Affiliates' Bank Debt Policy: Does Parent Firm Nationality Matter?*

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Accepted for publication in the Journal of Business Finance & Accounting
DOI: 10.1111/jbfa.12116

Abstract

This paper examines whether and how bank debt is affected by foreign group affiliation. Ceteris paribus, affiliates of foreign business groups only use about half as much bank debt as compared to affiliates of domestic groups. Further, the results indicate that geographical and cultural distance between parent and affiliate countries raise barriers when accessing bank financing. The bank debt usage decreases even further, if affiliates and parent firms depend on different legal systems or the degree of legal enforcement in the parent firm's country is low.

Keywords: Business groups, Bank debt, Internal capital markets, Ownership, Corporate governance.

JEL-Classification codes: G3, G32

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* The authors thank Katrien Craninckx, Randy Priem, Frederiek Schoubben, Gunther Wuyts, and the participants of the 2012 Belgian Financial Research Forum, the 2012 Annual meeting of the European Financial Management Association and the 2012 World Finance Conference for useful comments on earlier drafts of this paper. This research was supported by project grants from the Research Foundation Flanders (FWO).

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1. INTRODUCTION

Over the past decades, the classic view of dispersed ownership as described by Berle and Means (1932) has gradually changed into a more diverse outlook on the manner in which the ownership of firms is structured.[1] One form of concentrated ownership that prevails around the world is corporate blockholdership (La Porta et al., 1999; Langlois, 2013). In Europe, for example, more than half of the largest non-financial firms have a dominant corporate shareholder.[2]

This type of ownership often results in the creation of business groups. In such groups the relations between member firms can take on various forms. At one end of the spectrum are more hierarchical structured groups, such as pyramids, where corporate ownership enables a large corporation to control a set of firms. At the opposite end, firms that pursue a common interest use corporate ownership to form informal associative groups where decision making is coordinated (Schiantarelli and Sembenelli, 2000). All business groups, however, have the defining characteristic that their member firms — also referred to as affiliates — are separate legal entities that can access external financing, but at the same time also can obtain financing via the group's internal capital market. This distinct organizational structure offers the opportunity to gain more insight into the functioning of internal capital markets by directly examining the debt policies of affiliates and the influence of internal capital markets on this decision-making process. Empirical evidence shows, for example, that the bank debt usage of domestic affiliates is driven by the same motives as for independent firms. However, for affiliates, the group's internal capital market substantially decreases the necessity to obtain bank financing (Dewaelheyns and Van Hulle, 2010). Moreover, foreign affiliates of US multinational firms seem to substitute parental for external financing in response to conditions of the affiliate's home market. More specifically, in countries with costly or limited availability of external borrowings due to weak creditor rights and

[1] A discussion of the tremendous amount of research that describes the ownership patterns around the world can be found in the survey of Denis and McConnell (2003).
[2] 63.1% of the largest European firms have a dominant corporate shareholder using a full control criterion of 50%. This result is based on the 2013 Amadeus version of Bureau van Dijk.

underdeveloped capital markets, these foreign affiliates of US multinational firms borrow more from the parent firm and less from external sources (Desai et al., 2004). This raises the question whether the home market of the parent firm also affects the external debt usage of affiliated firms and in particular affiliates' bank debt policies.[3] It is well-known that business group membership influences affiliates' access to bank financing as affiliates share in their parent firm's reputation and parent firms often provide affiliates with guarantees that secure their bank borrowings (Chang and Hong, 2000; Schiantarelli and Sembenelli, 2000; Verschueren and Deloof, 2006; Manos et al., 2007; Jia et al., 2013). As parent firm location may affect these two factors and therefore affiliates' bank debt policy, this study focuses on the impact of parent firm's country of residence on affiliates' bank debt ratios.

To address this issue, we examine the bank debt ratios of affiliates that have a foreign parent firm and are located in one specific country. We use domestic affiliates as a benchmark in the analysis (i.e., affiliates that have a parent firm that is located in the same country). By considering affiliates that are all headquarted in the same country, we can study the influence of variations in parent firm location on affiliates' bank debt, while implicitly controlling for various institutional and other aspects of the affiliates' environment that might influence their bank debt usage. We limit the analysis to affiliates that are part of private business groups (cf. Hamelin, 2011) as this reduces the impact of external financing obtained via public capital markets.[4]

Our study is related to several strands of the literature. First of all, we add to the literature on business groups' internal capital markets. Prior studies have shown that group characteristics largely determine the design of affiliates' external debt policy (see e.g., Manos et al., 2007;

[3] Although examining the impact of parent firm location on debt composition would be very interesting, in this paper we focus on bank financing because the financial statements and the notes to these statements allow us to cleanly identify the amount of financing obtained from banks. However, we are unable to disentangle the internal and external part for the remaining debt categories, such as trade credit. As an alternative, we could define an aggregate measure of external financing. Nevertheless, we focus on bank debt because it can be argued that asymmetric information is an important driver of the difference between domestic and foreign affiliates when accessing financing. The aggregate amount of external liabilities of course would be a mixture of different types of liabilities. As not all types of liabilities have the same underlying drivers (e.g., Fama, 1985), this would create noise.

[4] See Lin et al. (2011) for an analysis of the effect of large shareholdings on the choice between bank debt and public debt.

Dewaelheyns and Van Hulle, 2010). We first confirm that the size and depth of internal capital markets play an important role in the bank debt policies of affiliates. Moreover, by focussing on affiliates that have a foreign parent firm, we provide more insights into the channels through which affiliation influences the access to bank financing. We provide clear-cut evidence that the nationality of the parent firm matters in accessing bank financing.

Second, this paper complements the growing literature that examines the influence of geographical distance on bank lending. Our focus differs from most of the papers in the literature, which mostly concerns domestic small business lending using transaction data (see e.g., Petersen and Rajan, 2002; Degryse and Ongena, 2005) or, on a more aggregated level, international bank assets and liabilities (Buch, 2005). We demonstrate that geographical distance between the parent firm and the borrowing affiliate negatively influences the usage of bank financing in our sample of mature affiliated firms as well.

Third, this study contributes to the literature on the relation between the firms' legal environment and debt-financing policies. Esty and Megginson (2003) provide evidence that the strength and enforcement of legal rules influence the structure of debt ownership within the context of syndicated loans. Desai et al. (2004) show the importance of host country legal rules for the debt policies of affiliates of US multinationals. These results are consistent with the hypothesis that debt policies are a function of the legal environment in which the firm operates. We document that for business group affiliates the relevant legal environment encompasses the parent firm's home country as well.

Previewing our main results, we find that affiliates with a foreign and domestic parent indeed differ with respect to their bank debt ratio: affiliates of foreign parent firms hold 9.6% of their total liabilities in the form of bank debt as compared to 16.2% for affiliates of domestic parent firms. The results are even more striking after controlling for various firm- and group-level characteristics, i.e., being controlled by a foreign parent firm decreases the relative use of bank debt by more than half. However, the question remains how characteristics of the parent firm's

home market influence the bank debt ratios of affiliated firms. We find evidence that geographical distance between the parent firm and affiliate decreases bank debt. This finding may suggest that the monitoring services of banks are hindered and reputational effects reduced because of greater physical distance. Moreover, two other dimensions of distance negatively affect the bank debt ratios of affiliates, viz., cultural and legal distance. Affiliates, with a foreign parent, that depend on a different legal system or are located in a country with different cultural values than their parent firm have smaller bank debt ratios. This suggests that information asymmetries caused by cultural and legal differences hinder the access to bank financing as well. Finally, we document that the quality of legal enforcement in the parent firm's home country has a positive influence on the bank debt ratio of affiliates indicating that guarantees from parent firms located in a country with a high quality of institutions are valued more highly.

These results are obtained using a sample of Belgian affiliates that are part of private European business groups. The sample covers the period 1998-2007. We employ a dataset of Belgian affiliates as Belgium is ideally suited to investigate the financing policy of foreign business group affiliates. Belgium is a typical civil law country with a mature market economy where business groups are highly represented. La Porta et al. (1999) report that it has the highest presence of pyramidal structures and controlling shareholders of all industrialized countries. Moreover, large Belgian companies are obliged to provide information on intra-group transactions in the notes to the financial statements. Finally, Belgium is an open economy that attracts large amounts of foreign direct investments, resulting in a high presence of affiliates with a foreign - mostly European - owner.[5]

[5] The net inflow of FDI in 2011 amounted to 19.8% of GDP in Belgium, compared to 1.2% for Germany, 1.6% for France, 1.5% for the United Kingdom and 1.7% for the United States (Source: World Bank). The total inward FDI stock in Belgium is worth 1.932 times GDP (2011), compared to a European Union average of 0.418 and a worldwide average of 0.298 (Source: UNCTAD). 96.2% of the net FDI stock (2011) is provided by European investors (Source: National Bank of Belgium)

The remainder of the paper is organized as follows. Section 2 contains an overview of the related literature and outlines the main hypotheses. Section 3 discusses the methodology and describes the data. Section 4 provides the main results and Section 5 presents the conclusions.

2. RELATED LITERATURE & HYPOTHESES DEVELOPMENT

(i) *Geographical and Cultural Distance*

Although technological innovations have reduced communication and information costs, many empirical studies still indicate that information asymmetries increase with geographical and cultural distance. These two informational proxies remain important determinants of various dimensions of financial and product markets. Lerner (1995) indicates that geographical distance diminishes the board representation of venture capitalists due to higher monitoring costs. Within the US, Coval and Moskowitz (1999) provide evidence that mutual fund managers prefer to invest in geographically close or local headquartered firms because greater geographical proximity is accompanied by lower information asymmetries. Coval and Moskowitz (2001) extend their research by showing that these mutual funds' investment strategies result in considerable abnormal returns. Huberman (2001) also finds evidence of geographically driven investment patterns within the portfolio choices of Regional Bell Operating Companies' shareholders and attributes this to familiarity. Hau (2001) examines the influence of information asymmetries on trading profits within the German electronic trading platform Xetra and finds evidence of smaller profits for foreign traders. Garmaise and Moskowitz (2004) document that commercial real estate market participants try to overcome information asymmetries by investing in geographically proximate properties. Using a gravity model for international finance by Martin and Rey (2004), Portes and Rey (2005) show the importance of geographical distance on international equity flows putting strong emphasis on informational frictions as a sole driving force. Results of Freund and Weinhold

(2004) not only report a negative influence of distance on foreign trade growth, but also that the magnitude of this relationship is enhanced by the increase in internet usage.

In addition to geographical distance, Grinblatt and Keloharju (2001) find that cultural and language similarities are important drivers in domestic portfolio decisions of Finnish investors. Huyghebaert et al. (2011) indicate that cultural distance also drives syndication within the more international setting of European buyouts. The authors show that the lead investor is more likely to syndicate, withhold a smaller fraction and invite a larger number of participants within the syndicate if the cultural distance with the target firm is higher.

With respect to bank lending, banks have, as intermediates, a comparative advantage — due to scale economies — in decreasing information asymmetries between borrowers and lenders by actively monitoring the lent funds (Diamond, 1984; Ramakrishnan and Thakor, 1984; Fama, 1985). The implementation of this task is hindered by greater physical and cultural distance. For a sample of small business loans in the US, Petersen and Rajan (2002) indeed find that banks are located significantly closer to their borrowers than nonbanks. Buch (2005) also finds support for this argument by documenting that distance has a negative impact on international asset and liability holdings of commercial banks and that this effect has not diminished over the years, except for the liabilities of French and US banks. Arena and Dewally (2012) show that US rural firms have an informational disadvantage compared to urban firms when they are located further from urban areas where most banks are located. This disadvantage results in higher spreads and a reduced willingness from prominent bank syndicates to underwrite their debt.

We hypothesize that affiliates with a foreign parent firm are hindered by greater geographical and cultural distance between the affiliate and the parent firm in obtaining bank financing. Berger et al. (2003) show that foreign affiliates from 20 European countries predominantly borrow from banks that are headquarted in the same country as the affiliate.[6] If

[6] In line with these findings, Petersen and Rajan (2002) show that concentrated ownership has a significant negative effect on the geographical distance between an affiliated firm and its bank.

geographical and cultural distances increase between the affiliate and the parent firm, business group affiliation may be less of an advantage when accessing bank financing. A first beneficial effect of group membership is that affiliates often receive guarantees from the parent firm, which facilitates the availability of bank financing (Chang and Hong, 2000; Ghatak and Kali, 2001; Verschueren and Deloof, 2006; Manos et al., 2007; Jia et al., 2013). However, greater geographical and cultural distance between parent firm and affiliate makes it more difficult for external local debt holders (i.e., banks) to monitor the actions of the parent firm in order to avoid possible conflicts due to asymmetric information (e.g., moral hazard problems, tunnelling). Second, affiliates can benefit from their parent's reputation when accessing bank financing, (Chang and Hong, 2000; Schiantarelli and Sembenelli, 2000; Manos et al., 2012). Positive reputation effects may be reduced due to geographical dispersion and cultural differences. These arguments result in the following hypotheses:

H1 (a): The bank debt ratios of foreign affiliates decreases with geographical distance between affiliated and parent firm.

H1 (b): The bank debt ratios of foreign affiliates decreases with cultural distance between affiliated and parent firm.

(ii) *The Institutional Environment of the Parent Firm*

La Porta et al. (1998) document how countries and — on a more aggregated level — legal traditions show important differences with respect to investor rights (i.e., shareholders and creditors) and the enforcement of these rights (i.e., law and order). The authors develop indices that capture various aspects of these two dimensions of the legal environment and document that common law countries provide the strongest investor protection in terms of rights and Scandinavian civil law countries the highest quality of enforcement, while French civil law countries show the weakest index values.

The legal environment as characterized by La Porta et al. (1998) proves to be an important driver of the size and depth of financial markets (La Porta et al., 1997), ownership concentration

(La Porta et al., 1999; Claessens et al., 2000), the valuation of firms (La Porta et al., 2002; Kalcheva and Lins, 2007), syndicated loans (Esty and Megginson, 2003), firms' growth rates (Demirgüç-Kunt and Maksimovic, 1998; Levine, 1999; Wurgler, 2000), earnings management (Leuz et al., 2003) and firms' cash policy and the value of corporate cash holdings (Dittmar et al., 2003; Ferreira and Vilela, 2004; Pinkowitz et al., 2006; Guney et al., 2007; Kalcheva and Lins, 2007). With respect to affiliation, Desai et al. (2004) find that in countries with poor investor protection and underdeveloped capital markets, foreign affiliates of US multinationals substitute parental debt for more expensive and/or less accessible external financing.

We conjecture that the legal environment of the parent firm's home country plays a role in the bank debt policies of affiliates as well. Loan contracts typically contain two aspects, that is the financing contract and the security provisions (Esty and Megginson, 2003). As Berger et al. (2003) show that affiliates predominantly borrow in their own country, the financing contract between affiliates and their bank is, on average, expected to be governed by the law of the country where the affiliate is headquarted. Concerning the securitisation of affiliates' loans, banks often demand guarantees from the parent firm when lending funds to affiliated firms. The security provisions that rest on the assets of the parent firm will in that case depend on the legislation of the parent's home country. Therefore, if the affiliate belongs to a foreign parent, we expect loan contracting to become more difficult and costly, especially if the bank and the parent firm belong to two distinct legal traditions and/or the quality of rule of law of the parent firm's country is weaker. First of all, bank lending to affiliates that reside in a country with a legal system that differs from the system of the parent firm's home country, may be influenced by this difference in legal environments. It is well-known that loan contracts become more complex and hence more costly if the two aspects of the loan contract — that is the financing contract and security provisions — are governed by different laws and/or legal systems (Esty and Megginson, 2003). For example, Esty (2002) documents that one of the main challenges in the A2 Motorway investment project in Poland originated from legal differences between British common law and Polish civil law

concerning bank loans. A second factor that banks may take into consideration when lending funds to affiliates is the quality of the judicial system in the parent firm's home market. If the affiliate belongs to a foreign parent, the legal enforcement of parent firm provided guarantees becomes more difficult and costly depending on the rule of law of the parent firm's home country. Guarantees provided by the parent firm are less effective in enhancing access to external financing if the quality of rule of law of the parent firm's home country is lower; that is if the country of the parent firm has a less efficient judicial system for resolving contractual issues, if risk of expropriation by the government is higher and/or if corruption is present in the parent firm's home country. Accordingly, the following hypotheses are expected to hold:

H2 (a): The bank debt ratios of foreign affiliates is negatively affected if affiliate and parent firm are governed by different legal systems in their home countries.

H2 (b): The bank debt ratios of foreign affiliates is positively affected by the quality of the rule of law in the parent's home country.

3. METHODOLOGY AND DATA

This section details the variable definitions used in the analysis.[7] In addition, we provide an overview of the sample selection process and provide descriptive statistics and univariate tests.

(i) *Measuring Private Affiliates' Bank Financing*

Following Hooks (2003) and Dewaelheyns and Van Hulle (2010) among others, we measure the amount of bank borrowings of affiliates as the ratio of bank debt to total liabilities.[8]

[7] Table A1 in the Appendix provides a detailed overview of the variables' measurement.

[8] While indeed many Anglo-Saxon studies define their leverage ratio as total debt to total assets, Titman and Wessels (1988) and Rajan and Zingales (1995) indicate that studies should include short-term liabilities, such as trade credit for example, in their leverage ratios if these liabilities are an important source of financing in a specific country or for certain classes of firms. As this is the case in Belgium (see e.g., Deloof and Jegers, 1999) and for private firms, we employ a broad leverage definition, that is the sum of long term liabilities and short term liabilities divided by total assets (see e.g., Desai et al., 2004; Huizinga et al., 2008; Dewaelheyns and Van Hulle, 2010 among others). Our leverage ratios are comparable to those found in other studies with similar definitions of leverage. For example, Rajan and

In order to assess the impact of the parent's home country on the amount of bank financing available to affiliates, we consider two sets of variables. The first group of variables contains measures concerning the distance between affiliate and parent country. We measure geographical distance (GEODISTANCE) as the natural logarithm of the great-circle distance in kilometres between the capital cities of the affiliate and the parent firm countries (see e.g., Coval and Moskowitz, 1999). Besides physical distance, cultural differences between countries may also give rise to barriers when accessing bank financing. In this respect, Hofstede (2001) describes four dimensions in which countries can diverge from each other, namely power distance, individualism, masculinity, and uncertainty avoidance. Using the Hofstede (2001) country-scores for each cultural dimension, we measure cultural distance (CULTDISTANCE) as the natural logarithm of the Euclidean distance between these four cultural dimension-scores of the parent and affiliate country.

The second group encompasses variables that relate to the legal environment of the parent's home market. First, differences in legal systems between affiliate and parent country may explain variations in the bank debt ratios of affiliated firms. To be able to capture these differences in institutional environments, we use a dummy variable (LEGALDISTANCE1) that equals one if the parent and affiliate are located in countries with different legal systems on an aggregated level, that is common versus code law countries. As within Europe only two parent firm countries can be situated within the common law tradition (i.e., Great Britain and Ireland), we define a second dummy variable (LEGALDISTANCE2) that captures the variations in code law traditions (i.e., Scandinavian, French and German civil law). Second, the legal enforcement within the parent's country is also expected to influence affiliates' bank financing. We first use the legal enforcement index developed by Berkowitz et al. (2003) based on the legal enforcement variables of La Porta

Zingales (1995) examine the capital structures of non-financial firms in the G7 countries and report total liabilities to total assets ratios that range from 57.8 % for the United Kingdom to 72 % in Germany.

et al. (1998) as a measure of the rule of law within a certain country (LEGALITY1).[9] The La Porta et al. (1998) legal enforcement variables, however, have the drawback that they are constant over time. Therefore, we also consider four time-varying legal enforcement variables of Kaufmann et al. (2011), namely government effectiveness, regulatory quality, rule of law, and control of corruption. The average correlation between pairs of these legality proxies amounts to 0.792. These high correlations would result in multicollinearity problems in the regression analyses. Therefore, we perform a principal component analysis for each year and retain the scores for the first principal component as an aggregated measure of legality (LEGALITY2). On average, the first components explain 91.56 percent of total variance.[10]

Besides the main variables of interest, we also include a number of control variables at firm (i.e., affiliate) level that are expected to explain variations in bank debt ratios across firms.

Size. Size is predicted to positively affect firms' bank debt ratios as larger firms should incur lower relative costs in case of default (Titman and Wessels, 1988; Rajan and Zingales, 1995). Larger firms also have superior access to bank financing (Petersen and Rajan, 1994). Firm size is measured as the natural logarithm of total assets corrected for inflation (SIZE).

Tangibility. The use of tangible assets as collateral when obtaining bank loans reduces asset substitution problems as described by Jensen and Meckling (1976) and lessens expected default costs for the lender. Therefore, we expect a positive relationship between tangibility and bank debt. Tangibility is proxied by the ratio of tangible assets and inventory to total assets (TANG).

Profitability. According to the screening view of bank debt (e.g., Smith, 1987), the level of firm profitability provides a signal concerning the financial health of the firm. Firms with lower profitability are associated with having poorer financial health and higher default risk, and

[9] This index is the first component of a principal component analysis applied on the highly correlated individual legal enforcement variables of La Porta et al. (1998), that is efficiency of judiciary, rule of law, absence of corruption, risk of expropriation and risk of contract repudiation. The first principal component summarizes 84.6 percent of the total variance.

[10] Detailed information concerning the linear combinations used to calculate the PC-scores is available upon request.

therefore may be exposed to credit rationing. Consequently, higher profitability implies more bank debt. However, profitability may also influence bank debt in a negative manner. Low profitability may proxy for poor industry market conditions. In that case, firms with low profitability will find it valuable to renegotiate when needed and accordingly have higher bank debt ratios (Hooks, 2003). Moreover, private firms are faced with high information asymmetries, which may cause difficulties in accessing additional financing in times of low profitability. Consequently, the competitive advantage of banks to decrease information asymmetries by exercising monitoring services as described by Diamond (1984), Fama (1985), and Ramakrishnan and Thakor (1984), among others, allows private firms to obtain financing to overcome temporary shortages. Profitability is defined as the ratio of operating profit to total assets (PROFIT).

Age. The effect of the firm's age on bank debt is again ambiguous. The age of a firm can be expected to have a positive effect as it is often considered to proxy for firm reputation. As firms grow older, they may have established a more solid long-term relationship with lenders resulting in higher amounts of bank lending (Diamond, 1991; Petersen and Rajan, 1994). However, firm age can also negatively affect bank debt. Older firms may have accumulated more internal funds over time. As internally generated funds are accompanied by smaller information asymmetries than bank financing, the need for bank debt is reduced (Myers and Majluf, 1984). This effect may especially be true for private firms as internal financing and bank debt are the main sources of financing. Firm age is measured as the natural logarithm of the years since incorporation (AGE).

Growth. Traditionally, firms with higher sales growth are expected to hold less bank debt. Growth opportunities are intangible and hence firms with more growth opportunities are faced with higher information asymmetries, resulting in higher capital constraints (Myers, 1977; Myers and Majluf, 1984). Moreover, high growth companies may prefer less bank financing because it brings pressure to meet future financial obligations that may hinder investments in positive net present value projects (McConnell and Servaes, 1995). However, higher growth may also signal

better financial health according to the screening view (Hooks, 2003) and, therefore, a positive relationship may be expected as well. Growth is measured as the annual sales growth (GROWTH).

Cash. Firms that hold more cash on their balance sheets may prefer to use less bank debt to finance their activities. Cash is measured as the ratio of cash to total assets (CASH).

Leverage. Following Hooks (2003) and Dewaelheyns and Van Hulle (2010) among others, we control for the firm's decision concerning the total amount of debt financing by including the ratio of total liabilities to firm assets in the analyses (LEV).[11] We consider total liabilities instead of long term debt as a proxy for leverage because short term financing is an important component of Belgian firm's capital structures — as indicated by Deloof (1998) among others — and thus necessary to include (Titman and Wessels, 1988).

Finally, we include group-specific control variables that capture the size and depth of the group's internal capital market. More specifically, we consider those variables that proxy for the group's capacity to provide funding for affiliates or ease access to financing.

Group size. If the size of the group increases, more funds should be available for intra-group transactions. As internal financing is accompanied by smaller information asymmetries than bank debt, group size should negatively affect the bank debt ratios of affiliates (Gertner et al., 1994; Stein, 1997; Dewaelheyns and Van Hulle, 2010). However, within larger groups more assets-in-place should be available to secure loans and larger groups could also be more diversified and have smaller default risks (Chang and Hong, 2000; Schiantarelli and Sembenelli, 2000). These factors improve opportunities for groups to offer securities to affiliates and hence reduce the cost of debt for affiliates. Thus the size of the group may also positively drive bank debt. Group size is defined as the natural logarithm of total group assets corrected for inflation (GROUPSIZE).

[11] As an alternative approach, an additional model could be specified to capture the choice of total debt financing and a simultaneous estimation could be performed. However, simultaneous-equation modeling is unnecessary if the system of equations is recursive, as is the case in our sample (Hooks, 2003).

Group profitability. Group profitability is expected to negatively affect the firm's bank debt ratio because the higher the profitability at group-level, the more internal funds are available and the less attractive bank financing will become. The ratio of group operating profits to group total assets is employed as a measure for group profitability (GROUPPROFIT).

Group age. Just as for group size, group age may proxy for the size of the internal capital market. As older groups may have accumulated more funds over time, group age may be negatively related to affiliates' bank debt. Conversely, group age is often regarded as a proxy for reputation (Diamond, 1991; Petersen and Rajan, 1994). As affiliated firms share in their group's reputation, affiliates belonging to older groups may also hold more bank debt (Chang and Hong, 2000). Group age is defined as the natural logarithm of the years since the groups' incorporation (GROUPAGE).

Group Cash. The amount of cash present within a group may also proxy for the size and depth of internal capital markets. Cash rich groups can be expected to have more funds at their disposal for intra-group financing purposes and thus show a reduced need for bank financing among their affiliates. Therefore, we expect a negative relationship between group cash and affiliates' bank financing. Group cash is measured as the ratio of total group cash to total group assets (GROUPCASH)

Group Leverage. If internally generated funds are insufficient to finance activities and projects, private companies are forced to obtain external private financing to bridge this gap due to restricted choices of funds. Consequently, increasing levels of group leverage may reflect shortages in internal financing (Dewaelheyns and Van Hulle, 2010).[12] Group leverage is proxied by the ratio of total group liabilities to total group assets (GROUPLEV).

[12] Note that group measures are based on the consolidated statements and accordingly are net of any intra-group transactions. Thus group leverage reflects the total amount of debt borrowed from external lenders.

(ii) *Sample Selection and Descriptive Statistics*

We collect accounting as well as ownership information for all private Belgian non-financial firms that filed unconsolidated complete annual accounts for at least four consecutive fiscal years from 1998 until 2007.[13] The unconsolidated data are obtained from Bureau van Dijk EP's Belfirst database and enables us to employ information at firm-level. Using the ownership information, we select only those companies that are considered to be business group members (i.e., affiliates). More specifically, if the controlling company of the group holds more than 50% of the firm's shares (directly or indirectly), the firm is classified as a business group affiliate.[14] As European business groups are characterized by very high levels of ownership concentration, lowering the threshold to 20% (cf. Masulis et al., 2011) would entail a negligible effect on the number of firms identified as affiliates. Members of state-controlled business groups are excluded from the sample.

Next, we augment the affiliate-level data with data from the consolidated financial statements of the affiliates' controlling shareholder. We obtain the group-level consolidated data of all unlisted non-financial European business groups from the Amadeus database (Bureau van Dijk EP).[15] Only operating affiliates with consolidated accounts available at group-level are considered for the analysis.[16] However, some affiliates are the only or dominant operating affiliate

[13] Belgian firms are required to file complete annual accounts if more than 100 full time equivalent employees are employed or two of the following size criteria are met: total assets exceed 3.125 million euro, total operating revenue surpasses 6.25 million euro, the total number of full time equivalent employees is larger than 50. If these conditions do not hold, firms are allowed to file abbreviated annual accounts.

[14] Belgian Accounting Law considers control as owning more than 50% of the shares of the votes, or having common controlling shareholders who can appoint the majority of the board or can make strategic decisions. This control can also result from company bylaws, contracts or the existence of a consortium.

[15] Our dataset is restricted to European parent firms because of data limitations. Concerning potential parent firms from the Asian-Pacific region, only 78 groups file consolidated statements and have a Belgian affiliated firm. Recall that we only consider private parent firms as this allows us to cleanly establish the impact of foreign affiliation and the group's internal capital market on affiliates' bank debt ratio. Within the Asian-Pacific region, only five groups that have a Belgian affiliated firm are unlisted and file consolidated statements. As our sample selection procedure further excludes parent firms that can be considered as shell companies, state-owned business groups and other types of service companies, we are not able to construct a meaningful sample comprising affiliated firms with a parent firm from the Asian-Pacific region. Concerning affiliated firms with a parent firm from the African or American continent, we do not have access to the data regarding private consolidated groups. As for the Asian-Pacific parent firms, it is, however, very unlikely that it would result into a sample with a meaningful size. Especially regarding the United States, which has the largest group of Belgian affiliates, unlisted firms often do not publish detailed financial information.

[16] Although considering only groups that file consolidated statements could lead to a possible size bias, it guarantees that variables defined at group-level reflect economic reality as accurately as possible. As an alternative approach,

of the group. If this is the case, the controlling corporation is considered to be a shell company and affiliates controlled by such a firm are excluded (cf. Dewaelheyns and Van Hulle, 2006).[17] Following common practice, we omit firm-years with zero sales and extremely high leverage levels (i.e., above 100% of total assets). Firms active in utilities and several categories of service companies are left out as well because of the specific nature of their activities.

Finally, to be able to assess the influence of the parent firm's home country, we construct two final samples: a sample containing Belgian affiliates that are controlled by a foreign parent firm (i.e., foreign sample) and a benchmark sample containing Belgian affiliates with a Belgian parent firm (i.e., domestic sample). This selection process results in a foreign sample of 723 affiliates part of 581 groups (1,901 firm-years) and a domestic sample of 1,817 affiliates part of 647 groups (5,205 firm-years). In order to improve comparability across samples, both samples are matched on industry (two digit NACE-BEL industry codes) and size (average deflated total assets) reducing the domestic sample to 723 affiliates, part of 367 groups (2,086 firm-years).[18] All continuous variables are winsorized at the 1% level.

Table 1 about here

Table 1 shows the geographical and industry distribution in absolute numbers and in percentages for the domestic affiliate and foreign affiliate samples. The parent firms of the 723

Manos et al. (2007) and Chang and Hong (2000) calculate the group variables as the average weighted value of the individual business group affiliates' variables and thus avoid the use of consolidated accounts. This methodology is most likely to lead to information quality problems for our sample of private firms and thus is not the preferred approach for this study.

[17] A consolidated firm is reclassified as a shell company if the firm's average financial fixed assets to total assets is equal to or larger than the 95th percentile and the average sales to total assets is equal to or smaller than the 5th percentile.

[18] As our samples consist of Belgian Affiliates, we use the Belgian version of the European NACE activity codes (i.e., NACE-BEL).

affiliates of the foreign sample are located in 11 different countries with the majority of parent firms headquarted in the neighbouring countries, namely The Netherlands, France and Germany.[19] The highest average bank debt ratio can be found for The Netherlands, followed by Italy and Sweden. Affiliates with foreign parents are mainly active in trade, followed by manufacturing. The amount of bank debt held relative to total liabilities is the highest in agriculture and foods for both the domestic and the foreign sample, though much smaller in magnitude for the latter type of affiliates.

Table 2 about here

Table 2 presents descriptive statistics and univariate tests for the continuous variables used in the subsequent analyses. We report all statistics for the sample of affiliates that have a foreign parent firm and for the benchmark sample of affiliates with a domestic parent firm. The median and mean bank debt to total liabilities ratio, (BANKDEBT) of the foreign sample are significantly smaller than those of the domestic sample. The total amount of leverage to total assets ratio (LEV), however, does not differ between both samples for the median and mean values. Since affiliates can substitute bank debt for debt obtained via the internal capital market – that is internal debt – considering the mean and median internal debt ratios for both samples might provide useful

[19] Note that the sample comprises a high amount of parent firms from the Netherlands as compared to other European countries. There are several factors that may have a positive effect on the number of Dutch parent firms in our sample. First, the fiscal consolidation of Dutch business groups and the historically strong ties between the Netherlands and Belgium arising from the Benelux union – in particular concerning economic policy, justice and internal affairs – makes it particularly attractive for Dutch parent firms to have Belgian affiliated operating firms as compared to parent firms from other European countries. Moreover, as a result of these close ties, an important number of double-taxation treaties have been concluded with Belgium. Note that we effectively omit shell companies from the analysis and we also exclude parent firms identified as Dutch cooperative holding companies and Dutch administrative foundations (i.e. "Nederlandse stichting"). As a robustness test, we omit Dutch parent firms from the analysis (see subsection 4.iii Additional Tests and Robustness).

insights. Internal debt ratio is defined as the ratio of internal debt to total liabilities. We observe that affiliates with a foreign parent firm have significantly higher internal debt ratios than their domestic counterparts. These descriptive findings suggest that affiliates with a foreign parent face greater costs when accessing bank financing and therefore, prefer to finance a larger proportion of their activities with internal debt.[20] After matching, we observe no difference between both types of affiliates with respect to firm size (SIZE). However, the remaining firm characteristics differ significantly between both samples. Affiliates with a foreign parent have less tangible assets (TANG) than their domestic counterparts, but show higher profitability ratios (PROFIT). In addition, affiliates of the foreign sample are slightly older (21 years vs. 18 years for the domestic sample at median level) (AGE), have smaller growth rates (GROWTH) and hold larger amounts of cash on their balance sheets (CASH). Turning to the group characteristics, foreign groups are larger than Belgian groups in our sample (GROUPSIZE).[21] The comparison of firm size and group size illustrates that the median affiliate is relatively small within the group, but large enough to be of importance. Furthermore, foreign groups tend to be slightly more profitable (GROUPPROFIT), older (26 years vs. 17 years for the domestic sample) (GROUPAGE) and somewhat less cash rich (GROUPCASH) and leveraged (GROUPLEV). Finally, we report the median and mean values of the continuous distance metrics and legality variables.

4. MAIN RESULTS

(i) *Firm- and group-level determinants of bank debt*

Before we assess whether the parent firm's country location affects the bank debt ratios of affiliates, we perform some preliminary estimations where we only include firm- and group-level

[20] Whether or not internal debt usage by affiliates affects bank debt ratios is considered in Section (4.iii)

[21] Domestic groups are among the largest firms in their industry. However, in our sample, foreign groups still turn out to be almost 2.5 times larger than their domestic peers. Therefore, in Section (4.iii) we conduct an additional robustness analysis where we include group size in the matching procedure.

characteristics. This approach enables us to directly compare results and offers the opportunity to evaluate how these determinants affect the bank financing of affiliates of foreign groups, without taking the parent firm's location into account.

Table 3 reports these base equations. All equations are estimated using Tobit regressions because a large part of the observations have a value of zero for the dependent variable (46% for the domestic sample and 62% for the foreign sample).[22] All equations include industry and time dummies.[23] The standard errors are robust for group-level clustering. As mentioned above, most firm-level characteristics are also determinants of leverage. Following the literature, we therefore regress leverage on the other firm-level variables and use the residuals as an instrument for leverage (Johnson, 1997; Dewaelheyns and Van Hulle, 2010).[24] For group leverage we use a similar approach with regard to the group-level variables. Because most group-level characteristics are also determinants of group cash (see e.g., Opler et al., 1999), the same method is applied for group cash.

Table 3 about here

Columns 1 and 3 reveal that all firm characteristics significantly determine the bank debt ratios of domestic and foreign affiliates, respectively. The majority of signs of the estimated

[22] We employ Tobit regressions because this estimation technique incorporates both the firm's decision to use bank debt and the amount of bank debt firms hold. As an alternative, we could employ a two-step approach: a first step with logit or probit models that predict the probability of using bank debt and a second step that estimates the determinants of bank debt for those firms with positive amounts of bank debt on their balance sheets. The results show that the determinants that drive the bank debt decisions of affiliates are virtually the same as those variables that drive the amount of bank debt financing.

[23] To improve comparability with regression models that include variables that are constant over time for each affiliate (e.g., foreign dummy and distance measures), we opt to report the results with industry dummies. Nevertheless, the results remain qualitatively unaffected with fixed effects estimation techniques.

[24] Although this is a frequently used approach in the accounting and finance literature, it should be noted that it also has a drawback as it causes the common explanatory power to be reflected in the non-orthogonalized independent variables (Christie et al., 1984).

coefficients are the same for both samples. First, larger affiliates use higher amounts of bank debt. This finding is consistent with the view that larger firms face smaller borrowing costs because of lower default risks. Moreover, as predicted, affiliates with more tangible assets use more bank debt, because these assets can serve as collateral. In addition, we observe that affiliates' profitability negatively affects bank debt. Within the domestic sample, bank debt decreases with firm age. This result suggests that older firms have more internal funds available that lessen the need for bank financing, because these internal funds are accompanied by smaller information asymmetries (Myers and Majluf, 1984). However, for affiliates that have a foreign parent firm the bank debt ratios increase as these affiliates' age increases, consistent with the reputation view. Furthermore, we also observe differences in the effect of sales growth on bank financing between both samples. Sales growth does not seem to explain the bank debt ratios of domestic affiliates, though foreign affiliates' bank debt ratios are positively affected. The latter finding supports the view that higher sales growth is seen as a signal of better financial health. Furthermore, in both samples more cash rich and less leveraged firms have smaller bank to total liabilities ratios.

Next, we consider the impact of group-level characteristics. All group variable coefficients show similar signs for both samples. The results indicate that affiliates of larger, more profitable, older and more cash rich groups hold less bank debt. These findings provide support for the argument that these group characteristics predominately reflect the availability of resources within the groups' internal capital markets. Group leverage positively affects the firms' bank debt ratios, indicating that group leverage proxies for shortages in internal financial resources.

Besides these four group characteristics, there may be other group-specific factors that have an influence on the bank debt ratios of affiliates and/or affect the earlier presented estimations. To control for these effects we include group dummies in Column 2 for the domestic sample and in Column 4 for the foreign sample. Most firm-level variables remain significant and, except for group cash in the domestic sample and firm age in the foreign sample, show the same signs. Within the domestic sample, this result suggests that after controlling for time invariant

group heterogeneity the availability of (pledgeable) liquidities within the group facilitates access to bank lending by affiliates that are located in the same country as the parent. Within the foreign sample, age negatively drives bank debt as is the case for domestic affiliates. This result indicates that after controlling for time invariant group heterogeneity, the decreased need for bank financing caused by a higher availability of internal funds when firms get older (as predicted by Myers and Majluf (1984)) holds for affiliates with a foreign parent firm as well.

Finally, we estimate the baseline model with all firm- and group-level characteristics for the full sample containing both types of affiliates. The results are reported in Column 5. In order to compare the bank debt ratios of both samples while controlling for firm and group characteristics, we include a dummy variable that equals one if the affiliate has a foreign parent firm. The estimated coefficient indicates that affiliates of a foreign parent firm, ceteris paribus, hold bank debt ratios that are 8.7% lower than the ratios of affiliates in the domestic sample. This result confirms the univariate findings.

Taken as a whole, the first set of results are in line with findings in the literature and show that the bank debt ratios of affiliates with a foreign parent are mainly driven by the same motives as domestic affiliates.

(ii) *Parent Firms' Home Country Effects: Distance and the Legal Environment*

In this subsection, we consider the implications of parent firm location on the bank debt ratios of affiliates. Table 4 presents the results of the extended analysis that incorporates distance and legal environment variables in the Tobit estimations.

Table 4 about here

First, we evaluate the impact of geographical proximity in Column 1. Geographical distance is highly significant and shows a negative effect on bank debt. This finding is in line with our hypothesis H1(a) and is consistent with the view that information asymmetries increase and reputation effects diminish if the parent firm is located further away. In addition, in line with hypothesis H1(b), the estimations of Column 2 indicate that cultural differences also negatively affect the usage of bank debt financing by foreign affiliates. To test whether geographical and cultural proximity capture similar dimensions of asymmetric information and reputation we include both variables in Column 3. We observe that this is not the case: bank debt ratios of affiliates with a foreign parent are negatively influenced by both geographical and cultural distance.

Next, we introduce the first legal distance variable that measures the impact of differences in legal systems between the parent and affiliate country on an aggregated level (Column 4). Supportive of hypothesis H2(a), affiliates of foreign parent firms have relatively smaller bank borrowings if the parent firm resides in a common law country and the affiliate in a code law country (and vice versa). As there is a considerable amount of variation in legislation between code law countries (La Porta et al., 1998), we allow the legal distance variable in Column 5 to capture the various code law legal traditions as well. The coefficient remains negative and highly significant confirming that legal differences between countries also create information asymmetries that hinder bank financing. According to hypothesis H2(b), another aspect of the parent's home market that may influence the use of bank debt by affiliates is the quality of legal enforcement. Both legality variables (Columns 6 and 7) show a highly significant positive effect on affiliates' bank debt ratios: the poorer the legal enforcement within the parent firm's country, the less bank debt is used by affiliates with a foreign parent. This suggest that guarantees received from the foreign parent firm are valued less when the legal enforcement in the parent firm' country is poorer. All possible combinations of the legal distance and legality variables give the same results (not reported).

The model presented in Column 8 includes both the distance and legal environment variables. Although the second legal distance dummy allows for more variation in legal systems,

we opt to include the first legal distance variable because the second measure is highly collinear with geographical distance (ρ = 75%). The second legality proxy is preferred because this variable is time variant, though the results remain the same if the first legality variable is employed. The estimated coefficients remain highly significant with the same signs.

Overall, the results indicate that geographical, cultural, and legal distance between affiliates' and parent firm's countries and the legal enforcement of the parent's country affect affiliates' bank borrowings.

5. ADDITIONAL TESTS AND ROBUSTNESS

(i) *Industry Related Characteristics: Core Affiliates and Diversification*

The results presented above could be reflecting underlying differences concerning industry related characteristics. First, affiliates that are active in a non-core industry of the group may more easily be divested and therefore be treated differently. To test the robustness of our results, we added a dummy variable (CORE) to the analysis that takes the value of one if the primary activity of the affiliate is equal to the primary activity of the group using the three digit USSIC industry scores (Dewaelheyns and Van Hulle, 2006; Locorotondo et al., 2014). The results are presented in Table 5. The estimated coefficient is negative and significant indicating that core affiliates indeed rely less on bank financing. The inclusion of this variable, however, does not change the other results.

Second, if diversified firms have more stable cash flows, the diversification level of firms may have a positive effect on their bank borrowing capacity. Therefore differences in diversification levels across types of affiliates could provide an alternative explanation for our results: affiliates having a domestic parent firm may be more diversified and thus borrow more from banks. We proxy for the affiliates' diversification level by considering the number of industry categories the firm discloses based on the three digit primary USSIC industry codes (DIV) and added this variable to Table 5. Affiliates that are active in a higher number of industries indeed

borrow more. We find the same results if we employ a variable that is based on the two digits or full industry codes. After controlling for the diversification level of affiliated firms, affiliates with a foreign parent still have, on average, smaller bank debt ratios. The bank debt ratios of foreign affiliates continue to be negatively influenced by the distance with the parent firm in all its dimensions and positively by the quality of rule of law of the parent firms' home country.

Table 5 about here

(ii) *Country Related Factors: The Dutch Parent Firm Effect, International Tax Considerations and Country Specific Effects.*

Next, we test the robustness of our results concerning several country related factors. An important part of the foreign sample consists of affiliates that have a Dutch parent firm. To assess whether our findings hold without these affiliates, we re-estimate the model containing all distance and legal enforcement variables. All distance measures show a negative and highly significant sign in both equations. The degree of legal enforcement with the parent's country continues to have a positive influence on bank debt usage of affiliates as well.

As Huizinga et al. (2008) demonstrate our results could also be influenced by international tax considerations with respect to cross border dividend and interest payments. Based on the Huizinga et al. (2008) algorithm, we calculate the effective tax rates for cross-border dividend and interest payments. These variables do not have a significant effect on affiliates' bank debt ratios in our sample.

Additionally, in order to control for additional country effects, we re-estimate the baseline model with country-specific dummies in the foreign sample. The results remain unchanged. These

country dummies only can be included in the base regressions because of collinearity issues with the foreign dummy and the country specific variables.

To check the sensitivity of our results for general economic and credit market conditions of the parent firm's home market in all of the analyses, we include government yield spreads (YIELDSPREAD) in table 5 (Source: Eurostat). Yield spreads are defined as the difference between the 10 year government yield of the parent firm's home country and the 10 year German government yield. These spreads are significantly related to the bank debt ratio, with a negative sign. If yield spreads would be a proxy of relative financing costs, a positive relationship could be expected: lower yields in the parent home country would likely lead to a lower use of bank debt in the affiliate's country. A potential explanation for the negative relationship is that spreads proxy for the reputation of the parent firm's country. Higher yields indicate a worse reputation, which may reflect on the foreign affiliate when accessing bank financing in its own home market. The same findings hold when using the government yields instead of spreads and the annual average interest charged to non-financial corporations in the parent firm's home country (Source: ECB). Including these yields does not change our results.

(iii) *Endogeneity Issues: Substitutability of Internal Debt and the Decision to Invest Abroad*

In addition to industry and country specific issues, some biases may also affect our findings. First of all, as parent provided debt entails fewer conflicts of interest because of its owner-provided nature (see Dewaelheyns and Van Hulle, 2010), affiliated firms with a foreign parent may substitute bank debt for internal debt to overcome factors that hinder access to bank financing. Therefore, we also estimate the equations of Table 4 including the internal debt ratios to control for the substitutability between internal and bank financing following Desai et al. (2004). Because bank and internal debt ratios are jointly determined, internal debt is instrumented using the corrected creditor rights index drawn from Djankov et al. (2007) of the parent firm's home country and one-period lagged internal debt. The creditor rights index is a suitable instrument as it positively

influences the amount of private resources available to the parent firm that can be channelled through the internal capital market in the form of debt and is therefore exogenous to the firm. The F-tests of significance of the first-stage equations all reject the null hypothesis of weak instruments. Regression based tests are not able to reject the null hypothesis of exogenous instruments. We also considered the amount of private credit available in the parent's home country as a possible instrument, but it was found to be exogenous and invalid. After controlling for the substitutability of internal and bank debt financing using IV Tobit regressions, the results remain qualitatively the same.

Furthermore, an additional bias may arise because drivers of the decision to invest abroad could influence the estimated difference between domestic and foreign affiliated firms. Consequently, we re-estimate the base models using the Heckman selection procedure. Following Grubaugh (1987) and Mudambi and Mudambi (2002) among others, we select size, age, and the intangibility ratio (i.e., intangible assets to total assets) at both affiliate- and group-level for the first stage selection equation as these variables are the prime determinants of foreign direct investment. Note that affiliate-level and group-level intangibility are used as instruments as they do not appear in the second stage regression. We also control for industry and year fixed effects. The results of the second stage regression, in which the inverse Mills ratio captures this possible selection bias, are comparable to those reported. Moreover, we also re-estimate the models using lagged independent variables to control for simultaneity issues. The results do not change.

(iv) *Further Robustness: Language and Propensity Score Matching*

We also considered the possible effect of language differences as, besides geographical and cultural distance, these differences may also increase costs. Language, however, does not seem to significantly influence foreign affiliated firms' bank debt if included alongside geographical and cultural distance. Finally, we use group size as an additional criterion to match every foreign

affiliated firm with a domestic affiliate and also apply an alternative matching procedure, namely propensity score matching. Again, results remain qualitatively the same.[25]

6. CONCLUSION

This study examines the bank debt policies of affiliates of private foreign multinational groups. We extend the existing literature by showing that the relevant environment that drives bank debt policy of affiliates comprises not only the host market of the affiliate itself, but also the home market of the parent firm.

We find that foreign affiliated firms' bank debt usage is driven by mostly the same economic rationales as those of affiliates with a domestic parent firm, both at firm and group-level. Nevertheless, the bank debt ratios of foreign affiliates is about half the size of the bank debt ratios of affiliates of domestic business groups, after controlling for various firm- and group-level characteristics.

Therefore, we explore several channels through which the variation in parent firm country may affect the bank debt policy of affiliates. First of all, the findings show that distance — in several dimensions — between the parent firm and the affiliate home country negatively affects bank borrowings of affiliates suggesting that distance increases information asymmetries, limiting access to bank financing. Geographical and cultural distance does not facilitate the monitoring services provided by local banks and may hamper the potential positive influence of parent firm reputation in obtaining bank borrowings. Differences in legal traditions complicate loan contracts and hence raise barriers in accessing bank financing as well. Furthermore, the results reveal that poorer legal enforcement in the parent firm's home country diminishes bank financing for affiliates that are

[25] All results from the robustness tests are available upon request.

headquarted in a different country. This suggests that banks value parent firms' guarantees according to the quality of legal enforcement in the country of the parent firm.

Overall, this paper also offers evidence that parent firms located at smaller distances and in countries with a good legal enforcement can more easily leave the financing of operations to their local affiliates and have a lower need to provide funding from the group's internal capital market. One interesting avenue for further research may therefore lie in examining whether or not the affiliates of this type of business group play a more active role in the bank debt policy of the group as a whole.

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APPENDIX A

Table A1
Variable Definitions

Variables	*Definitions*
BANKDEBT	Bank debt / total liabilities
CASH	Cash / total assets
CULTDISTANCE	The natural logarithm of the Euclidean distance between the four Hofstede (2001) cultural dimensions of the country of the affiliate and the parent firm: Power distance, Individualism, Masculinity, and Uncertainty avoidance
FOREIGN	Dummy variable: 1 if the affiliated firm has a foreign parent firm; 0 otherwise
GEODISTANCE	The natural logarithm of the great-circle distance in km between the capital cities of the affiliate and the parent firm countries, Latitudes and longitudes obtained from: http://geography.about.com/od/locateplacesworldwide/Locate_Places_Worldwide.htm
GROUPAGE	Ln(group age)
GROUPCASH	Group cash / group total assets
GROUPLEV	(Group ST liabilities + group LT liabilities) / group total assets
GROUPPROFIT	Group operating profit / group total assets
GROUPSIZE	Ln(total group assets corrected for inflation)
GROWTH	$Sales_t/sales_{t-1}$
INTERNALDEBT	Internal debt / total liabilities
LEGALDISTANCE 1	Dummy variable: 1 if the parent firm is located in a country with a different legal tradition Two different legal traditions are considered: common law and civil law
LEGALDISTANCE 2	Dummy variable: 1 if the parent firm is located in a country with a different legal tradition. Four different legal traditions are considered: common law, Scandinavian civil law, German civil law, and French civil law.
LEGALITY1	Legal enforcement index developed by Berkowitz et al. (2003) by performing a principal component analysis on the La Porta et al. (1998) legal enforcement variables.
LEGALITY2	Legal enforcement index developed by performing a yearly principal component analysis on four of the Kaufmann et al. (2010) dimensions of legal enforcement: government effectiveness, regulatory quality, rule of law, and control of corruption.
LEV	(ST liabilities + LT liabilities) / total assets
LOGAGE	Ln(firm age)
PROFIT	Operating profit / total assets
SIZE	Ln(total assets corrected for inflation)
TANG	(Net tangible assets + inventory) / total assets

Notes:
This table provides definitions for the variables used in the analysis. Each variable is computed for each firm-year. The firm-level characteristics are based on unconsolidated financial statements data of 1446 affiliates. The group-level characteristics are calculated using data from consolidated statements of 1228 groups.

Table 1

Sample Composition and the Average Bank Debt Ratio by Country and Industry

	Domestic Sample		Foreign Sample	
	n [%]	Bank debt	n [%]	Bank debt
Parent Home Country				
Belgium	723 [100%]	0.162 [0.231]	-	-
Austria	-	-	2 [0.28%]	0.012 [0.013]
Germany	-	-	54 [7.47%]	0.035 [0.096]
Denmark	-	-	34 [4.7%]	0.055 [0.144]
Spain	-	-	9 [1.24%]	0.048 [0.116]
Finland	-	-	5 [0.69%]	0.023 [0.065]
France	-	-	81 [11.2%]	0.102 [0.203]
Great Britain	-	-	27 [3.73%]	0.040 [0.123]
Ireland	-	-	5 [0.69%]	0.028 [0.048]
Italy	-	-	30 [4.15%]	0.036 [0.119]
The Netherlands	-	-	446 [61.69%]	0.108 [0.197]
Sweden	-	-	30 [4.15%]	0.132 [0.272]
Industry				
Agriculture & food	37 [5.12%]	0.208 [0.222]	37 [5.12%]	0.136 [0.207]
Manufacturing	161 [22.27%]	0.172 [0.204]	161 [22.27%]	0.089 [0.155]
Construction	21 [2.9%]	0.143 [0.240]	21 [2.90%]	0.043 [0.115]
Trade	348 [48.13%]	0.157 [0.234]	348 [48.13%]	0.093 [0.187]
Transportation	79 [10.93%]	0.151 [0.251]	79 [10.93%]	0.097 [0.207]
Services	77 [10.65%]	0.153 [0.258]	77 [10.65%]	0.119 [0.251]

Notes:

This table provides the geographical and industry composition for the sample of domestic affiliates (i.e., Belgian affiliates of a Belgian parent firm) and the sample of foreign affiliates (i.e., Belgian affiliates of a foreign parent). The first column for each sample shows the number of firms by each category, the second column shows the average bank debt ratio by each category with standard deviation between brackets. Bank debt is winsorized at 1%.

Table 2

Descriptive Statistics and Univariate Tests

	Median [Min;Max]		Equality test	Mean [StDev]		Equality test
Variable	domestic	foreign		domestic	foreign	
Firm specific characteristics						
BANKDEBT	0.011	0.000	(10.936)***	0.162	0.096	(9.85)***
	[0; 0.840]	[0;0.841]		[0.231]	[0.189]	
INTERNALDEBT	0.14	0.28	(-7.490)***	0.258	0.324	(-7.22)***
	[0;0.992]	[0;0.938]		[0.292]	[0.289]	
SIZE	8.72	8.55	(0.771)	8.64	8.6	(-0.12)
	[4.63;12.13]	[4.928; 12.555]		[1.522]	[1.621]	
TANGIBILITY	0.294	0.254	(4.912)***	0.328	0.249	(4.95)***
	[0;0.938]	[0;0.953]		[0.249]	[0.247]	
PROFIT	0.043	0.064	(-5.581)***	0.065	0.085	(-5.37)***
	[-0.234;0.435]	[-0.334;0.568]		[0.1]	[0.135]	
AGE	2.89	3.046	(-4.617)***	2.897	3	(-4.32)***
	[1.099;4.771]	[1.099;4.5]		[0.743]	[0.724]	
GROWTH	1.043	1.039	(1.325)	1.109	1.057	(4.14)***
	[0.186;4.003]	[0.117;2.671]		[0.47]	[0.299]	
CASH	0.037	0.069	(-8.946)***	0.097	0.127	(-6.34)***
	[0;0.716]	[0;0.764]		[0.143]	[0.153]	
LEV	0.647	0.623	(1.476)	0.596	0.596	(0.28)
	[0.007;0.976]	[0.044;0.973]		[0.248]	[0.224]	
Group characteristics						
GROUPSIZE	11.05	11.96	(-17.334)***	11.29	12.24	(-19.72)***
	[9.470;15]	[8.989; 17.32]		[1.142]	[1.71]	
GROUPROA	0.054	0.067	(-6.237)***	0.067	0.074	(-4.49)***
	[-0.068;0.251]	[-0.167; 0.304]		[0.0607]	[0.07]	
GROUPAGE	2.833	3.258	(-9.236)***	2.91	3.214	(-9.10)***
	[0;4.905]	[0;5.517]		[0.986]	[0.981]	
GROUPCASH	0.0637	0.0582	(4.897)***	0.1040	0.0883	(4.86)***
	[0.004;0.508]	[0.001;0.485]		[0.109]	[0.093]	
GROUPLEV	0.691	0.653	(3.476)***	0.659	0.642	(2.62)**
	[0.137;0.0.97]	[0.149;0.975]		[0.184]	[0.180]	
Distance and legality metrics						
GEODISTANCE	-	0.000	-	-	5.407	-
		[4.932;7.407]			[0.764]	
CULTDISTANCE	-	0.280	-	-	3.959	-
		[2.633;4.535]			[0.510]	
LEGALITY1	-	0.064	-	-	21.210	-
		[17.131;21.673]			[1.012]	

LEGALITY2	-	3.046	-	-	3.411	-
		[0.780;4.193]			[0.552]	

Notes:

This table contains summary statistics and univariate test statistics for the firm-level and group-level characteristics based on financial statements of the domestic and foreign sample for the fiscal years 1998-2007. Both samples contain 723 firms. All firm characteristics are winsorized at the 1% level. The left-hand side reports the medians, the minimum and maximum between brackets for both samples, followed by the Z-statistics from the Wilcoxon Mann-Whitney tests for the equality of medians. The right-hand side reports the means, standard deviations between brackets and statistics for the t-test for the equality of means across both samples. Variable definitions can be found in Table A1. *** denotes significance at the 1% level, ** denotes significance at the 5% level, * denotes significance at the 10% level.

Table 3

Base Equations

	Domestic		Foreign		Full
VARIABLES	(1)	(2)	(3)	(4)	(5)
FOREIGN	-	-	-	-	-0.087***
					[0.0062]
SIZE	0.095***	0.088***	0.097***	0.058***	0.098***
	[0.001]	[0.000]	[0.001]	[0.000]	[0.0009]
TANGIBILITY	0.486***	0.304***	0.493***	0.323***	0.483***
	[0.018]	[0.008]	[0.017]	[0.008]	[0.0133]
PROFIT	-0.114**	-0.346***	-0.328***	-0.373***	-0.254***
	[0.045]	[0.020]	[0.032]	[0.014]	[0.0270]
AGE	-0.011***	-0.013***	0.008**	-0.026***	-0.005**
	[0.004]	[0.001]	[0.003]	[0.001]	[0.0026]
GROWTH	-0.011	0.003	0.058***	0.044***	0.004
	[0.008]	[0.003]	[0.010]	[0.003]	[0.0065]
CASH	-0.201***	-0.132***	-0.622***	-0.520***	-0.398***
	[0.016]	[0.013]	[0.014]	[0.013]	[0.0098]
LEV	0.227***	0.296***	0.246***	0.114***	0.242***
	[0.007]	[0.006]	[0.007]	[0.007]	[0.0051]
GROUPSIZE	-0.043***	-0.002***	-0.057***	-0.049***	-0.053***
	[0.001]	[0.000]	[0.001]	[0.000]	[0.0007]
GROUPROA	-0.433***	-0.427***	-0.168**	-0.177***	-0.204***
	[0.080]	[0.035]	[0.069]	[0.031]	[0.0539]
GROUPAGE	-0.006*	-	-0.019***	-	-0.009***
	[0.003]		[0.003]		[0.0024]
GROUPCASH	-0.468***	0.087***	-0.503***	-0.061***	-0.478***
	[0.022]	[0.026]	[0.017]	[0.021]	[0.0134]
GROUPLEV	0.383***	0.346***	0.257***	0.216***	0.298***
	[0.009]	[0.012]	[0.008]	[0.009]	[0.0053]
Constant	-3.574***	-1.861***	-1.431***	-0.310***	-1.900***
	[0.012]	[0.004]	[0.011]	[0.004]	[0.0085]
Observations	1,887	1,887	1,742	1,742	3,629
Ind & time dummies	Y	Y	Y	Y	Y
Parent dummies	N	Y	N	Y	N
Parent clustering	Y	Y	Y	Y	Y

Notes:

The dependent variable is bank debt to total liabilities. CASH, LEV, GROUPLEV and GROUPCASH are residuals from auxiliary ordinary least square regressions of these variables on the other firm characteristics. Variable definitions can be found in Table A1. All variables are winsorized at the 1% level. The specifications are estimated using Tobit regressions including industry and time fixed effects. Robust standard errors corrected for potential clustering at parent level are reported between brackets *** denotes significance at the 1% level, ** denotes significance at the 5% level, * denotes significance at the 10% level

Table 4

Extended Analysis: the Effects of Parent Firm Nationality

	Foreign Sample								
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
GEODISTANCE	-0.020***	-	-0.025***	-	-	-	-	-	-0.012***
	[0.0021]		[0.0021]						[0.0021]
CULTDISTANCE	-	-0.024***	-0.031***	-	-	-	-	-	-0.064***
		[0.0029]	[0.0029]						[0.0029]
LEGALDISTANCE1	-	-	-	-0.103***	-	-	-	-0.102***	-0.077***
				[0.0078]				[0.0079]	[0.0080]
LEGALDISTANCE2	-	-	-	-	-0.061***	-	-	-	-
					[0.0075]				
LEGALITY1	-	-	-	-	-	0.013***	-	-	-
						[0.0005]			
LEGALITY2	-	-	-	-	-		0.013***	0.012***	0.050***
							[0.0033]	[0.0032]	[0.0033]
SIZE	0.096***	0.098***	0.097***	0.098***	0.096***	0.096***	0.097***	0.098***	0.098***
	[0.0012]	[0.0012]	[0.0012]	[0.0012]	[0.0012]	[0.0012]	[0.0012]	[0.0012]	[0.0013]
TANGIBILITY	0.492***	0.494***	0.493***	0.493***	0.492***	0.492***	0.493***	0.493***	0.495***
	[0.0175]	[0.0176]	[0.0177]	[0.0173]	[0.0172]	[0.0176]	[0.0176]	[0.0176]	[0.0179]
PROFIT	-0.327***	-0.322***	-0.320***	-0.322***	-0.318***	-0.331***	-0.330***	-0.324***	-0.315***
	[0.0321]	[0.0322]	[0.0323]	[0.0316]	[0.0317]	[0.0321]	[0.0322]	[0.0319]	[0.0323]
AGE	0.007**	0.008**	0.008**	0.008**	0.009**	0.007**	0.007**	0.008**	0.008**
	[0.0035]	[0.0035]	[0.0035]	[0.0034]	[0.0034]	[0.0035]	[0.0035]	[0.0035]	[0.0036]
GROWTH	0.057***	0.056***	0.055***	0.057***	0.056***	0.058***	0.058***	0.058***	0.054***
	[0.0097]	[0.0098]	[0.0099]	[0.0096]	[0.0095]	[0.0098]	[0.0098]	[0.0097]	[0.0100]
CASH	-0.617***	-0.624***	-0.619***	-0.625***	-0.629***	-0.615***	-0.618***	-0.622***	-0.615***
	[0.0141]	[0.0143]	[0.0143]	[0.0141]	[0.0139]	[0.0143]	[0.0144]	[0.0143]	[0.0145]

LEV	0.245***	0.243***	0.242***	0.238***	0.238***	0.246***	0.247***	0.239***	0.238***
	[0.0071]	[0.0071]	[0.0071]	[0.0072]	[0.0073]	[0.0071]	[0.0071]	[0.0073]	[0.0073]
GROUPSIZE	-0.054***	-0.058***	-0.055***	-0.057***	-0.053***	-0.055***	-0.056***	-0.056***	-0.055***
	[0.0009]	[0.0009]	[0.0009]	[0.0009]	[0.0009]	[0.0009]	[0.0009]	[0.0009]	[0.0009]
GROUPROA	-0.172**	-0.164**	-0.169**	-0.198***	-0.183***	-0.171**	-0.169**	-0.198***	-0.187***
	[0.0698]	[0.0699]	[0.0705]	[0.0692]	[0.0689]	[0.0699]	[0.0699]	[0.0701]	[0.0711]
GROUPAGE	-0.019***	-0.020***	-0.020***	-0.020***	-0.019***	-0.019***	-0.019***	-0.020***	-0.020***
	[0.0032]	[0.0032]	[0.0032]	[0.0031]	[0.0031]	[0.0032]	[0.0032]	[0.0032]	[0.0032]
GROUPCASH	-0.498***	-0.510***	-0.506***	-0.494***	-0.488***	-0.507***	-0.502***	-0.493***	-0.507***
	[0.0167]	[0.0171]	[0.0168]	[0.0169]	[0.0167]	[0.0168]	[0.0169]	[0.0169]	[0.0168]
GROUPLEV	0.252***	0.254***	0.247***	0.249***	0.253***	0.252***	0.257***	0.249***	0.241***
	[0.0076]	[0.0075]	[0.0076]	[0.0077]	[0.0076]	[0.0077]	[0.0076]	[0.0078]	[0.0078]
Constant	-1.273***	-1.296***	-1.059***	-1.433***	-1.336***	-1.731***	-1.493***	-1.491***	-1.200***
	[0.0116]	[0.0116]	[0.0118]	[0.0113]	[0.0113]	[0.0116]	[0.0116]	[0.0116]	[0.0119]
Observations	1,742	1,742	1,742	1,742	1,742	1,742	1,742	1,742	1,742
Ind & time FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Parent clustering	Y	Y	Y	Y	Y	Y	Y	Y	Y

Notes:

The dependent variable is bank debt to total liabilities. CASH, LEV, GROUPLEV and GROUPCASH are residuals from auxiliary ordinary least square regressions of these variables on the other firm characteristics. Variable definitions can be found in Table A1. All firm characteristics are winsorized at the 1% level. The specifications are estimated using Tobit regressions including industry and time fixed effects. Robust standard errors corrected for potential clustering at parent level are reported between brackets. *** denotes significance at the 1% level, ** denotes significance at the 5% level, * denotes significance at the 10% level.

Table 5

Robustness Tests

	Full sample	Foreign Sample						
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FOREIGN	-0.091***							
	[0.0063]							
GEODISTANCE		-0.024***						-0.025***
		[0.0021]						[0.0021]
CULTDISTANCE			-0.024***					-0.070***
			[0.0029]					[0.0029]
LEGALDISTANCE1				-0.106***				-0.141***
				[0.0128]				[0.0130]
LEGALDISTANCE2					-0.076***			
					[0.0081]			
LEGALITY1						0.011***		
						[0.0006]		
LEGALITY2							0.009***	0.048***
							[0.0033]	[0.0033]
SIZE	0.099***	0.098***	0.101***	0.100***	0.098***	0.098***	0.099***	0.100***
	[0.0009]	[0.0012]	[0.0012]	[0.0012]	[0.0012]	[0.0012]	[0.0012]	[0.0013]
TANGIBILITY	0.481***	0.489***	0.492***	0.490***	0.488***	0.490***	0.491***	0.491***
	[0.0135]	[0.0177]	[0.0178]	[0.0175]	[0.0174]	[0.0177]	[0.0178]	[0.0180]
PROFIT	-0.254***	-0.328***	-0.323***	-0.325***	-0.318***	-0.331***	-0.329***	-0.316***
	[0.0273]	[0.0322]	[0.0323]	[0.0318]	[0.0318]	[0.0323]	[0.0323]	[0.0323]
AGE	-0.005**	0.010***	0.011***	0.011***	0.012***	0.010***	0.010***	0.012***
	[0.0027]	[0.0035]	[0.0035]	[0.0035]	[0.0034]	[0.0035]	[0.0035]	[0.0036]
GROWTH	0.002	0.053***	0.051***	0.054***	0.052***	0.054***	0.054***	0.050***
	[0.0067]	[0.0098]	[0.0099]	[0.0097]	[0.0097]	[0.0099]	[0.0099]	[0.0100]

CASH	-0.387***	-0.600***	-0.607***	-0.611***	-0.615***	-0.600***	-0.603***	-0.605***
	[0.0099]	[0.0142]	[0.0144]	[0.0142]	[0.0139]	[0.0144]	[0.0144]	[0.0145]
LEV	0.242***	0.248***	0.246***	0.241***	0.240***	0.249***	0.249***	0.236***
	[0.0051]	[0.0071]	[0.0071]	[0.0072]	[0.0073]	[0.0071]	[0.0071]	[0.0072]
GROUPSIZE	-0.054***	-0.054***	-0.057***	-0.057***	-0.052***	-0.055***	-0.056***	-0.054***
	[0.0007]	[0.0009]	[0.0009]	[0.0009]	[0.0009]	[0.0009]	[0.0009]	[0.0009]
GROUPROA	-0.217***	-0.172**	-0.166**	-0.194***	-0.181***	-0.172**	-0.171**	-0.190***
	[0.0545]	[0.0702]	[0.0703]	[0.0698]	[0.0693]	[0.0703]	[0.0703]	[0.0713]
GROUPAGE	-0.007***	-0.019***	-0.020***	-0.020***	-0.020***	-0.019***	-0.019***	-0.020***
	[0.0025]	[0.0032]	[0.0032]	[0.0031]	[0.0031]	[0.0032]	[0.0032]	[0.0032]
GROUPCASH	-0.467***	-0.471***	-0.482***	-0.472***	-0.459***	-0.480***	-0.475***	-0.487***
	[0.0135]	[0.0166]	[0.0171]	[0.0169]	[0.0166]	[0.0168]	[0.0169]	[0.0168]
GROUPLEV	0.299***	0.252***	0.253***	0.250***	0.254***	0.253***	0.256***	0.239***
	[0.0054]	[0.0078]	[0.0078]	[0.0080]	[0.0078]	[0.0079]	[0.0079]	[0.0079]
CORE	-0.038***	-0.057***	-0.050***	-0.050***	-0.060***	-0.051***	-0.051***	-0.055***
	[0.0057]	[0.0075]	[0.0076]	[0.0075]	[0.0075]	[0.0076]	[0.0076]	[0.0076]
DIV	0.013***	0.034***	0.035***	0.035***	0.038***	0.033***	0.033***	0.037***
	[0.0046]	[0.0061]	[0.0062]	[0.0061]	[0.0060]	[0.0062]	[0.0062]	[0.0062]
YIELDSPREAD	-0.136***	-0.041	-0.073***	-0.001	-0.010	-0.060**	-0.076***	0.116***
	[0.0294]	[0.0252]	[0.0254]	[0.0280]	[0.0263]	[0.0252]	[0.0253]	[0.0281]
Constant	-1.883***	-1.312***	-1.351***	-1.511***	-1.395***	-1.754***	-1.526***	-1.125***
	[0.0088]	[0.0117]	[0.0118]	[0.0115]	[0.0115]	[0.0118]	[0.0118]	[0.0119]
Observations	3,629	1,742	1,742	1,742	1,742	1,742	1,742	1,742
ind & time FE	Y	Y	Y	Y	Y	Y	Y	Y
parent clustering	Y	Y	Y	Y	Y	Y	Y	Y
Pseudo R2	0.346	0.385	0.384	0.384	0.386	0.384	0.384	0.390

Notes:

The dependent variable is bank debt to total liabilities. CASH, LEV, GROUPLEV and GROUPCASH are residuals from auxiliary ordinary least square regressions of these variables on the other firm characteristics. Variable definitions can be found in Table A1. All firm characteristics are winsorized at the 1% level. The specifications are estimated using Tobit regressions including industry and time fixed effects. Robust standard errors corrected for potential clustering at parent level are reported between brackets. *** denotes significance at the 1% level, ** denotes significance at the 5% level, * denotes significance at the 10% level.