Economics Bulletin

Volume 32, Issue 1

Do local financial and legal systems affect SMEs capital structure?

Mariarosaria Agostino
University of Calabria

Maurizio La Rocca
University of Calabria

Tiziana La Rocca
University of Calabria

Francesco Trivieri
University of Calabria

Abstract

This note investigates the role of institutional differences at the local level as determinants of firms' capital structure. Specifically, its aim is to empirically assess whether and to what extent SMEs' financial decisions are affected by local financial development – evaluating this influence both ceteris paribus, and by allowing it to be conditional on different levels of legal enforcement inefficiency. Controlling for debt inertia, firms' heterogeneity and endogeneity problems, we find that local financial development may be an important determinant of SMEs' capital structure, and that firms appear to have better access to financial debt in areas characterized by a higher quality of the legal system. Thus, despite the international process of capital markets integration, local financial institutions do not seem to become irrelevant for SMEs, which are in need of well developed institutions at local level to gain easier access to external financial resources.

Citation: Mariarosaria Agostino and Maurizio La Rocca and Tiziana La Rocca and Francesco Trivieri, (2012) "Do local financial and legal systems affect SMEs capital structure?", *Economics Bulletin*, Vol. 32 No. 1 pp. 260-271.
Contact: Mariarosaria Agostino - m.agostino@unical.it, Maurizio La Rocca - m.larocca@unical.it, Tiziana La Rocca - t.larocca@unical.it, Francesco Trivieri - francesco.trivieri@unical.it.
Submitted: October 21, 2011. **Published:** January 20, 2012.

1. Introduction

Several contributions in the financial literature show that corporate financing choices are likely to be determined by a host of factors that are related not just to the characteristics of the firm, but also to the institutional environment where the latter operates (La Porta et al., 1997, 1998; Demirguc-Kunt and Maksimovic, 1996, 1998, 2002, 2008; Cheng and Shiu, 2007; Lopez-Iturriaga and Rodriguez-Sanz, 2007; Utrero-González, 2007; Bianco et al., 2005; Giannetti, 2003; Titman et al., 2003; Booth et al., 2001; Rajan and Zingales, 1995). Most of this research uses cross-country data to examine large firms facing a wide range of institutional environments, while recent works highlight differences in institutional settings *at local level* (e.g. Guiso et al., 2004). The latter claim that, within a single country, local institutional differences can exist and might play a crucial role in determining corporate financial decisions. One of the local institutional characteristics that has received increasing interest from scholars is the degree of financial development. Indeed, local financial markets may be of great relevance in affecting firms' capital structure, especially when firms cannot realize the benefits of moving to the international capital market or they consider it too costly and not easily accessible.

Besides, several studies highlight the role of judicial enforcement in shaping the functioning of a financial system, hence in affecting financing decisions (La Porta et al., 1997, 1998; Beck and Levine, 2004). Indeed, judicial enforcement is important as the regulations governing the financial system work in the interest of investors, protecting creditors only to the extent that the rules are actually enforced. Due to the risk of default and the difficulty to get back the liquidation value of the collateral, enforcement affects the ex-ante availability of agents to provide finance. Likewise, as recent contributions point out (e.g. Utrero-González, 2007; Giannetti, 2003), by fostering financial market development, enforcement and investors' protection contribute to mitigate agency problems.

Inspired by the above literature, the present note investigates whether and to what extent the financial decisions of small and medium sized firms (henceforth SMEs) are influenced by the degree of local financial development. We evaluate this relationship both *ceteris paribus*, and by allowing the impact of the provincial financial development to be conditional on different levels of local legal enforcement inefficiency. Thus, our work distinguishes itself from the extant literature as – in studying SMEs financial choices – it focuses on local instead of country factors, and it allows for interaction among different institutional features.

Focusing on SMEs is relevant since, as shown by several contributions, the influence of local institutional factors on capital structure decisions is particularly relevant for such firms. For example, Demirguc-Kunt and Maksimovic (1998) highlight that institutional factors have a different impact on SMEs' financial policies, compared to those of larger firms. Further, Beck et al. (2005) point out that market imperfections, such as those caused by underdeveloped financial and legal systems, constrain funding decisions depending on firms' size.

To carry out the empirical analysis we employ Italian data. Italy provides an ideal laboratory to test the effect of local institutional factors on SMEs capital structure for at least two reasons. First, the Italian economy is dominated by SMEs. Secondly, it is widely documented that the efficiency of both financial and legal enforcement systems is quite dissimilar across the Italian local areas, despite a financial system and a legal/regulatory framework highly integrated and uniform. Following Guiso et al. (2004), we consider as local markets the 103 existing Italian administrative provinces (geographic entities very similar to the US counties).

The remainder of the work is organized as follows. The next section presents a brief review of the literature on the effects of local financial development on firms' capital structure. Section 3 illustrates the econometric specification and the methodology adopted. Section 4 describes the data. Section 5 discuses the results obtained, and section 6 concludes.

2. Capital structure, financial development and enforcement at local level: from the extant literature to our testing hypotheses

Capital structure is a controversial topic in academia and in the business community (Rajan and Zingales, 1995). There is a growing interest in empirically studying the connection between institutions and firms' capital structure to understand debt *versus* equity choices (Demirguc-Kunt and Maksimovic, 1998). The main literature is based on cross-country analyses emphasizing the effects of institutional differences on capital structure (Titman et al., 2003; Booth et al., 2001; Demirguc-Kunt and Maksimovic, 1999), and showing that financing decisions are shaped both by a country's legal and financial environment (Demirguc-Kunt and Maksimovic, 1998; Rajan and Zingales, 1998; La Porta et al., 1997, 1998). Specifically, the research on the relationship between law and finance takes into account the role of institutional factors, such as the efficiency of financial and enforcement systems (Lopez-Iturriaga and Rodriguez-Sanz, 2007; Rajan and Zingales, 2003; La Porta et al., 1998; Demirguc-Kunt and Maksimovic, 1996). Institutions that work efficiently can reduce problems of opportunism and asymmetric information, with significant effects on the relative magnitude of the costs and benefits associated to debt.

The impact of financial development on financing decisions is becoming a major research priority considering that, as suggested by Rajan and Zingales (1998), financial development facilitates firms' growth, affecting capital structure decisions through the reduction of external financing costs. Although previous studies are based on cross-country analysis (Demirguc-Kunt and Maksimovic, 1998, 1999, 2002, 2008; Lopez-Iturriaga and Rodriguez-Sanz, 2007; Utrero-González, 2007; La Porta et al., 1997; Rajan and Zingales, 1995), it may also be that, *within a single country*, differences in companies' financial structure are explained by differences in the degree of financial development at the local level. There is increasing evidence in the finance literature that the local context is relevant. Recent financial papers (Degryse and Ongena, 2005; Petersen and Rajan, 2002) highlight the importance of distance in explaining the availability and pricing of bank loans. In particular, Petersen and Rajan (2002) document the importance of distance in the provision of bank credit to small firms, especially in countries where asymmetric information problems are substantial. Studies on the local context are also close to contemporary debates in the economic geography literature, interested in understanding firm's financing across different regional contexts (Martin, 1999). Pollard (2003) suggests the need of contextualizing firm finance, analyzing how different geographical configurations of financial institutions affect the access to credit for firms operating locally. In general, it is suggested that banks operating locally have more knowledge and control on local firms and entrepreneurs (Alessandrini and Zazzaro, 1999). As highlighted by Diamond (1993) and Flannery (1986), the existence of asymmetric information is likely to tilt capital structures toward a higher use of debt. According to Titman et al. (2003), key determinants of the financial constraint, influencing firm's capital-structure, may be the existence of asymmetric information and the cost of contracting between companies and potential providers of external financing. Financial constraints are likely to be more severe in the presence of a poorly developed financial system. By contrast, a well-developed financial system can facilitate the ability of a company to gain access to external financing, providing cheaper finance to worthy companies (Guiso et al., 2004).

In the light of the above considerations, a first hypothesis we assess empirically is stated as follows:

(hypothesis 1) *across different local areas, an increase in financial development is assumed – ceteris paribus – to allow for a higher use of debt.*

In addition to the function performed by the financial system, the literature suggests to account also for the role of judicial enforcement in shaping the operation of a financial system, and so in affecting financing decisions (see Beck and Levine, 2004, for a review). In particular,

the law and finance theory focuses on the role of legal institutions and enforcement in explaining international differences in financial development (La Porta et al., 1997, 1998; Beck and Levine, 2004). The judicial enforcement is important because the regulations governing the financial system work in the interest of investors, protecting creditors only to the extent that the rules are actually enforced. Due to the risk of default and the difficulty to get back the liquidation value of the collateral, enforcement affects the ex-ante availability of agents to provide finance. As suggested by La Porta et al. (1998), because a good legal environment protects potential financiers against expropriation by entrepreneurs, it raises their willingness to provide funds to firms. Thus, as recent contributions highlight (e.g. Utrero-González, 2007; Giannetti, 2003), by fostering financial market development, enforcement and investors' protection contribute to mitigate agency problems. The role of legal institutions and enforcement in explaining international differences in financial development across countries (Beck and Levine, 2004) can also apply with regards to within-country analyses: the efficiency of the courts at local level can be different although the same law applies. By providing diverse levels of creditors' protections, the existence of differences in the quality of the enforcement at local level affects local financial development. As suggested by the law and finance view, local financial development would be higher where judicial enforcement is more effective, while the financial support to firms would be lower where the quality of the legal system is weaker. On the base of these argumentations, a second hypothesis of our empirical analysis is that:

(hypothesis 2) *the higher the local judicial costs the lower the impact of local financial development on leverage.*

3. Empirical question and econometric methodology

To carry out our empirical investigation, we estimate the following equation:

$$LEV_{it} = \alpha + \beta_1 LEV_{i,t-1} + \beta_2 BRANCH + \beta_3 JUDCOST + \beta_4 BRANCH * JUDCOST + \phi \underline{X}_{it}^{'} + \sum_t \varphi_t T_t + \varepsilon_{it} \qquad (1)$$

where indices *i* and *t* refer to individuals and time periods, respectively. The dependent variable (LEV) is calculated as the ratio of financial (or interest-bearing) debt (excluding trade debt) to the total financial debt plus equity (as in Titman et al. 2003, Giannetti 2003, Rajan and Zingales 1995). On the right hand side, BRANCH and JUDCOST are our measures of local financial development and inefficiency of the legal system, respectively.

Following Benfratello et al. (2008), BRANCH is the provincial branch density (calculated as bank branches on population). The authors indicate at least two motivations to choose this variable as a measure of the level of local banking development. A first one is that it is widely used in the studies on local banking development (e.g. Degryse and Ongena, 2005). A second one, and perhaps more important, is that "it captures the dimension of banking development that is likely to be more heavily affected by the deregulation process" (Benfratello et al. 2008, p.200), a process that greatly contributed to transform the physiognomy of the Italian banking system in the last two decades. Similarly to Fabbri and Padula (2004) and Bianco et al. (2005), JUDCOST is the ratio of backlog of pending civil trials to incoming civil trials.[1] The hypothesis underlying the use of this variable is that the quality of the legal enforcement system at local level depends inversely on the congestion of the judicial district.

[1] The computation of JUDCOST relies on the trials at the first degree of judgment (lower court). However, as a robustness check (sub-section 5.1), we have also considered the trials at the second degree of judgment (appeal court). Data on pending and incoming trials are available at judicial districts level only, these latter corresponding roughly to the Italian regions (for a matching of judicial districts with regions and provinces, see Fabbri and Padula 2004).

The vector $\underline{X}$ of control variables accounts for observable firm-specific characteristics. Theoretical and empirical studies have shown that features such as size, age, profitability, non-debt tax-shields, tangibility, trade debt and growth opportunities are likely to affect capital structure (e.g. Hall et al., 2004; Van der Wijst and Thurik,1993). Large firms tend to have more collateralizable assets and more stable cash flows (Rajan and Zingales, 1995; Harris and Raviv,1991). Thus, the variable SIZE_E, measured by the number of firm's employees, is included in the model. To account for informational opacity across the different stages of a firm's life cycle, the AGE variable is added. Most tax and asymmetric information models of capital structure predict a relationship between leverage and profitability (Rajan and Zingales,1995; Harris and Raviv, 1991). Thus, our empirical model includes the return on assets (ROA), expressed as the ratio of earnings before interest and taxes (EBIT) to total assets. De Angelo and Masulis (1980) argue that firms that are able to reduce taxes using methods other than deducting interest, such as depreciation, will employ less debt in their capital structure. The *non-debt tax shields* (NDTS) variable considered in this study is measured through the depreciation and amortization of tangible and intangible assets divided by total assets (MacKie-Mason,1990). Tangible assets (TGASS) may provide collateral for loans, reducing agency costs and the cost for lenders, and thus are expected to be associated with higher leverage (Rajan and Zingales, 1995; Titman and Wessels, 1988). Firms with high growth opportunities may retain financial flexibility through a low leverage to be able to exercise those opportunities in subsequent years (Myers,1977), while a firm with outstanding debt may forgo such opportunities (Jensen and Meckling, 1976). To capture this effect, we use a measure of firm's growth (FGROW_S), given by the growth rate of annual net sales. Considering that trade debt may be a substitute for bank debt (De Blasio, 2005), the TRADE variable – expressed by the ratio of trade debt to total assets – is also included. Vector $\underline{X}$ also comprises industry dummies (PAV), to control for heterogeneity at sectoral level, two variables at provincial level – the (log of) per capita real gross domestic product (GDPPC) and the ratio of bad loans to total loans (BAD), this latter as a proxy for credit market riskiness – and a territorial dummy (SOUTH), to account for the dualism in the degree of socio-economic development between Center-North and South (this variable is coded 1 for firms located in the southern regions, and zero otherwise).[2] Besides, T_t is a set of time fixed effects and $\varepsilon_{it} = \nu_i + u_{it}$ is a composite error, where the individual effect (ν_i) summarizes unobserved firm's characteristics that are time-invariant, and have been acknowledged as potential determinants of capital structure decisions (Lemmon et al., 2008; Flannery and Rangan, 2006). The second term (u_{it}) captures idiosyncratic shocks to leverage. Finally, it is worth highlighting the inclusion of lagged leverage as an explanatory variable. This term enables us to account for the dynamics suggested by the literature on the capital structure adjustment process (Flannery and Rangan, 2006; Leary and Roberts, 2005; Welch, 2004; Fama and French, 2002; Bontempi and Golinelli, 1996).[3]

To test our first hypothesis, we estimate equation (1) without considering the interaction term between BRANCH and JUDCOST. Then, to verify our second hypothesis, we estimate model (1) – which makes the effect of financial development conditional on different levels of enforcement inefficiency. Specifically, we consider the partial effect of BRANCH conditional

[2] It is worth underlining that the two biggest Italian macro-areas differ also in term of institutional environment. Indeed, as pointed out by several contributions (see, for instance, Fabbri e Padula, 2005, Bianco et al., 2005, Carmignani and Giacomelli, 2009) the quality of judicial enforcement is worse in the southern regions of Italy, while the most efficient judicial districts are localised in the North of the country. This discrepancy emerges also from our data: in the period 1998-2003, the average value of JUDCOST tends to increase moving from the north to the south of the country, being the lowest (1.28) for Vercelli (a province belonging to the northern region Piemonte), and the highest (4.67) for Crotone (in the southern region Calabria).

[3] Summary statistics and the correlation matrix for the variables employed in the estimations are available from the authors upon request.

on the level of judicial costs ($\partial LEV / \partial BRANCH = \hat{\beta}_2 + \hat{\beta}_4 * JUDCOST$), and the relative standard errors.[4] Since both are dependent on JUDCOST, the marginal effect of BRANCH may change sign and gain or lose significance according to the value of the enforcement variable. To provide a concise report on these figures, we will graph the marginal effect of BRANCH - along with its 95% (or 90%) confidence intervals - across the range of the JUDCOST regressor.

From an econometric perspective, controlling for leverage inertia and unobserved heterogeneity poses two major problems. The first concerns the correlation between the lagged dependent variable and the past idiosyncratic errors. The second involves the potential correlation between fixed effects and regressors. This latter link makes the strict exogeneity assumption fail, compromising the consistency of the most popular methods employed in a static panel data setting (random effects, fixed effects and first differencing). Moreover, in model (1) the lag of the leverage measure is not the only endogenous variable. In fact, also other explanatory variables are likely to be endogenous.[5]

A general approach for coping with the above mentioned problems consists of two steps. First the data are transformed in order to eliminate the unobserved individual effects, and then valid instrumental variables are employed in order to deal with the endogeneity problem. Arellano and Bond (1991) propose a GMM procedure, exploiting the entire set of internal instruments that the model generates, under the assumption of white noise errors. When the explanatory variables are persistent over time, however, the lagged level may result in poor instruments. Since our variables of interest (BRANCH and JUDCOST) display little variation over time, in what follows we adopt the so-called *system GMM* estimator of Arellano and Bover (1995) and Blundell and Bond (1998). This estimator employs extra orthogonality conditions that "remain informative even for persistent series, and it has been shown to perform well in simulations" (Bond et al. 2001, page. 4), increasing the efficiency of the estimation.

4. Data

The econometric analysis is based on data coming from several sources. Information on Italian manufacturing firms is drawn from Capitalia's 7th, 8th and 9th surveys (*Indagini sulle Imprese Manifatturiere*), conducted on all Italian manufacturing firms employing more than 500 workers and on a stratified sample of firms with more than 10 workers. Each of these surveys, including mostly qualitative information, spans three years: the 7th survey, carried out in 1998, reports data for a panel of 4,493 firms for the period 1995-1997; the 8th one was conducted in 2001 and has data for a panel of 4,680 firms for the years 1998-2000, and the 9th, in 2004, on 4,289 firms for the period 2001-2003. Capitalia provides also balance-sheet data on the firms included in the surveys. By matching qualitative and accounting information, we obtain an unbalanced panel of 5,998 firms for the period 1995-2003, for a total of 25,530 observations. As abovementioned, we focus on SMEs. Therefore, we drop firms with more than 250 workers and those listed on the Stock Exchange.

A second data source, which gives us figures on the territorial distribution of branches for each Italian bank, is provided by the Bank of Italy. From the same database we draw information on banks' non-performing loans and banks' total loans (both at provincial level), to

[4] Formally, the latter are: $\hat{\sigma} = \sqrt{var(\hat{\beta}_2) + (JUDCOST)^2 * var(\hat{\beta}_4) + 2JUDCOST * cov(\hat{\beta}_2, \hat{\beta}_4)}$

[5] We treat as endogenous the variables that are likely to be determined simultaneously along with the leverage (BRANCH, BRANCH* JUDCOST, SIZE, ROA, NDTS, TGASS, TRADE, FGROW_S and BAD). The remaining regressors are treated as exogenous.

compute the BAD variable. Finally, data on pending and incoming civil trials, GDP and population come from ISTAT (Italian National Institute of Statistics).[6]

5. Empirical Results

The *SYS-GMM* results are reported in Table 1. Column 1 shows the results of our model when excluding the variable JUDCOST (and therefore also its interaction with BRANCH).[7] Figures show that the estimated coefficient of BRANCH is positive and statistically significant (at 10% level). Moreover, many control variables are statistically significant and their estimated coefficients are generally consistent with those found in previous studies. For instance, SIZE has a positive and statistically significant effect on leverage: larger firms seem to obtain more financial resources in terms of debt. The variable ROA has a negative and statistically significant effect on leverage, suggesting that higher profitability - possibly mitigating problems of asymmetric information in accessing capital markets - may allow managers to be less dependent on creditors for financial resources. The NDTS parameter is negative and statistically significant as well; thus, managers seem to prefer reducing debt when it is possible to use non-debt tax shields.

TABLE 1 - Estimation results. Dynamic panel-data estimation. One-step system GMM

In Italics are reported the p-values of the tests. Standard errors (not reported) are consistent in the presence of any pattern of heteroskedasticity and autocorrelation within panels. For the description of the variables see section 3. GROUP (in column 3) is a dummy variable which is one if a firm belong to a group and zero otherwise. FGROW_E (in column 4) is the annual growth rate of firm's employees. SIZE_TA/E (in column 5) is the ratio of total assets to the number of firm's employees. JUDCOST_2 (in column 6) is the ratio of backlog of pending civil trials to incoming civil trials (first and second degree of judgement). The variables SIZE_TA/E, AGE(+1) and GDPPC are in natural logarithms. Constant and time dummies included but not reported. AB test (AR1)-FD and AB test (AR2)-FD stand for Arellano-Bond test for AR in first differences and Arellano-Bond test for AR in second differences, respectively.

	DEPENDENT VARIABLE (LEV)					
	Column 1	**Column 2**	**Column 3**	**Column 4**	**Column 5**	**Column 6**
	Benchmark model (no interaction)	Benchmark model (with interaction)	Adding dummy GROUP	FGROW_E instead of FGROW_S	SIZE_TA/E instead of SIZE_E	JUDCOST_2 instead of JUDCOST
LEV_1	0.558	0.555	0.551	0.559	0.557	0.556
	0.000	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*
BRANCH	0.784	1.992	2.092	2.446	1.903	2.283
	0.082	*0.087*	*0.070*	*0.039*	*0.074*	*0.064*
JUDCOST		3.263	3.679	4.955	3.243	
		0.263	*0.204*	*0.102*	*0.215*	
JUDCOST_2						4.027
						0.185
BRANCH*JUDCOST		-0.567	-0.642	-0.889	-0.557	
		0.290	*0.228*	*0.110*	*0.246*	
BRANCH*JUDCOST_2						-0.706
						0.204
SIZE_E	0.046	0.050	0.048	0.039		0.050
	0.000	*0.000*	*0.001*	*0.005*		*0.000*

[6] To moderate the influence of potential outliers, for each variable involved in the econometric analysis, the observations lying in the first and last percentile of the distribution have been dropped.

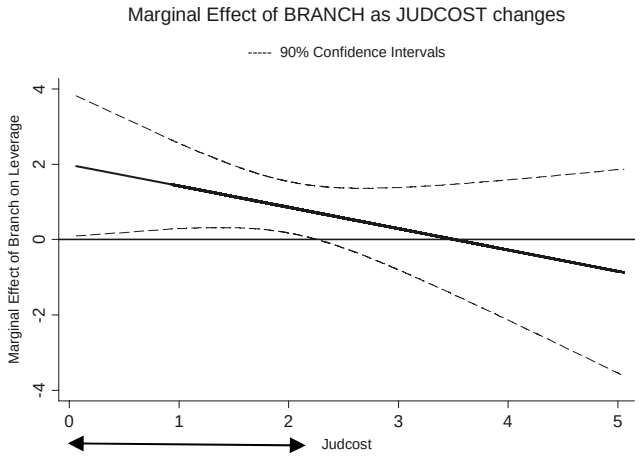
[7] The estimates are obtained by using a subset of the available instruments. This is because, as Altonji and Segal (1994) point out, the use of all instruments implies small-sample downward bias of the coefficients and standard errors. Further reducing the number of instruments - or using all those available - does not affect our main results.

TABLE 1 (continued) - Estimation results. Dynamic panel-data estimation. One-step system GMM

	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
	Benchmark model (no interaction)	Benchmark model (with interaction)	Adding dummy GROUP	FGROW_E instead of FGROW_S	SIZE_TA/E instead of SIZE_E	JUDCOST_2 instead of JUDCOST
SIZE_TA/E					5.077	
					0.000	
AGE	-0.202	-0.214	-0.118	0.045	0.070	-0.215
	0.528	*0.509*	*0.727*	*0.892*	*0.811*	*0.507*
ROA	-0.278	-0.286	-0.296	-0.267	-0.227	-0.287
	0.001	*0.001*	*0.001*	*0.002*	*0.008*	*0.001*
NDTS	-1.023	-1.150	-1.126	-1.034	-0.883	-1.157
	0.000	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*
TGASS	0.254	0.235	0.229	0.251	0.261	0.236
	0.000	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*
FGROW_S	-0.125	-0.140	-0.124		-0.097	-0.139
	0.000	*0.000*	*0.000*		*0.007*	*0.000*
FGROW_E				-0.098		
				0.114		
TRADE	0.317	0.315	0.309	0.317	0.313	0.315
	0.000	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*
GROUP			0.779			
			0.498			
PAV2	-0.887	-0.717	-0.821	-0.997	-1.145	-0.710
	0.038	*0.098*	*0.061*	*0.021*	*0.011*	*0.101*
PAV3	-0.790	-0.815	-0.880	-0.752	-0.240	-0.801
	0.048	*0.042*	*0.030*	*0.064*	*0.548*	*0.046*
PAV4	1.791	1.890	1.813	1.940	2.151	1.902
	0.029	*0.022*	*0.030*	*0.020*	*0.009*	*0.022*
GDPPC	-2.277	-3.218	-3.489	-3.579	-3.571	-3.246
	0.169	*0.101*	*0.073*	*0.073*	*0.063*	*0.092*
BAD	-0.065	-0.135	-0.157	-0.207	-0.150	-0.143
	0.530	*0.289*	*0.213*	*0.117*	*0.217*	*0.253*
SOUTH	0.423	0.175	0.023	-0.360	-0.728	0.089
	0.749	*0.892*	*0.986*	*0.782*	*0.578*	*0.945*
N.obs	12,942	12,942	12,919	12,514	12,651	12,942
F-test (BRANCH, INT)		2.61	2.55	2.57	2.32	2.67
		0.074	*0.079*	*0.077*	*0.099*	*0.070*
F-test (BRANCH, JUDCOST, INT)		2.51	2.44	2.17	2.36	2.41
		0.057	*0.062*	*0.089*	*0.070*	*0.065*
Model-test	120.09	110.41	106.45	115.02	107.17	110.27
		0.000	*0.000*	*0.000*	*0.000*	*0.000*
AB test (AR1)-FD	-12.62	-12.75	-12.64	-12.08	-12.75	-12.74
	0.000	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*
AB test (AR2)-FD	1.02	1.03	0.97	0.94	1.10	1.03
	0.306	*0.303*	*0.333*	*0.345*	*0.271*	*0.304*
Hansen test	268.29	292.8	317.0	281.4	305.2	293.3
	0.180	*0.220*	*0.192*	*0.382*	*0.102*	*0.214*
Difference-in-Hansen tests of exogeneity of instrument subsets: GMM instruments for levels	59.22	67.72	74.52	66.02	93.58	67.84
	0.577	*0.521*	*0.364*	*0.579*	*0.026*	*0.517*

Column 2 of Table 1 reports the estimates of model (1). Looking at the individual sign and significance of our key variables, the BRANCH estimated parameter appears positive and significantly related to leverage. Given the presence of the interaction term, though, such a positive effect corresponds to the marginal effect of BRANCH only when the JUDCOST variable is equal to zero, which clearly does not represent a noteworthy case. The JUDCOST estimated coefficient is not statistically significant. Again, given the inclusion of the interaction term, this means that our legal enforcement indicator does not influence the dependent variable when the number of branches is zero, another meaningless case. The interaction term (BRANCH*JUDCOST) is not statistically significant. An F-test, however, supports the hypothesis of joint significance of BRANCH and its interaction term. The negative sign of the latter indicates that, as expected, the positive BRANCH effect tends to decrease as JUDCOST raises. However, these figures do not convey full information on the magnitude, sign and significance of the marginal effect of BRANCH (neither of JUDCOST). Since we are interested in appraising whether the BRANCH's effect on leverage is different in magnitude and significance according to the level of JUDCOST, we have to consider the estimated marginal impact of BRANCH and its confidence intervals for all JUDCOST values. Being the latter a continuous variable, it is useful to consider the following figure, which condenses the information needed.

Figure 1



91.1% of the observations

According to the above graph, the influence of financial development on the amount of SMEs' debt is indeed dependent on the judicial system efficiency. At low levels of judicial costs, the BRANCH estimated marginal effect is positive and statistically significant (the confidence band does not include the zero line). When such costs increase, the impact of BRANCH decreases, turning to be statistically not significant beyond a threshold value of about two. More than 91% of our sample observations fall within the significance region.

Summarizing, our evidence suggests that the degree of local financial development is a statistically significant determinant of SMEs' capital structure decisions, but its relevance decreases at higher level of local courts inefficiency.

5.1 Robustness Checks

We first check the sensitivity of our results to the specification adopted. Results do not substantially change neither when controlling for non-linearity of firms' size and age (i.e. the squares of SIZE_E and AGE are added to equation (1)), nor when including the (log of) provincial population. Findings are robust also when controlling for the local credit market size by

using the (log of) deposits in the province. Besides, none of the added variables is statistically significant. These results are not reported to avoid cluttering, but they are available from the authors upon request.

Similarly, the outcome remains substantially unaltered both when we include in the equation (1) a dummy variable (GRUP) to control for group membership (column 3 of Table 1), and when we replace some controls with other ones. In column 4 of Table 1, firm's growth is measured in terms of number of employees (FGROW_E), rather than net sales (FGROW_S); in column 5, the number of firms' employees is replaced by the log of total assets per employee (SIZE_TA/E); in column 6 JUDCOST is replaced with JUDCOST2, the latter being the ratio of backlog of pending civil trials to incoming civil trials (first and second degree of judgment).

6. Concluding remarks

This study has analyzed the influence of institutional differences at the local level on Italian SMEs' capital structure choices, taking into account the interaction between local financial development and the effectiveness of the local enforcement system. Controlling for financial debt inertia, endogeneity problems and firms' heterogeneity, local financial development appears to exert a significant role in affecting SMEs' debt capacity, conditioned by the quality of the local enforcement system.

According to our main findings, corporate financial decisions seem to be not only the result of firm/ industry specific characteristics, but also a by-product of the institutional environment in which firms operate. Thus, despite the international process of capital markets integration, the local institutional context still seems to matter for Italian SMEs. In particular, higher levels of local financial development appear associated to easier access to external financial resources.

Further, a more efficient local judicial system appears to amplify the positive relationship between financial development and firms' capital structure, possibly as intermediaries may be more inclined to provide funds where the enforcement system enables a more effective credit protection. In other words, higher quality of the local enforcement system shows a relevant indirect effect on firm's financial decisions, allowing SMEs to obtain credit more easily. Where local enforcement system is more efficient, banks may be less frightened of firms exhibiting opportunistic behaviour; vice versa, if it is difficult to enforce loan covenants, bankers could prefer to provide less credit - being scared of ex-post opportunistic problems.

Broadly speaking, our study suggests that it may be relevant to jointly consider financial development and enforcement at local level as crucial determinants of SMEs' capital structure decisions. Thus, a policy implication of our results is the need to improve local financial development, while considering that the way financial system affects firms' decisions is qualified by the local courts' efficiency. Indeed, an improvement in the local enforcement system can play an important role in creating the conditions for better relationships between firms and banks, mitigating asymmetric information problems, hence increasing credit availability for entrepreneurships.

References

Alessandrini, P and A. Zazzaro (1999) "A Possibilist Approach to Local Financial Systems and Regional Development: the Italian Experience", in *Money and the Space Economy* by R. Martin, Ed., John Wiley & Sons.

Altonji, J and L. Segal (1994) "Small sample bias in GMM estimation of covariance structures". NBER Working Paper 156.

Arellano, M and S. Bond (1991) "Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations" *Review of Economic Studies* **58**, 277–97.

Arellano, M and O. Bover (1995) "Another Look at the Instrumental Variable Estimation of Error Components Models" *Journal of Econometrics* **68**, 29-51.

Beck, T and R. Levine (2004) "Legal Institutions and Financial Development" in *Handbook of New Institutional Economics* by C. Menard and M. Shirley, Eds, Kluwer Dordrecht (The Netherlands).

Beck, T and A. Demirguc-Kunt and V. Maksimovic (2005) "Financial and legal constraints to firm growth: Does size matter?" *Journal of Finance* **60**(1), 137-77.

Benfratello, L and F. Schiantarelli and A. Sembenelli (2008) "Banks and innovation: Microeconometric evidence on Italian firms" *Journal of Financial Economics* **90**, 197-217.

Bianco, M and T. Jappelli and M. Pagano (2005) "Courts and Banks: Effect of Judicial Enforcement on Credit Markets" *Journal of Money, Credit and Banking* **37**, 223-44.

Blundell, R and S. Bond (1998) "Initial Conditions and Moment Restrictions in Dynamic Panel Data Models" *Journal of Econometrics* **87**, 115-43.

Bond, S and J. Temple and A. Hoeffler (2001) "GMM Estimation of Empirical Growth Models" Economics Papers 21 Nuffield College University of Oxford.

Bontempi, M.E and R. Golinelli (1996) "Le determinanti del leverage delle imprese: una applicazione empirica ai settori industriali dell'economia italiana" *Studi e Note di Economia* **2**, 35-66.

Booth, L and V. Aivazian and A. Demirguc-Kunt (2001) "Capital Structures in Developing Countries" *Journal of Finance* **56**(1), 87-130.

Carmignani, A and S. Giacomelli (2009) "Italian Civil Justice: Regional Disparities" Bank of Italy Occasional Paper 40.

Cheng, S and C. Shiu (2007) "Investor Protection and Capital Structure: International Evidence" *Journal of Multinational Financial Management* **17**, 30-44.

De Angelo, M and R.W. Masulis (1980) "Optimal Capital Structure Under Corporation and Personal Taxation" *Journal of Financial Economics* **8**, 3-29.

De Blasio, G. (2005) "Does Trade Credit Substitute Bank Credit? Evidence from Firm-level Data" *Economic Notes* **34**(1), 85-112.

Degryse, H and S. Ongena (2005) "Distance, lending relationships and competition" *Journal of Finance* **60(**1), 231-66.

Demirguc-Kunt, A and V. Maksimovic (1996a) "Stock Market Development and Financing Choices of Firms" *World Bank Economic Review* **10**(2), 341-70.

Demirguc-Kunt, A and V. Maksimovic (1998) "Law, Finance and Firm Growth" *Journal of Finance* **53**, 2107-137.

Demirguc-Kunt, A and V. Maksimovic (1999) "Institutions, Financial Markets, and Firms Debt Maturity" *Journal of Financial Economics* **54**, 295-336.

Demirguc-Kunt, A and V. Maksimovic (2002) "Funding Growth in Bank-Based and Market-Based Financial System: Evidence from Firm Level Data" *Journal of Financial Economics* **65**, 337-63.

Demirguc-Kunt, A and V. Maksimovic (2008) "Financing Patterns Around the World: The Role of Institutions" Policy Research Working Paper 2905, The World Bank.

Diamond, D. (1993) "Seniority and Maturity of Debt Contracts" *Journal of Financial Economics* **33**(3), 341-68.

Fabbri, D and M. Padula (2004) "Does poor legal enforcement make households credit-constrained?" *Journal of Banking & Finance* **28**, 2369-397.

Fama, E and K. French (2002) "Testing Trade-Off and Pecking Order Prediction about Dividends and Debt" *Review of Financial Studies* **15**, 1-33.

Flannery, M. (1986) "Asymmetric Information and Risky Debt Maturity Choice" *Journal of Finance* **41**, 19-37.

Flannery, M and K. Rangan (2006) "Partial adjustment toward target capital structures" *Journal of Financial Economics* **79**, 469-506.

Giannetti, M. (2003) "Do Better Institutions Mitigate Agency Problems? Evidence from Corporate Finance Choice" *Journal of Financial and Quantitative Analysis* **38**, 185-212.

Guiso, L and P. Sapienza and L. Zingales (2004) "Does Local Financial Development Matter?" *Quarterly Journal of Economics* **119**, 929-69.

Hall, G and P. Hutchinson and N. Michaelas (2004) "Determinants of the Capital Structure of European SMEs" *Journal of Business Finance and Accounting* **31**, 711-28.

Harris, M and A. Raviv (1991) "The theory of capital structure" *Journal of Finance* **46**, 297-355.

Jensen, M and W. Meckling (1976) "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure" *Journal of Financial Economics* **3**, 305-60.

La Porta, R and F. Lopez-de-Silanes and A. Shleifer and R. Vishny (1997) "Legal Determinants of External Finance" *Journal of Finance* **52**(3), 1131-150.

La Porta, R and F. Lopez-de-Silanes and A. Shleifer and R. Vishny (1998) "Law and Finance" *Journal of Political Economy* **6**, 1113-155.

Leary, M and M. Roberts (2005) "Do Firms Rebalance their Capital Structure?" *Journal of Finance* **60**, 2575-619.

Lemmon, M and M. Roberts and J. Zender (2008) "Back to the Beginning: Persistence and the Cross-Section of Corporate Capital Structure" *Journal of Finance* **63**(4), 1575-1608.

Lopez-Iturriaga, F and J. Rodriguez-Sanz (2007) "Capital Structure and Institutional Setting: a Decomposition and International Analysis" *Applied Economics* 30, 1-14.

MacKie-Mason, J. (1990) "Do Taxes Affect Corporate Financing Decisions?" *Journal of Finance* **45**, 1471-493.

Martin, R. (1999) "The New Economic Geography of Money" in *Money and the Space Economy* by R. Martin, Ed., John Wiley & Sons.

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

Petersen, M and R. Rajan (2002) "Does Distance Still Matter: The Information Revolution in Small Business Lending" *Journal of Finance* **57**, 2533-570.

Pollard, J. (2003) "Small firm finance and economic geography" *Journal of Economic Geography* **3**(4), 429-52.

Rajan, R and L. Zingales (1995) "What do we Know about Capital Structure? Some Evidence from International Data" *Journal of Finance* **50**, 1421-460.

Rajan, R and L. Zingales (1998) "Financial Dependence and Growth" *American Economic Review* **88**, 559-86.

Rajan, R and L. Zingales (2003)" Banks and Markets: the Changing Character of European Finance" CEPR Discussion Paper 3865.

Titman, S and J. Fan and G. Twite (2003) "An International Comparison of Capital Structure and Debt Maturity Choices" Social Science Research Network Working Paper.

Titman, S and R. Wessels (1988) "The determinants of capital structure" *Journal of Finance* **43**(2), 1-18.

Utrero-González, N. (2007) "Banking regulation, Institutional Framework and Capital Structure: International Evidence from Industry Data" *Quarterly Review of Economics and Finance* **47**, 481-506.

Van der Wijst, D and A. Thurik (1993) "Determinants of Small Firm Debt Ratios: an Analysis of Retail Panel Data" *Small Business Economics* **5**, 55-65.

Welch, I. (2004) "Capital Structure and Stock Returns" *Journal of Political Economy* **112**, 106-31.