Internationalization degree and capital structure

The case of the listed Chinese Companies from 2007 to 2011

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Extended Abstract

Past researches considered the effects of geographical diversification on capital structure with ambiguous empirical results such as a determined relationship between the degree of internationalization and the leverage is still controversial.

According to finance theory, in perfect markets, corporate diversification would generate a coinsurance effectreducing the bankruptcy risk (Lewellen, 1971), which can be generalized to geographical diversification. The consequence should be a positive influence of internationalization on debt capacity. Some studies provide evidence of the risk reduction benefits of geographical diversification (Levy and Sarnat, 1970; Lessard, 1973; Lessard, 1977). More specifically, Fatemi (1984)finds that geographical diversification reduces the systematic risk. Heston and Rouwenhorst (1994) even show that diversification across political boundaries reduces risk more than product diversification. Consistently, Chkir and Cosset (2001) highlight a positive effect of both international and product diversification on leverage which combination makes bankruptcy risk lower. However, more lately, Singh *et al.* (2003) observe that multinationals (MNCs) have a lower level of debt financing than the domestic companies, which may be traced to risks that are specific to geographical diversification. Indeed, MNCs face higher exchange rate and political risks than domestic companies, which increases the bankruptcy risk. Moreover, according to Aliber (1984), multinationals are less favourably perceived by investors, being exposed to higher financial, political and business risks. Reeb*et al.* (1998) and He and Ng (1998) show that MNCs face a higher risk of foreign exchange exposure. The subsequent negative impact on leverage is nevertheless balanced by the fact that they can use debt as a hedging instrument by borrowing in the local currency (Kedia, Mozumdar, 2002). This could justify the positive relationship found by Burgman (1996) between political and exchange risks and leverage.

On the other hand, the characteristics of MNCs in terms of growth opportunities and asset structure imply a determined relationship between multinationality and leverage. Actually, MNCs are characterized by higher growth opportunities (Kim, Lyn, 1986) and more intangible assets (Ethier, 1996; Ethier, Horn, 1996) than domestic firms. This increases the managerial discretion, reduces the ability of the shareholders to control for the resource allocation by the managers and reinforces the asset substitution problem. Additionally, the debtholders would be less likely to recover their investment, lacking disposable collateral assets in case of default. The lack of transparency and the stronger information asymmetries currently associated to international operations (Lee, Kwok, 1988)increase the conflicts of interests between debtholders and shareholders. According to this scenario, MNCs should have lower leverage. In coherence, the higher return of debt required by debtholders is likely to discourage the firm to finance with debt. This would imply a negative influence of multinationality on the leverage ratio. The MNCs are also supposed to face more agency costs than the domestic firms, which, according to Jensen (1986), tends to predict an inverse

association between multinationality and leverage, as found by Lee and Kwok (1988), after controlling for size and industry related effects. This is also relevant with Doukas and Panzalis (2003) who show that MNCs require less long-term debt. The latter developments raise three main questions.

First, is the relationship between internationalization and capital structure more complex than expected, depending on conditions regarding key determinants of the leverage as stated through the literature? As a consequence, would it be more appropriate to exploit a contingent approach instead of the prevalent deterministic perspective? For instance, throughthe literature, profitability is among the key-indicators of leverage (Frank, Goyal, 2009) while its relationship with multinationality is still ambiguous (Glaum, Osterle, 1997). As a consequence, instead of assuming a determined relationship, would it be more relevant to identify interaction effects between multinationality and profitability on leverage, according to a contingent approach, which is able to predict more scenarios?

Secondly, would it be more relevant to conceptualize internationalization along a continuum? Through the literature, the influence of multinationality is stated according to whether the explanatory variables of the debt ratio differ between the Multinationals and the domestic companies. Nevertheless, an important shortcoming of these works holds in that they do not differentiate the Multinationalsin terms of their international involvement,which also reflects their experience of internationalization. As such, Singh and Nejadmalayeri (2004) show a U - shape relationship between the degree ofinternationalization and the leverage ratio. Debt turns out to be more difficult to issue at the earlier steps of the internationalization process for which the foreign exchange risk is perceived as being higher while decreasing later.

Eventually, some theories have been developed to explain the capital structure, mainly the pecking-order, the trade-off and the market timing theories. Key explanatory variables are put forward, in particular size, profitability, tangibility of assets, agency costs, growth opportunities (Frank, Goyal, 2009). However, inmost empirical studies, the context of analysisis the developed countries, only a few considering developing or in transition Economies.China being the largest recipient of foreign direct investment in the world and because of its specific institutional features (Chen, 2004; Qian*et al.*, 2009), it is particularly interesting to determine whether the “traditional” assumptions as formulated for the Western countriesmay begeneralized. More broadly, is the classical capital structure theory applicable to the emerging countries? This justifies the object of our empirical study.

The population is represented by China CSI 300 (capitalization-weighted stock market index). The final sample includes only 60 companies from 17 industries mainly ranking in machinery, equipment, instrument, information technology and energy. The empirical study is conducted on corporate annual financial account data extracted from In financial and the individualannual reports. The firms which are in the financial sector are not included in the data set regarding the difference in their balance sheet and the regulation of their capital structure. The company panel is significantly reduced to the number of 60 due to the lack of data for some periods, in particular regarding internationalization, which is a key-variable in this paper.

Multivariate regressions have been carried out.

Our dependent variable is represented by the debt ratio including the total debt even if some studies prefer to consider the long-term debt for its steadiness. Actually, as Chen (2003)points it, the classification of debt according to the maturity is not reliable in the case of the Chinese companies. Our independent variables are: size, tangibility of assets, agency

costs (through the level of free cash-flows), profitability (through the return on assets) and the degree of internationalization (*via* the foreign sales to sales as a continuous variable). The splitting of the turnover across the regions not being available in the financial reports, we could not differentiate the regional profiles from the bi-regional or the global ones (Rugman, Verbeke, 2008).

Not only the individual impact of each variable bas been tested but in line with a contingent approach, interaction terms have also been introduced in the model, in accordance with the prevalent capital structure theories. Then, the interactionsbetween the degree of internationalization and respectively, profitability, size and agency costs are included as independent variables.

After controlling for the variance inflation factors, the results show:

- a positive relationship between profitability and leverage,consistently with an agency perspective and the trade-off theory;
- the neutrality of the degree of internationalization for which no hypothesis is proposed through the literature. Nevertheless, the degree of internationalization hasan impact only when combined with size, profitability and to a lesser extent, agency costs. Indeed, at a highly significant level, the interaction term between profitability and the degree of internationalization, is negative. While profitability alone influences positively the debt ratio, the interaction term (with the degree of internationalization) shows a strong moderating effect of the latter on the leverage;
- whilealone, size turns out to be neutral on leverage, when combined with the degree of internationalization, it appears to have a positive (though weak) influence. None of both variables influencing alone the debt ratio, their combination could be interpreted as a risk reducer which seems to imply an increase in the debt capacity.

A contingent approach turns out to be more appropriate. Moreover, the results tend to reject a direct and simple relationship between the degree of internationalization and capital structure, which goes with a deterministic approach.

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