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The effect of leverage on performance: Domestically-oriented versus internationally-oriented firms

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ABSTRACT

This paper examines the relation between financial leverage and firm performance for a panel of 159,375 non-financial firms in Thailand during the financial crisis of 2007–2009. We find that for the full sample, leverage is negatively associated with firm performance. In addition, the effect of leverage on performance is negative for the domestically-oriented firms and is positive for the internationally-oriented firms. Furthermore, firm size moderates the effect of leverage on performance. These results might be driven by the fact that the internationally-oriented firms tend to have a larger pool of resources, knowledge and capability than the domestically-oriented firms.

1. Introduction

In this paper we assess the extent to which a firm's involvement in international activities affects the relation between leverage and firm performance. The main idea is that the accumulation of knowledge about international trade alters the investing and financing behaviors of firms, which in turn affect the leverage-performance relation. In particular, we expect that a firm that is involved with import

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and/or export activities is likely to exhibit a different pattern of the leverage-performance relation to that of a firm that is not involved with import and/or export activities. We refer to the former as the internationally-oriented firm (hereafter the “international” firm) and the latter as the domestically-oriented firm (hereafter, the “domestic” firm). Conditional on firm size, the international firms tend to have a larger and/or better set of investment opportunities than the domestic firms. Thus, for the international firms, the increase in leverage is likely to be associated with better performance; whereas for the domestic firms, the increase in leverage is not necessarily associated with better performance. In this paper, we use the term “internationalization” in a broader sense; that is, we do not make a clear distinction between the “inward internationalization orientation” and the “outward internationalization orientation”[2] as typically discussed in the international business literature (see e.g., Zahra et al., 2000; Zhou et al., 2007).

We develop our hypotheses on the moderating effect of internationalization on the relation between leverage and performance, drawing on prior studies on internationalization, strategy and corporate finance. We test our hypotheses on a sample of 452,838 firm-year observations involving 159,375 (mostly private) non-financial firms[3] based in Thailand over a three-year period of 2007–2009. Given the large cross-sectional but short time-series sample, we primarily focus on the investigation of the cross-sectional relationship between leverage and firm performance in various subsamples of firms (e.g., (1) the domestic and international firm subsamples, (2) the small and large firm subsamples, and (3) the small domestic, large domestic, small internation, and large international firm subsamples). To the best of our knowledge, the sample used in this study is perhaps the largest sample with respect to the cross-sectional analysis of the leverage-performance relation in a single-country study.

We first hypothesize that the effect of leverage on performance is stronger for the international firms (as compared with the domestic firms). We empirically find that the relation between leverage and performance (measured as the return on asset[4]) substantially differs between the domestic firms and the international firms. More importantly, the effect of leverage on performance is positive for the international firms and is negative for the domestic firms, after controlling for other firm-specific characteristics. In terms of economic significance, we find that a hypothetical 1% increase in leverage is associated with about a 5.1% decrease in ROA and a 2.3% increase in ROA for the domestic firms and the international firms, respectively (see Table 4).

We address the issue of endogeneity with respect to the relation between leverage and firm performance by using (1) the instrumental variable (IV) and two-stage least square (2SLS) estimation and (2) the generalized method of moments (GMM) method. To rule out the potential impact of losses on the relation between leverage and performance, we perform additional robustness tests by removing firm-year observations with a negative value of ROA from the sample in our robustness tests and repeat our analysis again. We continue to find that our basic results remain qualitatively unchanged.

Our analysis provides at least two key contributions to the literature on finance and international business by (1) explicitly addressing the issue of the moderating effect of internationalization on the relation between leverage and performance, and (2) providing new evidence on the relation between leverage and performance of (mostly private) firms in an emerging market country.

A fundamental question arises as to why leverage affects the performance of the international firms differently than the domestic firms. While the differential effects could be driven by a number

[2] In the international business literature, both outward and inward internationalization orientations can positively affect firm performance but they do so through different mechanisms. On the one hand, outward internationalization orientation benefits firms through activities related to marketing and selling products in foreign markets. On the other hand, inward international orientation improves firm performance through learning about and exploiting (advanced) foreign knowledge, resources, and capabilities. Unfortunately, we do not have data to test whether outward or inward international orientation affects firm performance in our study.

[3] Our sample includes both private and publicly listed firms; however, a portion of the publicly listed firms in the sample is extremely small. There are on average 495 (54) firms listed on the Stock Exchange of Thailand (the Market for Alternative Investment) during the period 2007–2009. That is, the number of firms listed on the Stock Exchange of Thailand (the Market for Alternative Investment) is 490 (51), 495 (51), and 501 (60) in 2007, 2008, and 2009, respectively.

[4] We also use the return on sales (ROS), which is measured as EBIT scaled by sales, as an alternative proxy for performance in our robustness checks. The results are not sensitive to the choice of performance proxies.