Track 6: International finance, accounting and corporate governance

Competitive paper submission

The effect of diversification and internal capital markets: an exploratory institutional perspective

Abstract:

We augment diversification and internal capital market (ICM) frameworks with an institutional perspective, arguing that the effect of diversification on performance is dependent not only on the specific type of diversification (international or industry) but also on the specific context of a company in terms of its home market and the heterogeneity of its international investments. We believe the value of diversification is contingent on the distances between markets of a firm and we assume that different types of distance (economic, political, financial and cultural) have different effects on firm performance. Our findings suggest that industry diversification has a negative effect on MNE performance, but ICM may be used to counter this effect, especially in times of economic downturn in the domestic market. The effect of international diversification is insignificant depends on the specific context of a company's portfolio of international investments. In an exploratory attempt, we find that a politically heterogeneous portfolio of investments may result in a negative performance, whereas cultural distance seems to spur economic performance of the MNE.

Keywords: Diversification, ICM, institutional theory, institutional distance

Introduction

The relationship between diversification and performance has been of major interest for research for many years. One organizational activity that might explain superior performance difference for diversified companies is the use of internal capital markets (ICM). Interestingly, many years of research do not provide a conclusive answer with respect to the performance effects of such ICMs.

The positive effects are derived from superior internal financing in terms of access to capital and its costs, compared to financing on external capital markets. The negative effects mainly stem from agency phenomena that might lead to inefficient internal capital allocation. Notwithstanding the positive and negative effects, the overall effect of ICMs, we believe, is strongly influenced by the institutional surroundings in which these companies operate, as they constitute the realm of opportunities and constraints for a firm's ICM. Hence, we assume that the value of diversification in general and of ICMs in particular depends on the universe of institutional differences a firm can capitalize on in its international operations.

However, this influence of institutional contingencies on ICM and diversification – performance relationship has not been analyzed so far, neither in the corporate strategy nor in the IB literature sufficiently (for a notable exception see Kwok & Reeb, 2000). We attempt to make a first step by integrating institutional context into internal capital activity and ultimately into firm performance. First, we show that ICM activity is positively related to performance, even when controlling for geographic and industry diversification. We then set out to decompose the firms' portfolio of invested countries into aggregate measures of political, economic, cultural and financial distances to see which institutional differences may serve as sources of competitive advantage which distances actually restrain MNEs in their performance.

In a third step, we introduce the companies' home country context, arguing that the relative value of ICM depends on the current state of domestic operations of firm. In essence, we believe that a company benefits more from institutional diversity within its portfolio of investments when its home country institutional environment is troubled or unstable (for a similar argument see Wan & Hoskisson, 2003).

Our paper though at a very exploratory stage contributes to strategy and IB Literature in a number of ways. First, and rather general, we increase the integration of finance and IB literature that has been called for (Agmon, 2006) by linking ICM activity to the institutional contexts of firms. Second, we relate ICM activity and two different measures of diversification to performance of MNEs and show which aspects of the ICM contribute to MNE performance. Our results indicate, that industry diversification may have a detrimental effect on MNE performance, whereas the effect of international diversification is inconclusive and dependent on the specific home and host country contexts. Third, we show that the relative value of internationalization and ICM depends not only on the diversity of a firm's portfolio of investments, but to an even greater extent on the current state of a company's home country state (Kwok & Reeb, 2000). Finally, we decompose the diversity of firms' international investment portfolio into different aspects of diversity (political, cultural, financial and economic) in an exploratory attempt to identify which types of distances are sources of value and arbitrage for MNEs and which types of distance constitute more of a cost of internationalization (Berry, *et al.*, 2010). We relate these components of distance to the MNE's overall performance. Though tentative and exploratory at this stage, our results suggest, that different dimensions of an MNE's institutional portfolio, may have very different effects on their ICM and their ultimate performance.

Theory and Hypothesis

Our analysis combines three important theoretical concepts: diversification (Lessard, 1973, Rugman, 1976), internal capital markets (ICM) (Hill, 1988, Khanna & Tice, 2001, Scharfstein & Stein, 2000, Stein, 1997) and institutional theory (DiMaggio & Powell, 1983, Kostova, 1999, Kostova, *et al.*, 2008, Scott, 1995). While the first concept originated in finance and dug their way deep into strategy and management literature, institutional context has been a stronghold of IB research so far. We believe, that contextualizing the concepts of ICM and diversification not only has the potential to explain inconsistent empirical results on their effectiveness, but provides us also with valuable opportunities to come up with managerially relevant contributions, showing the boundary conditions under which the theoretical concepts of diversification and ICM actually succeed in creating value.

Figure 1 shows the concepts involved in our interdisciplinary theoretical framework. In the following literature section, we give a brief overview of the three concepts.

Insert figure 1 here

Corporate Diversification

The idea of diversification is based on Markowitz's portfolio theory and broadly states that the overall risk/return profile of a portfolio can be reduced by adding imperfectly correlated assets (Markowitz, 1952). Originating in finance, the concept soon found its way into strategy literature suggesting that spreading a firm's business activities across different industries or geographic markets reduces the overall risk and ultimately the performance of the firm (Ansoff, 1965, Hill & Hoskisson, 1987). On a cautionary note, however, the costs and risks associated with internationalization or with introducing new products are very different to the costs of constructing a balanced financial portfolio of assets. Hence, there has been a strong

theoretical and empirical debate about the economic validity of the concept of diversification in strategy literature (Hennart, 2007, Mansi & Reeb, 2002).

As regards industry diversification, some studies have shown that highly diversified companies receive lower capital market valuations (Berger & Ofek, 1995, Campa & Kedia, 2002, Gande, *et al.*, 2009, Graham, *et al.*, 2002, Lamont & Polk, 2001, Lang & Stulz, 1994, Rajan, *et al.*, 2000). Other studies find positive effects of industry diversification under certain circumstances (Montgomery, 1985, Ramanujam & Varadarajan, 1989, Villalonga, 2004). The scholars involved in the discussion have used a multiplicity of performance and diversification measures, hardly achieving a consensus on the benefits or cost of industry diversification (Kim, 1989, Vachani, 1991). Another difficulty in determining the net-effect of diversification is the empirical difficulty to distinguish the effects of industry diversification from the effects of international diversification.

Theories on the effects of international diversification tend to disagree on whether the net effect of internationalization is positive or negative (Chatterjee & Wernerfelt, 1991, Hennart, 2007, Schoar, 2002). Proponents of the diversification benefit argue that multinational firms can benefit from a portfolio risk reduction due to imperfectly correlated markets, increase their operational flexibility creating valuable real options (Kogut & Kulatilaka, 1994) and can engage in tax arbitrage. Opponents of the diversification hypothesis argue that the costs and risks involved in internationalizing outweigh the benefits. Such costs involve actual costs of establishing subsidiaries abroad but also more indirect costs such as the costs of organization, communication and, not the least, agency cost of internationalization. In support of such a view, much of the empirical literature on cost of capital reports higher cost of capital for highly internationalized companies (Burgman, 1996, Charles, *et al.*, 1997, Fatemi, 1984).

Empirical studies comparing the effect of industry diversification with the effect of international diversification suggest that the effect of international diversification far

outweighs industry effects (Bodnar, *et al.*, 1999). There are convincing theoretical arguments supporting such superior benefits: First, international diversification does not require less specific investment. Firms can capitalize on economies of scale which are not present when they introduce a new product (Bodnar, *et al.*, 1999). Second, international expansion increases operational flexibility, creating real options within and across different countries (Kogut & Kulatilaka, 1994). MNEs can use their international status to arbitrage on differences between countries, which is not found to a similar degree in industry diversification. Industry diversification, on the other hand, has shown to be negatively related to firm performance in a number of studies (Aggarwal & Samwick, 2003, Agrawal, *et al.*, 1992, Berger & Ofek, 1995, Eckbo, 1985, Kaplan & Weisbach, 1992, Lang & Stulz, 1994, Morck, *et al.*, 1990). Researchers seem to agree that industrial diversification is the result of opportunistic behavior of managers misappropriating free cash-flows to poorly performing industries. Industries in a particular market tend to be subject to the same macro-economic forces and tend to be more correlated than international markets. Hence the risk reducing effect of diversification is lower. In addition, industry diversification does not give a firm access to additional resources in foreign markets in the same way as international diversification. For these reasons, we formulate two hypotheses on direct effects of diversification on firm performance.

> ***Hypothesis 1:*** *Industry diversification decreases the performance of the multinational company.*
>
> ***Hypothesis 2:*** *International diversification increases the performance of the multinational company.*

One particularly important benefit of diversification is considered to be the broader scope of financial opportunities and the ability of MNEs to bypass external financial markets by creating an internal capital market (Hill & Hoskisson, 1987, Liebeskind, 2000).

Internal capital market activity

The benefit of ICM is mostly explained by a company's ability to overcome the *"evident limits which the capital market experiences in its relations to the firm"* (Williamson, 1970 :140). Firms have superior knowledge and information about investment projects which ultimately should lead to lower internal and higher external transaction costs. An internal capital market allows firms to capitalize on this superior knowledge by avoiding excessive costs of debt or equity. A diversified firm can use free cash-flows from other investments to finance a risky but profitable project at lower costs. Myers and Majluf (1984) argue that diversified firms can rely on existing assets to finance risk ventures essentially substituting assets and avoiding higher costs of capital. Following this reasoning, we hypothesize a third direct effect:

> ***Hypothesis 3:*** *Internal capital market activity (ICM) increases the performance of the multinational company.*

In addition to this positive perspective on ICM (Khanna & Tice, 2001, Maksimovic & Phillips, 2002) there are several scholars arguing for a negative effect of ICM (Doukas & Kan, 2008, Gertner, *et al.*, 1994, Hill, 1988, Lamont, 1997, Lamont & Polk, 2002, Rajan, *et al.*, 2000, Scharfstein & Stein, 2000, Sheng-Syan, 2006, Shin & Stulz, 1998). Empirical studies have shown that ICM may indeed destroy value, leading to inefficient capital allocation and avoidance of external monitoring (Berger & Ofek, 1995, Cline, *et al.*, 2014, Lang & Stulz, 1994, Rajan, *et al.*, 2000). The shared explanation for this negative effect is that managers use ICM for inefficient empire building and maximize their cash-flow discretion while at the same time avoiding negative repercussions from external markets (capital market avoidance hypothesis) (Cline, *et al.*, 2014). Hence, ICM activity itself does not create value unless it is done efficiently (Maksimovic & Phillips, 2002). Any study analyzing ICM markets should include measures of activity and efficiency in order to account

for potentially opposite effects. If international and industry diversification are conceptually different, it is likely that they affect ICM activity and efficiency in different ways. Hence, it is necessary to consider the interaction of capital market activity and the different types of diversification. ICM, we believe are more efficient as the international scope of the firm increases and the universe of markets within its portfolio increases. Being present in more diverse markets, increases the benefits of being able to access and allocate resources across these markets. Ultimately, this should increase the value of ICM.

> ***Hypothesis 4a:*** *The positive effect of internal capital market activity (ICM) on the performance of multinational companies increases with international diversification.*

Similarly, industry diversification allows a company to reduce risks and allocate funds over a broader universe of potential investment projects. However, industry diversification has shown to have a much lower or even negative effect on firm performance (Bodnar, *et al.*, 1999). Accordingly, we formulate our second interaction hypothesis:

> ***Hypothesis 4b:*** *The positive effect of ICM activity on the performance of multinational companies increases with industry diversification.*

The main contribution of our paper is the argument that the benefits and cost both diversification and internal capital market activity depend on the external context of the firm. In particular, we argue that

- the institutional diversity within a firm's portfolio of operations and the
- firm's home country development and growth

determine the net cost or benefit of a firms ICM and .

Institutional Environment, Diversification and ICM

Internationalization and industry diversification are usually measured in an absolute, context unspecific manner. Common approaches include the number of industries a firm operates in, the number of foreign markets or the share of foreign sales or foreign assets. Such measures capture the degree of international activity in relation to a company's domestic operations but not whether this international operation takes place in a very different or similar institutional context. Majocchi and Zucchella (2003), for example, stress the importance of the type of market firms internationalize into rather than the plain number of markets they are active in. However, both the theoretical benefits of diversification and ICM are fundamentally based on the presence of imperfect correlations (risk), diverse investment and arbitrage opportunities between different markets (performance). A firm operating in several markets in economic, cultural, financial and political proximity will have different opportunities to benefit from such differences than a firm which operates in only two, but inherently different markets. Hence, a measure valid of diversification should capture size and diversity of international and industry operations.

A seldom theoretical attempt to address this contextual problem was made Vachani (1991), who argued that diversification literature should distinguish between related and unrelated international diversification in a similar way research on industry diversification does. Several other authors have put forth similar views and have provided evidence on the importance of the institutional context in diversification.

Some authors taking such contextual perspective have shown that the positive effect of international diversification can outweighed by additional risks (foreign exchange risk, political risk, cultural risks) related to the countries involved (Bartov, *et al.*, 1996, Burgman, 1996, Reeb, *et al.*, 1998). For instance, the benefit of a firm's internationalization may depend on the currency in the host country, or rather its value vis-à-vis the home country. The benefit

of internationalization may also be influenced by the political situation in the host country and, in particular the political relations between home and host country. In the most elaborate contextual study Kwok and Reeb (2000) attempt to model the effect of international diversification as a function of distance between the markets firms internationalize into. In their paper, they formulate the upstream-downstream hypothesis according to which the overall effect of internationalization depends on the difference in institutional developments between the home and host country.

Based on these findings and the theoretical reasoning, we believe that the effect of diversification depends on the institutional contexts of the target country. The question remains however on how to adequately capture the diversity of a firm's international portfolio of activities adequately. In this paper we attempt to make a first and exploratory attempt to shed some light into this black box using IB logic and institutional theory in particular.

IB literature has demonstrated that the institutional environment in a host country is a complex interplay of different regulative, normative and cultural-cognitive institutions (Kostova, *et al.*, 2008, North, 2004, Scott, 1995). Even in more detail, Berry, *et al.* (2010) have decomposed institutional distance into nine measures to capture different aspects of distance or diversity. Based on this multifaceted conceptualization we formulate a first exploratory hypothesis:

> ***Hypothesis 5:*** *Economic, cultural, financial and political distances within a multinational have different performance implications and moderate the effect of internal capital market (ICM) activity on the performance of multinational companies.*

Analyzing the effect of internationalization into a specific market, requires consideration of the institutional context in the target market(s), its differences to the home country market and the institutional setting in the home country (Desai, *et al.*, 2004). A company internationalizing from a country of weak institutions and stagnating growth may benefit

considerably more from internationalization then a company situated in a developed market (Chakrabarti, *et al.*, 2007, Khanna & Palepu, 2000). Similarly, the benefit of ICM and the ability to allocate funds over a broader universe of investment opportunities may be more valuable to firms in times of monetary strain and recession. Accordingly, we formulate our concluding hypothesis:

> ***Hypothesis 6:*** *The economic and financial development in the home country have different performance implications and moderate the effect of internal capital market (ICM) activity on the performance of multinational companies.*

Empiricism

To test our hypotheses, we use an international dataset from Thomson Financial Worldscope that covers relevant stock-listed companies in 18 countries between 1991 and 2008. Based on MSCI Barra's definition, two thirds of the data covers developed markets (France, Germany, Japan, Norway, Portugal, the United Kingdom, and the United States) and one third developing markets (Brazil, China, Egypt, India, Israel, Korea, Mexico, Peru, Russia, Slovenia, and Turkey). Thus the sample examines the impact of diversity and ICM on performance in economic areas with different levels of development. In these countries we identified 840 companies using leading stock market indices. We excluded companies whose primary activity is in financial services (SIC 6000-6999), companies showing inconsistent data in the database of Thomas Financial Worldscope, and companies with actually differing countries of origin. As a result, 468 companies of 18 countries with 3.287 company-years remained in the final sample. For less developed countries the base sample contained 190 companies with 1.169 company-years, for developed countries, it contained 278 companies with 2.118 company-years. Further, we obtain measures distance measures from Berry, *et al.*

(2010) and data on the location of the subsidiaries of each firm from the Orbis database maintained by Bureau van Dijk.

Variables

Performance: We use EBIT in measuring performance to eliminate the effect of varying corporate tax rates among countries. Accounting-based performance measures facilitate comparability to previous studies in the field of diversification (Hitt, *et al.*, 1997, Markides, 1995). Unlike market-based performance measures (i.e. stock price, Tobin's Q) they capture the operative benefits of diversification and are largely independent of capital market valuation by investors.

ICM activity: In line with prior research we measure ICM activity using after tax cash flows and investments from Thomas Financial Worldscope (Hill, 1988, Peyer & Shivdasani, 2001). First, we determine the segment-specific after tax cash flows, determining if it constitutes a transfers or subsidy from one segment to the other. We then add up all inter-company transfers and subsidies to generate a compound measure of overall ICM activity. Unfortunately we cannot determine whether the subsidies or transfers between segments are international capital transfers or not. We need to rely on the assumption that cross-segment capital transfers are a reasonably reliable proxy for international capital transfers in the companies.

Industry diversification: There are numerous approaches to measuring diversification (Chatterjee & Blocher, 1992, Davis & Duhaime, 1992, Jacquemin & Berry, 1979, Kim, 1989, Vachani, 1991). We decide to use the entropy measure by Jacquemin and Berry (1979) based on the 4-digit SIC-code. This product-market oriented perspective is established through prior research and inherits continuous measurement what is beneficial for the statistical procedure (Hoskisson, *et al.*, 1993). Related diversification is measured with the count of related

segments based on the 2-digit SICcode. Operationalizing related diversification depicts how many segments operate in the same industry.

International diversification: Following our criticism for absolute measures of international diversification, and the limitations of our dataset which does not allow us to construct more sophisticated measures of internationalization like the Herfindahl-Index, we decide to construct a novel measure of international diversification. It is intended to capture the heterogeneity of the companies' international portfolios of investments rather than the scale of its international relative to its domestic operations. We download the locations of all international subsidiaries of the MNEs within our sample. We then merge these home country – host country dyads with the different measure on institutional distance provided by Berry, *et al.* (2010). In a third step, we derive average and maximum distances for each MNE. For our direct effects (H1), we create an aggregate measure of all different types to a compound measure. We aggregate these conceptually different distances fully aware of the problems and with the intention to include the individual measures in our exploratory analysis (H5).

Exploratory variables for the international context: We attempt to capture home country economic context by incorporating three measures. To measure the economic situation of a country, we use its real growth of GDP which we defer from IMF data, analogous to prior studies (Chakrabarti, *et al.*, 2007). The real growth of GDP is a valid measure that indicates the state of the business cycle of a specific country, depicting if the country is in recession or in a phase of economic upturn. Second, we introduce a measure for the sophistication of financial markets using the World Competitiveness Report in accordance with Wan and Hoskisson (2003). Finally, we suspect that home country interest rates and monetary policy may influence firm performance and the importance of ICM. We use the change in the country-specific money market rate based on IMF data (Campello, 2002). Overall, we believe

such variables can serve as a first exploratory approach to assess how home country economic factors influence ICM – performance relationship.

Control variables: We control for ICM (in)efficiency, firm size, sales growth, degree of diversification, count of related segments, leverage ratio, quick ratio and CAPEX intensity. To measure inefficiencies in the capital allocation process of ICM we use corporate profitability indicated by industry growth. Thus, our measurement of inefficiencies, is based on the share of investments that flow into industries with little prospect of success. The share of investments in underperforming industries is therefore used as an indicator for inefficiencies in the capital allocation process of ICM. Firm size is measured with the logarithm of total assets (Billett & Mauer, 2000). To eliminate exchange rate fluctuations and inflationary trends, total assets are standardized on the U.S. Dollar rate based on the year 2000. Sales growth is measured by comparing standardized sales of a particular year with standardized sales of the previous year. Therefore, sales are also converted into U.S. Dollars based on the year of 2000. Leverage ratio is measured as the relation of total liabilities to total assets (Billett & Mauer, 2000). Quick ratio is measured by dividing cash and cash equivalents by total assets. Finally, CAPEX intensity is measured as the relation of investments and total assets. It controls expenditures of a company as there could be an implicit relationship concerning the activity of ICM. We control for year and industry using dummy variables. Table 1 shows variable correlations and descriptive statistics.

Insert table 1 here

Methods

We run multilevel regression models with country level random effects due to the nested structure of our international sample. We use robust standard errors and attempt to control for time effects and autocorrelation by including past profitability. Table 2 reports the results of

our five models. There are no correlations of worrying magnitude except past performance and present performance, and economic and financial distance, both of which is unsurprising and not problematic.

Insert table 2 here

The empty model (1) includes only control variables and shows that unsurprisingly, firm profitability is significantly related to past profitability. Also, larger firms in our sample tend to be less profitable, giving a first, undifferentiated indication of potential diversification effects. Also, firms with higher sales growth tend to be more profitable. In a second step we introduce the three direct effects of ICM activity, industry diversification and international diversification. Our results suggests that industry diversification has an overall negative effect on profitability (H1), but that this effect can be partially reduced by ICM activity (H3), transferring funds from one segment to another. This provides support to the general benefit of ICM. The result on international diversification (H2) is insignificant, supporting our argument that the effect of international diversification may depend on the specific context and on different types of institutional distances (H5). In model (3) we test for interaction effects but find no indication that the benefit of ICM varies across different degrees of industry (H4a) and international diversification (H4b).

In model 4 we drop our aggregate measure of international diversification to explore potentially differing effects of different components of institutional distance. Our results suggest strong negative effects of political distance on firm profitability. We can only make assumptions on the mechanisms at play but we believe that at least part of this effect is due to additional costs resulting from conducting business across large political divides. However, we cannot rule out other explanations related to our specific samples. The results on economic distance are insignificant suggesting that the risk reduction from investing into economically

distant countries does not outweigh potential risks and costs in a significantly measurable way. This corresponds to the results of Reeb, *et al.* (1998). Surprisingly, cultural distance has a significantly positive effect on the profitability of internationalized firms. It is difficult to make any assumptions on the direction of causality there and further analysis is needed. Financial distance does not seem to be sufficiently related to firm profitability. A reason for this could be that financial barriers are easier to overcome than political barriers due to the high efficiency and integration of financial markets which allows MNEs to address risk resulting from internationality. We do not find any interaction effects on any distance measures and no indication that the value of ICM differs systematically across different levels of political, economic, cultural or financial diversity within a firm's portfolio of subsidiaries.

Our final model introduces the home country context we find no significant direct effects of home country economic policy, stability and development on firm performance but we find that the value of ICM, i.e. the benefit from being able to transfer funds across industries and markets is most beneficial when home country growth is weak. In such situations firms channel funds to more profitable investments abroad.

We run numerous models as robustness checks, varying the past performance control variable, removing country random effects and models using subsamples. The results on the main hypotheses H1-3 are largely stable across specifications. The results of our exploratory hypotheses H4-5 are rather volatile. One reason for this lack of robustness is the skewed nature of our central variable ICM volatility which is zero in roughly 55% of observed years as MNEs do not make any internal capital transfers and subsidies. Hence, we run a model on a subsample of years in which there was ICM activity (ICM activity > 0). The coefficients on all our hypotheses remain stable in terms of size and direction but the negative effect of industry diversification turns insignificant. Overall, we are confident our analysis provides a

realistic picture of the diversification – performance relationship but we encourage caution in the interpretation of coefficients at this stage.

Conclusion

Our results are very much at an exploratory stage. However, our paper promises to make several contributions to IB and strategy literature. We combine concepts from finance, strategy and international business in an interdisciplinary way and challenge the often criticized management premise that *"finance follows fundamentals"* (Forssbæck & Oxelheim, 2008 :630). Our results suggest that ICM can provide a source of competitive advantage, especially in times of weak domestic growth. Firms can benefit from allocating funds to promising investments when existing operations are suffering from poor growth.

Second, we compare and decompose different forms of diversification. We find support for the negative effects of industry diversification (Gande, *et al.*, 2009, Graham, *et al.*, 2002, Lamont & Polk, 2001, Rajan, *et al.*, 2000) but find indications that ICM may help to alleviate such negative effects. Regarding international diversification we apply a new measure intended to capture the diversity of international operations rather than the relative scale of international to domestic operations.

We find no evidence for superior performance of distantly internationalized companies. However, the result must not be interpreted as evidence against the benefit of international diversification. It can be interpreted in two ways: When internationalization takes place across large institutional distances, this introduces additional risks, costs and inefficiencies (Hennart, 2007, Reeb, *et al.*, 1998) potentially outweighing the benefits of geographic diversification. More importantly however, this inconclusive, to some unsatisfactory result, stresses the potential value of our third contribution, i.e. the contextuality of diversification. The benefit of diversification depends not only on the foreign market context, but also on the home market

context and researchers need to consider different dimensions of distance when contextualizing such effects. Our exploratory results provide a gentle illustration that different dimensions of institutional distance within the portfolio of an MNE's operations may have different effects its performance.

Limitations and avenues for further research

Our results must be interpreted with care due to their exploratory nature and the difficulties in measuring the complex constructs involved in the model. One should beware of making causal inferences from our exploratory models since the complexities of home and host country institutions are likely to be much more complex than our measures are able to depict.

Overall, however, we believe our first results show that the complexity of the diversification – ICM – performance relationship is far more complex than often modelled. Also, we believe that our exploratory analysis provides interesting avenues for future studies and offers an illustration of how strategy and finance literature can benefit from integrating IB theories such as institutional theory in their line of reasoning, and the other way round, of course.

Further research should go further into detail on the different dimensions of distance and how they can lead to weaker or better performance in corporate portfolio settings. Such a fine grained approach would allow IB researchers to extend existing concepts from strategy and provide valuable managerial recipes for enhancing MNE performance in a world of institutional distances.

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Tables & Figures

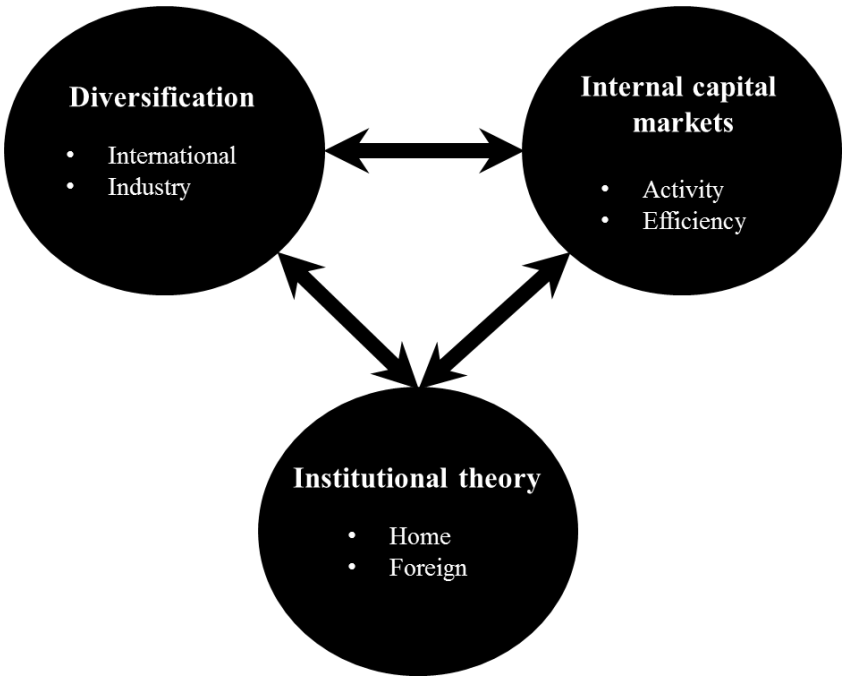

Figure 1: Theoretical framework

		Mean	S.D.	Min	Max	-1	-2	-3	-4	-5	-6	-7
-1	ebitoay1	9.93	8.61	-44.67	70.50	1.00						
-2	icm_ac_assets	0.53	1.18	0.00	18.52	0.03	1.00					
-3	div_total	0.51	0.54	0.00	2.22	-0.20	0.30	1.00				
-4	fms_smo	5.11	1.06	1.75	6.92	0.03	0.07	0.15	1.00			
-5	srmm	-0.20	3.87	-69.05	41.35	0.01	0.02	0.02	0.03	1.00		
-6	gdp_gr	2.96	2.69	-6.90	13.00	0.16	-0.01	-0.26	-0.40	-0.02	1.00	
-7	pol_max	171.67	113.64	0.00	282.00	-0.09	0.15	0.44	0.23	0.05	-0.24	1.00
-8	eco_max	35.40	28.52	0.00	73.49	-0.12	0.09	0.46	0.24	0.04	-0.34	0.67
-9	cul_max	9.88	12.00	0.00	32.89	0.14	0.13	0.15	0.58	0.03	-0.07	0.24
-10	fin_max	23.37	21.19	0.00	53.31	-0.05	0.11	0.41	0.22	0.04	-0.26	0.52
-11	cap_inef_ind	51.01	45.29	0.00	100.00	-0.08	0.01	0.02	0.02	-0.03	-0.09	-0.02
-12	past_ebitoay0	9.98	8.31	-44.67	49.81	0.59	0.02	-0.21	0.03	0.01	0.23	-0.08
-13	lnassets	15.78	1.60	9.92	20.34	-0.21	0.21	0.42	0.17	0.02	-0.14	0.32
-14	capex_int	7.07	5.49	0.00	52.24	0.12	0.07	-0.15	-0.11	0.02	0.15	-0.07
-15	sales_gr_ppp	13.43	48.98	-95.48	1534.25	0.11	-0.01	-0.09	-0.03	0.05	0.15	-0.05
-16	own_conc	3.49	3.51	1.00	10.00	0.11	0.04	-0.24	-0.22	-0.04	0.28	-0.26
-17	subsid_no	128.94	205.95	1.00	2436.00	-0.10	0.10	0.35	0.29	0.02	-0.20	0.21
-18	leverage	37.56	22.09	0.00	99.93	-0.25	0.06	0.17	0.03	0.02	-0.10	0.06
-19	fin_max	23.37	21.19	0.00	53.31	-0.05	0.11	0.41	0.22	0.04	-0.26	0.52

Table 1: Descriptive statistics and correlations

	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18
ebitoay1											
icm_ac_assets											
div_total											
fms_smo											
srmm											
gdp_gr											
pol_max											
eco_max	1.00										
cul_max	0.19	1.00									
fin_max	0.77	0.27	1.00								
cap_inef_ind	0.01	-0.04	0.04	1.00							
past_ebitoay0	-0.12	0.13	-0.05	-0.04	1.00						
lnassets	0.40	0.15	0.34	0.03	-0.16	1.00					
capex_int	-0.11	-0.04	-0.10	0.00	0.15	-0.13	1.00				
sales_gr_ppp	-0.08	0.00	-0.07	-0.09	0.04	-0.10	0.08	1.00			
own_conc	-0.46	-0.03	-0.31	0.01	0.09	-0.22	0.08	0.05	1.00		
subsid_no	0.40	0.38	0.45	-0.02	-0.09	0.38	-0.12	-0.05	-0.19	1.00	
leverage	0.03	0.03	-0.04	0.05	-0.30	0.25	-0.02	-0.01	-0.10	0.10	1.00
fin_max	0.77	0.27	1.00	0.04	-0.05	0.34	-0.10	-0.07	-0.31	0.45	-0.04

Table 1 (continued): Descriptive statistics and correlations

	(1) Empty model	(2) Direct effects model	(3) Interaction effects model	(4) International portfolio model	(5) Home country context model
ICM efficiency	-0.00616	-0.00609	-0.00629	-0.00631	-0.00601
	(-1.35)	(-1.31)	(-1.36)	(-1.31)	(-1.27)
Profitability (Ebit t-1)	0.518***	0.512***	0.511***	0.501***	0.513***
	(10.28)	(10.50)	(10.58)	(10.94)	(10.73)
Size (ln assets)	-0.650***	-0.648***	-0.641***	-0.699***	-0.663***
	(-4.94)	(-5.10)	(-5.06)	(-6.60)	(-5.17)
Investment (Capex int.)	0.0352	0.0257	0.0265	0.0315	0.0259
	(1.09)	(0.80)	(0.82)	(0.99)	(0.83)
Sales growth (at PPP)	0.0108**	0.0106**	0.0106**	0.0108**	0.0108**
	(3.13)	(3.17)	(3.19)	(3.17)	(3.16)
Ownership concentration	0.0536	0.0431	0.0464	0.0698	0.0384
	(1.08)	(0.91)	(0.98)	(1.45)	(0.77)
Number of subsidiaries	0.000503	0.000738	0.000759	-0.000380	0.000988
	(0.60)	(1.07)	(1.12)	(-0.84)	(1.35)
Leverage (d/e ratio)	-0.00868	-0.00814	-0.00787	-0.00480	-0.00842
	(-0.87)	(-0.83)	(-0.81)	(-0.42)	(-0.89)
ICM activity		0.272*	0.422*	0.451	0.372***
		(2.30)	(2.30)	(1.61)	(3.43)
Industry diversification		-0.807**	-0.944**	-0.833**	-0.841**
		(-3.22)	(-2.72)	(-2.71)	(-2.72)
International diversification		0.00161	0.00213		
		(0.76)	(1.02)		
ICM act * int. diversification			-0.00259		
			(-1.78)		
ICM act * ind. diversification			0.431		
			(0.78)		
Aggregated political distance				-0.00769**	
				(-2.80)	
Aggregated economic distance				0.00886	
				(0.59)	
Aggregated cultural distance				0.0970**	
				(2.71)	
Aggregated financial distance				0.0165	
				(1.17)	
ICM act * fin distance				-0.00249	
				(-0.32)	
ICM act * pol distance				-0.000487	
				(-0.37)	
ICM act * eco distance				-0.00254	
				(-0.48)	
ICM act * cult distance				0.0137	
				(1.30)	
Financial market stability					0.00453
					(0.01)
Money market rate					-0.0936
					(-0.84)
GDP growth					-0.0716
					(-0.76)
ICM act * fin. market stability					0.177
					(1.35)
ICM act * money market rate					-0.310
					(-1.46)
ICM act * GDP growth					0.142***
					(4.01)
_cons	13.00***	12.96***	12.81***	13.69***	13.86***
	(5.30)	(5.49)	(5.43)	(7.02)	(4.81)
lns1_1_1_cons	0.408	0.382	0.383	0.521**	0.434
	(1.35)	(1.27)	(1.26)	(2.63)	(1.37)
lnsig_e _cons	1.857***	1.856***	1.855***	1.850***	1.853***
	(15.77)	(15.78)	(15.75)	(15.64)	(15.72)
Controlling for year effects	Yes	Yes	Yes	Yes	Yes
Controlling for industry effects	Yes	Yes	Yes	Yes	Yes
N	2320	2320	2320	2320	2320

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2: Model results