LEVERAGE, BANKING COMPETITION AND SMEs FINANCIAL STABILITY. EVIDENCE FROM THE ITALIAN PROVINCES

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Objectives

This work contributes to the economic literature investigating the role of market competition in the banking sector. According to the neoclassical theory, namely the *market power hypothesis*, higher competition leads unequivocally to welfare gains. However, theoretical contributions provide no univocal predictions on this topic, challenging the classical view. In particular, several contributions have ended up with mixed results: competition in the banking industry appears to affect the credit market either positively or negatively.

Moving from these insights, our paper provides empirical evidence on the role that local banking competition might play in the relationship between the indebtedness of small and medium-sized firms (hereafter SMEs) and their financial distress. More in detail, we examine the relationship between leverage and Italian SMEs' financial stability, appraising whether and to what extent this link is influenced by the degree of competition that characterizes the local credit market in which firms operate.

To test this conditional hypothesis, we refer to the results obtained by the field of literature investigating the influence of banking market structure on firms' financial health, taking into account that Italian SMEs mainly rely on banking finance (Demirgüç-Kunt and Levine, 1999). Besides, a large body of research (i.e. Petersen and Rajan, 1995; Bonaccorsi di Patti and Gobbi, 2001) suggests that SMEs bank financing originates essentially from local credit markets, even in the presence of deregulation, consolidation of banking structure and technological innovations (i.e. Alessandrini et al., 2009; Castelli et al., 2012). The other strand of literature relevant to the present study investigates the impact of debts on firms' financial stability. Contributions widely recognize that at increasing debt levels, the firms' risk of bankruptcy rises (see, among others, Warner, 1977; Kim, 1978; Jensen, 1986). As noted by Guariglia (1999), a higher leverage ratio tends to decrease firm investments because of increased costs of external funding due to higher default risk. This vicious circle reduces the firm's financial stability and, in turn, gradually leads to its failure. Thus, this paper's contribution is examining to what extent the magnitude of the latter effect is influenced by the degree of competition characterizing local credit markets, considering that Italian SMEs mostly rely on banks that have branches in the same market where they operate.

The expected results are not obvious, as two opposite scenarios can be envisaged on the theoretical ground. On the one hand, if banking competition stimulates more favourable credit conditions, borrowing costs should be reduced, benefiting both healthier and indebted firms as they can easier access credit and pursue their investment projects. Indeed, the *market power hypothesis* predicts that bank competition should increase access to finance, reduce interest rates and lower collateral requirements for SMEs (Besanko and Thakor, 1992; Jimenez et al., 2006; Hainz et al., 2013). Therefore, higher competition might alleviate the negative effect of debt on firms' financial health. On the other hand, the *information-based hypothesis* argues that, in the presence of information asymmetries and agency costs, higher competition might reduce bank incentives to invest in relationship lending and, thus, leads to higher financial constraints (Marquez, 2002; Dell'Ariccia and Marquez, 2006; Hauswald and Marquez, 2006). In such cases, increasing competition might reinforce the effect of leverage on firms' risk of failure, in particular for those firms that are riskier due to higher indebtedness.

Methodology

This work takes advantage of a large panel of Italian small and medium-sized manufacturing firms observed across 2003-2012, retrieved from the database Orbis held by Bureau van Dijk that provides balance-sheet data. The indicator of financial health employed is the Z-score, commonly adopted as a measure of the distance from insolvency (e.g., Laeven and Levine, 2009; Jin et al., 2013; Agostino and Trivieri, 2018). To account for the level of firms debt, we consider the leverage ratio (LEV). As suggested by previous contributions, the local credit markets correspond to the existing administrative provinces. Indeed, according to Bonaccorsi di Patti and Dell'Ariccia (2004), Italian provinces are characterized by a different banking structure providing relevant cross-section variability within a single institutional framework. As measures of local banking competition (LBC), we employ non-structural indicators: the H-statistic, proposed by Panzar and Rosse (1987), and the Boone indicator (2008). Both indexes have been proved to be precise and robust measures of bank market power and are often uncorrelated with concentration measures (Claessens and Laeven, 2004; Maudos and Fernandez de Guevara, 2004 and 2007). Data on all the Italian banks and information on the provincial distribution of their branches to build the LBC measures come from the ABI Banking dataset provided by the Italian Banking Association. To capture the conditional effect of the leverage ratio on the firm's financial stability as local banking competition changes, we add the interaction term between the LBC measure and LEV. Lastly, information on provincial features used as control variables is collected from the Italian National Institute of Statistics (ISTAT, 2017).

On a methodological ground, we adopt a Pooled OLS, Random and Fixed effect estimators to take into account the panel structure of the data. Also, we run a Mixed Model to control for the hierarchical organization of the data. Indeed, in this work, the dependent variable (individual firms' Z-score) is related to explanatory variables defined at different levels (i.e. at firm and province levels). Using Mixed Models ensure to properly examine the influence of specific provincial characteristics (such as local banking competition) on firm financial stability.

Results and Policy implication

The main results, robust to different econometric methodologies, indicate that the leverage always negatively and significantly affects firms' financial health, confirming the theoretical prediction on this relationship. What is more, we find that the negative impact of leverage intensifies at increasing levels of competition. According to this evidence, the drawbacks seem to prevail on the benefits potentially associated with competitive banking markets, strengthening the negative effect of higher indebted levels on firms' financial stability. Indeed, increasing banking competition may reduce the incentive to invest in monitoring and screening activities because of free-riding problems and curtail the propensity to establish relationship lending as firms may easily switch bank. These factors could lead banks to ration risky firms, deteriorating, in turn, their financial health. Thus, these findings suggest that a certain degree of monopolistic power in local banking markets does not necessarily entail welfare losses, corroborating the strand of literature that challenges the neoclassical theory.