

How does internationalization affect capital raising decisions? Evidence from UK firms

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Abstract

Comparisons of financing decisions of domestic and multinational firms provide contrasting results. Some indicate that multinationals operate at higher levels of debt, whilst others suggest domestic firms use more leverage. We test whether managers of multinational firms increase the use of debt capital or prefer theoretically more expensive equity financing as internationalization increases. We find that multinational companies use similar or lower leverage than domestic firms and are more likely to raise new equity capital than new debt. Our evidence indicates that internationalization leads to the use of more expensive capital from the domestic market at a cost to shareholders. International markets are used sparingly.

Keywords: Multinational, Capital Structure, Internationalization, Capital Raising

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1. Introduction

The leverage policies of multinational corporations (MNCs) have been found to differ from those of their domestic counterparts (Burgman, 1996; Doukas & Pantzalis, 2003; Mansi & Reeb, 2002; Mittoo & Zhang, 2008). Increased access to international financial markets and greater ability to exploit capital market imperfections provide a theoretical expectation that multinational companies will use increased levels of debt financing (Doukas & Pantzalis, 2003; Errunza & Senbet, 1981; Robbins & Stobaugh, 1973). Yet some studies find that MNCs use lower leverage than domestic companies (Burgman, 1996; Doukas & Pantzalis, 2003; Lee & Kwok, 1988). One explanation for this phenomenon is that agency costs rise as companies become more internationally focused (Mittoo & Zhang, 2008).

In this study, we have two main contributions. First, taking a sample of UK listed companies, we assess how internationalization affects the multinational leverage puzzle i.e. the financing decisions of multinational firms when compared to their domestic counterparts. Our second contribution is to examine the propensity of MNCs to raise debt and/or equity financing and consider how such decisions affect the overall capital structure of MNCs. Whilst a number of studies have examined how internationalization changes leverage, few studies examine the effect of new debt and equity issuance on overall leverage (Hovakimian, Opler, & Titman, 2001; Leary & Roberts, 2005, 2010; Marsh, 1982), particularly multinational firms (Park, Suh, & Yeung, 2013). In this study, we explicitly consider the effect on debt and equity issuance on the overall leverage of multinational firms. To avoid the influence of share price movement on capital structure decisions, we follow the method employed by Danbolt, Hirst, and Jones (2018), which estimates new equity issuance and buyback decisions ignoring the effect of price fluctuations. This approach highlights the decisions of management rather than leverage changes arising due to the price volatility within equity markets, which can be significant (Danbolt et al., 2018). Furthermore, we add to the literature by examining whether MNCs raise capital differently in domestic and international capital markets.

Internationalization can bring significant benefits to firms such as expanding operations into new markets, exploiting growth opportunities, economies of scale and global product market dominance to name a few (Dunning, 1998; Mansi & Reeb, 2002; Park et al., 2013). There may also be opportunities to exploit capital market imperfections and raise capital more cheaply reducing the overall cost of

capital (Park et al., 2013). However, international operations are likely to be more risky than domestic projects which may discourage the use of debt financing (Lee & Kwok, 1988). Empirical evidence supports this view. MNCs tend to have lower debt which is ascribed to the general risk and agency costs associated with international operations which outweigh the benefits of geographic diversification (Burgman, 1996; Chen, Cheng, He, & Kim, 1997; Doukas & Pantzalis, 2003; Kwok & Reeb, 2000; Lee & Kwok, 1988; Mansi & Reeb, 2002). Studies generally distinguish MNCs from DCs based on a defined threshold of international activity, usually foreign sales or foreign assets. The limited literature to date on internationalization and financing decisions reports that MNCs have lower leverage on aggregate (Burgman, 1996; Doukas & Pantzalis, 2003; Lee & Kwok, 1988). Yet in a more recent study, Mittoo & Zhang (2008) recognize that agency costs of debt increase significantly as international exposure increases. Our focus then, is on the financing choices made by managers. The specific questions we focus on are (1) how does capital structure change as companies become more internationally focused and (2) do managers prefer to raise debt or equity as companies become more international?

Previous research on internationalization and capital structure focus on Australian (Akhtar, 2005; Li & Islam, 2019), French (Singh & Nejadmalayeri 2004), Canadian (Mittoo & Zhang, 2008) and US companies (Burgman, 1996; Mansi & Reeb, 2002; MacMillan & Camara 2012; Park et al., 2013). There are several ways in which a UK study enhances our understanding of this topic and whilst not all our results are generalizable to other contexts, extending empirical evidence to the UK setting is informative for several reasons. Studies of corporate finance decisions are awash with US data and our focus on the UK allows new insights, particularly on capital raising decisions, in another of the largest global capital markets. It is especially appropriate as the UK market comprises a large number of MNCs. There are 21 UK firms listed in the Fortune Global 500 index in 2018. In our sample, more than 50% of UK firms have a foreign sales ratio above 42.37% and a foreign assets ratio of 29.79%. Secondly, UK MNCs are more industrially diverse than their US counterparts (see for example Gray, Meek, & Roberts, 1995). Such a distribution mitigates the impact of unobserved industry factors on the level of internationalization. Thirdly, the UK stock market has high levels of foreign ownership. A report from the Office of National Statistics (ONS) shows that 53.8% of UK PLC's shares were owned by foreign

investors at the end of 2014.¹ In contrast, the US Treasury estimated the foreign holding of US equity stood at \$7,188 billion at the end of June 2017, roughly 22% of US equity.² An INSEAD report estimates the foreign ownership of French and German stocks to be 40% and 28% of market value respectively in 2012.³ Foreign ownership of Japanese stocks was 31.7% of the equity market in 2014.⁴ Hence, the UK equity market is the most international in terms of foreign investor ownership amongst the world's major equity markets. As a result, UK-listed companies have relatively easy access to foreign capital in the domestic market, limiting the necessity to raise capital overseas. Hence, the UK setting allows a cleaner test of the motivation for decisions to raise capital overseas than other markets. Using data from UK FTSE 350 companies between 1996 and 2015, we classify firms as domestic or multinational before examining the leverage policies of these groups at various levels of internationalization. We then examine the effect of internationalization on the leverage and capital raising choices of MNCs. The most notable finding is that internationalization does not appear to be associated with higher levels of debt raising. Our results contrast with the theoretical view proposed in some studies that access to international markets should result in higher leverage (Doukas & Pantzalis, 2003; Errunza & Senbet, 1981; Robbins & Stobaugh, 1973). In addition, our results indicate that MNCs issue more new equity financing although this effect is sensitive to the categorization of “multinationalness”. Taken together, the implication of our findings is that as companies become more international, managers prefer more expensive equity over cheaper debt. In our view, and consistent with the theoretical expectation that agency costs will increase with internationalization (Mittoo & Zhang, 2008), the choice of equity over debt financing by MNCs, along with the lack of debt monitoring due to lower leverage, indicates that shareholders should be wary of agency costs and increasing managerial control when companies become more internationally focused.

¹ See Ownership of UK quoted shares: 2016. Available at:

<https://www.ons.gov.uk/economy/investmentpensionsandtrusts/bulletins/ownershipofukquotedshares/2016> (Accessed: 30th July 2019)

² Preliminary report on foreign portfolio holdings of US securities at end-June 2018. Available at:

<https://ticdata.treasury.gov/Publish/shlprelim.html> (Accessed: 30th July 2019)

³ Who owns the European economy? Evolution of the ownership of Eu-listed companies between 1970 and 2012. Report to the European Commission and Financial Services User Group. Available at:

https://ec.europa.eu/info/file/46812/download_en?token=v7X5X55A (Accessed: 30th July 2019)

⁴ Foreign ownership of Japanese stocks hits record for third year. Available at:

<https://asia.nikkei.com/Business/Markets/Stocks/Foreign-ownership-of-Japanese-stock-hits-record-for-third-year> (Accessed: 30th July 2019)

The rest of this paper proceeds as follows. Section 2 is the literature review. Section 3 and 4 will cover the hypothesis development and methodology. The empirical results and robustness checks are presented in sections 5 and 6 respectively. We conclude in section 7.

2. Literature review

2.1. Leverage of multinational and domestic firms

Multinational firms tend to have lower debt. This is attributed to the risk and agency costs associated with international operations which outweigh the benefits of geographic diversification (Burgman, 1996; Chen, Cheng, He, & Kim, 1997; Doukas & Pantzalis, 2003; Kwok & Reeb, 2000; Mansi & Reeb, 2002). Multinationals can benefit from lower costs of capital, risk reduction capabilities and access to international financial markets which imply the use of greater levels of debt both in absolute terms and relative to equity financing (Doukas & Pantzalis, 2003; Dunning, 1977; Errunza & Senbet, 1981). Market conditions of home and host countries also affect the financing policies of MNCs through capital market imperfections and risks associated with international exposure, which give rise to relatively preferable rates for debt and/or equity in particular markets, (Mittoo & Zhang, 2008).

Various studies indicate that multinational companies may have advantageous access to the financial markets and can compete globally due to intangible assets, location benefits and access to international markets, which increases profitability and growth prospects (Dunning, 1977; Lemmon, Roberts, & Zender, 2008; Myers, 2003; Rajan & Zingales, 1995). Engaging in international activity also offers risk reduction opportunities, such as stability of cash flow in the face of market volatilities, and lower systematic risk, which reduces the cost of capital (Agmon & Lessard, 1977; Fatemi, 1984). These studies suggest that international firms are expected to be able to operate at higher levels of debt.

On the other hand, internationalization increases agency costs of debt, exchange rate risk and political risk associated with international operations (Burgman, 1996; Doukas & Pantzalis,

2003; He & Ng, 1998). Lee & Kwok (1988) find that multinational firms have higher agency costs, which are directly related to their level of international exposure. Although Shapiro (1978) finds that diversification of earnings across regional boundaries increases the ability of MNCs to finance increases in debt, Kim, Kim, and Kim (2002, p. 22) argue that geographically diverse firms are faced with environmental conditions that place limitations on some operations mainly due to location risks, conflict of interests and environmental conditions. Emphasizing upstream-downstream hypothesis of Kwok & Reeb (2000), Mittoo & Zhang (2008) argue that the effect of internationalization on firm financing decisions is dependent on the host country of subsidiary investments. Doukas & Pantzalis (2003) find that operating in diverse jurisdictions intensifies information asymmetry, which increases the agency cost of debt. MNCs face higher levels of agency cost due to the separation between home and host country managers and shareholders (Wright, Madura, & Wiant, 2002), and agency costs are directly related to the degree of internationalization (Mittoo & Zhang, 2008). Chen et al., (1997) find that agency costs and the probability of bankruptcy serve as disincentives to the use of debt financing by MNCs.

Debt may act as a monitoring tool to control the level of agency costs (Jensen, 1986). As more debt is issued as a monitoring measure to control agency costs of equity, the probability of bankruptcy and information asymmetry increases (Berger & Udell, 2006). Frank & Goyal (2009) find that large firms with established presence will have relatively lower agency costs of debt due to reputational effects, which, according to Ozkan (2001), encourages the use of debt relative to equity.

It is important also to note that firms may choose to use lower levels of debt to maintain financial flexibility and while this might explain the lower leverage, it also increases decision-making discretion for managers (Jung, Kim, & Stulz, 1996). Notably, Jung et al., (1996) report that firms with lower growth opportunities issue more equity financing consistent with the

agency perspective and contrary to pecking order theory. Multinational firms' lower leverage compared to domestic firms is an indication of the effect of agency costs and risks associated with international capital raising.

2.2. Capital raising by multinational firms

Some studies confirm that the cost of equity is higher for multinational firms than domestic firms (Bartov, Bodnar, & Kaul, 1996; Reeb, Kwok, & Baek, 1998) and multinational firms may choose to cross-list in host country markets to raise additional capital. Cross-listing increases the liquidity of firms, reduces the cost of equity capital, enhances opportunities to raise new equity capital and increases the shareholder base (Karolyi, 1998). Whilst studies like Brewer (1981), find no relationship between internationalization and the cost of equity, others show that multinational firms experience lower systematic risk than their domestic counterparts (Agmon & Lessard, 1977; Fatemi, 1984; Hughes, Logue, & Sweeney, 1975) which encourages equity financing. Reeb et al. (1998) find evidence that US-based multinational firms have higher costs of equity than domestic firms. Alternatively, Doidge, Karolyi, and Stulz (2004) examine why firms list in the US market and show that increases in corporate governance and disclosure standards due to internationalization reduce the cost of capital in domestic and international capital markets. Various studies argue that Internationalization enhances access to favorable terms of financing, lowers the cost of capital, and increases the liquidity of stocks and growth potential (Chaplinsky & Ramchand, 2000; Claessens & Schmukler, 2007; Lins, Strickland, & Zenner, 2005). Karolyi argues that "exposure to domestic market risk is significantly reduced and is associated with only a small increase in global market risk and foreign exchange risk, which can result in a net reduction in the cost of equity of about 126 basis points" (1998: p22).

Although lower cost of debt encourages higher debt financing, increased debt in the capital structure might increase the cost of equity to the point where the costs associated with higher debt financing offset the financing benefits associated with higher leverage (Singh & Nejadmalayeri, 2004).

Equity financing for multinational firms may be more expensive due to higher information asymmetry and managers may face less scrutiny from domestic shareholders when raising equity internationally. Managers have discretion on the choice of debt or equity, location and timing in external capital raising (Henderson, Jegadeesh, & Weisbach, 2006). Henderson et al., (2006) present evidence that firms raise more debt capital abroad than equity, even though equity raising in international markets improves corporate governance and stock liquidity (Reese Jr & Weisbach, 2002).

3. Hypothesis development

Singh & Nejadmalayeri (2004) report that internationalization and debt financing decisions of multinational firms affect the choice of debt and equity components of the capital structure and the overall cost of capital. Costs of international diversification include increases in agency costs between managers and suppliers of capital, higher tendency for empire building through international investments and increases information asymmetry (Berger & Ofek, 1995; Jensen, 1986; Shleifer & Vishny, 1989). Internationalization also offers debt and equity raising benefits including greater access to international capital markets and opportunities to exploit capital market imperfections (Agmon & Lessard, 1977; Fatemi, 1984). Jensen (1986) argues that debt financing imposes payment obligations on the firms, and this reduces managers' incentive to undertake opportunistic behavior with excess cash flow. The probability of bankruptcy associated with debt financing mitigates the agency costs of equity (Grossman & Hart, 1982). Further, Morellec, Nikolov, and Schürhoff (2012) find that the perceived cost of debt to

managers is three times as high as the cost of debt to *shareholders* indicating managers are more motivated to choose equity than debt financing. Finally, the coinsurance effect from diversification lowers the cost of equity; making equity finance an attractive option. Lewellen (1971) argues that US firms with more state-diversified operations experience a lower level of deadweight cost. This is because the imperfect correlation between geographic units makes resource allocation and sourcing of funds more flexible. Employing US MNC data, Mihov and Naranjo (2019) show that more internationally diversified firms enjoy a lower cost of equity. They highlight that internationalization is an important way to reduce the required rate for equity. Yet most studies provide evidence that MNCs have lower leverage than domestic firms and argue this is due to risks associated with international operations (Burgman, 1996; Chen, Cheng, He, & Kim, 1997; Doukas & Pantzalis, 2003; Kwok & Reeb, 2000; Lee & Kwok, 1988; Mansi & Reeb, 2002).

Whilst lower debt financing of MNCs can be attributed to the use of internal capital markets, the agency costs of debt and institutional differences in subsidiary countries (Doukas & Pantzalis, 2003), we argue that given access to favorable financing terms, multinational firms should choose higher leverage to mitigate agency costs. In our view, agency costs increase with internationalization and companies which use lower levels of debt financing will face lower levels of managerial scrutiny. Since agency costs increase with internationalization, increases in the level of international activity encourage the choice of lower debt financing to minimize external scrutiny of managerial decisions. This view leads us to our first and second expectations that managers will seek to reduce leverage as internationalization increases.

Hypothesis 1. MNCs have lower leverage than domestic firms.

Hypothesis 2. Leverage decreases as the level of internationalization increases.

The next stage of our analysis is to extend our investigation of the leverage puzzle by analyzing the capital raising choices made by managers of multinational firms. We examine whether as a result of access to lower cost of debt capital, control of agency costs via debt monitoring and greater access to raising debt finance on international markets, companies choose to raise more debt or equity as they become more international. An MNC may choose to issue new equity rather than new debt for many reasons. As with our previous hypotheses, our view is that increased internationalization is associated with the level of agency cost (Doukas & Pantzalis, 2003). Hence, we argue that MNCs will prefer to raise new equity rather than new debt despite the theoretically cost cheaper cost of debt financing. Managers may issue equity financing to avoid the debt monitoring role (Doukas & Pantzalis, 2003).

A second possible reason for MNCs to prefer new equity issuance is the rapid change of global capital markets thanks to globalization. The dramatic reduction in explicit barriers to international trade and investment activities does not only change the nature of business operations but also the perception of risk. The home bias phenomenon in the capital market has decreased dramatically due to EU integration and recent increases in globalization (e.g. Amadi, 2004; Schoenmaker, 2008). Lau et al. (2010) show that the reduced level of home bias lowers the cost of equity capital significantly, making equity finance a more attractive choice. This is particular the case for MNCs who have global presence and access to overseas capital. Ghadhab and Hellara (2016) document a significant and positive market reaction for cross-listing and additional cross-listing in the US and the UK markets.

Third, tax effects may discourage MNCs' from raising new debt. Arena and Roper (2010) document that if an MNC's parent country uses the dividend imputation tax regime but a low corporate tax rate, it is less likely to issue new debt in the local market because the combined effect of personal and corporate tax would make new debt less attractive. In their UK sample,

the low corporate tax rate and dividend imputation tax regime suppresses the appetite for borrowing.

Fourth, litigation risk makes MNCs less likely to rely on new debt financing. Due to global operations in different legal jurisdictions, MNCs might be expected to face a higher litigation risk compared to their domestic counterparts. High-profile legal cases against MNCs are not rare, especially relating to human rights and environment issues. Arena (2018) shows that increasing levels of litigation risk for firms effectively discourage new debt issues.

Finally, it is worth noting here that managers may prefer to raise equity to maintain financial flexibility, as has been argued in previous studies (DeAngelo & DeAngelo, 2007), but if this were true then share buybacks would be less prevalent. Levels of leverage are also relatively low for MNCs in our sample (25% on average). The preceding discussion leads us to our next pair of hypotheses which test our expectations regarding the issuance of debt and equity for multinational firms in comparison with domestic firms:

Hypothesis 3. As internationalization increases, companies decrease issuance of new debt.

Hypothesis 4. As internationalization increases, companies increase issuance of new equity.

4. Data and methodology

4.1. Sample selection

A key issue for studies of internationalization is the determination of the level of international activity beyond which a company can reasonably be considered multinational. We classify firms as domestic or multinational before examining the leverage policies of these groups at various levels of internationalization. We then examine the effect of internationalization on the leverage and capital raising choices of MNCs. We confirm our results with a battery of robustness checks. We begin our analysis by classifying companies into groups based on thresholds of their international activity. We choose foreign assets ratio as our main indicator

of international activity since the main alternative, foreign sales may simply indicate higher overseas sales i.e. domestic production with high exports, whereas foreign assets indicate corporate production in host markets (Burgman, 1996; Lee & Kwok, 1988).⁵ Foreign sales may also fluctuate more noisily with market conditions than foreign assets. To test the sensitivity of capital structure decisions to the level of internationalization, we include a range of thresholds for foreign assets ratio ranging from 10% to 50% “multinationalness” in our analysis. In the latter case, a company is classified as multinational if 50% of its operations are outside the domestic market. Our method allows us to detect the level at which multinational effects become apparent and confirm consistency of results between thresholds of internationalization.

We collect data on UK listed companies in the FTSE 350 Index from 1996 to 2015. The study adopts the constituents of the FTSE 350 as the sample firms because as this gives an appropriate sample of firms engaging in international activity. UK companies are particularly helpful for these tests since the UK has the necessary international engagement whereas datasets from other countries are more limited. Yet the idiosyncrasy of the sample should not be overlooked. Our sample mitigates the impact of firm size which according to Burgman (1996) results in potential biases that account for some of the variations in firm characteristics. In addition, many smaller firms have much more limited international engagement and lower levels of liquidity.

Our sample comprises of a panel of firm-year observations for the 20 year period of the study. Data is extracted from DataStream, Osiris and company annual reports. Following the Industry Classification Benchmark (ICB), firms are classified into ten industry groups. Financial and Utility firms are excluded from the sample to mitigate the impact of regulatory requirements

⁵ Information on company subsidiaries and their host countries offer additional information on the level of multinationality. UK listed firms over the sample period are not required to report details on all subsidiaries and their geographic locations in their annual reports. Voluntary disclosure results in non-uniform and inconsistent reporting on subsidiary data. This limits the availability of comparable and consistent data on subsidiary characteristics. As a result, data on the number of subsidiaries or other subsidiary characteristics are excluded from this study.

affecting the banking, insurance, equity investments, real estate and investment trusts (Rajan & Zingales, 1995). Sample firms are then classified as either domestic or multinational using foreign assets divided by total assets as the main indicator of internationalization. The two main measures used in the literature to distinguish between DCs and MNCs are foreign assets and foreign sales.⁶ According to Lee & Kwok (1988), there is a strong positive correlation between foreign assets and foreign sales ratio, and either can be used as a measure of internationalization. Foreign assets measures the percentage of the firm's investment which is in foreign operations (Kwok & Reeb, 2000; Reeb et al., 1998) whereas foreign sales represent the firm's engagement in international markets (Doukas & Pantzalis, 2003; Errunza & Senbet, 1981; Fatemi, 1984; Park et al., 2013; Singh, Davidson, & Suchard, 2003). We employ the foreign assets ratio as the primary measure of the degree of internationalization as we argue this is less susceptible to operating and market fluctuations than sales. It is also reasonable to argue that it is a better indicator of operations in subsidiary countries. In our sample, firms are classified as multinational if foreign assets divided by total assets exceed a given threshold and zero otherwise. We include thresholds of international activity of 10% (MNC10), 20% (MNC20), 30% (MNC30) and 50% (MNC50).

4.2. Methodology

This study uses panel data to determine the effect of international operations on capital structure and capital raising behavior of multinational firms. Similar to previous studies, to incorporate unobserved firm fixed effects and control for the influence of time-invariant factors, we adopt multivariate regression modeling using fixed effects (De Miguel & Pindado, 2001; Fama & French, 2002; Flannery & Rangan, 2006; Hovakimian et al., 2001). Harvey, Lins, and Roper (2004) argue that leverage and firm characteristics measures can be jointly

⁶ Some studies also use foreign taxes ratio (Kemsley 1998, Lee and Kwok 1988).

determined. To address the potential endogeneity problems associated with this study, we adopt the two-stage least square regression analysis. Year and industry effects are included in the model to account for time, industry factors and macroeconomic changes over the sample period.⁷ The degree of internationalization is measured using a dummy variable - MNC - which takes the value of 1 if foreign assets ratio is above the selected threshold and 0 otherwise.

Another issue with capital structure research is the choice between book and market leverage. While no definitive answer is available for the literature, we consider that volatility of equity prices affects market leverage more directly than book leverage and may interfere with identification and robustness of statistical tests (see for example Barclay, Smith, & Morellec, 2006; Graham & Harvey, 2001; McMillan & Camara, 2012). The correlation between the two measures is 0.7 in our study. Given that prior literature does not provide a clear recommendation of the most appropriate measure of leverage for capital structure research, we run all our models using book leverage as the main dependent variable and provide models using markets leverage for comparison.

4.3. Empirical models

We begin our analysis by examining whether there are differences in the financing behavior of multinational and domestic firms, and then assess how the choice of debt and equity changes in response to the level of international activity. Leverage ratio is the dependent variable in our capital structure models with internationalization dummies as the main explanatory variables. Firm characteristics that affect financing behavior are included as controls and include the following variables: firm size, growth opportunities, profitability, assets tangibility, non-debt tax shields and lagged leverage. Agency costs proxies (expense ratio, asset utilization and free

⁷ The impact of regulatory changes is captured by year dummies in our setting. We also exclude finance and utilities firms in our sample, because literature shows regulatory changes impact the capital structure for banking (e.g. Baker and Wurgler, 2015) and utilities industry (e.g. Bortolotti et al. 2011). Year dummies are used to control for corporate tax changes, since they are introduced on a yearly basis (e.g. Devereux et al, 2018).

cashflow) and their interaction with multinationality are also introduced into the analysis to examine how agency costs associated with internationalization explain managers' choices of external financing. Variable definitions are provided in Appendix 1.

We use two methodological approaches in our study. First, we use OLS with fixed effects which enhances comparability with previous studies (Akhtar, 2017; Kwok & Reeb, 2000; Park et al., 2013; Singh & Nejadmalayeri, 2004). OLS estimates, however, are affected by the correlation between explanatory variables and the error term (Graham, Lemmon, & Schallheim, 1998). To mitigate the effect of such endogeneity, equation 1 is also estimated using the two-stage least square (2SLS) by adopting the 2-year lags of endogenous variables as instruments in the models. According to Wooldridge (2010), appropriate tests should be carried out to determine the suitability of instruments. This study report estimates for the Chi-Square and Root Mean Standard error to show the validity of instruments and the suitability of model specification.

To test hypotheses 1 and 2, we estimate models in equations 1 using a dummy variable for the level of internationalization (MNC) at varying levels of 'multinationalness' to examine the effect of internationalization on leverage. Equations are estimated using both the OLS with fixed effects and 2SLS with robust estimators.

$$\text{Lev}_{it} = \alpha_0 + \alpha_1 \text{MNC}_{it} + \alpha_2 X'_{it} + \eta_i + \mu_i + \varepsilon_{it} \quad (1)$$

where Lev is the dependent variable leverage of firm *i* in time *t*. MNC_{it} refers to the dummy variable for internationalization (dummy variable of 1 for firms with foreign assets ratio at or above thresholds or 0 otherwise). X'_{it} is the vector of control variables (firm size, growth opportunities, profitability, asset tangibility, and non-debt tax shields). η_i the unobserved time-invariant factors such as industry fixed effects, μ_i represents time-specific fixed effects, and ε_{it} is the disturbance term.

Equations 3 and 5 examine the propensity of multinational firms to issue new debt or equity. We seek to determine how internationalization affects new debt and equity financing to explain financing behavior by companies as their international focus increases. We adjust models to include appropriate controls given the choice of dependent variable. For changes in debt, we

estimate the Debt Inflation Factor (DIF). This equation determines the firm's propensity to increase or decrease debt financing. DIF is estimated as follows:

$$DIF_{it} = \frac{\text{Total debti}_t - \text{Total debti}_{t-1}}{\text{Total assets}_{i,t-1}} \quad (2)$$

In equation 3, we examine the factors that influence the change in debt financing previously identified in equation 1.

$$DIF_{it} = \alpha_0 + \alpha_1 \text{MNC}_{it} + \alpha_2 \text{Firm size}_{it} + \alpha_3 \text{Growth opportunities}_{it} + \alpha_4 \text{Asset tangibility}_{it} + \alpha_5 \text{Profitability}_{it} + \alpha_6 \text{Non-debt tax shields} + \eta_i + \mu_i + \varepsilon_{it} \quad (3)$$

where DIF_{it} denotes the change in debt (increase or decrease) for firm i at time t . Control variables include firm size, growth opportunities, asset tangibility, profitability and non-debt tax shields. η_i the unobserved time-invariant factors. μ_i represents time-specific effects, and ε_{it} is the disturbance term. Estimates for LDIF and SDIF for long-term and short-term debt raising are presented as robustness checks.

Similar to the estimation of DIF, we use the Share Inflation Factor (SIF) to estimate changes in equity, however, for equity we wish to ignore changes in prices and focus directly on the changes in equity issuance. To examine changes in equity capital raising by firms, we follow Danbolt et al., (2018), who used SIF to determine the equity financing decisions of firms entering or exiting the FTSE100 index. SIF for a given period estimates the percentage change in the number of shares (NOSH) after adjusting for capitalization issues. The advantage of this measure is that it is under the direct control of management. This approach also allows us to assess the net effect of debt and equity raising. An increase in the number of shares outstanding (adjusted for capitalization issues such as rights issues and stock splits) indicates that the firm is raising capital in the equity market. An alternative approach would be to collect new equity issuance. Such an approach would be broadly consistent with the SIF approach, but this would not be adequate since the number of shares is volatile for many reasons such as small takeovers, buying-in to meet option expiry, etc. Many of these will not show up in databases on an annual basis. Even on a net basis, such a variable captures a different effect due to changes in equity prices during the measurement period. Share prices may decline as a result of the new issuance

or other contemporaneous events. The SIF approach removes such noise. We measure the propensity of MNCs to issue new equity using SIF as follows:

$$SIF_{it} = \frac{NOSH_{it} - NOSH_{it-1}}{NOSH_{it-1}} \quad (4)$$

where SIF_{it} denotes changes in capitalization for firm i at time t . $NOSH_{it}$, $NOSH_{it-1}$ denote the number of issued shares for firm i at time t .

The SIF can be estimated using domestic equity, cross-listed equity or a consolidated measure including equity raising on domestic and international markets. Only a small number of companies issue overseas equity in our sample (145 observations). We report international SIF (ISIF), i.e. domestic plus cross-listed equity raising as our main test and present domestic SIF (DSIF) as a robustness check.

Finally, in equation 5 and following Danbolt et al., (2018), we examine the factors which influence changes in equity financing as companies become more international using a set of control variables:

$$SIF_{it} = \alpha_0 + \alpha_1 MNC_{it} + \alpha_2 Firm\ size_{it} + \alpha_3 Growth\ opportunities_{it} + \alpha_4 Return\ on\ equity_{it} + \alpha_5 Dividend\ yield_{it} + \alpha_6 Leverage_{it} + \eta_i + \mu_i + \varepsilon_{it} \quad (5)$$

where SIF denotes changes in capitalization for firm i at time t . MNC is level of internationalization at various thresholds. Control variables include firm size, growth opportunities, return on equity, dividend yield and leverage. η_i the unobserved time-invariant factors. μ_i represents time-specific effects, and ε_{it} is the disturbance term. We present results for ISIF as our main test and DSIF as a robustness check.

5. Empirical results

5.1. Descriptive statistics

Table 1 reports the summary statistics for the dependent variables used in the study. Multinational firms use more debt financing than domestic firms (Panels A and B). The mean book leverage for the full sample is 24.63%. Domestic firms have higher leverage than multinational firms operating at MNC_{10} for book and market leverage. Consistent with studies, such as Akhtar (2005) and Mittoo and Zhang (2008), univariate tests indicate that both book

leverage and market leverage are relatively higher for multinational firms than domestic firms but sensitive to the degree of internationalization. Table 1 also reports the estimates for changes in debt (DIF), consolidated equity (ISIF) and domestic equity (DSIF). Domestic firms raise more debt than MNCs on average, whereas MNCs issue more equity on average (from international and the domestic market).

Means and medians, however, exhibit non-normal distribution, and in response, we use Wilcoxon tests to confirm significant differences in univariate tests in Table 2. The differences in mean and median leverage for multinational and domestic firms are examined in Table 2. In all tests, leverage is higher for MNCs than for DCs. Using t-tests, the mean difference in book leverage of 0.0250 is significantly different for the 20% threshold for international assets ($p < 0.01$). The significance for the 10% and 30% thresholds is weaker ($p < 0.1$) and book leverage is not significant for the 50% thresholds. Differences are more pronounced for market leverage as all thresholds display significant t-tests ($p < 0.01$) for 10%, 20%, 30% and 50% thresholds respectively except MNC-DOM.

We then turn to the variables used to indicate changes in debt and equity. Due to skewness in the capital raising variables (DIF and SIF), we use non-parametric tests to test for differences between capital raising policies of domestic and international firms. In our sample, international firms raise less new debt than their domestic counterparts on average, but differences are insignificant for all thresholds except MNC30-DOM30 with weak significance. Although Table 1 shows only modest increases in ISIF and DSIF as international activity increases, Wilcoxon tests in Table 2 confirm that differences in ISIF and DSIF for domestic and multinational firms are significant at $p < 0.1$ and $p < 0.05$ for MNC30-DOM30 and MNC50-DOM50 respectively.

Table 1: Descriptive statistics for leverage and capital raising.

Panel A

Variable	Full Sample						DOM					
	N	Mean	Median	Std. Dev	Minimum	Maximum	N	Mean	Median	Std. Dev	Minimum	Maximum
Book Leverage	3240	0.2463	0.2290	0.1626	0.0000	0.8049	658	0.2486	0.2102	0.1951	0.0000	0.8049
Market Leverage	3240	0.2105	0.1840	0.1604	0.0000	0.7574	658	0.2155	0.1691	0.1848	0.0000	0.7574
Share Inflation Factor	3000	0.0332	0.0026	0.1568	-0.2764	1.0109	579	0.0295	0.0028	0.1515	-0.2764	1.0109
Domestic Share Inflation Factor	3000	0.0311	0.0026	0.1489	-0.2714	0.9694	579	0.0292	0.0029	0.1487	-0.2714	0.9694
Debt Inflation Factor	3240	0.0372	0.0047	0.1484	-0.3418	0.8306	647	0.041	0.0032	0.1535	-0.3418	0.8306
Long-Term Debt Inflation Factor	2870	0.1966	0.0014	1.5351	-5.3436	9.3715	548	0.1933	0.0000	2.1094	-5.3436	9.3715
Short-Term Inflation Factor	2852	0.0154	0.0000	0.2132	-0.8437	0.9933	542	0.0167	0.0000	0.2772	-0.8437	0.9933

Panel B

Variable	MNC10						MNC20					
	N	Mean	Median	Std. Dev	Minimum	Maximum	N	Mean	Median	Std. Dev	Minimum	Maximum
Book Leverage	2229	0.2472	0.2354	0.1464	0.0000	0.8049	1874	0.2543	0.2419	0.1451	0.0000	0.8049
Market Leverage	2229	0.2133	0.1902	0.1514	0.0000	0.7574	1874	0.2227	0.1994	0.1525	0.0000	0.7574
Share Inflation Factor	2057	0.0339	0.0024	0.1581	-0.2764	1.0109	1739	0.0369	0.0023	0.1638	-0.2764	1.0109
Domestic Share Inflation Factor	2058	0.0309	0.0025	0.1479	-0.2714	0.9694	1739	0.0333	0.0024	0.1523	-0.2714	0.9694
Debt Inflation Factor	2199	0.0324	0.0039	0.1397	-0.3418	0.8306	1847	0.0328	0.0045	0.1428	-0.3418	0.8306
Long-Term Debt Inflation Factor	1980	0.1704	0.0036	1.291	-5.3436	9.3715	1680	0.1706	0.007	1.3106	-5.3436	9.3715
Short-Term Inflation Factor	1969	0.0133	0.0000	0.1883	-0.8437	0.9933	1671	0.0132	0.0000	0.1904	-0.8437	0.9933
Variable	MNC30						MNC50					
	N	Mean	Median	Std. Dev	Minimum	Maximum	N	Mean	Median	Std. Dev	Minimum	Maximum
Book Leverage	1468	0.2516	0.2414	0.1396	0.0000	0.7956	895	0.2505	0.2434	0.1381	0.0000	0.7956
Market Leverage	1468	0.2254	0.1994	0.1556	0.0000	0.7574	895	0.2242	0.1965	0.1559	0.0000	0.7574
Share Inflation Factor	1375	0.0398	0.0024	0.1704	-0.2764	1.0109	862	0.0432	0.0023	0.1814	-0.2764	1.0109
Domestic Share Inflation Factor	1375	0.0354	0.0025	0.1569	-0.2714	0.9694	862	0.0397	0.0023	0.1709	-0.2714	0.9694
Debt Inflation Factor	1448	0.0300	0.0029	0.1372	-0.3418	0.8306	885	0.0307	0.0036	0.1327	-0.3359	0.8306
Long-Term Debt Inflation Factor	1331	0.1574	0.0077	1.2793	-5.3436	9.3715	839	0.1719	0.0083	1.3961	-5.3436	9.3715
Short-Term Inflation Factor	1324	0.0132	0.0000	0.1880	-0.8437	0.9933	837	0.0148	0.0001	0.2045	-0.8437	0.9933

Descriptive statistics for key variables for the full sample and sub-samples of multinational and domestic firms over the period from 1995- 2015. Domestic firms are firms with no foreign assets. The MNC10, MNC20, MNC30 and MNC50 include data for firm-years observations in which foreign assets ratio are at least 10%, 20%, 30% and 50% respectively. Definitions of variables are detailed in table Appendix 1. All continuous variables are winsorized at the 1st and 99th percentile.

Table 2: Univariate analysis of leverage and capital raising.

Variable	MNC10-DOM10	MNC20-DOM20	MNC30-DOM30	MNC50-DOM50
Leverage				
Book Leverage	0.0136* (2.28)	0.0250*** (4.42)	0.0145* (2.55)	0.0101 (1.58)
Market Leverage	0.0191*** (3.30)	0.0348*** (6.34)	0.0316*** (5.73)	0.0238*** (3.84)
Capital Raising				
ISIF	0.0036 (0.61)	0.0100 (1.76)	0.0138* (2.44)	0.0174** (2.79)
DSIF	0.0008 (0.13)	0.0067 (1.24)	0.0098 (1.81)	0.0155** (2.60)
XSIF	0.774*** (5.91)	0.774*** (5.91)	0.402*** (3.83)	0.245** (3.06)
DIF	-0.0105 (-1.90)	-0.0081 (-1.54)	-0.0107* (-2.04)	-0.0061 (-1.03)
LDIF	-0.0973 (-1.61)	-0.0753 (-1.32)	-0.0805 (-1.42)	-0.0516 (-0.83)
SDIF	-0.0077 (-0.94)	-0.0060 (-0.77)	-0.0047 (-0.60)	-0.0012 (-0.15)

Univariate analysis of key variables for sub-samples of domestic and multinational firms over the period from 1995- 2015. Sub-samples are domestic and multinational firms based on below and above 10%, 20%, 30% and 50% thresholds of foreign assets ratio. Definitions of variables are detailed in table Appendix 1. All continuous variables are winsorized at the 1st and 99th percentile. For leverage, we employ standard t-tests and Wilcoxon rank sum Z tests. For capital raising, significance is reported for non-parametric Wilcoxon rank sum Z tests.

Multinational companies appear to increase their equity raising as the degree of internationalization increases. Estimates for international equity raising (XSIF) show that multinational firms raise more equity in international markets. Our results indicate that MNCs raise more equity than domestic firms at higher levels of internationalization. Further, descriptive statistics for a sample of multinational firms based on a 10% threshold for foreign assets ratio show differences in firm characteristics for firms raising equity in domestic markets and firms raising foreign equity. Firms that raise foreign equity are larger, have higher leverage profitability, asset tangibility and non-debt tax shields than firms that raise equity largely in the domestic market. Firms that raise domestic equity, however, have higher growth opportunities. (see Appendix 2).

5.2. Internationalization and capital structure decisions

To establish the financing differences between multinational and domestic firms, we examine the differences in leverage of multinational and domestic firms. We also test the sensitivity of leverage to the level of internationalization. We model leverage on a set of dummy variables indicating the degree of internationalization. Table 3 present estimates of equation (1) for book and market leverage using OLS with fixed effects and 2SLS in Panels A and B respectively. Panel C presents equation (1) including indicators of agency costs as explanatory variables. For brevity we only report our models in Panel C for the MNC30 threshold.

Prior empirical research has failed to reach a consensus on the measure of leverage which should be preferred as the basis for capital structure studies. There is also some evidence that managers do not consider market values when making decisions on target leverage ratios (Graham & Harvey, 2001). It is also common to use both approaches (Antoniou, Guney, & Paudyal, 2008; Booth, Aivazian, Demirguc-Kunt, & Maksimovic, 2001; Lemmon et al., 2008; Park et al., 2013). Given that the only difference between market leverage and book leverage is the measurement of the denominator in the market leverage calculation, we believe the underlying volatility of market values during the period of our sample makes market leverage is less suitable for our purposes. Nonetheless, we provide the market leverage models for comparison in Table 3.

In models 1 to 4, we test the effect of internationalization on the level of book leverage whilst market leverage is the dependent variable in models 5 to 8. The explanatory variable is MNC, which takes the value 1 for firms with a foreign assets ratio of above the given threshold (10%, 20%, 30% and 50%) and 0 otherwise. A set of control variables, which have been commonly found to influence capital structure decisions in previous studies, is included in our models.

Results in Panel A show that when using higher thresholds of international activity (MNC30 and MNC50), book leverage is found to be lower. This finding is consistent with prior studies

(Chen et al., 1997; Doukas & Pantzalis, 2003; Lee & Kwok, 1988; Reeb, Mansi & Allee, 2001), our evidence suggests that leverage of multinational and domestic firms does not differ at lower levels of internationalization. The results show that internationalization does not affect leverage or results in reduced leverage of multinational firms compared to their domestic counterparts, depending on the level of international activity.

Table 3: Leverage and internationalization.

Panel A	Book Leverage				Market Leverage			
	1	2	3	4	5	6	7	8
MNC10	-0.0032 (-0.53)				0.0061 (0.96)			
MNC20		-0.0058 (-1.21)				0.0062 (1.19)		
MNC30			-0.0107** (-2.39)				0.0007 (0.14)	
MNC50				-0.0126*** (-2.76)				-0.0056 (-1.14)
Firm Size	0.0227*** (6.22)	0.0232*** (6.30)	0.0233*** (6.37)	0.0230*** (6.31)	0.0383*** (9.78)	0.0379*** (9.62)	0.0385*** (9.84)	0.0387*** (9.92)
Growth Opportunities	0.0029* (1.80)	0.0030* (1.83)	0.0029* (1.79)	0.0028* (1.71)	-0.0099*** (-5.68)	-0.0100*** (-5.72)	-0.0100*** (-5.69)	-0.0100*** (-5.73)
Profitability	-0.2263*** (-10.16)	-0.2275*** (-10.20)	-0.2293*** (-10.29)	-0.2285*** (-10.27)	-0.2416*** (-9.97)	-0.2407*** (-9.92)	-0.2419*** (-9.97)	-0.2431*** (-10.03)
Asset Tangibility	0.0890*** (4.03)	0.0893*** (4.04)	0.0891*** (4.04)	0.0883*** (4.00)	0.0636*** (2.70)	0.0630*** (2.67)	0.0629*** (2.67)	0.0625*** (2.65)
Non-debt Tax Shields	-0.1619 (-1.38)	-0.1663 (-1.42)	-0.1696 (-1.45)	-0.1797 (-1.53)	-0.3519*** (-2.80)	-0.3453*** (-2.74)	-0.3478*** (-2.76)	-0.3555*** (-2.82)
Lagged Leverage	0.4708*** (37.52)	0.4709*** (37.54)	0.4713*** (37.61)	0.4703*** (37.53)	0.5093*** (33.68)	0.5089*** (33.65)	0.5092*** (33.61)	0.5095*** (33.70)
Intercept	-0.2122*** (-3.70)	-0.2177*** (-3.79)	-0.2161*** (-3.77)	-0.2113*** (-3.69)	-0.4244*** (-6.93)	-0.4185*** (-6.81)	-0.4240*** (-6.92)	-0.4239*** (-6.92)
Firm Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3240	3240	3240	3240	3240	3240	3240	3240
F	66.1693	66.2424	66.51	66.6289	114.5482	114.5883	114.4766	114.5785
F_p	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Adj. R-sq	0.8108	0.8108	0.8111	0.8113	0.7834	0.7835	0.7834	0.7835

Table 3 (continued)

Panel B		Book Leverage				Market Leverage			
MNC10	0.0007 (0.20)								-0.0004 (-0.13)
MNC20		0.0032 (1.00)							0.0042 (1.30)
MNC30			-0.0015 (-0.48)						-0.0006 (-0.19)
MNC50				-0.0014 (-0.44)					-0.0015 (-0.42)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3240	3240	3240	3240	3240	3240	3240	3240	3240
chi2	4715.3462	4754.5541	4713.5288	4711.3217	6488.8030	6454.4863	6505.5183	6502.4123	
Prob > chi2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Root MSE	0.0802	0.08018	0.0802	0.0802	0.0819	0.08191	0.08189	0.08189	0.7375
Adj. R-sq	0.7394	0.7395	0.7394	0.7394	0.7353	0.7352	0.7353	0.7353	

Panel C		Book Leverage			Market Leverage	
	Expense Ratio	Asset Utilisation	Free Cashflow	Expense Ratio	Asset Utilisation	Free Cashflow
	1	2	3	4	5	6
MNC30	-0.0115** (-2.46)	-0.0096** (-2.07)	-0.0102** (-2.19)	0.0005 (0.10)	0.0009 (0.18)	0.0006 (0.12)
Agency Costs Proxy	-0.0578*** (-3.08)	-0.0315*** (-4.63)	-0.2194*** (-3.82)	0.0231 (1.16)	-0.0191*** (-2.64)	-0.1618*** (-2.65)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3073	3073	3073	3073	3073	3073
F	59.9871	60.7348	60.3262	104.0930	104.5975	104.5998
F_p	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Adj. R-sq	0.8092	0.81	0.8096	0.7824	0.783	0.783

The table presents the regression results of equation (1) for multinational and domestic firms based on foreign asset ratio thresholds. The dependent variables are book and market leverage. MNC10, MNC20, MNC30 and MNC50 are dummy variables (based on 10%, 20%, 30% and 50% of foreign assets ratio respectively) which take the value of 1 if foreign assets is above the threshold and 0 if otherwise. Equation (1) is estimated using the OLS with fixed effects (Panel A) and 2SLS (Panel B) models. Panel C presents models with agency costs proxy variables to demonstrate the effect of agency costs on capital structure. We report estimates for Chi-square and Root Mean Standard error to examine the validity of instruments and suitability of model specification. Variables are defined in table Appendix 1. The coefficients are significant from zero at 1%, 5% and 10% levels marked with ***, ** and * respectively and numbers in parenthesis are corresponding t-statistics. All continuous variables are winsorized at the 1st and 99th percentile.

Estimates in Panel B suggest that multinational and domestic leverage do not differ for any of the thresholds of internationalization when 2SLS models are used which is consistent with Park et al., (2013) for US MNC leverage. This evidence suggests that regardless of the level of international activity, multinational and domestic leverage does not differ. Although owning

subsidiaries or having affiliates in different countries offers favorable debt financing benefits, managers choose not to exploit the financing benefits associated with international diversification.

Panel C presents results for equation 1 based on the 30% threshold for international activity. For the expense ratio and free cashflow models, leverage is negatively related to the agency costs proxy which is consistent with the agency cost view. On the other hand, asset utilization is positively related to leverage indicating that international firms use their assets more effectively. Our findings in Table 3 offer support for an agency explanation of the multinational leverage puzzle. Agency costs associated with internationalization may explain decreased leverage (Doukas & Pantzalis, 2003). The findings suggest that for MNCs with foreign assets of 30% or more, internationalization is associated with a lower level of debt. There are two possible agency explanations, and both relate to agency costs and information asymmetry. The first explanation is that risks associated with geographical diversification may outweigh the potential benefits of debt financing associated with internationalization. Poor decision-making or a lack of control of international subsidiaries, either of which may be due to information asymmetry between parent and subsidiary management, are possible explanations (Wright et al., 2002). Another explanation would be that managers simply choose equity over debt as companies become more international. In this case, information asymmetry between the managers and shareholders increases as companies become more geographically separated. Managers may then favor equity, which *ceteris paribus* implies a greater cost of capital for shareholders. Both explanations suggest agency costs affect financing decisions as companies become more international.

5.3. Internationalization and capital raising decisions

Lower leverage implies higher use of equity funding to finance investment decisions. However, using book or market leverage as the measure of debt in the capital structure captures neither the change in capital raising (debt or equity) nor the decision made by managers to raise or lower financial capital employed. Depending on the choice of measure of capital structure, leverage can fall due to increases in equity prices or by the issuance of more equity. Increases in equity prices or greater equity capitalization may also outpace growth of debt, leading to lower leverage. Similarly, if equity prices fall or stock is repurchased then leverage may fall. Mergers and acquisitions, asset prices and accounting policies may affect the value of total assets but not the value of debt in the numerator in leverage calculations. Hence, to establish how internationalization affects capital structure, it is necessary to examine capital raising decisions, i.e. the choice between debt and equity as companies become more international. In this section, we examine the changes in overall debt and equity capital in response to changes in internationalization We begin with debt capital.

5.3.1. Debt raising decisions

Table 4 shows the results of OLS with fixed effects and 2SLS regressions for equation (3) in Panels A and B respectively for changes in debt (DIF) on the internationalization proxies. Results in Panel A show a negative relationship between internationalization and changes in debt at MNC30 ($p < 0.01$) and MNC50 ($p < 0.05$). Multinational firms engaged in higher levels of international activity raise less debt financing than domestic firms. In the 2SLS models in Panel B, we find only weak associations between leverage and debt issuance (MNC20 and MNC50). Estimates of other categories in Panel A and B show no different in the debt financing choice between multinational and domestic firms.

Table 4: Internationalization and debt raising.

Panel A	Debt Inflation Factor (DIF)			
	1	2	3	4
MNC10	-0.0099 (-0.86)			
MNC20		-0.0101 (-1.09)		
MNC30			-0.0262*** (-3.03)	
MNC50				-0.0185** (-2.11)
Firm Size	0.0415*** (5.89)	0.0421*** (5.94)	0.0426*** (6.07)	0.0416*** (5.92)
Growth Opportunities	0.005 (1.58)	0.0051 (1.61)	0.005 (1.58)	0.0048 (1.52)
Profitability	-0.2019*** (-4.72)	-0.2036*** (-4.75)	-0.2090*** (-4.88)	-0.2048*** (-4.78)
Asset Tangibility	0.0747* (1.76)	0.0758* (1.79)	0.0752* (1.77)	0.0744* (1.75)
Non-debt Tax Shields	-2.7314*** (-12.10)	-2.7417*** (-12.15)	-2.7509*** (-12.21)	-2.7611*** (-12.23)
Intercept	-0.4938*** (-4.48)	-0.5034*** (-4.56)	-0.5030*** (-4.57)	-0.4929*** (-4.48)
Firm Effects	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes
Observations	2870	2870	2870	2870
F	16.8866	16.9051	17.3203	17.0867
F_p	0.0000	0.0000	0.0000	0.0000
Adj. R-sq	0.1806	0.1808	0.1835	0.182

Panel B	Debt Inflation Factor (DIF)			
	1	2	3	4
MNC10	0.0041 (0.94)			
MNC20		0.0067* (1.67)		
MNC30			0.0049 (1.22)	
MNC50				0.0072* (1.72)
Controls	Yes	Yes	Yes	Yes
Firm Effects	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes
Observations	2870	2870	2870	2870
chi2	211.4595	211.4475	211.6539	210.9154
Prob > chi2	0.0000	0.0000	0.0000	0.0000
Root MSE	0.09776	0.09779	0.0978	0.09776
Adj. R-sq	-0.0004	-0.0011	-0.0013	-0.0003

Table 4 (Continued)

Panel C	DIF		
	Expense Ratio	Asset Utilisation	Free Cashflow
	1	2	3
MNC30	-0.1363** (-2.36)	-0.0436** (-2.56)	-0.0193 (-1.61)
MNC30 x Agency Costs Proxy ⁸	0.1210* (1.89)	0.0181 (1.41)	-0.0681 (-0.92)
Agency Costs Proxy	-0.1928*** (-4.15)	-0.1060*** (-7.60)	-0.0309 (-0.27)
Controls	Yes	Yes	Yes
Firm Effects	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes
Observations	2842	2842	2842
F	16.7069	18.5849	16.0294
F_p	0.0000	0.0000	0.0000
Adj. R-sq	0.1886	0.2012	0.1833

The table presents the regression results of Eq. (3). The dependent variable is Debt Inflation Factor (DIF), which is estimated using Eq. (2). MNC10, MNC20, MNC30 and MNC50 are dummy variables (based on 10%, 20%, 30% and 50% of foreign assets ratio respectively) which take the value of 1 if foreign assets is above the threshold and 0 if otherwise. Equation (3) is estimated using the OLS with fixed effects (Panel A) and 2SLS (Panel B) models. Panel C presents models with agency costs proxy variables and its interaction with multinational dummy variables to demonstrate the effect of agency costs on debt raising. We report estimates for Chi-square and Root Mean Standard Error to examine the validity of instruments and suitability of model specification. Variables are defined in table Appendix 1. The coefficients are significant from zero at 1%, 5% and 10% levels marked with ***, ** and * respectively and numbers in parenthesis are corresponding t-statistics. All continuous variables are winsorized at the 1st and 99th percentile.

Further analysis in Panel C examining the effect of agency costs on leverage decisions shows that the agency cost proxies are negatively related to debt raising but the interaction terms between agency cost and MNC30 display little significance.⁹

The findings suggest that international exposure does not lead to managers increasing debt financing. Negative values for new debt will logically result in lower leverage if the denominator in our measures of leverage remains unchanged. The evidence presented here suggests that managers choose not to increase debt financing despite favorable debt terms (Comment & Jarrell, 1995). One explanation for this phenomenon is that managers choose to

⁸ Barth et al. (2001) argue that asset tangibility could be a proxy for information asymmetry. This is because tangible assets are easier to recognise and measure than intangible assets. A higher level of tangibility indicates a lower level of information asymmetry. To control for information asymmetry, we add interaction term "Asset tangibility×MNC30" in the model as an additional test. Our results (not reported) show that the coefficient for this interaction term is not statistically significant.

⁹ Panel C presents estimates for equation (3) with an additional variable that measures agency costs associated with internationalization. This measure is an interaction between three agency costs proxies and MNC30.

maintain flexibility to exploit growth opportunities as their company becomes more international. However, with increased flexibility comes reduced accountability and higher agency costs (Lee & Kwok, 1988).

5.3.2. Equity raising decisions

To exploit growth opportunities in the process of becoming more international, companies must raise new capital. If debt is not to be used then the alternative is to raise equity. In Table 5, we provide evidence that MNCs raise more new equity than domestic firms. Following Danbolt et al., (2018), in order to circumvent the issue of changes in equity prices which simply result from market movements, this study adopts the estimation of the effect of internationalization on equity raising using the Share Inflation Factor (SIF) approach and controls for a set of factors which might be expected to affect equity raising. For the tests in Table 5, consolidated equity financing is computed by combining equity financing raised in both domestic and international markets to estimate the level of international equity raising (ISIF). The effect of internationalization on equity raising within the domestic market is examined as an indication of robustness tests in later sections.

According to Akhtar (2017), although MNCs have access to international financial markets that can lower their cost of capital, the additional risks associated with international financing could potentially reduce debt capital raising. It is clear from the results in Table 5 that MNCs prefer to raise new equity to debt. Out of the original sample of 638 companies (3494 observations), there are 300 companies (3133 observations) that are cross listed and only 27 companies (145 observations) raise equity outside the domestic market. UK multinational firms prefer to raise equity in the domestic market. Focusing on overall equity raising, coefficients in Panel A show positive effects for all internationalization variables except MNC10. A policy of increased equity financing is most pronounced in the MNC20 and MNC50 categories with $p < 0.01$ and MNC30 category with $p < 0.05$. Only the MNC10 category is not significant, which

reflects the lower threshold for a company to be considered as multinational. Estimates presented in Panel B show that international activity increases equity raising of multinational firms operating in all categories, although results show weak significance at MNC20 ($p < 0.1$). Results show that while increases in debt are significantly weak, as shown in Table 4 Panel B, increases in equity financing in Table 5 Panel B are both economically and statistically significant. Results reported in Panel C show that agency costs are positive for MNCs and strongly significant for equity raising for the expense ratio model, implying that equity raising by international firms is associated with higher expenses consistent with the agency view.

Table 5: Internationalization and equity raising (domestic and international markets).

Panel A	Share Inflation Factor (ISIF)			
	1	2	3	4
MNC10	0.0108 (0.80)			
MNC20		0.0291*** (2.65)		
MNC30			0.0220** (2.17)	
MNC50				0.0344*** (3.43)
Firm Size	0.0088 (1.01)	0.0065 (0.75)	0.0077 (0.88)	0.0078 (0.90)
Growth Opportunities	-0.0042 (-1.10)	-0.0045 (-1.16)	-0.0042 (-1.09)	-0.0038 (-0.98)
Return on Equity	-0.0001* (-1.70)	-0.0001 (-1.49)	-0.0001 (-1.59)	-0.0001 (-1.61)
Dividend Yield	-0.0098*** (-4.65)	-0.0098*** (-4.66)	-0.0097*** (-4.61)	-0.0097*** (-4.62)
Leverage	0.0183 (0.48)	0.0167 (0.44)	0.018 (0.47)	0.0214 (0.56)
Intercept	-0.0979 (-0.74)	-0.0744 (-0.56)	-0.0861 (-0.65)	-0.0918 (-0.69)
Firm Effects	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes
Observations	2870	2870	2870	2870
F	6.0263	6.3075	6.2053	6.518
F_p	0.0000	0.0000	0.0000	0.0000
Adj. R-sq	0.1597	0.162	0.1612	0.1636

Table 5 (Continued)

Panel B	Share Inflation Factor (ISIF)			
	1	2	3	4
MNC10	0.0253*** (2.61)			
MNC20		0.0180* (1.86)		
MNC30			0.0262** (2.51)	
MNC50				0.0354*** (2.62)
Controls	Yes	Yes	Yes	Yes
Firm Effects	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes
Observations	2870	2870	2870	2870
chi2	59.3404	60.8494	60.8156	59.8017
Prob > chi2	0.0000	0.0000	0.0000	0.0000
Root MSE	0.2374	0.2376	0.2375	0.2373
Adj. R-sq	-0.0049	-0.0067	-0.0058	-0.0041

Panel C	ISIF		
	Expense Ratio	Asset Utilisation	Free Cashflow
	1	2	3
MNC30	-0.1512** (-2.34)	0.0285 (1.47)	0.0334** (2.47)
MNC30 x Agency Costs Proxy	0.1944*** (2.72)	-0.0052 (-0.35)	-0.1102 (-1.28)
Agency Costs Proxy	-0.0078 (-0.15)	-0.0166 (-1.06)	-0.0637 (-0.91)
Controls	Yes	Yes	Yes
Firm Effects	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes
Observations	2862	2862	2862
F	6.1021	5.7908	5.9475
F_p	0.0000	0.0000	0.0000
Adj. R-sq	0.1638	0.1610	0.1627

The table presents the regression results of Eq. (5). The dependent variable is consolidated Share Inflation Factor (ISIF), which is estimated using Eq. (4). MNC10, MNC20, MNC30 and MNC50 are dummy variables (based on 10%, 20%, 30% and 50% of foreign assets ratio respectively) which take the value of 1 if foreign assets is above the threshold and 0 if otherwise. Equation (5) is estimated using the OLS with fixed effects (Panel A) and 2SLS (Panel B) models. Panel C presents models with agency costs proxy variables and its interaction with multinational dummy variables to demonstrate the effect of agency costs on equity raising. We report estimates for Chi-square and Root Mean Standard Error to examine the validity of instruments and suitability of model specification. Variables are defined in table Appendix 1. The coefficients are significant from zero at 1%, 5% and 10% levels marked with ***, ** and * respectively and numbers in parenthesis are corresponding t-statistics. All continuous variables are winsorized at the 1st and 99th percentile.

We also split our sample to examine if our results are similar before and after the Global Financial Crisis (not reported). The results show that the significance of the expense ratio

finding is associated with the period prior to 2010 and is not significant in the period after the crisis. Results for asset utilization and free cashflow models are not statistically significant.

Multinational firms raise more equity financing than domestic firms providing support for our hypothesis and that the choice of equity financing over debt financing is associated with agency costs. Karolyi (1998) and Pagano, Röell, and Zechner (2002) argue that MNCs have access to favorable terms for equity raising. Although internationalization enhances access to favorable financing terms, particularly debt financing, given that there are very few instances of international equity raising in our sample, we can surmise that managers choose to raise expensive equity within domestic market rather than cheaper debt. The dispersed nature of equity shareholdings and agency problems associated with parent/subsidiary management encourages managers to prefer equity to debt financing as their companies become more international. Increased equity in the financing mix offers financial flexibility but reduced managerial scrutiny.

6. Robustness

We test the validity of our results to different measures of internationalization, debt raising and equity raising by re-estimating equations using the OLS with fixed effects and 2SLS regressions. Firstly, we re-estimate equation (1) using the alternative proxy for internationalization, i.e. foreign sales ratio. Foreign sales ratio is an indication of income generated by the firm outside the domestic market. For this test, we construct the dummy variable MUL (which takes the value of 1 if foreign sales ratio exceeds a specified threshold and 0 otherwise). We then re-estimate equation (1) using the continuous variable foreign assets ratio in order to conduct tests for non-linearity. The third additional test examines the robustness of debt and equity raising models by estimating long and short-term debt raising

and domestic equity raising. Finally, we examine whether our omitted sample firms and observations are similar in nature to the sample used in our main tests.

Table 6: Leverage comparison of multinational and domestic firms.

Panel A	Book Leverage				Market Leverage			
	1	2	3	4	5	6	7	8
MUL10	-0.0042 (-0.57)				0.0009 (0.12)			
MUL20		-0.0064 (-0.91)				0.0066 (0.88)		
MUL30			-0.008 (-1.23)				0.0079 (1.15)	
MUL50				-0.0082 (-1.47)				-0.0167*** (-2.84)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3240	3240	3240	3240	3240	3240	3240	3240
F	61.4518	61.4836	61.5252	61.5665	108.104	108.1654	108.2093	108.7491
F_p	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Adj. R-sq	0.8082	0.8082	0.8083	0.8083	0.7825	0.7826	0.7826	0.7832

Panel B	Book Leverage				Market Leverage			
	1	2	3	4	5	6	7	8
MUL10	-0.0014 (-0.35)				0.0004 (0.13)			
MUL20		-0.0004 (-0.10)				-0.0005 (-0.16)		
MUL30			0.0001 (0.04)				-0.0006 (-0.19)	
MUL50				-0.0004 (-0.14)				-0.0069** (-2.25)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3240	3240	3240	3240	3240	3240	3240	3240
chi2	5037.2202	5021.7296	5028.3622	5042.7256	7614.8216	7643.3874	7639.7769	7693.7815
chi2p	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Root MSE	0.0843	0.0843	0.0843	0.0843	0.0818	0.0818	0.0818	0.0818
Adj. R-sq	0.7235	0.7235	0.7235	0.7235	0.7348	0.7349	0.7349	0.7354

The table presents the regression results of equation (1). The dependent variables are book and market leverage. MUL10, MUL20, MUL30 and MUL50 are dummy variables (based on 10%, 20%, 30% and 50% of foreign sales ratio respectively) which take the value of 1 if foreign sales ratio is above the threshold and 0 if otherwise. Equation (1) is estimated using the OLS with fixed effects (Panel A) and 2SLS (Panel B) models. We report estimates for Chi-square and Root Mean Standard Error to examine the validity of instruments and suitability of model specification. Variables are defined in table Appendix 1. The coefficients are significant from zero at 1%, 5% and 10% levels marked with ***, ** and * respectively and numbers in parenthesis are corresponding t-statistics. All continuous variables are winsorized at the 1st and 99th percentile.

Estimates in Table 6 Panel A show that domestic and MNC leverage do not differ using the MUL except MUL50 for market leverage. Results confirm there is no difference in leverage between multinational and domestic firms based on the level of international activity for both

measures of internationalization except MUL50. Despite a relatively high correlation in our sample of 0.679 between foreign sales and foreign assets ratios, estimates report some differences in the level at which multinational leverage differs from domestic leverage. Our results confirm our view that foreign assets and foreign sales are not substitutes when measuring internationalization.

Table 7: Non-linearity of internationalization and leverage.

Panel A	Book Leverage			Market Leverage		
	1	2	3	4	5	6
Foreign Assets	-0.0242** (-2.39)	-0.022 (-0.79)	0.0285 (0.49)	0.005 (0.46)	0.0114 (0.38)	0.0824 (1.34)
Foreign Assets squared		-0.0024 (-0.08)	-0.1436 (-1.00)		-0.0071 (-0.23)	-0.2056 (-1.34)
Foreign Assets cubed			0.1025 (1.00)			0.1442 (1.32)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3240	3240	3240	3240	3240	3240
F	66.5075	64.0214	61.7709	114.4921	110.2155	106.3695
F_p	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Adj. R-sq	0.8038	0.8037	0.8037	0.7834	0.7833	0.7834

Panel B	Book Leverage			Market Leverage		
	1	2	3	4	5	6
Foreign Assets ratio	0.0005 (0.09)	0.0094 (0.52)	0.0158 (0.40)	0.0028 (0.45)	-0.0084 (-0.45)	0.0182 (0.46)
Foreign Assets ratio Square		-0.0116 (-0.52)	-0.0323 (-0.29)		0.0147 (0.62)	-0.0714 (-0.61)
Foreign Assets ratio Cube			0.016 (0.19)			0.067 (0.73)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3240	3240	3240	3240	3240	3240
chi2	4702.8848	4716.2381	4715.0763	6481.7397	6482.2041	6487.1364
Prob > chi2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Root MSE	0.0802	0.0802	0.0802	0.0819	0.0819	0.0819
Adj. R-sq	0.7394	0.7394	0.7393	0.7352	0.7352	0.7352

This table presents the regression results of equation (1) using the continuous variable for foreign assets ratio. The dependent variables are book and market leverage. Models are estimated using the OLS with fixed effects (Panel A) and 2SLS (Panel B) models. We report estimates for Chi-square and Root Mean Standard Error to examine the validity of instruments and suitability of model specification. Variables are defined in table Appendix 1. The coefficients are significant from zero at 1%, 5% and 10% levels marked with ***, ** and * respectively and numbers in parenthesis are corresponding t-statistics. All continuous variables are winsorized at the 1st and 99th percentile.

Table 7 presents results on how multinationalness measured as the continuous value of foreign assets ratio affect leverage and the potential non-linear relationship between leverage and internationalization using the squared and cubed values of foreign assets. Such an effect would indicate whether at higher and lower levels of internationalization, the relationship with

leverage is stronger. Models 1 to 3 use internationalization using book leverage and models 4 to 6 using market leverage. Equation (1) is re-estimated using both OLS with fixed effects and two-staged least square regressions in Panels A and B respectively. The continuous value for foreign assets ratio is significant in our models which confirms the effect of internationalization on leverage and provides a potential avenue for further research. There are no significant non-linear effects.

Table 8: Long and short-term debt raising and internationalization

Panel A	Long-Term Debt Inflation Factor (LDIF)				Short-Term Debt Inflation Factor (SDIF)			
	1	2	3	4	5	6	7	8
MNC10	0.0479 (0.35)				-0.0246 (-1.21)			
MNC20		-0.0156 (-0.14)				-0.015 (-0.92)		
MNC30			-0.1092 (-1.08)				-0.0185 (-1.24)	
MNC50				-0.0012 (-0.01)				-0.0118 (-0.79)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2870	2870	2870	2870	2870	2870	2870	2870
F	4.2942	4.2899	4.3399	4.2891	3.4792	3.4534	3.4828	3.4436
F_p	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Adj. R-sq	0.0818	0.0818	0.0822	0.0818	-0.0229	-0.0232	-0.0229	-0.0233

Panel B	Long-Term Debt Inflation Factor (LDIF)				Short-Term Debt Inflation Factor (SDIF)			
	1	2	3	4	5	6	7	8
MNC10	0.0067 (0.10)				0.0051 (0.59)			
MNC20		0.0241 (0.42)				0.0047 (0.57)		
MNC30			0.0408 (0.75)				0.006 (0.75)	
MNC50				0.0498 (0.82)				0.0079 (0.88)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2870	2870	2870	2870	2870	2870	2870	2870
chi2	70.4774	69.3049	67.2399	66.937	56.235	56.2109	56.1744	56.5575
Prob > chi2	0.0000	0.0000	0.0000	0.0000	0.0002	0.0002	0.0002	0.0002
Root MSE	1.3445	1.3446	1.3447	1.3445	0.19121	0.19122	0.19122	0.1912
Adj. R-sq	-0.007	-0.0071	-0.0072	-0.0069	0.0056	0.0055	0.0054	0.0057

The table presents the regression results of equation (3). The dependent variables are Long-Term Debt Inflation Factor (LDIF) and Short-Term Debt Inflation Factor (SDIF). MNC10, MNC20, MNC30 and MNC50 are dummy variables (based on 10%, 20%, 30% and 50% of foreign assets ratio respectively) which take the value of 1 if foreign assets is above the threshold and 0 if otherwise. Equation (3) is estimated using the OLS with fixed effects (Panel A) and 2SLS (Panel B) models. We report estimates for Chi-square and Root Mean Standard Error to examine the validity of instruments and suitability of model specification. Variables are defined in table Appendix 1. The coefficients are significant from zero at 1%, 5% and 10% levels marked with ***, ** and * respectively and numbers in parenthesis are corresponding t-statistics. All continuous variables are winsorized at the 1st and 99th percentile.

Table 9: Internationalization and domestic equity raising.

Panel A	Domestic Share Inflation Factor (DSIF)			
	1	2	3	4
MNC10	0.0078 (0.61)			
MNC20		0.0235** (2.26)		
MNC30			0.0160* (1.66)	
MNC50				0.0366*** (3.86)
Controls	Yes	Yes	Yes	Yes
Firm Effects	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes
Observations	2870	2870	2870	2870
F	5.517	5.7252	5.6225	6.1545
F_p	0.0000	0.0000	0.0000	0.0000
Adj. R-sq	0.1599	0.1616	0.1608	0.1649

Panel B	Domestic Share Inflation Factor (DSIF)			
	1	2	3	4
MNC10	0.0221** (2.25)			
MNC20		0.0146 (1.48)		
MNC30			0.0211** (1.97)	
MNC50				0.0278** (2.04)
Firm Size	-0.0087**	-0.0083**	-0.0090**	-0.0092**
Industry Effects	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes
Observations	2870	2870	2870	2870
chi2	46.8469	47.7335	47.3098	46.8702
Prob > chi2	0.0023	0.0018	0.002	0.0023
Root MSE	0.2383	0.2386	0.2385	0.2384
Adj. R-sq	-0.0052	-0.0067	-0.0067	-0.0056

The table presents the regression results of equation (5) estimating the equity raising behavior of multinational firms in comparison with domestic firms. The dependent variable is Domestic Share Inflation Factor (DSIF), which is estimated using equation (4). MNC10, MNC20, MNC30 and MNC50 are dummy variables (based on 10%, 20%, 30% and 50% of foreign assets ratio respectively) which take the value of 1 if foreign assets is above the threshold and 0 if otherwise. Equation (5) is estimated using the OLS with fixed effects (Panel A) and 2SLS (Panel B) models. We report estimates for Chi-square and Root Mean Standard Error to examine the validity of instruments and suitability of model specification. Variables are defined in table Appendix 1. The coefficients are significant from zero at 1%, 5% and 10% levels marked with ***, ** and * respectively and numbers in parenthesis are corresponding t-statistics. All continuous variables are winsorized at the 1st and 99th percentile.

Additional robustness modeling for capital raising decisions is presented in Tables 8 and 9. In Table 8, equation (3) is re-estimated to examine how international activity affects changes in debt using changes in long-term debt (LDIF) and short-term debt (SDIF) using both fixed effects and two-stage least square regressions in Panels A and B respectively. The results show that internationalization does not affect debt raising decisions regardless of the maturity of the debt i.e. short or long debt.

To confirm the effect of internationalization on the equity raising behavior of multinational firms, we estimate models of equity raising using only domestic equity raising (DSIF) in Table 9. The results are similar to the results in Table 5, which uses a consolidated measure of new equity financing except MNC20 in Panel B of Table 9 showing no effect. The MNC10 threshold yields insignificant results in both tables. The evidence in Tables 5 and 8 confirm that MNCs raise more equity financing than domestic firms at higher levels of internationalization, and these results are robust to alternative specifications and econometric estimations.

The final robustness check is to confirm that the characteristics of the final sample are similar to those of the full sample before cleaning the data based on international variables availability. To this end, in Table 10, we estimate models for full sample, sample with internationalization data and sub-sample excluding the internationalization proxy, which results in the most missing data. Models 1 to 3 use book leverage and models 4 to 6 are market leverage. Only controls, year and industry effects are included in models estimated using the two-stage least square regression. Comparison of the results from the full sample with the internationalization sample and the non-internationalization sample indicate similar significance of the capital structure controls in book and market leverage models.

Table 10: Comparison of leverage tests excluding the internationalization proxy.

	Book Leverage			Market Leverage		
	1	2	3	4	5	6
Firm Size	0.0019 (1.41)	0.0015 (0.98)	0.0031 (1.29)	0.0058*** (5.42)	0.0054*** (4.55)	0.0079*** (3.31)
Growth Opportunities	-0.0037 (-1.02)	-0.0051 (-1.11)	-0.0022 (-0.38)	-0.0017 (-1.04)	-0.0031 (-1.23)	0.0002 (0.1)
Profitability	0.024 (0.36)	0.0308 (0.50)	0.0229 (0.17)	0.0118 (0.36)	0.0315 (0.61)	-0.012 (-0.29)
Asset Tangibility	0.0169** (2.48)	0.0234*** (3.18)	-0.0066 (-0.41)	0.0307*** (4.66)	0.0305*** (4.08)	0.0287* (1.91)
Non-Debt Tax Shields	0.0883 (1.35)	0.1409* (1.89)	-0.0499 (-0.34)	-0.0538 (-0.92)	-0.0374 (-0.61)	-0.06 (-0.40)
Lagged Leverage	0.8470*** (51.33)	0.8360*** (42.37)	0.8786*** (30.71)	0.8141*** (59.00)	0.8173*** (50.55)	0.8020*** (29.22)
Intercept	0.0027 (0.11)	0.0107 (0.41)	-0.0209 (-0.42)	-0.0633*** (-3.78)	-0.0574*** (-3.06)	-0.0947** (-2.54)
Industry Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4055	3150	905	4055	3150	905
chi2	5656.9925	4702.8448	1692.2561	8689.9837	6467.9622	2452.4367
Prob > chi2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Root MSE	0.0838	0.0802	0.0948	0.0826	0.0819	0.0839
Adj. R-sq	0.728	0.7395	0.6909	0.7351	0.7353	0.7332

The table presents regression results for a full sample of data, a sub-sample based on data available for the internationalization measure (but excluding the internationalization proxy) and a sample of data including data excluded from analysis due to data unavailability for internationalization measure (and excluding the internationalization proxy). Dependent variables are book and market leverage. Model 1 (book) and 4 (market) are capital structure regressions using the full sample available without the inclusion of the internationalization proxy. Models 2 (book) and 5 (market) are leverage regressions using the sample available for internationalization tests in Tables 3 to 6, and models 3 (book) and 6 (market) are leverage regressions using only companies for which the internationalization proxy was unavailable. Models are estimated using 2SLS models. Chi-square and Root Mean Standard Error are reported to examine the validity of instruments and suitability of model specification. Variables are defined in table Appendix 1. The coefficients are significant from zero at 1%, 5% and 10% levels marked with ***, ** and * respectively and numbers in parenthesis are corresponding t-statistics. All continuous variables are winsorized at the 1st and 99th percentile.

7. Conclusion

This study examines whether internationalization has implications for financing decisions for multinational firms. Previous research has compared the leverage policies of domestic and multinational companies and these studies have generally found multinational firms use lower levels of leverage despite the theoretical benefits available to such firms associated with the increased use of debt financing (Akhtar, 2017; Burgman, 1996; Doukas & Pantzalis, 2003; Lemmon et al., 2008). Through the lens of the agency perspective of Mittoo & Zhang (2008),

we extend previous research by examining capital raising decisions and their effect on leverage. From a large sample of UK companies, after controlling for variables commonly found to influence capital structure, the evidence confirms the finding of Park et al., (2013) that multinational and domestic leverage do not differ. Increased access to financial markets and geographical diversification do not lead firms to raise leverage in our tests.

To examine the effect of financing decisions made by managers on the capital structure of MNCs, we test the effect of internationalization on capital raising i.e. new debt and new equity raising. Here we find some support for the agency perspective. In our tests, differences between domestic and multinational debt raising behavior are insignificant or negative. Despite the higher cost of equity capital, MNCs prefer to raise new equity. Equity raising is positively associated with internationalization and an interaction term between internationalization and the expense ratio is also significant and positive. We find almost no evidence of a relationship between debt raising and the level of internationalization. Significant increases in equity raising due to internationalization largely explain the leverage puzzle. The net effect of increased equity financing, and stable or lower debt financing as companies become more international, is that debt-equity ratios will decrease for MNCs.

We interpret that the choice of equity over cheaper debt financing by MNCs indicates the presence of agency costs as our results show that internationalization reduces leverage whilst multinational firms prefer to raise equity to debt. It is a commonly stated view that larger companies use lower levels of leverage to preserve the flexibility to exercise growth opportunities as they arise (DeAngelo & DeAngelo, 2007). Our tests suggest that companies may be doing just this. One avenue for future research would be to examine the impact of internationalization by M&A on leverage and capital raising decisions. It would also be interesting to establish whether the flexibility afforded to companies by the lower levels of debt results in value creation or whether agency costs, arising from geographic separation of

ownership and control, international coordination of home and host operations and debt monitoring, result in weaker MNC performance.

Appendix 1: Variable definitions.

Data is collected from DataStream, Osiris and company annual reports. Other variables are based on calculations by authors.

Panel A

Variable	Measurement
<i>Capital Structure</i>	
Book Leverage	Book Value of debt/ Book value of assets
Market Leverage	Book value of debt/ (Book value of debt + market value of equity)
DIF	$(\text{Total debt}_t - \text{Total debtt-1}) / \text{Total Assetst-1}$
LDIF	$(\text{Long term debt}_t - \text{Long term debtt-1}) / \text{Fixed Assetst-1}$
SDIF	$(\text{Short term debt}_t - \text{Short term debtt-1}) / \text{Current Assetst-1}$
NOSH	Numbers of shares raised in the domestic market
Cumulative NOSH	Domestic NOSH + NOSH raised in international markets
DSIF	$(\text{NOSH}_t - \text{NOSHt-1}) / \text{Cumulative NOSHt-1}$
ISIF	$(\text{Cumulative NOSH}_t - \text{Cumulative NOSHt-1}) / \text{Cumulative NOSHt-1}$
<i>Measure of degree of internationalization</i>	
MNC10	A dummy variable where 1 denotes foreign assets ratio of at least 10% and 0 if otherwise
MNC20	A dummy variable where 1 denotes foreign assets ratio of at least 20% and 0 if otherwise
MNC30	A dummy variable where 1 denotes foreign assets ratio of at least 30% and 0 if otherwise
MNC50	A dummy variable where 1 denotes foreign assets ratio of at least 50% and 0 if otherwise
MUL10	A dummy variable where 1 denotes foreign sales ratio of at least 10% and 0 if otherwise
MUL20	A dummy variable where 1 denotes foreign sales ratio of at least 20% and 0 if otherwise
MUL30	A dummy variable where 1 denotes foreign sales ratio of at least 30% and 0 if otherwise
MUL50	A dummy variable where 1 denotes foreign sales ratio of at least 50% and 0 if otherwise
DOM	Firms year observations with foreign sales ratio or foreign assets ratio of 0%

Panel B

Variable	Measurement
<i>Firm-Level Determinants</i>	
Profitability	Earnings before interest and tax / Book value of total assets
Firm Size	Natural Log of Total assets
Assets Tangibility	$\text{PPE} / \text{Total assets} = \text{Property, Plant and Equipment} / \text{Total Assets}$
Growth opportunities	$\text{Tobin's Q} = (\text{Total assets} + \text{Market Value of Equity} - \text{Book Value of Equity}) / \text{Total Assets}$
Non- Debt tax shield	$\text{Annual Depreciation} / \text{Total Assets}$
Dividend Yield	$\text{Dividend per share} / \text{Price Per Share}$
Return on Equity	$\text{Net Income} / \text{Common Equity}$
Lagged Book Leverage	$\text{Book Leverage}_{t-1}$
Lagged Market Leverage	$\text{Market Leverage}_{t-1}$
Expense Ratio	$\text{Operating Expenses} / \text{Total Sales}$
Asset Utilisation	$\text{Total Sales} / \text{Total Assets}$
Free Cashflow	$(\text{Operating Incomes before Depreciation}_{it} - \text{Interest Expense}_{it} - \text{Taxes}_{it} - \text{Dividend}_{it}) / \text{Total Assets}$
Foreign Sales ratio	$(\text{Foreign Sales} / \text{Total Sales}) \times 100$
Foreign Assets ratio	$(\text{Foreign Assets} / \text{Total Assets}) \times 100$

Appendix 2: Descriptive statistics: comparison of foreign and domestic equity.

Panel A : Foreign Equity	MNC10					
	N	Mean	Median	Std. Dev	Minimum	Maximum
Book Leverage	84	0.2735	0.2594	0.1237	0.0429	0.5424
Market Leverage	84	0.2589	0.2455	0.1394	0.0134	0.6498
Firm Size	84	33.6000	13.5000	41.6000	0.3961	138.0000
Growth Opportunities	84	1.6798	1.4517	0.7671	0.6505	4.1420
Profitability	84	0.1204	0.1135	0.0758	-0.2331	0.3286
Asset Tangibility	84	0.3568	0.2463	0.2496	0.0211	0.7799
Non-Debt Tax Shields	84	0.0515	0.0508	0.0164	0.0207	0.1323

Panel B: Domestic Equity	MNC10					
	N	Mean	Median	Std. Dev	Minimum	Maximum
Book Leverage	2058	0.2473	0.2366	0.1440	0.0000	0.8049
Market Leverage	2058	0.2159	0.1918	0.1517	0.0000	0.7574
Firm Size	2058	7.1915	1.6638	19.8000	0.0665	138.0000
Growth Opportunities	2058	1.9070	1.6117	1.1312	0.6505	13.5146
Profitability	2055	0.0987	0.0950	0.0836	-0.2331	0.4432
Asset Tangibility	2058	0.2915	0.2556	0.2028	0.0053	0.9076
Non-Debt Tax Shields	2057	0.0463	0.0411	0.0257	0.0011	0.1551

The table shows a comparison of the descriptive statistics for leverage and firm characteristics for multinational firms raising foreign equity and domestic equity. A threshold for ‘multinationalness’ of at least 10% of foreign assets is adopted for this table. Definitions of variables are detailed in Appendix 1. All continuous variables are winsorized at the 1st and 99th percentile.

References

- Agmon, T., & Lessard, D. R. (1977). Investor recognition of corporate international diversification. *The Journal of Finance*, 32(4), 1049-1055.
- Akhtar, S. (2005). The determinants of capital structure for Australian multinational and domestic corporations. *Australian Journal of Management*, 30(2), 321-341.
- Akhtar, S. (2017). Capital structure of multinational and domestic corporations—a cross-country comparison. *Accounting & Finance*, 57(2), 319-349.
- Amadi, A. A. (2004). Equity home bias: A disappearing phenomenon. *Working paper*, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=540662
- Antoniou, A., Guney, Y., & Paudyal, K. (2008). The determinants of capital structure: capital market-oriented versus bank-oriented institutions. *Journal of Financial and Quantitative Analysis*, 43(1), 59-92.
- Arena, M. P. & Roper, A. H. (2010). The effect of taxes on multinational debt location. *Journal of Corporate Finance*, 16, 637-654.
- Arena, M. P. (2018). Corporate litigation and debt. *Journal of Banking and Finance*, 87, 202-215.
- Baker, M. & Wurgler, J. (2015). Do strict capital requirements raise the cost of capital? Bank regulation, capital structure, and the low-risk anomaly. *American Economic Review*, 105, 315-320.
- Barclay, M. J., Smith, J., Clifford W, & Morellec, E. (2006). On the debt capacity of growth options. *The Journal of Business*, 79(1), 37-60.
- Barth, M., Kasznik, R. & McNichols, M. (2001). Analysis coverage and intangibility assets. *Journal of Accounting Research*, 39, 1-34.
- Bartov, E., Bodnar, G. M., & Kaul, A. (1996). Exchange rate variability and the riskiness of US multinational firms: evidence from the breakdown of the Bretton Woods system. *Journal of Financial Economics*, 42(1), 105-132.
- Berger, A. N., & Di Patti, E. B. (2006). Capital structure and firm performance: A new approach to testing agency theory and an application to the banking industry. *Journal of Banking & Finance*, 30(4), 1065-1102.
- Berger, P. G., & Ofek, E. (1995). Diversification's effect on firm value. *Journal of Financial Economics*, 37(1), 39-65.
- Booth, L., Aivazian, V., Demircug-Kunt, A., & Maksimovic, V. (2001). Capital structures in developing countries. *The Journal of Finance*, 87-130.
- Bortolotti, B., Cambini, C., Rondi, L. & Spiegel, Y. (2011). Capital structure and regulation : Do ownership and regulatory independence matter? *Journal of Economics & Management Strategy*, 20, 517-564.
- Brewer, H. (1981). Investor benefits from corporate international diversification. *Journal of Financial and Quantitative Analysis*, 16(1), 113-126.
- Burgman, T. A. (1996). An empirical examination of multinational corporate capital structure. *Journal of International Business Studies*, 553-570.
- Chaplinsky, S., & Ramchand, L. (2000). The impact of global equity offerings. *The Journal of Finance*, 55(6), 2767-2789.
- Chen, C. J., Cheng, C. A., He, J., & Kim, J. (1997). An investigation of the relationship between international activities and capital structure. *Journal of International Business Studies*, 563-577.
- Claessens, S., & Schmukler, S. L. (2007). International financial integration through equity markets: Which firms from which countries go global? *Journal of International Money and Finance*, 26(5), 788-813. doi:10.1016/j.jimonfin.2007.04.002
- Comment, R., & Jarrell, G. A. (1995). Corporate focus and stock returns. *Journal of Financial Economics*, 37(1), 67-87.

- Danbolt, J., Hirst, I., & Jones, E. (2018). Gaming the FTSE 100 index. *The British Accounting Review*, 50(4), 364-378.
- De Miguel, A., & Pindado, J. (2001). Determinants of capital structure: new evidence from Spanish panel data. *Journal of Corporate Finance*, 7(1), 77-99.
- DeAngelo, H., & DeAngelo, L. (2007). "Capital Structure, Payout Policy, and Financial Flexibility." Working Paper, University of Southern California.
- Devereux, M., Maffini, G. & Xing, J. (2018). Corporate tax incentives and capital structure: New evidence from UK firm-level tax returns. *Journal of Banking and Finance*, 88, 250-266.
- Doidge, C., Karolyi, G. A., & Stulz, R. M. (2004). Why are foreign firms listed in the US worth more? *Journal of Financial Economics*, 71(2), 205-238.
- Doukas, J. A., & Pantzalis, C. (2003). Geographic diversification and agency costs of debt of multinational firms. *Journal of Corporate Finance*, 9(1), 59-92.
- Dunning, J. H. (1977). Trade, location of economic activity and the MNE: A search for an eclectic approach. In *The international allocation of economic activity* (pp. 395-418): Springer.
- Dunning, J. H. (1998). Location and the multinational enterprise: a neglected factor? *Journal of International Business Studies*, 29(1), 45-66.
- Errunza, V. R., & Senbet, L. W. (1981). The effects of international operations on the market value of the firm: Theory and evidence. *The Journal of Finance*, 36(2), 401-417.
- Fama, E. F., & French, K. R. (2002). Testing trade-off and pecking order predictions about dividends and debt. *The Review of Financial Studies*, 15(1), 1-33.
- Fatemi, A. M. (1984). Shareholder benefits from corporate international diversification. *The Journal of Finance*, 39(5), 1325-1344.
- Flannery, M. J., & Rangan, K. P. (2006). Partial adjustment toward target capital structures. *Journal of Financial Economics*, 79(3), 469-506.
- Foreign ownership of Japanese stocks hits record for third year. Available at: <https://asia.nikkei.com/Business/Markets/Stocks/Foreign-ownership-of-Japanese-stock-hits-record-for-third-year> (Accessed: 30th July 2019)
- Frank, M. Z., & Goyal, V. K. (2009). Capital structure decisions: which factors are reliably important? *Financial Management*, 38(1), 1-37.
- Ghadhab, I. & Hellara, S. (2016). Cross-listing and value creation. *Journal of Multinational Financial Management*, 37, 1-11.
- Graham, J. R., & Harvey, C. R. (2001). The theory and practice of corporate finance: Evidence from the field. *Journal of Financial Economics*, 60(2), 187-243.
- Graham, J. R., Lemmon, M. L., & Schallheim, J. S. (1998). Debt, leases, taxes, and the endogeneity of corporate tax status. *The Journal of Finance*, 53(1), 131-162.
- Gray, S. J., Meek, G. K., & Roberts, C. B. (1995). International capital market pressures and voluntary annual report disclosures by US and UK multinationals. *Journal of International Financial Management & Accounting*, 6(1), 43-68.
- Grossman, S. J., & Hart, O. D. (1982). Corporate financial structure and managerial incentives. In *The economics of information and uncertainty* (pp. 107-140): University of Chicago Press.
- Harvey, C. R., Lins, K. V., & Roper, A. H. (2004). The effect of capital structure when expected agency costs are extreme. *Journal of Financial Economics*, 74(1), 3-30.
- He, J., & Ng, L. K. (1998). The Foreign Exchange Exposure of Japanese Multinational Corporations. *The Journal of Finance*, 53(2), 733-753. doi:10.1111/0022-1082.295575
- Henderson, B. J., Jegadeesh, N., & Weisbach, M. S. (2006). World markets for raising new capital. *Journal of Financial Economics*, 82(1), 63-101.

- Hovakimian, A., Opler, T., & Titman, S. (2001). The debt-equity choice. *Journal of Financial and Quantitative Analysis*, 36(01), 1-24.
- Hughes, J. S., Logue, D. E., & Sweeney, R. J. (1975). Corporate international diversification and market assigned measures of risk and diversification. *Journal of Financial and Quantitative Analysis*, 10(04), 627-637.
- Jensen, M. C. (1986). Agency cost of free cash flow, corporate finance, and takeovers. *American Economic Review*, 76(2).
- Jung, K., Kim, Y.-C., & Stulz, R. (1996). Timing, investment opportunities, managerial discretion, and the security issue decision. *Journal of Financial Economics*, 42(2), 159-186.
- Karolyi, G. A. (1998). Why do companies list shares abroad?: A survey of the evidence and its managerial implications. *Financial Markets, Institutions & Instruments*, 7(1), 1-60.
- Kemsley, D., 1998. The effect of taxes on production location. *Journal of Accounting Research*, 36(2), 321-341.
- Kim, S., Kim, S., & Kim, K. (2002). *Global Corporate Finance: Text and Cases Fifth Edition*: Wiley.
- Kwok, C. C., & Reeb, D. M. (2000). Internationalization and firm risk: An upstream-downstream hypothesis. *Journal of International Business Studies*, 611-629.
- Lau, S. T., NG, L., & Zhang, B. (2010). The world price of home bias. *Journal of Financial Economics*, 97, 191-217.
- Leary, M. T., & Roberts, M. R. (2005). Do firms rebalance their capital structures? *The Journal of Finance*, 60(6), 2575-2619.
- Leary, M. T., & Roberts, M. R. (2010). The pecking order, debt capacity, and information asymmetry. *Journal of Financial Economics*, 95(3), 332-355.
- Lee, K. C., & Kwok, C. C. (1988). Multinational corporations vs. domestic corporations: International environmental factors and determinants of capital structure. *Journal of International Business Studies*, 195-217.
- Lemmon, M. L., Roberts, M. R., & Zender, J. F. (2008). Back to the beginning: persistence and the cross-section of corporate capital structure. *The Journal of Finance*, 63(4), 1575-1608.
- Lewellen, W.G. (1971). A pure financial rationale for the conglomerate merger. *The Journal of Finance*, 26, 521-537.
- Li, L. and Islam, S. Z. (2019) 'Firm and industry specific determinants of capital structure: Evidence from the Australian market', *International Review of Economics & Finance*, 59, pp. 425-437.
- Lins, K. V., Strickland, D., & Zenner, M. (2005). Do non-US firms issue equity on US stock exchanges to relax capital constraints? *Journal of Financial and Quantitative Analysis*, 40(1), 109-133.
- Mansi, S. A., & Reeb, D. M. (2002). Corporate international activity and debt financing. *Journal of International Business Studies*, 129-147.
- Marsh, P. (1982). The choice between equity and debt: An empirical study. *The Journal of Finance*, 37(1), 121-144.
- McMillan, D. G., & Camara, O. (2012). Dynamic capital structure adjustment: US MNCs & DCs. *Journal of Multinational Financial Management*, 22(5), 278-301.
- Mihov, A. & Naranjo, A. (2019). Corporate internationalization, subsidiary locations, and the cost of equity capital. *Journal of International Business Studies*, 50, 1544-1565.
- Mittoo, U. R., & Zhang, Z. (2008). The capital structure of multinational corporations: Canadian versus US evidence. *Journal of Corporate Finance*, 14(5), 706-720.
- Morellec, E., Nikolov, B., & Schürhoff, N. (2012). Corporate governance and capital structure dynamics. *The Journal of Finance*, 67(3), 803-848.

- Myers, S. C. (2003). Financing of corporations. *Handbook of the Economics of Finance*, 1, 215-253.
- Ozkan, A. (2001). Determinants of capital structure and adjustment to long run target: evidence from UK company panel data. *Journal of Business Finance & Accounting*, 28(1-2), 175-198.
- Ownership of UK quoted shares: 2016. Available at: <https://www.ons.gov.uk/economy/investmentspensionsandtrusts/bulletins/ownershipofukquotedshares/2016> (Accessed: 30th July 2019)
- Pagano, M., Röell, A. A., & Zechner, J. (2002). The geography of equity listing: why do companies list abroad? *The Journal of Finance*, 57(6), 2651-2694.
- Park, S. H., Suh, J., & Yeung, B. (2013). Do multinational and domestic corporations differ in their leverage policies? *Journal of Corporate Finance*, 20, 115-139.
- Preliminary report on foreign portfolio holdings of US securities at end-June 2018. Available at: <https://ticdata.treasury.gov/Publish/shlprelim.html> (Accessed: 30th July 2019)
- Rajan, R. G., & Zingales, L. (1995). What do we know about capital structure? Some evidence from international data. *The Journal of Finance*, 50(5), 1421-1460.
- Reeb, D. M., Kwok, C. C., & Baek, H. Y. (1998). Systematic risk of the multinational corporation. *Journal of International Business Studies*, 263-279.
- Reeb, D. M., Mansi, S. A., & Allee, J. M. (2001). Firm internationalization and the cost of debt financing: Evidence from non-provisional publicly traded debt. *Journal of Financial and Quantitative Analysis*, 36(03), 395-414.
- Reese Jr, W. A., & Weisbach, M. S. (2002). Protection of minority shareholder interests, cross-listings in the United States, and subsequent equity offerings. *Journal of Financial Economics*, 66(1), 65-104.
- Robbins, S. M., & Stobaugh, R. B. (1973). *Money in the multinational enterprise*: Basic books.
- Schoenmaker, D. (2008). Is the home bias in equities and bonds declining in Europe. *Investment Management and Financial Innovations*, 5, 90-102.
- Shapiro, A. C. (1978). Financial structure and cost of capital in the multinational corporation. *Journal of Financial and Quantitative Analysis*, 13(02), 211-226.
- Shleifer, A., & Vishny, R. W. (1989). Management entrenchment: The case of manager-specific investments. *Journal of Financial Economics*, 25(1), 123-139.
- Singh, M., Davidson, W. N., & Suchard, J.-A. (2003). Corporate diversification strategies and capital structure. *The Quarterly Review of Economics and Finance*, 43(1), 147-167.
- Singh, M., & Nejadmalayeri, A. (2004). Internationalization, capital structure, and cost of capital: evidence from French corporations. *Journal of Multinational Financial Management*, 14(2), 153-169.
- Who owns the European economy? Evolution of the ownership of Eu-listed companies between 1970 and 2012. Report to the European Commission and Financial Services User Group. Available at: https://ec.europa.eu/info/file/46812/download_en?token=v7XSX55A (Accessed: 30th July 2019)
- Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data*: MIT press.
- Wright, F. W., Madura, J., & Wiant, K. J. (2002). The differential effects of agency costs on multinational corporations. *Applied Financial Economics*, 12(5), 347-359.