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Abstract

We investigate bank loans' specialness with a particular focus on the recent boom and bust cycle. We perform an empirical analysis using event study methodology on a sample of 253 large loan announcements for French borrowers between January 2000 and December 2009. We find a significant and negative reaction to bank loan announcements which is mostly driven by loan provided during the crisis period. We also document significant changes in bank behavior over the boom and bust cycle, with important contractual and organizational modifications reflecting a potential "wake-up call" of banks during the crisis.

Keywords: bank loans, boom and bust, crisis, event study, Europe.

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1. Introduction

The ongoing economic and financial turmoil that started in 2007 has (again) put financial institutions in the center of harsh debate and massive critics, in particular with respect to their role in fuelling and propagating the crisis as well as in provoking a credit crunch. Indeed, according to Dell'Ariccia et al. (2008) and Purnanandam (2011), banks had gradually relaxed their screening and monitoring standards before the crisis, especially in the US sub-prime mortgage market. Then, they sharply curtailed new credit and forced firms to reduce investments hence propagating the financial crisis to the real economy (Duchin et al. 2010; Ivashina and Scharfstein 2010; Santos 2011).

These findings are somehow disturbing because according to the seminal contributions by Diamond (1984, 1991) and Fama (1985), financial intermediaries play a specific role in managing the problems resulting from imperfect information on firms, and are considered as efficient in evaluating, screening and monitoring borrowers. Hence, banks are believed to produce valuable information regarding borrower's risk profile and quality. Thus bank loan announcement should convey valuable information to the market about the borrower's financial situation, and the market response to bank loan announcement should be positive. Empirical evidence tends to support the view that bank loans are thus "special" according to several authors (James 1987; Lummer and McConnell 1989; Preece and Mullineaux 1996; Focarelli et al. 2008), who find positive and significant abnormal returns for borrower's stocks around the date of a bank loan announcement.

However, recent empirical evidence seems to question the "specialness" of bank loans. Billett et al. (2006) find that bank loans are not special at all when abnormal returns are estimated over a longer period while Fields et al. (2006) suggest the diminishing market reaction to bank loan announcement is consistent with the dramatic change in the financial market. The results of event studies performed on samples from emerging markets even show

negative abnormal returns for bank loan announcements (Bailey et al. 2011 and Hwuang et al. 2011 for China and Godlewski et al. 2011 for Russia).

Bank loan signaling and certification role might be even more crucial during episodes of boom and bust such as the most recent one starting in the aftermath of the Internet bubble followed by the financial turmoil of 2007-2008. Indeed, de Haas and van Horen (2010) show that banks tighten screening and monitoring during a financial crisis when information asymmetries are exacerbated. Furthermore, empirical evidence from different episodes of crisis around the world (South-East Asia, Russia or Norway) show that the adverse shocks to banks also affect their borrowers' performance (Bae et al. 2002; Ongena et al. 2003; Chava and Purnanandam 2011).

Moreover, these issues are even more important regarding the largest market for large external corporate financing in terms of bank debt: the syndicated lending market[1]. Its development provides a representative proxy for the boom and bust cycle (see Figure 1 for 2005-2011) with 2 trillion USD and 5000 issues in 2001, then 4.5 trillion USD and 9000 issues in 2007, and again 2.75 trillion and 5000 issues in 2010. Furthermore, due to the particular structure of syndicated loans, issues related to informational frictions are more complicated and sever in such a setting. Private information available to some lenders creates an adverse selection problem while moral hazard problem may arise when the participant banks delegate some monitoring tasks to the lead bank. Finally, if we establish a parallel between loan syndication and securitization[2], we can also wonder if such techniques have reduced the incentives of lenders to properly perform their screening duties, as shown by Mian and Sufi (2009) and Keys et al. (2010) in the case of loan securitization.

[1] A syndicated loan is granted by a pool of banks composed of lead (arrangers) and participant banks that provide funding to a borrower under a single agreement.

[2] A securitization does not change the contract between the borrower and the original lender. Instead a new contract is created by the lender and a third party to sell the cash flow from the underlying loan. In a syndicated loan, all lenders are and remain part of one loan contract with the borrower, but, depending on the terms of the contract, can resell loans on a secondary market.

This market provides an excellent ground to investigate our main research question: are bank loans (still) special, especially during a crisis? We aim here at revisiting the issue of bank loan "specialness" with a particular focus on the recent boom and bust cycle. To do so we perform an empirical investigation of stock market reactions to bank loan announcements for French companies using event study methodology. We then perform empirical test of loan, bank syndicate and borrower characteristics influencing stock market reaction. We also investigate if the stock market perception is different over the boom and bust period and to which loan, syndicate, and borrower characteristics this perception is sensitive.

We focus on the French syndicated lending market for several reasons. First of all, next to deals for US companies, syndicated loans to French companies are premanently listed in the top global deals. For instance, during the first semester of 2011, among the 5 top deals ranging from 15 to 25 billion USD, French company CADES raised 16.6 billion USD through a syndicated deal. Second, our focus on the French syndicated lending market is motivated by its specific features, as bank syndicates lending to French companies are larger and less concentrated when compared to syndicates in the US or the UK (Godlewski 2009). Third, recent concerns regarding French banks liquidity and solvency with respect to the Eurozone sovereign debt crisis[3] appeal for a better understanding of stock market perception of bank lending decisions in this area.

The rest of the article is organized as follows. We present the relevant literature in section 2. Section 3 is devoted to the description of the data and methodology. Results are displayed and discussed in section 4. Finally, section 5 concludes the article.

2. Related literature

In this section, we survey the relevant literature dealing with bank lending, the "specialness" of bank loans and the syndicated lending market. We also discuss the impact of boom and bust cycles on bank behavior.

[3] *"What's the Matter With the French Banks?"*, The Wall Street Journal, 13/9/2011; *"Moody's Downgrade: SocGen, Credit Agricole's Liquidity Problems Larger Than Greece"*, Forbes, 14/9/2011

2.1. The "specialness" of bank loans

There is a consensus in the literature that bank loans are significantly different from other forms of external corporate finance. Indeed, financial intermediation theory argues that banks are unique institutions because they gain insider information and knowledge on firms through lending and deposit relationships (Fama 1985; Diamond 1991). Hence, the traditional informational view of bank loans argues that banks, as large creditors, can produce private information about borrowing firms through initial screening and monitoring. Therefore, lending decisions reveal positive private information about the firms because banks would lend to high-quality borrowers, rather than to those of low-quality, to maximize the value of the loans.

A large body of empirical research shows that announcements of bank loan agreements are associated with positive abnormal returns for borrowers on average. In other words, stock markets treat bank loan financing as good news and bank loan announcements therefore convey positive information regarding borrower's conditions. Indeed, bank loans, or debt more generally, can create value by reducing overinvestment by non-congruent professional managers (Jensen and Meckling 1976) or by giving a manager the opportunity to signal the quality of the firm and his willingness to be monitored by lenders (Diamond 1991; Godlewski et al. 2010)[4].

Thus, bank loans are considered as special, starting with the seminal work of James (1987) who finds a sizeable average excess return following announcements that firms have signed a bank loan agreement. Many further studies confirm and refine this result. Lummer and McConnell (1989) report significant average excess returns for favorable loan revision announcements while Slovin et al. (1992) show that bank loan announcements are particularly good news for firms with severe information asymmetry, such as small firms. According to Best

[4] In contrast, announcements of SEO (seasoned equity offerings) generate an average negative abnormal return, whereas announcements of public bond issues generate zero or slightly negative equity returns, according to previous research.

and Zhang (1993), firms that face greater earnings uncertainty and lack sufficient evaluation and monitoring by other stakeholders benefit most from bank loan announcements. Higher positive excess returns following loan announcements are also associated with more reputable lenders (Billett et al. 1995).

Overall, an empirical consensus seems to emerge from previous research regarding bank loans' specialness as certification and signaling device regarding borrowers' quality. However, there also exists empirical evidence showing that bank loan announcements can be considered as bad news with negative abnormal returns (Billett et al. 2006). Such findings are particularly frequent in the case of emerging market economies (Bailey et al. 2011; Christophe J. Godlewski et al. 2011; Weihua Huang et al. 2011). These recent findings may question the empirical consensus in favor of bank specialness.

2.2. Syndicated loans

In 2010, more than 2.75 trillion USD of debt had been raised on the worldwide syndicated lending market, representing a significant portion of external financing for companies (Thomson Reuters 2010). Furthermore, already 1.9 trillion USD has been raised during the first semester of 2011, an increase of almost 50% as compared to the first half of the year 2010.

In a nutshell, the transaction process of bank loan syndication can be divided into three main stages[5]. During the *pre-mandated stage*, after soliciting competitive offers to arrange the syndication from one or more banks (usually the main relationship banks), the borrower chooses one or more arrangers that are mandated to form a syndicate and negotiates a preliminary loan agreement. The arranger is responsible for negotiating the key loan terms with the borrower, appointing the participants and structuring the syndicate. During the *post-mandated stage*, the arranger prepares an information memorandum for potential syndicate members, containing information about the borrower's creditworthiness and the loan terms. The presentation and discussion of the content of the information

[5] See Esty (2001) for a detailed presentation of the bank loan syndication process.

memorandum, as well as the announcement of closing fees and the establishment of a timetable for commitments and closing are done during a road show. Then, the arranger sends formal invitations to potential participants and determines the allocation for each participant. Finally, the operational *post-signing stage* takes place after the completion date when the deal becomes active and the loan is operational, binding the borrower and the syndicate members by the debt contract.

The benefits of loan syndication for lenders, such as portfolio risk and sources of revenues diversification, and borrowers, mostly lower costs as compared to bond issues or a series of bilateral loans, largely explain the success of syndicated lending. However, syndicated loans have their drawbacks because the nature of a syndicated loan may expose the banking pool's members to the adverse consequences of informational frictions and potential agency costs.

First, private information about the borrower can create adverse selection problems, as the arranger may be inclined to syndicate loans for unreliable borrowers. Second, participating banks may delegate monitoring to the arranger, but the banks are not in the loop as to what the arranger is doing, which might result in situations of moral hazard. Third, the borrower's financial distress is an important factor in syndication as it is more complicated to reorganize and reformulate the agreement for the borrower because a collective decision needs to be taken by the lenders (Bolton and Scharfstein 1996).

Nevertheless, a syndicated loan embeds both features of bank lending: transactional and relationship (Altunbas et al. 2006). It is therefore also potentially "special" as any bank loan and most of empirical research tends to show that it is true. Indeed, loans generate positive abnormal returns and consequently are special when they are made by syndicates with fewer lenders (Preece and Mullineaux 1996) or with larger portions of the loan retained by arrangers (Focarelli et al. 2008). The latter characteristic seems to be an important

syndication feature especially during periods of economic and financial uncertainty and consequently lead us to discuss the issue of bank behavior during boom and bust periods.

2.3. Bank lending during boom and bust periods

Much of the research on bank lending behavior, qualified as procyclicality in a boom and bust framework, has focused on credit crunches during business cycle downturns. Several hypotheses for these crunches were tested and partially validate. Hence, it appears that credit crunches can be explained by reduced risk taking by banks (Wagster 1999; Furfine 2001), implementation of tougher regulatory capital standards (Berger and Udell 1994; Hancock et al. 1995) or increasing supervisory toughness (Peek and Rosengren 1995; Gambacorta and Mistrulli 2004), as well as reduced loan demand (Bernanke et al. 1991).

More recently, Dell'Ariccia and Marquez (2006) argue that banks may loosen their lending standards and thus lead to deteriorated loan portfolios, lower profits, and expanded aggregate credit because information asymmetries decrease during economic growth periods. With respect to the most recent episode of boom and bust, Demyanyk and Van Hemert (2011) find that the quality of loans deteriorated for six consecutive years before the crisis and that securitizers were aware of it. Hence, the rise and fall of the subprime mortgage market follows a classic lending boom-bust scenario.

De Haas and van Horen (2010) provide additional evidence regarding bank lending behavior during the global financial crisis by analyzing changes in the structure of syndicated loans. They find an increase in retention rates among syndicate arrangers during the crisis, especially in the case of important information asymmetries between the borrower and the syndicate or within the syndicate. They interpret their findings as a "wake-up call" with increased screening and monitoring by banks during the bust period starting in 2007.

Following these results, we can expect that such reaction in bank lending behavior should translate in even more important certification and signaling role of bank loans and hence their "specialness" during a crisis. We could observe the absence or even negative

reaction during the boom phase of the cycle and then positive reaction during the bust cycle if investors believe in a "wake-up call" of banks. However, we may also obtain an opposite result with stock markets sanctioning bank loan announcements perceived as signals of borrower weakness during economic and financial turmoil. Indeed, and in particular on the syndicated lending market, troubled borrowers could be the first to ask for bank debt funding, especially in the form of credit lines.

3. Empirical design

In this section, we provide a description of the data and relevant descriptive statistics, followed by an explanation of the methodology.

3.1. Data

Data on equity prices, loan and syndicate characteristics and borrower balance sheet for French companies over the 2000-2009 timespan are extracted via the Bloomberg Professional Terminal Server. Bloomberg provides detailed information on the terms of loan agreements, the composition and structure of the lending syndicate and accounting data for the borrowing companies. The main filter we apply concerns stock price availability over at least 150 trading days before the date of loan announcement. Additional filters concern syndicate characteristics and balance sheet data availability. The final full sample contains 253 bank loan announcements, each for a unique company, a figure which is within the range of events in previous studies (from 117 to 728) as reported by Maskara and Mullineaux (2011).

Table 1 provides summary descriptive statistics for main loan, syndicate and balance sheet variables for the full sample. Overall, syndicated loans for French borrowers are large (almost 700 MLN USD) with a maturity of almost three years and a spread close to 130 bps over Libor or Euribor. A typical loan facility is composed of more than two tranches[6]. Half of

[6] Syndicated loans can be "tranched" into heterogeneous components that can then be distributed across lenders differentiated by their risk aversion. This technique is somehow close to tranching in a securitization process.

the loans are term loans and 40% are revolving loans. One out of five loans is secured and has covenants.

Bank syndicates are composed of almost nine lenders of which an important part bear arranger titles (such as lead or mandated arranger). More than 2/3 of lenders are French banks and we observe a similar figure for the arranging banks. We remark that figures for league table lenders[7] are very similar to those for French banks (actually, French banks in the sample are often listed on Bloomberg League tables).

The sample contains large firms with respect to their balance sheet or market value as well as their sales (40 BLN USD, 35 BLN USD, and 8 BLN USD respectively). Common equity and total debt ratios represent 1/3 of total assets, while financial leverage, measured with the total debt to common equity ratio, equals two. EBITDA amounts for more than 10% of interest expenses. Firms are relatively liquid according to the quick and current ratios, with a good profitability with respect to operational and profitability margins as well as return on assets. Overall, these figures suggest a good quality of the firms' in our sample.

3.2. Methodology

The market model, which relates the return of a given stock to the return of the market index, is used to estimate abnormal returns around the event date i.e. the date of a bank loan announcement (see MacKinlay 1997 for a survey). The date of announcement is taken as day 0. It is necessary to make sure that there is no other corporate news that could influence stock returns within an event window. We check carefully and find no contamination caused by other events around our event dates.

Returns are defined in the standard way as $log[P(t)/P(t-1)] \times 100$, where $P(t)$ is the daily closing stock market price at time t. To proxy the market return, we use the SBF 250

[7] We consider a lender to be part of the league table if it is listed as one of the first 25 financial institutions in the Bloomberg Underwriter Rankings Table, computed according to lender's market share, amount issued and number of issues between 2000 and 2009 for the European Market. We choose the 25th rank as a cutoff because below this rank the market share of a lender drops under 1%.

stock index return[8]. The market model parameters are estimated over the period (-100, -10). Similar results are obtained when using longer estimation periods up to 150 trading days, and ending the estimation period up to 30 days before the event date.

Following previous studies (see Maskara and Mullineaux 2011 for a summary), we examine seven different event windows: three symmetric ones (one-day [0,0], three-days [−1,+1], five-days [−2,+2]) and four asymmetric ones (two-days [-1,0]; [0,1] and three-days [-2,0]; [0,2]). The latter, especially [-1,0] and [-2,0], serve also the purpose of verifying the existence of potential information leakage. We use standard OLS regressions to estimate the market model with an average R^2 (not reported) close to 15%. For each event window, we calculate average abnormal standardized, as well as non-standardized, daily returns. We obtain respectively cumulative average abnormal returns (CAAR) and cumulative average standardized abnormal returns (CASAR)[9] by summing daily excess returns over the respective event windows.

Then we perform t-tests to investigate the statistical significance of CAAR and CASAR with the null hypothesis being that the CAAR or CASAR equals 0. We also perform similar tests (t-test or chi^2-test depending on the nature of the variable under consideration) to investigate the statistical significance of differences in various loan, syndicate and borrower variables with respect to positive and negative CAAR. Finally, we repeat the tests with respect to two different periods of our sample: before and after the crisis. Following de Haas and van Horen (2010), we define the period between January 2000 and August 2007 as the *No crisis* period while the period from September 2007 to December 2009 is considered as the *Crisis* period. Again we test the statistical significance of CAAR and CASAR as well as of various variables with respect to positive and negative CAAR for the *Crisis* and *No crisis* sub-periods.

[8] Our results do not change when using CAC 40 or SBF 120 stock index but provide lower statistical quality of the regressions (R^2 lower than 10%).

[9] We standardize CAAR using the square root of the product of the number of days in the event window and the mean square error.

4. Results

In this section, we present and discuss the results regarding stock market perception of bank loan announcements for the full sample and for the boom and bust periods. We also investigate loan, syndicate and borrower characteristics related to positive and negative stock market reaction.

4.1. Full sample results

We first present our main results regarding stock market perception of bank loan announcements over the full time span of the sample in Table 2. We remark that the perception is positive in 40% to 50% of loan announcements. Nevertheless, we observe systematically negative stock market reaction but only significant for three event windows: [-2,0], [-1,0] and [0,0], with approximately -0.30 for CAAR and ranging from -0.07 to -0.09 for CASAR. We conclude that bank debt financing through a syndicated loan by French companies is considered as a negative signal by the stock market. We reach similar conclusions when using alternative t statistics such as Patell (1976) or Boehmer et al. (1991). Furthermore, we can also claim that some form of information leakage seems to be at work as significant reaction is observed for windows before the loan announcement event.

This first series of results do not confirm previous findings that bank loans are special (James 1987; Lummer and McConnell 1989; Preece and Mullineaux 1996; Focarelli et al. 2008). We rather provide empirical support for conclusions reached by Billett et al. (2006), Fields et al. (2006), Bailey et al. (2011), Godlewski et al. (2011) and Hwuang et al. (2011). In the French case, bank loan announcements are considered as bad news by the stock market refuting bank's specialness arguments as well as certification and signaling role of bank debt financing.

We can argue that such negative reaction is based on the agency costs resulting from the conflicts of interest between shareholders and debtholders, in particular banks. Indeed, shareholders are tempted to take actions that benefit themselves at the expense of debtholders and do not maximize firm value. This divergence of interests manifests itself in

two forms of moral hazard. First, it gives incentives to shareholders to invest in riskier projects than those preferred by debtholders (Jensen and Meckling 1976). Such "asset substitution" comes from the asymmetry of gains for shareholders. Second, as demonstrated by Myers (1977), conflicts between shareholders and debtholders lead to underinvestment. Thus, the agency costs resulting from the conflicts of interest between shareholders and debtholders suggest that greater debt may enhance moral hazard behavior that can be perceived negatively by stock markets. Another type of explanation can be related the conflicts of interest between minor and major shareholders. Indeed, as recently shown by Huang et al. (2011), bank inefficiency can reduce the value of borrowers when expropriation risk of minority shareholders by controlling shareholders is a major concern.

However, further investigation is needed to better understand these results and verify which features of the loan contract, the syndicate and the borrower play a significant role in shaping stock market reaction. In what follows we focus on the most significant CAAR using the [-1,0] window[10]. We aim now at investigating those characteristics that are associated with a positive stock market reaction. To do so we perform t-tests or chi²-tests (depending on the continuous nature or not of the variable) on the difference of various variables with respect to a dummy equal to 1 if the CAAR [-1,0] is positive, and equal to 0 if the CAAR [-1,0] is negative. The results are displayed in Table 3.

Regarding loan characteristics, we observe that the only significant feature is the facility amount. The stock market reaction is positive for larger loans, actually twice as large as loans with negative CAAR. This result can be linked to our findings regarding bank syndicate characteristics, as we remark that larger syndicates with fewer local lenders are associated with positive CAAR. Regarding firm characteristics, we remark that significant differences in stock market reaction are essentially related to firm size measured with total assets and sales.

[10] All results are similar when using other less significant windows as well as CASAR.

According to these results, the French stock market considers that large loans, funded by large syndicates of which a smaller proportion is composed of local banks, are a positive signal. Indeed, a larger loan funded by a more diffuse syndicate can be considered as a good signal regarding borrower's quality. The size of the loan can be interpreted as reinforcing the certification and signaling role of the bank lending decision (Mosebach 1999) while a larger syndicate is usually associated with less informational frictions and their subsequent consequences in terms of adverse selection and moral hazard in the relationship between the borrower and the lenders (Lee and Mullineaux 2004; Sufi 2007; Bosch and Steffen 2011). The presence of numerous lenders can also serve as a device to mitigate eventual liquidity risk in funding the loan to the borrower as well as a risk diversification device, in particular when funding a large loan (Gatev and Strahan 2009). However, the result regarding syndicate size does not confirm previous results by Preece and Mullineaux (1996) who show, using a sample of bank loans provided to US borrowers, a positive reaction to loans funded by smaller syndicates. This can also be related to our findings regarding borrower characteristics. Indeed, the market values positively loan announcement by large firms with important sales, thus less opaque companies with sustained economic activity.

A positive market response to bank loan announcement involving less local lenders is more puzzling. Indeed, one could expect the opposite as local lenders presence help to mitigate the adverse consequences of informational asymmetries both between the borrower and the syndicate as well as within the syndicate (Berger et al. 2001). However, this effect is not systematically true as shown recently by Fungáčová et al. (2011). Hence, we can argue here that the larger presence of foreign lenders can be considered by the stock market as a better and/or more objective signal regarding deal and borrower quality. This argument is

even more appealing with respect to the recent fragility of French banks following the 2007-2008 crisis[11].

4.2. Boom and bust results

We aim now at investigating more in details stock market reaction to bank loan announcements during the recent boom and bust cycle. We first represent graphically the evolution of the CAAR and CASAR [-1,0] over time in Figure 2. We observe a rather cyclical, even volatile, evolution of CAAR and CASAR over time with an overall decreasing trend. A breaking point seems to emerge around 2007 which corresponds to the year of the beginning of the financial turmoil. Hence we can suppose that stock market reaction, although cyclical and volatile, tends to exhibit a different pattern during boom and boost periods, in accordance with the literature on procyclicality (see sub-section 2.3).

We now turn to the results provided in Table 4 where we repeat the same exercise as for Table 2 but this time distinguishing the pre- (*No crisis*) and post-crisis (*Crisis*) periods. First of all we remark that most of stock market reactions are negative, confirming results displayed in Table 2. Thus bank loan announcements are considered as a negative signal by investors. However, these reactions appear to be significant only during the crisis period as average CAAR and CASAR are statistically different from 0 mainly for the [-2,0] and [-1,0] event windows, while there are no significant market reactions during the no crisis period. Furthermore, for these particular event windows, both CAAR and CASAR are statistically different regarding the sub-periods under investigation. Finally, in absolute value, CAAR and CASAR are overall larger during the crisis. For instance, the CAAR for the [-1,0] event window is more than 20 times larger during crisis than before. It is also twice the CAAR for the full time period under investigation (2000-2009). Overall, we can claim that a bank loan announcement is perceived differently with respect to the economic environment (*Crisis* vs. *No crisis*) and that it was considered as a negative signal by market participants during the crisis period, while it

[11] *"What's the Matter With the French Banks?"*, The Wall Street Journal, 13/9/2011; *"Moody's Downgrade: SocGen, Credit Agricole's Liquidity Problems Larger Than Greece"*, Forbes, 14/9/2011

was not considered as a signal at all before the turmoil. Hence, bank loan announcements appear to be considered as bad news during a period of economic and financial turmoil.

Although contrary to some of previous empirical findings, this result receives some support from recent research on the 2007-2008 crisis. Dell'Ariccia and Marquez (2006) and Demyanyk and Van Hemert (2011) have shown that banks have relaxed their lending standards during the boom period leading to a deterioration of their loan portfolio's quality. Even if de Haas and van Horen (2010) provide evidence on a "wake-up call" with increased screening and monitoring by banks during the bust period starting in 2007, our results tend to show that providing a loan to a borrower after the crisis is badly perceived by the stock market. This can be related to several issues. First, even with harder lending standards, investors can still doubt in the capacity of banks to identify valuable borrowers on the credit market. Second, we can also expect that on average, lower quality borrowers need to apply for bank loans, especially through credit lines (Ivashina and Scharfstein 2010). Third, we can also expect various conflicts of interests, such as between the shareholders and the debtholders as well as between minor and major shareholders, to be more sever during periods of economic downturn and increased uncertainty. One of the consequences of the reinforcement of such conflicts of interests can be a negative stock market perception of bank loan announcements. Nevertheless, a deeper investigation of these issues is needed to better understand these effects.

Therefore, we first perform similar tests as displayed in Table 3 but this time distinguishing the periods before and after the crisis. The results are provided in Table 5. First of all, we remark that there are significant differences regarding loan maturity and contractual features such as loan collateralization or covenants. Indeed, maturity is more than three times larger during crisis, and one out of three loan contracts are secured and have covenants, while these features are only present for less than 20% of loans before the crisis. These loan characteristics tend to show a change in bank behavior during the crisis due to increase borrower default risk, uncertainty and informational frictions. In particular, loan characteristics

aiming at reducing adverse selection (collateral) and moral hazard (covenants) problems are reinforced during the crisis period. Larger maturities imply also that banks provide longer term funding to dilute the cost of bank debt for borrowers even at the expense of larger spreads. These results are in line with the "wake-up call" argument provided by de Haas and van Horen (2010).

We also remark that the only significant feature of the bank syndicate that changes significantly is the number of lenders, which is reduced by three banks during the crisis. This again confirms a change in bank behavior and is consistent with changes in loan characteristics as a smaller syndicate is better suited to cope with borrower monitoring and mitigating agency costs within the syndicate (Lee and Mullineaux 2004; Sufi 2007; Bosch and Steffen 2011). It can also be explained by the difficulties of financial institutions during that period and thus their weaker willingness to fund syndicated loans. Finally, the only borrower characteristic exhibiting a significant (although statistically weak) change during the crisis is profitability which is twice larger than before.

Finally, we investigate differences in loan, syndicate and borrower characteristics for positive and negative stock market reactions during and before the crisis (Table 6). Regarding loan characteristics, apart from loan size which exhibits similar features for positive CAAR as for the full sample (larger loans are associated with positive stock reaction), we remark that during the crisis, loans with larger spreads (+ 70 bps on average) and more tranches (+ 1 tranche on average) were associated with a positive stock market reaction. It is also worth noticing that a positive reaction is associated with an average loan size of 1 billion USD during the crisis while the same is true for a 700 million USD loan before the crisis. The evidence is completely inverted for spread: before the crisis, positive reactions are related to lower spreads while they are associated with larger spreads during the crisis.

The spread result can be analyzed within the Spence costly signal framework. In an environment plagued with greater uncertainty and thus informational asymmetry, the capacity

to pay a higher spread can be interpreted as a signal regarding the expected performance of the borrower. But we can also consider that the stock market perceives higher spreads as a signal of reinforced lending standards of the banks. This can be related to the latter result regarding the tranching of syndicated loans. Following recent evidence by Maskara (2010), multiple tranches actually create economic value and provide benefits for riskier borrower even if on average, the credit spread for a multi-tranches loan is larger. This is because without tranching, such spread would be even larger, eventually leading to adverse selection effects.

We also observe differences regarding bank syndicate features, as the size of the syndicate and the number of arrangers are significantly different for positive and negative stock market reaction but only before the crisis. Larger syndicates with more arrangers are associated with positive CAAR according to the argument relating such syndicate structure with less informationally problematic deals and borrowers. Other syndicate features such as the percentage of local lenders or arrangers exhibit similar level of significance as for the full period (cf. Table 3).

Finally, we also remark differences regarding borrower characteristics, especially for financial ratios such as common equity to total assets during the crisis period. Indeed, a positive stock market reaction is associated with loans to firms having a lower equity ratio. This can appear as counterintuitive because less capitalized firms can be considered as more fragile, especially during a crisis. However, we can also remind that the corollary of equity is debt which has been found to work as a signaling and disciplining device (Leland and Pyle 1977; Ross 1977). Indeed, debt issuance is a positive signal, helping to solve adverse selection that results from information asymmetries between firm insiders and outsiders. Hence debt can be used by higher quality firms their quality. Moreover, a high-quality firm can issue more debt than a low-quality firm, because the issuance of debt leads to a higher probability of default due to debt-servicing costs. Debt can also reduce agency costs resulting from conflicts of interest between shareholders and managers as it increases the pressure on managers to

perform and stop wasting company resources and increase their effort by restricting the 'free cash-flow' at the disposal of managers (Jensen 1986). Other borrower characteristics such as size (measured by total assets or sales) exhibit similar significant levels by CAAR during crisis or no-crisis periods as for the full period (cf. Table 3).

5. Discussion

We have empirically revisited the question of bank loans "specialness" taking advantage of the recent boom and bust cycle to provide a better understanding of stock market perception of bank loan announcements in the case of a major European country. Using a sample of 253 loan announcements to French borrowers from January 2000 until December 2009 we have computed CAAR and CASAR for the whole period as well as for the boom and bust sub-periods. We have also investigated various loan, syndicate and borrower characteristics that could influence stock market reaction.

Regarding the full sample results we found significant and negative stock market reaction to bank loan announcements. This first finding does not support the consensus of (positive) bank loan specialness first provided by James (1987) but rather more recent conclusions by Billett et al. (2006). In our case, bank loan announcements are actually perceived as bad news. However, we also document which loan, syndicate and borrower characteristics are associated with a positive reaction. We find that larger loans funded by numerous lenders of which a smaller proportion is local banks to large borrowers are related to a positive abnormal return. This series of results is more in line with previous literature (Mosebach 1999; Lee and Mullineaux 2004; Sufi 2007; Bosch and Steffen 2011). We also find that abnormal returns appear to be cyclical over the period but with a downward trend starting in 2007.

We then investigate the effect of the recent boom and bust cycle on stock market perception of bank loan announcements. First of all we find that the average negative stock market reaction to bank loan announcements is essentially due to the loans provided during

the bust period, from 2007 to 2009. We then document significant changes in loan and syndicated features before and after the crisis. We uncover a significant change in bank lending behavior over the cycle, following notably recent evidence by de Haas and van Horen (2010). During the crisis period, loans have larger maturities, are more often secured and have covenants, and are funded by much smaller syndicates. These results clearly indicate a "wake-up call" effect of the crisis on bank screening and monitoring activities, with the reinforcement of contractual (loan) and organizational (syndicate) features aiming at mitigating adverse selection and moral hazard problems during a period of greater uncertainty and risk.

Second, we look into the characteristics of loans, syndicates and borrowers that are related to positive and negative stock market reaction over the boom and bust cycle. We find that larger loan spreads and multi-tranches deals are associated with a positive market reaction during the crisis. We interpret the spread result as a costly signal in a Spence framework while the economic value of tranching, especially for riskier borrowers, follows recent findings by Maskara (2010). We also uncover that a positive reaction during the crisis is associated with a borrower's lower common equity ratio. We explain this result following signaling and disciplining roles of external debt (Leland and Pyle 1977; Ross 1977).

Overall, our findings can be considered as questioning bank loans specialness, especially in a period of crisis. However, several results also confirm established conclusions regarding the effects of such characteristics as loan and firm size or the structure of syndicates on stock market perception of bank loan announcements. We document a significant change in bank behavior over the economic cycle, with reactions in terms of loan and syndicate features to a crisis environment. We also uncover the signaling role of loan spreads and borrower financial structure as well as the economic advantages of loan tranching.

However, more research needs to be done to better understand the question of bank specialness in the current economic and financial environment. In particular, multivariate analysis on a larger sample could shed more light on the issue of bank loans perception by

stock markets. Furthermore, an interesting extension would be to consider the impact of government assistance on stock market perception of bank loan provided by financial institutions which received such support, following recent empirical evidence on the effect of government bailout on bank risk taking (Brei et al. 2011; Duchin and Sosyura 2011).

References

Altunbas, Yener, Blaise Gadanecz, and Alper Kara (2006), *Syndicated Loans: A Hybrid of Relationship Lending and Publicly Traded Debt*, Palgrave Macmillan.

Bae, Kee-Hong, Jun-Koo Kang, and Chan-Woo Lim (2002), "The value of durable bank relationships: evidence from Korean banking shocks," *Journal of Financial Economics*, 64(2), 181–214.

Bailey, Warren, Wei Huang, and Zhishu Yang (2011), "Bank Loans with Chinese Characteristics: Some Evidence on Inside Debt in a State-Controlled Banking System," *Journal of Quantitative Financial Analysis*, forthcoming.

Berger, Allen N., and Gregory F. Udell (1994), "Did Risk-Based Capital Allocate Bank Credit and Cause a 'Credit Crunch' in the United States?," *Journal of Money, Credit and Banking*, 26(3), 585–628.

Berger, Allen N., Leora F. Klapper, and Gregory F. Udell (2001), "The ability of banks to lend to informationally opaque small businesses," *Journal of Banking & Finance*, 25(12), 2127–67.

Bernanke, Ben S., Cara S. Lown, and Benjamin M. Friedman (1991), "The Credit Crunch," *Brookings Papers on Economic Activity*, 1991(2), 205–47.

Best, Ronald, and Hang Zhang (1993), "Alternative Information Sources and the Information Content of Bank Loans," *The Journal of Finance*, 48(4), 1507–22.

Billett, Matthew T., Mark J. Flannery, and Jon A. Garfinkel (1995), "The Effect of Lender Identity on a Borrowing Firm's Equity Return," *The Journal of Finance*, 50(2), 699–718.

——— (2006), "Are Bank Loans Special? Evidence on the Post-Announcement Performance of Bank Borrowers," *The Journal of Financial and Quantitative Analysis*, 41(4), 733–51.

Boehmer, Ekkehart, Jim Masumeci, and Annette B. Poulsen (1991), "Event-study methodology under conditions of event-induced variance," *Journal of Financial Economics*, 30(2), 253–72.

Bolton, Patrick, and David S. Scharfstein (1996), "Optimal Debt Structure and the Number of Creditors," *Journal of Political Economy*, 104(1), 1–25.

Bosch, Oliver, and Sascha Steffen (2011), "On syndicate composition, corporate structure and the certification effect of credit ratings," *Journal of Banking & Finance*, 35(2), 290–99.

Brei, Michael, Leonardo Gambacorta, and Goetz Von Peter (2011), "Rescue Packages and Bank Lending," *SSRN eLibrary*.

Chava, Sudheer, and Amiyatosh Purnanandam (2011), "The effect of banking crisis on bank-dependent borrowers," *Journal of Financial Economics*, 99(1), 116–35.

Dell'Ariccia, Giovanni, and Robert Marquez (2006), "Lending Booms and Lending Standards," *The Journal of Finance*, 61(5), 2511–46.

Dell'Ariccia, Giovanni, Deniz Igan, and Luc Laeven (2008), "Credit Booms and Lending Standards: Evidence From The Subprime Mortgage Market," *CEPR Discussion Papers*.

Demyanyk, Yuliya, and Otto Van Hemert (2011), "Understanding the Subprime Mortgage Crisis," *Review of Financial Studies*, 24(6), 1848–80.

Diamond, Douglas W (1984), "Financial Intermediation and Delegated Monitoring," *Review of Economic Studies*, 51(3), 393–414.

——— (1991), "Monitoring and Reputation: The Choice between Bank Loans and Directly Placed Debt," *Journal of Political Economy*, 99(4), 689–721.

Duchin, Ran, and Denis Sosyura (2011), "Safer Ratios, Riskier Portfolios: Banks' Response to Government Aid," *SSRN eLibrary*.

Duchin, Ran, Oguzhan Ozbas, and Berk A. Sensoy (2010), "Costly external finance, corporate investment, and the subprime mortgage credit crisis," *Journal of Financial Economics*, 97(3), 418–35.

Esty, B.C. (2001), "Structuring Loan Syndicates: A Case Study of the Hong Kong Disneyland Project Loan," *Journal of Applied Corporate Finance*, 14, 80–95.

Fama, Eugene F. (1985), "What's different about banks?," *Journal of Monetary Economics*, 15(1), 29–39.

Fields, L. Paige, Donald R. Fraser, Tammy L. Berry, and Steven Byers (2006), "Do Bank Loan Relationships Still Matter?," *Journal of Money, Credit, and Banking*, 38, 1195–1209.

Focarelli, Dario, Alberto Franco Pozzolo, and Luca Casolaro (2008), "The pricing effect of certification on syndicated loans," *Journal of Monetary Economics*, 55(2), 335–49.

Fungáčová, Zuzana, Christophe J. Godlewski, and Laurent Weill (2011), "Asymmetric Information and Loan Spreads in Russia," *Eastern European Economics*, 49(1), 13–29.

Furfine, Craig (2001), "Bank Portfolio Allocation : The Impact of Capital Requirements , Regulatory Monitoring , and Economic Conditions," *Journal of Financial Services Research*, 20(1), 33–56.

Gambacorta, Leonardo, and Paolo Emilio Mistrulli (2004), "Does bank capital affect lending behavior?," *Journal of Financial Intermediation*, 13(4), 436–57.

Gatev, Evan, and Philip E. Strahan (2009), "Liquidity risk and syndicate structure," *Journal of Financial Economics*, 93(3), 490–504.

Godlewski, C.J., F. Lobez, J.C. Statnik, and Y. Ziane (2010), "Better Borrowers, Fewer Banks? The Signaling Role of Banking Pools' Coordination," Working Paper, LaRGE, Université de Strasbourg.

Godlewski, Christophe J. (2009), "L'organisation des syndicats bancaires en France : Taille, concentration et réputation," *Finance Contrôle Stratégie*, 12(3), 37–63.

Godlewski, Christophe J., Zuzana Fungáčová, and Laurent Weill (2011), "Stock Market Reaction to Debt Financing Arrangements in Russia," *Comparative Economic Studies*, forthcoming.

Hancock, Diana, Andrew J. Laing, and James A. Wilcox (1995), "Bank capital shocks: Dynamic effects on securities, loans, and capital," *Journal of Banking & Finance*, 19(3-4), 661–77.

Huang, Weihua, Armin Schwienbacher, and Shan Zhao (2011), "When Bank Loans Are Bad News: Evidence From Market Reactions to Loan Announcements Under the Risk of Expropriation," *Journal of International Financial Markets, Institutions &Money*, forthcoming.

Ivashina, Victoria, and David Scharfstein (2010), "Bank lending during the financial crisis of 2008," *Journal of Financial Economics*, 97(3), 319–38.

James, Christopher (1987), "Some evidence on the uniqueness of bank loans," *Journal of Financial Economics*, 19(2), 217–35.

Jensen, Michael C. (1986), "Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers," *The American Economic Review*, 76(2), 323–29.

Jensen, Michael C., and William H. Meckling (1976), "Theory of the firm: Managerial behavior, agency costs and ownership structure," *Journal of Financial Economics*, 3(4), 305–60.

Keys, Benjamin J., Tanmoy Mukherjee, Amit Seru, and Vikrant Vig (2010), "Did Securitization Lead to Lax Screening? Evidence from Subprime Loans," *The Quarterly Journal of Economics*, 125(1), 307–62.

Lee, S.W., and D.J. Mullineaux (2004), "Monitoring, Financial Distress, and the Structure of Commercial Lending Syndicates," *Financial Management*, 33, 107–30.

Leland, Hayne E., and David H. Pyle (1977), "Informational Asymmetries, Financial Structure, and Financial Intermediation," *The Journal of Finance*, 32(2), 371–87.

Lummer, Scott L., and John J. McConnell (1989), "Further evidence on the bank lending process and the capital-market response to bank loan agreements," *Journal of Financial Economics*, 25(1), 99–122.

MacKinlay, A. Craig (1997), "Event Studies in Economics and Finance," *Journal of Economic Literature*, 35(1), 13–39.

Maskara, Pankaj K. (2010), "Economic value in tranching of syndicated loans," *Journal of Banking & Finance*, 34(5), 946–55.

Maskara, Pankaj K., and Donald J. Mullineaux (2011), "Information asymmetry and self-selection bias in bank loan announcement studies," *Journal of Financial Economics*, 101(3), 684–94.

Mian, Atif, and Amir Sufi (2009), "The Consequences of Mortgage Credit Expansion: Evidence from the U.S. Mortgage Default Crisis," *The Quarterly Journal of Economics*, 124(4), 1449–96.

Mosebach, Micheal (1999), "Market response to banks granting lines of credit," *Journal of Banking & Finance*, 23(11), 1707–23.

Myers, Stewart C. (1977), "Determinants of corporate borrowing," *Journal of Financial Economics*, 5(2), 147–75.

Ongena, Steven, David C Smith, and Dag Michalsen (2003), "Firms and their distressed banks: lessons from the Norwegian banking crisis," *Journal of Financial Economics*, 67(1), 81–112.

Patell, James M. (1976), "Corporate Forecasts of Earnings Per Share and Stock Price Behavior: Empirical Test," *Journal of Accounting Research*, 14(2), 246–76.

Peek, Joe, and Eric Rosengren (1995), "Bank regulation and the credit crunch," *Journal of Banking & Finance*, 19(3-4), 679–92.

Preece, Dianna, and Donald J. Mullineaux (1996), "Monitoring, loan renegotiability, and firm value: The role of lending syndicates," *Journal of Banking & Finance*, 20(3), 577–93.

Purnanandam, Amiyatosh (2011), "Originate-to-distribute Model and the Subprime Mortgage Crisis," *Review of Financial Studies*, 24(6), 1881–1915.

Ralph de Haas, and Neeltje van Horen (2010), "The crisis as a wake-up call. Do banks tighten screening and monitoring during a financial crisis?," Netherlands Central Bank, Research Department.

Ross, Stephen A. (1977), "The Determination of Financial Structure: The Incentive-Signalling Approach," *The Bell Journal of Economics*, 8(1), 23–40.

Santos, João A. C. (2011), "Bank Corporate Loan Pricing Following the Subprime Crisis," *Review of Financial Studies*, 24(6), 1916–43.

Slovin, Myron B., Shane A. Johnson, and John L. Glascock (1992), "Firm size and the information content of bank loan announcements," *Journal of Banking & Finance*, 16(6), 1057–71.

Sufi, A. (2007), "Information Asymmetry and Financing Arrangements: Evidence from Syndicated Loans," *The Journal of Finance*, 62, 629–68.

Thomson Reuters (2010), "Syndicated Loans Legal Advisory Review," Thomson Reuters.

Wagster, John D. (1999), "The Basle Accord of 1988 and the international credit crunch of 1989-1992," *Journal of Financial Services Research*, 15(2), 123–43.

Table 1. Descriptive statistics for loan, bank syndicate and borrower characteristics (2000-2009)

This table displays means and standard deviations for main loan, bank syndicate and borrower characteristics. Sample period is 2000 until 2009. The number of observations varies because of data availability for particular variables. Data source: Bloomberg Professional Terminal Server.

Variable	N	Mean	Std dev.
Facility amount (MLN USD)	253	674,121	1 349,495
Mean spread (bps)	135	128,801	103,780
Mean maturity (years)	253	2,921	4,703
Number of tranches	253	2,419	2,315
Term loan dummy	253	0,509	0,500
Revolving loan dummy	253	0,387	0,488
Loan secured dummy	253	0,217	0,413
Loan covenants dummy	253	0,233	0,423
Number of lenders	253	8,565	7,945
Number of arrangers	233	6,733	6,260
Percent of French lenders	220	66,235	26,646
Percent of French arrangers	209	64,844	27,970
Percent of League table lenders	230	66,190	23,090
Percent of League table arrangers	214	66,801	23,934
Total assets (MLN USD)	200	40 045,630	198 298,210
Total market value (MLN USD)	195	35 112,360	172 354,060
Sales (MLN USD)	206	7 990,400	17 459,120
Total debt / Total assets	200	34,082	21,854
Total debt / Common equity	195	207,622	494,617
Common equity / Total assets	200	28,322	24,433
Ebitda / Total interest expenses	176	12,113	21,530
Quick ratio	176	77,996	51,838
Current ratio	176	134,936	89,671
Operational margin	200	17,705	21,962
Profitability margin	206	9,461	25,981
Return on assets	199	3,750	5,825

Table 2. CAAR and CASAR results (2000-2009)

This table displays CAAR (cumulative average abnormal return) and CASAR (cumulative average abnormal standardized return) for the selected seven event windows in the second and third columns. The percentage of positive CAAR is in the fourth column. ** and * indicate CAAR CASAR statistically different from 0 at the 5% and 10% confidence level according to Student tests. The number of loan announcement events is 253. Sample period is 2000 until 2009. Data source: Bloomberg Professional Terminal Server.

Event window	CAAR	CASAR	Percent of positive CAAR
[0,0]	-0,3001**	-0,0961	0,3872
[-1,1]	-0,3121	-0,0828	0,4587
[-2,2]	-0,2622	-0,0456	0,4812
[-2,0]	-0,2996	-0,0726*	0,4662
[-1,0]	-0,3068*	-0,0938**	0,4812
[0,1]	-0,3062	-0,0767	0,4098
[0,2]	-0,2570	-0,0397	0,4549

Table 3. Loan, bank syndicate and borrower characteristics by CAAR (2000-2009)

This table displays means and standard deviations for main loan, bank syndicate and borrower characteristics by positive and negative CAAR for the [-1,0] event window and the results of t-tests or chi-2 tests for the means. The latter is used for binomial test of proportion (dummy variables) while the former is used for Student tests of means (continuous variables). ***, ** and * indicate a statistically significant difference in means at the 1%, 5% and 10% confidence level for the relevant variables. Sample period is 2000 until 2009. Data source: Bloomberg Professional Terminal Server.

	Positive CAAR [-1,0]		*Negative CAAR [-1,0]*		
Variable	**Mean**	**Std dev.**	**Mean**	**Std dev.**	**Mean t-test or chi-2 test**
Facility amount (MLN USD)	900,521	1 804,383	459,911	619,135	2,57**
Mean spread (bps)	129,278	109,380	128,345	98,929	0,05
Mean maturity (years)	2,861	4,096	2,978	5,229	0,2
Number of tranches	2,552	2,615	2,292	1,994	0,89
Term loan dummy	0,487	0,501	0,530	0,501	0,46
Revolving loan dummy	0,406	0,493	0,369	0,484	0,37
Loan secured dummy	0,235	0,426	0,200	0,401	0,47
Loan covenants dummy	0,268	0,444	0,200	0,401	1,64
Number of lenders	9,764	9,090	7,430	6,520	2,33**
Number of arrangers	7,383	7,316	6,132	5,049	1,51
Percent of French lenders	60,708	26,104	71,469	26,202	3,05***
Percent of French arrangers	58,306	27,724	70,842	26,948	3,31***
Percent of League table lenders	65,030	22,670	67,271	23,518	0,73
Percent of League table arrangers	66,716	25,334	66,880	22,672	0,05
Total assets (MLN USD)	70 860,070	280 611,410	11 026,210	29 199,330	2,09**
Total market value (MLN USD)	60 867,460	244 419,510	11 142,260	29 438,370	1,96*
Sales (MLN USD)	11 849,140	22 575,270	4 488,950	9 796,820	2,98***
Total debt / Total assets	32,585	16,479	35,493	25,924	0,95
Total debt / Common equity	205,981	339,199	209,118	604,240	0,05
Common equity / Total assets	26,700	15,353	29,849	30,627	0,93
Ebitda / Total interest expenses	13,479	26,075	10,922	16,644	0,76
Quick ratio	77,920	42,877	78,067	59,237	0,02
Current ratio	130,329	50,224	139,239	115,075	0,67
Operational margin	15,230	19,256	20,036	24,098	1,56
Profitability margin	6,140	11,533	12,474	33,962	1,83*
Return on assets	3,290	6,091	4,188	5,555	1,09

Table 4. CAAR and CASAR results over crisis vs. no crisis period

This table displays CAAR (cumulative average abnormal return) and CASAR (cumulative average abnormal standardized return) for the selected seven event windows over crisis (2007-2009) and no crisis (2000-2006) periods. In the first two columns, ***, ** and * indicate CAAR and CASAR statistically different from 0 at the 1%, 5% and 10% confidence level according to Student tests. In the last two columns, ** and * indicate a statistically significant difference in means at the 5% and 10% confidence level for the CAAR and CASAR between the crisis and the no crisis periods.

Event window	*Crisis*		*No crisis*			
	CAAR	**CASAR**	**CAAR**	**CASAR**	**Mean t-test for CAAR**	**Mean t-test for CASAR**
[0,0]	-0,4291*	-0,1558	-0,2066	-0,0500	0,75	0,83
[-1,1]	-0,5909	-0,1589*	-0,0561	-0,0237	1,07	1,19
[-2,2]	-0,2228	-0,0563	-0,2906	-0,0397	-0,11	0,15
[-2,0]	-0,6025**	-0,1814***	0,0118	0,0127	1,74*	2,22**
[-1,0]	-0,6458***	-0,2162***	0,0310	0,0032	2,29**	2,49**
[0,1]	-0,3676	-0,0860	-0,3092	-0,0733	0,11	0,09
[0,2]	-0,0033	0,0319	-0,5626	-0,1042	-0,89	-0,91

Table 5. Loan, bank syndicate and borrower characteristics over crisis vs. no crisis period

This table displays means and standard deviations for main loan, bank syndicate and borrower characteristics by crisis (2007-2009) and no crisis (2000-2006) period and the results of t-tests or chi-2 tests for the means. The latter is used for binomial test of proportion (dummy variables) while the former is used for Student tests of means (continuous variables). ***, ** and * indicate a statistically significant difference in means at the 1%, 5% and 10% confidence level for the relevant variables. Data source: Bloomberg Professional Terminal Server.

Variable	*Crisis*		*No crisis*		
	Mean	**Std dev.**	**Mean**	**Std dev.**	**Mean t-test or chi-2 test**
Facility amount (MLN USD)	731,750	1 717,186	632,565	1 009,220	-0,53
Mean spread (bps)	139,690	114,370	123,884	98,890	-0,82
Mean maturity (years)	4,844	6,486	1,535	1,820	-5,11***
Number of tranches	2,566	2,879	2,313	1,809	-0,80
Term loan dummy	0,557	0,499	0,476	0,501	1,59
Revolving loan dummy	0,330	0,473	0,429	0,497	2,51
Loan secured dummy	0,292	0,457	0,163	0,371	6,04**
Loan covenants dummy	0,311	0,465	0,177	0,383	6,22**
Number of lenders	6,811	5,460	9,830	9,148	3,27***
Number of arrangers	6,505	5,128	6,880	6,903	0,47
Percent of French lenders	69,475	26,307	64,035	26,750	-1,49
Percent of French arrangers	67,008	27,320	63,418	28,408	-0,91
Percent of League table lenders	68,121	22,187	64,926	23,657	-1,03
Percent of League table arrangers	69,435	23,273	65,101	24,289	-1,31
Total assets (MLN USD)	59 408,280	275 540,020	26 309,740	115 456,080	-1,03
Total market value (MLN USD)	46 277,150	229 482,290	27 010,470	114 940,900	-0,7
Sales (MLN USD)	9016,570	21949,030	7209,810	13107,110	-0,69
Total debt / Total assets	35,768	17,665	32,887	24,399	-0,97
Common equity / Total assets	275,481	691,114	158,379	269,277	-0,5
Total debt / Common equity	29,262	15,260	27,656	29,300	-1,46
Ebitda / Total interest expenses	11,233	20,106	12,738	22,562	0,46
Quick ratio	0,821	0,651	0,753	0,406	-0,78
Current ratio	1,415	1,249	1,305	0,547	-0,69
Operational margin	20,864	26,383	15,465	17,979	-1,62
Profitability margin	13,153	31,168	6,653	20,918	-1,70*
Return on assets	4,184	5,770	3,441	5,870	-0,89

Table 6. Loan, bank syndicate and borrower characteristics by CAAR over crisis vs. no crisis period

This table displays means and standard deviations for main loan, bank syndicate and borrower characteristics by positive and negative CAAR for the [-1,0] event window and the results of t-tests or chi-2 tests for the means over crisis (2007-2009) and no crisis (2000-2006) periods. The chi-2 test is used for binomial test of proportion (dummy variables) while the t-test is used for Student tests of means (continuous variables). ***, ** and * indicate a statistically significant difference in means at the 1%, 5% and 10% confidence level for the relevant variables. Data source: Bloomberg Professional Terminal Server.

	Crisis					*No crisis*				
	Positive CAAR [-1,0]		*Negative CAAR [-1,0]*			*Positive CAAR [-1,0]*		*Negative CAAR [-1,0]*		
Variable	**Mean**	**Std dev.**	**Mean**	**Std dev.**	**Mean t-test or chi-2 test**	**Mean**	**Std dev.**	**Mean**	**Std dev.**	**Mean t-test or chi-2 test**
Facility amount (MLN USD)	1088,200	2464,800	436,780	47,660	-1,80*	780,420	1213,200	478,550	716,470	-1,85*
Mean spread (bps)	176,900	123,100	105,900	96,461	-2,09**	108,600	97,132	138,900	99,322	1,49
Mean maturity (years)	4,937	5,668	4,768	7,142	-0,14	1,534	1,636	1,538	2,006	0,01
Number of tranches	3,188	3,541	2,052	2,081	-1,96*	2,147	1,698	2,486	1,914	1,14
Term loan dummy	0,612	0,492	0,509	0,504	0,80	0,414	0,497	0,517	0,503	2,42
Revolving loan dummy	0,306	0,466	0,351	0,482	1,39	0,500	0,504	0,382	0,489	2,62
Loan secured dummy	0,245	0,435	0,333	0,476	0,70	0,121	0,329	0,191	0,395	0,11
Loan covenants dummy	0,286	0,456	0,333	0,476	0,75	0,207	0,409	0,157	0,366	1,39
Number of lenders	6,854	5,348	6,776	5,598	-0,07	11,627	9,224	7,958	7,173	-2,49**
Number of arrangers	6,425	5,073	6,569	5,220	0,13	7,917	8,292	5,814	4,935	-1,84*
Percent of French lenders	63,579	23,693	73,868	27,505	1,85*	59,127	27,380	69,496	25,135	2,25**
Percent of French arrangers	60,056	26,395	72,078	27,129	2,03**	57,364	28,572	69,870	26,991	2,52**
Percent of League table lenders	66,853	21,937	69,072	22,538	0,47	64,043	23,150	65,875	24,328	0,45
Percent of League table arrangers	71,211	23,056	68,102	23,588	-0,61	64,302	26,327	65,950	22,096	0,39

Table 6. continued

	Crisis					*No crisis*				
	Positive CAAR [-1,0]		*Negative CAAR [-1,0]*			*Positive CAAR [-1,0]*		*Negative CAAR [-1,0]*		
Variable	**Mean**	**Std dev.**	**Mean**	**Std dev.**	**Mean t-test or chi-2 test**	**Mean**	**Std dev.**	**Mean**	**Std dev.**	**Mean t-test or chi-2 test**
Total assets (MLN USD)	122950	406523	8298,7	12197,3	-1,71*	38738	156639	13227,3	37714,2	-1,22
Total market value (MLN USD)	94142	337767	6921,6	9604,7	-1,57	39268,2	157051	14533,9	38413,3	-1,15
Sales (MLN USD)	15717	31420	4024,1	7603,4	-2,25**	9399,5	14249,4	4904,9	11462,8	-1,88*
Total debt / Total assets	33,79	15,792	37,359	19,061	0,91	31,842	16,978	33,988	30,447	0,47
Common equity / Total assets	23,938	15,269	33,545	13,991	2,99***	28,405	15,284	26,868	39,128	-0,28
Total debt / Common equity	240,2	327	303,1	880,2	0,45	184,4	347,8	131,9	151,9	-1,04
Ebitda / Total interest expenses	11,039	19,472	11,369	20,765	0,07	14,888	29,305	10,546	12,361	-0,98
Quick ratio	0,758	0,389	0,869	0,8	0,77	0,791	0,453	0,712	0,349	-1,01
Current ratio	1,257	0,464	1,537	1,612	1,04	1,33	0,525	1,279	0,572	-0,47
Operational margin	16,66	24,376	24,245	27,69	1,31	14,349	15,451	16,64	20,38	0,68
Profitability margin	4,766	12,197	19,403	38,812	1,53	7,011	11,109	6,276	27,859	-0,19
Return on assets	3,202	5,573	4,974	5,864	1,4	3,345	6,437	3,543	5,253	0,18

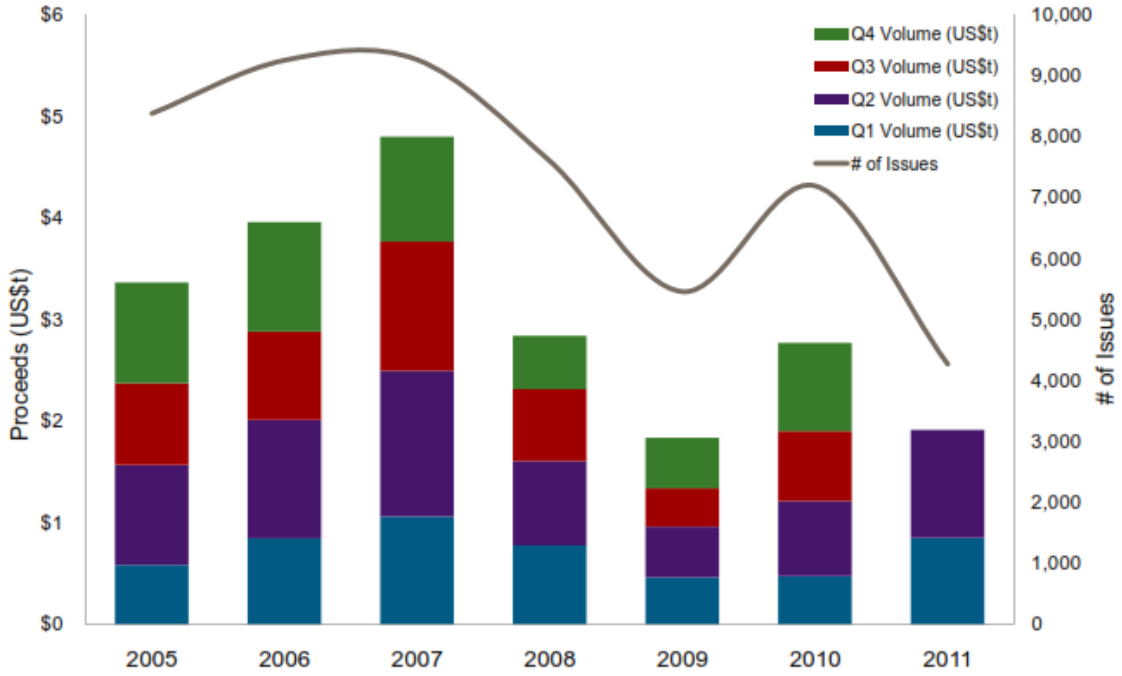

Figure 1 Worldwide syndicated loans amounts and issues

This figure displays the evolution of the yearly loan amounts (left scale) and number of issues (right scale) on the global syndicated lending market (source: Thomson Reuters).

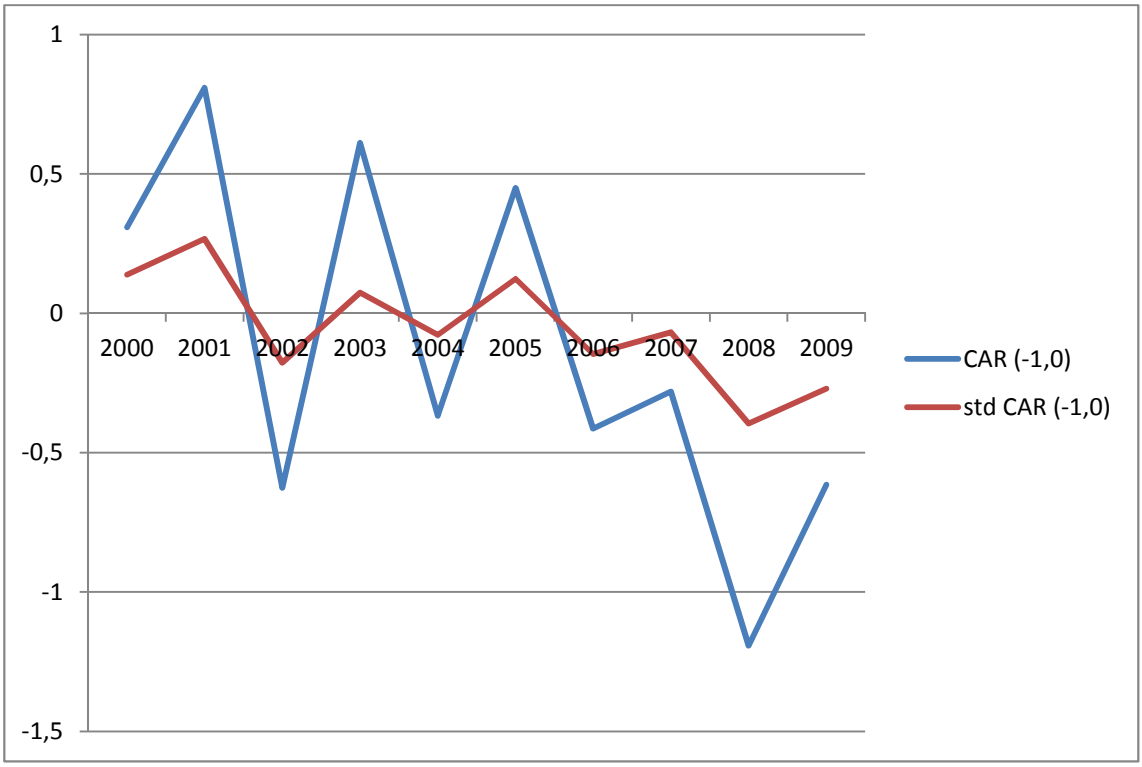

Figure 2 CAAR and CASAR evolution over time

This figure displays the evolution of the yearly means of CAAR and CASAR for the [-1,0] event window.

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