Journal of Corporate Finance 16 (2010) 637–654

Contents lists available at ScienceDirect

Journal of Corporate Finance

journal homepage: www.elsevier.com/locate/jcorpfin

The effect of taxes on multinational debt location

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ARTICLE INFO

Article history:
Received 12 November 2009
Received in revised form 27 July 2010
Accepted 28 July 2010
Available online 6 August 2010

JEL classification:
F23
F34
G15
G32

Keywords:
International corporate finance
Capital structure
International debt choice
Corporate taxes
Withholding taxes
FDI

ABSTRACT

We provide new evidence that differences in international tax rates and tax regimes affect multinational firms' debt location decisions. Our sample contains 8287 debt issues from 2437 firms headquartered in 23 different countries with debt-issuing subsidiaries in 59 countries. We analyze firms' marginal decisions of where to issue debt to investigate the influence of a comprehensive set of tax-related effects, including differences in personal and corporate tax rates, tax credit and exemption systems, and bi-lateral cross-country withholding taxes on interest and dividend payments. Our results show that differences in personal and corporate tax rates, the presence of dividend imputation or relief tax systems, the tax treatment of repatriated profits, and inter-country withholding taxes on dividends and interest significantly influence the decision of where to locate debt and the proportion of debt located abroad. Our results are robust to firm and issue specific factors and to the effect of legal regimes, debt market development, and exchange rate risk.

1. Introduction

Despite numerous empirical studies dealing with firms' capital structure choice in international debt markets, the prior literature has yet to fully consider the broad array of tax factors that theory predicts can influence a multinational firm's decision of where to locate debt. Prior studies, such as Desai et al. (2004) and Huizinga et al. (2008), have examined tax-related effects on firms' multinational capital structure decision. However, these studies consider only a subset of tax-related incentives that could influence the corporate debt location decision. Moreover, these studies use debt-related information for firms headquartered in a limited set of developed countries with many institutional similarities. Absent a more comprehensive investigation of tax-related incentives, the literature's understanding of the theoretical tax-related benefits of debt financing remains limited.

This study aims to increase the literature's understanding by considering a broader set of tax-related incentives of debt finance facing multinational firms located in disparate institutional settings. Specifically, we examine the impact of differences in corporate and personal tax rates and tax regimes on multinational firms' marginal decisions of whether to issue debt at home through the parent or a domestic subsidiary or abroad through a foreign subsidiary. Our analysis uses a unique dataset consisting of 8287 debt issues between 1995 and 2004 from 2437 firms headquartered in 23 different countries with debt-issuing subsidiaries in a total of 59 countries. Combined, this study's investigation of the tax-related incentives facing multinational firms provide a richer, more complete analysis of the influence of taxes on a firm's decision of where to locate debt.

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doi:10.1016/j.jcorpfin.2010.07.006

We find that tax factors significantly affect multinational firms' decisions of where to locate debt as well as the proportion of debt that they locate abroad. Specifically, we find that a multinational firm is more likely to issue debt abroad when the firm's foreign subsidiary is located in a country in which debt capital is afforded a greater tax advantage, as measured by a proxy of the Miller (1977) gains-to-leverage formula ("debt tax gain"), and when the tax code permits dividend imputation or dividend relief. Our results on dividend imputation and relief are particularly noteworthy since, as noted by Graham (2008), as of today the effect of these dividend tax systems on debt location is empirically unknown despite their potentially significant influence in multinational capital structure decisions. We also find that firms are more likely to issue debt through foreign subsidiaries in high corporate tax countries when the parent country adopts an exemption system on repatriated profits from subsidiaries.[2] Moreover, we show that the proportion of the total amount of debt issued by multinational firms via their foreign subsidiaries increases relative to the tax advantage of debt in the subsidiary's country and also depends on the presence of inter-country withholding taxes on interest income and dividends.

Our findings are consistent with the hypothesis that multinational firms locate debt in tax-advantaged countries in order to capture positive valuation effects and are robust after controlling for a multitude of other factors. Our results display strong economic significance. For example, a firm headquartered in a country with dividend imputation and exemption tax systems and "debt tax gain" at the 25th percentile is 41.5% more likely to issue debt in a country with a classical dividend tax system and "debt tax gain" at the 75th percentile than in a country with a dividend imputation tax system and "debt tax gain" at the 25th percentile.

These findings result from an empirical analysis of the tax incentives on corporate debt policy that has increased power over previous studies on international capital structure and corporate debt location choices (e.g., Booth et al. (2001), Demirguc-Kunt and Maksimovic (1988), Fan et al. (2008), Desai et al. (2004), and Huizinga et al. (2008)).[3] First, we examine the within-firm variation in the decision of where to locate debt (i.e., domestic parent or subsidiary versus foreign subsidiary). Thus, our sample provides a natural control for firm-level variation that may influence capital structure decisions and are less likely to suffer from omitted variable biases.

Second, our sample examines the incremental marginal decision of where to locate debt as opposed to the extent of foreign versus domestic debt that exists within a firm's capital structure. Much of the prior literature that examines the effect of taxes of firms' debt to equity ratios uses available balance sheet information of firms located in different countries. By focusing on the marginal decision of where to locate debt, our tests provide more power to identify effects that are determined at the margin, such as taxes (MacKie-Mason (1990) and Graham (1996)). Moreover, the incremental approach links the borrowing decision of the firm with variables measured prior to the debt issuance, allowing an analysis of the effect of time-variation in tax factors on the debt location choice.[4]

Third, we consider a more comprehensive set of possible tax effects than the prior literature. Our data contain detailed information on country-level corporate and personal income tax rates; inter-country dividend and interest withholding tax rates; a distinction between tax credit and exemption systems on repatriated profits from foreign subsidiaries; as well as categorical information regarding tax regimes, i.e., dividend relief versus dividend imputation regimes.

Finally, our data aggregate firm- and country-specific information across a variety of sources in order to control for possible additional explanations of multinational firms' decisions of where to locate debt. For example, our data merge information from Thomson Financial's Security Data Corporation's ("SDC") Global New Issues Database, Compustat Global, annual publications of PricewaterhouseCoopers' ("PwC") *Corporate Taxes a Worldwide Summary*, LexisNexis Corporate Affiliations, the International Monetary Fund's International Financial Statistics, and the World Bank's World Development Indicators, among others. Combined, our data contain contract-related information (e.g., issue size and issue type), firm-specific accounting information at the parent and subsidiary level (e.g., firm size, leverage, and profitability), and information related to country-level differences in credit markets, legal environments, and interest rate or exchange rate risk environments. To our knowledge, the data of this study is the most comprehensive in the literature in terms of the number of countries studied, the number of firms considered, and the level of tax-related and institutional-related information.

While not the focus of this paper, our tests also consider additional motives for locating debt abroad. In particular, we show that companies are more likely to issue debt abroad through subsidiaries that post high profits relative to their parents' reported consolidated profits. We find multinationals headquartered in countries with developed debt markets are less likely to issue debt abroad. We also find that multinational firms headquartered in common law countries are less likely to issue debt through foreign subsidiaries, especially if these foreign subsidiaries are located in civil law countries or in countries with poorer rule of law. Conversely, multinational firms headquartered in civil law countries are more likely to issue debt through foreign subsidiaries whenever the subsidiary is located in a common law country. These findings are consistent with the hypotheses that firms locate debt in subsidiaries that have higher potential tax benefits to debt, and that firms are willing to commit to more restrictive standards for corporate governance by issuing debt in international markets (Harvey et al. (2004)), and that firms attempt to arbitrage differences in the cost of debt finance resulting from international differences in credit market institutions (Noe (2000) and Titman (2002)). In addition, we show that debt location choice is also explained by the exchange rate risk. A company is more likely to issue debt through a subsidiary located in a foreign country with higher exchange rate risk than the parent country. This result is consistent with the hypothesis that firms locate debt in countries in an attempt to hedge the impact of foreign exchange movements on operating results.

[2] While there exists some empirical evidence on the effect of the US tax credit system on debt location decisions by US corporations (e.g., Newberry and Dhaliwal (2001)), our study is the first to investigate the effect of the tax exemption system (which is currently adopted by the great majority of countries in the world) on the location debt decision.

[3] As noted by Graham (1996), Auerbach (2002), and Graham (2003), the estimation of the sensitivity of capital structure to tax incentives has proven challenging.

[4] Denis and Mihov (2003), Arena and Howe (2009), and Arena (2010) use a similar approach to analyze the public–private debt choice for U.S. firms.