

The Influence of Ownership Structure on Internationalization

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Abstract

The separation of ownership and control and the thereby caused agency problem is one of the core topics of management research. Based on a agency theoretical reasoning concerning the link between ownership and industry diversification we study the influences of ownership structure on firms' geographical (international) diversification. This is particularly interesting since the link between ownership structure and geographical diversification has not been directly investigated before. To test our hypotheses we utilize panel data for the 102 largest German manufacturing firms from 1990 to 2006. Our analysis using the foreign sales to total sales, the cumulated cultural distance and the transnational activities spread index developed by Ietto-Gilles (1998) confirms the agency theoretical predictions about the relationship between ownership structure and geographical diversification.

Keywords: IB theory; Internationalization; Ownership structure; Principal agent theory; Corporate control; Separation of ownership and control

1 Introduction

The separation of ownership and control (Berle & Means, 1932; Dodd, 1932; Steinitzer, 1908) is one of the core topics of management research. This is even more true against the background of the intensive discussions on the very origins of the recent global financial and economic crisis. However, compared to management research in general research in international management is still lagging behind when looking for the economic effects of different ownership structure situations. Especially the relationship between ownership structure and geographical diversification serves here as a prominent example. Although there is a vast amount of research work studying the relationship between ownership structure and industrial diversification (e.g., Amihud & Lev, 1981; Bergh, 1995; Bethel & Liebeskind, 1993; Denis, Denis, & Sarin, 1997; Hill & Snell, 1988, 1989; Lloyd, Modani, & Hand, 1987) there seem to be no contributions investigating the relationship between ownership structure and geographical diversification directly. Instead, most researchers who are interested in the relationship between ownership structure and geographical diversification refer to the well accepted arguments that ownership structure has an impact on geographical diversification and this again influences performance. Derived from those arguments they conclude that it is sufficient to consider the relationship between geographical diversification and performance (e.g., Denis, Denis, & Yost, 2002; Kim & Mathur, 2008). This paper attempts to investigate the direct relationship between ownership structure and geographical diversification empirically for two reasons. First, there is a strong agency theoretical link between ownership structure and diversification in general (Aggarwal & Samwick, 2003; Denis et al., 2002; Thomsen & Pedersen, 2000). Second, there are contradictory findings of the research on the relationship between industry diversification and performance (e.g., Denis et al., 1997; Gedajlovic & Shapiro, 1998; Markides & Williamson, 1994; Palich, Cardinal, & Miller, 2000) as well as geographical diversification and performance (e.g., Glaum & Oesterle, 2007; Kim & Mathur, 2008; Verbeke, Li, & Goerzen, 2009). As so far it is insufficient to transfer the results on a link between diversification and performance on the relationship between ownership structure and geographical diversification.

The remainder of this paper is organized as follows. The theoretical background is outlined in section two. It addresses the agency problem of the modern firm, the main motives for managerial opportunistic geographical diversification, and the impact of the ownership structure on geographical diversification. At the end of section two testable Hypotheses are derived from the theory. In section three we describe our research methods. The empirical findings are presented and discussed in section four. In section five we present our conclusions.

2 Theory

2.1 Diversification and the agency problem of the modern firm

The basic rationale for studying the relationship between ownership structure and diversification is the agency theory. A sizable literature even suggests that diversification is a leading example for the principal agent problem of the modern firm (Aggarwal & Samwick, 2003). In their seminal works Berle and Means (1932), Dodd (1932), and Steinitzer (1908) point out the problems arising from the separation between ownership and control in the modern firm – a phenomenon that was already anecdotally described by Adam Smith (1776). Later, Jensen and Meckling (1976) developed a formal agency theoretical explanation for the consequences of this separation: While firms' shareholders (principals) are interested in a maximization of the firm value, the managers (agents) may pursue the maximization of their own utility. Therefore, "there is good reason to believe that the agent [manager] will not always act in the best interests of the principal" (Jensen & Meckling, 1976). Since ownership is assumed to be dispersed in the modern firm, its managers have due to insufficient monitoring some freedom for opportunistic behavior (Eisenhardt, 1989; Jensen & Meckling, 1976; Shleifer & Vishny, 1997). Especially agents' private information which cannot be observed directly by the principal and private decision domains which the principal cannot control directly generate opportunities for such opportunistic behavior (Myerson, 1982; Shleifer & Vishny, 1997). Supporting the agency theoretical view there is substantial evidence that manager-controlled firms' behavior is different to the behavior of owner-controlled firms. For example, manager-controlled firms are more likely to maximize sales than profits; are more diversified and are more likely to make decisions that smooth income. Those behavior characteristics of manager-controlled firms are interpreted as the result of managers' opportunistic behavior since this firm behavior seems to be contradictory to the goal of firm value maximization (Lloyd et al., 1987).

Diversification becomes an agency problem since managers in general tend to withhold free cash flows and diversification opens new investment outlets for free cash flows (Jandik & Makhija, 2005). Therefore diversification might be pursued by managers for other goals than firm value maximization. This is in line with Penrose's (1959) observation that firms' diversification is a response to unutilized resources. However, when analyzing diversification as an agency problem it has to be kept in mind that the findings concerning a relationship between industrial diversification as well as geographical diversification and performance are still inconclusive. Therefore, it would be judging managers too soon if any diversification attempt would be considered automatically as driven by managers' maximization of their own utility. In general, it is also possible, that managers adopt diversification strategies in good faith

while they act not driven by self-interest but as stewards for their firm as proposed by Lane, Cannella, and Lubatkin (1999) in a controversial contribution. They questioned opportunistic maximization of utility as the only manager motive by adding a behavioral perspective suggesting that whether a manager acts opportunistically or not depends in large part on how he or she feels about his or her work situation and whether he or she feels morally justified to act on his or her self-serving tendencies or not. Furthermore, as noted by Jensen and Ruback (1983) and Wright et al. (2002) diversification by acquisition can reduce firm value, even if the acquisition was ex-ante expected to contribute to firm value. And some researchers like Campa and Kedia (2002), Graham, Lemmon, and Wolf (2002), and Jandik and Makhija (2005) point out that the empirical results that find a negative effect of diversification may be due to a selective bias since diversifying firms may have other characteristics than firms that do not diversify. Jandik and Makhija (2005), for example, reported from a sample of US utility firms that especially underperforming firms in term of lower EBIT and sales pursue diversification strategies.

On the other side there is also a growing number of contributions reporting for both industry diversification and performance (Palich et al., 2000; Thomsen & Pedersen, 2000) as well as geographical diversification and performance (Glaum & Oesterle, 2007) a non-linear relationship. The shape of those non-linear relationships proposes that some diversification spurs performance while diversification exceeding an optimal level impairs firm performance. By this it could be concluded that there is an agency problem because managers who pursue the maximization of their own utility over-diversify the firm and thereby reduce its value counteracting the interests of the shareholders. Therefore, the possible gains of opportunistic diversification, which provide incentives for managers to diversify opportunistically, are further investigated. Although managers' opportunistic benefits that can be gained from industry diversification are about the same as those that can be gained by geographical diversification (Denis et al., 2002) this paper focuses on benefits from geographical diversification due to its research objective. The possible main benefits that managers can extract from opportunistic geographical diversification are the reduction of their portfolio risk as proposed by Amihud and Lev (1981) on the one hand and so called "private benefits" on the other hand.

2.2 Main motives for opportunistic geographical diversification

2.2.1 Reduction of the managerial portfolio risk

Some researchers argue that a firm can reduce its risk by spreading its activities over economically not integrated countries and therefore not perfectly correlated markets (e.g., Annavarjula & Beldona, 2000; Hennart, 2007; Hughes, Logue, & Sweeney, 1975; Qian, 1997; Ramírez-Alesón & Espitia-Escuer, 2001; Reeb, Kwok, & Baek, 1998; Rugman, 1976; Shapiro, 1978). They ground their argument on the theory of portfolio diversification that was originally developed in the field of finance by Markowitz (1952) who proved that the risk of a portfolio can be reduced by spreading the investments over uncorrelated assets. Risks can be fluctuations of the cash flow, the total profits, the demand, the sales or the prices on factor markets as well as changing political conditions or the threat of bankruptcy (Annavarjula & Beldona, 2000; Hennart, 2007; Qian, 1997; Ramírez-Alesón & Espitia-Escuer, 2001; Reeb et al., 1998; Shapiro, 1978). However, Kwok and Reeb (2000) limit this argument by noting that the risk reduction of geographical diversification depends on the firms' home and target market conditions. Some other researchers even argue that the firms' risk is increased by internationalization due to various risk factors (Kwok & Reeb, 2000; Reeb et al., 1998).

According to Amihud and Lev (1981) managers have a strong interest in reducing the firms' risk since their wealth is closely linked to the firms' well-being. Managers rent a substantial part of their capital – their human capital – to the firm (Fama, 1980) and their income from employment constitutes, in general, a major portion of their total income (Amihud & Lev, 1981). Profit-sharing schemes, bonuses, and stock options connect the managers' income from employment to firm performance. In addition, by holding shares or stock options of the firm they manage, managers' portfolios are even more undiversified (Wright et al., 2002) and managers, who are aware of this problem, seem to tend to sell most of the stocks awarded to them as bonus or stock option as soon as their holding period expires (Bebchuk, Cohen, & Spamann 2009). Thus the risk associated with managers' income and wealth is closely related to the firm's risk (Amihud & Lev, 1981). Moreover, if the firm fails to achieve its performance targets or goes bankrupt its managers usually lose their employment and by this their main source of income. Additionally, failure tends to reduce also the managers' future income and employment potential on the labor market for managers (Amihud & Lev, 1981; Fama, 1980). Amihud and Lev (1981) argue further that managers cannot diversify their employment risk since there is no market for human capital which is comparable to the stock market where stock portfolio risk can be traded easily. Consequently risk averse managers may apply other means to diversify their employment risk

(Amihud & Lev, 1981). Amihud and Lev (1981) view diversification by engaging in conglomerate mergers as one avenue for managers to achieve this employment risk reduction as it stabilizes firms' income streams and may even prevent bankruptcy. Obviously, engaging in conglomerate mergers as proposed by Amihud and Lev (1981) seems to have very similar effects as those put forward by the researchers proposing a risk reduction through geographical diversification. Hence, geographical diversification is supposed to be another mean for managers to reduce their employment risk as described by Amihud and Lev (1981) (Denis et al., 2002).

Following Amihud and Lev (1981) managers are very concerned about the risk of their portfolio and therefore they are likely to engage in either industrial or geographical diversification to reduce firm risk and by this also the risk of their own wealth portfolio. Such diversification activities are for three reasons potentially conflicting with the interests of the shareholders who are interested in the maximization of the firm value. Our first argument is as outlined above that diversification – at least if it exceeds a certain degree – is assumed to be detrimental to firm value. Second, since shareholders have the opportunity to diversify their risk more efficiently on their own on the (perfect) capital market there is from their point of view no need for risk diversification on the firm level (Amihud & Lev, 1981, 1999; Levy & Sarnat, 1970; Lloyd et al., 1987; Wright et al., 2002). And third, risk reduction strategies transfer wealth from the shareholders to bondholders while higher risk represents a wealth transfer from bondholders to shareholders (Wright et al., 2002). Therefore, geographical diversification driven by the managers' motive to reduce risk constitutes a classical agency problem: If the managers are not constrained somehow by the shareholders, they will pursue a suboptimal diversification strategy (Amihud & Lev, 1981, 1999; Kochhar, 1996; Lane, Cannella, & Lubatkin, 1998; Lloyd et al., 1987).

2.2.2 Managerial private benefits

In public firms managers usually own only a small fraction of the firm's shares. Consequently, they own only a small fraction of the profits generated by their managerial activities and thereby they cannot capture the gains from their profit enhancing activities fully. Therefore, it is argued that there is an incentive for managers of public firms to spend less effort on optimizing the firm's resource usage but to redirect some resources to their own private benefit. Examples for such managerial private benefits are corporate jets, plush offices and "empire building" (Harris & Raviv, 1991). Analyzing the agency problems of geographical diversification the empire building is particularly relevant (Aggarwal & Samwick, 2003; Denis et al., 2002; Morck & Yeung, 1991). According to the 'growth maximization' hypothesis managers

maximize or at least pursue as one of their goals, the growth in physical size of their firm rather than its profits or shareholder welfare since their current monetary as well as non-monetary rewards tend to be closely tied to the size or growth rate of their firm (Baker, Jensen, & Murphy, 1988; Baumol, 1959; Mandelker, 1974; Marris, 1963; Mueller, 1969; Penrose, 1959; Wright et al., 2002). Additionally, diversification helps to make the manager indispensable to the firm (Aggarwal & Samwick, 2003; Shleifer & Vishny, 1989). And Whitley (1998) argues that managers can increase their autonomy from domestic pressure groups like governmental agencies, domestic banks, shareholders and unions by diversifying geographically. Such independence may open up opportunities for skimming (Bertrand & Mullainathan, 2001; Kim & Mathur, 2008). Furthermore, empire building may be driven by the managers' need for power, prestige, and status that are usually connected to managing a huge international firm (Aggarwal & Samwick, 2003; Denis et al., 2002; Jensen, 1986; Morck & Yeung, 1991).

2.3 The impact of the ownership structure on firm diversification

Summing up the theoretical arguments and empirical findings there are possible incentives for managers to diversify geographically even if those diversification activities reduce firm value and thereby counteract the shareholders' interests. Consequently, shareholders are well advised to be aware of this potential agency conflict and to install governance mechanisms to avoid such opportunistic managerial behavior. There are two avenues to achieve this. The first one is giving managers incentives to act according to the shareholders' interests. This idea is derived from the assumption that if managers are large shareholders themselves their interests are synchronized with those of the shareholders. The same alignment of interests can be achieved if managers' contracts are designed such that managers' compensation is linked to shareholders' wealth (Denis, Denis, & Sarin, 1999). However, according to Amihud and Lev's (1981) risk diversification argument those incentives are not supposed to be sufficient to avoid opportunistic diversification strategies since profit-sharing schemes, bonuses, stock options, and ownership participation still link the managers' wealth to the firms' long running well-being. Furthermore, Denis and McConnell (2003) point out that the relationships between ownership, control, and firm value are more complicated since larger management ownership on the one hand aligns managers' and shareholders' interests but on the other hand larger ownership gives managers more freedom to pursue their own interests.

The second way to avoid opportunistic behavior is monitoring the managers. But this monitoring is in most cases incomplete due to managers' private information which cannot be observed directly by the

shareholders and managers' private decision domains which the shareholders cannot control directly (Denis et al., 1999; Myerson, 1982; Shleifer & Vishny, 1997). Furthermore, shareholders of firms with very dispersed ownership are described to be apathetically relying on the managers to protect their investments (Berle & Means, 1932; Dodd, 1932; Ryan & Schneider, 2002). On the first glance this seems confusing since the arguments outlined above indicate that the shareholders should monitor the managers to avoid opportunistic behavior. However, given the fact that monitoring comes with costs (Hansmann, 1996) this apathy is assumed to be rational because the cost benefit ratio is negative for small shareholders given their relatively small stake in the company (Denis & McConnell, 2003). Furthermore, in firms with highly dispersed shareholders monitoring becomes a public good as each shareholder benefits from the monitoring activities of others (Stieglitz, 1982). This causes a free-rider problem that reduces the incentives for dispersed shareholders to coordinate their actions (Denis & McConnell, 2003). Overall, it is therefore assumed that small shareholders who are not satisfied with firm's performance do not engage in monitoring and influencing the management but sell their shares instead (Nassauer, 2000). Hence, as described by Berle and Means (1932) managers have more degrees of freedom to pursue their own interests at the expense of firm value maximization if shareholdings are dispersed.

Vice versa it is assumed that individual shareholders who have more significant ownership positions have greater incentives to expend resources to monitor and influence managers and thereby that managers of firms with large shareholders have less freedom to pursue their own interests (Demsetz & Lehn, 1985; Denis & McConnell, 2003; Denis et al., 1999; Gedajlovic & Shapiro, 1998; Lloyd et al., 1987; Pedersen & Thomsen, 1997; Thomsen & Pedersen, 2000; Shleifer & Vishny, 1986). However, owners investing a significant share of their wealth in a single company are more likely to advocate low-risk company strategies and thereby favor geographical diversification (Gorriz & Fumas, 1996; Pedersen & Thomsen, 1997; Thomsen & Pedersen, 2000).

Above and beyond the monitoring by the shareholders, there are additional factors influencing and constraining managers' freedom to pursue opportunistic interests: The market for corporate control (Manne, 1965), the managerial labor market (Fama, 1980), the product market (Hart, 1983), and the firm's capital structure (Harris & Raviv, 1991; Jensen, 1986; Kochhar, 1996; Stieglitz, 1985; Stulz, 1990). Although those additional influences should be kept in mind when conducting research on managers'

behavior they are not further investigated in this paper due to its research objective focusing on the owners' influence on geographical diversification.

Besides the theoretical arguments there is also some empirical evidence concerning the diversification agency problem. Amihud and Lev (1981) found that manager-controlled firms (i.e., firms in which no single party holds 10% or more of the outstanding stock of the company) engage in more conglomerate acquisitions and are more product diversified than owner-controlled firms. Lloyd et al. (1987) show that manager-controlled firms have a significant greater tendency to engage in conglomerate mergers than firms with strong owner-control. Hill and Snell (1988, 1989) found that stockholder influence is significantly negatively related to product diversification. And May (1995) reported a significantly negative impact of the time the CEO spend with the firm and the firms' risk. But there is also some controversy about the findings: Lane et al. (1998) argue that there is no support for the widely-cited conclusion that managers attempt to diversify their own risk through corporate diversification. They argued instead that the agency theoretical explanations have little relevance in explaining the diversification behaviors of public corporations since diversification decisions usually cause no conflict between the shareholders' and the managers' goals. Although this view was severely attacked by Amihud and Lev (1999) and Denis et al. (1999) Lane, Cannella, and Lubatkin (1999) reject the critics and stress again their position. Furthermore, Aggarwal and Samwick (2003) found that diversification is strongly influenced by the managers' motive for seeking private benefits but not by the risk reduction motive.

2.4 Hypotheses

Taking the arguments concerning ownership structure and geographical diversification outlined above together allows deriving empirical testable hypotheses. In summary we found that the separation of ownership and control of firms' creates an agency problem in terms of geographical diversification since managers can gain benefits at the expense of the shareholders by over-diversifying their firm geographically. But, greater ownership in the firm provides the shareholders with both incentives and means to control the management and to avoid by this opportunistic geographical diversification. So we assume:

(H1): With a growing stake the shareholders use their growing influence to prevent opportunistic diversification, hence internationalization declines if the stake owned by a single shareholder increases.

But shareholders who invest a significant share of their wealth in a single company are more likely to be risk averse and consequently prefer low-risk strategies. Therefore:

(H2): If the stake becomes that large that a significant part of the shareholders wealth is invested in a single company, the shareholder favors risk-reduction strategies and by this geographical diversification.

And in summary:

(H3): The relationship between the stake of the largest shareholder and the firms' geographical diversification is assumed to be U-shaped.

3 Research Methods

We analyze the influence of ownership structure on geographical diversification by using panel data of the 102 largest German manufacturing firms in the years 1990-2006. The company data were obtained from the financial statements and additional detail information – like foreign sales or the substantial foreign subsidiaries – published in the firms' annual reports. Furthermore information about the ownership structure were added from the Hoppenstedt Aktienführer (Hoppenstedt Stock Guide) and information about the firms' industry were obtained by including its two-digit "WZ" industry codes which are assigned by the German Statistisches Bundesamt (Federal Statistical Office of Germany).

To test our hypotheses we use the stake of the largest shareholder and its squared term as operationalizations of our independent variable "ownership structure". For this purpose we took for each firm year observation the share of the shareholder who held in the respective year the largest part of the firm's stocks from the Hoppenstedt Aktienführer. Additionally, we use as control variables the firm size measured by the book value of its total assets, the accounting standard by utilizing dummy variables for IAS/IFRS and US-GAAP (while taking the traditional German HGB accounting rules as baseline), and the firms' industry through dummy variables according to its two-digit WZ industry code. A firm's size

can influence its geographical diversification behavior for two reasons. First, larger companies are more likely to engage in international operations due to scale advantages that enable them to overcome financial and human resource barriers when investing abroad (Bausch & Krist, 2007; Calof, 1994; Hannah, 1996). Second, it is assumed that firm size has a negative effect on ownership concentration since more capital is needed to own the same percentage of a large firm as compared to a small one (Seifert, Gonenc, & Wright, 2005). Controlling for the accounting standard becomes necessary when introducing the firms' total assets since the utilized accounting standard, which can influence the total asset value, changed for the most firms due to an adaptation from the traditional German HGB rules towards the international accounting standards IAS/IFRS or US-GAAP within the observation period. The industry can affect the firms' geographical diversification behavior because even when limiting the sample to manufacturing companies the products of different industries may have different properties concerning their international marketability.

The dependent variable for testing hypothesis H1-H3 is the firms' geographical diversification. We choose the foreign sales to total sales ratio (FSTS), the cumulated cultural distance (CCD) between the firms' home country and their substantial foreign subsidiaries' host countries, and the transnational activities spread index (TASi) developed by Letto-Gilles (1998) as operationalizations. Although FSTS is often criticized (e.g., Kim, Hwang, & Burgers, 1993; Tallman & Li, 1996; Sullivan, 1994) it is still a widely used and very common measure for firms' geographical diversification (Annarajula & Beldona, 2000; Thomas & Eden, 2004 and e.g., Capar & Kotabe, 2003; Christophe & Lee, 2005; Elango & Sethi, 2007; Geringer, Tallman, & Olsen, 2000; Ruigrok & Wagner, 2007). Therefore, we decided to use it, too. The CCD was calculated by summing up the cultural distances between the firms' home country (Germany in all cases) and the host countries of its substantial foreign subsidiaries whose locations were taken from the firms' annual reports. The cultural distances were determined by using the Euclidian distances between the countries' four culture dimensions according to Hofstede (1980). The measure CCD supplements FSTS since the CCD is a measure for the "breadth" of firms' international activities while FSTS displays the "depth" of the foreign involvement (Thomas & Eden, 2004). The TASi is used to combine the two different approaches on which the FSTS and the CCD measure are based on and therefore to get the full picture of firms' international activities within one measure. It is constructed by multiplying the average of the foreign assets to total assets, the FSTS, and the foreign employees to total employees with the network spread index that is calculated by dividing the number of countries where the firm has substantial foreign subsidiaries by the number of countries, in which the firm could have

subsidiaries – i.e., according to letto-Gilles (1998) there are 178 counties in which a firm could theoretically have subsidiaries. A summary of the variables is provided in appendix I.

Since our data were heteroskedastic panel data we used for testing the hypothesis robust linear regressions with random effects as well as fixed effects models and then applied the Breusch and Pagan Lagrangian multiplier test for random effects to determine which method should be used since the robust estimations do not offer the opportunity to run a hausman test.

4 Results and Discussion

The results of the regressions utilized to test our hypotheses are summarized in Table 2. Descriptive statistics for the variables included in the regressions are provided in Tables 1a-c. Changes in the number of observations as well as in the number of groups are due to different data availability for the included variables. Since industry effects are not in the focus of our research their coefficients are not reported in the tables.

Insert Table 1a, 1b and 1c here.

Insert Table 2 here.

The results of the regressions using FSTS and the letto-Gilles measure as dependent variables support hypothesis H1-H3. However, the regression using the CCD as dependent variable supports only Hypothesis H1 and rejects the hypotheses H2 and H3 by indicating a significantly linear negative relationship between ownership concentration and geographical diversification instead. Those differing results may be interpreted as follows: Owners possess preferences like assumed in hypothesis H1-3. Until they have invested a certain amount of their wealth into a single company they prefer value maximizing strategies and therefore use their growing control rights to prevent managers from pursuing geographical diversification strategies. However, if their stake exceeds a certain threshold they have invested that much of their wealth in the single company that they favor risk averse strategies by themselves and compel the management to diversify the firm's activities geographically. Nevertheless, only the deepening of the geographically dispersed business activities as measured by FSTS, which can be interpreted as a deepening of the foreign production activities (Thomas & Eden 2004) or the overall geographical diversification as measured by the letto-Gilles measure – that includes with the “breadth”

and the “depth” both perspectives – can provide real risk diversification while a mere geographical widening of the activities like measured by the CCD is more likely to be due to managerial empire building or other private benefits. For example, if a firm owns subsidiaries in many countries causing a high CCD but has a low FSTS ratio this means it has dispersed activities but still generates the bulk of its sales on its home market. Hence, the example firm’s sales risk is not very diversified. In other words, an increase of the FSTS ratio measure is a necessary condition for risk diversification by geographical diversification. However, it is admittedly not a sufficient condition since it contains no information about the geographical spread of the business activities. But this caveat can be overcome by using the Letto-Gilles measure that combines the “breadth” and the “depth” perspective and can therefore be seen as a measure for firms’ overall geographical diversification. And the results concerning the Letto-Gilles measure confirm the proposed U-shaped relationship between ownership structure and geographical diversification. Nonetheless, shareholders seem to be concerned to keep the CCD in any case low and with increasing ownership concentration they gain the control rights and opportunities to counteract managerial empire building attempts effectively.

The main limitation for our empirical findings is that they cannot be transferred to other countries easily due to differences in the legal system and the corporate governance arrangements (Denis & McConnell, 2003; Gedajlovic & Shapiro, 1998). Furthermore, our analysis treats shareholders as a homogeneous group but there is a growing amount of research works indicating that the identity of the shareholders or classes of shareholders matter, too (Fernandez & Nieto, 2006; Lloyd et al., 1987; Pedersen & Thomsen, 1997; Thomsen & Pedersen, 2000; Wright, Kroll, Lado, & van Ness, 2002; and Zahra, 1996, 2003). This should be taken into account in further research works.

5 Conclusion

There is a clear agency theoretical link between firms’ ownership structure and its geographical diversification. Amihud and Lev’s (1981) risk diversification argument and the opportunity to derive private benefits from geographical diversification provide incentives for managers to pursue geographical diversification strategies that counteract the shareholders’ interests. However, due to costs of control, the relative small amount of capital invested, and a free rider problem, shareholders of firms with very dispersed ownership structures have no incentives to monitor and influence the managers who are working with their capital. Instead, those shareholders are assumed to sell their shares if the firm’s performance is insufficient. Therefore, the managers of these firms have some freedom to pursue their

own interests on the expense of the shareholders. But as the stake a single shareholder owns increases he or she gains the means and the motivation to control the management tightly as the utility from controlling the management increases with the capital invested. Therefore, it is expected that an increasing ownership concentration has a negative impact on firms' geographical diversification. On the other hand, if the stake of a single owner exceeds a certain threshold the owner has invested a significant part of his or her wealth into a single firm and may favor some risk diversification by geographical diversification. Hence, the relationship between the share of the largest shareholder and the firm's geographical diversification is assumed to be U-shaped. However, since firms' shareholders are not a homogeneous group but possess different goals the shareholders' identity is assumed to influence firms' geographical diversification behavior, too. A fact that should be considered in future research work.

Using panel data for the 102 largest German manufacturing firms for the years from 1990 to 2006 we found significant U-shaped relationships between the stake of the largest shareholder and the depth of the firms' geographical diversification as well as its overall geographical diversification measured by the letto-Gilles measure. In addition, we found a significantly linear negative relationship between the stake of the largest shareholder and the cumulated cultural distance. Therefore, we argued that the depth of the geographical diversification is a necessary but not sufficient condition for risk diversification by geographical diversification while the CCD is more likely to be due to managerial empire building or other private benefits. The theoretical prediction about the relationship between the ownership structure and firms' geographical diversification is finally confirmed by the results concerning the letto-Gilles measure, which combines the "breadth" and the "depth" perspective. Thus, our findings confirm the agency theoretical predictions for the influence of the ownership structure on firms' geographical diversification behavior.

Since we predicted and confirmed that managers should be monitored to avoid opportunistic behavior while shareholders follow a rational logic when deciding about the degree of their monitoring of the managers it is hard to derive management implications from our findings. However, there are two potential practice oriented implications. First, companies could attract shareholders and by this raise their stock price if they implement governance structures that prevent managers' opportunistic behavior more efficient than the competitors' governance structures. Second, investors seeking a low-risk

investment opportunity could participate in the risk diversification by geographical diversification as favored by very large shareholders if they buy shares of firms with a very large shareholder.

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Table 1a: Descriptive Statistics of the variables for testing hypothesis H1-H3 by using the FSTS operationalisation

	Variable	Observations	Mean	Standard Deviation	Min	Max	1	2
1	FSTS	892	0.57	0.20	0	1.00		
2	Share of the largest Shareholder	892	48.07	30.42	1.04	100	-0.17***	
3	Total Assets	892	10039.57	25658.01	2.045167	207410	0.20***	-0.32***

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Table 1b: Descriptive Statistics of the variables for testing hypothesis H1-H3 by using the cumulated cultural distance operationalisation

	Variable	Observations	Mean	Standard Deviation	Min	Max	1	2
1	Cumulated Cultural Distance	1263	561.47	427.78	0	3069.42		
2	Share of the largest Shareholder	1263	52.28	31.05	1.04	100	-0.22***	
3	Total Assets	1263	8218.62	22525.01	2.05	207410	0.21***	-0.31***

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Table 1c: Descriptive Statistics of the variables for testing hypothesis H1-H3 by using the Ietto-Gilles measure operationalisation

	Variable	Observations	Mean	Standard Deviation	Min	Max	1	2
1	Ietto-Gilles Measure	456	0.03	0.02	0	0.13		
2	Share of the largest Shareholder	456	45.38	29.20	1.04	100	-0.08†	
3	Total Assets	456	9824.343	24255.02	129.43	207410	0.12*	-0.29***

† = $p < 0.10$; * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Table 2: Results of the regressions testing hypothesis H1-H3

Dependent Variable	FSTS	FSTS	Cumulated Cultural Distance	Cumulated Cultural Distance	Ietto-Gilles Measure	Ietto-Gilles Measure
Number of Observations	892	892	1263	1263	456	456
Number of Groups (Firms)	85	85	99	99	66	66
Max Observations per Group	17	17	17	17	17	17
Min Observations per Group	1	1	1	1	1	1
Average Observations per Group	10.5	10.5	12.8	12.8	6.9	6.9
Overall R ²	0.41	0.40	0.26	0.26	0.29	0.27
Estimated Coefficients						
Stake of the largest Shareholder	-0.000338 (0.000245)	-0.003024*** (0.000819)	-1.197093* (0.494757)	1.734497 (2.062072)	-0.000048 (0.000038)	-0.000418** (0.000146)
Stake of the largest Shareholder squared	--	0.000025** (0.000008)	--	-0.026676 (0.019533)	--	0.000003** (0.000001)
Total Assets	0.000001*** (0.000000)	0.000001*** (0.000000)	-0.000361 (0.000804)	-0.000310 (0.000792)	0.0000001** (0.000000)	0.0000001* (0.000000)
Dummy IFRS	0.129612*** (0.010013)	0.124772*** (0.010467)	154.7479*** (27.337)	160.4609*** (29.10049)	0.011021*** (0.002494)	0.009775*** (0.002599)
Dummy US-GAAP	0.050114** (0.015830)	0.047968** (0.016227)	93.00112 (65.72432)	101.0337 (66.77484)	0.009135* (0.004476)	0.008954† (0.004585)
Constant	0.445994*** (0.088502)	0.505076*** (0.087365)	443.7918*** (61.71576)	377.2041*** (76.68095)	0.019570** (0.005903)	0.028151*** (0.007112)

Robust random effects estimations with industry dummies. Robust standard errors in parentheses.

† = p < 0.10; * = p < 0.05; ** = p < 0.01; *** = p < 0.001

Appendix I: Variables and their operationalization

Variable	Operationalization	Source
Geographical diversification	Foreign sales to total sales Cumulated cultural distance ¹ Transnational activities spread index ²	Annual reports
Ownership structure	Share of the shareholder who held in the respective year the largest part of the firm's stock	Hoppenstedt Stock Guide (Hoppenstedt Aktienführer)
Ownership structure squared	Square of the ownership structure	Hoppenstedt Aktienführer (Hoppenstedt Aktienführer)
Firm size	Book value of the firm's total assets	Annual reports
Accounting standard	Dummy variables for IAS/IFRS and US-GAAP	Annual reports
Industry	Dummy variables according to the two-digit WZ industry code	Federal Statistical Office of Germany (Statistisches Bundesamt Deutschland)

1: Calculation of the cumulated cultural distance:

$$\sum_{j=1}^{\text{number of host countries}} \sqrt{\sum_{i=1}^4 \left(\text{Dimension}_i \text{Value}_{\text{Germany}} - \text{Dimension}_i \text{Value}_{\text{Host country } j} \right)^2}$$

using the four cultural dimensions proposed by Hofstede (1980)

2: Calculation of the transnational activities spread index (Source: Ietto-Gilles (1998)):

$$\frac{FATA + FSTS + FETE}{3} * \frac{\text{Number of foreign countries in which the firm has affiliates}}{178}$$

with: FATA = Foreign assets to total assets; FSTS = Foreign sales to total sales; FETE = Foreign employees to total employees