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TO WHAT EXTENT DO REGIONAL EFFECTS INFLUENCE FIRMS' CAPITAL STRUCTURE? THE CASE OF SOUTHERN ITALIAN SMEs'

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There is tremendous interest, in the economic literature, for the determinants of firms' capital structure decisions. A rich body of empirical works now exists that purports to identify firm- and country-level factors affecting firms' financing patterns. In addition, more recently, a new stream of studies has emerged that investigates cross-regional variation in small firms' capital structure. While small firms' leverage does seem to vary across regions, at least in countries where significant regional differences in economic and financial development and in the quality of institutions exist, not much yet is known about variation in debt maturity, in debt in relation to equity, and between different types of small firms. The present paper aims to fill this gap through an empirical analysis of cross-regional variation in the capital structure of a sample of about 30,000 Italian small firms over a 13-year period, including the aftermath of the credit crunch that followed the 2007-8 global financial crisis. The findings confirm the view that small firms in underdeveloped regions are more financially constrained, but also amend some of the results shown in the literature, in particular by showing how small firms in Italy's Southern regions have higher levels of equity and fixed assets than small firms in other regions.

KEYWORDS: Capital structure; leverage; SMEs; Cross-regional variation

JEL Classification: G32; G30; L60

1. INTRODUCTION

The determinants of firms' capital structure is the object of a large economic literature, both empirical and theoretical. Theory-wise, various arguments have been put forward concerning a firm's decision to use more debt, equity, internal funding sources, or alternative funding sources. The "pecking order" theory, first formulated by Myers (1984), is well known – but alternative theories exist, such as the "trade-off" hypothesis (See Fama and French, 2002) or the financial life cycle approach (Berger and Udell, 1998). Each theory generates its own set of hypotheses regarding (i) the potential preferences of firms in terms of the source of funding they wish to use to finance their investment; and (ii) the factors constraining such preferences. While hypotheses concerning preferences vary, there is a broad consensus in the literature around the likely firm-level determinants of firms' capital structure choice, i.e. firms' size, profitability, asset structure, age, and growth.

The empirical literature has largely confirmed the second set of hypotheses, e.g. those regarding the determinants of firms' capital structure choices. A firm's size is seen, in particular, as a very significant factor determining, for instance, a firm's ability to access external finance – bank debt or marketable securities. This has to do, mainly, with the greater information asymmetries

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presented by small and medium-sized firms (SMEs). Also, the literature widely confirms the hypothesis that profitable firms exhibit lower leverage; or that the greater a firm's fixed assets, the greater its long-term debts (Rajan and Zingales, 1995; Wald, 1999; Booth et al., 2001). Regarding the first set of hypotheses, the jury is still out: several studies find evidence in favour of the pecking order theory (REF); others do not (See, for instance, Fama and French,); others yet find evidence compatible with both the pecking order theory and alternative theories (La Rocca et al., 2011).

While early empirical work was mostly based on one-country analyses, a rich stream of studies has emerged since the late 1990s to investigate cross-country variation in capital structure decisions. Indeed, such cross-country differences have now been amply documented (for instance, in works such as Booth et al., 2001; Beck et al., 2008; Fan et al., 2012; Mateev et al., 2013). These studies have made an important contribution to the literature on capital structure decisions of large and small firms by highlighting the significance of country-effects, on top of firm and industry-effects. These country effects have been generally identified as either related to the structure and development of a country's financial system (Levine, 1997 and 2004) or to the quality and development of a country's institutions, especially legal institutions (Beck et al., 2003 and 2005), or to both (La Porta et al., 1997 and 1998). An ongoing debate in the literature regards the relative importance of country- and firm-effects (and industry effects) in determining firms' capital structure (Daskalakis & Psillaji, 2008; De Jong et al., 2008; Fan et al., 2012).

More recently, a new wave of empirical studies has shifted the focus away from cross-country variation towards within-country, cross-regional variation in firms' capital structure – especially small firms' capital structure (La Rocca et al., 2010; Palacín-Sánchez et al., 2013; Serrasqueino & Caetano, 2015; Palacín-Sánchez & Di Pietro, 2016; Matias & Serrasqueiro, 2017). As briefly mentioned above, small firms' access to finance is made harder by the important information asymmetries that characterize their relationships with potential investors. In addition, small firms are likely to be more dependent upon local sources of funding, as they have a lower capacity than large firms to tap into national financial markets. Finally, many countries are characterized by regional heterogeneity in terms of economic growth and legal and financial characteristics – the latter being often correlated with the former (see Guiso et al., 2004). These characteristics make studies of cross-regional variation in small firms' capital structure particularly relevant to the broader academic discussion about capital structure decisions. One key question regards both the nature and the relative importance of regional effects on SMEs' capital structure decisions.

The aim of the present study is to assess whether different rates of regional socio-economic development, in a country characterized by significant regional gaps such as Italy, generate significant effects on the capital structure of SMEs – in particular, effects concerning the amount and nature of leverage taken on by SMEs. Beyond its scientific relevance, highlighted above, this issue has strong policy implications in economic systems characterized by a significant presence of small businesses. In Europe, for instance, where more than 99% of businesses are small firms, limited access to finance has been long recognized as an obstacle to firm growth – a diagnosis at the heart of the European Union's small business development strategy, formulated within a 2008 "Small Business Act" and subsequent "Action plan" adopted by the European Commission (European Commission, 2011).

This paper aims to contribute to the emerging literature on cross-regional-variation in the capital structure of small firms in three ways: First, by using a very large sample of SMEs during a relatively long period of time (longer than the typical timeframe used in the capital structure literature). The period under study encompasses the years following the 2007-08 global financial crisis, which helps us measure the impact of the credit crunch on Italian SMEs' capital structure. Secondly, this paper contributes to the literature by highlighting variation in equity as well as debt; and by analyzing differences in debt maturity as well as total leverage (not systematically done in

the literature); third, our empirical strategy allows us to distinguish between different types of SMEs, given the heterogeneity of this group of firms, both in terms of characteristics and financial needs.

The Italian context is especially interesting for assessing cross-regional variation in the capital structure of small firms. First, SMEs are extremely numerous in Italy – as of 2015, Italy had 4,687,891 firms, of which only 3,153 had more than 250 employees. Italian SMEs are present in all economic activities. Secondly, Italy has a historical record of significant and persistent cross-regional gaps in output growth, employment, and productivity: in 2017 GDP per capita was euro 18,200 in Southern regions, 44.2% below that of Northern regions. This socio-economic development gap translates in the peculiar industrial structure of Southern Italy, characterized by more traditional activities, lower average size of firms and younger firm,s due to the higher turnover of firms' population. These characteristics have persisted until today.

Third, Italy has a long experience in policies (called "*intervento straordinario*") adopted in the 1950s and 1960s to reduce this regional gap in socio-economic development through, in particular, a dedicated funding agency – policies that have had, historically, an impact on Sothern firms' financial constraints and strategy. However, these policies and the dedicated agency were set aside in the early 1990s.[1] At the same time, the Italian banking industry started undergo a deep re-organization through bank privatization, banking markets de-segmentation and liberalization, and bank restructuring on a national scale. In this process, the large Southern banks, which had, in the past, played an important role in promoting and sustaining local growth, disappeared.

Finally, another set of macroeconomic factors that may have affected the capital structure of small firms in Southern Italy (especially in the latter years covered in our sample) relate to the 2007-08 financial crisis and its consequences. In the aftermath of a credit shock, firms' financial constraints increase: firms need to find new sources of funding for their financial needs. While large firms can easily find alternative funding sources, smaller firms have a harder time doing so, because of their opacity and riskiness; thus they face decreasing leverage. It is likely to believe, furthermore, that these deleveraging effects are likely to be greater in less-developed areas (Beattie et al., 2006).

The analysis presented here uses data on a large panel of Italian SMEs observed over a 13-year period (from 2001 to 2013), for a total of 427.468 observations (an average of 32.882 small firms observed per year) for Italy as a whole; of which 53.971 observations (an average of 4.151 small firm-observations per year) for Southern Italy only. The study compares SMEs' capital structure across Italian administrative regions, clustered in two macro-areas widely used in the literature: the less developed Mezzogiorno, composed of the eight Southern Italian regions (Abruzzo, Molise, Campania, Puglia, Basilicata and Calabria), in addition to the two islands (Sicily and Sardinia); and the "Center-North" macro-area, composed of the other 12 administrative regions of the central and northern areas of the country.

The rest of the paper is organized as follows. Next section reviews the existing literature on capital structure determinants in small firms. Section 3 and 4 present the data and methodology used here. Section 5 shows descriptive statistics revealing some of the distinctive features of the financial structure of SMEs in southern Italy. Section 6 presents and discusses the findings of the empirical analysis. Section 7 concludes.

[1] The law supporting the so-called "extraordinary intervention" for promoting growth in Southern regions was repealed in 1992; In the same year, the government ended the operations of Agensud (ex *Cassa per il Mezzogiorno*), the public agency established in 1950 and devoted to funding infrastructure in the Mezzogiorno areas.

2. DETERMINANTS OF SMEs' CAPITAL STRUCTURE: FROM FIRM- TO COUNTRY- AND REGION-EFFECTS

2.1. Firm-level determinants of capital structure decisions

As argued above, the question of firms' capital structure decisions has aroused tremendous interest in the economic literature in the past. The theoretical foundations of such literature rest on the seminal work by Modigliani and Miller, and on the removal of some of the conditions imposed by their "irrelevance theorem". In explaining firms' preference for equity, debt or retained earnings as main sources of funding, economists alternatively stress the causal role of agency costs (Jensen and Meckling, 1976; Myers, 1977; Harris and Raviv, 1990), information asymmetries and signalling (Ross, 1977; Myers and Majluf, 1984; Myers, 1984), or taxation (Miller, 1977; De Angelo and Masulis, 1980). Particularly popular approaches to understand corporate capital structure decisions are the pecking order theory, the trade-off theory and the financial life cycle theory. In a nutshell, the pecking order theory assumes that firms' capital structure preferences depend on financing costs; and that the latter are related to information asymmetries, so that equity financing is costlier than debt, which is costlier than internal funding; hence corporate managers' preference for internal financing over debt and debt over equity (Myers and Majluf, 1984). According to the trade-off perspective, by contrast, financing decisions are based on cost-benefits assessment balancing, in particular, the dead-weight costs of bankruptcy and the tax saving benefits of debt (Kraus and Litzenberger, 1973). Finally, under the financial life cycle perspective, firms' capital structure preferences varies with their life cycle: the latter determines "the nature of [a firm's] financial needs, the availability of financial resources, and the related cost of capital" (Berger and Udell, 1998: 108). Theoretically, the analytical strength of these various approaches is considered equally relevant for the financial strategies of the firm,[2] but none of them provides an exhaustive and definitive means of explaining the actual financial (or capital structure) choices of firms.

This is especially true in the case of SMEs, where information asymmetries are believed to be higher than in large firms. In particular, small firms are deemed more "informationally opaque" than large firms (Berger and Udell, 1998). From a "financial life cycle" perspective (Berger and Udell, 1998; La Rocca et al., 2011), this informational opaqueness raises the cost of debt for young (and small) firms, reversing the preferences hypothesized under pecking order theory (Berger and Udell, 1998); in addition, young firms have low o no reputation, and lack tangible assets, which contributes to raising the cost of debt (La Rocca et al., 2011).

The various hypotheses formulated within the theoretical approaches briefly sketched above have been the object of a rich stream of empirical tests, which was primarily concerned with identifying the main determinants of capital structure decisions at firm level; as mentioned in the introduction above, there is a wide consensus in the literature that such firm-level determinants are size, age, growth, profitability and its volatility and, finally, the tangibility of assets (for examples of such consensus, see Booth et al., 2001; Hall et al., 2004; Fan et al., 2012; Matias and Serrasqueiro, 2017). The nature and effects of such firm-level determinants are briefly examined below.

The effects of *firm size* on capital structure are potentially numerous, but they are all consistent with the idea that when the size of a firm increases, the share of debt (leverage) also increases, given that the smaller the firm, the greater the information asymmetries; and that greater information asymmetries raise the cost of debt. In addition, the impact of liquidity constraints on firm growth are likely to increase with firm size (Donati, 2016). Finally, the range of funding sources

[2] Although the trade-off theory has been especially criticized for overemphasizing deadweight costs associated with bankruptcy; see Miller, 1977 and Myers, 1984.

available to firms is positively correlated with firm size – which increases small firms' dependence on a narrow range of sources (Lawless et al., 2015). Most empirical studies find a positive relationship between firm size and leverage, while the relationship between size and short-term debt has sometimes been found to be negative (Chittenden et al., 1996; Michaelas et al., 1999; Noulas and Genimakis, 2011).[3]

Similarly, information asymmetry theory predicts a positive relationship between a firm's leverage and its *age*. Within this framework, a firm's survival mitigates the opacity of the relationship with lenders; therefore, the provision of external resources becomes easier (La Rocca et al., 2011). In contrast, the theory of the financial life cycle of the firm proposes a non-linear relationship between leverage and age: in the first stage of firms' existence, the demand for external resources is greater because the surviving firms grow faster; this need for external finance decreases in the maturity stage because there are fewer investment opportunities and firms are able to accumulate greater resources to finance their activities (Berger and Udell, 1998). Thus there may be a negative relationship between leverage and age - a relationship that remains negative when one focuses on short-term debt instead of long-term debt (Hall et al., 2004). The empirical evidence is, on that front, not conclusive: both positive and negative relationships between leverage and age have been found (See, for recent examples, Beattie et al., 2006; Daskalakis and Psillaki, 2008; Noulas and Genimakis, 2011; La Rocca et al., 2011).

The *growth* rate of a firm is usually taken as an approximation of investment opportunities; its relationship with leverage is ambiguous. On the one hand, in the trade-off approach, faster growth rates tend to increase distress costs; therefore, self-financing is preferred and the relationship between leverage and growth could consequently be negative (Kraus and Litzenberg, 1973). On the other hand, pecking order theory tells us that profitable firms are able to make higher earnings and thus can sustain greater debt costs; therefore, a positive relationship is predicted between leverage and growth (Myers and Majluf, 1084). The empirical evidence is compatible with both these approaches as sometimes the relationship is found to be positive and sometimes negative (Rajan and Zingales, 1995; Psillaki and Deskalakis, 2009; Noulas and Genimakis, 2011; La Rocca et al., 2011).

More broadly, the pecking order approach is usually seen in the literature as providing a better explanation to the relationship between leverage and *profitability* (see Mateev et al., 2017). As external finance is more expensive than internal finance, profitable firms may exhibit a general propensity to use internal resources; consequently, a negative relationship may prevail between leverage and earnings. The relationship becomes unclear in terms of the distinction between short-term debt and long-term debt. Indeed, profitable firms need to finance their growth through external resources because they have greater opportunities and the retained profits are insufficient to finance such growth in the long-run. Consequently, a positive relationship might prevail between earnings and long-term debt, while this relationship might remain negative with regard to short-term debt. The empirical evidence is compatible with all the above arguments; empirical studies generally finds that leverage is correlated negatively with the profit rate, but the relationship can be positive or negative for short-term and long-term debt depending on the prevalence of the former or latter (Rajan and Zingales, 1995; Adedeji, 1998; Michaelas et al., 1999; Hall et al., 2004).

Earnings volatility is usually taken as a proxy for the *riskiness* of business operations and for the likelihood of financial distress. A strong relationship can be predicted between leverage and the riskiness of a firm because higher debt causes greater volatility in the firm's earnings. The explanation for this relationship proposed by the pecking order theory is as effective as that of

[3] A contrasting hypothesis is formulated by Rajan and Zingales (1995) for larger firms. As they are subject to lower information asymmetry, they are encouraged to use equity financing; therefore, a negative relationship between leverage and size is predicted (Rajan and Zingales, 1995).

trade-off theory; internal finance is preferred and consequently firms reduce their leverage to reduce their cost of capital and to contain their risk. This is because a negative relationship is predicted between leverage and riskiness. Empirical analysis generally confirms this hypothesis (Cassar and Holmes, 2003; Hall et al., 2004; Psillaki and Daskalakis, 2009).

Finally, among other determinants of capital structure choices, the *tangibility of assets*, measured by the share of fixed assets to total assets, is of importance because greater fixed assets might make it easier to gain access to external finance. There are two reasons for this: first, with a high share of fixed assets, lenders are able to minimize their loss if bankruptcy occurs; secondly, the collateral of the firm will be larger. Based on these arguments, a positive relationship between asset structure and long-term debt is expected, while the relationship with short-term debt might be negative. Although the direction of the relationship is ambiguous depending on the composition of debt maturity, the available empirical evidence suggests that a positive relationship might prevail between leverage and asset structure; this result is verified effectively with reference to large firms (Demirguc-Kunt & Maksimovic, 1999). However, such positive relationship has never been confirmed for small firms; according to several studies, the relationship is negative, especially for short-term debt (Rajan and Zingales, 1995; Chittenden et al., 1996; Jordan et al., 1998; Michaelas et al., 1999; Frank and Goyal, 2003).

As mentioned in the introduction above, such firm-level determinants were first the object of empirical studies conducted at country level (usually the United States). It is only gradually, especially after the late 1990s, that economists started empirically testing capital structure theories through cross-country studies. What such studies found can be summarized thus: on the one hand, firm-level determinants were *generally* found to hold across countries – in other words, the sign of the relationship between leverage and such firm-level factors was found not to change from one country to the next (see, for instance, Booth et al., 2001); on the other hand, however, these comparative studies have generally found significant cross-country variation in the capital structure of firms. For instance, in a survey of 12,726 SMEs distributed over 28 European countries, Moritz et al. identified 8 different clusters or financing patterns (Moritz et al., 2016). Cross-country variation is frequently attributed, either directly or indirectly, to a variety of country-level factors, to which we know turn.

2.2. From country-level factors to cross-regional variation in small firms' financing patterns

Country-level factors have been early identified in the economic literature as belonging to two broad groups: factors related to countries' legal/institutional environment, on the one hand; and factors related to countries' financial system, on the other. Both sets of factors were first analyzed in the context of studies trying to establish country-level causes of economic growth and development (Levine, 1997 and 2004), and within the so-called "law and finance" literature (La Porta et al., 1997 and 1998). Subsequent works within the capital structure literature have amply drawn on these earlier and more general analyses.

Institutional variables such as the nature of the legal system (i.e. a common-law versus a civil law system) and the quality of enforcement are especially relevant because they affect the ability of capital providers to enforce debt contracts (Fan et al., 2012). As a consequence, lower quality law enforcement, measured by some authors as the absence of sound bankruptcy procedures and the perceived existence of corruption (Fan et al., 2012), by others as creditor and shareholder rights protection (De Jong et al., 2008), should be correlated with lower leverage (and, generally, lower access to external finance by firms). On the other hand, however, lower quality institutions may encourage firms to seek alternative sources of finance; as Beck et al. put it, "in countries with weaker property rights protection, we would expect substitute forms of external

finance, such as informal and supplier credit or development bank financing to be used." (Beck et al., 2008, 469). The *level of economic development* is another important country-level factor that may affect firms' capital structure. Here the empirical findings diverge: Beck et al. do not find a significant relationship between the level of economic development and small firms' financing patterns (Beck et al., 2008); while Fan et al., who study a sample within a narrower set of countries but over a longer period, find that debt maturity is positively related to levels of economic development (Fan et al., 2012). Finally, the *structure and the functioning of a country's financial sector* is widely assumed to have consequences on firms' capital structure. The frequently tested hypothesis here is that the greater the size of the banking sector, the greater the firms' leverage; while this hypothesis is confirmed in empirical studies, an additional hypothesis negatively correlating the size of the banking sector with debt maturity has been both validated (Fan et al., 2012) and invalidated (Demigurc-Kunt & Maksimovic, 1999).

However, country-level factors do not only affect firms' capital structure directly. As De Jong et al. usefully pointed out, they also exert an indirect effect by influencing the role of firm-specific determinants of leverage (De Jong et al., 2008). In particular, De Jong et al. argue that "the roles of bankruptcy cost variables, namely tangibility, business risk, and firm size, can be mitigated in a country with a more developed bond market as bankruptcy costs are better handled because of good protection for creditors." (De Jong et al., 2008, 1966)

Are there specific country effects regarding SMEs? While earlier studies (Rajan and Zingales, 1995; Demirguc-Kunt & Maksimovic, 1999; Booth et al., 2001; De Jong et al., 2008) focused mostly on large firms, it is only recently that systematic cross-country studies of SMEs financial patterns have been undertaken (Hall et al., 2004; Beck et al., 2008; Mateev et al., 2013). As argued above, the size of the firm is a key firm-specific determinant of capital structure. The comparative literature reviewed here has argued that country-level factors may affect small firms differently than large firms. In particular, as Beck et al. argue, "better property right protection can level the playing field between small and large firms in terms of the use of external and especially bank finance." (Beck et al., 2008, 482)

A more fine grained understanding of the impact of varying levels and rythms of institutional and economic development may be gained from another shift in focus, however: hence the emergence, in the past decade, of a new stream of studies dedicated to cross-regional comparisons of capital structure choices among SMESs (La Rocca et al., 2010 & 2011; Palacin-Sánchez et al., 2013; Serrasqueiro & Caetano, 2015; Palacin-Sánchez & Di Pietro, 2016; Di Pietro et al., 2016; Matias & Serrasqueiro, 2017). All these studies focus on cross-regional variation in SME financing in three Southern European countries – Italy, Spain and Portugal. These three countries, furthermore, are characterized by significant cross-regional differences in social and economic development.

The shift in focus accomplished in these studies presents several advantages: first, it can allow us to hold some of the institutional and financial variables identified at country level constant, since they are not liable to vary across regions of a same country. Such constant factors are: the nature of the legal system (e.g. civil vs. common law), . On the other hand, several other country-level institutional and financial variables are easily transposable at regional level, namely: the quality of legal enforcement (see Guiso et al., 2004, for an analysis of the Italian case), the amount/degree of perceived corruption, the size and diversity of the banking sector. The size and access of the securities markets are less relevant at the regional level when focusing on small firms' capital structure, given those firms' assumed little access to national securities market and overall reliance on local financial markets for their funding.

The second advantage is that cross-regional comparisons may highlight within-country distortions in (i) the institutional environment faced by small firms (as seen above) and (ii) the availability and the nature of financial services. Economic geography has shown how the spatial

structure of financial systems may influence the availability of funding for small and new firms. Economically lagging regions, in other words, may be less well equipped with financial intermediaries and institutions, thus accentuating the "funding gap" faced by SMEs (Klagge et al., 2017).

What are, then, the main findings of this emerging literature? According to Beck et al., small firms in countries with higher financial development and/or stronger property rights use more external finance (Beck et al., 2008). Is this finding confirmed at the regional level? It does seem so. In a study of a sample of 10,242 Italian SMEs over a ten-year period (until 2005), La Rocca et al. find that, indeed, Southern Italian firms are more constrained financially and less levered (La Rocca et al., 2011). Similar results are found, on a larger sample and over a more recent six-year period, by Di Pietro et al. (2016), who also find that banking concentration at the regional level is negatively related to small firms' leverage. A positive relationship between financial development and small firms' leverage is found by Palacin-Sánchez and Di Pietro for the Spanish case (2016). All studies concur that there exists significant cross-regional variation in the capital structure of SMEs – at least in countries such as Italy, Spain and Portugal.

The present analysis does not directly test the potential effects of institutional and financial variables on cross-regional differences in SME financing. Rather, as spelled out in the Introduction above, the paper aims at contributing to the empirical literature by further establishing the significance of cross-regional variation; and, in particular, by distinguishing between various types of effects the region-level factors discussed above may have on the capital structure of small firms in the Italian context.

3. DATA

The data set used for the empirical analysis is composed of a large panel of Italian manufacturing firms with between 10 and 249 employees, covering the years 2001–2013. The data comes from the Italian National Institute of Statistics (ISTAT). Sampled firms are manufacturing firms, extracted from the Italian National Business Register (ASIA) and classified according to the main sectoral activity (Isic-Rev.4) at the two-digit level - the 10-33 codes based on the NACE classification of economic activities (Ateco 2007). The original data were obtained from firms' individual statements; they were completed with additional information regarding, in particular the date of establishment, equity ownership, the composition of employment, exports.

The data set is an unbalanced panel because:

a) not all firms are present for every year of the period under study;

b) not all the individual data are available every year of the period under study.

The panel was initially restricted to SMEs, namely firm with fewer than 250 employees and total balance sheets of less than euro 43 million in accordance with the EU definition.[4] This sample includes potentially around 570,000 observations.

Two problems made this original panel unsuitable for further analysis. A first problem concerned the extraction of data from firms' statements. Current fiscal regulation allows smaller firms to provide an "abridged balance sheet", which is a simplified statement that enables them to omit certain information that would otherwise be compulsory. For our purposes here, abridged balance sheets only contain data on total liabilities, making it possible to distinguish between short-term and long-term liabilities, but not between types of liabilities, thus making it impossible to identify the amount of financial debt or the amount of bank debt. This limitation prevented us from using conventional leverage measures for many observations. A second issue related to the period

[4] The EU recommendation 2003/3061/CE contains the criteria distinguishing micro, small and medium-sized firms, applied from the year 2005.

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of observation. As is well known, 2007 and 2008 saw the breakout of the global financial and banking crisis, leading to a dramatic fall in firms' turnover. Naturally, corporate financial statements during the latter part of the period under study reflected the consequences of this exceptional event. This created a potential bias for some of the financial ratios used for the empirical analysis, especially profit ratios. To avoid these sources of possible bias, we first removed those firms employing abridged balance sheets from the original data set[5] and then, to mitigate the second source of bias, we restricted the analysis only to profitable firms.

Therefore, the final data set is based on the annual average of more than 33,000 firms; for the whole 2001–2013 period, the potential sample comprises more than 427,000 firm-year observations. The Southern SMEs comprise 12.6% of total sampled firms, namely around 54,000 firm-year observations (see Table 1 below). In the analysis, the whole sample was broken down in two size classes: (i) small firms with 10 to 49 employees and total balance sheets of less than euro 10 million; and (ii) medium-sized firms with 50 to 249 employees and total balance sheets of more than euro 10 million and less than euro 43 million.[6] Around 86% of the sample comprised small firms. From the last column of Table 1, it appears that the Southern share of sampled firms is 12.6% of the total number of observed firms; and that the share of small firms is relatively higher compared with the share of medium-sized firms (13.3% and 9.2% respectively).

Tab. 1 - Sample composition for year and for sized classes

	ITALY	SOUTH	% SOUTH
2001	36978	5406	14,6
2002	35388	4887	13,8
2003	33171	4396	13,3
2004	34227	4589	13,4
2005	34504	4425	12,8
2006	34000	4428	13,0
2007	33261	4178	12,6
2008	34081	4145	12,2
2009	32437	3898	12,0
2010	30990	3578	11,5
2011	30445	3542	11,6
2012	29379	3385	11,5
2013	28607	3114	10,9
SMALL FIRMS	360518	47793	13,3
MEDIUM FIRMS	66950	6178	9,2
TOTAL SME	427468	53971	12,6

4. METHODOLOGY

The analysis proposed here relies on four specifications for (measurements of) the dependent variable, i.e. leverage (LEV):

1) total financial debt/equity *(TFD/EQU*)

[5] The removed observations cover firms with a total of around 80,000 employees; obviously, most of these are very small firms.

[6] The latter being the threshold used by EU official bodies to distinguish SMEs from large firms.

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2) short-term financial debt/equity (*SFD/EQU*)
3) long-term financial debt/equity (*LFD/EQU)*
4) total bank debt/equity (*TBD/EQU).*

All these dependent variables are measured based on book value.[7]

The explanatory variables are: size, age, growth, profitability, asset structure and riskiness. In particular:

a) Size (*SIZE*) is approximated by the annual average number of employees (EMPLOYMENT).[8]
b) Age (*AGE*) is measured by the number of years from the establishment of the firm to the observation year.
c) Growth rate (*GROWTH*) is measured by the annual percentage variation in total assets.
d) Profitability is expressed by the return on investment (ROI), measured by the gross profit on investment (equity plus total debt).[9]
e) Asset structure (*TANGIBILITY*) is the share of fixed assets out of total assets. Fixed assets are measured by total net fixed assets, i.e. the costs of fixed assets minus accumulated depreciation.
f) Riskiness (*RISK*) is approximated by the standard deviation of the profit rates (ROI).

The estimations are based on the full sample (ITALY), as well as on the Mezzogiorno subsample (SOUTH). For the ITALY model, a dummy variable devoted to capturing the differences in leverage for the firms in the Mezzogiorno regions is added:

g) The regional dummy (REGIONAL DUMMY) is a variable assuming the value 1 for the observations of Southern firms and zero otherwise.

Initially, our analysis is based on the full sample; then, we restrict the analysis to profitable firms in order to avoid possible biases arising from the dramatic alteration in firms' data caused by the breakout of the financial crisis (see the previous section). Therefore, all variables other than profitability are expressed in natural logarithmic form; the estimated coefficients must be interpreted as the elasticity of the variables in relation to firm leverage.[10]

The empirical model is as follows:

[1] $$LEV^s = \beta^1 SIZE_{i,j,h} + \beta^2 AGE_{i,j,h} + \beta^3 GROWTH_{i,j,h} + \beta^4 PROFITABILITY_{i,j,h} + \beta^5 TANGIBILITY_{i,j,h} + \beta^6 RISK_{i,j,h} + \beta^7 REGIONAL_{i,j,h} + \alpha_i + \alpha_J + \alpha_h + \mu_{i,j}$$

[7] Several studies use both market and book values for the measurement of leverage. The choice to use book value is generally justified by the argument that the optimal level of leverage depends on the trade-off between the benefits and costs of debt financing. As benefits mostly consist in cash savings arising from the debt tax shield, they can be reliably measured by book values only.

[8] An alternative specification of the "size" variable was total sales; findings using total sales as a proxy for size did not differ significantly from findings using employment; thus, we chose to keep only one specification for size, and decided not to show the estimations with the sales variable, for the sake of brevity.

[9] Preliminary elaborations using different profitability ratios (ROA, ROE) yield findings similar to those examined in the paper; they are not shown here for the sake of brevity.

[10] Naturally, the logarithmic transformation limits our analysis to those observations showing positive profit rates and this choice cannot but affect the estimation. Nevertheless, we believe that these effects need not be given undue consideration as both the restriction of the data set to those firms providing complete balance sheets and the management of outliers reduces their impact; for the purposes of our analysis of the determinants of the capital structure, such effects can thus be considered only partially relevant.

where β coefficients refer to the *i*-th firm of the *h*-th manufacturing industry for the *j*-th year; the peak *s* indicates the different specifications of the variable and α_i, α_J and α_h are the individual, temporal and industry effects; $\mu_{i,j,h}$ is the error term.

We estimate a previous fixed effects panel. We address the outlier problem by dropping the observations below the tenth percentile and above the ninetieth percentile for the increasing distribution of the assets.

Generally, the empirical analysis indicates that both the size and the age variables are correlated with the fixed effects. Indeed, in preliminary elaborations, the correlations between the constant term and both the size variables (assets and employment) and the age variables were not negligible. Therefore, to address the problem of multicollinearity, we chose to substitute both the size and the age variables with an interaction variable – size–age – that would allow us to avoid or mitigate this problem.

Therefore, the previous variable a) is substituted by:

h) The interaction size-age variable (*SIZE-AGE INTERACTION)*, which is the interaction between age and employee variables.

Based on preliminary estimations, it emerges that the industry effects(α_h) are not always significant, even when statistical acceptance is fixed at below standard levels. This confirms the lack of significant differences in terms of industry impact on firm leverage.[11] For this reason, the previous empirical model maintains only the very significant temporal effects (α_J) and the individual effects (α_i).

Thus the final version of the empirical model is

[1a] $$LEV^s = \beta^1(EMP - AGE\ INTERACTION)_{i,j} + \beta^2 GROWTH_{i,j} + \beta^3 ROI_{i,j} + \beta^4 TANGIBILITY_{i,j} + \beta^5 RISK_{i,j} + \beta^6 REGIONAL_{i,j} + \alpha_i + \alpha_j + \mu_{i,j}$$

5. DESCRIPTIVE STATISTICS: SOME DISTINCTIVE FEATURES OF THE FINANCIAL STRUCTURE OF SOUTHERN ITALIAN SMEs

As pointed out in the introduction above, the present study aims, to highlight the determinants of cross-regional variation in small firms' capital structure by analyzing the evolution of such capital structure in Southern Italian SMEs over the period 2001 to 2013. In particular, we focus on the trends regarding the *leverage* component of SMEs' capital structure: equity and debt. As mentioned above, such period is marked by the breakout of the 2007-2008 financial crisis and the ensuing credit crunch, which exacerbated the collapse in output in the following years.

Thus we broke down the period of observation into two sub-periods: 2001 to 2007 and 2008 to 2013. Table 2 table shows the median values of a few equity ratio for the two sub-periods. It can be noted that the equity ratios are generally higher for Southern SMEs than Center-North SMEs; the ratios of equity to value added (EQU/VAD) and to employment (EQU/EMP) are higher, while the equity–asset ratio (EQU/TA) is lower (except for Southern medium-sized firms in the 2008-2013 sub-period). This difference reflects both the higher level of equity in Southern SMEs, and the fact that the weight of fixed assets in relation to total assets (FIX/TA) is considerably higher

[11] This finding reaffirms the conclusions of the previous analysis. For example, in a study based on a wide sample of US companies, MacKay and Philips (2005) find that industry effects explain far less of the variation in financial structure than do firm fixed effects. Cassar and Holmes (2003) also find that industry effects have very limited impacts on firm leverage and that they do not improve the explanatory capacity of the model.

for Southern SMEs than for firms located in other Italian regions. These features appear more marked particularly for medium-sized firms, but they are also notable for small firms.

Tab.2 - Equity and Asset Structure Ratios for sized classes (median values)

	2001-2013		2001-2007		2008-2013	
	ITALY	SOUTH	ITALY	SOUTH	ITALY	SOUTH
	EQU_VAD					
SMALL FIRMS	337,5	483,8	300,3	437,1	409,4	586,0
MEDIUM FIRMS	434,9	529,6	388,4	490,8	525,1	613,3
TOTAL	353,1	490,1	314,8	445,8	427,5	580,6
	EQU/EMP					
SMALL FIRMS	3830,0	5139,3	3108,6	4260,3	5078,4	6765,0
MEDIUM FIRMS	5620,3	5994,6	4531,7	5018,3	7539,6	7857,3
TOTAL	4106,4	5236,6	3328,4	4651,4	5463,2	5893,6
	EQU/TA					
SMALL FIRMS	71,4	68,7	74,1	70,3	67,6	66,2
MEDIUM FIRMS	69,9	69,2	73,0	71,1	65,5	66,4
TOTAL	71,1	68,8	73,9	70,4	67,2	66,2
	FIX/TA					
SMALL FIRMS	19,1	29,7	17,4	28,6	17,4	28,6
MEDIUM FIRMS	21,8	31,2	19,6	29,1	20,2	30,6
TOTAL	19,7	29,9	20,2	28,7	18,0	29,1

Legend:
EQU_VAD = Equity / Value Added
EQU_EMP = Equity / Number of Employees
EQU/TA = Equity / Total Assets
FIX/TA = Fixed Assets / Total Assets

This situation is in stark contrasts with the widespread notion that firms in less advanced regions are under-capitalized. Indeed, the findings of this study reinforce the results of previous studies concerning Southern Italian firms, whereby the latter appear oversized compared to their levels of activity, i.e. there is an excess of production capacity.[12] Whether this is due to the presence of financial incentives to undertake fixed investments or to accounting constraints related to product markets, the magnitude of this over-capacity cannot entirely be explained by the likely high significance of the informal economy within the sphere of activity of Southern SMEs.

With regard to debt, Table 3 below shows the median values of a few debt indicators. Descriptive statistics confirm the higher indebtedness of Southern Italian SMEs, in contrast with the existing literature (La Rocca et al., 2010 and 2011). The total financial debt to value added ratio (TFD/VAD) is notably higher in Southern firms, while the debt–equity ratio (TFD/EQU) is lower. Although banks are the main source of debt funding, the share of bank debt to total financial debt (TBD/TFD) is not very high. It can be noted that the weight of short-term debt (SFD/TFD) is unexpectedly lower than for other firms and the fact that the share of long-term debt is consequently higher contrasts with the composition of debt shown in studies covering previous periods.[13]

[12] On the basis of wide representative samples of manufacturing firms, previous studies have shown that the equity-to-assets ratios is systematically higher in Southern Italian firms than in other Italian regions (See, for instance, Mediocredito Centrale, 1997, 2000; Capitalia, 2002).

[13] The surveys cited above show that in previous periods, Southern Italian manufacturing firms exhibited a greater share of short-term debt and a lower share of long-term debt than firms in other Italian regions (Mediocredito Centrale, 1997, 2000; Capitalia, 2002).

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Tab. 3 - Debt Ratios for sized classes (median values)

	2001-2013		2001-2007		2008-2013	
	ITALY	**SOUTH**	**ITALY**	**SOUTH**	**ITALY**	**SOUTH**
	TFD/VAD					
SMALL FIRMS	372,4	506,3	381,6	492,3	356,5	519,1
MEDIUM FIRMS	482,3	654,9	501,3	668,0	448,3	637,7
TOTAL	387,2	523,3	398,0	509,2	368,7	551,1
	TFD/EQU					
SMALL FIRMS	108,5	102,9	126,3	111,5	126,3	111,5
MEDIUM FIRMS	112,4	118,1	130,2	127,6	93,8	105,9
TOTAL	109,8	104,6	126,9	113,4	89,5	94,0
	SFD/DFT					
SMALL FIRMS	91,2	85,5	92,7	88,0	92,7	89,1
MEDIUM FIRMS	78,7	75,9	79,6	76,8	77,0	74,1
TOTAL	89,0	83,9	90,4	86,2	87,0	80,2
	TBD/TFD					
SMALL FIRMS	47,9	43,2	49,1	43,1	46,4	43,4
MEDIUM FIRMS	58,3	61,0	61,3	63,3	54,2	58,2
TOTAL	49,6	45,4	51,1	45,8	47,7	45,0

Legenda:
TFD/VAD = Total Financial Debts / Value Added
TFD/EQU = Total Financial debts / Equity
SFD/DFT = Short-term Financial Debts / Total Financial Debts
TBD/TFD = Total Bank Debts / Total Financial Debt

It is possible to infer from Table 3 that over-indebtedness is especially significant for the smaller firms in Southern Italy; in addition, while their debt-to-value added ratio is relatively higher than other classes of firms, their debt–to-equity ratio is lower – due, as explained above, to a higher level of equity. The other measures shown in table 3, which relate to bank debt and short-term debt, confirm that small Southern firms have especially suffered from the consequences of the post-2007 crisis credit crunch in the final years of the period under study; thus the relative distance from firms of similar size located in other Italian regions has increased.

6. RESULTS OF EMPIRICAL ANALYSIS

Table 4 below presents the statistics of all variables.

The OLS estimates for this unbalanced fixed-effects panel based on both the ITALY and SOUTH samples are shown in Table 5 below; the table presents the outcomes of the different empirical models with both the values and natural logarithms of the ROI variables.

We can stress that although coefficient values are very different, most of the directions for the relationships remain unchanged for the ROI value regression and the ROI logarithmically transformed regression. There is a positive relationship between leverage and growth; and leverage and the size–age interaction variable. While the former confirms theoretical predictions, the latter relationship does not and probably indicates the predominance of the size effect, which is expected to be positive, over the age effect, which might be ambiguous. Moreover, the relationships between the various measures of leverage and the asset structure variable, i.e. the ratio of fixed assets to total assets, are negative, an exception being long-term leverage, which is positively related to the asset structure. This relationship, however, concerns the whole ratio of fixed assets to total assets, are negative, an exception being long-term leverage, which is positively related to the asset structure. This relationship, however, concerns the whole Italian

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Tab. 4 -Main statistics for firm-level variables

	ITALY						SOUTH				
	AVERAGE	ST. DEV.	MIN.	MAX.	N° OBS		AVERAGE	ST. DEV.	MIN.	MAX.	N° OBS
	SMEs						*SMEs*				
TA (,000)	6912,0	16300,0	0,1	2510000,0	427468	TA (,000)	6328,1	12700,0	0,1	502000,0	53971
SIZE	29,5	36,5	0,5	249,9	427468	SIZE	24,5	31,4	0,5	249,7	53971
AGE	31,8	11,7	6,0	182,0	427468	AGE	28,3	10,5	11,0	113,0	53971
GRO	4,6	1,1	-6,8	7,1	218880	GRO	4,6	1,1	-3,9	6,7	24548
ROI	4,1	120,7	-65839,9	24814,9	427468	ROI	0,7	95,7	-4346,7	17919,7	53971
TNG	21,5	19,9	0,0	99,8	427468	TNG	32,5	21,9	0,0	99,6	53971
RSK	5,3	75,8	0,0	46,5	424680	RSK	4,8	34,4	0,0	6166,6	52315
	small firms (<50 employees)						*small firms (<50 employees)*				
TA (,000)	3517,7	6891,4	0,9	1250000,0	360518	TA (,000)	3889,1	6659,3	0,9	502000,0	47793
SIZE	16,8	11,8	0,5	49,9	360518	SIZE	15,4	11,6	0,5	50,0	47793
AGE	30,9	11,3	12,0	182,0	360518	AGE	27,9	10,0	12,0	113,0	47793
GRO	4,5	1,1	-6,8	7,1	161557	GRO	4,1	1,0	-2,6	6,1	19108
ROI	4,3	130,8	-65839,9	24814,9	360518	ROI	0,5	99,8	-4346,7	17919,7	47793
TNG	24,6	20,5	0,0	99,8	360518	TNG	32,4	22,5	0,0	99,6	47793
RSK	5,5	85,4	0,0	46544,9	357883	RSK	5,0	36,4	0,0	6116,6	46715
	medium sized firms (50-249 employees)						*medium sized firms (50-249 employees)*				
TA (,000)	25500,0	32400,0	0,1	2510000,0	66950	TA (,000)	25100,0	26000,0	0,1	278000,0	6178
SIZE	98,8	46,7	50,0	249,9	66950	SIZE	94,8	44,5	50,0	249,7	6178
AGE	36,7	12,5	6,0	182,0	66950	AGE	32,1	12,9	11,0	88,0	6178
GRO	5,1	0,9	-3,8	7,0	57323	GRO	5,2	0,9	-1,3	6,7	5440
ROI	2,6	27,8	-2426,1	3182,3	66950	ROI	2,0	57,0	-268,1	3182,3	6178
TNG	24,3	16,3	0,0	95,5	66950	TNG	32,5	16,8	0,0	95,0	6178
RSK	4,1	10,6	0,0	1718,6	66950	RSK	3,8	9,5	0,0	458,7	6140

sample. In the case of Southern SMEs, by contrast, the relationship between asset structure and leverage is systematically negative. While a positive relationship between asset structure and long-term debt leverage is expected because fixed assets can be used as collateral, for short-term debt leverage, a negative relationship should prevail. Therefore, the outcomes can be interpreted as the prevalence of this latter effect over the former, associated with the uses of collateral.

Relationships between leverage and the profit rate and the volatility variables have opposite signs in the different regressions. The relationship is systematically negative in the ROI logarithm regression, as expected; it is also negative for the ITALY regression using ROI values, with the exception of the relationship with long-term debt leverage. By contrast, it is unexpectedly positive or close to zero for Southern firms, with the exception of short-term debt leverage. The relationships between the various leverage measures and the risk variable show an unexpected positive relationship for the ROI value regression and a negative relationship as expected for the ROI logarithmic regression.

Finally, when we examine the regional dummy for the ITALY model, some outcomes appear quite clear, even though the coefficients are not always significant at the conventional level. The effect on total leverage as measured by total debts over equity (TFD/EQU) is notably lower for Southern firms compared to other Italian firms; this is explained by the reduced impact on short-term debt leverage (SFD/EQU), while the effect on long-term debt leverage (LDF/EQU) appears negligible or ambiguous. There are contrasting results for Southern firms with regard to the effect on bank debt leverage (TBD/EQU) because the ROI value regression is lower for Southern firms, but higher for the ROI transformed regression. The latter finding is as expected because Southern

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firms exhibit greater dependence on bank resources, being less able to resort to alternative sources of funding[14].

So far the analysis has borne on the directions or sign of the relationships between the various leverage measures and the explanatory variables. Upon analyzing the estimated coefficients, several significant differences appear between the national and the regional model. While differences in the impact of other variables on leverage can be viewed as negligible, the main difference concerns the effect of variables measuring profitability and its volatility. The inverse relationship indicating the substitution effect of the profit variable on debt for the Southern firms is not systematically proved and the effect of the risk variable is unexpectedly smaller. Naturally, it is difficult to establish how important these differences are in the comparative analysis; the evidence suggests that individual effects are of considerable importance in the empirical models, but so are the omitted variables when the relative magnitude of the constants is considered.

Table 6 below presents the estimations for the size classes distinguishing small firms from medium-sized firms. These use the logarithmically transformed variables only. Two considerations should be made here. First, the empirical findings for small firms are perfectly superimposed on those for firms in the whole sample. Relationships between the leverage ratios and explanatory variables have identical signs and the coefficients are convergent. The Southern regional model shows notable differences with respect to the national model, mirroring the picture arising previously from the comparison with the full sample findings. The dummy variable tells us that the elasticity in the leverage measures for small Southern firms is lower compared to that for small Italian firms, besides that for bank debt leverage; This confirms that small Southern firms are more dependent on bank debt than small firms in other Italian regions.

Second, the regression findings for the medium-sized firm subsample validates the view that the empirical model for small firms also holds and is effective for medium-sized firms, i.e. the determinants that explain the choices concerning capital structure for larger firms are effective in explaining the choices of small firms. This is particularly true for both the total financial debt (TFD/EQU) and short-term debt leverage (SFD/EQU) models, but not for the long-term debt level (LFD/EQU) model because of the possibility that medium firms resort to alternative sources of finance. The notable difference arising from the empirical bank debt (TBD/EQU) model does not concern the direction as much as the statistical acceptance of the relationship; in the case of the medium-sized firm model for Italy the relationship is as expected, whereas for southern firms it is not.

7. CONCLUDING REMARKS

The financial strategies of a firm arise from a very complex process and neither the theories related to capital structure nor the existing empirical models appear to be completely effective in exhaustively explaining such strategies. Most findings of previous empirical studies on firms' capital structure are significantly affected or limited by the samples on which they are based. Nevertheless, in our opinion, the findings of the analysis presented here allow us to expand what we know about the capital structure of firms in less advanced areas, especially smaller firms.

[14] It is useful to remind ourselves that from in the studies previously cited, the ratio of total financial debt to equity for Southern firms was, in the 1990s, around 80%; and it was lower by around 10% than that for firms located in other regions. In particular, the ratio of bank debt to equity was below 65%; and the difference with firms in the other Italian regions rapidly decreased at the end of the decade to around 10% (see survey by Mediocredito Centrale, 2000).

Tab. 5 - Panel estimation for ITALY and SOUTH [2001-2013 years]

	ALL FIRMS (absolute values of variable)								*PROFITABLE FIRMS (natural logarithm transformed variable)*							
	ITALY				SOUTH				ITALY				SOUTH			
	[1] DFT/EQU	[2] SFD/EQU	[3] LFD/EQU	[4] DBT/EQU	[1] DFT/EQU	[2] SFD/EQU	[3] LFD/EQU	[4] DBT/EQU	[1] DFT/EQU	[2] SFD/EQU	[3] LFD/EQU	[4] DBT/EQU	[1] DFT/EQU	[2] SFD/EQU	[3] LFD/EQU	[4] DBT/EQU
SIZE.-AGE INTERACTION	0,003	0,002	0,001	0,004	0,006	0,003	0	0,007	0.035	0.029	0.044	0.051	0.033	0.033	0.021	0.085
	(.000)***	(.000)***	(.000)***	(.000)***	(.001)***	*(.001)****	(.000)***	(.001)***	(.002)***	(.003)***	(.005)***	(.005)***	(.005)***	(.006)***	(.011)*	(.010)***
GROWTH	3,258	2,478	0,881	2,762	1,945	0,437	1,459	1,767	0.019	0.016	0.031	0.027	0.034	-0.015	0.067	0.046
	*(.302)****	(.268)***	(.102)***	(.231)***	(.773)**	*(.679)*	(.288)***	(.557)***	*(.002)****	(.003)***	(.006)***	(.006)***	(.007)***	*(.008)**	(.017)***	(.016)***
ROI	-0,04	-0,032	-0,008	-0,026	-0,06	-0,039	-0,021	-0,215	-0.017	-0.035	0.029	-0.065	0.007	-0.016	0.062	0.001
	(.003)***	*(.003)****	(.001)***	*(.003)****	(.014)***	(.012)***	(.005)***	(.010)***	(.002)***	(.002)***	(.004)***	(.004)***	(.005)	(.006)***	(.011)***	(.011)
ASSET TANGIBILITY	-1,055	-1,138	0,084	-0,643	-1,074	-1,062	-0,205	-0,536	-0.007	-0.012	0.002	-0.004	-0.009	-0.014	-0.005	-0.003
	*(.024)****	*(.021)****	(.008)***	*(.019)****	(.058)***	*(.051)****	(.021)	(.042)***	(.000)***	(.000)***	(.000)**	(.000)***	(.001)***	(.001)***	(.001)***	(.001)**
RISK	0,101	0,101	0	0,044	0,052	0,031	0,021	0,014	-0.020	-0.015	-0.026	-0.039	-0.014	-0.006	-0.020	-0.029
	*(.021)****	*(.019)****	(.000)	*(.016)****	(.037)	*(.032)*	(.014)	(.027)	(.002)***	(.002)***	(.004)***	(.004)***	(.005)**	(.006)	(.012)*	(.011)**
REGIONAL DUMMY	-15,23	-14,996	0,005	-2,851					-0.060	-0.102	0.120	0.023				
	*(6.367)***	(8.635)**	-2.138	-3.855					*(.057)*	(.052)*	(.132)	(.124)				
R^2 within	0,04	0,038	0,0165	0,048	0,029	0,027	0,012	0,049	0.113	0.117	0.028	0.056	0.058	0.063	0.022	0.040
between	0,018	0,038	0,011	0,008	0,026	0,045	0,001	0,013	0.003	0.015	0.006	0.000	0.008	0.030	0.004	0.001
overall	0,015	0,029	0,014	0,011	0,026	0,044	0,002	0,025	0.008	0.019	0.009	0.006	0.010	0.032	0.005	0.008
F	466,6	457,6	180,5	570,5	43,4	41,3	19,3	75,3	854.1	893.9	130.7	333.1	46.3	50.3	13.0	27.5
F(for all u_i)	16,6	15,8	11,7	16,1	14,3	13,9	10,8	13	23.2	19.4	10.6	12.3	19.2	15.3	10.1	10.2
OBS	217895	217895	217895	217895	27412	27412	27412	27412	140281	141236	98936	118920	15398	15339	11966	13881
GROUPS	38663	38663	38663	38663	5275	5275	5275	5275	32784	33114	26306	29786	4065	4055	3356	3745

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*Tab. 6 - Panel estimation [2001-2013 years] for small and medium sized firms**

	SMALL FIRMS (<50 employees)								MEDIUM SIZED FIRMS (50-249 employees)							
	ITALY				SOUTH				ITALY				SOUTH			
	[1] DFT/EQU	[2] SFD/EQU	[3] LFD/EQU	[4] DBT/EQU	[1] DFT/EQU	[2] SFD/EQU	[3] LFD/EQU	[4] DBT/EQU	[1] DFT/EQU	[2] SFD/EQU	[3] LFD/EQU	[4] DBT/EQU	[1] DFT/EQU	[2] SFD/EQU	[3] LFD/EQU	[4] DBT/EQU
SIZE.-AGE INTERACTION	0,035	0,027	0,055	0,05	0,026	0,028	0,038	0,085	0,026	0,027	0,003	0,061	0,041	0,049	-0,048	0,162
	(.002)***	(.003)***	(.007)***	(.009)***	(.006)***	(.007)***	(.013)***	(.011)***	(.006)***	(.003)***	(.014)	(.018)***	(.017)**	(.018)***	(.048)	(.049)***
GROWTH	0,019	0,015	0,035	0,025	0.034	0,013	0,069	0,041	0,019	0,022	0,022	0,033	0,026	0,027	0,071	0,051
	(.002)***	(.003)***	(.007)***	(.006)***	(.008)***	(.091)	(.017)***	(.016)***	(.006)***	(.007)***	(.013)*	(.016)**	(.019)	(.019)	(.051)	(.053)
ROI	-0,069	-0,024	0,038	-0,049	0,012	-0,014	0,077	0.013	-0,044	-0,058	0,004	-0,103	-0,021	-0,028	0,027	-0,041
	(.002)***	(.002)***	(.005)***	(.004)***	(.006)	(.007)**	(.013)***	(.011)	(.003)***	(.004)***	(.007)	(.009)***	(.010)**	(.011)***	(.028)	(.029)
ASSET TANGIBILITY	-0,007	-0,012	0,002	-0,004	-0,008	-0,014	-0,006	-0.003	-0,008	-0,012	0,001	-0,027	-0,015	-0,018	-0,001	0
	(.000)***	(.000)***	(.000)**	(.000)***	(.001)***	(.001)***	(.001)***	(.001)**	(.000)***	(.000)***	(.001)	(.001)**	(.001)***	(.001)***	(.004)	(.004)
RISK	-0.022	-0,017	-0,024	-0,043	-0.011	-0,003	-0,005	-0,024	-0.014	-0,009	-0,031	-0,023	-0,033	-0,017	-0,092	-0,059
	(.002)***	(.002)***	(.006)***	(.005)***	(.006)*	(.007)	(.013)	(.012)**	(.004)***	(.004)**	(.008)***	(.010)**	(.011)**	(.012)	(.030)	(.092)*
REGIONAL DUMMY	-0,186	-0,201	-0,19	0,187					0,101	0,089	0,198	-0,215				
	(.083)**	(.092)**	(.209)	(.165)					(.078)	(.087)	(.180)	(.223)				
R^2 within	0,114	0,115	0,029	0,054	0,048	0,055	0,027	0,035	0,125	0,135	0,026	0,072	0,123	0,117	0,031	0,067
R^2between	0,006	0,013	0,004	0	0,008	0,03	0,002	0,003	0,004	0,014	0,008	0,001	0.011	0,025	0,007	0,002
R^2overall	0,002	0,021	0,006	0,008	0,007	0,029	0,005	0,008	0,014	0,028	0,012	0,014	0.022	0,038	0,017	0,018
F	640,3	643,7	93,6	231,5	29,3	33,8	12,2	18,5	234,9	257,4	33	109,7	21.4	20,3	4,1	10,1
F(for all u_i)	21,9	18,4	9,8	12,4	18,1	14,1	10,7	10,2	23,1	19+,8	11	11,1	21.7	19,1	6,9	8,6
OBS	106896	106438	71587	89749	12235	12181	9269	10935	34208	34166	26673	29749	3102	3098	2638	2887
GROUPS	27335	27294	21143	24559	3519	3509	2858	3213	7849	7842	6747	7355	809	806	722	776

* All the variables are expressed as natural logarithm.

Through our investigation of a large sample of SMEs in the Italian *Mezzogiorno*, which is a perfectly integrated but slowly growing macro-area in the South of the country, we have verified that there are several significant differences in the regional leverage model when it is compared to the model for Italian firms as a whole. Some of these differences confirm what we already knew, for example that firms in less advanced areas have a lower propensity to use financial leverage and a significantly higher propensity to use bank leverage. This phenomenon can be explained by the fact that it is more difficult for those firms to resort to alternative sources of finance, at the same time as there are pressures on their capacity to draw on internal finance, which means that the latter is insufficient to finance current activities, let alone the growth of the firm. Thus, the dependence on bank funding further increases. The other findings are equally notable, but it seems to us that these are affected by the dramatic events that occurred in the final years of the previous decade. They tell us that consequent to both the shock to credit supply and the dramatic fall in production, there was a reorganization of debt, specifically showing a prevalence of the replacement of short-term debt with long-term debt.

Nevertheless, from the estimation of the fixed-effects panel, other findings seem to emerge suggesting more important structural differences in the binding of the regional leverage models. Although the impact of the size and age variables on the leverage of Southern firm is not significantly different from that in the rest of Italy, the elasticity of both the profit rate and the riskiness variables are unexpectedly lower than for the firms located in other regions. We may try explain these surprising findings in the following way. First, one should note that the standard leverage model is unable to entirely capture these differences because of the importance attached to fixed effects; this is coherent with the information asymmetry approach; and the estimated fixed effects (as mainly measured by the constant) suggest that the weight of the omitted variables is great. On the basis of such evidence, we suggest that there is need to deepen the analysis in the direction of testing how much of the fixed effects can be explained by the efficiency of local institutions or regional financial and legal systems, as well as the extent to which unexplored individual effects seem to arise. To some extent, this is the direction taken by the literature in recent years (see section 2.2 above). In this regard the findings presented here may be understood as a partial confirmation of the arguments put forward by, in particular, La Rocca et al. (2011 & 2010).

Secondly, the empirical evidence presented here emphasizes the distinctive features of the financial structure of Southern Italian SMEs. Our findings show that Southern Italian firms are unexpectedly over-capitalized, as the share of equity is considerably higher; and, correspondingly Southern SMEs exhibit an excess of productive capacity revealed by a higher ratio of fixed to total assets. Thus, cross-regional differences in the impact of both the profit ratio and firms' asset structure variables on leverage in the regional models may confirm the hypothesis that over-capitalization or over-capacity cannot be entirely explained by the presence of a larger informal environment or by very likely accounting constraints imposed by the incentives promoting fixed investments in less developed areas. We suspect that these conditions could actually warrant equilibrium for firms in less developed areas, which are however perfectly integrated in domestic and foreign financial markets. The difficulties in accessing alternative financial sources make firms more dependent on internal finance and on bank resources, and (small) firms have to choose the capital structure that eases the relationship with the banking system. In spite of the fact that appreciable gains in terms of financial management arise from such a relationship, this condition results in inefficiency for firms. It is not unlikely that there is significant deadweight loss and that firms are hindered from exploiting growth opportunities and the propensity to innovate.

Finally, the analysis enables us to distinguish between the model for small firms and that for medium-sized firms, reaffirming the increasingly widespread notion that the determinants explaining the capital structure choices of larger firms are equally effective in explaining the financial choices of smaller firms; naturally, the doubt that the standard empirical model is able only partially to explain firms' financial strategies remains.

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