Financing decisions and performance of Italian SMEs in the hotel industry

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Abstract

This study investigates the existence of an optimal capital structure for Small and Medium Enterprise (SME) hotels, through the analysis of the relationship between financing decisions and financial performance in a large sample of Italian hotel SMEs. The results show that hotel SMEs face an optimal capital structure that allows them to maximize returns to investors, while instead having both too little or too much debt reduces their financial performance. This notwithstanding, we show that hotel SMEs are not particularly concerned with optimizing their capital structure, and their funding behavior is deeply connected with the availability of internally available funds, a typical pecking order behavior, and they result extremely slow in converging towards their optimal level of leverage, so that they could improve their performance by adopting a more sophisticated financial strategy.

Keywords: Capital structure dynamics, Hotel management, SMEs, Firm financing, Corporate performance, Panel data models

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1. Introduction

Following the seminal work by Modigliani and Miller (1958) that demonstrated the irrelevance of capital structure decisions in perfect capital markets, a large number of studies has investigated what factors affect firms' financing decisions under different types of market imperfections. Two main theories have emerged: the trade-off theory, prescribing that firms should choose an optimal debt ratio by balancing costs and benefits of increasing leverage (such as the debt tax shield, bankruptcy costs, and costs connected with asymmetric information), and the pecking order theory, that instead states that there is no optimal debt ratio, and capital structure decisions depend on the firms' goal of minimizing the agency costs connected with the issue of different financing instruments, leading them to a hierarchical preference over different sources of capital, so that they first rely on internal funds, and then prefer debt over equity when in need of new external resources.

Empirical research has tried to understand if firms display a tendency to converge towards an optimal capital structure, or if their financing choices are instead mainly determined by the availability of internal funds. However, it has not been able to provide a conclusive evidence in favor of either of the two theories, showing instead how both contribute at explaining firms' financing decisions, both for general samples of companies (Leary and Roberts, 2005; Flannery and Rangan, 2006; Byoun, 2008; Öztekin and Flannery, 2012; Daskalakis et al., 2017) and for hotel firms (Jang et al., 2008; Devesa and Esteban, 2011; Serrasqueiro and Nunes, 2014). Moreover, none of these studies investigates whether the observed capital structure decisions are optimal in terms of their effects on financial performance, leaving a gap in the literature.

From a financial standpoint, hotels are a peculiar type of firms: on the one hand, they tend to be extremely capital-intensive (Lee and Xiao, 2011), hence requiring large amounts of funds to pay for their investment needs. When raising capital to fund growth opportunities, they issue more long-term debt than firms in other industries (Dalbor and Upneja, 2002), both because debt capital helps reducing agency problems, and because lenders consider their investment safer in the presence of real estate investments (Dalbor and Upneja, 2004). In addition, the availability of fixed assets acts as a form of collateral, whether explicit or implicit, hence increasing the debt capacity

of these firms, due to lower bankruptcy costs (Dalbor and Upneja, 2004; Tang and Jang, 2007). On the other hand, their intensive capital nature may increase the firm risk, due to a high level of operating leverage that produces an higher volatility of earnings following variations in sales (Nicolau, 2005), and this would suggest the adoption of a relatively conservative capital structure (Elgonemy, 2002). Uncertain demand, coupled with the high degree of operating leverage, may also reduce their ability to raise external capital, and equity in particular, and force them to rely primarily on internal funds and then, when these are exhausted, on debt, in line with the prediction of the pecking order theory (Özer and Yamak, 2000; Tang and Jang, 2007; Serrasqueiro and Nunes, 2014). In the end, these characteristics imply that hotel firms have a financing behavior that is unique to the industry, as reported by both Tang and Jang (2007) and Devesa and Esteban (2011).

A number of works (see, among others, Madan (2007), Jang et al. (2008), Dewally et al. (2017), Karadeniz et al. (2009), Devesa and Esteban (2011), or Serrasqueiro and Nunes (2014)), has investigated the determinants of hotel firms' debt ratios, in order to discern whether the observed decisions are consistent with the pecking order or the trade-off theory. All these studies report that, empirically, both theories contribute at explaining the observed financing behaviors of hotel firms. None of them, however, provides a definitive answer to the existence of an optimal capital structure: indeed, all of them show that firms have a moderate tendency to revert towards some level of leverage, without however determining whether this is an optimal strategy in terms of financial performance and, ultimately, in creating new value for the companies, which is instead the most important consequence of the trade-off theory. The question on the existence of an optimal capital structure for hotel firms remains therefore unanswered.

On the other hand, there are works in the literature analyzing the determinants of hotel firms' financial performance, including the debt ratio as a potential factor (Al-Najjar, 2014; Ben Aissa and Goaied, 2016), finding a negative and significant effect. However, all these studies, like many others on different samples of firms, simply consider the debt ratio as a linear determinant of a profitability ratio, without fully modeling firms' financing behavior. In particular, a consequence of the trade-off theory is that systematic deviations from the optimal leverage should produce

negative effects on performance. Firms may accept temporary deviations from target leverage, and only adjust their capital structure when the benefit exceed the costs (Strebulaev, 2007); nonetheless, under the trade-off theory failing to adopt the optimal debt ratio produces negative consequences on a firm's performance. Therefore, one should not consider the debt ratio as a potential determinant of performance ratios, but should instead include measures of deviations from the estimated target leverage. This would be an indirect but effective way to test for the validity of the trade-off theory and the existence of an optimal capital structure, and this represents the focus of our paper.

We choose Italian hotel SMEs not only for the lack of previous significant studies on their capital structure decisions, but also because previous works focusing on general samples of firms, rather than specifically on the hospitality industry, provide evidence indicating that Italian SMEs display a financing behavior that is strongly in line with the pecking order theory, without appearing particularly fast in rebalancing their capital structure towards its optimum (Hall et al., 2004; Sarno, 2008; La Rocca et al., 2011).

Italian SMEs therefore represent an ideal setting for an indirect test of the validity of the trade-off theory of capital structure, through the analysis of the relationship between financial performance and deviations from the optimal debt ratio. If deviating from the estimated target leverage produces a negative effect on performance, we may in fact conclude that an optimal capital structure exists, and failing to converge towards it ends up reducing firm value, hence contradicting the Modigliani-Miller irrelevance proposition. As a consequence, if the analysis of the financing behavior highlights that Italian hotel SMEs behave in accordance with the pecking order theory, without actively pursuing an optimal capital structure, we may also conclude that their financing strategy is inefficient, and they could improve their performance by adopting more sophisticated financing policies. On the contrary, if no relationship exists between financial performance and deviations from the estimated target leverage, we can state that no optimal capital structure exists, and the fact that firms follow a hierarchy in choosing financing sources becomes irrelevant, having no consequences on their profitability.

To the best of our knowledge, this is the first study that explicitly considers and analyzes the

potential association between capital structure decisions and financial performance in a large sample of unlisted hotel companies, as a mean to test for the validity of the trade-off theory. To this end, we first investigate the dynamics of observed debt ratios, in order to obtain our firm-specific estimates of the target debt ratio, and also to understand whether leverage converges towards this optimal level, consistently with the trade-off theory, or if it fluctuates depending on the availability of internal funds, in line with the prescriptions of the pecking order theory. We then analyze whether differences in the funding behavior of hotel SMEs significantly affect their performance, focusing in particular on the effects of the distance from the target leverage on profitability ratios, in order to test if an optimal capital structure exists. Finally, based on the results from these two analyses, we can also derive practical conclusions for hotel managers on the merit of their capital structure decisions.

We provide evidence in favor of the existence of an optimal capital structure: we find a significant quadratic (concave) relationship between deviations from target leverage and firms' performance, measured by the return on investment ratio. This implies that firms failing to adopt an optimal leverage experience lower returns on invested capital, and more so the further they are from the target debt ratio. This negative effect is caused, on the one hand, by operating inefficiencies connected with having too little debt, as indicated by the relationship between both the distance from target leverage and the debt ratio with the return on sales, consistently with the work by Jensen (1986). On the other hand, high levels of debt reduce the growth in total assets: firms with too much debt may therefore suffer from an under-investment problem, as a consequence of the costs of asymmetric information connected with debt (Jensen and Meckling, 1976; Myers, 1977). Overall, we show that there is an optimal capital structure that maximizes firms' performance.

2. Literature review

The way firms choose their financing sources is a long-standing issue in corporate finance. Under perfect capital markets, Modigliani and Miller (1958) show that capital structure is irrelevant, and the value of a firm does not depend on how it chooses to fund its operations. When imper-

fections are introduced in the model, though, capital structure may become relevant, and it may affect the profitability and the value of firms. Two main theories have been proposed to explain firms' financing decisions. One is the trade-off theory (see, among others, Kraus and Litzenberger (1973), Scott (1977), and Kim (1978)), stating that firms have an optimal level of leverage that maximises their value. This is achieved as an equilibrium between costs and benefits arising from alternative financing instruments, connected with the tax effects of leverage (Modigliani and Miller (1963)), bankruptcy costs (Stiglitz (1969) and Stiglitz (1972)), and agency costs due to informational asymmetries (Jensen and Meckling (1976), Myers (1977), and Jensen (1986)). The competing interpretation is the pecking order theory (Myers and Majluf (1984)), according to which firms do not target an optimal financing mix, but instead follow a hierarchy of financing sources – first internal funds, then debt, and finally equity – as a result of asymmetric information about the true value of the company between internal and external investors.

From an empirical standpoint, the capital structure literature focuses mainly on listed firms. Frank and Goyal (2009), Graham and Leary (2011), Denis (2012), and Öztekin (2015) duly summarize the main findings of the research. As these surveys report, a common result in the literature is that firms appear to converge towards an optimal capital structure, but do so at a moderate speed. Moreover, a set of firm characteristics (such as firm size, profitability, opearting risk, or the availability of tangible fixed assets) are consistently found to be significant predictors of the observed debt ratios.

Listed companies, however, only represent a small portion of the number of operating firms, and the analysis of their behavior does not provide for a complete representation of the determinants of capital structure decisions. A smaller number of studies focuses on unlisted firms, that typically represent the majority of active firms, in order to understand whether their behavior is line with that of listed companies, or if different patterns emerge. Indeed, as argued by Ang (1992), unlisted firms face different managerial issues than listed firms, and therefore firm characteristics that are important for the latter group do not necessarily need to be relevant for the former. Michaelas et al. (1999) run a static analysis of the determinants of the debt ratios for a panel of SMEs

in United Kingdom, and find that the same variables typically found significant in the literature on listed firms (such as size, profitability, operating risk, asset structure) are also valid predictors of capital structure decisions made by SMEs. Moreover, they report that the capital structure of small firms is industry dependent, and this implicitly suggests that the capital structure of SMEs may be better investigated by focusing on specific industries. Cassar and Holmes (2003) analyze Australian SMEs, and also find that the same set of predictors used for listed firms is also valid for analyzing small firms' behavior. Additionally, they report that both the trade off and the pecking order theory contribute at explaining the observed capital structures, and capital structure is affected by the industry in which the firm operates. Sogorb-Mira (2005) and López-Gracia and Sogorb-Mira (2008) report similar findings for Spanish SMEs, Daskalakis and Psillaki (2008) for French and Greek SMEs, and Degryse et al. (2012) for Dutch SMEs; mac an Bhaird and Lucey (2010) analyze a sample of Irish SMEs, finding that internal funds, the provision of collateral and contributions from the owner play a fundamental role, in line with the predictions of the pecking order theory.

Italian SMEs on average present an higher debt ratio than those in other European countries, depend more on the availability of (implicit or explicit) collaterals, and rely heavily on internally available funds (Hall et al., 2004). The prevalence of pecking order types of behavior by Italian SMEs is also reported by Sarno (2008) and by La Rocca et al. (2011) [1].

A few conclusions can be derived from this literature. First, the same set of predictors used for listed firms can validly be used for the analysis of private firms, including SMEs. Second, capital structure is industry dependent, so that industry-specific studies can contribute at deepening the understanding of the financial behavior of firms operating in a specific sector of the economy. Third, both trade off and pecking order arguments contribute at explaining SMEs capital structure decisions, although the exact dynamics of leverage over time have not been fully explored.

Moreover, according to Tsai et al. (2011) there is little research regarding capital structure focusing specifically on the hospitality industry, despite their peculiar characteristics that may call for industry-specific analysis. In fact, as already discussed in the Introduction, hotel firms tend to

be extremely capital intensive, and this may increase firms' operating leverage and, consequently, their operating risk. From a trade-off perspective, this should reduce their debt capacity, while under a pecking order view this should induce them to rely more on internal funds rather than on external finance. On the other hand, their nature of capital-intensive firms provides them with an high level of fixed assets that may act as explicit or implicit collateral, therefore expanding their debt capacity. Finally, the significant value of tangible and intangible fixed assets may increase the bankruptcy costs, given the typically lower price of asset sales in bankruptcies (Pulvino (1999)), hence reducing the incentive to use too much debt, but it can also reduce the incentive to raise external equity capital, because it would induce high private costs for the entrepreneur (Leland and Pyle, 1977). Overall, this may induce SME hotels to rely heavily on internal funds to pay for their investment needs.

Tang and Jang (2007) confirm that lodging firms have a peculiar financing behavior compared to firms in other industries. Overall, their results –based on a sample of listed firms– indicate that agency costs play an important role in the capital structure decisions of lodging firms, implicitly supporting the trade-off theory. Karadeniz et al. (2009) investigate listed firms from the Turkish market; they find results for the determinants of leverage mostly contrasting with the general literature on capital structure, and conclude that Turkish firms seem to follow a pecking order type of behavior. Their findings, however, are based on a very limited sample, comprising only five listed companies over a twelve-year period. Devesa and Esteban (2011) study a large sample of private companies belonging to the Spanish hotel industry, finding that firms tend to converge to an optimal capital structure, but also display a tendency to a certain hierarchical preference in the use of debt. Serrasqueiro and Nunes (2014) analyze the determinants of observed debt ratios for a panel of Portuguese hotel SMEs, and find that both the pecking order and the trade-off theory contribute at explaining their capital structure: again, firms converge towards an optimal leverage, but also display a preference for internal funds.

Understanding the financial behavior of hotel firms is an important factor also for assessing how companies in the industry are managed, because capital structure can be a determinant of growth

and performance. In fact, if capital structure is relevant, and an optimal level of leverage exists, then failing to adjust towards the optimal debt ratio would hamper financial performance. Looking at listed hospitality firms in five Middle Eastern countries, Al-Najjar (2014) finds a negative effect of leverage and a positive effect of liquidity on performance. Similarly, Ben Aissa and Goaied (2016) show that high-leverage Tunisian hotel firms report a lower profitability than the less indebted ones. These results therefore suggest a negative relationship between financial leverage and performance. Both studies, however, simply perform a static analysis of accounting debt ratios, and look at the direct linear effect of the debt ratio on a measure of financial performance. However, they do not explicitly analyze how firms take capital structure decisions, hence they cannot verify the exact origin of their impact on firms' financial performance. Analyzing the restaurant industry, Park and Jang (2013) find a positive effect of financial leverage on firm performance, and conclude that debt can be used as an effective governance mechanism, reducing the discretionary cash flow available to managers, hence mitigating the over-investment issue, as suggested by Jensen (1986). This connection between debt and firm performance is not unique to the hospitality industry. Berger and Bonaccorsi di Patti (2006) report that leverage has a negative effect on profit efficiency of US banks, consistently with the agency costs hypothesis. In a study of US companies, Masulis (1983) find a positive relationship between changes in leverage and firm value. Fama and French (1998) report, instead, an opposite relation, and argue that the negative debt slope is fully consistent with the signaling models of Myers (1984), Myers and Majluf (1984), and Miller and Rock (1985): high leverage, and increases in leverage and debt, convey bad news about the true value of a company, hence producing a negative effect. The agency theory also predicts that high levels of leverage may produce negative effects on firm value and performance due to conflicts between stockholders and bondholders, as in the case of the debt overhang (Myers, 1977) and risk shifting (Jensen and Meckling, 1976) situations. Taken together, these results imply that having both too little and too much debt may be detrimental for a firm's performance. This suggests that there ought to be some optimal level of debt that balances costs and benefits of financial leverage and maximizes firm performance. This is the focus of our work: first, we analyze how Italian hotel SMEs choose their

financing sources, and then, we investigate whether these decisions affect financial performance.

3. Development of hypothesis

The analysis of a firm's capital structure typically involves investigating the relative importance of the two main sources of financial capital: debt, and equity. In private firms, and for SMEs in particular, an important source of funding is represented by loans that firms obtain from their shareholders. As highlighted by Gelter and Roth (2007) who propose a thorough discussion of their role in various international settings, shareholder loans tend to have an hybrid nature, due to their subordination to the other liabilities of the firm. This is the case for the Italian context [2]. Therefore, we define two different measures of the leverage ratio, based on the alternative treatment of shareholder loans. First, we include them into financial debt, together with bonds and loans from banks or other financial institutions, and define the debt ratio as total financial debt divided by the total financial capital invested in the company (i.e., financial debt plus equity). Then, we calculate a second measure of the debt ratio where we include shareholder loans into equity, given their subordinated nature in the event of default and their frequent use as a quick way for entrepreneurs to invest additional funds in the company without the costs of a proper equity injection; from a capital structure standpoint, we consider this to be their most appropriate classification. From a pecking order perspective, instead, we consider shareholder loans to be ranked between retained earnings and external debt. The pecking order theory is based on agency conflicts arising from asymmetric information about the true value of firms' financing instruments, and argues that firms start by using funds associated with lower agency costs, and only when these are exhausted they move to costlier instruments. From this point of view, shareholder loans should suffer less from asymmetric information than external capital (whether it is debt or equity), especially in SMEs where the degree of separation between ownership and control is typically smaller than in large companies. We therefore consider them to come second in the hierarchy of financing sources, right after retained earnings and before external debt.

3.1. Determinants of hotel capital structure

As discussed in Section 2, the same factors used in the empirical literature on listed companies are also valid instruments for the analysis of capital structure decisions in private firms, including SMEs. Therefore, we consider the most common determinants of firms' capital structure consistently used in the literature, as well as a list of variables which are more specific to the hotel industry. In particular, we investigate the relevance of the potential determinants of debt ratios described in detail below.

Profitability. A consolidated result in the literature is the negative relationship between profitability and debt, and the positive relationship of leverage with firm size and tangible assets (see Rajan and Zingales (1995), Frank and Goyal (2009), Denis (2012), and Öztekin (2015)).

From a trade-off perspective, agency cost arguments should induce more profitable firms to use more debt (Jensen, 1986), in order to prevent managers from over-investing in unprofitable projects for pursuing private perks (Jensen and Meckling, 1976) or for empire-building motives (Richardson, 2006). In addition, more profitable firms may decide to increase leverage to exploit the debt tax shield, while at the same time facing a lower risk of bankruptcy (Jang et al., 2008). On the contrary, under the pecking order view more profitable firms should be able to generate more internal funds, hence requiring less external capital, and should therefore end up having a lower debt ratio. We therefore expect an ambiguous relationship between debt and profitability, depending on which of the two theories prevail.

Firm size. The positive relationship between leverage and firm size is typically explained as a consequence of lower agency costs in larger firms between outside investors and insiders, and lower bankruptcy risk due to higher geographical and product market differentiation (Rajan and Zingales, 1995), consistently with the prediction of the trade-off theory.

Tangible assets. Tangible assets can increase the debt capacity of a firm, by acting as a form of collateral, hence reducing the risk of default and the expected bankruptcy costs (Tang and Jang, 2007); we therefore expect a positive relationship between tangible assets and debt.

Corporate taxes. We include non-debt tax shields (*NDTS*) and the effective tax rate (*ETR*) to account for the potential effects of taxes on capital structure. Some studies, like Graham (1996) and Graham (1999), show that taxes play an important role in influencing the financing behavior of firms, in line with the prescriptions of the trade-off theory (Modigliani and Miller, 1963), while others conclude that they are not a robust determinant of leverage (see Titman and Wessels (1988) and Öztekin (2015)). We expect a positive effect of *ETR*, as firms facing a higher tax rate have a stronger incentive to increase debt to reduce their tax burden, and a negative effect of *NDTS*, as firms which are able to reduce their income tax by means of other tax shields have less incentive to rely on debt financing.

Intangible assets. Given the importance of intangible assets, like brands or licences, for hotel companies in the modern economy (see, among others, Kim and Kim (2005), or FitzPatrick et al. (2013)), we examine the effects of the variable *intangible*, obtained as the ratio between intangible assets to total assets. In recent years there has been a significant growth in the market for intangibles and in their use in securitization contracts, a phenomenon that is also documented in some recent literature (Taylor et al., 2009; Lindemann, 2010; Loumioti, 2012; Odasso et al., 2015). While official statistics are not available for the Italian market, in a very recent paperGraham et al. (2018) show how the securitization of trademarks has experienced a 14-fold increase between 1985 and 2012 in the US, based on data from the United States Patent and Trademark Office. In fact, while during the early 1980s security agreements represented 5% of property-level transactions, by 2000 they represented one third of the total, and more than half by 2012. We therefore conjecture a positive relationship between intangibles and debt, as they may act, similarly to tangible assets, as an explicit or implicit form of collateral, following the significant increase in the market for intangibles.

Working capital. We also control for the role of the cash cycle on capital structure, by including the two variables *receivable* and *payable*, defined respectively as the ratio between accounts receivables to total assets and accounts payables to total assets. This allows us to investigate how

different strategies in managing working capital may affect the financial behavior of hotel firms. We expect firms with higher receivables to have more debt, used to fund their working capital, while those with higher payables to have less debt, as credit from suppliers is used as an alternative to financial debt.

Value added. In light of the fact that we cannot directly observe the category of the hotel(s) managed by the SMEs in our sample, based on the assumption that higher input costs can be expected to be associated with higher service quality and higher propensity of customers to pay (Van der Hoeven and Thurik, 1987; Skalpe and Sandvik, 2002) we proxy it with the value added (VA), obtained as the ratio between the total costs of goods and services consumed by the company and its total revenues, and include it in our set of predictors to account for potential effects on leverage connected with the hotel category.

Financial surplus. Finally, when looking at the dynamics of debt over time, according to the pecking order theory a key variable is the availability of financial surplus: as long as a firm has sufficient internal funds, it will not raise external funds. When internal funds are exhausted, it will then raise external capital, first as debt, and then equity only as a last resort. We therefore introduce the variable *surplus*, defined, in line with previous research (see, among others, Shyam-Sunder and Myers (1999), Fama and French (2002a), Frank and Goyal (2003), Flannery and Rangan (2006), or Byoun (2008)) as the ratio of the free cash flow of the company in the year to total assets, plus the ratio of cash holdings at the beginning of the year to total assets, as a measure of the amount of internal funds available for the company [3]. The trade-off theory, instead, predicts that firms should modify their debt ratio in order to adjust it towards its optimal level. Under this view, the key predictor of changes in leverage is the distance between current and optimal leverage. As a consequence, if the pecking order theory prevails, we would obtain that changes in leverage are mainly a function of financial surpluses, while if the trade-off theory better explains firms' decisions the best predictor of debt adjustments would be the distance from the estimated optimal leverage.

Table 1 recaps the hypotheses of our study concerning the determinants of capital structure decisions.

[Table 1 about here.]

3.2. The analysis of financial performance

We analyze financial performance with a classic accounting ratio, often used also in the hospitality management literature (see, among others, Sainaghi (2010), Han (2012), Sandvik et al. (2014), Sainaghi et al. (2017) or Wang et al. (2017)): the *ROI* (*Return on Investment*) index, that measures the performance produced for all the financial capital invested in the company. We measure it as the ratio between the operating margin (Earnings Before Interests and Taxes, or EBIT) and the sum of financial debt and equity. To further understand the channels through which capital structure may affect performance, we then decompose it in its three main components: the return on sales (*ROS*), the asset turnover (*Turnover*) and the asset growth (Δ *Asset*), corresponding to the three principal drivers of value creation within a company. *ROS*, obtained as the ratio between EBIT and total revenues, measures the amount of operating margin that the company obtains for any single unit of revenues. It is a classic indicator of the operating efficiency of a company. *Turnover*, calculated as the ratio between total revenues and total assets, estimates a firm's efficiency in deploying its assets to generate revenues. Δ *Asset*, defined as the annual percentage growth in total assets, measures the propensity of a firm to invest into additional assets to be used for its activities.

Our main objective is to understand whether financial leverage in general, and failing to adopt an optimal capital structure in particular, affect the financial performance reported by the company. To this end, we include both the debt ratio and the distance from optimal leverage as potential determinants of ROI, both in linear and in quadratic form. If the Modigliani-Miller proposition on the irrelevance of capital structure is violated, and the trade-off theory is instead valid, then systematic deviations from the target leverage should produce a negative effect on firm performance. This may happen, for example, because a lower than optimal leverage does not allow a firm to

fully exploit the debt tax shield, or it may provide negative incentives to managers by leaving a large proportion of funds under their control (Jensen, 1986). On the contrary, a firm that constantly endures higher than optimal leverage may suffer from an underinvestment problem (Myers, 1977), or it may suffer from a decline in sales or an increase in costs because of the indirect costs of financial distress (Opler and Titman, 1994), and as a consequence they may experience a decrease in financial performance. From an empirical standpoint, given that firms may be both under or over-levered, hence displaying either a positive or negative distance from the target debt ratio, we expect a concave quadratic relationship between deviations from the target leverage and ROI. On the other hand, under the pecking order theory past performance influences current capital structure, but we should not experience any reverse effect of capital structure on current financial performance. Therefore, if our analysis of financial performance indicates a negative effect of deviations from target leverage on performance itself, we may conclude that there is an optimal capital structure for hotel SMEs, as predicted by the trade-off theory, and failing to converge towards the target hampers performance. Conversely, if we do not find any significant effect of leverage on performance, we may then conclude that capital structure is irrelevant, at least for what concerns a firm's ability to generate profits. In short:

H_1: if the trade-off theory on the existence of an optimal capital structure holds, deviations from target leverage produce a negative effect on financial performance.

As control variables, we include the same set of firm characteristics used for the analysis of debt ratios, and also add the ratio of depreciation and amortization to total costs (*OL*), as a proxy for the operating leverage with which the firm operates. Hotel companies can organize their operations in various ways, and a key decision is whether owning or renting the building and the appliances required to conduct their business. This decision significantly affects their operating leverage, and the way they can handle fluctuations in revenues without corresponding variations in profits. We use this variable to check for the effects of this strategic decision on financial performance. Finally, we include a dummy *Crisis* that is equal to one in the years during which Italy experienced a recession, based on GDP growth data from Eurostat (that is, the period from 2008 until 2013)

and zero otherwise, to account for the aggregate effects of the business cycle on firms' financial performance.

4. Methodology

The empirical research on capital structure has moved from simply analyzing the cross-sectional determinants of debt ratios to the investigation of their dynamics, typically by means of a partial adjustment model. Empirically, this requires to first estimate an optimal level of leverage as a function of firm characteristics:

$$\frac{D_{i,t}}{A_{i,t}} = \alpha + \beta X_{i,t-1} + u_i + \epsilon_{i,t} \tag{1}$$

where i indicates firm and t indicates time, D is financial debt, A is total assets, X is a vector of firm characteristics, α and β are regression coefficients, and ϵ is an error term. Consistently with the approach followed in the corporate finance literature (see, among others, Hovakimian and Li (2012), Flannery and Hankins (2013), Brisker and Wang (2017), and Daskalakis et al. (2017)), firm characteristics are lagged by one period in order to avoid potential endogeneity issues. Then, having obtained the estimate of the optimal leverage, it is possible to define a partial adjustment model towards it:

$$\frac{D_{i,t}}{A_{i,t}} - \frac{D_{i,t-1}}{A_{i,t-1}} = \alpha + \beta \left(DR^*_{i,t} - \frac{D_{i,t-1}}{A_{i,t-1}} \right) + \epsilon_{i,t} \tag{2}$$

where DR^* indicates the target debt ratio, and all other symbols have the same meaning as before. The coefficient β represents the estimated 'speed of adjustment' to target leverage. This approach is based on the idea (see, e.g., Strebulaev (2007)) that firms may endure temporary deviations from optimal leverage in the presence of adjustment costs, and converge towards the target leverage only when they can obtain benefits exceeding the costs. Testing for the statistical significance of the speed of adjustment is therefore a way to discriminate between competing theories. As Fama and French (2002b) argue, the pecking order model predicts that the speed of adjustment should

be indistinguishable from zero, because firms do not have a defined optimal debt ratio, so that they do not optimize their capital structure by converging towards a target leverage. Empirically, this implies that the debt ratio is not mean reverting or, in the capital structure language, it does not display a statistically significant speed of adjustment. On the contrary, the trade-off theory requires the speed of adjustment to be positive and statistically significant, indicating that firms converge towards the optimum sufficiently quickly.

Commonly, the empirical research jointly estimates both the optimal level of leverage and the dynamic adjustment towards it, by simply substituting Equation (1) in place of the estimated targed leverage in Equation (2). The resulting equation is then estimated by means of the System GMM method proposed by Blundell and Bond (1998). Such a procedure implicitly assumes that the target leverage in any year is obtained by using all the information available for the entire sample period, meaning that also future information about debt ratios and firm characteristics – whether observed, or unobserved (i.e., the fixed effects) – is used to estimate past targets. As noted in Hovakimian and Li (2011), using future data to estimate past target debt ratios biases the results in favor of the trade-off model, by inflating the estimated speed of adjustment. This is the consequence of what they define as the 'look-ahead' bias. This can be avoided by separately estimating Equations (1) and (2), and running rolling regressions of Equation (1) in order to produce annual estimates of target leverage based only on past information. We adopt this procedure, and therefore run rolling regressions of the target leverage equation using a panel fixed effects estimator, in order to predict the target leverage for each year in the sample. We then estimate the partial adjustment equation by means of a Tobit model, to take into account the censored nature of the debt ratio: as debt ratios are by nature defined in the [0, 1] interval, changes in leverage are consequently defined in the [-1, +1] interval.

Another advantage of the two-step procedure is that it allows to estimate a model with changing speeds of adjustment as a function of firm-level characteristics. We start by testing whether over-levered firms behave differently from under-levered firms, by estimating the following Equation:

$$\frac{D_{i,t}}{A_{i,t}} - \frac{D_{i,t-1}}{A_{i,t-1}} = \alpha + \beta\widehat{DIS}_{i,t} + \gamma\widehat{AT}_{i,t}\widehat{DIS}_{i,t} + \epsilon_{i,t} \tag{3}$$

where $\widehat{DIS}_{i,t}$ is equal to $DR^{*}_{i,t} - \frac{D_{i,t-1}}{A_{i,t-1}}$, $\widehat{AT}_{i,t}$ is a dummy equal to one if the debt ratio in $t-1$ is greater than the estimated optimal debt ratio at time t, and 0 if it is instead smaller, γ is a coefficient, and all other symbols have the same meaning as before.

We then allow for an adjustment model that is influenced by both trade off and pecking order arguments. In particular, a key prediction of the pecking order theory is that the availability of internal funds plays a dominant role in financing decisions Shyam-Sunder and Myers (1999). We therefore introduce financial surplus in the partial adjustment model as a potential source of non-linear behavior, and estimate the Equation:

$$\begin{aligned}\Delta DR_{i,t} = \alpha + \beta_1\widehat{DIS}_{i,t} + \beta_2 S_{i,t} + \beta_3 S_{i,t}\widehat{DIS}_{i,t} + \gamma_0\widehat{AT}_{i,t} \\ +\gamma_1\widehat{AT}_{i,t}\widehat{DIS}_{i,t} + \gamma_2 S_{i,t}\widehat{AT}_{i,t} + \gamma_3 S_{i,t}\widehat{AT}_{i,t}\widehat{DIS}_{i,t} + \epsilon_{i,t}\end{aligned} \tag{4}$$

where $\Delta DR_{i,t}$ is equal to $\frac{D_{i,t}}{A_{i,t}} - \frac{D_{i,t-1}}{A_{i,t-1}}$, S indicates financial surplus, and all other symbols have the same meaning as before. Such a model allows us to investigate whether firms' behavior changes depending on whether they have sufficient internally generated funds, or they need to raise external capital. We also estimate a restricted version of Equation (4), including only *surplus* as independent variable, so that changes in leverage are a sole function of internally available funds, as in Shyam-Sunder and Myers (1999), to perform a direct test for the pecking order theory. If the estimated β coefficient is equal to one, or sufficiently close to it, then we could conclude that financial surplus is the main determinant of changes in leverage, and the pecking order model is the prevailing theory. In estimating Equation (4) we again rely on the Tobit estimator, to take into account the censored nature of the debt ratio.

Watson and Wilson (2002) propose a more sophisticated way to test for the pecking order theory, by looking at how firms fund their investments. In particular, they propose a model where

the growth in total assets is a function of alternative financing sources, and the relative magnitude of the estimated coefficients is used to build a ranking of these sources, as in the following Equation:

$$\begin{aligned}\frac{TA_{i,t} - TA_{i,t-1}}{TA_{i,t-1}} &= \alpha + \beta_1 \frac{RE_{i,t}}{TA_{i,t-1}} + \beta_2 \frac{\Delta D_{i,t}}{TA_{i,t-1}} + \\ &+ \beta_3 \frac{\Delta L_{i,t}}{TA_{i,t-1}} + \beta_4 \frac{\Delta E_{i,t}}{TA_{i,t-1}} + \beta_5 \frac{\Delta WC_{i,t}}{TA_{i,t-1}} + u_i + \epsilon_{i,t}\end{aligned} \tag{5}$$

where i indicates firm, t indicates time, TA indicates total assets, RE is retained earnings, ΔD is the change in financial debt, ΔL is the change in loans from shareholders, ΔE is the change in equity (net of reinvested earnings), ΔWC is the change in working capital, u indicates firm fixed effects, and ϵ is the error term. We regress Equation (5) by means of a panel fixed effect estimator.

Finally, we analyze the determinants of firms' profitability with the following equation, by means of a panel fixed effect estimator, explicitly accounting for the role of capital structure as a potential relevant factor:

$$R_{i,t} = \alpha + \beta X_{i,t-1} + u_i + \epsilon_{i,t} \tag{6}$$

where i indicates firm, t indicates time, R is a measure of firm profitability, X is a vector of firm characteristics, u indicates firm fixed effects, α and β are parameters, and ϵ is the error term. We test for the role of capital structure in determining firms' profitability by including both the debt ratio and the estimated distance from the optimal level of leverage in the vector of firm-specific characteristics. We use lagged values for all regressors in order to avoid endogeneity issues.

5. Dataset

Our dataset includes SMEs operating in the hotel industry headquartered in Italy. The data are obtained from AIDA, a database provided by Bureau van Dijk containing financial information on Italian companies [4]. The sample period goes from 2006 to 2016, for a total of 7,120 firm-year observations, corresponding to an average of 647 firms considered in each year. Table 2 reports

the summary statistics for the variables used in our analysis.

[Table 2 about here.]

We eliminate the effect of inflation on all monetary values by deflating them with the Italian Consumer Price Index (base year: 2010), obtained from the Eurostat database.

6. Results

6.1. Determinants of observed capital structure

We begin with the analysis of the determinants of the observed debt ratios, by estimating Equation (1) as described in Section 4. Table 3 reports the results. The dependent variable for Columns (1)-(3) is a measure of leverage where shareholders' loans are classified as financial debt, while in Columns (4)-(6) we classify them as equity. As a robustness check, we run multiple versions of the regressions. Columns (1) and (4) report our findings for the estimation of the standard version of Equation (1), when we only consider firm fixed effects and the potential determinants described in Section 3.1. We then add year fixed effects (Columns (2) and (5), respectively) to account for potential general time trends or other common time series patterns (such as the effect of the business cycle). Finally, in Columns (3) and (6) we also include geographic effects, by interacting a dummy corresponding to the province where the SME has its headquarters and the year fixed effect, in order to account for potential common effects connected with the geographic area in which the company is based.

[Table 3 about here.]

In line with the literature, we find that profitability is negatively correlated with leverage, independently of its definition. Firm size, instead, is positively and significantly related with leverage only when considering loans from shareholders as part of equity (Columns (4)-(6) in the table), while it results insignificant when we consider them as debt (Columns (1)-(3) in the Table). As expected, tangible assets are positively related with leverage. Intangible assets also have a positive

and significant coefficient, suggesting that firms with larger investments in intangibles are able to sustain higher levels of leverage, using them as a form of collateral, similarly to tangible assets, as discussed in Section 3.1. Variables connected with the tax effects of leverage (i.e., the effective tax rate (ETR), and non-debt tax shields (NDTS)) do not seem to have an economically significant effect on leverage. When significant, their coefficient is small, indicating that the impact of changes in tax effects is not large from an economic perspective. As expected, the management of working capital significantly affects leverage. In particular, an increase in receivables is significantly and positively related with the observed debt ratio, independently of the adopted definition of leverage. The corresponding coefficient is, however, significantly less than one, indicating that SME hotels have to raise funds less than proportionally in order to face an increase in receivables. Payables, instead, have a significant effect on leverage only when loans from shareholders are considered equity rather than debt. This suggests that these loans are not typically used to reduce trade payables, but as a substitute for financial debt or equity. The coefficient we find is however quite small (and significantly different from -1), indicating that trade payables are not a systematic alternative to financial debt [5].

In order to better highlight the relative importance of the various firm characteristics, we run a dominance analysis as proposed by Grömping (2007), reporting our findings in Table 4.

[Table 4 about here.]

Our results clearly indicate that profitability is by far the most important determinant of leverage, contributing to more than 50% of the explained portion of the within variation, independently of the adopted definition of leverage ratio. As a comparison, each of the remaining variables never accounts for more than 10%. This finding, together with the negative sign of the corresponding coefficient, already suggests that pecking order arguments (i.e., the ability to generate funds internally) play a key role in determining the financial behavior of the Italian SME hotels. Working capital management is also very important, especially when shareholders' loans are classified as equity, where they account for around 20% of the explained variation. On the contrary, tax-related variables seem to play a marginal role, with the debt tax shield, a key element of the trade-off

theory, always accounting for less than 10%. The presence of tangible and intangible assets has instead a more relevant role in affecting leverage. Overall, this cross-sectional analysis provides evidence in favor of a pecking order type of behavior, with typical trade-off arguments only playing a secondary role.

6.2. The dynamic refinancing process

The following step looks at the factors affecting the evolution of debt over time. First, we estimate a standard partial adjustment model with a constant speed of adjustment, as in Equation (2). Column (1) of Table 5 reports the results. The estimated speed of adjustment towards target leverage is 8.62% and 8.23% respectively, depending on the adopted definition of debt ratio. This corresponds to an half-life of the deviation (calculated as $ln(0.5)/ln(1-\beta)$) of around 8 years, implying that firms are not particularly keen at readjusting their capital structure.

[Table 5 about here.]

As already discussed in Section 4, this model is based on an over-simplifying assumption of a constant speed of adjustment for all SME hotels, independently of changing firms' characteristics. Column (2) of Table 5 reports the results for the estimation of an asymmetric partial adjustment model, as in Equation (3), where the speed of adjustment may vary depending on whether the SME hotel is above or below its target leverage, while Columns (5)-(7) report the results obtained for the estimation of restricted and unrestricted versions of Equation (4), where the speed of adjustment may also change as a function of the availability of financial surplus. We find that the adjustment process is asymmetric between under and over-levered SMEs when shareholders' loans are considered part of debt, with above-target firms displaying a lower speed of adjustment, while it is symmetric if we consider shareholders' loans as an equity component, suggesting that they are likely used as an instrument to contain excess leverage, without paying the costs of a pure equity injection. When also allowing for an effect of financial surplus on the dynamics of debt, we find that this variable indeed plays an important role, with a strongly significant negative effect on the estimated speed of adjustment. This indicates that, SME hotels do not seem to be concerned with

readjusting their capital structure towards its optimal level when they have internal funds available to cover their investment needs, a typical pecking order type of behavior.

In order to further investigate the validity of the pecking order view, Columns (3)-(4) display our findings for the estimation of a symmetric and an asymmetric version of the model proposed by Shyam-Sunder and Myers (1999), where changes in leverage are a function of financial surplus. In both cases, and whatever the definition of leverage, we find that changes in leverage are negatively related with financial surplus, so that SME hotels with a positive cash flow reduce leverage, while those with liquidity needs tend to increase it. However, the coefficient is significantly less than one, indicating, one the one hand, that this relationship is not perfectly proportional, so that financial debt is not the only instrument that SMEs use to cover their financing needs. On the other hand, this doesn't fully contradict the pecking order model, according to which firms have a hierarchy of sources, and liquidity constrained firms should use external debt only until their debt capacity is exhausted, and should then move to equity financing.

Overall, these findings indicate that pecking order arguments prevail in determining the capital structure decisions of Italian hotel SMEs. Finally, Column (7) reports the results for the estimate of a model where we include both slack and the distance from the target debt ratio as potential determinants of the observed changes in leverage. However, the interaction coefficients between distance from target and financial surplus are quite cumbersome to interpret, since they describe the interaction effect between a bounded and a continuous variable. In Table 6 we therefore report the estimated change in leverage when the two variables are set equal to determined percentiles [6].

[Table 6 about here.]

For under-levered firms, financial surplus produces a stronger effect than the distance from target. For over-levered firms, instead, the pattern is more ambiguous: when the distance is limited in absolute terms (i.e., in the highest percentiles), financial surplus significantly alters the estimated change in leverage. As the distance increases, though, the effect of financial surplus diminishes, and for firms in the bottom percentiles of distance (i.e. the most over-indebted ones) the change in financial surplus does not affect the estimated leverage change in an economically relevant manner,

as if firms faced a level of the debt ratio above which they are not able to further increase it and have to move on alternative financing instruments (shareholders' loans or equity), a behavior consistent with the pecking order theory.

6.3. Funding asset growth

In light of the previous findings, we estimate the Watson and Wilson (2002) model from Equation (5) in order to assess whether SME hotels follow a hierarchical financing strategy in line with the predictions of the pecking order theory. Table 7 reports the results [7].

[Table 7 about here.]

In Column (1) we include loans from shareholders as part of financial debt. Reinvested earnings have the largest coefficient, followed by debt and equity, a sign that SME hotels follow a financing order in line with the predictions of the pecking order theory. The management of working capital, on the other hand, is much less important than any of the other funding sources, suggesting that the Italian SME hotels do not rely on trade financing from their customers or suppliers as a primary funding instrument. When we include loans from shareholders separately (see Column (2)), we obtain that reinvested earnings are the first source, followed by shareholders' loans, debt, and finally equity. Although the pecking order theory does not explicitly consider loans from shareholders as a potential source of funds, we consider them as coming right after retained earnings in the hierarchy of financing sources, as argued in Section 3. Under this assumption, the results we obtain are fully consistent with the pecking order model. As before, working capital does not play a primary role in the financial strategy of the Italian SME hotels.

Overall, our results indicate that Italian SME hotels behave in accordance with the pecking order model, and do not seem to be systematically concerned with the adoption of an optimal capital structure. This may be a consequence of the high costs that SME hotels have to undertake in order to raise external equity, and this may also explain the relevance that loans from shareholders have in their financial strategy.

6.4. Firm financing and performance

Having observed the financial behavior of the Italian SME hotels, we now investigate whether it affects their operating performance. After all, if an optimal capital structure exists, then failing to adjust towards it may hamper their performance. On the other hand, if capital structure is not relevant, then we should observe no correlation between leverage and performance, and the adoption of a pecking order type of behavior may be efficient. Table 8 summarizes our findings.

[Table 8 about here.]

We start by looking at the estimated performance from the perspective of all the financial capital invested in a SME hotel, by means of the *ROI* index (Columns (1)-(3)). We find no significant relationship between the debt ratio and performance, but a quadratic (concave) relation between the distance from optimal leverage and ROI, indicating that deviations from the target produce a deterioration in financial performance. In order to understand the sources of this effect of debt on performance, we decompose *ROI* into its main components [8]. We start with the analysis of operating efficiency by means of the *ROS* index (Columns (4)-(5)), finding that it has a positive relationship with the debt ratio and a negative relation with the distance from target. Therefore, higher debt is associated with higher operating efficiency: as suggested by Jensen (1986), debt can act as an incentive for managers to optimize the management of the company, in order to reduce the risk of default. We then focus on the asset turnover (Columns (6)-(7)), indicating the ability to deploy assets to generate revenues, and asset growth (Columns (8)-(9)). Debt has a negative effect on asset turnover [9], indicating that more indebted firms are less efficient in their use of assets. We also find a negative effect of debt on asset growth, both by means of a linear and a cubic relationship: more indebted firms experience a lower growth of assets under management, and more so as debt increases. This is possibly a consequence of exhausted debt capacity and of financial constraints impeding firms from further investing into their business.

Therefore, we find two contrasting effects of leverage on performance. On the one hand, more indebted firms are more efficient in managing their operations, as indicated by the positive re-

lationship between debt and ROS. This is fully consistent with the role of debt as a governance mechanism, forcing managers to reduce default risk by efficiently managing firm operations. On the other hand, debt has a negative effect on asset growth, possibly because over-levered SMEs, having exhausted their debt capacity, are reluctant to rely on external equity to further expand their operations, and therefore suffer from financial constraints. It is also consistent with the debt overhang model proposed by Myers (1977). This lower propensity to invest in asset growth, in turn, likely translates into a lower ability to generate revenues through assets in place, and this effect is large enough to fully compensate the higher operating efficiency. In the end, having both too little or too much debt hampers returns on the invested capital, indicating the existence of an optimal capital structure that maximizes a firm's financial performance.

7. Conclusions and Future Research Directions

Our analysis of the relationship between leverage and performance highlights the existence of a concave quadratic relationship between deviations from our estimate of the target debt ratio and the return on invested capital. This result supports the existence of an optimal capital structure that allows to maximise a firm's performance, in line with the predictions of the trade-off theory. This optimal level of leverage depends on the fact that, on the one hand, having too little debt appears detrimental to performance; this is consistent with the free cash flow hypothesis in Jensen (1986), stating that profitable firms with too little debt may end up over-investing and undertake unprofitable projects, or lose focus on operating efficiency, so that they experience a lower financial performance. Instead, managers of indebted firms have a strong incentive to make the most profitable use of available resources, in order to fulfil mandatory debt repayments and avoid the costs of default. This is supported by our results on the effects of capital structure on the return on sales ratio: increases in debt are associated with higher margins on reported sales. On the other hand, we find that also having too much debt ends up hampering profits, consistently with the debt-overhang model in Myers (1977), according to which, due to the agency costs of debt, over-levered firms may forgo profitable investment opportunities, therefore damaging their performance. This

is supported by our finding that hotel SMEs with an higher than optimal debt ratio experience a lower growth in total assets, a sign of potential under-investments. We therefore show that an optimal capital structure truly exists, as the right balance between different costs and benefits of debt and equity, and properly choosing the mix of funding sources is one of the elements to account for when managing an hotel company in order to maximize performance and shareholders' returns, and failing to do so may produce sub-optimal results.

The findings of this paper also indicate that the main driver of financing decisions for Italian hotel SMEs is instead the availability of internal funds, an effect that largely dominates that of all other factors, supporting the pecking order theory. They raise capital through retained earnings as much as possible, and raise external capital (mostly in the form of debt) only when additional finance is essential. The analysis also indicates that SME hotels have a hierarchy of financing sources, and their ordering is fully consistent with the pecking order model. Our evidence suggests that Italian hotel SMEs are not particularly concerned with optimizing their debt ratio, and this produces negative effects on their performance, as we have just described.

Previous works on the financing behavior of hotel SMEs, like those by Devesa and Esteban (2011) and Serrasqueiro and Nunes (2014), report as well that firms display a hierarchical preference when choosing financing sources, while also showing a tendency to revert towards an optimal capital structure; in other words, they tend to converge towards the optimum, while minimizing the costs associated with raising new capital. This implies that they may tolerate temporary deviations from the optimal leverage if the readjustment towards the target would require to issue a financing instrument whose costs are greater than the benefits arising from the debt readjustment.

Compared to the existing literature, however, our analysis investigates more deeply the relative merit of the two theories, demonstrating how pecking order factors appear to largely dominate those connected with the trade-off theory. For Italian hotel SMEs, more than half of the explained variation in leverage is due to the negative relationship between profitability and debt, a typical pecking order argument. Moreover, in our baseline model where we consider shareholders' loans as equity components, we estimate an average speed of adjustment of around 9%, showing that

firms are not particularly active in rebalancing their leverage, and may endure deviations from the target debt ratio for a significant number of years. On the contrary, the availability of a financial surplus has a much larger impact on debt dynamics, with a marginal effect that, based on our findings, is on average twice as large as that of deviations from optimal leverage.

More importantly for the capital structure debate, our results are not limited to the understanding of whether the financing behavior of hotel SMEs conforms with one theory or the other. By studying the relationship between the financing behavior and financial performance, we show that there indeed is an optimal capital structure for hotel SMEs that allows them to maximize firms' returns on capital. The existence of an optimal capital structure implies that following a pecking order model is not always appropriate, and a more complex and flexible financial strategy should be adopted to ensure an higher financial performance.

Further research should complement this study by understanding what factors limit the flexibility and the access to capital of SME hotels, in order to both advise managers on how to properly manage their capital structure, and support policymakers in introducing the required policy changes. This could be done, for example, by replicating this study in different institutional settings, in order to understand under which conditions they continue to hold. This is especially important for understanding what are the factors that limit the access to equity capital for overlevered firms. On the other hand, the core conclusion of our study concerning the existence of an optimal capital structure is likely to hold fairly universally, if it is the result of agency conflicts between entrepreneurs (or managers) and outside investors. However, national institutions may also mitigate these issues, and therefore they may also reduce the effect of capital structure decisions on financial performance. These are topics worth exploring in future research.

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Notes

[1]Panno (2003) reports similar findings also when looking at Italian listed firms: their behavior does not reveal a tendency towards the optimization of their capital structure, being instead consistent with the pecking order theory. All these papers interpret the strong dependence of Italian SMEs on internally available funds as a consequence of the lower development of its capital markets, compared to other countries.

[2]According to article 2467 of the Italian Civil Code, under specific conditions loans from shareholders are subordinated to the other liabilities of the company, and, if repaid in the year before bankruptcy, should be returned to the company itself.

[3]In turn, the free cash flow is defined as the operating cash flow, minus capital expenditure, minus the change in net operating working capital (excluding cash and equivalents).

[4]We adopt the definition of SME provided by the European Union's recommendation 2003/361/CE, according to which a firm is considered an SME if it employs less than 250 employees, and either its assets are under 43 million Euros, or it has an annual turnover under 50 million Euros.

[5]Overall, our findings suggest that including loans from shareholders as a part of financial debt may confound the results, affecting the sign and the statistical significance of some of the estimated coefficients. This reinforces our view that it is more appropriate to consider them as a part of equity, rather than financial debt. However, we report results for both definitions of leverage, so that we can provide more complete results.

[6]We only report results based on a definition of leverage where shareholders' loans are considered an equity component. Further results are available upon request.

[7]To define the required variables, in line with the literature we measure retained earnings as the portion of earnings, net of dividends paid out in the year, if earnings are positive, and zero when earnings are negative. Working capital is obtained as the sum of non-fixed operating assets minus operating liabilities, both scaled by total assets.

[8]Our main focus is on the effects of capital structure on financial performance. We therefore omit comments on the effects of the other factors –included as control variables– on the performance measure. It is interesting to note that we find a negative coefficient for the effect of *intangible* on ROI. This result is quite uncommon in the literature, but similar results for Italian SMEs are reported by Majocchi and Zucchella (2003). We further investigate this aspect in Appendix A.

[9]Note that the relationship is quadratic and concave, with a maximum corresponding to a negative debt ratio. Given that the debt ratio is defined in the [0, 1] interval, this implies that the effect of debt on turnover is always negative, and more so as debt increases.

Table 1: Analysis of capital structure: summary of hypotheses

Variable	**Trade-off**	**Pecking Order**
Part a: determinants of debt ratios		
Profitability	+	−
Size	+	=
Tangible	+	+
ETR	+	=
NDTS	−	=
Intangible	+	=
VA	=	=
Receivable	=	=
Payable	=	=
Part b: determinants of changes in leverage		
Distance from target	+	=
Financial surplus	=	−

The Table summarizes our hypotheses concerning the determinants of debt ratios (*Part a*) and of changes in leverage (*Part b*). The + sign indicates that, under the corresponding theory, we expect a positive relationship, while the − sign indicates a negative relationship. The = sign indicates that, under the corresponding theory, we expect no significant effect of that variable.

Table 2: Descriptive statistics

	Mean	Median	SD
Debt (1)	0.53	0.55	0.33
Debt (2)	0.43	0.42	0.32
Profitability	0.01	0.02	0.08
Size	7.93	7.87	0.82
Tangible	0.62	0.75	0.32
ETR	0.49	0.43	0.35
NDTS	0.13	0.10	0.12
Intangible	0.07	0.01	0.15
Receivable	0.16	0.08	0.19
Payable	0.23	0.13	0.26
Surplus	0.02	0.02	0.20
ROI	0.01	0.02	0.29
ROE	-0.27	0.00	1.43
ROS	-0.02	0.04	0.37
OL	0.13	0.11	0.11
VA	0.41	0.46	0.28
Turnover	0.61	0.40	0.68

Debt ratio (1) is the debt ratio calculated by including shareholder loans into financial debt. *Debt ratio (2)* is the debt ratio calculated by instead including shareholder loans into equity.

Table 3: Determinants of observed debt ratios

	(1)	(2)	(3)	(4)	(5)	(6)
Profitability	-0.2516***	-0.2526***	-0.2589***	-0.3209***	-0.3126***	-0.3202***
	(0.038)	(0.038)	(0.041)	(0.038)	(0.038)	(0.041)
Size	-0.0010	-0.0015	0.0063	0.0103**	0.0105**	0.0166***
	(0.005)	(0.005)	(0.006)	(0.005)	(0.005)	(0.006)
Tangible	0.1096***	0.1114***	0.0987***	0.0658***	0.0643***	0.0663***
	(0.024)	(0.024)	(0.025)	(0.024)	(0.024)	(0.025)
ETR	0.0000	0.0000	0.0000	0.0001**	0.0001**	0.0001**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
NDTS	0.0201**	0.0202**	0.0300***	0.0094	0.0097	0.0125
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Intangible	0.1621***	0.1559***	0.1525***	0.1619***	0.1581***	0.1595***
	(0.040)	(0.040)	(0.042)	(0.040)	(0.040)	(0.042)
VA	-0.0143	-0.0164	-0.0287*	0.0240*	0.0213	0.0128
	(0.014)	(0.014)	(0.015)	(0.014)	(0.014)	(0.015)
Receivable	0.1122***	0.1122***	0.1112***	0.1351***	0.1339***	0.1303***
	(0.029)	(0.029)	(0.031)	(0.029)	(0.029)	(0.030)
Payable	0.0148	0.0165	0.0154	-0.0550***	-0.0534***	-0.0536***
	(0.014)	(0.014)	(0.015)	(0.014)	(0.014)	(0.015)
Constant	0.4367	0.4000	0.4066	0.2778	0.2272	0.2221
	(0.000)	(0.000)	(0.003)	(0.000)	(0.000)	(0.118)
Year F.E.	No	Yes	Yes	No	Yes	Yes
Location F.E.	No	No	Yes	No	No	Yes
N	6,890	6,890	6,890	6,890	6,890	6,890
Adjusted R^2	0.807	0.808	0.806	0.790	0.791	0.795

Columns (1)-(3) report the results for the regression of Equation (1) when shareholders' loans are considered debt, while Columns (4)-(6) reports the results where shareholders' loans are considered equity in the definition of the dependent variable. The symbols ***, **, and * indicate statistical significance at the 1%, 5%, and 10% respectively. Standard errors are reported in parenthesis.

Table 4: Determinants of observed debt ratios: dominance analysis

	(1)	(2)	(3)	(4)	(5)	(6)
Profitability	0.5203 (1)	0.5139 (1)	0.4925 (1)	0.5396 (1)	0.5318 (1)	0.5177 (1)
Size	0.0130 (8)	0.0141 (9)	0.0088 (9)	0.0259 (7)	0.0303 (7)	0.0653 (6)
Tangible	0.1219 (2)	0.1222 (2)	0.0861 (5)	0.0362 (6)	0.0332 (6)	0.0361 (7)
ETR	0.0341 (7)	0.0294 (7)	0.0295 (7)	0.0741 (5)	0.0701 (5)	0.0660 (5)
NDTS	0.0834 (4)	0.0873 (4)	0.1325 (2)	0.0111 (9)	0.0127 (9)	0.0167 (8)
Intangible	0.1006 (3)	0.0924 (3)	0.0898 (3)	0.0951 (4)	0.0972 (4)	0.0987 (2)
VA	0.0562 (6)	0.0642 (5)	0.0892 (4)	0.0196 (8)	0.0180 (8)	0.0139 (9)
Receivable	0.0595 (5)	0.0620 (6)	0.0590 (6)	0.0958 (3)	0.1044 (2)	0.0910 (4)
Payable	0.0109 (9)	0.0146 (8)	0.0126 (8)	0.1025 (2)	0.1023 (3)	0.0945 (3)

The Table reports the Standardized Dominance Statistic (*SDS*), indicating the percentage of the explained variance of the model attributable to the corresponding variable, and, in parenthesis, the order of importance (in terms of SDS) of the corresponding variable. The number of the Column indicates the corresponding Column in Table 3 to which the SDS and the ranking refer to.

Table 5: The dynamics of debt over time

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Part a: loans from shareholders included in financial debt						
Distance	0.0862***	0.1153***			0.0974***	0.1340***	0.1365***
	(0.005)	(0.013)			(0.005)	(0.012)	(0.012)
AT*Distance		-0.0428**				-0.0552***	-0.0634***
		(0.018)				(0.017)	(0.017)
AT		0.0070		-0.0598***		0.0041	0.0028
		(0.007)		(0.004)		(0.006)	(0.007)
Surplus			-0.2323***	-0.2714***	-0.2599***	-0.3013***	-0.2847***
			(0.011)	(0.014)	(0.011)	(0.014)	(0.027)
AT*Surplus				0.0652***		0.0923***	0.1455***
				(0.021)		(0.021)	(0.040)
Distance*Surplus							-0.0445
							(0.063)
AT*Distance*Surplus							0.2468***
							(0.095)
Constant	-0.0016	-0.0120**	0.0063***	0.0372***	0.0086***	-0.0018	-0.0026
	(0.002)	(0.005)	(0.002)	(0.003)	(0.002)	(0.005)	(0.005)
	Part b: loans from shareholders included in equity						
Distance	0.0823***	0.0841***			0.0908***	0.0899***	0.0885***
	(0.005)	(0.013)			(0.005)	(0.012)	(0.013)
AT*Distance		0.0039				0.0020	0.0117
		(0.018)				(0.017)	(0.018)
AT		0.0035		-0.0568***		-0.0013	0.0012
		(0.007)		(0.004)		(0.007)	(0.007)
Surplus			-0.1977***	-0.2228***	-0.2140***	-0.2280***	-0.2377***
			(0.011)	(0.013)	(0.011)	(0.014)	(0.024)
AT*Surplus				0.0415*		0.0419*	-0.0470
				(0.023)		(0.023)	(0.040)
Distance*Surplus							0.0285
							(0.059)
AT*Distance*Surplus							-0.3257***
							(0.096)
Constant	-0.0017	-0.0028	0.0073***	0.0344***	0.0074***	0.0084*	0.0089*
	(0.002)	(0.005)	(0.002)	(0.003)	(0.002)	(0.005)	(0.005)

The dependent variable is the annual change in the debt ratio. All estimates are obtained using a panel Tobit model. *AT* is a dummy variable equal to 1 if the SME hotel is above target leverage at the end of the previous year, and zero otherwise. *Distance* is the difference between the estimated target leverage for the year, and the debt ratio at the end of the previous year. *Surplus* is the measure of available internal funds. The symbols ***, **, and * indicate statistical significance at the 1%, 5%, and 10% respectively. Standard errors are reported in parenthesis.

Table 6: Estimated change in leverage

Part a: firms below target leverage

	Surplus	*1%*	*5%*	*10%*	*25%*	*50%*	*75%*	*90%*	*95%*	*99%*
Distance		*-0,6714*	*-0,3875*	*-0,1970*	*-0,0313*	*0,0232*	*0,1051*	*0,2640*	*0,4066*	*0,7832*
1%	*0,0000*	0,1685	0,1010	0,0557	0,0163	0,0034	-0,0161	-0,0539	-0,0877	-0,1773
5%	*0,0051*	0,1688	0,1014	0,0561	0,0168	0,0038	-0,0156	-0,0534	-0,0872	-0,1767
10%	*0,0350*	0,1709	0,1037	0,0586	0,0194	0,0065	-0,0129	-0,0505	-0,0842	-0,1734
25%	*0,1252*	0,1772	0,1107	0,0661	0,0273	0,0145	-0,0046	-0,0418	-0,0752	-0,1634
50%	*0,2951*	0,1890	0,1239	0,0802	0,0422	0,0297	0,0109	-0,0255	-0,0582	-0,1446
75%	*0,4766*	0,2016	0,1379	0,0952	0,0581	0,0459	0,0275	-0,0081	-0,0400	-0,1244
90%	*0,6438*	0,2131	0,1509	0,1091	0,0727	0,0608	0,0428	0,0080	-0,0233	-0,1059
95%	*0,7341*	0,2194	0,1579	0,1166	0,0807	0,0688	0,0511	0,0166	-0,0143	-0,0959
99%	*0,9997*	0,2378	0,1784	0,1386	0,1039	0,0925	0,0754	0,0421	0,0123	-0,0665

Part b: firms above target leverage

	Surplus	*1%*	*5%*	*10%*	*25%*	*50%*	*75%*	*90%*	*95%*	*99%*
Distance		*-0,5838*	*-0,3242*	*-0,1621*	*-0,0318*	*0,0200*	*0,0698*	*0,1519*	*0,2387*	*0,6124*
1%	*-0,9915*	-0,0959	-0,0931	-0,0912	-0,0896	-0,0890	-0,0882	-0,0866	-0,0852	-0,0814
5%	*-0,8367*	-0,0495	-0,0598	-0,0666	-0,0726	-0,0746	-0,0775	-0,0832	-0,0884	-0,1020
10%	*-0,7071*	-0,0107	-0,0319	-0,0461	-0,0584	-0,0625	-0,0686	-0,0804	-0,0911	-0,1191
25%	*-0,5030*	0,0505	0,0121	-0,0137	-0,0361	-0,0434	-0,0545	-0,0760	-0,0953	-0,1462
50%	*-0,3009*	0,1111	0,0556	0,0184	-0,0139	-0,0246	-0,0406	-0,0716	-0,0994	-0,1730
75%	*-0,1415*	0,1588	0,0899	0,0437	0,0035	-0,0097	-0,0296	-0,0681	-0,1027	-0,1941
90%	*-0,0552*	0,1847	0,1085	0,0574	0,0130	-0,0017	-0,0236	-0,0663	-0,1045	-0,2056
95%	*-0,0286*	0,1927	0,1143	0,0616	0,0159	0,0008	-0,0218	-0,0657	-0,1051	-0,2091
99%	*-0,0022*	0,2006	0,1199	0,0658	0,0188	0,0033	-0,0200	-0,0651	-0,1056	-0,2126

The first column indicates the percentile of the variable *Distance* at which the change in leverage is being estimated, and the first row the percentile of the variable *Surplus*. The second column and the second row indicate the value of the variable at the corresponding percentile. The remaining rows and columns report the estimated change in leverage in correspondence of the reported percentiles.

Table 7: Asset growth and sources of funds

	(1) Δ **asset**	**(2)** Δ **asset**
Reinvested earnings	2.5558***	2.5535***
	(0.115)	(0.118)
Working capital	-1.0326***	-1.0248***
	(0.021)	(0.022)
Debt	1.4253***	1.4726***
	(0.018)	(0.021)
Shareholders' loans		1.5596***
		(0.048)
Equity	1.3766***	1.3824***
	(0.017)	(0.017)
Constant	-0.0007	-0.0006
	(0.003)	(0.003)

Column (1) reports the results for the regression where shareholders' loans are considered debt, while Column (2) reports the results where shareholders' loans are considered equity in the definition of the dependent variable. The symbols ***, **, and * indicate statistical significance at the 1%, 5%, and 10% respectively. Standard errors are reported in parenthesis.

Table 8: Determinants of firm performance

Dependent variable:	(1) ROI	(2) ROI	(3) ROI	(4) ROS	(5) ROS	(6) Turnover	(7) Turnover	(8) Δasset	(9) Δasset
Distance	-0.0407***	-0.0387***	-0.0385***	-0.0232**	-0.0172*	0.0067	0.0063	-0.0051	-0.0037
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.014)	(0.014)	(0.015)	(0.015)
$Distance^2$	-0.0350**	-0.0355**	-0.0368**	-0.0117	-0.0124	0.0347	0.0375*	-0.0116	-0.0170
	(0.015)	(0.015)	(0.015)	(0.016)	(0.016)	(0.022)	(0.022)	(0.022)	(0.022)
Size	0.0078	0.0068	0.0080	0.0881***	0.0853***	0.0906***	0.0883***	-0.2188***	-0.2151***
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.013)	(0.013)	(0.014)	(0.014)
Tangible	0.0309	0.0278	0.0287	0.0515	0.0419	-0.2003***	-0.2024***	-0.0321	-0.0207
	(0.043)	(0.043)	(0.043)	(0.044)	(0.044)	(0.061)	(0.061)	(0.063)	(0.063)
Intangible	-0.2458***	-0.2503***	-0.2471***	-0.1154	-0.1300*	-0.6562***	-0.6643***	0.4901***	0.5050***
	(0.069)	(0.069)	(0.069)	(0.070)	(0.070)	(0.096)	(0.096)	(0.100)	(0.100)
ETR	-0.0001	-0.0001*	-0.0001*	-0.0001*	-0.0001*	0.0001	0.0001	-0.0002**	-0.0002***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
OL	0.0781	0.0767	0.0811	0.1715***	0.1643***	-0.1916**	-0.2008**	-0.4279***	-0.4117***
	(0.066)	(0.066)	(0.066)	(0.059)	(0.059)	(0.094)	(0.094)	(0.097)	(0.097)
VA	-0.1123**	-0.1131**	-0.1146**	0.1876***	0.1889***	0.0378	0.0407	0.0511	0.0512
	(0.046)	(0.046)	(0.046)	(0.025)	(0.025)	(0.065)	(0.065)	(0.067)	(0.067)
Turnover	0.0648***	0.0675***	0.0673***	-0.0181*	-0.0115			0.2208***	0.2213***
	(0.011)	(0.012)	(0.012)	(0.011)	(0.011)			(0.015)	(0.015)
ROS	0.0874***	0.0884***	0.0894***			-0.0531	-0.0551	0.0898**	0.0907**
	(0.029)	(0.029)	(0.029)			(0.042)	(0.042)	(0.043)	(0.043)
Δasset	0.0043	0.0045	0.0045	0.0011	0.0018	-0.0401***	-0.0399***		
	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.009)	(0.009)		
Payable	0.0147	0.0174	0.0134	0.1571***	0.1686***	0.2622***	0.2717***	0.1435***	0.1180***
	(0.035)	(0.035)	(0.036)	(0.031)	(0.031)	(0.042)	(0.042)	(0.044)	(0.044)
Receivable	-0.0208	-0.0246	-0.0237	0.1671***	0.1541***	0.2217***	0.2203***	0.2708***	0.2854***
	(0.049)	(0.049)	(0.049)	(0.050)	(0.050)	(0.069)	(0.069)	(0.071)	(0.071)
Crisis	-0.0265***	-0.0265***	-0.0264***	-0.0217***	-0.0219***	0.0154*	0.0152*	0.0175*	0.0178**
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.009)	(0.009)	(0.009)	(0.009)
Debt		0.0342	-0.0407		0.0986***	-0.0384	0.1182	-0.1618***	-0.9392***
		(0.023)	(0.067)		(0.023)	(0.031)	(0.094)	(0.032)	(0.190)
$Debt^2$			0.0792				-0.1649*		1.6393***
			(0.067)				(0.094)		(0.471)
$Debt^3$									-0.8984***
									(0.317)
Constant	-0.0241	-0.0295	-0.0282	-0.8574***	-0.8746***	-0.0120	-0.0152	1.6571***	1.6819***
	(0.080)	(0.080)	(0.080)	(0.081)	(0.081)	(0.113)	(0.113)	(0.116)	(0.116)
N	5,907	5,907	5,907	5,907	5,907	5,907	5,907	5,907	5,907
Adjusted R^2	0.4499	0.4501	0.4501	0.4673	0.4693	0.8070	0.8071	0.2359	0.2387

Coefficient estimates obtained by means of a panel fixed effect estimator. The symbols ***, **, and * indicate statistical significance at the 1%, 5%, and 10% respectively. Standard errors are reported in parenthesis.

Appendix A. Further analysis of financial performance

In Table 8 we report a negative effect of intangible assets on hotel SME's ROI. This implies that firms with higher investments in intangibles experience a lower financial performance, a finding that is in contrast with our expectations, given the importance that brands, trademarks, licenses and other intangible assets can have on an hotel SME performance, as already discusses in Section 3.1.

However, when studying the financial performance of Italian SMEs, Majocchi and Zucchella (2003) report a similar finding: a negative relationship between intangible assets and firm performance, without unfortunately providing further evidence on the topic. In light of the fact that this result is peculiar to the Italian context, we suspect that this relationship may depend on the effects of accounting policies of Italian SMEs concerning the amortization of intangibles, which are strongly affected by national regulation. In particular, art. 2426 n. 5 of the Civil Code states that company formation and expansion expenses, costs for research and development, and advertising costs must be amortized in no longer than five years; art. 2426 n. 6 prescribes that goodwill cannot be amortized in a period longer than ten years. The national accounting principle OIC24 states that trademarks must be amortized within a 20-year period. Tax rules also affect firms' behavior: article 103 of the Consolidated Income Tax Law (DPR 917/1986) defines the maximum amortization amounts in a year for various categories of intangible assets: intellectual property and patents can be amortized by a yearly maximum of a 50% of their value; trademarks can be amortized by a yearly maximum of one eighteenth of their value; goodwill can be amortised by a yearly maximum of one eighteenth of its value. Whenever the yearly tax limit for the amount of amortization is greater than the minimum required by the commercial law, firms will have an incentive to choose the higher amount allowed for tax purposes, in order to reduce their tax burden. If the prescribed amortization period is too short compared to the true useful life of intangible assets, then SMEs would be charging higher amortization costs, and this would affect their reported performance. Indeed, both ROI and ROS are calculated using earnings before interests and taxes ('EBIT') at the numerator, which considers both depreciations and amortizations in its calculation. In order to test our hypothesis, we repeat the analysis by using EBITDA (earnings before interests, taxes,

depreciations and amortizations) at the numerator, thus calculating modified versions of both ROI (*ROI_mod*) and ROS (*ROS_mod*). We report these new results in Table A.1.

[Table 1 about here.]

We now find that an increase in intangible assets produces a positive effect on both ROI and ROS. This may be explained through two different (or potentially complementary) interpretations. A first possibility is that higher intangibles increase the gross margin (*ROI_mod*) of an hotel SME, but the cost of these intangibles is higher than the benefits, so that when looking at the margin net of amortizations and depreciations the effect becomes negative. An alternative explanation may be that the amortization of intangibles is too high (and consequently the amortization period too short) compared to the true economic life of these assets, confirming our hypothesis that the negative results reported in Table 8 in the main text depend on the effects of accounting regulations. As this is not the focus of our work, we leave this issue open for future additional research.

Table A.1: Determinants of firm performance gross of depreciations and amortizations

	(1) ROI_mod	(2) ROI_mod	(3) ROI_mod	(4) ROS_mod	(5) ROS_mod
Distance	-0.0562***	-0.0562***	-0.0560***	-0.0207***	-0.0167**
	(0.014)	(0.014)	(0.014)	(0.008)	(0.008)
Distance^2	-0.0283	-0.0283	-0.0295	-0.0162	-0.0166
	(0.022)	(0.022)	(0.022)	(0.012)	(0.012)
Size	-0.0214	-0.0214	-0.0204	0.0529***	0.0511***
	(0.014)	(0.014)	(0.014)	(0.008)	(0.008)
Tangible	0.2585***	0.2584***	0.2592***	0.0851**	0.0787**
	(0.061)	(0.061)	(0.061)	(0.034)	(0.034)
Intangible	0.0979	0.0978	0.1010	-0.0652	-0.0752
	(0.097)	(0.097)	(0.097)	(0.054)	(0.054)
ETR	-0.0000	-0.0000	-0.0000	-0.0001**	-0.0001**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
OL	0.1023	0.1023	0.1063	0.4020***	0.3972***
	(0.094)	(0.094)	(0.094)	(0.045)	(0.045)
VA	-0.0315	-0.0316	-0.0329	0.1509***	0.1517***
	(0.065)	(0.065)	(0.065)	(0.019)	(0.019)
Turnover	0.0696***	0.0697***	0.0695***	-0.0208**	-0.0164*
	(0.015)	(0.015)	(0.015)	(0.008)	(0.008)
ROS	0.0840**	0.0841**	0.0850**		
	(0.042)	(0.042)	(0.042)		
Δasset	0.0006	0.0007	0.0006	0.0036	0.0040
	(0.009)	(0.009)	(0.009)	(0.005)	(0.005)
Payable	0.2651***	0.2652***	0.2610***	0.1182***	0.1261***
	(0.044)	(0.044)	(0.045)	(0.024)	(0.024)
Receivable	0.2262***	0.2260***	0.2268***	0.1207***	0.1120***
	(0.069)	(0.070)	(0.070)	(0.039)	(0.039)
Crisis	-0.0356***	-0.0356***	-0.0355***	-0.0174***	-0.0175***
	(0.009)	(0.009)	(0.009)	(0.005)	(0.005)
Debt		0.0009	-0.0679		0.0668***
		(0.031)	(0.095)		(0.017)
Debt^2			0.0724		
			(0.094)		
Constant	0.0313	0.0312	0.0326	-0.4679***	-0.4797***
	(0.113)	(0.113)	(0.113)	(0.062)	(0.062)
N	5.907	5.907	5.907	5.907	5.907
Adjusted R^2	0.4042	0.4041	0.4040	0.5410	0.5424

Coefficient estimates obtained by means of a panel fixed effect estimator. The symbols ***, **, and * indicate statistical significance at the 1%, 5%, and 10% respectively. Standard errors are reported in parenthesis.