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Leverage and corporate performance: International evidence

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ABSTRACT

This paper analyzes the effect of financial leverage on corporate operating performance and how this effect varies across countries. Results for 10,375 firms in 39 countries indicate that the performance of firms with greater leverage is significantly reduced compared to their competitors in industry downturns, in line with the importance of financial distress costs. However, this effect varies according to the legal origin of the countries, being positive in French civil law countries. The protection of shareholder rights and the strength of legal enforcement are the main variables explaining the effect of financial leverage on performance.

1. Introduction

The financial literature has traditionally analyzed the relationship between leverage and corporate performance from the point of view of how corporate performance affects the level of firm debt. Most studies have revealed a negative relation. This result is consistent with the pecking order theory for the reason that higher profitability increases the possibility of retaining earnings and reduces the need for debt.

In this paper, we address the question of the relationship between leverage and corporate performance from the perspective of how financial leverage affects the operating performance of firms. Previous work has both argued that financial distress is costly (Andrade & Kaplan, 1998; Shleifer & Vishny, 1992; Warner, 1977) and that it can improve corporate performance due to the disciplinary role of debt (Jensen, 1989; Wruck, 1990). Opler and Titman (1994) have provided evidence on how financial leverage affects corporate performance. Their results show that, during downturns, more highly leveraged firms tend to lose market share and experience lower operating profits than their competitors. This evidence is consistent with the view that the costs of financial distress are greater than the potential benefits of debt.

Our aim is to analyze how leverage affects firm operating performance in industry downturns in different institutional environments bearing in mind that the importance of financial distress costs and the disciplinary role played by debt may vary between countries. In order to minimize the problem of reverse causality between corporate operating performance and financial distress, we follow the line of research designed by Opler and Titman (1994). We identify industries that have experienced economic distress and investigate whether firms in those industries with high prior financial leverage fare differently from their less leveraged counterparts.

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We use an international panel database of 10,375 firms in 39 developing and developed countries over the period 1995–2004. The availability of an international database allows us to analyze how the effect of leverage on corporate operating performance varies across countries. Our paper makes several main contributions. First, we analyze the effect of leverage on operating performance in an international context. The use of an international sample allows an enhancement of previous research given that financial distress costs and the role of debt as a mechanism of control vary between countries. Second, we analyze how legal origin and financial structure and development influence the effect of leverage on corporate operating performance. Third, we study whether the differences in the effect of leverage on firm operating performance are a function of the level of investor protection and legal enforcement. Finally, we account for dynamic processes using the generalized-method-of-moments (GMM) estimators developed by Arellano and Bond (1991) for dynamic panel data. GMM models are designed to handle autoregressive properties in the dependent variable and control for the endogeneity of the explanatory variables and unobserved firm-specific characteristics. We include country and industry dummies to prevent the coefficients of supervisory and institutional variables from being biased by the incorporation of confusing effects from other omitted country variables.

Our results indicate that the operating performance of more leveraged firms is significantly reduced compared to their competitors as a consequence of industry downturns, in line with the results provided by Opler and Titman (1994) for US firms. However, these effects vary across countries, depending on their legal origin. In the opposite sense to the results for the total sample, leverage in French civil law countries has a positive effect on operating performance in industry downturns. The results also show that the protection of shareholder rights and the strength of legal enforcement explain these differences in the results. However, the protection of creditor rights does not seem to be relevant.

The rest of the paper is organized as follows. Section 2 discusses the influence of leverage on corporate operating performance and the hypotheses tested in the paper. Section 3 describes the database, methodology, and main variables used in the paper. Section 4 discusses the empirical results. Section 5 tests the robustness of our results. Finally, Section 6 provides the conclusions drawn.

2. Theoretical background and hypotheses

The potential influence of leverage on firm performance will depend on two opposing effects. On the one hand, it has been more frequently argued that financial distress is costly and constitutes an important determinant of corporate capital structure. Financial distress has both direct and indirect costs. Distressed firms incur direct expenses for lawyers, financial advisers and accountants, among others. Since Warner (1977), different papers have estimated the direct costs of reorganizing firms, mainly in Chapter 11. Most of the evidence shows that the direct costs of distress are relatively small. Altman and Hotchkiss (2006) survey different studies that estimate the direct costs of financial distress. For instance, Bris, Welch, and Zhu (2006) document direct costs of on average 8.1% (median 2%) of pre-bankruptcy assets for a sample of 225 smaller firms. Indirect costs, such as suboptimal investment policies or inefficient asset sales (Shleifer & Vishny, 1992) due to insufficient liquidity and limited ability to obtain financing, or lost sales driven by the firm's deteriorating financial condition (Opler & Titman, 1994) and lack of management attention to the business itself, are believed to be more important. These costs are, however, unobservable and therefore more challenging to estimate. Andrade and Kaplan (1998) report that distressed firms cut capital expenditures, sell assets, and delay restructuring of filing for Chapter 11 in a way that appears to be costly. In fact, they estimate losses in value given distress in the order of 10% to 23% of pre-distress firm value.

Financial distress is also costly because it may provide an incentive to make decisions that are harmful to creditors and other stakeholders such as customers, employees, and suppliers. Moreover, it also implies potential aggressive behavior by competitors aimed at obtaining a greater market share.

On the other hand, it has likewise been argued that debt can improve the value of a firm because it forces managers to take value-maximizing decisions. Jensen (1986) and Stulz (1990) emphasize the disciplinary role of debt. Debt reduces the agency costs of free cash flow by reducing the cash flow available for spending at the discretion of managers. Additionally, via the threat caused by failure, debt may serve as an effective motivating force to make firms more efficient. Several authors also stress the benefits of financial distress and its positive effect on internal capital markets and organizational efficiency (Jensen, 1989; Wruck, 1990). Wruck (1990) suggests that debt may serve as a valuable driver for operational and organizational change. Financial distress may thus entail benefits such as anticipated changes in management, corporate governance, and organization strategy and structure. Lang, Ofek, and Stulz (1996) have provided evidence in line with the idea that firm leverage might be beneficial for shareholders, limiting the growth for low-q firms. Gilson (1989) finds that executives in financially distressed firms are more likely to lose their jobs than their counterparts in firms that are not financially distressed. Hence, although lower financial leverage may reduce the costs of financial distress, important benefits are foregone by the suboptimal use of debt financing.

As a consequence, the net effect of leverage on firm performance will be the result of the stronger of these effects. If financial distress is costly and more important than the disciplinary role of debt, then firms with more debt will have the greatest operating difficulties in a downturn. Conversely, if financial distress benefits firms by forcing efficient operating changes to a greater extent than the costs of financial distress, then firms with more debt will perform better than less leveraged firms. This was the idea tested by Opler and Titman (1994) for US firms. Their results show that highly leveraged firms tend to lose market share and experience lower operating profits than their competitors. This implies that the costs of financial distress more than counterweigh the benefits for US firms.

Bankruptcy law and related out-of-court mechanisms provide a general structure that helps claimholders resolve conflicts that arise when the firm defaults on its debt payments. Moreover, bankruptcy law also determines the allocation of control over the distressed firm to its diverse claimholders. The design of bankruptcy procedures varies widely throughout the world. Some countries have laws that address the continuation of the firm as an ongoing business. This is the case of the United States and France, for example. Other countries, like the UK or Sweden, have procedures aimed at allocating the distressed firm's assets. The relative efficiency of the existing alternatives