) to (9) include controls for firms fixed effects. Standard errors, reported in parentheses, are clustered at bank level. \*\*\*, \*\*, \* indicate significance levels at 1%, 5% and 10%.

## 5.2 Substitution between relationship banks and transaction banks within banking group ?

One may argue that, within banking group, T-banks could have left activities of lending to the real economy to R-banks since the 2007-08's crisis. Thus the decrease in credit supply of T-banks would just be a reallocation of lending activities within the banking group. A look at data provides few support to this argument. Table 5 analyses new banking relations build in 2009 with R-banks by firms that previously borrowed from T-banks in 2006.

Table 5 shows that among 10 new R-lending built in 2009, 9<sup>13</sup> are built with R-banks that are outside the banking group of the T-bank from which the firm borrowed in 2006.

TABLE 5 – Substitution of T-lending by R-lending within banking group ?

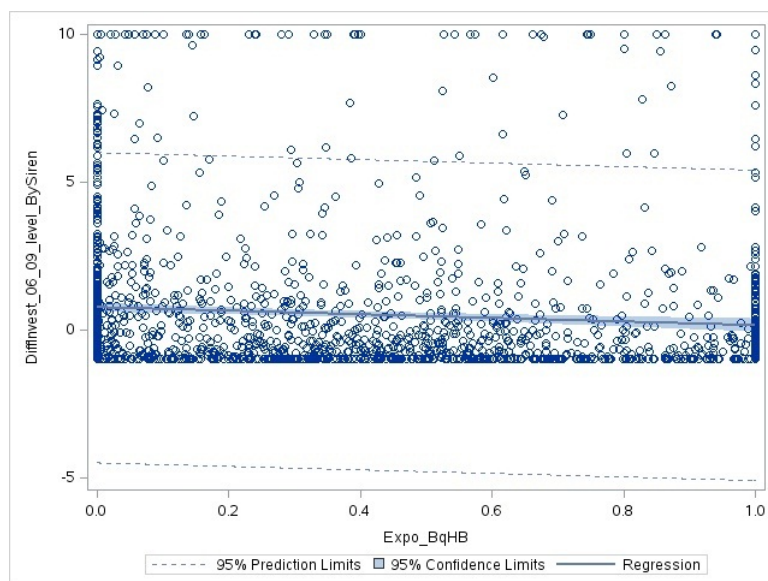
Number of firms that built a new R-lending in 2009 and that borrowed from a T-bank in 2006	Number of firms whose new R-lending (in 2009) is in the same banking group than the T-bank	%
25 760	2 745	11%

## 5.3 Real effects on firm's investment

I show in previous parts that T-banks decreased their credit supply more than R-banks through the liquidity crisis, but is there real effect ? I show here that frictions were at play

13. 100%-11%=89%

FIGURE 4 – Change in firm’s gross investment between 2006 and 2009 for firms with sales above 50 Million euros



and led to negative real effects as illustrated in figure 4 : The more a firm borrowed from a T-bank before the crisis, the less she invested just after the crisis.

Table 6 reports results on firms’ investment. The dependent variable is the change in gross investment at firm level between 2006 and 2009. Gross investment is computed as the difference of firm’s immobilisation between two consecutive years. The regression is restricted to firms that had a positive gross investment in 2006<sup>14</sup>. The change in gross investment is regressed on the firms’ exposure to T-banks in 2006, which is computed as the ratio of (long-term loans + available credit line) borrowed from T-banks over total (long-term loans + available credit line) borrowed by the firm.

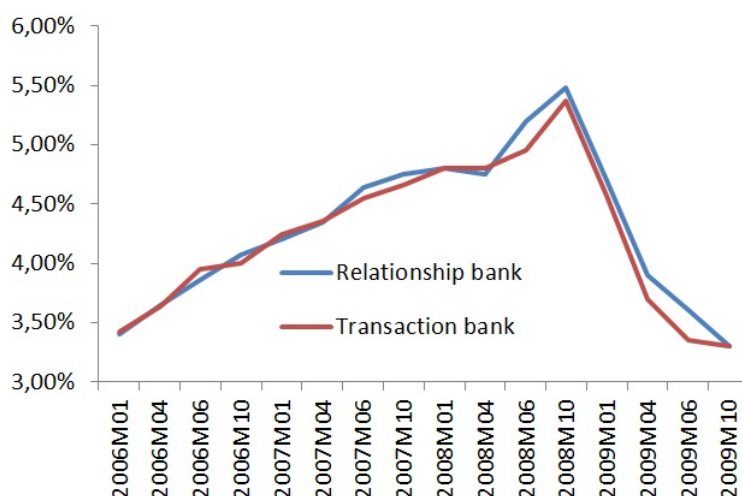
As reported in table 6, the higher a firm borrows from T-banks the more she decrease her investment after the crisis. A 1% increase in exposure to T-banks leads to a 0.6% decrease in firms’ gross investment. The regression is carried out on firms with sales above 50 Millions euro, which are the most exposed to T-banks (cf. table 3).

TABLE 6 – Firm’s exposure on T-banks and their gross investment

Dependent	Change in firm’s gross investment between 2006 and 2009
Exposure to T-banks	-0.596*** (0.151)
Constant	0.750*** (0.078)
Observations	2.241
R-squared	1%
Adj. r-squared	1%
F test	15.50
Prob >F	8.50e-05
Comments to be added.	

14. It make little sense to compute a gross rate when the initial level is zero or negative

FIGURE 5 – Median of "Narrow" interest rate on credit with a maturity over 1 year



## 5.4 Adjustment in price or in quantity ?

*To be completed.*

## 5.5 Comparing the "business-model" approach and the "one-size-fits-all" approach

In the aftermath of the 2007-08's crisis, the literature studying the transmission of financial shocks to the real economy relied on measures like bank's exposure to interbank market or bank's share of stable-funding to explain bank's credit supply after Lehman Brother's bankruptcy. In this way, authors read the crisis as (i) a liquidity crisis that transmitted only through the liability side of banks ("stable-funding" approach), (ii) all banks being impacted on the same way whatever being their business model ("one-size-fits-all"). As argue in the introduction, market activities of banks may have triggered specific transmission channels that impacted T-banks but not R-banks. I challenge the "one-size-fits-all" approach with a "business model" approach. Results are reported in table 7.

Just like in table 4, the dependant variable in table 7 is the change in long-term loans and available credit lines supplied by a bank to a firm between 2006 and 2009. Regressions in columns (1) to (4) are on firms borrowing from at least a T-bank and a R-bank in 2006 and 2009. Results in column (1) suggests that the share of bank's deposit explains bank's credit supply after the crisis. But columns (2) to (4) show that distinguishing banks by business model discredit the "one view fits all" approach : The share of deposit is no more significant in column (3) nor (4), whereas the dummy on T-banks remain significant through columns (2) to (4).

In column (4), an interaction between T-bank's dummy and the share of deposit is added to analyse how the share of deposit explain T-banks' credit supply. Column (4) shows that the higher the share of T-bank's deposits the more they supplied credit through the crisis.

All in all, the results show that R-banks where not impacted by the 2007-08's financial crisis as T-banks have been. Among T-banks, the ones with the lower share of deposit decrease the more their credit supply.

TABLE 7 – Comparing the "banking-model" approach and the "stable-funding" approach

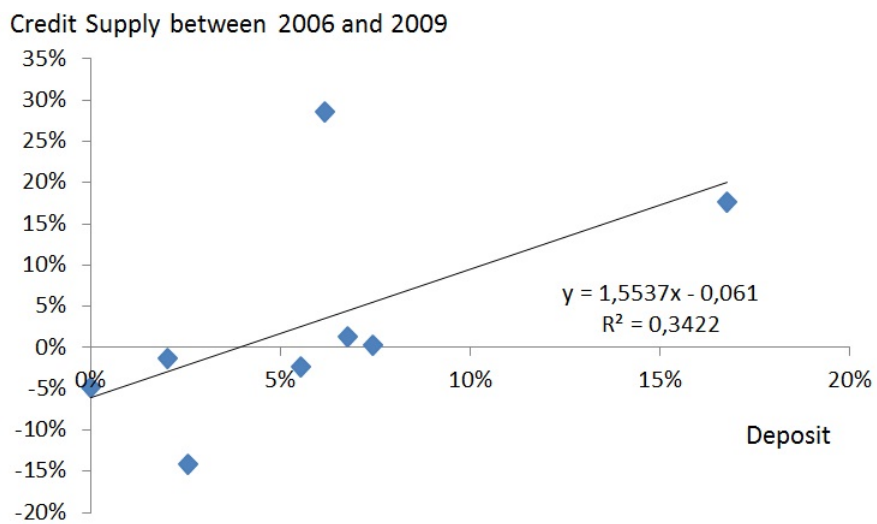
Dependent	Change in LT loans and available credit line through 2006-09			
	1	2	3	4
Deposit	1.006*** (0.235)	0.405** (0.189)	0.116 (0.320)	-0.324 (0.224)
Dummy T-Bank		-0.136*** (0.046)	-0.281*** (0.090)	-0.391*** (0.044)
Dummy T-Bank*Deposit				3.285*** (0.501)
Capital			1.761*** (0.586)	2.414*** (0.472)
log(Total Asset)			0.050** (0.023)	0.029** (0.012)
Constant	-0.017 (0.038)	0.103*** (0.030)	-0.815** (0.402)	-0.474** (0.216)
Observations	74.066	74.066	74.066	74.066
R-squared	52%	52%	53%	53%
Adj. r-squared	15%	15%	16%	16%
F test	18.38	9.894	14.15	40.72
Prob >F	4.58e-05	0.000132	5.61e-09	0
Multi-Bank-Firm Relation	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes

Comment to be added.

## 6 Conclusion

## 7 Appendix

FIGURE 6 – Credit supply and deposit of transaction banks



## 8 Bibliographie

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