## HOW DID EXPORT ACTIVITY AFFECT SMALL BUSINESS ACCESS TO BANK CAPITALS DURING THE GLOBAL CRISIS?

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#### Abstract

This article aims at studying the effect of export activity, viewed as a way of estimating small business internationalization, on access to bank capitals during the recent global crisis. The empirical analysis leads to several interesting results. In particular, the existence and intensity of exports are negatively related to bank capitals, demonstrating the difficulties of small businesses to rely on financial leverage when they wish to explore new markets. Conversely, indicators of solvency and liquidity are positively related to this same source of financing. They are more important than those of profitability and growth opportunities in explaining the financial leverage level, attesting the primary need of small businesses to provide sufficient guarantees when they wish to incur new bank loans in times of crisis. These findings may interest policy makers, financiers and researchers and contribute to enriching the debate on the relationship between small business internationalization and access to leverage.

Keywords: Bank Capitals; Internationalization; Export Activity; Small Businesses; Global Crisis

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#### 1. Introduction

Small and medium-sized enterprises (SMEs) are key players in the European Union (EU) economy in terms of their contribution to growth and innovation. One of the vectors for SME growth and sustainability is opening internationally (Lee et al., 2012). The survey conducted in 2008 by the European SME Observatory on the theme of European firm internationalization provides us with two interesting results. The first concerns the export activity rate, traditionally considered as a relevant criterion for measuring a firm degree of internationalization (Pacitto, 2006). Less than one in ten SMEs exports within the EU. Indeed, SMEs in some of the larger EU countries are relatively uninterested in crossborder trade (Spain 3%, France 6%, and Italy 7%). The second observation concerns their international presence. Only 5% of European SMEs have reported having at least one subsidiary or joint venture abroad. Consequently, it seems that the vast majority of SMEs stage this advanced rarely reach of internationalization, clearly satisfied with simple export strategies especially in times of crisis. Several barriers to internationalization are frequently put forth by researchers and practitioners to explain this situation. Indeed, the internationalization process requires adapting the firm business model. This strategic development requires applying knowledge regarding the new targeted markets and deploying new (particularly financial) resources. In this direction, Hollenstein (2005) argues that the desire to go international for SMEs is likely to condition their access to various financing sources. Therefore, in their internationalization projects, SMEs are dependent on capital providers, particularly banks which are both the primary financial backers and the informed partners, notably regarding the international risk management (Beck et al., 2008; Benkraiem and Gurau, 2011).

Both theoretical (Chaney, 2005; Manova, 2012) and empirical (Greenaway et al 2007; Bridges and Guariglia, 2008; Bellone et al., 2010; Silva, 2011; Minetti and Zhu, 2011) previous research has taken an interest in studying the relationship between internationalization and financial constraints. The conclusions of previous papers mainly before the recent crisis occurrence seem quite mixed. An initial category of studies suggests that exporting reduces financial constraints borne by firms and facilitates their access to financing. Exporting acts as an element of risk reduction by diversifying customers (Bridges and Guariglia, 2008). It sends a positive signal in terms of efficiency and competitiveness translating into better financial performance (Urionabarrenetxea and Castellanos, 2010). Opening to international markets is perceived as a factor that reduces information asymmetry (Ganesh-Kumar et al, 2001). In contrast, a second category of studies leads to opposing conclusions. For example, Chaney (2005) argues that a firm wishing to export faces substantial related fixed costs. These costs are likely to aggravate difficulties of accessing financial resources. In the end, only firms that have sufficient internal financial resources may be able to export.

Therefore, SME internationalization appears to be a key determinant of access to bank loans. In this context, this article aims at studying the relationship between access to bank loans and a set of economic and financial variables in a sample of 1,655 observations of French SMEs during the recent crisis period, i.e. from 2008 to 2011. Among these relationships, we specifically focus on the link between SME internationalization and the access to bank loans. To do so, we consider that the main form of SME internationalization concerns the export activity (Pacitto, 2006). Indeed, it seems difficult for small businesses to open up to international markets considering other forms of internationalization (joint venture, establishing subsidiaries abroad, etc.) because they do not have sufficient financial and human resources. Consequently, we intend to analyze the relationship between export activity viewed as a way of estimating SME internationalization and bank financing.

This paper contributes to the existing literature mainly in two respects. First, it extends previous research by investigating the specific case of SMEs in a European context, i.e. France, during the recent global crisis, i.e. from 2008 to 2011. Second, it deepens the analysis by focusing on a particular source of funding: bank loans which constitute a major source of external financing for SMEs (Beck et al, 2008; Benkraiem and Gurau, 2011). Our research deploys an econometric methodology providing for directly testing the relationship between exports and bank financing, integrating an additional set of control variables (solvency, liquidity, profitability and growth opportunities).

The empirical analysis leads to several interesting results. In particular, the existence and intensity of exports are negatively related to bank capitals, demonstrating the difficulties of small businesses to rely on financial leverage when they wish to explore new markets. Conversely, indicators of solvency and liquidity are positively related to this same source of financing. They are more important than those of profitability and growth in explaining the financial leverage level, attesting the primary need of small businesses to provide sufficient guarantees when they wish to incur new loans in times of crisis.

The remainder of this paper consists of four sections. Section 2 presents the theoretical framework. Section 3 explains the methodology. Section 4 presents and discusses the results and Section 5 serves as a conclusion.

#### **Theoretical Framework** 2.

#### 2.1. SME access to bank loans during the global crisis

One of the primary roles of a commercial bank is to grant loans to firms, particularly the smallest among them, SMEs. Various types of resources are offered by these credit institutions according to the investment project nature and characteristics in terms of risk, cost, and duration. Long-term loans are typically granted to finance fixed assets, while shortterm loans are used to finance increased working capital requirements. When firms suffer from insufficient cash flows, the bank may grant overdrafts at higher interest rates, reflecting the increased risk. Whatever the debt maturity, the bank establishes a strict process for granting loans based on the collected information regarding the nature of investment, the level of risk, etc. All this information allows the credit institution to assess the firm creditworthiness, i.e. the ability to honor its commitments. Consequently, banks often ask corporate managers for a series of documents reflecting the firm past, present and future activity (tax returns, off balance sheet items, financial prospects, etc.) in order to conduct a meaningful assessment of the project risk/return ratio. Several authors such as Beck et al. (2008) and Benkraiem and Gurau (2011) emphasize the uniqueness and importance of this type of financing in reducing the asymmetry of information between the various parties. Banks, through their resources and means, have the ability to access internal corporate information and therefore limit manager informational advantage specified by agency theory (Jensen, 1986). These arguments help understanding why banks are one of the primary financial backers for SMEs. Nevertheless, in practice, even though banks are more effective auditors than other capital providers (Foe example, individual investors), they may encounter difficulties implementing such audits, especially in times of crisis.

In a context of crisis, the accentuation of SME difficulties to rely on financial leverage could be mainly explained by two factors: the unfavorable evolution of credit supply and demand mechanisms and the aggravation of firm default risk. According to the Bank of France (2012, Bulletin No. 188), the 2008 global crisis has led for most of the European countries, including France to a slowdown in funding approval and disbursement to applicant businesses. The annual growth rate of credits has significantly decreased during the crisis period. This rate fell brutally to become negative for certain categories of firms, primarily SMEs. Despite a slower deceleration of credits granted to firms in France in comparison with some other European countries, the situation reflects a sharp deterioration in access to loans.

Credit institutions, particularly banks which have accepted high levels of firm risk before the

crisis, experienced substantial losses during the economic downturn. Henceforth, these losses forced them to reduce their lending activity until restoring a proportion of equity considered as sufficient in the meaning of Basle standards. Following the crisis, credit institutions have therefore tried to reduce their exposure to risk by reducing the availability of credit or restricting its access. Consequently, the 2008 global crisis appears to aggravate the financing conditions of SMEs, deemed risky by nature. Moreover, it simultaneously worsens their default risk. In this regard, Fougère et al. (2012) investigate the effect of the 2008 financial crisis on firm failures in the French context. They base their analysis on a wide sample of firms created between January 1, 2000 and December 31, 2007. First, they note that failures of companies during the period 2008 to 2010 were preceded by an increase in business creations during the period 2003 to 2004. Therefore, they decide to distinguish among the failures from 2008 to 2010, those arising from the global crisis of those resulting mechanically from the business demography since many disappear during their first years of existence. This distinction is interesting because it allows identifying and isolating the only impact of the financial crisis. Finally, they find significant proportions of crisis-related failures. These proportions vary according to the industry and amount to 27% in the retail trade sector, 35% in the transport sector, 43% in the manufacturing sector and 46% in the construction sector. Hence, these difficulties to rely on financial leverage during the global crisis are likely to intensify the effect of internationalization studied through exporting activity on small business access to bank capitals.

# 2.2. The effect of export activity on access to bank capitals

Exploring new international markets requires additional sources of financing. In this regard, banks seem to be firm preferred partners. In addition to providing funds required for export projects, banks guarantee the smooth running of business operations by pledging compensation to foreign buyers should the exporter fail in its obligations. The conclusions provided so far by the theoretical and empirical literature regarding the relationship between export activity and access to financial resources seem mitigated. Particularly, little is known about this relationship for small businesses during the recent crisis period.

An initial category of studies suggests that export activity reduces financial constraints borne by firms and facilitates access to bank financing. At this level, two main reasons are usually put forth. First, exporting reduces risk by diversifying customers. Second, exporting sends a positive signal in terms of efficiency and competitiveness supposedly translating into a better financial performance (Urionabarrenetxea and Castellanos, 2010). Empirically, Campa and Shaver (2002) examine the relationship between firm ability to export and financial constraints. Their analysis is based on a sample of Spanish enterprises. This sample is divided into two groups according to the existence or absence of an export activity during the studied period. Their results demonstrate that the group of non-exporting firms faces relatively severe financial constraints. More recently, Greenaway et al. (2007) find that English exporting firms have a comparative advantage in terms of access to financial resources compared to non-exporters. Also in this direction, Bridges and Guariglia (2008) point out that firm internationalization may reduce the cost of financial constraints. Exporting firms appear to have an easier time obtaining financing funds. Therefore, exporting appears reducing the information asymmetry between borrowers and capital providers to the extent that exporting is seen as a guarantee of firm efficiency. Moreover, opening to international markets provides for diversifying the exporting firm sales, which tends to reduce business vulnerability. The virtues attributed to exporting should, according to this first point of view, result in a positive relationship between the ability to export and access to bank loans during the recent global crisis period, i.e. in times of high uncertainty. This reasoning leads to the first following hypothesis:

H1a: The export activity is positively related to access to bank loans during the global crisis.

A second category of studies highlights the difficulties faced by SMEs when opening to international markets. Several hindrances are discussed such as the rigidity of the labor market, the unsuitable governance models, and the lack of financial resources. The theoretical studies of Chaney (2005) and Manova (2012) analyze, among other things, the financial implications of firm export decisions. They lead to two essential conclusions. First, a firm wishing to export faces fixed costs associated with exporting. This implies that in order to become an exporter, the firm must have sufficient internal resources. Otherwise, the company must turn to external financing sources. Those who are facing difficulties raising funds will be hampered in their efforts to export. Only businesses that have sufficient liquidity may be able to open up to international markets. Second, the firm cannot fully guarantee to its financial backers a return on investment associated with revenues from exports. In this regard, Chaney (2005) argues that it is not always easy, both for the firm and for the bank to obtain specific information about foreign markets. In addition, export activity does not offer any contractual guarantee to lenders. This translates, in the case of non-repayment, into difficulties for creditors to seize firm revenues from foreign markets. All of the above arguments are consistent with limited access to bank loans associated with exports. Empirically, Minetti and Zhu



(2011) demonstrate, based on a sample of 4,680 Italian firms, that small firms have a lower probability of exporting than large corporations. This is due to the fact that large firms are not highly affected by bank financing access problems. Silva (2011) arrives at similar results for a sample of 4,500 Portuguese firms over the period 1996-2003. The difficulties of small businesses in accessing financing capitals posed by exports should, according to this second point of view, lead to anticipating a negative relationship between export activity and access to bank loans during the recent global crisis period. This reasoning results in the alternative following hypothesis:

H1b: The export activity is negatively related to access to bank loans during the global crisis.

#### 3. Methodology

#### 3.1. Data Collection

Table 1 summarizes the sample selection. The financial information used in this article is available on DIANE, which is managed and commercialized by

Van Dijk Electronic Publishing Office. This database provides financial information of French firms listed on the Euronext Paris stock exchange. In this study, the initial sample is composed of all non-financial French SMEs available on DIANE over the four-year period between 2008 and 2011. Financial, insurance and holding firms (65.00-70.99 and 74.15 NACE codes (The NACE code is a European industry classification chart which is comparable to the US or UK SIC)) are excluded because of their specific accounting rules. The studied period is of a particular importance. It offers the possibility to study the effect of small business internationalization through export activity on access to bank capitals during the recent global crisis. The initial sample represents 1,766 SME-years. Then, 111 observations have been eliminated because of insufficient data. Hence, the final sample consists of 1,655 small business-years employing less than 250 people, with sales under €50 million, and whose balance sheet does not exceed €43 million (European Commission criteria).

 Table 1. Sample selection

| Panel A: Selection Procedure  | SME-years    |
|---|--------------|
| Non-financial firms or similar (2008-2011)                                | 1,766        |
| - Firms with missing information or undergoing reorganization proceedings | <u>- 111</u> |
| Final sample  | 1,655        |
| Panel B: Distribution by Year   |              |
| 2011  | 343          |
| 2010  | 415          |
| 2009  | 438          |
| 2008  | 459          |
| Total   | 1,655        |

#### 3.2. Regression specification

For the purposes of our study, we use a fixed effect regression model controlling for heteroskedasticity. This model provides for studying the influence of export activity on small business access to bank loans. Evidently, it takes into account other control variables inspired by previous studies (Cassar and Holmes, 2003; Benkraiem and Gurau, 2011 etc.) and related to solvency, liquidity, profitability and growth opportunities (see descriptions and explanations of variables below).

BL <sub>*it*</sub> =  $\alpha_0 + \alpha_1$  SI <sub>*it*</sub> +  $\alpha_2$  TA <sub>*it*</sub> +  $\alpha_3$  PR <sub>*it*</sub> +  $\alpha_4$  GO <sub>*it*</sub> +  $\alpha_5$ LI <sub>*it*</sub> +  $\alpha_6$  EXE [or EXI] <sub>*it*</sub> +  $\lambda + \mu + \nu + \varepsilon_{$ *it* $}$ 

The dependent variable is, for each small business i, year t, defined as follows:

- BL = Bank loans divided by total assets.

The independent variables are, for each small business *i*, year *t*, defined as follows:

- SI = Ln (total assets);
- TA = Fixed tangible assets divided by total assets;
- PR = Profitability, Return on assets (ROA);
- GO = Growth opportunities, Tobin's Q = firm capital market value / accounting value);
- LI = Liquidity, current ratio = current assets / current liabilities;
- EXE = Exporting existence measured by a binary variable (1 if the SME exports, 0 otherwise);
- EXI = Exporting intensity measured by a continuous variable (exports / sales);
- $\lambda$  = A set of dichotomous variables controlling for time effect of each year of the studied period;
- μ = A set of dichotomous variables controlling for industry effect (at NACE 2digit level );
- v = Individual effect of each firm in the sample;
- $\varepsilon = \text{Error term.}$

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Regarding the independent variables, two measurements of the export activity are introduced at the end of the model in order to highlight them. In this study, we consider that exporting is the main form of internationalization for SMEs. Indeed, it seems difficult for these firms to open up to international markets considering other forms of internationalization as they generally do not have sufficient resources. For the first measurement, the binary variable (EXE) takes the value 1 if the SME is an exporter and 0 otherwise. For the second measurement, the export ratio (EXI) is calculated as the ratio between the value of exports and firm total sales. These two measurements are complementary, as they allow us to study the effects of the existence and intensity of export activity on access to bank loans. As stated above, the conclusions of previous studies seem quite mixed. Some of them suggest that exports reduce the financial constraints borne by enterprises (Bridges and Guariglia, 2008; Ganesh-Kumar et al, 2001). While others go in the opposite direction and argue that only firms with sufficient internal financial resources may be able to export. Therefore, both an alternately positive and negative link is expected between bank loans and exports.

Additionally, it is generally established in the empirical literature that informational issues are more important for SMEs (Cleary, 2006, Beck et al, 2005 and 2006). Therefore, bank lending may be conditioned by firm size (Sheikh and Wang, 2011). Indeed, size may constitute an approximation of information quality held by financial backers. As well, creditors require guarantees that take the form of pledges on firm tangible assets. These assets may be sold by creditors in the event of insolvency. Therefore, the composition of firm total assets may be considered as a significant driver of the financial leverage ratio. Accordingly, at this stage, the selected variables are the logarithm of total assets (TA), used as a factor limiting financial constraints, and asset tangibility (TN), measured as the ratio of fixed tangible assets divided by total assets (Bellone et al., 2010; Silva, 2011). The latter serves as physical collateral and allows banks to cover, in whole or in part, the eventual risk of the borrower filing for bankruptcy. Indeed, asset tangibility may increase the firm liquidation value thereby reducing the risk for creditors. In this respect, Manova (2012) uses the tangibility variable to estimate financial strength. A positive relationship is expected between bank loans and, at the same time, the firm size and asset tangibility.

SMEs with high profitability, in principle, have a low risk of bankruptcy, which is supposed to facilitate their access to bank financing (Storey, 1994). According to Ooi (2000), profitable firms are more attractive to banks. We approximate SME profitability with return on assets (Cassar and Holems, 2003). A positive relationship is expected between bank loans and SME profitability.

The firm growth opportunities (GO) play a role in bank lending. Following Gugler et al. (2004), we measure the growth opportunities using Tobin's Q ratio for our sample of listed SMEs. In this manner, we take into consideration the importance of creating value perceived by shareholders. Tobin's Q is relevant because it is a measurement of future opportunities. It is defined as the ratio between firm capital market value and accounting value. An average of this ratio > 1 means that the firm is showing strong growth opportunities, and vice versa. A high level of this ratio may reveal significant financing needs. In France, Aubier and Cherbonnier (2007) argue that SME access to bank loans for financing their growth is problematic, especially for the smallest firms. Empirically, Benkraiem and Gurau (2011) find a negative relationship between bank loans and growth opportunities. Consequently, a negative relationship is expected between these variables.

Finally, in our regression model we introduce a liquidity variable (LR). This variable is interpreted as a ratio of the capacity for covering short-term liabilities – inherently quickly payable – with current assets. This ratio reflects firm predisposition to fulfill its impending obligations with respect to its creditors with short-term assets such as cash holdings (Greenavay et al., 2007 and Silva, 2011). A positive relationship is expected between bank loans and liquidity.

### 4. Empirical results

#### 4.1. Descriptive Statistics

Table 2, presented below, describes the descriptive statistics for the different variables. The dependent variable is composed of bank loans. This variable shows an average 41.1% of total assets. The average level of bank loans for SMEs in our sample is comparable to that obtained by Degryse et al. (2012) for a sample of Dutch SMEs. This average varies from 8.8% to 71.4% of total assets depending on the reference quartile, marking a disparity between firms in terms of access to bank financing.

Regarding the independent export variables, i.e. EXE and EXI, we obtain for the first an average of 50.1%. Because this variable is binary, the average is analyzed as a frequency. Therefore, more than half of our sample of SMEs has export activities. We find for the second variable an export percentage of 15.1% for all firms. This percentage is up to 20% for firms with the most important export ratios. The firm size (TA) measured by the logarithm of total assets, reports an average of more than 10. Asset Tangibility (TN) is, on average, greater than 6%. Profitability (PR) reflects an average of -1.8%. Nevertheless, this average is around 7% for the third quartile. Growth opportunities (GO), as measured by Tobin's Q, has an average of 1.081. This value is greater than 1, indicating that, on



average, French SMEs have high growth opportunities. The liquidity (LI) ratio shows an average of 5.6. Firms in our sample appear to be able to honor their commitments to their creditors. Nevertheless, the standard deviations observed for this variable is high, making it necessary to pay special attention to the value of these ratios by quartile. The wide disparity in values for liquidity indicates that a large proportion of SMEs in our sample appear to be facing solvency issues. A current ratio < 3 is traditionally regarded by analysts as critical. These results corroborate a significant disparity in average bank debt levels obtained by quartile.

| Variables | A       | Standard  | Quartile |        |        |  |
|-----------|---------|-----------|----------|--------|--------|--|
|           | Average | Deviation | 25       | 50     | 75     |  |
| BD        | 0.411   | 0.337     | 0.088    | 0.351  | 0.714  |  |
| SI        | 10.337  | 1.946     | 9.051    | 10.048 | 11.283 |  |
| ТА        | 0.061   | 0.131     | 0.003    | 0.015  | 0.056  |  |
| PR        | -0.018  | 0.277     | -0.017   | 0.026  | 0.070  |  |
| GO        | 1.081   | 2.314     | 0.338    | 0.657  | 1.280  |  |
| LI        | 5.697   | 15.766    | 1.461    | 2.453  | 4.708  |  |
| EXE       | 0.501   | 0.500     | 0.000    | 1.000  | 1.000  |  |
| EXI (%)   | 15.100  | 0.257     | 0.000    | 0.017  | 19.800 |  |

Table 2. Descriptive statistics for the dependent and independent variables

Table 3 presents the Pearson correlation matrix between the independent variables. It allows us to investigate a possible degree of multicolinearity between these variables. As expected, it shows certain statistically significant correlations. In particular, firm size is negatively and significantly related to asset

tangibility. Also, size is positively and significantly related to the liquidity ratio, which shows that firms whose asset size is important are those that easily honor their commitments to their creditors. Overall, the correlation coefficients do not seem high enough to cause problems of multicolinearity.

Table 3. Pearson correlations between independent variables

|     | SI | ТА      | PR      | GO      | LI      | EXE     | EXI     |
|-----|----|---------|---------|---------|---------|---------|---------|
| SI  | 1  | -0.146  | 0.136   | -0.070  | 0.280   | -0.269  | -0.120  |
|     |    | (0.000) | (0.000) | (0.016) | (0.000) | (0.000) | (0.000) |
| ТА  |    | 1       | 0.005   | -0.022  | -0.084  | 0.020   | 0.041   |
|     |    |         | (0.840) | (0.457) | (0.001) | (0.423) | (0.092) |
| PR  |    |         | 1       | -0.038  | 0.059   | 0.028   | -0.035  |
|     |    |         |         | (0.185) | (0.017) | (0.257) | (0.153) |
| GO  |    |         |         | 1       | -0.001  | -0.010  | 0.035   |
|     |    |         |         |         | (0.985) | (0.720) | (0.234) |
| LI  |    |         |         |         | 1       | -0.138  | -0.069  |
|     |    |         |         |         |         | (0.000) | (0.005) |
| EXE |    |         |         |         |         | 1       | 0.602   |
|     |    |         |         |         |         |         | (0.000) |
| EXI |    |         |         |         |         |         | 1       |

#### 4.2. Regression Analysis

Table 4 presents the empirical results of our fixed effect regression model controlling for heteroskedasticity. The three specifications for this model present adjusted  $R^2$ ranging from 34.50% to 35.60%.

The initial result to be highlighted is the negative correlation between export activity and bank loans. Variable EXE shows a negative and significant regression coefficient at the 1% level. Exporting SMEs appear to have more difficulty accessing bank loans than non-exporters. Coherently, variable EXI shows a negative and significant regression coefficient at the 1% level. The more intense export activity is, the more SMEs have difficulties to rely on bank financing. Overall, these results are consistent with studies connecting export activity to the existence of financial constraints (Bellone et al, 2010; Silva, 2011; Minetti and Zhu, 2011). Thus, the findings validate our second hypothesis. They demonstrate that costs associated with exporting make access to bank loans difficult in France. Indeed, banks seem to feel they cannot gather enough information regarding firm guarantees and international markets (Chaney, 2005). Simultaneously, a small business cannot guarantee a return on investment from export projects, i.e. the share of its operating income from

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exports. All these constraints generate a high risk associated with export activity. Banks are reluctant to finance such projects. In other words, the observed negative relationship between export activity and bank loans highlights SME difficulties in financing their investment projects when they want to open to international markets. Overall, these results reveal that the existence and intensity of firm internationalization are negatively related to financial leverage, demonstrating the difficulties of small businesses to rely on bank loans when they wish to explore new markets.

Furthermore, we obtain a positive relationship between firm size (TA) and bank loans. This finding is coherent with that of previous empirical studies on SMEs (Degryse et al, 2012; Bougheas et al, 2006). Effectively, a high accounting value of the firm measured by its total assets provide creditors an interesting reimbursement guarantee with respect to an asset-based approach to solvency. This variable behaves as an approximation of physical guarantees available for creditors. The explanation of this phenomenon can be found in bank perception of project risk. Banks are more inclined to finance tangible asset renewal or growth projects than projects aimed at establishing an R&D process or purchasing a patent. Consistently, asset tangibility (TA) positively affects bank loans for French SMEs. This result is consistent with that obtained for the size variable. The

presence of collateral is an important factor for SME access to external financing resources. These physical guarantees help decrease information asymmetries between a firm and its creditors (Steijvers and Voordeckers, 2009). Their presence also provides for reducing exposure to bankruptcy risk for banks. Likewise, the liquidity ratio (LR) is positively correlated with bank debt. This result, in line with our expectations, demonstrates that a positive value of this ratio reflects, for creditors, the firm ability to fulfill its payable obligations.

On the other hand, we obtain negative, not always statistically significant regression coefficients for profitability (PR), measured by return on assets and growth opportunities (GO) measured by Tobin's Q. These variables, especially the profitability one, increase agency costs and impel managers not to use bank debt, or even decrease it, which would explain the obtained negative relationship. This result is consistent with that observed in France by Benkraiem and Gurau (2011). On the whole, these findings show that indicators of solvency and liquidity are positively related to bank loans. They are more important than those of profitability and growth opportunities in explaining firm financial leverage level, attesting the primary need of small businesses to provide sufficient guarantees when they wish to incur new loans in times of crisis.

|                     | (1)           | (2)           | (3)           |  |
|---------------------|---------------|---------------|---------------|--|
| Variables           | В.            | В.            | В.            |  |
|                     | ( <b>P.</b> ) | ( <b>P.</b> ) | ( <b>P.</b> ) |  |
| Intercept           | -0.667        | -0.535        | 604           |  |
|                     | (0.000)       | (0.000)       | (0.000)       |  |
| SI                  | 0.101         | 0.096         | 0.101         |  |
|                     | (0.000)       | (0.000)       | (0.000)       |  |
| ТА                  | 0.245         | 0.223         | 0.240         |  |
|                     | (0.000)       | (0.000)       | (0.000)       |  |
| PR                  | -0.058        | -0.046        | -0.058        |  |
|                     | (0.092)       | (0.178)       | (0.091)       |  |
| GO                  | -0.004        | -0.004        | -0.003        |  |
|                     | (0.255)       | (0.225)       | (0.337)       |  |
| LI                  | 0.002         | 0.002         | 0.002         |  |
|                     | (0.000)       | (0.000)       | (0.000)       |  |
| EXE                 | -             | -0.078        | -             |  |
|                     |               | (0.000)       |               |  |
| EXI                 | _             |               | -0.117        |  |
|                     |               |               | (0.000)       |  |
| Adj. R <sup>2</sup> | 0.345         | 0.356         | 0.352         |  |
| Observations        | 1,655         | 1,655         | 1,655         |  |
| Fixed effects       | Yes           | Yes           | Yes           |  |

Table 4. Regression results

The p-values in parentheses are based on standard errors that are heteroskedasticity-consistent and allow for clustering at the firm level.

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#### 5. Conclusion

Bank financing is of paramount importance for small businesses because these firms are more than large corporations, vectors for innovation and employment in Europe and particularly in France. Their growth and sustainability depend on the way they obtain financing for their growth phase, especially in times of crisis. One of the drivers of SME growth and sustainability is opening internationally. Consequently, this article goal has been to study the relationship between access to bank capitals and a set of corporate characteristics in a sample of 1,655 French SMEs over the 2008 to 2011 period, i.e. during the recent crisis period. Among the analyzed relationships, we specifically focused on the effect of export activity, viewed as a way of estimating small business internationalization, on access to bank loans. Several interesting results have to be put into perspective. In particular, the existence and intensity of export activity are negatively related to bank loans, demonstrating the difficulties of small businesses to rely on financial leverage when they wish to explore new markets. Conversely, indicators of solvency and liquidity are positively related to this same source of financing. They are more important than those of profitability and growth in explaining the financial leverage level, attesting the primary need of small businesses to provide sufficient guarantees when they wish to incur new loans in times of crisis. Given the importance of the role played by SMEs in creating added value and employment, these findings have implications for governments, researchers, and professionals in the financial arena and contribute to the debate on SME financing during the recent global crisis.

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