Economics Bulletin

Volume 34, Issue 2

Small business investment sensitivity of debt before and during the global crisis

Ramzi Benkraiem
Audencia Nantes School of Management

Abstract

This article aims at studying the influence of debt on small business investment in a European context, i.e. France. The empirical findings, robust to the endogeneity analysis, lead to several interesting results. In particular, credit institutions privilege corporate manager monitoring before the recent crisis, especially for low growth firms. They limit the scope of this monitoring in favor of a higher restriction of debt access during the crisis period. To cope with this constraint, small businesses tend to intensify the use of internal financial resources. These results, although coherent with the disciplinary role of debt stipulated by agency theories of corporate leverage, moderate the magnitude of this role according to the global crisis effect.

Citation: Ramzi Benkraiem, (2014) "Small business investment sensitivity of debt before and during the global crisis", *Economics Bulletin*, Vol. 34 No. 2 pp. 1185-1196.
Contact: Ramzi Benkraiem - rbenkraiem@audencia.com.
Submitted: April 21, 2014. **Published:** June 01, 2014.

1. INTRODUCTION

The financing of investment projects is a vital question which conditions the long-lasting viability of firms. The European Commission has endorsed, in June 2008, the implementation of a "Small Business Act" to promote opportunities of SME creation and development. This "Small Business Act" was re-examined, in February 2011, in order to analyze the ongoing concrete results of its application and to define new actions to meet the challenges related to the global crisis. France, as a state member of the European Union, has undertaken since its adoption the enforcement of certain initiatives. Several of these initiatives concern directly or indirectly debt financing of small business investment. Consequently, this paper aims at investigating small business investment sensitivity of debt before and during the recent global crisis in a European context, i.e. France.

From an academic standpoint, the effect of debt on firm investment has generated important theoretical as well as empirical debates (Jensen and Meckling, 1976; Myers, 1977; Jensen, 1986; Stulz, 1990; Lang et al. 1996; Aivazian et al. 2005; Ahn et al., 2006; Firth et al. 2008; Zhang, 2009). Previous research has generally led to a negative relation between debt and firm investment. An interesting explanation of this relation can rely on the precepts of agency theories of corporate leverage, especially the theory that debt has a disciplinary role for corporate managers (Jensen and Meckling, 1976; Myers, 1977; Jensen, 1986). This theory highlights conflicts of interest which oppose *inter alia* corporate managers to fund providers. These conflicts may result in manager incentives to over or under invest.

Conflicts of interest related to debt are particularly important for small businesses because of a relatively high informational opacity and default risk (Ang, 1992; Berger et Udell, 1998; Cassar, 2004). Thus, consequences of these conflicts of interest on manager investment decisions could be particularly striking for the specific case of SMEs. Moreover, the 2008 global crisis has significantly affected the debt availability as well as the bankruptcy risk, especially for SMEs (Bank of France 2012, Bulletin No. 188; Fougère et al., 2012; Vermoesen et al., 2013). As such, the extent of the influence of debt on SME investment is likely to be different before and during the crisis period.

2. METHODOLOGY

2.1. Regression models

Following previous studies (Aivazian et al., 2005; Zhang, 2007; Firth et al., 2008 McNichols and Stubben, 2008), I use an investment equation to investigate the relationship between debt and investment of small businesses in France before and during the recent global crisis.

$$INV_{i,t} = \alpha_0 + \alpha_1 (CAF_{i,t} / TA_{i,t-1}) + \alpha_2 (PRO_{i,t-1}) + \alpha_3 (SAL_{i,t-1} / TA_{i,t-1}) + \alpha_4 (DEB_{i,t-1} / TA_{i,t-1}) + \lambda_t + \mu_i + \nu_i + \varepsilon_{i,t} \quad (1)$$

Where for firm *i* at time *t*: $INV_{i,t}$ is the investment level of (capital expenditures scaled by lagged net property, plant and equipment); $CAF_{i,t} / TA_{i,t-1}$ is cash flow divided by lagged total assets ; $PRO_{i,t-1}$ is lagged Tobin's Q. $SAL_{i,t-1} / TA_{i,t-1}$ is lagged sales divided by lagged total assets ; $DEB_{i,t-1} / TA_{i,t-1}$ is lagged financial debt divided by lagged total assets; λ_t, μ_i and ν_i is a set a dummy variables controlling for year, firm and industry effects, respectively and $\varepsilon_{i,t}$ is the error term.

The first model uses the firm investment level as a dependent variable (Zhang, 2007; McNichols and Stubben, 2008). It controls for cash flow, lagged Tobin's Q, and sales (Aivazian et al., 2005; Firth et al., 2008). Cash flow of firm *i* at time *t* divided by lagged total

assets gives an idea about firm internal financial resources. Lagged Tobin's Q, computed as the total market value of the firm divided by the total asset value, measures the profitability of growth opportunities. The use of the Tobin's Q ratio is based on the idea that growth opportunities, which are forward looking, can be captured by equity market participants, who are also forward looking. An average of the Tobin's Q ratio superior to 1 signifies that the enterprise has high growth opportunities and vice versa. Finally, lagged sales divided by lagged total assets provide useful information of the firm growth capacity.

The second model presented below aims to enrich and deepen the analysis. As in previous research (Lang et al., 1996; Aivazian et al. 2005; Firth et al. 2008), the model uses the Tobin's Q ratio to differentiate firms according to their profitability (i.e. low versus high growth opportunities). In other words, it tests for differences in the influence of debt on investment for high versus low growth small businesses.

$$INV_{i,t} = \beta_0 + \beta_1 (CAF_{i,t} / TA_{i,t-1}) + \beta_2 (PRO_{i,t-1}) + \beta_3 (SAL_{i,t-1} / AT_{i,t-1}) + \beta_4 (DEB_{i,t-1} / AT_{i,t-1}) + \beta_5 (PRO_{i,t-1} \times (DEB_{i,t-1} / AT_{i,t-1})) + \lambda_t + \mu_i + \nu_i + \varepsilon_{i,t} \quad (2)$$

Where for firm *i* at time *t*: $INV_{i,t}$ is the investment level; $CAF_{i,t} / TA_{i,t-1}$ is cash flow divided by lagged total assets ; $PRO_{i,t-1}$ is lagged Tobin's Q. $SAL_{i,t-1} / TA_{i,t-1}$ is lagged sales divided by lagged total assets ; $DEB_{i,t-1} / TA_{i,t-1}$ is lagged financial debt by lagged total assets; $PRO_{i,t-1} \times (DEB_{i,t-1} / AT_{i,t-1})$ is the interaction term between lagged Tobin's Q and lagged financial debt; λ_t, μ_i and ν_i is a set a dummy variables controlling for year, firm and industry effects, respectively and $\varepsilon_{i,t}$ is the error term.

Concretely, Eq. (2) distinguishes high from low growth firms when investigating the effect of debt on investment through the interaction between Tobin's Q and lagged debt. As stated above, the Tobin's Q ratio gives relevant information about the profitability of growth opportunities. Accordingly, the interaction term makes it possible to investigate the influence of debt on manager investment decisions according to firm profitability.

2.2. Data

Data used in this article is available on DIANE, which is managed and commercialized by Van Dijk Electronic Publishing Office[1]. This database provides the 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 eight-year period between 2004 and 2011. Financial, insurance and holding firms (65.00-70.99 and 74.15 NACE codes[2]) are excluded because of their specific accounting rules. The studied period is of a particular importance. Firstly, starting from 2003, a modification of the SME definition was implemented in France, following a recommendation of the European Commission (2003/361/EC). This recommendation introduces a new typology of small businesses and a new calculation method for category thresholds, which aims at giving a better picture of SME economic strength. Secondly, this time frame offers the possibility to decompose the sample into two sub-periods from 2004 to 2007 and from 2008 to 2011, i.e. before and during the global crisis laps of time. This decomposition makes it possible to estimate the investment models throughout all the period, and then for each specific sub-period. The initial sample represents 3,769 SME-years. Then, 323 observations have been eliminated because of insufficient data. Hence, the final sample consists of 3,446 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).

[1] https://diane.bvdep.com.
[2] The NACE code is a European industry classification chart which is comparable to the US or UK SIC.

3. RESULTS

3.1.Summary statistics

Table 1 reports the descriptive statistics of both dependent and independent variables deployed to study the relationship between debt and investment of SMEs during the considered two sub-periods: before and during the global crisis. The first variable of interest relating to firm investment level displays averages of 0.432 and 0.459 of lagged total assets before and during the crisis period, respectively. The mean difference between the two sub-periods is statistically significant at 1% level. The second variable of interest regarding lagged debt reports averages of 0.472 and 0.448 of lagged total assets before and during the crisis period, respectively. The mean difference between the two sub-periods is statistically significant at the 5% level. At the same time, the cash-flow variable displays averages of 0.031 and 0.022 of lagged total assets before and during the global crisis. However, the mean difference between the two sub-periods is not statistically significant at the 10% level. Moreover, the cash-flow records the smallest variability measured by the standard deviation compared to the other variables. The lagged Tobin's Q variable shows averages of 1.385 and 1.011 before and during the crisis, respectively. The mean difference between the two sub-periods is significant at the 1% level. Finally, lagged sales show averages of 0.822 and 0.693 of lagged total assets before and during the crisis. The mean difference between the two time intervals is statistically significant at the 1% level. Thus, small business sales significantly decrease during the crisis period.

Table 3 presents the Pearson correlation matrix for independent variables. This matrix allows to identify possible problems of multicolinearity between the various independent variables. As expected, this table shows some statistically significant correlations. For instance, sales are positively related to cash flow. The more sales a firm makes, the more cash flow it generates. This same cash flow variable is negatively related to debt. The more cash flow a business generates, the less debt it accumulates. Nevertheless, the obtained correlation coefficients are all below 0.25. They are broadly similar to those observed by Aivazian et al. (2005) and Firth et al. (2008). They do not appear high enough to cause serious problems of multicolinearity.

3.2.Regression analyses

Table 3 shows the results of the first panel regression model controlling for year, firm and industry fixed effects. As explained above, this model is estimated throughout the entire studied time frame then, before and during the global crisis interval. The different specifications display adj. R^2 varying from 0.263 (before the crisis) to 0.190 (during the crisis). Generally, these results are similar to those found by Firth et al. (2008).

The debt variable displays regression coefficients of about -0.03 for the two specifications estimated over all the studied period. These coefficients are statistically significant at the 5% level. These findings are coherent with those of previous studies (Lang et al. 1996; Aivazian et al. 2005; Ahn et al., 2006; Firth et al. 2008; Zhang, 2009). They confirm the role of debt as a monitoring mechanism of manager investment decisions. Debt regression coefficients are more important before than after the global crisis period. They are up to -0.05 and remain statistically significant at the 5% level before the crisis laps of time. On the other hand, they amount to some -0.01 and are statistically significant at the 10% level during the crisis period. These findings reveal that the negative link between debt and investment is more effective before than after the global crisis. Combined with Table 1 reported results (remember the mean decrease of debt during the crisis period), they

demonstrate that credit institutions appear to favor corporate manager monitoring before the global crisis. In addition, they show that creditors seem to limit the scope of this monitoring in favor of a higher restriction of debt access during the crisis period. Simultaneously, the cash flow variable shows regression coefficients of about 0.12 over the whole sampled duration. These coefficients are statistically significant at the 1% level. They range from up to 0.08 before the crisis to more than 0.16 during the crisis. Thus, they illustrate a clear increase in cash flow regression coefficients of more than double between the two sub-periods. In conjunction with the above results, this increase in cash flow regression coefficients indicates that SMEs intensify the use of internal financial resources to cope with the financing constraint during the crisis period.

The profitability of growth opportunities and sales variables show positive and negative regression coefficients, respectively. The magnitude of these coefficients is fairly similar for the different specifications. At a time when difficulties and costs of financing are increasingly important, SME managers who have a growth capacity may reduce their investment in order to minimize a possible transfer of wealth which is detrimental to their own interests. Under these circumstances, they choose to invest only in the presence of high profitable growth opportunities. These results are consistent with the arguments of agency theories of corporate leverage (Myers, 1977 and Jensen, 1986).

Table 4 reports the results of the second panel regression model controlling for year, firm and industry fixed effects. As stretched above, this model enriches and deepens the first by investigating the influence of debt on manager investment decisions according to the profitability of growth opportunities. Concretely, it takes into consideration the interaction between debt and growth opportunities in addition to the first model variables. Note that the regression coefficients of these variables keep approximately the same signs and magnitudes for all the studied intervals of time. Thus, they confirm the already reported results. The interaction term between debt and growth opportunities displays positive regression coefficients for the different second model specifications. These coefficients are about 0.06 before the global crisis. They are statistically significant at the 5% and 1% levels for the first and second pre-crisis specifications, respectively. At the same time, they amount to some 0.04 during the crisis laps of time. They are statistically significant at the 1% level. The regression coefficient extents of the interaction term are consequently more important before than throughout the crisis period. These findings suggest that the already observed negative relation between debt and investment mainly prevails for low growth firms, especially before the crisis period. Overall, the results of the empirical analyses provide support to agency theories of corporate leverage, in particular to the theory that debt has a disciplining role for firms with low growth. Simultaneously, they lead to moderate the magnitude of this role according to the global crisis effect.

3.3. Two-stage instrumental variable approach

Debt could be affected by growth opportunities. If there are some unobservable factors that affect debt and growth opportunities but are omitted from the investment models, debt will be correlated with the error terms in the regressions. In this case, the investment regression estimates will be biased (Firth, 2008).

In this study, fixed effect panel regressions are used to limit the unobservable characteristics related to year, firm and industry factors. Nevertheless, they may not completely draw aside this possible problem of endogeneity as corporate managers have the possibility to reduce debt in anticipation of future growth opportunities. This eventuality leads to take into consideration a potential problem of endogeneity between debt and investment.

Accordingly, I deploy a two-stage instrumental variable approach to deal with the potential endogeneity issue pertaining to the relation between debt and investment.

In the first stage, I estimate a debt decision to obtain a prediction of the level of debt for each firm. In the second stage, I deploy this prediction as a generated instrument variable for debt and re-run the investment regression models. As regards the prediction of the level of debt, I follow previous studies (Aivazian et al., 2005; Molina, 2005; Firth et al., 2008) and use the tangibility of firm assets as an instrumental variable. The use of the tangibility is relevant to the deployed sample of SMEs. Indeed, the default risk, deemed high for small businesses, is an important determinant of the access to debt. The tangibility is perceived by credit institutions as an important guarantee. Thus, it increases the value of firm liquidation and reduces the exposure to the default risk (Vanacker and Manigart, 2010). At the empirical level, previous research tends to confirm the importance of the tangibility of assets in alleviating the default risk and facilitating the access to debt (Cassar and Holmes, 2003; Degryse et al., 2012).

Table 5 exposes the results of the two-stage instrumental variable regressions. The debt variable displays negative and statistically significant regression coefficients at the 1% and 10% levels before and during the crisis period, respectively. As formerly reported, the magnitude of these regression coefficients is more important before than during the global crisis. On the other hand, the interaction variable between debt and growth opportunities shows positive and statistically significant regression coefficients at the 5% and 10% levels before and during the crisis period, respectively. On the whole, the results of the two-stage instrumental variable approach show that the endogeneity between debt and investment cannot be the only explanation of the relation between debt and investment. Consequently, they confirm and give more credibility to those previously presented.

4. CONCLUSION

The relation between debt and investment has generated important theoretical as well as empirical debates (Jensen and Meckling, 1976; Myers, 1977; Jensen, 1986; Stulz, 1990; Lang et al. 1996; Aivazian et al. 2005; Ahn et al., 2006; Firth et al. 2008; Zhang, 2009). However, few academic studies were interested in this issue for the specific case of SMEs despite their central role in employment and added-value creation in Europe broadly, and France, specifically. Therefore, this article aimed at investigating the influence of debt on small business investment in a European context, i.e. France. The empirical analysis has focused on a sample of 3,446 small business-years listed on the Euronext Paris stock market from 2004 to 2011, i.e. before and during the recent global crisis. The empirical findings, robust to the endogeneity test, revealed a negative link between financial debt and small business investment. This link was stronger before than during the crisis period, especially for firms with low growth. Thus, credit institutions appeared to privilege manager monitoring before the global crisis and limit the scope of this monitoring in favor of a higher restriction of debt access during the crisis period. To cope with this constraint, small businesses have intensified the use of internal financial resources to finance their investment. These results, although coherent with the disciplinary role of debt stipulated by agency theories of corporate leverage, moderate the magnitude of this role according to the global crisis effect. Several actors, in particular the European Commission, place a major emphasis to the debt financing of small business investment. This study provides a level of analysis unmatched by previous research on small businesses, especially in times of crisis. Thus, it provides useful insights for academics, regulators, managers as well as credit institutions, contributing to a better understanding of the effect of financial debt on small business investment.

REFERENCES

Ahn S., D.J Denis, and D.K. Denis (2006) "Debt and investment in diversified firms" *Journal of Financial Economics* 79, 317-337.

Aivazian V.A., Y. Ge and J. Qiu, (2005) "The impact of debt on firm investment: Canadian evidence" *Journal of Corporate Finance* 11, 277-291.

Bank of France (2012) "Firm financing and default risk [in French]" *Bank of France*, Bulletin No. 188, 41-49.

Berger A. N., L.F. Klapper and G.F. Udell (2001) "The ability of banks to lend to informationally opaque small businesses" *Journal of Banking and Finance* 25 (12), 2127-2167.

Berger A.N. and G.F. Udell (1998) "The economics of small business finance: the roles of private equity and debt markets in the financial growth cycle" *Journal of Banking and Finance* 22 (6-8), 613–673.

Cassar G. (2004) "The financing of business start-ups" *Journal of Business Venturing* 19 (2), 261-283.

Cassar G. and S. Holmes (2003) "Capital structure and financing of SMEs: Australian evidence" *Accounting and Finance* 43, 123-147.

Degryse H., P. Goeij and P. Kappert (2012) "The impact of firm and industry characteristics on small firms' capital structure" *Small Business Economics* 38 (4), 431-447.

Firth M., C. Lin and S. Wong (2008) "Debt and investment under a state-owned bank lending environment: Evidence from China" *Journal of Corporate Finance* 14, 642-653.

Fougère P., C. Golfier, G. Horny and E. Kremp, (2012) "Did the 2008 crisis affect the survival of French firms?" *Research Paper*, CNRS - Bank of France.

Jensen M. and W. Meckling (1976) "Theory of the firm: Managerial behaviour, agency costs and ownership structure" *Journal of Financial Economics* 3, 305-360.

Jensen M.C. (1986) "Agency costs of free cash flow, corporate finance, and takeovers" *American Economic Review* 76, 323-339.

Lang L.E., E. Ofek and R.M. Stulz (1996) "Debt, investment and firm growth" *Journal of Financial Economics* 40, 3-29.

McNichols M.F. and S.R. Stubben (2008) "Does earnings management affect firms' investment decisions?" *The Accounting Review* 83, 1571-1603.

Molina C. (2005) "Are firms underleveraged? An examination of the effect of debt on default probabilities" *Journal of Finance* 60, 1427-1459.

Myers S.C. (1977) "Determinants of corporate borrowing" *Journal of Financial Economics* 5, 147-176.

Stulz R.M. (1990) "Managerial discretion and optimal financing policies" *Journal of Financial Economics* 26, 3-27.

Vanacker T.R. and S. Manigart (2010) "Pecking order and debt capacity considerations for high-growth companies seeking financing" *Small Business Economics* 35 (1), 53-69.

Vermoesen V., M. Deloof and E. Laveren (2013) "Long-term debt maturity and financing constraints of SMEs during the global financial crisis" *Small Business Economics*, 41 (2), 433-448.

Zhang X. F. (2007) "Accruals, investment and the accrual anomaly" *The Accounting Review* 82, 1333-1363.

Zhang Y. (2009) "Are debt and incentive compensation substitutes in controlling the free cash flow agency problem?" *Financial Management*, autumn, 507-541.

Table 1: Descriptive statistics

Variables	Before the crisis		During the crisis		P value of mean difference
	Mean	Sd. Dev.	Mean	Sd. Dev.	
$INV_{i,t}$	0.432	0.286	0.459	0.278	0.005
$CAF_{i,t}$ / $TA_{i,t-1}$	0.031	0.225	0.022	0.209	0.191
$PRO_{i,t-1}$	1.385	1.182	1.011	1.970	0.000
$SAL_{i,t-1}$ / $TA_{i,t-1}$	0.822	1.004	0.693	0.993	0.000
$DEB_{i,t-1}$ / $TA_{i,t-1}$	0.472	0.320	0.448	0.373	0.049

Where for firm *i* at time *t*: $INV_{i,t}$ is the investment level; $CAF_{i,t}$ / $TA_{i,t-1}$ is cash flow divided by lagged total assets; $PRO_{i,t-1}$ is lagged Tobin's Q. $SAL_{i,t-1}$ / $TA_{i,t-1}$ stands for lagged sales divided by lagged total assets and $DEB_{i,t-1}$ / $TA_{i,t-1}$ is lagged financial debt divided by lagged total assets.

Table 2: Pearson correlation matrix between independent variables

Variables	CAF $_{i,t}$ / TA $_{i,t-1}$	PRO $_{i,t-1}$	SAL $_{i,t-1}$ / TA $_{i,t-1}$	DEB $_{i,t-1}$/ TA $_{i,t-1}$
CAF $_{i,t}$ / TA $_{i,t-1}$	1	0.075	0.076	-0.170
		(0.000)	(0.000)	(0.000)
PRO $_{i,t-1}$		1	0.010	-0.126
			(0.559)	(0.000)
SAL $_{i,t-1}$ / TA $_{i,t-1}$			1	0.246
				(0.000)
DEB $_{i,t-1}$ / TA $_{i,t-1}$				1

Where for firm *i* at time *t*: CAF $_{i,t}$ / TA $_{i,t-1}$ is cash flow divided by lagged total assets; PRO $_{i,t-1}$ is lagged Tobin's Q. SAL $_{i,t-1}$ / TA $_{i,t-1}$ is lagged sales divided by lagged total assets and DEB $_{i,t-1}$ / TA $_{i,t-1}$ is lagged financial debt divided by lagged total assets.

Table 3: Debt and investment of SMEs

Variables	Entire period		Before the crisis		During the crisis	
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	0.516	0.341	0.500	0.335	0.485	0.299
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CAF $_{i,t}$ / TA $_{i,t-1}$	0.126	0.116	0.077	0.079	0.199	0.169
	(0.000)	(0.000)	(0.005)	(0.003)	(0.000)	(0.000)
PRO $_{i,t-1}$	0.011	0.012	0.016	0.018	0.009	0.010
	(0.000)	(0.000)	(0.002)	(0.001)	(0.007)	(0.005)
SAL $_{i,t-1}$ / TA $_{i,t-1}$	-0.114	-0.112	-0.124	-0.122	-0.100	-0.098
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
DEB $_{i,t-1}$ / TA $_{i,t-1}$	-0.031	-0.030	-0.051	-0.049	-0.012	-0.014
	(0.021)	(0.017)	(0.011)	(0.012)	(0.051)	(0.043)
Adj. R^2	0.217	0.245	0.240	0.263	0.190	0.221
Observations	3,446	3,446	1,791	1,791	1,655	1,655
Fixed effects						
Year	Yes	Yes	Yes	Yes	Yes	Yes
Firm	Yes	No	Yes	No	Yes	No
Industry	No	Yes	No	Yes	No	Yes

Where for firm *i* at time *t*: CAF $_{i,t}$ / TA $_{i,t-1}$ is cash flow divided by lagged total assets; PRO $_{i,t-1}$ is lagged Tobin's Q; SAL $_{i,t-1}$ / TA $_{i,t-1}$ is lagged sales by lagged total assets and DEB $_{i,t-1}$ / TA $_{i,t-1}$ is lagged financial debt divided by lagged total assets. P-values in parentheses are based on standard errors that are heteroskedasticity-consistent and allow for clustering at the firm level.

Table 4: Debt, growth opportunities and investment of SMEs

Variables	Entire period		Before the crisis		During the crisis	
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	0.494	0.316	0.506	0.340	0.503	0.314
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CAF $_{i,t}$ / TA $_{i,t-1}$	0.127	0.117	0.076	0.078	0.202	0.171
	(0.000)	(0.000)	(0.005)	(0.003)	(0.000)	(0.000)
PRO $_{i,t-1}$	0.034	0.037	0.040	0.042	0.032	0.035
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
SAL $_{i,t-1}$ / TA $_{i,t-1}$	-0.114	-0.112	-0.124	-0.122	-0.100	-0.099
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
DEB $_{i,t-1}$ / TA $_{i,t-1}$	-0.047	-0.049	-0.061	-0.060	-0.033	-0.037
	(0.001)	(0.000)	(0.003)	(0.003)	(0.088)	(0.046)
PRO $_{i,t-1}$ * (DEB $_{i,t-1}$ / TA $_{i,t-1}$)	0.042	0.046	0.059	0.062	0.038	0.043
	(0.000)	(0.000)	(0.013)	(0.008)	(0.001)	(0.000)
Adj. R^2	0.222	0.250	0.242	0.266	0.197	0.229
Observations	3,446	3,446	1,791	1,791	1,655	1,655
Fixed effects						
Year	Yes	Yes	Yes	Yes	Yes	Yes
Firm	Yes	No	Yes	No	Yes	No
Industry	No	Yes	No	Yes	No	Yes

Where for firm *i* at time *t*: CAF $_{i,t}$ / TA $_{i,t-1}$ is cash flow divided by lagged total assets; PRO $_{i,t-1}$ is lagged Tobin's Q; SAL $_{i,t-1}$ / TA $_{i,t-1}$ is lagged sales divided by lagged total assets; DEB $_{i,t-1}$ / TA $_{i,t-1}$ is lagged financial debt divided by lagged total assets and PRO $_{i,t-1}$ x (DEB $_{i,t-1}$ / AT $_{i,t-1}$) is the interaction term between lagged Tobin's Q and lagged debt. P-values in parentheses are based on standard errors that are heteroskedasticity-consistent and allow for clustering at the firm level.

Table 5: Debt, growth opportunities and investment of SMEs (Endogeneity)

Variables	Entire period		Before the crisis		During the crisis	
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	0.939	0.803	0.720	0.612	0.731	0.548
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CAF $_{i,t}$ / TA $_{i,t-1}$	0.093	0.095	0.061	0.060	0.142	0.146
	(0.000)	(0.000)	(0.004)	(0.005)	(0.000)	(0.000)
PRO $_{i,t-1}$	1.947	2.003	0.808	0.811	1.372	1.443
	(0.000)	(0.000)	(0.007)	(0.006)	(0.000)	(0.000)
SAL $_{i,t-1}$ / AT $_{i,t-1}$	-0.435	-0.403	-0.459	-0.428	-0.398	-0.365
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
*FIT*DEB $_{i,t-1}$ / AT $_{i,t-1}$	-0.058	-0.059	-0.063	-0.070	-0.053	-0.046
	(0.001)	(0.001)	(0.006)	(0.002)	(0.046)	(0.078)
PRO $_{i,t-1}$ * *FIT*(DEB $_{i,t-1}$ / TA $_{i,t-1}$)	1.890	1.943	1.311	1.375	0.743	0.748
	(0.000)	(0.000)	(0.014)	(0.012)	(0.001)	(0.000)
Adj. R^2	0.209	0.234	0.234	0.254	0.179	0.213
Observations	3,446	3,446	1,791	1,791	1,655	1,655
Fixed effects						
Year	Yes	Yes	Yes	Yes	Yes	Yes
Firm	Yes	No	Yes	No	Yes	No
Industry	No	Yes	No	Yes	No	Yes

Where for firm *i* at time *t*: CAF $_{i,t}$ / TA $_{i,t-1}$ is cash flow divided by lagged total assets; PRO $_{i,t-1}$ is lagged Tobin's Q; SAL $_{i,t-1}$ / TA $_{i,t-1}$ is lagged sales of firm *i* divided by lagged total assets; *FIT*DEB $_{i,t-1}$ / TA $_{i,t-1}$ is the instrumental variable for lagged financial debt and PRO $_{i,t-1}$ x (*FIT*DEB $_{i,t-1}$ / AT $_{i,t-1}$) is the interaction term between lagged Tobin's Q and the instrumental variable for lagged financial debt.