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SUCCESSFUL STRATEGY AND CONTEXT

Gjalt de Jong

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ABOUT THE CSE MONOGRAPHS

Since its foundation in 1614, the University of Groningen has enjoyed an international reputation as a dynamic and innovative university of higher education offering high-quality teaching and research. Balanced study and career paths in a wide variety of disciplines encourage the 30,000 students and researchers to develop their own individual talents. Belonging to the best research universities in Europe and joining forces with prestigious partner universities and networks, the University of Groningen is an international place of knowledge.

Campus Fryslân is a Faculty in the making and is a part of the University of Groningen. Campus Fryslân focuses on the grand challenges of our society. Rather than teaching one particular discipline, the Faculty is aimed at the multidisciplinary study of academic questions connected with the social and economic themes. The Faculty's core philosophy is to connect regional themes with interdisciplinary global issues.

Within Campus Fryslân, the Centre for Sustainable Entrepreneurship is dedicated to one of the main challenges in the modern world economy: the transformation from an oil- and gas-based economy into a circular society. Sustainable entrepreneurship offers the creative potential needed to develop a circular society in which economic, social, and ecological systems are simultaneously balanced and preserved. The Centre will offer a master of science in sustainable entrepreneurship for students, master classes for business leaders and sustainability labs for academic scholars.

The monograph series of the Centre for Sustainable Entrepreneurship offer state-of-the art academic research related to understanding the causes and consequences of sustainable entrepreneurship. The monographs offer a unique opportunity for new thought leadership and new path-breaking research guiding students, junior and senior academic scholars, business leaders and policymakers in their efforts to design, implement and preserve successful sustainable entrepreneurship. Each monograph comprises several chapters which introduce theories, methods, evidence and implications relevant to think about sustainable entrepreneurship in the modern world economy.

Research in the field of sustainable entrepreneurship is in its infancy. Research aims, questions, theoretical concepts, models, research methods and empirical evidence are being developed. This process benefits greatly from essential progress made thus far in all fields of science. The monograph series will focus on providing a robust and comprehensive forum for the growing scholarship on sustainable entrepreneurship. The volumes in the series will cover interdisciplinary and multi-method approaches dealing with the challenges of making the new business models of sustainable entrepreneurship successful.

The monograph series from the Centre for Sustainable Entrepreneurship aim to offer inspiration to all who are or soon will be designing and implementing sustainable options for their organizations, be they directors, managers, employees, academic scholars, students, politicians or policymakers. Through the ongoing release of focused topical titles, this monograph series will enable all representatives to contribute to a rigorous and comprehensive understanding of the causes and consequences of sustainable entrepreneurship in the modern world economy.

Gjalt de Jong, PhD
University of Groningen/Campus Fryslân

Series Editor
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CONTENTS

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BIOGRAPHY

Gjalt de Jong, PhD (Oentsjerk, 1968) is Director of the Centre for Sustainable Entrepreneurship at Campus Fryslân at the University of Groningen. He also is Associate Professor of Strategy at the Faculty of Economics and Business at the University of Groningen. He received his Master's degree in Economics and a PhD degree in Business Administration from the same university. He is a senior member of the Faculty's research institute. Prior to his current appointment, he served as a senior advisor at PricewaterhouseCoopers and KPMG.

De Jong has extensive experience in research into strategic issues. He publishes on key strategic issues related to leadership, organizational structures, inter-firm collaboration, globalization and public policy. His research is interdisciplinary, multi-level and multi-method.

De Jong has extensive experience in university education. He has developed and supervised virtually every conceivable form of educational activity for students of Bachelor's and Master's programmes and postgraduate studies. He has coordinated educational programmes for economics, business and management. He has managed both large international programmes and small national groups. He has coordinated thesis programmes for various departments and has supervised hundreds of research projects on strategy themes.

De Jong has extensive experience as a senior advisor in consultancy for the private and public sectors. He developed his consulting skills throughout his career with leading consultancy firms and their international clients. He provides strategy advice to leaders of international companies, but also to managers from small and medium-sized enterprises, universities, government and network organizations.

De Jong plays an active role in public debates. He combines his knowledge with research, education and advice in developing and challenging opinions on contemporary regional and national strategic issues. He regularly gives guest lectures and public presentations.

CHAPTER 1. INTRODUCTION

1.1 Introduction

The monograph series of the Centre for Sustainable Entrepreneurship inspires ongoing debates concerning important strategy themes in the modern world economy. This monograph takes the challenge to think about successful strategy and the business context of firms. The strategy-context relationship is among the most well-known discussions in the strategy literature with opposite opinions. On the one hand there are those that argue that the context determines the design, implementation and management of successful strategy. On the other hand, there are those that advocate that strategic decisions of firms and organization determine the business context. These opposing opinions characterize the ongoing debate concerning the strategy-context causal relationships.

The first chapter of this fourth monograph in the series of the Centre for Sustainable Entrepreneurship offers new avenues for thinking about the strategy-context relationships. These new avenues relate to two themes. Section two offers the reader to think about new inter-industrial contexts. The context of firms is often related to the industry classifications determined by national policy institutes such as Statistics Netherlands. These classifications have historical roots and are not changed under the motivation that this hampers the comparison of intertemporal and international statistics. These relatively inert accountancy perspectives of industrial classifications, however, often do not match business contexts as firms perceive these or to those that are relevant for policy measures in the modern, global world economy. Northern Netherlands, for example, heads towards the development of a matured biobased economy in the region. This is an excellent strategy for lowering the ecological footprint. Employment may also benefit from this new inter-sectoral industry. However, very little is known about the facts of the biobased economy. Section two therefore argues that we need to assess and review the actual and potential added value of the biobased economy. The second section of this chapter presents new research that quantifies the nature and size of the biobased economy in Northern Netherlands. It reports evidence for the three provinces (Friesland, Groningen and Drenthe) and for the Veenkoloniën. The research presents new methods that enable to identify, classify and measure biobased activities. The second section shows that the estimated added value of the biobased economy is substantial. Its turnover is estimated at € 4.5 billion. In so doing, we offer input for policy measures that aim to invest and foster the biobased economy generating employment and economic growth. The second section is also relevant for the first chapters in this monograph in which cultural and national differences in business contexts are related to successful firm performance.

The third section of this chapter offers the reader to think about corruption. Corruption is not a new topic, but it has increasingly become a central policy issue around the

world. Many countries, international organizations, business networks and firms have pursued anticorruption campaigns. Nonetheless, corruption persists. Although the (empirical) literature on corruption and (economic) performance at the country level has been relatively well developed, a firm-level perspective – presented in the chapters of this monograph – remains a relatively underexplored area of research. The third section breaks new ground both by thinking about our theoretical understanding of firm-level corruption and by reflecting on new and promissory research methods and empirical achievements. Hence, despite the critiques of the conventional of corruption in mainstream macro-level research, the call for more firm-level research has not been answered much to date. Being part of the business and management research domain, the studies of firm-level are inherently interdisciplinary and multi-method, ranging from theoretical models, detailed descriptions of single corruption events to quantitative analyses of samples and scenario analyses. We do not (yet) have a benchmark model or a set of default research methods in the field of corruption research; should this be a primary aim in the first place. Being part of a relatively young field of study, dominant paradigms have not yet emerged and innovation in all steps of academic research flourishes. The third section provides food for thought as an important step in this direction.

The chapter concludes with the structure and outline of this monograph.

1.2 Thinking about the biobased economy

A new inter-sectoral industry

The biobased economy is an example of a new inter-sectoral industry. This new inter-sectoral industry is not identified in existing databases. Existing databases and research institutes do not have indicators that enable to identify and measure the nature and size of the biobased economy. Our study aims to fill this research gap.

The biobased economy in the Northern Netherlands increasingly becomes important. An increasing number of firms, researchers and policymakers share their interests to make biobased activities successful. The biobased economy is in many ways in its early stages of growth due to, among other things, the radical innovations that align with this. Substantial investments are required to discover which biobased activities are successful and which are not. Biobased entrepreneurs face a threefold challenge: they create new products for new markets using new organizational and business models. Nonetheless, biobased companies are the engine in the transition from the oil-based to the circular economy.

To understand opportunities for future growth, we need an in-depth overview of the current and expected activities in the biobased economy. This study does precisely this: we quantify the nature and the size of this new inter-sectoral industry. Our in-

depth knowledge is important in order to facilitate the ongoing debate about the importance of the biobased economy. Some suggest that the biobased economy is too small and will not survive the competition from the oil- and gas-based industries. Others perceive this differently and point to positive results of the biobased industry in the market. In order to end this discussion we need reliable figures and information. The quantification of the biobased economy is a first important step. In so doing, we can explore the contribution of the biobased economy to gross domestic product and employment. Our assessment of the biobased economy also enables the design, implementation and supervision of effective policy measures that foster regional economic growth and employment. Successful policy measures are important in general but for Northern Netherlands in particular given its persistent low levels of economic growth and high levels of unemployment.

The research question of our study is: what are the characteristics and size of the biobased economy in Northern Netherlands? The aim of this research is to offer an in-depth overview of indicators that measure the nature and size of the biobased economy. We developed our fact-based study in three stages. In the first stage, we performed a literature review identifying definitions of the biobased economy. In so doing, we also concluded that an assessment of this sector using existing databases was not feasible. Existing databases do not allow the identification of biobased activities. The implication thereof was that primary data collection was needed in order to answer our research question (including methodological considerations such as sources of information and measurements).

The second stage focused on the methodological issues of our research. In our study, for example, we learned that it is important to differentiate in size and in the degree of biobased activities. We therefore distinguish between the size of the unit of observation (classified in "small" and "large" observations) and the degree of the biobased activities within the unit of observation (classified in "high" for observations in which all or many of the activities are directly related to the biobased economy and "low" for observations where this is less or not the case). Additionally we also estimated the total turnover of the observations using the number of employees. In the third stage, we discussed our findings with various experts offering implications for policy measurements aimed to foster the growth of the biobased economy in Northern Netherlands. In what follows, we report the findings for each of these three stages in our research.

Definitions

The biobased economy (BBE) is, according to government definitions, an economy in which companies – national and international – produce non-food products from green input products or biomass. The resulting green products are relevant for chemicals, materials and energy. In short, the biobased economy is an economy

based on biomass and hence not on fossil fuels.

Biomass is non-fossilized and biological degradable organic material resulting from plants, animals and micro-organisms. It also includes agricultural waste or organic fractions from industrial firms and consumers. An ongoing discussion concerns the opportunity costs of biomass and the competition of biomass product production processes with other products including food as well as the conditions under which biomass products are produced limiting any effects it may have on biodiversity.

The added value of biomass is often reflected in a cascade model. The highest added value of biomass products derives from pharmaceutical products followed by the use of biomass in food and animal feed applications, the chemical sector and, finally, the energy sector. For the highest added value, the lowest volume of biomass is required while for the lowest priority (energy) the largest volumes are required.

Research methods

Region. We received the request for this research from the Chambers of Commerce. The request was to determine the nature and size of the biobased economy in the three Northern provinces (Groningen, Friesland and Drenthe) and in the Veenkoloniën region. More specifically, our research focused on 13 municipalities: Eemsmond, Delfzijl, Oldambt, Veendam, Pekela, Stadskanaal, Vlagtwedde, Bellingwedde, Aa & Hunze, Borger-Odoorn, Emmen, Coevorden and Menterwolde. We used zip codes to identify biobased activities within each municipality. The definition of a biobased company is (a) a company, (b) an organization, or (c) a network dedicated to biobased activities. We collected information concerning all activities that to a greater or lesser extent are related to the BBE and, as such, generate employment and turnover (and hence regional gross domestic product). We used network information of experts, participants in BBE seminars, LinkedIn, internet and interviews with BBE experts in order to compile a list of regional companies relevant for our research.

Unit of analysis and measures. We differentiate between (a) for-profit companies and (b) not-for-profit organizations, networks and governments (hereafter labelled as organizations). For each company and organization we determined their degree of biobased activities using the aforementioned definitions. We need to account for the degree of biobased activities per company or organization in order to estimate the size of the sector.

We used the Boston Consultancy Group (BCG) matrix as a format to present our results. This two-by-two matrix is intended to classify companies using a combination of criteria resulting in four different cells. The original BCG matrix used the current and the potential contribution of firm activities to profits as classification criteria. In so doing, the "stars" are differentiated from the "dogs". We applied a similar line of

argumentation to differentiate the degree of biobased activities and the size of the units of analysis. We used "high" and "low" anchors to differentiate the degree of biobased activities within each observation. Of course, these are the polar ends of a scale but for a first step in our research it was adequate to classify all available observations. An example of a "high" degree biobased company is BioMCN. BioMCN produces bio-methanol as their core business. An example of a "low" degree biobased company is a large chemical enterprise such as Dow Chemicals. The core activities of Dow are dedicated to chemicals among which a small proportion to biobased products. Potentially, the Dow company can specialize in biobased activities; potentially as a result of government measures. This example highlights the crux of our research.

We also classified all available observations according to their size using the number of employees as a selection criterion. Some of the available observations are not legally obliged to report their employment figures in company reports. In such cases we combined internet and other sources in order to estimate the number of employees for the case in question.

The available information often indicates a group size of employees, for example, a company reports to have between 5 and 10 employees. We used this information to make our estimates. In a first step we determined the number of employees using the average of the organization (see Table 1). In a second step we transformed the number of employees to the number of full-time equivalents. For example, when company A aligns with the category of having more than 10 but less than 50 employees, we used the geometric average of 30 (that is, 50 plus 10 divided by 2) for the number of full-time equivalent (FTE) for this particular observation.

For each of our observations we determined the specific province and the specific municipality using the zip codes. Four remarks are worthwhile mentioning. First, a large company such as Dow Chemicals has a production facility in Delfzijl. Dow Chemicals is classified in the category of more than 10.000 employees globally. However, information from experts indicates that the Delfzijl location only employs 50 persons. This example shows that when the actual number of employees of large companies at local sites is unknown (which often is the case), we estimated this as a site with less than 200 persons and, using Table 1, with 150 FTEs.

Second, we allowed for one exception to the former rule and this is Friesland Campina. Friesland Campina employs more than 10.000 persons. This company is regionally active and we therefore classified this company as one with less than 10.000 persons and – using Table 1 – 7500 FTEs in the Northern region.

Table 1. Classification of number of employees and FTEs

Number of employees	Number of FTEs
<10	5
<50	30
<100	75
<200	150
<250	225
<500	375
<1000	750
<5000	3000
<10.000	7500
>10.000	10.000

Third, we identified observations that have a low degree of biobased activities but at the same time are large in size (that is, with more than 500 persons). Given that not all of these employees are per se active in biobased activities, the number of employees employed in the biobased economy for these observations is determined at less than 100 persons and – using Table 1 – 75 FTEs.

Finally, there are observations with multiple locations in the Northern region. In these cases we used the headquarters as our unit of observation.

To determine the economic impact of the biobased economy we used the turnover estimates per observation. Turnover figures are usually not publicly available given that many of our observations are not legally obliged to report such information in company reports. However, using the number of FTEs we can estimate the turnover per observation. For this we use historical records from the Chamber of Commerce and the Rabobank.

Each observation is classified using the Standard Industrial Classification method. Using the historical records we determined the turnover per FTE for each sector (see Table 2). These numbers estimate the turnover per FTE for small- and medium-sized enterprises in 2010. For large companies, the turnover is increased with 5 percent. For large companies we also used the available SME information. As a result we potentially underestimate the turnover per FTE for large companies. Using the estimated or actual number of FTEs and the turnover per FTE we estimated the total turnover of the observations in the various regions. In so doing, we are able to determine the economic impact of the biobased economy for the Northern Netherlands in general and for the three provinces.

Table 2. Turnover per FTE (x€1000) per sector

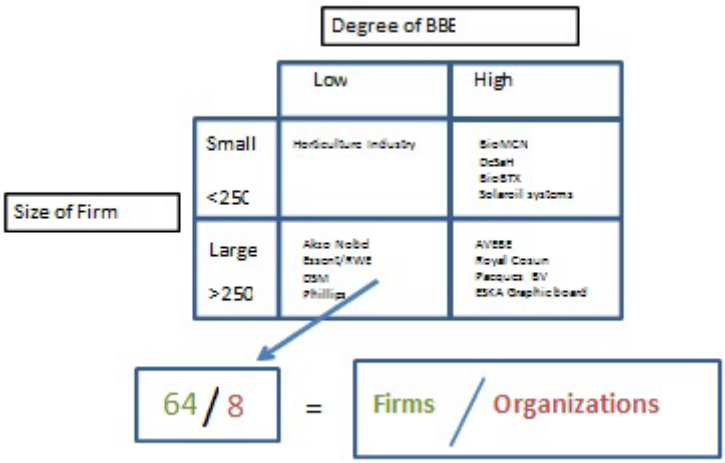
Sector	SBI code	Turnover per FTE (x€1000)
Industry	C	€184
Services	S, O, P en J	€184
Consultancy & Research	M	€155
Retail trade	G	€454
All other sectors		€184

Not-for-profit organizations. For research institutes, networks, education and government institutes that are active in the biobased economy we only estimated the number of FTEs and not turnover given that these organizations do not have profit ambitions. The University of Groningen, for example, is a large organization with approximately 5000 employees. However, only a fraction of the total number of employees is active in the BBE. We therefore classified a low-degree BBE organization with 200 to 5000 employees (larger organizations are not active in this region) in the class of 10-50 employees and hence, with 30 FTEs.

Matrix of results

We use a matrix to report our result. We classify the observations into size and degree of biobased activities (see Figure 2). The matrix also allows determining the potential to develop their degree of biobased activities and, in line with this, their number of FTEs.

Figure 2. Result Matrix Biobased Economy



The matrix consists of four cells:

- The upper-left cell in the matrix includes small and medium sized enterprises (SMEs) with a low degree of biobased activities (such as horticulture firms). These are potential growers in biobased activities, for example, in delivering biomass.

- The upper-right cell in the matrix includes specialized biobased SMEs (such as BioMCN and BioBTX). These are potential growers in size. For the regional economy, it is important to maintain these firms in this cell.

- The lower-left cell in the matrix includes companies such as Philips and Akzo Nobel; large firms with relatively few employees involved in biobased activities. These companies have opportunities to specialize more in biobased activities.

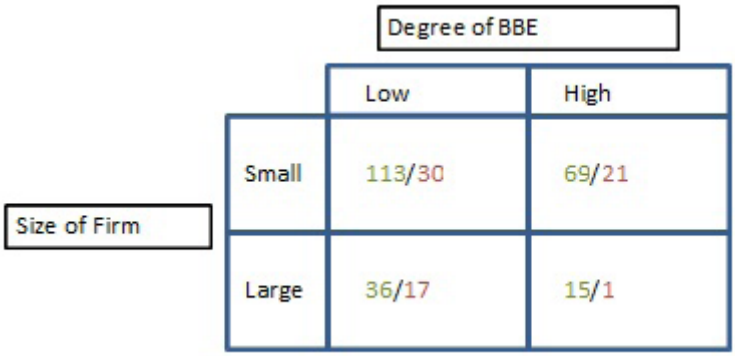
- The lower-right cell presents firms that are the biobased stars. These are large companies fully dedicated to biobased value chains (such as AVEBE and Royal Cosun). The aim of the policymakers is to maintain these firms in this cell and to ensure that they do not replace themselves in the below-left or in the upper-right cells.

We present in each cell of the matrix the number of non-profit organizations (in red) next to and on top off the number of corporations (in green). We hence differentiate organizations from corporations and in so doing offer a refined perspective of biobased activities in the region.

The biobased economy in Northern Netherlands

This section highlights the nature and size of the biobased economy in Northern Netherlands in general, and in the three provinces and the Veenkoloniën in particular (a detailed analysis at municipality level is available upon request). For each of these regions we offer a picture of the current and of the expected future situation. This is the added value of this research. Figure 3 presents the BBE situation in Northern Netherlands.

Figure 3. BBE in Northern Netherlands: 233 companies and 69 organizations



Northern Netherlands is for sure active in the biobased economy. We identified 233 companies and 69 organizations in total. Of these observations, 16 organizations are very important – they are the biobased stars of Northern Netherlands. We identified two other and potentially important clusters of firms. In the first cluster, we identified 36 companies and 17 large organizations that already report some BBE activities. In the second groups we find 69 companies plus 21 organizations that as a BBE specialist serve the economy. We also identified 143 relatively small companies and organizations that have some BBE activities. The latter observations have the opportunity to integrate more BBE activities in their existing value added chains.

When stratifying the results for the three provinces we find interesting differences (see Figures 4, 5 and 6 for Groningen, Drenthe and Friesland, respectively).

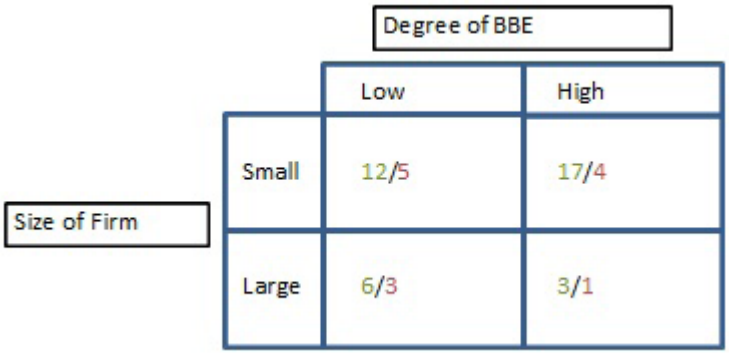
Figure 4. BBE in Groningen: 102 companies and 34 organizations

Size of Firm	Degree of BBE: Low	Degree of BBE: High
Small	38/14	34/11
Large	19/9	11/0

Figure 5. BBE in Drenthe: 93 companies and 22 organizations

Size of Firm	Degree of BBE: Low	Degree of BBE: High
Small	63/ 11	18/6
Large	11/5	1/0

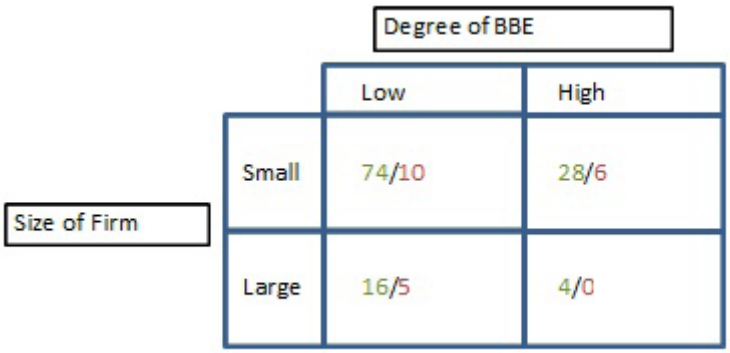
Figure 6. BBE in Friesland: 38 companies and 13 organizations



Three conclusions derive from our plots of biobased activities in the three provinces. First, the BBE sector in Groningen is substantial and promissory. In total 136 observations are active in the BBE with 11 very large companies and 28 very large organisations. Also, we find 45 biobased specialists and a relatively large number of potential biobased growers (that is, 52 observations). Second, the biobased sector is also firmly rooted in Drenthe: in total 93 companies and 22 organizations are one way or the other related to the BBE. The distribution of the observations over the different cells is different for Drenthe than for Groningen. In Drenthe only one large company more or less specializes in biobased activities. We find two promissory clusters of observations: 16 very large companies with some biobased activities and 24 small but biobased specialists. Third, in absolute numbers the biobased economy is the smallest in Friesland. We identified in total 38 companies and 13 organizations. Friesland does host 4 stars: 3 very large companies and 1 very large organization each almost fully dedicated to the biobased economy.

Finally, it is worthwhile mentioning that we also analysed the Veenkoloniën as a region.

Figure 7. BBE in the Veenkoloniën: 122 companies and 21 organizations



The opportunities for a successful biobased economy in this region are relatively positive. In total 143 companies and organizations are to some degree active in this sector. We identified 4 very large specialists and 21 large scale observations that to some degree are involved in the BBE. The Veenkoloniën also hosts 28 small companies and 6 small organizations that each are almost completely specialized in the biobased sector.

The economic importance of the biobased economy

We also estimated the economic importance of the biobased economy focusing on for-profit firms (organizations do not report their economic performance in terms of turnover). Table 3 reports the total number of FTEs per region plus the estimated turnover that is related to this. Table 3 shows that the total turnover of the biobased economy in the Northern Netherlands is estimated at €4.5 billion. It is worthwhile mentioning that the result for Friesland (with 38 companies) is dominated by Friesland Campina. A large part of their estimated number of FTEs (7500) is related to the biobased economy.

Table 3. Number of employees and turnover in the BBE.

Region	Number Companies	Total FTEs	Total turnover (x €1000)
Northern Netherlands	233	23.820	4.598.640
Groningen	102	10.680	1.973.040
Drenthe	93	3.725	840.945
Friesland	38	9.415	1.784.655
Veenkoloniën	122	8.030	1.560.830

Concerning the not-for-profit organizations, it is worthwhile highlighting the number of FTEs given that employment is an important indicator for the economic importance of the biobased economy for the region (see Table 4).

The conclusions from Tables 3 and 4 are twofold. First, the biobased economy represents an important economic dimension for the region. Our conservative estimates – based on the turnover of companies only – already results in an estimate of €4.5 billion for Northern Netherland with over 26000 FTEs (including organizations). Second, subdividing these numbers to provinces indicates a relatively similar conclusion with regard to absolute numbers. Our research indicates that the size of the biobased

economy in Groningen and Friesland is larger than in that in Drenthe. In the Veenkoloniën the size of the biobased economy is substantial: over 9000 FTEs are involved in this sector in this region representing over €1.5 billion in turnover.

Table 4. Economic importance BBE organizations

Region	Total organizations	Total FTEs
Northern Netherlands	69	2515
Groningen	34	895
Drenthe	22	1065
Friesland	13	555
Veenkoloniën	21	1.060

Recommendations

The transition from the oil-based economy to a green economy is of great importance. The use of oil and gas creates a pollution that potentially threats the existence of life on earth. It is therefore of the utmost importance that we disconnect from oil and gas as production resources. Oil and gas resources often are produced in in politically instable regions. The use of these resources transfers political challenges to the advanced nation states. The use of biomass will decrease pollution levels provided an appropriate use and production thereof. The greening of the economy protects biodiversity and the environment at large. The transition from the oil to the new economy will create new employment due to new incentives for research and development concerning new products, markets and organization models. A precise prediction of all future states is difficult to make, among others because successful innovations are difficult to identify ex ante. A biobased economy is not without challenges; the production of biomass aligns with production and transportation issues. Nonetheless, we should fundamentally discuss the transition from an oil- and gas-based society to a biobased economy given the need to successfully maintain planet earth for future generations.

Northern Netherlands systematically scores below average on all economic indicators compared to other Dutch regions. Northern Netherlands has among the highest levels of unemployment. The decreasing levels of population and related economic challenges indicate that this region requires substantial investments in order to maintain quality of life at existing perspectives. The development of the biobased economy could offer

opportunities for this.

Northern Netherlands is appropriate for substantial investments in biobased activities due to the available infrastructure. The size of the agriculture sector is large in this region and a potential producer of biomass input for other sectors. The chemical sector has a strong foothold in the Eemsdelta and in the province Drenthe. The energy sector witnessed new companies such as Essent/RWE, Nuon/Vattenval, Electrabel and E-on.

The biobased sector is also promissory for future investments given the existing knowledge infrastructure that is available in the region. The University of Groningen and other, internationally important universities of applied science offer new knowledge needed for new biobased products and processes. The physical infrastructure is well-developed represented by different harbours (Delfzijl and Eemsmond) enabling efficient transportation of products to, for example, Europe and Asia. Another advantage of future investments in biobased industries is the spill-over effects to regional development and employment particularly when biomass production is organised in small and decentralised value chains.

We highlight the sometimes conflicting regulation hampering new investments in new industries such as the biobased economy. The biobased economy would profit from consistent government policy measures; a generally well-accepted moderator to transform investments in new regional growth. This study offers firms and policymakers information about growth opportunities and, in so doing, fosters the identification of new investments and policy measures.

An in-depth understanding of the new inter-sectoral economy is important for future successful policy measures. This study offers robust insights and is among the first to quantify the nature and size of the new inter-sectoral industry in Northern Netherlands. To date, no standard classification code for the biobased economy is available. A new indicator for inter-sectoral activities in existing databases would enable the collection of information as has been reported here.

We offer three recommendations based on the conclusions of our research. First, we offered an in-depth perspective of the biobased economy for each province. Each province has the opportunity to determine the optimal matrix of biobased activities for its region. We envision two interrelated routes for this strategic decision. A first perspective suggests that policymakers focus on the maximum size of the fourth cell. That is, a province can make the strategic decision that it wants to host the maximum number of large firms that completely specialize in biobased activities. A second and related perspective opts for the cluster strategy. In such a cluster strategy the policymaker aims to facilitate the optimal combination of small and large companies

dedicated to biobased activities that are linked via strategic alliances.

Second, each province is given a perspective to design policy measures dedicated to particular groups of companies or organizations. A consolidation strategy aligns for large and biobased specific companies. For large companies with some experience in the biobased economy policy makers can select a specialisation strategy and decide how these companies can be challenged to increase their biobased footprint. For small and specialised biobased companies policymakers can select a growth strategy removing potential legal obstacles that hamper their growth. Finally, policymakers can decide to use a selection strategy for companies that are ambiguous about the biobased economy and their involvement in this new sector.

Third, our research indicates that the critical mass of biobased activities is cross-provincial. Fostering the biobased economy hence requires an interprovincial strategy requiring interprovincial policy measures. Such an interprovincial strategy also may prevent competition between provinces that all aim to develop the best sectoral circumstances for their local inhabitants and firms.

1.3 Thinking about corruption

Corruption is not a new topic, but is has increasingly become a central policy issue for governments around the world. It is generally considered as an unethical phenomenon that threatens the stability of societies and hampers economic development. According to subsequent surveys of Transparency International, corruption is unrestrained in at least 70 countries worldwide (Hardoon and Heinrich, 2013). The World Bank estimates that corruption costs US $1 trillion each year (Ryterman, Gray and Hellman, 2004). Of course, there is a margin of error in such estimates but the main point is that corruption is not a relatively small phenomenon, on the contrary. Virtually all countries consider corruption a criminal act and many governments have attempted to limit corruption, among others, through periodic anti-corruption campaigns. Nonetheless, corruption persists. Hence, if anything, corruption is one of the most prominent characteristic features of our modern world economy.

In line with the increased attention in the policy arena, corruption has been a focus of attention in academic research (Johnston, 1986; Cuervo-Cazurra 2006; Kaufmann, 1997). Scholars in different domains predominantly have attempted to explain corruption from the perspective of society at large (Jain, 2002; Treisman 2000, 2007). Such macro level studies of corruption can be divided in three groups, by and large: those with an interest in economic, political or cultural factors. Economic factors include a wide variety of variables such as national income, government expenditures and international trade or related demographic variables such as human capital and population size. Political factors include the electoral system, governmental administration, political stability and decision-making freedom. Cultural factors include

religion, ethno-linguistic heterogeneity, colonial heritage and cultural values such as uncertainty avoidance and power distance. Macro-level corruption research has offered a wealth of theoretical insights on the determinants and consequences of corruption for countries. Also, this line of research has reported important achievements with respect to data collection approaches and research methods. Furthermore, many macro-level studies offer an international comparative perspective and, in so doing, have been a source of inspiration for national and international policy makers that aim to successfully limit corruption one way or the other.

Notwithstanding these accomplishments the debate about corruption continues not in the least because corruption persists. A firm-level perspective – one that is part of this monograph – offers new ways to analyse and understand corruption (De Jong, Phan and Van Ees, 2012; Luo, 2005; Svensson, 2003). The added value of firm-level research is threefold. First, macro-level research reports mixed empirical findings suggesting that empirical anomalies for theoretical models in country-level studies exist. Apparently the available theoretical insights are not able to address all dimensions of all corruption events at all levels. A firm-level perspective offers different sets of lenses following theoretical perspectives that are not, at least not explicitly, accounted for in country-level research. The new theoretical foundations that enable to understand firm-level corruption is the first contribution of this line of research.

Second, existing corruption research focuses on the role of public officials and less on the role of firms. In so doing, it foregoes the dynamics at the other side of the corruption game. A firm-level perspective is important because in many instances, there is a firm making the decision to propose or accept corruption. Firm-level research opens-up the black boxes of, for example, organisation structure, culture, and strategy and enables to study whether, and if so, how, these firm-specific features matter for variations in firm-level corruption. This is the second contribution of this line of research.

Third, macro-level research uses poll-based or poll-of-poll-based data reflected in, for example, the International Country Risk Guide, the Transparency International Perception Index, the Graft Index or the World Business Enterprise Survey. These data have enabled cross-country studies of corruption but are not without methodological limitations related to aggregation. Also, perception indexes may create a bias problem because they do not measure corruption itself but only opinions of issues of which respondents may not have any direct knowledge. Firm-level research aims to show that problems with accuracy, selective memory and punishment fears can be overcome finding experienced-based information of corruption. To this end, different research methods are developed and applied unavailable in the methodological toolkits of economists. This is the third contribution of this line of research.

Although the (empirical) literature on corruption and (economic) performance at the country level has been relatively well developed, it is not yet fully understood why firms are corrupt and how corruption relates to firm behaviour and firm outcomes (De Jong, Phan and Van Ees, 2012; Luo, 2005; Svensson, 2003). This may be one of the fundamental reasons why – despite all acknowledged achievements in different domains of corruption research – we still do not understand the persistent nature of corruption and why so many efforts aimed to reduce or to eliminate it have largely failed.

This monograph offers an in-depth understanding of the root causes and consequences of firm-level corruption. Obtaining an in-depth understanding of firm-level corruption is challenging because it is a multifarious phenomenon with different definitions, classifications and with multiple independent as well as interdependent causes and effects. The disentanglement of the underlying causal system and consequences of firm-level corruption is the key aim and contribution of this monograph.

In closing, the research agenda for firm-level corruption research is just being drafted; it is challenging and a long list of issues needs to be addressed in future research. But as this monograph indicates, firm-level studies of corruption have passed the stage of infancy and have an enormous potential to finally come to grips with one of the world's ancient and most common phenomenon. This monograph breaks new ground both by advancing our theoretical understanding of firm-level corruption and by introducing new and potentially more useful research methods and empirical achievements. In so doing, we will be able to design and implement policy tools that will be successfully able to reduce negative dimensions of corruption or better embrace potential positive elements of corruption that nowadays have been foregone.

1.4 The structure of the book

The next step in the quest for successful strategy is considering the context of organizations. Many organizations operate in hyper-dynamic contexts. The modern world in which companies now move is extremely heterogeneous. Some organizations are able to optimally position themselves in this heterogeneous, globalizing and changing context whereas others lack the skills and incentives to adjust in time. The central question in this monograph is why some organizations anticipate changes in their context so successfully and others do not.

Chapter 2 conceptualizes the global context of multinational enterprises and reveals whether and how the context of multinational enterprises relates to its performance. Country borders become increasingly permeable making the composition of the country environments in which a multinational operates one of its key strategic success factors. This chapter specifies the meta-environments of MNEs in terms of advanced production factors and formal institutions. It is a quantitative study using a

large panel dataset of European companies.

Chapter 3 turns to one of the most challenging features of the modern world economy in which contemporary organizations operate: the cultural differences between countries. In doing so, it solves one of the academic puzzles in the field: what is the relationship between internationalization and firm performance? The chapter offers solutions, including demonstrating that the relationship is contingent on the cultural differences between the countries in which a multinational enterprise operates.

The next two chapters in this monograph both study one of the key ethical questions which confront business and policymakers in the modern world economy: bribery. Bribery is omnipresent in many countries and often endemic. As said, it is considered one of the root causes for enduring poverty in many continents. Notwithstanding numerous measures and policy actions – taken by business, national governments and international organizations – bribery continues to exist.

Chapter 4 challenges the contention that all business managers are always equally involved in bribery. This is obviously not the case: participation in bribery differs. Chapter 4 explains this variation from the perspective of entrepreneur characteristics, the company itself and the sector in which it operates. The chapter also reveals the diminishing returns of bribery for performance. Bribes may initially improve a firm's performance but ultimately the positive effects are lost and bribes limit performance. The evidence derives from surveys in one of the largest transition economies in the world, Vietnam.

Chapter 5 disentangles the role of personal relationships in the incidence of bribery in transition economies. More particularly, the chapter analyses the relationships between businesses and public officials, given that these relationships are often highlighted as mattering most to strategic success in these environments. It turns out that bribery incidence responds differently to the particular public official being dealt with: relationships with central government officials decrease bribery but bribery is increased by relationships with local government officials.

CHAPTER 2. GLOBALIZATION AND FIRM PERFORMANCE

Summary

We study an underrepresented area in the international business literature: the effect of the meta-environment on multinational enterprise (MNE) performance. A meta-environment is a symbiosis of all country environments where an MNE operates. This conceptualization of a firm's external context is important because country borders increasingly become permeable. The unique governance structure of the MNE allows to specialize in recombining and melding multiple country resources and institutions. At any given point in time, each MNE will explore and exploit its own company-specific meta-environment. We therefore argue that variations in the meta-environment determine variations in MNE performance because wherever a firm is located, whether it has one location or many, its presence in a geographic space positions it relative to others in a unique configuration. Our study is among the first to examine empirically the impact of the meta-environment on firm achievements with a unique panel dataset from European multinationals. The results provide convincing support for our approach to the study of MNE performance.

Key words: meta-environment, factor resource endowments, formal institutions, multinational firm performance

2.1 Introduction

Multinational enterprises (MNEs) operate in multiple environments, each with its own path-dependent characteristics and this differentiates MNEs from domestic firms (Buckley & Ghauri, 1999; Dunning & Lundan, 2008). Research in international business has identified many drivers of superior MNE performance (see Buckley & Casson, 2009; Buckley & Ghauri, 1999; Glaum & Oesterle, 2007; Navaretti & Venables, 2004 for comprehensive reviews). Typical of MNEs is that firm-specific advantages are intertwined with country-specific advantages. Consequently, IB research has focused on country contexts, that is, on the geographic location of the headquarters and its sub-units (Hadjikhani & Ghauri, 2001; George & Zaheer, 2006). IB scholars have addressed the impact of single-country contexts (Wan & Hoskisson, 2003), the distance between home- and host countries (Tihanyi, Griffith, & Russel, 2005; Dikova & van Witteloostuijn, 2007), internationalization (Eckert, Dittfeld, Muche, & Rässler, 2010; Banalieva & Robertson, 2010; De Clercq, Danis, & Dakhli, 2010) and diversification (Bobillo, Felix López-Iturriaga, & Tejerina-Gaite, 2010) on MNE strategy and performance.

With a few exceptions, however, the authors of most prior studies assumed away the role of the meta-environment. The meta-environment is the unique geographic configuration of a multinational firm. When analysing the determinants of MNE performance, it can be argued that the unique organisation structure of MNEs allows them to specialize in combining resources and institutions from multiple nation states

(Almeida & Kogut, 1999; Bartlett & Goshal, 1989; Anderson & Tushman, 2001; Giroud & Scott-Kennel, 2009). MNEs are able to achieve above normal returns on national resources and to seek less expensive inputs and less price sensitive markets (Wan & Hoskisson, 2003). For example, when home country-level resource abundance is low, MNEs may create competitive advantages by leveraging resoures from host countries that are more resource abundant. Hence, it is the MNE-specific symbiosis between country-specific advantages that fosters MNE performance (cf. George & Zaheer, 2006).[1] Yet we lack systematic research that examines whether, and if so: how, variations in such meta-environments explain variations in the performance of MNEs. The study of the meta-environment is our first contribution to the recent contextual IB research that suggests to better account for the multi-faceted nature of country environments in which MNEs operate (Buckley, 2002; Peng, 2004).

The second contribution of this paper is that it provides a stepping stone for investigating in detail core aspects of the meta-environment. Although environments can be conceptualized in many different ways, advanced production factors and formal institutions are regarded as most important (Wan & Hoskisson, 2003; Castrogiovagni, 1991) since they determine the opportunity set that firms seek to capture (North 1990, 2005). Regarding advanced production factors, alternative collections of countries will vary in their overall resource endowments (Dunning & Lundan, 2008). MNEs create value by converting input from their meta-environment into higher value output. We argue that a meta-environment with more advanced resources – in particular technological capabilities and the quality of the infrastructure – will foster MNE performance (cf. Koka, Madhavan, & Prescott, 2006). Regarding the institutional environment, the meta-environment of an MNE is constructed by different sets of formal national rules (North, 1990). Whereas national firms operate in one particular legal environment, MNEs are able to exploit alternative sets of formal rules. We argue that this meta-institutional environment shapes governance structures and behaviours and hence, the competitive advantages of MNEs (cf. Dunning & Lundan, 2008; Meyer & Peng, 2005).

To test the effects of our finely variegated conceptualization of the meta-environment, it is important to use a multi-level dataset with sufficient variation. This is our third contribution to the IB research. We test our propositions on a panel dataset that combines headquarter information of the largest European MNEs with a refined set of meta-national measures. Our variation in context measures is larger than found in previous munificence studies which typically apply single measures for either a home

1 Rugman and Oh (2009) show that MNEs predominantly operate in regional contexts (cf. Qian, Khoury, Peng, & Qian, 2010; Hejazi, 2007; Osegowitsch & Sammartino, 2008). Our research accounts for this region aspect because we determine the geographic location of each subsidiary and subsequently use this information to construct meta-environment measures. For example, if a Dutch MNE operates subsidiaries in, for example, Germany, Spain and France than the meta-environment indices for this MNE are constructed from these three countries.

or a host country context (Dess & Beard, 1984; Rasheed & Prescott, 1992; Goll & Rasheed, 2005). We contribute to this literature by presenting six different measures that account for the variety in the meta-environment with respect to advanced resources and formal institutions.

The remainder of this paper is organized as follows: Section 2 develops theory and hypotheses. Section 3 details the data, method, and variables. Section 4 reports the main empirical findings, and Section 5 provides the conclusions.

2.2 Theory and hypotheses

Advanced Production Resources

In line with the munificence literature, the abundance of advanced production resources is the first element of the meta-environment. Variations in resource endowments have been a crux to understand MNE performance in the earlier IB literature (Dunning, 1998). The importance of advanced resources derives from the resource-based view of the firm (Penrose, 1959; Mahoney & Pandian, 1992).[2] Studies taking a resource-based view emphasize the importance of firm capabilities in creating and sustaining competitive advantages (Barney, 1988; Wernerfelt, 1984; Verbeke & Yuan, 2007). As such, a firm has a competitive advantage if it implements a value-creating strategy that is not simultaneously being implemented by any current or potential competitor. That is, a firm's competitive advantage is sustainable over a long period of time as long as it is not imitated by other firms (Reed & DeFillipi, 1990). The capabilities for creating and sustaining competitive advantage greatly depend on the availability of external resources. Innovation is one of the best ways for MNEs to maintain competitive advantages, and external resources are integral to the process of perceiving the opportunity for innovation and its successful implementation (Nooteboom, 2000). An advantage once gained is only sustained by a continuous search for different and better ways of operating and through ongoing modifications in firm behaviour (Nooteboom, 2009).

It is argued that particularly advanced resources are necessary for this 'upgrading' process (Dierickx & Cool, 1989; Nooteboom, 2004). Barney (1991), for instance, introduces the concept of a strategic factor market which is defined as a market where the resources necessary to implement a strategy are acquired. He asserts that this market is imperfectly competitive. In such a factor market, firms are able to generate above normal economic performance by acquiring strategic resources such as technology, which may only exist in countries with munificent resources (cf. Grant, 1991; Castrogiovani, 1991).

2 During the past two decades, the number of studies that take a resource-based view perspective mushroomed. For excellent reviews see, for example, Kraaijenbrink, Spender, & Groen (2010) or Nooteboom (2004, 2009).

Thus, we stipulate that the availability of advanced resources in the meta-environment of an MNE is highly relevant for creating and sustaining competitive advantage. The specific meta-environment of an MNE provides a more or less exclusive access to a firm-specific bundle of advanced resources. By exchanging resources between an organization's unit, MNEs are able to overcome insufficiencies in the resources of individual countries. Consequently, exchanges of resources between units in home and host countries and between units in different host countries (knowledge spillovers), plays a vital role in multinational activities (Qian et al., 2010; Hadjikhani & Ghauri, 2001). The exchanges of resources units are crucial and relevant, with the performance of a unit in a home country being significantly affected by the environmental context of not only the home country but also the host countries where other units operate, and vice versa (Verbeke & Yuan, 2007; Nooteboom, 2000). Hence, our core proposition is that variations in access to advanced resources will result in variations in MNE performance due to the unique, global organization structure of MNEs.

For advanced resources, we focus on technology capability and the quality of the infrastructure. In the IB and munificence literature, these two dimensions are considered as key for successful MNE operations (Kumar, 2001; Lopez-Claros, Porter, & Schwab, 2005; Hennart, 2000). Firstly, technology capability refers to those factors which facilitate and enable the technological capability of a country or, in our research, a set of countries. This includes the general availability of technologies and the penetration rate of information and communication technologies, as these tools are seen as critical indicators of the overall technological readiness of a country. Meta-environments with high technological capabilities possess up-to-date technological facilities, superior scientific research institutes which are vital sources for new product development for MNEs. MNEs in these environments obtain long-term competitive advantages because it enables them to develop distinctive competencies to explore and exploit novel combinations (Nooteboom, 2009). A central feature is that competencies are firm-specific and cumulative: they are acquired on the basis of existing ones, which determine the firm's absorptive capacity. However, as such competencies are firm-specific and path dependent, they tend to result in myopia. As a result, complementary, outside sources of competence are needed. [3]

Secondly, the quality of the infrastructure includes the level of transportation facilities (such as road network, ports and airports), communication facilities (covering the telecommunication network and information infrastructure) and energy availability (Dunning, 2009; Neary, 2009; Khadaroo & Seetanah, 2008). A meta-environment

3 This yields an additional reason for MNEs to differentiate their portfolio of national resources, besides efficiency in the static sense, due to economies of scale in specialization and market incentives. The need for such outside sources of competences increase with uncertainty in the environment. When the uncertainty of technology and markets is greater, firms will tend to make more, not less use of outside advanced resources. MNEs need variety in sources of knowledge, i.e. differences in technology, markets and organizations in order to learn and, hence, survive in an increasing competitive, volatile and uncertain global economy.

with a high quality infrastructure creates opportunities for interaction among firms and customers. It enables MNEs to reduce the cost of obtaining inputs from suppliers and shipping finished goods to customers. In addition, European MNEs that operate in highly accessible markets are exposed to severe competition and are thus forced to continuously improve productivity. Moreover, a high quality infrastructure facilitates the inter-unit support of MNEs which also may increase efficiency (Giroud & Scott-Kennel, 2009). Hence, we hypothesize:
Hypothesis 1: Technological capabilities in the meta-environment are positively associated with MNE performance.
Hypothesis 2: High quality infrastructure in the meta-environment is positively associated with MNE performance.

Institutions

The second element of the meta-environment is institutions. Institutions are shared collective understandings or accepted rules of conduct that are reflected in laws, rules and governance mechanisms (North, 2005). Institutional economists (Williamson, 1985) have contended that without institutions – i.e., the 'rules of the game' that prescribe a country's incentive structure and economic specialization – complex interfirm transactions would become too costly to complete. Transaction costs resulting from inefficient institutional environments become more important to multinationals, because operating in several foreign countries exacerbates these problems (Navaretti & Venables, 2004; Buckley & Ghauri, 2004; Chao & Kumar, 2009).

Institutional theory argues that values and practices are embedded in a country's social and economic institutions (Meyer & Rowan, 1977; DiMaggio & Powell, 1983). To enhance legitimacy, organizations respond or adapt to pressures in their environments to conform to accepted ways of doing business. Institutions are 'enabling constraints' for MNE operations, that is, they are supported as well as constraint by institutions (Barrel & Pain, 1999; Brouthers & Brouthers, 2000; Dikova & van Witteloostuijn, 2007). Formal rules, i.e., the written rules of society, crucially determine the level of transaction costs through their impact on measurement and enforcement costs (Estrin, Baghdasaryan, & Meyer, 2009). By nature of the firm-specificity of the meta-environment, MNEs will vary in their adaptation to formal national rules of the countries in which they operate (Dunning & Lundan, 2008). To illustrate the issue at hand, we address formal rules in terms of three different government policies – i.e., trade promotion policies, labour market regulations and investment promotion policies – and the law enforcement system (Meyer, 2001).[4] The latter refers to

4 The debate about whether government programs to attract multinational firms are successful continues. Empirical studies report mixed results, at best (Charlton & Davis, 2007). Nonetheless, these policies are widespread (Morrisset & Andrew-Johnson, 2004) and often justified by the expected benefits of multinational activities in host countries. Among others, such policies disclose tacit information about local conditions to MNEs and coordinate foreign and domestic business activities. For that reason, we include three of the most frequent used policies to re-assess whether such policies in the setting of a meta-environment foster the performance of MNEs. To the best of our knowledge, these policies have not been, at least

government mechanisms used to ensure that the formal rules are enforced. The law enforcement system is important because it influences a firm's ability to sustain competitive advantages.

International trade promotion policies are considered an effective mechanism for countries to attract the investments of MNEs (Markusen & Venables, 1998). High international trade promotion policies may create substantial benefits (Beugelsdijk, Smeets, & Zwinkels, 2008). First, the inter-country exchange of inputs and intermediate products between units within an MNE are important activities which may foster the competitive advantage for the MNE. However, when trade barriers are high it is costly for MNEs to do this. By contrast, in case international trade is promoted or trade barriers are low, MNEs are able to conduct these exchanges at low costs. Second, recent years have witnessed a deepening and widening of European integration, as well as the proliferation of new economic integration throughout the world, such as the Association of Southeast Asian Nations (ASEAN). Within these regions, national trade barriers have been reduced or removed. Economic integration implies the integration of national markets (Navaretti & Venables, 2004), allowing MNEs to concentrate production in the region so as to serve the entire integrated market. The concentration of production enables MNEs to reap economies of scale and improve their performance (Blomström & Kokko, 1995; Barrel & Pain, 1999; Coeurdacier, De Santis, & Aviat, 2009). Therefore, we propose the following hypothesis:
Hypothesis 3: International trade promotion policies in the meta-environment are positively associated with MNE performance.

The second government policy concerns labour regulations. In this context, an increasing body of work on 'varieties of capitalism' is important (Soskice, 1999).[5] This literature argues that the production regimes of most advanced economies fall into one of two main patterns, that is, it suggests that nations cluster into identifiable groups. The first one, referred to as coordinated market economies (CMEs), is based on strategic interaction and includes Germany, Sweden, Switzerland, most northern European countries and, in a different form, countries such as Japan and South Korea. The other pattern, liberal market economies (LMEs), consists of the Anglo-Saxon economies and Ireland. Here, firms coordinate with other actors primarily through competitive markets, characterized by arms-length relations and formal contracting. Whether a firm coordinates its endeavours through market relations or strategic interaction depends in large on the institutional setting. One of the relevant features used to distinguish between them is that the labour market of CMEs is much more rigid than that of LMEs. Where the labour market regulation is strict, MNEs cannot, even by

not explicitly, directly related to MNE achievements.

5 This perspective originates in Soskice (1990) and has subsequently been developed by a number of colleagues many of whom are contributors to Hall & Soskice (2001). For a recent appraisal and in-depth review, see Hall & Gingerich (2009).

agreement with his or her own employees, use particular working arrangements or forms of employment contracts without risking legal sanctions or the invalidity of the relevant provisions in the contract. In CMEs, associative labour-market governance can be accomplished through centralized and interconnected collective bargaining, reflecting industry-wide negotiations and legal arrangements for uniform high labour standards that may adversely affect MNE's labour costs. Consequently, it is argued that MNEs operating in a meta-environment with relatively rigid labour markets will have certain disadvantages compared to MNEs operating in a meta-environment with more flexible labour markets. Therefore, we propose the following hypothesis:
Hypothesis 4: Flexible labour market regulations in the meta-environment are positively associated with MNE performance.

The investment promotion policies of countries where a multinational operates may have a great impact on its performance (Blomström & Kokko, 1995). The potential benefits that MNEs bring to home and host countries are substantial (Charlton & Davis, 2007; Dunning & Lundan, 2008; Navaretti & Venables, 2004). For home countries, they improve their own and national technology capabilities as well as the skill of the national labour force by transferring new technologies from host to home countries. For host countries, MNEs generate employment, increase demand for domestic intermediates, transfer technology to local firms and improve the skill of the labour force, all of which could work as catalysts for the development of domestic industries. Therefore, most countries designed investment promotion policies to attract investments of multinationals (Taylor, 2000; UNCTAD 2008, 2009). UNCTAD (1996) classifies the incentive policies into fiscal, financial and other incentives. Fiscal incentives include various types of direct and indirect subsidies or tax relief. The most common financial incentives are government subsidies aimed at lowering the capital, production, or credit costs of MNEs. These incentives are undoubtedly beneficial to MNEs and therefore, it is argued that investment promotion policies would give multinationals competitive advantages and positively affect their profits. Hence, we hypothesize:
Hypothesis 5: Investment promotion policies in the meta-environment are positively associated with MNE performance.

The law enforcement system is important for MNEs. According to the resource-based view, to be successful firms not only have to create their own competitive advantages but also sustain them (Barney, 1991; Verbeke & Yuan, 2007). When operating in several countries, multinationals face a high risk of losing competitive advantages resulting from imitation by local as well as international rivals (Hadjikhani & Ghauri, 2001; Guler & Guillén, 2010). This problem is exacerbated, particularly in developing and transitional economies, where law enforcement mechanisms are often

lax (Buckley & Ghauri, 2004). Thus, it could be argued that weak law enforcement mechanisms have negative effects on a MNE's performance for the following reasons (Javorcik, 2004): first, the profit of MNEs is negatively affected by losing competitive advantages to rivals. Second, MNEs incur high transaction costs, which may result from the time and expense of negotiating, writing and enforcing detailed contracts for transactions with local agencies. Such contracts are required to prevent the loss of competitive advantages through imitation by these agencies and due to the lack of appropriate means to retaliate in countries with weak law enforcement mechanisms. Third, in such countries, multinationals are likely to transfer only old technologies (Lee & Mansfield, 1996), thus their performance would not be high. Fourth, in countries with a weak legal enforcement system, MNEs choose to internalize most of their production activities, such as input and distribution, to prevent the leakage of private information, even if outsourcing to local agents would be more effective. Therefore, we propose the following hypothesis:
Hypothesis 6: The effectiveness of the law enforcement system in the meta-environment is positively associated with MNE performance.

2.3 Research methods

Data collection

Our hypotheses relate variations of MNE performance to variations in the meta-environment. We therefore constructed a multi-level database that incorporates (a) measures for MNE performance (and other MNE characteristics that are included as control variables, see below), and (b) for the various dimensions of the meta-environment. This study incorporates MNEs that have their headquarters in Europe. IB research often studies US-based MNEs. We add a European perspective to this and by doing so, respond to calls for more European studies in the performance literature (Harzing & Sorge, 2003). We constructed our database in two main steps.

Firstly, we selected the 206 largest MNEs from the Amadeus Database. Amadeus is the most appropriate single-source firm-level database for our research because it is one of the most comprehensive and inter-temporal pan-European database containing detailed information of many public and private companies in virtually all European countries. The data for the 206 large companies allow to construct datasets with complete observations. In our window of observation, the large MNEs are still active (that is, not bankrupt) and legally independent (that is, not merged with other companies). It is well known that a cross-sectional sample of company information may bias empirical results. This particularly applies to financial performance because financial results of MNEs typically fluctuate from one year to the other. For that reason we collected MNE information for five years starting with the most recent year for which complete MNE information is available in Amadeus. A five-year period (in our

case, 2000-2004) generally is accepted to rule out exceptionally superior or inferior company performance (cf. Rugman & Oh, 2009).

Secondly, Amadeus also specifies the geographic location of all subsidiaries for each particular MNE that we selected. Per MNE the number of subsidiaries varies strongly and may range between 25 and 125 subsidiaries. We used the geographic location of the subsidiary to construct our measures for the meta-environment. We first constructed country-level indices for 150 countries and afterwards determined the weighted average of sets of countries depending of the MNE at hand (only those countries in which MNEs operate subsidiaries are included in our database). The weighted average for a set of country indices is our measure for a particular meta-environment construct. We selected yearly publications of the Global Competitiveness Reports (World Economic Forum), the World Bank, the Heritage Foundation, and the Freedom House as our primary data sources for the country-level measures. The advantage of using these sources stems both from the wide range of scales on institutional characteristics included in their data files, from the use of standardized data collection approaches that facilitates systematic international comparison and the availability of time-series. These sources of information are therefore frequently used in institutional research and have proven their value (e.g., Lopez-Claros et al., 2005). We collected panel data over five years (2000-2004) for advanced factor resources (technological capabilities and infrastructure quality) and formal institutions (government policies and the law enforcement system) because these may change from year to year.[6]

Overall, our database includes a wealth of information that represents a substantial amount of economic activity. In our observation window, for example, the companies in our database employed 15.2 million persons, generated Euro 3,572.5 billion of revenues, and established Euro 4,616.2 billion total assets (total average figures, 2000-2004). In comparison, the workforce of the Benelux in the same period was approximately 16.8 million persons and it is about 7 percent of the total workforce in the European Union.

Measures

Table 1 presents an overview of constructs and measures. The dependent variable is MNE performance, which is measured by earnings before interest and taxes divided by assets (EBITOA).[7] All our meta-environment indices are constructed with the same

6 Related studies apply similar periods for the same reason. Rugman and Oh (2009), for instance, study the internationalization of MNEs between 2001 and 2005.

7 Return on assets (ROA) is another widely used to measure the performance of firms. We collected information for ROA and estimated our models with this measure. The correlation coefficient between ROA and EBITOA is 0.90. The empirical results for ROA are exactly the same as for EBITOA. However, since taxation rules as well as capital structure seem to vary across countries, we prefer to apply EBITOA, which is a useful measure of the performance of MNEs coming from and operating in different countries.

approach. The meta-index for technology capability offers an example. The meta-index for technology capability index (TCit) at time t – which represents the combined country-level technology capability of all countries j (home and all host countries) in which MNEi operates at time t – is calculated as the weighted average of the country-level technology capability indices ( ) of all of the countries j in which MNEi operates at time t. The country-level technology capability indices (TCijt) are measured by the national technology readiness indices of the Global Competitiveness Reports, which range from 1 to 7. The higher the national technology readiness index of a country, the better its technological capability. Consequently, the higher our meta-index for technological capability, the better the technological capability in the meta-environment for a particular MNE.

Table 1. Constructs and measures

Construct	**Measure**	**Primary Data Source**
1. MNE performance	EBITOA	Amadeus
2. Advanced Production Factors:		
2a. Technology capability	$TC_{it} = (\sum_j \frac{n_{ij}}{n_i} TC_{ijt})$	Global Competitiveness Reports and Amadeus
2b. Infrastructure	$IF_{it} = (\sum_j \frac{n_{ij}}{n_i} IF_{ijt})$	Global Competitiveness Reports and Amadeus
3. Formal Institutions:		
3a. Investment promotion policy	$IP_{it} = (\sum_j \frac{n_{ij}}{n_i} IP_{ijt})$	Heritage Foundation and Amadeus
3b. International trade promotion policy	$IT_{it} = (\sum_j \frac{n_{ij}}{n_i} IT_{ijt})$	Heritage Foundation and Amadeus
3c. Labour regulation	$LR_{it} = (\sum_j \frac{n_{ij}}{n_i} LR_{ijt})$	Freedom House and Amadeus
3d. Law enforcement system	$ES_{it} = (\sum_j \frac{n_{ij}}{n_i} ES_{ijt})$	World Bank and Amadeus
4. Control Variables		
4a. MNE size	Revenues (log)	Amadeus
4b. MNE sales growth	$SG_{i,t} = \frac{S_{i,t} - S_{i,t-1}}{S_{i,t-1}}$, (%)	Amadeus
4c. MNE age	Number of years	Amadeus
4d. MNE internationalisation level	Number of host countries	Amadeus
4e. MNE subsidiaries	Number of subsidiaries (log)	Amadeus
4f. MNE industry	Dummy variables per industry	Amadeus

We apply weights because MNEs differ in their intensity by which they exploit country environments (Miller & Eden, 2006) and this needs to be reflected in our measures. Low-level opportunity sets may make MNEs decide to minimize their presence in a country, by establishing a small number of subsidiaries. Thus, a country that offers low labour costs opportunities may induce MNEs to start a single production unit in that country that exploits the abundance of cheap labour at one site. On the other hand, high-level opportunity sets may induce MNEs to increase the intensity by which they exploit the particular opportunity set. Our weights account for these differences. The weight is the ratio of the number of subsidiaries of MNEi in country j (nij) to its total number of subsidiaries (ni) (cf. Wan & Hoskisson, 2003).[8]

The country-level infrastructure indices (IFijt) are measured by the national infrastructure indices of the Global Competitiveness Reports, which range from 1 to 7. The country-level investment promotion indices (IPijt) are measured by the national investment freedom indices of the Heritage Foundation, which range from 0 to 100. A high investment freedom index means that the country pursues interesting investment promotion polices for MNEs. The country-level international trade promotion indices (TPijt) are measured by the trade openness indices of the Heritage Foundation, which range from 0 to 100. The country-level labour regulation flexibility indices (LRijt) are measured by the national labour regulation indices of Freedom House, which range from 1 to 10. The country-level enforcement system effectiveness indices (ESijt) are measured by the national rule-of-law indices of the World Bank, ranging from -2.5 to 2.5, which measure the quality of contract enforcement, the police and the courts.

Control Variables

We include two sets of control variables in our model. Although our sample includes the largest European MNEs there is, of course, variation in MNE characteristics that need to be accounted for. The first set of control variables accounts for MNE characteristics, in particular sales growth, size, age, the number of subsidiaries, and the level of internationalization (Dunning, 1998; Riahi-Belkaoui, 1998). First, sales growth generally utilizes capacity more fully, which spreads fixed costs over more revenue, resulting in higher profitability. Sales growth is measured by the ratio of the increase in sales of the current year relative to the sales of the previous year (expressed in a percentage). Second, we include MNE size – measured by the natural logarithm of revenues – because a large MNE has the ability to exploit economies of scale that allows larger returns on assets and sales. Third, we include the age of an MNE – calculated by subtracting the year the MNE was founded from the current year – because older firms may have lower performance levels than younger ones

8 There are two alternative weighting methods (cf. Tridico, 2006). First, the share of the investment of MNEi in country j in relation to its total investment could be taken into account as the weight of the particular index of country j in the weighted average of the country-level indices of all countries j in which MNEi operates. The second is that the share of the sales of MNEi in country j in relation to its total sales is used as the weighted measure. Both methods cannot be applied because the required information is incomplete or unavailable.

because of the continued use of outdated management and/or obsolete technology and their resistance to new approaches. Fourth, the number of subsidiaries of an MNE is important not only because this reflects the intensity by which the MNE exploits the available opportunity sets (see above) but also because it creates coordination and transaction costs and this may hamper the performance of the MNE. For that reason we include the number of subsidiaries as a separate control variable in our model. Fifth, as the sample consists of the largest European MNEs, all MNEs in the sample come from relatively high munificent home countries. Consequently, one can expect that, ceteris paribus, more internationalized MNEs perform better than less internationalized ones. The internationalization variable – measured by the number of host countries in which the MNE is active – is included to control for this home country munificence effect. The second set of control variables concerns industry effects. Large MNEs are typically diversified over a number of industries and our sample is no exception to this. There is considerable variation between industries in terms of average profitability. We control for the industry effect by using dummy variables, each of which represents one of the main industry divisions, classified in accordance with SIC system. The main industry captures the primary and thus most important industry of the MNE. Division B (Mining) is considered as the base case in the model and thus not included. Our sample does not include main activities for sections A (Agriculture) and J (Public Administration).

Two-step estimation procedure

Our database combines panel data with cross-sectional information. We therefore apply a two-step estimation procedure (Arrelano, 2003), fixed effect decomposition method (FEVD), that combines a fixed-effect panel method (first step) with an OLS model (second step). These steps are connected: the second step of the two-step procedure regresses the residuals of the original fixed-effect model, containing the time-invariant (or individual) specific effects, on the time-invariant explanatory variables. Our two-step model not only maintains important advantages of FE models over RE models – e.g., in allowing for the correlations between the explanatory variables and the omitted individual and time-specific variables – but it is also able to estimate our time-invariant variables (Plumper & Troeger, 2005). The latter cannot be estimated in a stand-alone FE model.[9]

2.4 Empirical results

The summary statistics and correlations are in Table 2. All values of the correlation coefficients are below 0.80, which is the common threshold value for multicollinearity. Further inspection of our data also revealed that neither autocorrelation nor

9 As a robustness check, we also applied random-effects models. The results are the same as the ones presented in the text. Additional statistical tests, however, showed that fixed-effects is the most appropriate estimation method in our research setting.

heteroscedasticity is an issue.[10]

Table 3 presents the regression results. We estimated a set of hierarchical regression models examining first a benchmark model with control variables only (Model 1). We then entered our main effects variables regarding the meta-environment, that is, advanced production resources (Model 2) and formal institutions (Model 3), respectively. The various fit parameters show that our model increasingly fits the data better. For example, the adjusted R-square improves from 64.3 per cent in Model 1 to 82.5 per cent in Model 3. Also, the estimates remain robust in terms of signs and significance levels. For that reason, we mainly focus our discussion on the results with reference to Model 3.

Table 2. Descriptive statistics and correlations (n = 1,030)

Variable	Mean	S.D.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1. MNE Performance (EBITOA)	6,59	5,90	1,00											
2. Technological Capabilities	4,87	0,48	0,09 **	1,00										
3. Quality Infrastructure	3,69	0,95	0,59 **	0,42 **	1,00									
4. Investment Policy	68,09	6,54	0,10 **	0,21 **	0,12 **	1,00								
5. Trade Policy	73,01	2,53	-0,03	0,29 **	0,18 **	0,33 **	1,00							
6. Labour Regulations	5,55	1,12	0,29 **	0,39 **	0,21 **	-0,25 **	0,08 **	1,00						
7. Law Enforcement System	1,15	0,24	0,14 **	0,57 **	0,24 **	0,48 **	0,43 **	0,07 **	1,00					
8. MNE Size (log)	7,02	0,44	0,04	-0,01	0,09 **	-0,06 *	-0,03	-0,12 **	-0,09 **	1,00				
9. MNE Sales Growth	11,54	33,79	0,07 **	0,09 **	0,06 **	-0,03	0,04	0,20 **	0,06 **	-0,07 **	1,00			
10. MNE Age	55,27	44,28	0,07 **	-0,03	-0,04	-0,04	-0,11 **	-0,05 *	-0,12 **	0,07 **	-0,10 **	1,00		
11. MNE Internationalization	26,10	18,66	0,09 **	-0,22 **	-0,02	-0,28 **	-0,35 **	-0,05	-0,54 **	0,20 **	-0,13 **	0,23 **	1,00	
12. MNE Subsidiaries (log)	2,13	0,57	0,00	-0,12 **	-0,07 **	-0,15 **	-0,11 **	0,00	-0,17 **	0,34 **	-0,08 **	0,12 **	0,34 **	1,00

* p < .10 and ** p < .05 (two-tailed)

10 Autocorrelation is problematic if the residuals are serially correlated. The Durbin-Watson statistic is 2.02. This is above the critical upper-bound value for the Durbin-Watson test at the significance level of 5 per cent (1.86). Hence, the null hypothesis of no autocorrelation is accepted. Heteroskedasticity is problematic if the residuals do not all have the same variance, which may result in incorrect standard errors. The White heteroskedasticity test fails to reject the null hypothesis of no heteroskedasticity at the significance level of 1 per cent, because the p-value of the F-statistic is 0.26. The results of the Jarque-Bera test support the assumption of the normality of residuals. The results of the Hausman test shows that the assumption of no correlation between the explanatory variables and the error term holds. Thus, the regression results are reliable and unbiased.

Table 3. The Impact of the Meta-Environment on MNE Performance

	MNE Performance (Model 1)	MNE Performance (Model 2)	MNE Performance (Model 3)
Constant	-19,352 *	-57,135 ***	-58,611 ***
	(11.559)	(8.792)	(9.358)
Advanced Production Resources			
Technological Capabilities		6.542 ***	2.041 ***
		(0.812)	(0.584)
Quality of the Infrastructure		2.829 ***	2.694 ***
		(0.241)	(0.205)
Formal Institutions			
International Trade Promotion Policies			-0.058
			(0.276)
Flexibility of Labour Regulations			1.193 ***
			(0.036)
Investment Promotion Policies			0.166 ***
			(0.068)
Efficiency of Law Enforcement System			10.027 ***
			(0.942)
Control variables: MNE characteristics			
MNE Size (log revenues)	3.678 **	3.048 ***	2.858 ***
	(1.647)	(1.179)	(1.103)
Sales Growth	0.010 *	0.004	0.003
	(0.005)	(0.003)	(0.003)
Subsidiary Number (log)	-0.978	-0.400	-0.503
	(0.751)	(0.770)	(0.728)
Internationalization	0.033 *	0.074 ***	0.130 ***
	(0.018)	(0.021)	(0.019)
MNE Age	0.007	0.008	0.008
	(0.008)	(0.008)	(0.007)
Control Variables: Industry			
Division C (Construction)	-0.165	-0.710	-0.724
	(1.392)	(1.964)	(1.712)
Division D (Manufacturing)	-3.625 **	-5.877 ***	-4.539 ***
	1.537	1.827	1.690
Division E (Transport and Communication)	-3.119 **	-2.270	-2.020
	(1.382)	(2.159)	(1.883)
Division F (Wholesale Trade)	-2.843	-3.425	-3.608 *
	(1.922)	(2.159)	(2.074)
Division G (Retail Trade)	1.255	-1.453	-1.404
	(3.241)	(2.278)	(2.104)
Division H (Finance and Insurance)	-5.136 **	-7.548 ***	-7.169 ***
	(2.067)	(2.394)	(2.010)
Division I (Services)	-4.276 ***	-5.347 ***	-4.309 ***
	(1.272)	(1.658)	(1.511)
Model Fit			
Adjusted R-square	0.643	0.777	0.825
S.E. of regression	3.523	2.783	2.465
Durbin-Watson statistic	1.872	1.945	2.019

Notes:
(1) *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$
(2) White diagonal and cross-sectional standard errors and covariances in parentheses.

Our empirical results offer strong support for the importance of advanced factor resources in the meta-environment of MNEs. The parameter estimates for technological capabilities ($\beta = 2.041$, $p < 0.01$) and infrastructure ($\beta = 2.694$, $p < 0.01$) have the expected positive signs, and both are highly significant. Hypothesis 1 and Hypothesis 2 are, therefore, confirmed. The empirical results also offer convincing support for the importance of formal institutions in the meta-environment of MNEs. Three of the four formal institutions foster MNE performance as hypothesized. Table 3 shows that the parameter estimates for the flexibility of labour regulations ($\beta = 1.193$, $p < 0.01$), investment promotion policies ($\beta = 0.166$, $p < 0.01$) and the efficiency of the law enforcement system ($\beta = 10.027$, $p < 0.01$) all have the expected positive signs, and they are all highly significant. Hypothesis 4, Hypothesis 5 and Hypothesis 6 are, therefore, confirmed. The parameter estimate for international trade promotion policies, however, is negative but it is also not significant ($\beta = -0.058$, n.s.). Hypothesis 3 is thus not confirmed. The results for the control variables indicate that in particular the size of the MNE ($\beta = 2.858$, $p < 0.01$) and the level of internationalization ($\beta = 0.130$, $p < 0.01$) determine MNE performance. This is in line with our expectations. The results for the industry control variables show their importance as well: except for Construction, Transport and Communication, and Retail Trade all other industry dummies have a significant, negative relationship with MNE performance.

2.5 Discussion and conclusions

This study investigates how variations in the meta-environment determine variations in the performance of MNEs. MNEs can be conceptualized as a network of exchange relationships among organizational units. Dunning (2009), for instance, concludes that alliance capitalism is one of the key features of the contemporary global economy implying that functional departments in the value-creation process need to collaborate actively and purposely with each other. There are numerous benefits MNEs can draw from intra-firm linkages such as improved productivity as a result of gaining access to new or less costly intermediate inputs or the transfer of financial, managerial, marketing and location-specific resources (Giroud & Scott-Kennel, 2009; Dunning & Lundan, 2008). Our main arguments posit that the geographic configuration of a firm via its network of subsidiaries relative to other firms presents opportunities for competitive intelligence, knowledge transfers and supply chain synergies. Subsidiaries are bridges between offshore units of the MNE and local firms in the host countries and allow access to country-specific advantages such as knowledge about local institutions, markets and entry modes (Ruigrok & Wagner, 2003). MNEs may realize higher performance levels from a diversified access to these country-specific assets that matches and complements existing MNE's capabilities. Previous IB contextual research has typically focused on single country contexts (Wan & Hoskisson, 2003), and the opportunities and challenges of managing MNEs such that the added value for stakeholders is maximized (Tallman & Yip, 2009). It has not, however, given much

consideration to the core issue for any MNE: how do the combined environments of all countries where all units of an MNE operate determine its performance? In response, this study is among the first to examine the role of the meta-environment for MNE performance. Although prior research acknowledges that leading MNEs leverage strategies that are based on spatial proximity within a region for more readily access to specific resources (Nachum, Zaheer, & Gross, 2008; Rugman & Oh, 2009; Mauri & Sambharay, 2001; Proff, 2002), cross-country empirical research pertaining to the benefits of combined national resources and institutions remains sparse.

Thus, we shift the attention from firm-level determinants and either home or host country contexts, to meta-environmental characteristics. We believe the latter is interesting in its own right. Explaining the impact of the meta-environment is critical in a global economy where national boundaries become permeable and distances disappear (De Clerck, Danis, & Dakhli, 2010; Ohmae, 1990; Kogut, 1991; Prasad & Ghauri, 2004). Companies continuously need to update the firm's non-location bound knowledge, in order to reap the benefits of international and global integration, and location-bound knowledge, that provide benefits of local responsiveness. Each MNE makes a sequence of strategic important decisions concerning, at least, entry, establishment and density modes (Buckley & Ghauri, 2004) that involve inertia, path-dependency and hence, substantial switching costs (Dikova & van Witteloostuijn, 2007). For that reason, MNEs will find themselves locked into its particular geography (Brouthers & Brouthers, 2000; Yamin & Frosgren, 2006). Hence, it is the geographical footprint rather than the dichotomous home or host contexts, that enables and constrains MNE behaviour.

Our findings generally support our key theoretical arguments. We disentangle the meta-environment into two main components, each subdivided into specific elements. National economies are shaped by their resource endowment (Narula & Dunning, 2000), notably advanced production factors, as well as formal rules that govern economic behaviour (North, 1990; Estrin et al., 2009). For advanced production factors we report univocal support, that is, MNEs obtain superior performance when operating in a meta-environment dominated by high technological capabilities and a high-quality infrastructure. For the formal institutional setting we also find convincing support. That is, meta-environments characterized by flexible labour regulations, investment promotion policies and efficient law enforcement systems foster the performance of MNEs. Contrary to our expectations, however, a meta-environment dominated by international trade promotion policies does not benefit MNE performance. A possible explanation for the non-significant result of international trade promotion policies is that these not only bring benefits as we hypothesized, but may also share disadvantages. The reason behind this is that as a country imposes high international trade barriers, MNEs which serve local markets by setting up local production are

preferred over national firms which service local markets through export. Therefore, the overall effect on MNE performance is not clear, as suggested by the results. Nonetheless, it is worthwhile to mention that we found support for many of our key propositions, while controlling for a substantial number of MNE- and industry characteristics.

Our study offers several important implications, but we also acknowledge that our findings are subject to various limitations that suggest avenues for additional research. There has been considerable debate about the importance of the home or host country context in which an MNE is operating. Some scholars have suggested that home country characteristics dominate MNEs' strategic decisions and behaviour (Wan, 2005; McGahan & Victer, 2010; Guler & Guillén, 2010), while others have argued that host country features (Tallman, 1992; Wiig & Kolstad, 2010; Keller & Yeaple, 2009) or the difference between home and host countries (Xu & Shenkar, 2010; Chao & Kumar, 2010; Verbeke, 2010) should be the focus of research. These perspectives, however, may overestimate single-country environments or the home-host country polarization. For one thing, the home country is determined by the geographic location of the headquarter and this choice is often induced by fiscal policies. As a consequence, headquarters are re-located when existing fiscal circumstances deteriorate or when new opportunities arise. The same also applies to the location of subsidiaries. We therefore go beyond the home-host country conceptualization. The logic that underlies our paper is that MNEs develop international strategies that boost organizational performance by carefully aligning internal processes and structures with the external opportunities and threats across all countries in which it operates. It is the company-specific use of a portfolio of nation states (i.e., the meta-environment) itself that is the intangible resource for sustainable competitive advantages (cf. Osegowitsch & Sammartino, 2008).

The results of this study also have interesting implications for countries attempting to e.g. attract the investment of MNEs. Private international capital flows may contribute to long-term economic growth because of technology transfers, employment creation and productivity growth. Our study, however, implies that the rules of the international policy games may have changed. MNEs pursue increasingly complex international strategies – they dynamically manage a portfolio of international opportunities trading-off cost differences between locations together with the quality of the infrastructure and the efficiency of legal system. As a result, host countries are evaluated by MNEs on the basis of a broader set of policies than before. Hence, governments need to increase the number of policies that constitute a favourable investment climate. In so doing, however, they also need to coordinate their efforts with other nation states in order to optimize the relative importance of their policies vis-à-vis other countries. The findings have implications for MNE managers as well. On the one hand, the meta-

environment cannot be changed in favour of their company because each element is given. On the other hand, managers can change their company specific meta-environment, e.g., by altering the density of their activities in a particular nation state for which our significant findings can be informative.

No study can investigate everything and thus it was not possible in this study to include all dimensions of the meta-environment. Future studies are urged to investigate the role of, for example, education, the supply of skilled labour and informal institutions. Informal institutions or the codes of conduct as described by North (1990) can be viewed as corresponding to culture in the frameworks of Hofstede (2001) or House et al. (2004). It is argued that leadership is culturally contingent and likely to the determine the performance of individuals (Ralston et al., 2008; Drogendijk & Slangen, 2006) and of organizations (Kirkman, Lowe, & Gibson, 2006; Gerhart, 2008). MNEs are likely to account for the cultural variance when optimizing their international sets of opportunities. In a similar vein, future studies may analyze the interplay between meta-national culture, MNE strategy and performance. While there is an international convergence in management approaches and production technologies, the operating contexts of MNEs around the world are not homogenous and are driven by the national cultures of countries. New research may also address more complex causalities between MNE performance and our explanatory variables (cf. De Clercq et al., 2010). Informal rules, for instance, may have a mediating role rather than a direct effect on MNE performance. In relation to this, our study focused on the performance of European multinationals in a particular period. In due time, samples with headquarters that are located in other regions as well as multinationals that are active in other industries would allow a cross-validation of the results presented in this paper.

In conclusion, MNEs dominate world business and a thorough understanding of their performance remains centre stage in IB research. With the above limitations acknowledged, we are confident that this study makes an important contribution to this line of research by opening up the black box of the meta-environment, and to the understanding how the relationships between the various dimensions of the meta-environment and MNE performance varies.

CHAPTER 3. CULTURAL DIVERSITY AND FIRM INTERNATIONALIZATION

Summary

Prior work has established the importance of degree of internationalization for understanding the performance of multinational enterprises. Despite all efforts, however, the relationship between degree of internationalization and firm performance (I-P) is still the subject of ongoing debate following inconclusive findings. We suggest that the international business literature has largely overlooked MNE cultural diversity as an essential determinant of the I-P relationship. We argue that the impact of the degree of internationalization on MNE performance is contingent on MNE cultural diversity. The impact of the degree of internationalization on performance is positive for MNEs that operate in culturally similar countries and negative for MNEs that operate in culturally diverse countries. Our study is among the first to examine the impact of MNE cultural diversity on the I-P relationship with a unique panel dataset from European multinationals. The results provide convincing support for our approach to the study of the degree of internationalization and MNE performance.

Keywords: degree of internationalization, MNE cultural diversity, multinational firm performance

3.1 Introduction

Ever since firms first started foreign operations, the question of whether and how the degree of internationalization fosters company performance has been one of the most important in international business (IB) research (Banalieva & Sarathy, 2011; Banalieva & Robertson, 2010; Buckley & Casson, 1976; Dunning, 1981; Hymer, 1976; Johanson & Vahlne, 1977, 2009; Ruigrok & Wagner, 2003; Stinchcomb, 1965). Despite all efforts, however, the internationalization–performance (I-P) relationship is still the subject of ongoing debate following mixed empirical findings (Hennart, 2007, 2011). In this study we delve deeper into these empirically inconsistent results. We argue that a contingency perspective on the I-P relationship for multinational enterprises (MNEs) is useful to address the prior mixed results. We add to existing research by demonstrating that MNE cultural diversity determines the relationship between the degree of internationalization and firm performance. Degree of internationalization is the same as the degree of geographic diversity or country diversity, that is, how many countries or how widely spread the MNE is. MNE cultural diversity is an assessment of how similar the different countries are.

Assessing the situation, Hennart (2011) and Wiersema and Bowen (2011) conclude that while the volume of the I-P research stream is substantial and theories on internationalization are abundant, the inadequacy of our current conceptualizations and measures of internationalization persist. Hence, the I-P research domain is broad, but it has not yet reached maturity and there is a need to re-examine conventional wisdom about internationalization and performance. We propose that MNE cultural

diversity is underexplored in I-P research. One of the most important dimensions of foreign business contexts which can impact on the effect of internationalization on performance is the national culture of host countries vis-à-vis the home country. We add depth to the understanding of the relationship between internationalization and performance and explain one of the complicating factors – MNE cultural diversity. We explain that as a firm's corporate strategy invites greater internal cultural diversity through international expansion, there are higher costs to the firm that sometimes outweigh the benefits of internationalization.

We analyze interaction effects by using product-term regression techniques to support our main conjecture empirically (Baron & Kenny, 1986; Jaccard & Turrisi, 2003). We test our hypothesis concerning the effect of MNE cultural diversity on the I-P relationship on a panel dataset for 2003-2007 that combines headquarters information from the largest European MNEs. Our window of observation and research settings are relevant to this study because in this period many European MNEs expanded their international activities drastically (Buckley & Casson, 2009; Rugman & Oh, 2009). Our empirical research enables the study of whether the particular trends of internationalization by European MNEs improve their performance.

The outline of the paper is as follows. We begin by reviewing research in two areas that serve as the foundation for our contingency framework of MNE internationalization: the literature on the I-P relationship and the literature on how cultural diversity determines MNE performance. Next, building on this theoretical background, we formulate our hypothesis about the effect of MNE cultural diversity on the I-P relationship. Then, we introduce this paper's research methodology, addressing issues related to our measures of the variables and estimation methods. Following that, we present our empirical evidence. Finally, we conclude with an appraisal, discussing limitations and offering a reflection on opportunities for future research.

3.2 Literature review

This section provides background literature for both internationalization and firm performance and cultural diversity. Cultural diversity and internationalization are related but distinct concepts. In this study, internationalization is interpreted as the extent of a firm's present involvement in international operations (Buckly & Ghauri, 1999).[11] Internationalization can consequently be defined as the degree to which an MNE is active in multiple countries via subsidiaries or exports, and thereby implicitly also addresses geographical diversification (Lu & Beamish, 2004). Divergent national cultures imply the notion of cultural distance, which can be regarded as the difference

11 The IB literature uses concepts such as degree of internationalization, multinationality, geographic diversification, and international expansion interchangeably to refer to the same phenomenon: international diversification or internationalization for short (Hitt, Hoskisson, & Hicheon, 1997; Hitt et al., 2006). The definitions show that MNE cultural diversity and internationalization are conceptually different, which is confirmed by empirical studies in the IB literature focusing on each of the two. Additionally, our empirical study shows that the measures for the two concepts meet the standard statistical criteria to warrant their inclusion as separate variables in the multivariate analysis.

between one national culture and another on the basis of a certain cultural parameter (Mezias et al., 2002; Proff, 2002; Morosini, Shane, & Singh, 1998; Tihanyi, Griffith, & Russell, 2005). MNE cultural diversity is consequently perceived as the aggregate level of cultural heterogeneity with which a firm is brought into contact as a result of its international operations (Gomez-Mejia & Palich, 1997).[12]

Benefits of internationalization

There have been many empirical studies of the precise relationship between internationalization and firm performance (see Wiersma & Bowen, 2011, Kircka et al., 2011 and Yang & Driffield, 2012 for comprehensive reviews). However, these studies have yielded mixed or even contradictory results. Prior studies report a positive relationship (e.g. Goerzen & Beamish, 2003), a negative relationship (e.g. Hitt, Hoskisson, & Kim, 1997), a U-shaped relationship (e.g. Qian, Li, Li, & Qian, 2008), an inverted U-shaped relationship (e.g. Wang, Chen, & Chang, 2011), an S-shaped relationship (e.g. Ruigrok, Amann, & Wagner, 2007) and even non-significant relationships between the degree of internationalization and firm performance (e.g. Sambharya, 1996).

The positive effects emphasize the potential sources of competitive advantage that MNEs can achieve through internationalization that are unavailable to firms operating purely domestically (Dunning, 1981; Click & Harrison, 2000; Denis, Denis, & Yost, 2002; Goerzen & Beamish, 2003; Thomas & Eden, 2004). There are production-related efficiencies, such as economies of scale and scope, realizable in internationally diversified operations that go beyond product diversification: these allow a firm to achieve above-normal returns if it is successful in exploiting its domestic competitive advantage in international markets (Buckley & Ghauri, 1999; Caves, 1996). More production-related efficiencies result from a Hekscher-Ohlin-type view, which stresses that due to imperfections in world markets, differing factor costs in individual countries permit MNEs to minimize their production costs by shifting activities to their lowest-cost location, reducing transaction costs, labour costs or material costs (Ruigrok, Amann, & Wagner, 2007). Market-related efficiencies result from differences in demand and income levels across countries, allowing MNEs to shift sales from low-income, low-margin markets to high-income, higher-margin markets (Thomas & Eden, 2004).

Internationalization can also lead to a reduction in risk, as market diversification leads to a more stable revenue stream and is less vulnerable to country-specific shocks (Hitt et al., 1997). A well-diversified firm runs a lower risk of aggressive moves by competitors as it has multiple bases from which to retaliate (Kim, Hwang,

12 To illustrate the difference between degree of internationalization and MNE cultural diversity, consider the following simple numerical example: Two MNEs, A and B, operate abroad. MNE A is in ten countries – all in Central or South America. MNE B is in five countries – Mexico, Canada, United States, China and India. MNE A has a higher degree of internationalization than MNE B, but a much lower degree of cultural diversity.

&Burgers 1989, 1993). Various studies confirm the positive impact of the degree of internationalization on firm performance. Riahi-Belkaoui (1996), for example, reports that the performance of French MNEs is positively related to both related and unrelated international diversification. These findings are consistent with those reported in Errunza & Senbet (1981, 1984), Grant, Jaminne, & Thomas (1988), and Tallman & Li (1996). Nevertheless, the positive linear model is theoretically limited (see, for instance, Cardinal, Miller, & Palich, 2011; Wiersema & Bowen, 2011; Yang & Driffield, 2012). The model assumes that there are unlimited international opportunities and that firms can absorb any new international activity ad infinitum. Both assumptions are unlikely, since firms do not have unlimited managerial capacity for handling increasing international complexity.

Non-significant findings for the hypothesized performance-enhancing effect of the degree of internationalization have also been reported (see Buckley, Dunning, & Pearce 1978, 1984; Shaked, 1986; or Sambharya, 1996). Following the insignificant findings, I-P studies called attention to the negative effects of the degree of internationalization on firm performance (Geringer et al., 2000; Gomes & Ramswamy, 1999; Hitt, Hoskisson, & Kim, 1997; Michel & Shaked, 1986). The negative effects are typically defined as the extra costs and complexities in the early stages of internationalization that arise as a result of the liabilities of foreignness (LOF) (Zaheer, 1995) and the increased complexities involved with high levels of internationalization.[13] LOF can be expressed as the extra costs a foreign firm incurs that are not carried by domestic firms because of differences in local knowledge and experience (Barkema & Vermeulen, 1998; Lu & Beamish, 2004; Zaheer, 1995). LOF costs are distinct from other costs, such as costs due to liabilities of newness, size or age (Mezias, 2002; Sethi & Guisinger, 2002). Although different categorizations of LOF costs exist (Hennart, Roehl, & Zeng, 2002), the key sources of additional costs for foreign firms operating abroad include costs associated with spatial distance, unfamiliarity with host-country environments, a lack of legitimacy in the host country, political and economic regulation, and cultural differences.

Costs of internationalization

Firms engaged in high degrees of internationalization have higher costs than those with lower engagement (Chang & Rhee, 2011; Ghemawat, 2001; Ruigrok et al., 2007; Qian et al., 2008). Costs typically associated with product diversification, such as coordination difficulties and incentive misalignment, also apply to internationalization (Venkatraman & Ramanujam, 1986; Bobillo, Lopez-Iturriaga, & Tejerina-Gaite, 2010). Taken together, high degrees of internationalization increase the intra-firm complexity at which a firm operates, resulting in higher coordination costs and greater difficulty in

13 The study of LOF is an important research theme in IB. A special issue on this topic in the Journal of International Management offers an excellent review of achievements over the last sixty years (Luo & Mezias, 2002).

transferring information. If the degree of internationalization continues to rise above a certain critical point, these extra governance, coordination and transaction costs create diseconomies of scale in managing such large, complex organizational structures that can outweigh the positive effects of internationalization (Hitt, Hoskisson, & Hicheon, 1997; Tallman & Li, 1996). Therefore, although internationalization can benefit a firm, high degrees of internationalization can burden a firm with increased costs that it would not otherwise incur. There is empirical support for the non-monotonic relationships. Qian et al. (2008), for instance, studied 189 large US firms in the 1996-2000 period and found that regional diversification enhances firm performance linearly up to a certain threshold, after which its impact becomes negative (see also Wang, Chen, & Chang, 2011 and Assaf, Josiassen, Ratchford, & Pestana Barros, 2012).

The inverted U-shaped perspective is also not without its limitations because, among others, this view does not incorporate the possibility of mistakes and slow learning during initial diversification efforts (Cardinal et al., 2011). Some IB studies therefore propose that on average, a sine curve best describes the I-P relationship (Contractor, 2007; Contractor, Kundu, & Hsu, 2003; Lu & Beamish, 2004; Ruigrok et al., 2007; Bobillo et al., 2010). An important limitation of the S-shaped model, however, is its expectation that firms will experience negative performance effects when they move from no to limited diversification (Cardinal et al., 2011; Wiersema & Bowen, 2001).

Above all, very few of the I-P studies, irrespective of the particular I-P relationship considered, explicitly incorporate the role of cultural contexts in determining the impact of internationalization on firm performance. For MNEs, bridging differences in cultural contexts is a key strategic challenge and paramount to capturing the benefits of internationalization (e.g. economies of scale and scope and taking advantage of factor markets) while avoiding its disadvantages. We therefore include MNE cultural diversity as a determining factor in the I-P relationship.

The benefits and costs of cultural diversity

We argue that cultural diversity is inherent to internationalization, as one cannot exist without the other, and that it could therefore determine the I-P relationship, because cultural diversity can amplify costs owing to the liabilities of foreignness (LOF) (Mezias, 2002; Clerck, Danis, & Dakhli, 2010; Luo, Shenkar, & Nyaw, 2002; Zaheer, 1995). This magnifying effect of cultural diversity on LOF costs could outweigh the advantages that an MNE derives from internationalization. Although cultural diversity has been acknowledged as a factor that potentially determines firm performance (Gomez-Mejia & Palich, 1997; Shenkar, 2001; Tung, 2008; Hutzschenreuter & Voll, 2008; Tihanyi, Griffith, & Russell, 2005), whether and how cultural diversity determines the I-P relationship is not, at least not explicitly, addressed in the international business

literature. An answer to these questions provides a better explanation of why some firms are more likely to benefit from internationalization than others. Accordingly, if we do not consider the cultural differences between the host and home country contexts in the I-P relationship, conceptualization and thereby our findings could remain incomplete.

Like the I-P research strand, existing theoretical arguments about the cultural diversity-performance (CD-P) relationship can be subdivided into a negative view (Gomez-Mejia & Palich, 1997; Hutzschenreuter & Voll, 2008; Tihanyi, Griffith, & Russell, 2005) and a positive view (Cox, 1991; Cox & Blake, 1991; Morosini, Shane, & Singh, 1998; Reus & Lamont, 2009). The positive view argues that multinational firms benefit from culturally diverse operations through increased access to the routines and repertoires of other cultures, using two main arguments. First, there are learning opportunities and creativity benefits arising from exposure to the diverse routines embedded in culture (Morosini, Shane, & Singh, 1998; Reus & Lamont, 2009). As firms interact with firms/business units from different cultures, they learn from each other at various operational levels, effectively pooling their individual routines (Nooteboom, 2000). Second, as some national cultures and country-specific routines lend themselves better to certain tasks, intra-firm specialization can occur, enabling business units to focus more on what they are relatively or absolutely better at (Fiol, 1991; Morosini, Shane, & Singh, 1998).

In contrast, the negative view states that cultural diversity can be a cause of increased intra-firm complexity at several levels, for at least two main reasons. First, when a firm operates in multiple, culturally diverse markets, this requires it to tailor itself to numerous foreign national cultures, creating complexities in dealing with different beliefs, behaviours and perceptions (Barkema & Vermeulen, 1998; Hutzschenreuter & Voll, 2008). Second, complexities are further expected to arise through differing firm-level characteristics, such as conflict management, decision-making, and leadership styles (Adler & Gunderson, 2008). These heightened levels of intra-firm complexities can lead to growth in coordination, agency and transaction costs, respectively (Gomez-Mejia & Palich, 1997; Kirkman, Lowe, & Gibson, 2006; Palich & Gomez-Mejia, 1999; Reus & Lamont, 2009; Teece, Rumelt, Dosi, & Winter, 1994; Tihanyi, Griffith, & Russell, 2005; Williamson, 1985). Coordination costs arise from the efforts to coordinate the interdependent activities of subsidiaries and headquarters. Coordination costs can increase when cross-cultural operations are impeded by miscommunication, inefficient transfer of knowledge and information, increased inter-personal friction and conflicts, higher decision wait times or increased rework requirements as a result of cultural distance between the home and host countries. Agency costs arise from diverging interests between headquarters and subsidiaries. Agency costs can arise

when the differences in cultural values, norms, and beliefs create greater complexity in understanding and monitoring an agent's activity, making the principal agent problem more recurrent and less easy to resolve efficiently. Transaction costs arise from participating in a market. Transaction costs can increase due to cultural distance because expatriate management faces uncertainty and difficulty in establishing and maintaining commercial relations, such as negotiating a contract or resolving clashes.

Although culturally diverse operations can lead to improved insights and learning opportunities (Morosini, Shane, & Singh, 1998; Reus & Lamont, 2009), increasing levels of cultural diversity will lead to increased coordination, agency and transaction costs, all negatively related to firm performance (Hutzschenreuter & Voll, 2008; Tihanyi, Griffith, & Russel, 2005). Consequently, as cultural diversity increases and the resulting costs outweigh the benefits created, a non-monotonic hill-shaped relationship between cultural diversity and firm performance can be expected.

Empirical evidence for the CD-P relationship

Cultural diversity has indirectly been related to firm performance via innovation, entry modes, strategic alliances and mergers and acquisitions (Brouthers & Brouthers, 2001). Direct effect studies of cultural diversity on firm performance are few and far between. A notable exception is Gomez-Mejia and Palich (1997), who argue that performance studies of MNE globalization need to account for the impact of cultural diversity and not just the extent of international diversification. Gomez-Mejia and Palich introduce different explanations, hypothesizing that culturally related international diversification will be positively associated with firm performance. Their suggestions include that cultural relatedness enhances the flow of technological knowhow in transnational exchanges and that cultural barriers can slow down the transfer of organizational innovations between units.

Gomez-Mejia and Palich extensively tested the impact of cultural diversity on the performance of 442 large US firms for three discrete time periods (i.e. 1985-1989, 1990-1994 and 1985-1994). Their study applies different measures of cultural diversity, including Herfindahl-type measures of concentration based on Hofstede's (1980) culture clusters, the Kogut and Singh (1988) culture distance index, and language and religion diversity measures. Contrary to their hypothesis, Gomez-Mejia and Palich's results indicate that the direction of a firm's international expansion in terms of cultural relatedness or unrelatedness has no effect on accounting or market measures of performance. The null findings were invariant for the cultural diversity measures used.

Our study is motivated by Gomez-Mejia and Palich (1997), following in part their

explanations for the non-significant findings and suggestions for future research. First, we share their focus on cultural diversity as a key explanatory variable for globalization's effects on MNE performance. Gomez-Mejia and Palich, however, estimated linear CD-P relationships. We complement their study by introducing non-linear CD-P relationships as the benchmark for incorporating the effects of CD into the I-P relationship. Second, we include the role of cultural diversity as a contingency variable in the I-P relationship. Although Gomez-Mejia and Palich account for interaction effects (e.g. between cultural diversity and industry sector), they do not study the relationship between internationalization and cultural diversity, which is the focus of the present study. Third, we tested the effect of cultural diversity on the I-P relationship with (a) a new measure for cultural diversity, (b) applying particular estimation methods suited to use (c) panel data information from European multinational firms for (d) a recent observation period (i.e. 2003-2007). These empirical innovations allow us to determine whether Gomez-Mejia and Palich's non-significant findings can partly be explained by measures, methods or samples. It aligns with their suggestions for new empirical studies in this direction (see Wiersema & Bowen, 2011 for similar perspectives concerning future I-P research).

3.3 Hypothesis

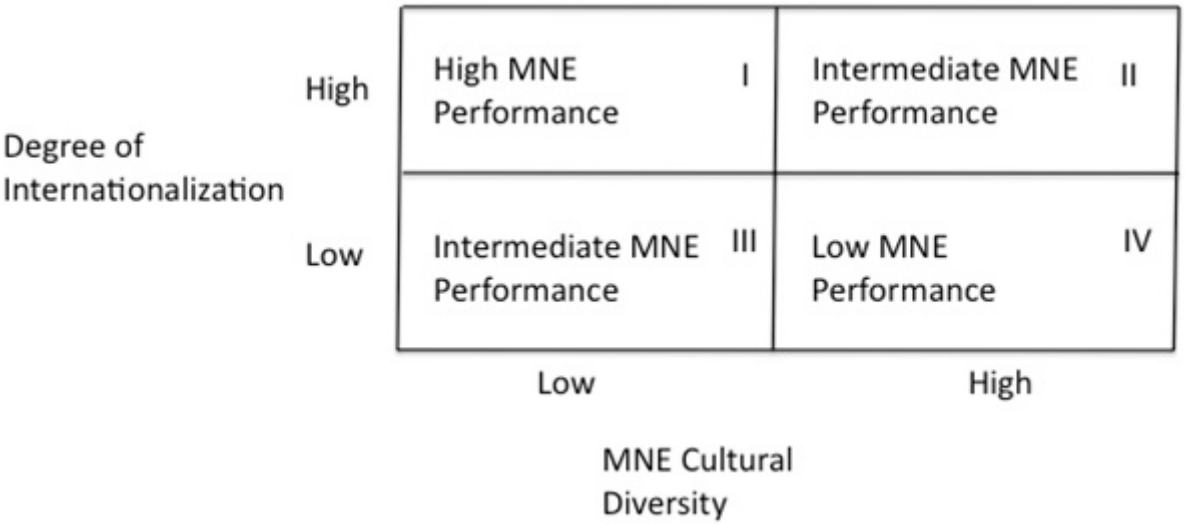
Internationalization and MNE cultural diversity are related but distinct concepts with the former relating to the degree of a company's international presence (Buckly & Ghauri, 1999) and the latter the extent to which a company is confronted with cultural differences (Tihanyi et al., 2005). While the existing literature thus indicates that the degree of internationalization and cultural diversity plays an essential role in the performance of MNEs one way or another, no study has addressed MNE cultural diversity as a determining factor to explain the I-P relationship.

The literature review indicates similarities in the theoretical foundations of the degree of internationalization, cultural diversity and firm performance (Geringer et al., 2000; Hutzschenreuter & Voll, 2008; Hutzschenreuter, Voll, & Verbeke, 2011; Hitt et al., 1997). These similarities in theoretical basis and the performance effects of the directions of MNE cultural diversity and the degree of internationalization suggest that the potential for significant interaction should be high. On the one hand, the resource-based view points to the performance-enhancing effects of internationalization and operating in culturally diverse countries because it enables MNEs to develop firm-specific competences that promote global sourcing and opportunities for factor and other forms of arbitrage bringing economic and financial benefits due to economies of scale and scope, in addition to portfolio risk diversification. Such firm-specific competences enable sustainable competitive advantages to be reflected in superior MNE performance. On the other hand, transaction cost theory suggests that governance

and transaction costs increase when MNEs operate activities in foreign countries.

Although our independent variables, MNE cultural diversity and degree of internationalization, are continuous variables –and are examined as such in a regression analysis to follow–, Figure 1 displays a two-by-two contingency framework that is helpful to illustrate our underlying logic.

Figure 1. Degree of internationalization, MNE cultural diversity and MNE performance.



The cells in Figure 1 reflect ideal-type, discrete cases. Our two factors are MNE degree of internationalization (low or high) and MNE cultural diversity (low or high). Following our logic, four predictions emerge: (1) in a condition of high degree of internationalization and low MNE cultural diversity, MNEs are hypothesized to have high performance (Cell I); (2) in a condition of low degree of internationalization and high MNE cultural diversity, MNEs are hypothesized to have low performance (Cell IV); (3) in a condition of high degree of internationalization and high MNE cultural diversity, MNEs are hypothesized to have intermediate performance (Cell II); and (4) in a condition of low degree of internationalization and low MNE cultural diversity, MNEs are hypothesized to have intermediate performance (Cel III).

We propose that the combination of the resource-based view and transaction cost theory suggests that increasing degrees of internationalization should improve MNE performance at low MNE cultural diversity, and reduce MNE performance at high levels of MNE cultural diversity. Two lines of arguments support our interaction effect. The LOF costs perspective offers an initial explanation (Mezias, 2002; Petersen & Pedersen, 2002; Miller & Richards, 2002). With increasing cultural differences, LOF

costs are likely to increase and outweigh the advantages that an MNE derives from internationalization (see also Calhoun, 2002). If cultural diversity is great, factor arbitrage – the characteristic that differentiates MNEs from single-country firms and a key source of the MNEs' sustainable competitive advantage (Giroud & Scott-Kennel, 2009; Wan & Hoskisson, 2003) – becomes problematic, requiring the MNE to either make additional investments to overcome these challenges or to forego arbitrage opportunities. The LOF costs will be very high, lowering the MNE performance. Moreover, increasing cultural differences will hinder obtaining local legitimacy and require additional expenditure when searching for, negotiating with and monitoring the local management required to establish local legitimacy. This will negatively impact on the performance of the MNE, at least in the short term.

A second explanation derives from efficiency. The management of cultural differences is a key problem for an MNE starting overseas operations, and these management challenges increase as the cultural differences between the home and the new host countries become greater. Cultural diversity impedes the efficiencies of international expansion, whereas cultural relatedness acts as a conductor for internationalization efficiencies (Palich & Gomez-Mejia,1999). Market-related efficiencies and market responses decrease with increasing cultural diversity because the marketing mix is required to deal with more heterogeneous customers, reducing the economies of scope and increasing marketing costs (Evans & Mavondo, 2002; Gomez-Mejia & Palich, 1997). In contrast, similarities in consumer tastes or administrative mechanisms between the home and host countries allow the MNE to better leverage its domestic market capabilities and competences (Gimeno & Woo, 1999; Ruigrok & Wagner, 2003). Similarly, production-related efficiencies are more likely to occur in culturally related operations as cultural similarities could improve the consolidation of production, allowing for standardization in the value chain and reduction in costs (Palich & Gomez-Mejia, 1999). Lastly, technology-related efficiencies are also hypothesized to suffer from increasing cultural distance. For example, the Japanese Just-In-Time production method, which works remarkably well in Japan, has yielded unsatisfactory results in other countries, possibly due to diverging cultural situations (Heiko, 1989).

In sum, we argue that the negative views for both the degree of internationalization and MNE cultural diversity rest largely on the same premises of LOF cost growth due to coordination and agency problems. If it were indeed the case that the two concepts have separate effects and one simply does not reflect the influences of the other, then we would expect to see a magnified effect when a firm has high degrees of both. Therefore, the impact of internationalization on MNE performance is contingent on cultural diversity: internationalization improves performance in culturally similar countries because the MNE benefits from economies of scale and scope and

sustainable firm-specific competition-improving resources, and decreases when companies internationalize to culturally diverse countries because the governance complexities of managing culturally distant activities are added to those that result from internationalization. Our key hypothesis is consequently expressed as:
Hypothesis 1. MNE cultural diversity determines the relationship between internationalization and firm performance, such that high degrees of internationalization combined with low MNE cultural diversity lead to high firm performance, and low degrees of internationalization combined with high MNE cultural diversity lead to low firm performance.

3.4 Research Methods

Data collection

Notable exceptions notwithstanding (Buhner, 1987; Delios & Beamish, 1999; Geringer, Tallman, & Olsen, 2000; Castellani & Zanfei, 2007), the majority of I-P studies report findings for US-based companies (Andersen, 2008; Hitt et al., 2006; Ruigrok, Amann, & Wagner, 2007; Qian, Li, Li, & Qian, 2003). Our study is in line with calls for further I-P research in Europe (Buckley & Ghauri, 2004; Harzing & Sorge, 2003). Our hypothesis relates variations in MNE performance to variations in the environment. We therefore constructed a multi-level database that incorporates firm-level and environmental measures.

The firm-level data are obtained from Bureau van Dijk's (BvD, 2011) Orbis database. Orbis is the most appropriate single-source firm-level database for our research because it is one of the most comprehensive and inter-temporal pan-European databases, containing detailed information about many public and private companies in virtually all European countries. The sample was selected according to the criteria that the firm had at least one foreign subsidiary, it originated in a European Union (EU) member country, it was categorized as 'large' (Orbis classifies these as companies with operating revenues of EUR 10 million or more) or 'very large' (Orbis classifies these as companies with operating revenues of EUR 100 million or more), and it had the same country of domicile as its ultimate global owner (Mayer & Ottaviano, 2008; Harzing & Sorge, 2003).

It is well known that a cross-sectional sample of company information can bias empirical results. This particularly applies to financial performance, because the financial results of MNEs typically fluctuate from one year to the next. In order to maintain generalizability and assume normal firm conditions and operations, the sample was collected for the period 2003-2007, thereby avoiding the potentially distorting effects of the financial crisis of 2008. This period also allows us to construct five-year averages for the firm characteristics measurements. A five-year period is

generally accepted to rule out exceptionally superior or inferior company performance (see, for example, De Jong, Phan, & Van Ees, 2011; Chao & Kumar, 2010; Gomez-Mejia & Palich, 1997; Hutzschenreuter & Voll, 2008). The sample selection process resulted in 568 observations after correcting for occasional outliers and missing values. Previous I-P studies have used similar databases from different contexts. For example, Chao and Kumar (2010) used Fortune Magazine's Global 500 company list in Year 2004. Other examples are Capar and Kotabe (2003) or Ruigrok and Wagner (2003), who used The Largest 500 German Companies List for their studies of I-P relationships for German firms.

Table 1. Distribution of MNEs in the sample across countries and industries

Country	SIC2	SIC3	SIC4	SIC5	SIC6	SIC7	SIC8	SIC9	Total
Austria	4	2	8	3	1	0	2	0	20
Belgium	1	8	9	3	1	2	0	0	24
Denmark	0	7	8	2	0	0	3	0	20
Finland	0	4	7	2	0	0	3	1	17
France	7	31	40	12	11	10	35	9	155
Germany	3	20	38	17	12	5	32	4	131
Great Britain	6	17	18	13	10	3	16	7	90
Greece	1	1	6	3	0	0	0	0	11
Ireland	0	1	3	1	1	1	1	0	8
Italy	1	3	0	1	0	0	0	0	5
Luxembourg	0	0	0	2	0	1	0	0	3
Netherlands	1	3	6	2	0	2	7	2	23
Portugal	0	0	0	0	1	0	0	0	1
Spain	4	5	5	5	1	0	3	1	24
Sweden	2	7	11	6	6	1	3	0	36
Total	30	109	159	72	44	25	105	24	568

The industries are classified according to the UN Standard Industrial Classification with SIC2 (Commodities), SIC3 (Manufacturing), SIC4 (Transport & Public Utilities), SIC5 (Wholesale & Retail), SIC6 (Finance & Insurance), SIC7 (Services), SIC8 (Services) and SIC9 (Other).

Table 2. MNE size in number of employees per country

Country	N†	Mean	SD
Austria	20	7,297	12,047
Belgium	24	5,955	14,982
Denmark	20	8,742	18,711
Finland	17	2,700	3,673
France	155	13,060	39,816
Germany	131	12,504	44,326
Great Britain	90	4,159	9,429
Greece	11	5,515	7,938
Ireland	8	1,268	1,567
Italy	5	17,765	31,307
Luxembourg	3	2,948	4,635
Netherlands	23	23,163	63,027
Portugal	1	420	N/A
Spain	24	10,243	15,629
Sweden	36	11,103	19,009
Total	**568**	**10,376**	**33,719**

† Number of MNEs in the sample

Table 3. MNE size in number of employees per industry

SIC Classification	N†	Mean	SD
Division SIC2 (Commodities)	30	17,531	29,690
Division SIC3 (Manufacturing)	109	5,434	11,933
Division SIC4 (Transportation & Public Utilities)	159	12,021	38,144
Division SIC5 (Wholesale & Retail)	72	18,600	42,526
Division SIC6 (Finance & Insurance)	44	16,258	53,676
Division SIC7 (Services)	25	9,335	30,361
Division SIC8 (Services)	105	4,577	28,319
Division SIC9 (Other)	24	3,973	4,508
Total	**568**	**10,376**	**33,719**

† Number of MNEs in the sample

Table 1 represents the distribution of these 568 MNEs' countries. France was the country with the largest number of companies (155 companies; 27%), followed by Germany (131 companies, 23%) and Great Britain (90 companies, 16%). In terms of industries, Transport and Public Utilities was the sector with the largest number of observations (159 companies, 28%), followed by Manufacturing (109 companies, 19%) and Services (105 companies, 18%). Table 2 presents the size of the MNEs in our sample per country. On average, the largest companies were located in the Netherlands (mean firm size 23,163 employees), followed by Italy (17,765 employees), France (13,060 employees) and Germany (12,504 employees). In a similar vein, Table 3 presents the size of the MNEs per industry. On average, the largest companies are active in Wholesale and Retail (mean firm size 18,600 employees), followed by Finance and Insurance (16,258 employees) and Transportation and Public Utilities (12,021 employees).

Measures

Our dependent variable is MNE performance, which is measured by earnings before interest and taxes divided by assets (EBITOA) (Meyer, 2005; Hawawini, Subramanian, & Verdin, 2001).[14]

The lion's share of empirical analyses of cultural distance/diversity and firm performance have employed the cultural-distance index devised by Kogut and Singh (1988) as a way to construct a firm-specific measure of aggregate cultural distances: the majority of these analyses use Hofstede's framework as a quantification of culture (see, for example, Gomez-Mejia & Palich, 1997; Hutzschenreuter & Voll, 2008; Kogut & Singh, 1988; Morosini, Shane, & Singh, 1998; Reus & Lamont, 2009; Tihanyi, Griffith, & Russell, 2005). Although Hofstede's (2001) framework is as widely criticized as it is applied (Dikova, 2009; Dow & Ferincova, 2010), a study by Drogendijk and Slangen (2006) found the explanatory power of the alternative Schwartz (1994) value survey was comparable to Hofstede for determining entry-mode choice, concluding that it is premature to discard Hofstede's work as outdated.[15] Therefore, this study adopts a conservative approach, using Hofstede's (2001) most recent cultural dimensions, which were obtained for 69 countries and regions that together covered 80 out of 175 countries and 78.8% of foreign subsidiaries from the sample. Although Hofstede's dimensions stem from a different period to the observations of the firm characteristics, this should not cause much concern because culture is assumed to be highly time-invariant (Kirkman, Lowe, & Gibson, 2006).

14 Return on assets is another widely used measure for the performance of firms. However, since taxation rules and capital structure seem to vary across countries, we prefer to apply EBITOA, which is a useful measure of the performance of MNEs coming from and operating in different countries (see De Jong, Phan, & Van Ees, 2011; Gomez-Mejia & Palich, 1997; or Hutzschenreuter & Voll, 2008).

15 Another alternative to Hofstede is the GLOBE framework, but Maseland & Van Hoorn (2010) suggest that this measure also has its biases in that it captures marginal preferences as opposed to culture.

The original measure of firm-specific cultural diversity (CD) is presented in equation (1) below, where Hij represents the value of the ith Hofstede dimensions for culture[16] for the jth country. HiD subsequently represents the value of the ith Hofstede dimensions for the domestic country, and Vi the variance of the Hofstede dimensions. The firm-specific CD is subsequently the sum of the cultural distances for all the combinations j of the country of domicile and the country in which the firm has subsidiaries (Kogut & Singh, 1988).

$$CD = \sum_{j=1}^{n} CDI_j = \sum_{j=1}^{n} \sum_{i=1}^{4} \frac{\left(H_{ij} - H_{iD}\right)^2 / V_i}{4} \qquad (1)$$

This original CD measure presumes symmetry for all cultural dimensions. However, it is argued that the effect of each cultural distance is far from symmetrical for each firm or country (Kirkman et al., 2006; Shenkar, 2001; Tung & Verbeke, 2010). We therefore present a refinement of the original CD measure that anticipates this limitation. Although some studies control for firm specificity (e.g. Brouthers, 2002), no study so far has accounted for firm asymmetry in distance using weights. To account for potential asymmetric distance situations, we designed a second measure (see equation 2 below) where a weight for the country-specific cultural distance is included as the ratio of the number of subsidiaries nj in the foreign country j over the total number of foreign subsidiaries N. The number of subsidiaries per country is included because a firm is expected to reap more of the benefits or more of the costs of the specific cultural distance if it is more intensively involved in that country (Hutzschenreuter & Voll, 2008), therefore meriting a higher weight. Our new measure also accounts for the level of international experience by including the total number of foreign subsidiaries, so that a firm with high international diversification, which is presumed to have adapted to cultural distance and other liabilities of foreignness (Zaheer, 1995; Mezias, 2002; Petersen & Pedersen, 2002), will be given a lower weight. The latter is also in line with Shenkar's (2001) objections to a cultural-distance measure that neglected a cultural-distance closing mechanism arising from foreign experience. The measure for weighted MNE cultural diversity (WCD) then becomes:[17]

$$WCD = \sum_{j=1}^{n} \frac{n_j}{N} CDI_j = \sum_{j=1}^{n} \frac{n_j}{N} \sum_{i=1}^{4} \frac{\left(H_{ij} - H_{iD}\right)^2 / V_i}{4} \qquad (2)$$

16 These are power distance, individualism-collectivism, masculinity-femininity and uncertainty avoidance.

17 The correlation coefficient between Kogut & Singh's (1988) original and our refined version is positive and significant ($\rho = 0.27$), suggesting that it indeed captures different aspects of the firm's cultural portfolio. Additional detail that explains the distinction between the two measures is available upon request.

Commonly employed international diversification measures can be divided across structural and financial dimensions. The former include the distribution of the MNE's subsidiaries, assets and employees between the home and foreign countries, usually measured by the number of subsidiaries/foreign countries, foreign assets over total assets or employees over assets (Lu & Beamish, 2004). Financial and accounting-based dimensions reflect the MNE's revenue, income or sales dependence on foreign markets, usually measured by foreign sales over total sales (Ruigrok & Wagner, 2003). Although such unidimensional measures are commonly adopted in empirical research, they are criticized as misrepresenting the breadth and depth of international diversification, and therefore multidimensional measures are preferred instead (Hitt, Hoskisson, & Hicheon, 1997; Sullivan, 1994). Our multidimensional measure of international diversification (INT) is therefore based on Sanders and Carpenter (1998) and combines two separate measures into an overall composite:

$$INT = \frac{1}{2}\left(\frac{N}{\max\{N\}} + \frac{K}{\max\{K\}}\right) \quad (3)$$

This composite measure requires the calculation of the number of foreign subsidiaries[18] N over the sample's maximum observed number of foreign subsidiaries (max{N}) followed by the number of foreign countries K in which the firm has subsidiaries divided by the maximum observed number of countries (max{K}) to include geographic dispersion. Both parts are thereby changed from counts to ratios and take on values between 0 and 1. The composite measure takes the average of the two parts.

Control variables

We included various control variables in our model.[19] The competitive-forces approach expands on classic economic theory by postulating that predominantly external industry factors determine the performance of the firm, such as industry profitability (Haar, 1989; Hansen & Wernerfelt, 1989; Hawawini, Subramanian, & Verdin, 2001). Further, large firms are typically diversified over a number of industries and there is considerable variation between industries in terms of average profitability. Therefore, this study will control for such industry effects by including industry dummies (Brouthers, 2002; Ruigrok & Wagner, 2003; Thomas & Eden, 2004). Likewise, we also include country dummies to control for potential country-related biases. The resource-based view adopts a more behavioural and firm-characteristic approach and argues that the firm's organizational capacities and factors determine whether it is able to compete successfully (Galbreath & Galvin, 2008; Hansen & Wernerfelt, 1989).

18 Data on subsidiaries are obtained from the Orbis database and include subsidiaries of which the subject company is the ultimate global owner.
19 These variables are also in line with LOF research. Mezias (2002), for instance, explains the need to control for other liabilities unrelated to foreignness: that is, liabilities stemming from age, size and host-country locations.

A commonly adopted resource-based control is firm size (measured by the logarithm of employees), as larger firms are typically more capable of exploiting economies of scale which in turn allow a larger return on assets and sales (Chao & Kumar, 2010). The age of the firm, measured by subtracting the year of incorporation from the average sample year 2005, is included because previous research has shown that the age of the firm influences both short and long-term performance (Galbreath & Galvin, 2008). Older firms may have lower performance levels than younger ones because of the continued use of outdated management and/or obsolete technology. Lastly, to account for the efficient use of firm capacity and resources, sales growth is included, measured by the difference of sales in year t and year t-1 divided by year t-1 (Dess & Robinson, 1984). Sales growth generally utilizes capacity more fully, which spreads fixed costs over more revenue, resulting in higher performance.

3.5 Empirical results

Table 4 is a summary of the statistics and correlations. Our hypotheses relate to an interaction effect and can be tested with a product-term analysis (Baron & Kenny, 1986; Brambor, Roberts Clark, & Golder, 2006; Jaccard & Turrisi, 2003; Jose, 2013). Baron and Kenny (1986) define a moderator as "a variable that affects the direction and/or strength of the relation between an independent, or predictor, variable and a dependent, or criterion, variable" (p.1174). An interaction term is the product between a moderator and a independent variable. Baron and Kenny conclude that whether the interaction term is a significant predictor or not is the test of whether significant moderation occurred or not. In our study, we take MNE cultural diversity as the variable that may determine the impact of internationalization on MNE firm performance. For the non-linear variables, the terms and squared terms were mean-centred before entering them into the regressions in order to avoid multicollinearity problems (Aiken & West, 1991; Baron & Kenny, 1986). We also mean-centered the MNE cultural diversity and internationalization variables before multiplying them.[20] In preparation for the regression analyses, we performed the usual tests to obtain reliable estimates. We also tested for possible bias caused by collinearity among variables by calculating the variance inflation factor (VIF) for each of the regression coefficients. Table 4 shows that all the values of the correlation coefficients are below 0.80, which is the common threshold value for multicollinearity. This is confirmed by the VIF values, which are all substantially lower than the threshold value of 10 as suggested by Neter, Wasserman and Kutner (1985). Further inspection of our data, however, revealed that the error terms of an ordinary least squares (OLS) regression are non-normally distributed and heteroscedastic. In such cases, the weighted least

20 This procedure does not affect the interpretation of the regression coefficient of the interaction effect. It does change the interpretation of the main effects when all terms are included in the same model. The main effects no longer represent constant effects, but rather the effects of the variables on firm performance at the mean of the other variable (Aiken & West, 1991; Baron & Kenny, 1986; Brambor et al. 2006; Jaccard & Turrisi, 2003; Jose, 2013).

squares (WLS) estimation method is recommended (Wooldridge, 2009). WLS reflects the behaviour of the random errors in a model. It can be used with functions that are either linear or nonlinear in the parameters. Table 5 presents the WLS regression results. We estimated a set of hierarchical regression models examining first a benchmark model with control variables only. We then sequentially entered our main effects variables.[21] The various fit parameters show that our full models significantly fit the data better, the R2 improves from 10 per cent in Model 1 to 14 per cent in Model 3 (F = 6.31 with a p-value < 0.01) and to 15 per cent in Model 4 (F = 6.38 with a p-value <0.01). The model fit also significantly improves when the interaction effect is added in Model 4 to Model 3 (F = 6.37 with a p-value < 0.01).[22]

Table 4. Descriptive statistics and correlations (n = 568)

	Mean	SD	(1)	(2)	(3)
(1) Firm performance	5.231	9.473	1		
(2) Internationalization	0.060	1.127	0.22*	1	
(3) Internationalization squared	1.271	1.872	-0.04	0.32*	1
(4) MNE cultural diversity	0.590	0.282	0.13*	0.42*	0
(5) MNE cultural div. squared	0.290	0.456	-0.05	-0.05	0.11*
(6) MNE size	7.246	1.966	0.21*	0.63*	0.24*
(7) MNE sales growth	-1.852	0.966	0.04	0.08*	0.05
(8) MNE age	5.654	2.427	0.16*	0.27*	0.07

** significant at p < 0.05 (two-tailed)*

	Mean	SD	(4)	(5)	(6)	(7)
(1) Firm performance	5.231	9.473				
(2) Internationalization	0.060	1.127				
(3) Internationalization squared	1.271	1.872				
(4) MNE cultural diversity	0.590	0.282	1			
(5) MNE cultural div. squared	0.290	0.456	-0.03	1		
(6) MNE size	7.246	1.966	0.34*	-0.03	1	
(7) MNE sales growth	-1.852	0.966	-0.09*	0.06	-0.09*	1
(8) MNE age	5.654	2.427	0.20*	0	0.34*	-0.17*

** significant at p < 0.05 (two-tailed)*

21 We nonetheless estimated our model with OLS as a test of robustness. The OLS results (with heteroscedastic consistent standard errors) are the same in terms of the signs of the parameter coefficients and their significance for the main effects, interaction terms and controls. The model-fit for the WLS estimates is somewhat better than the model-fit for the OLS estimates, suggesting that the WLS method does indeed fit our data structure better. We also estimated our model using the original Kogut and Singh (1988) measure. These results are the same except that the linear effects of MNE cultural diversity on performance do not receive significant support in each of the model specifications, which builds confidence in our approach.

22 Despite the low values of R2, however, all our models are significant and therefore enable hypotheses testing. The significant values of F in all of our models allow us to conclude that the models are significantly better than would be expected by chance.

Table 5. Internationalization, MNE cultural diversity and MNE performance

	Model 1	Model 2	Model 3	Model 4
Constant	-0.82	0.98	-0.73	-0.56
	(1.638)	(2.167)	(2.209)	(2.202)
Independent variables				
Internationalization		0.61	0.26	1.84**
		(0.433)	(0.511)	(0.863)
MNE Cultural Diversity		-0.48	5.74***	5.91***
		(1.406)	(2.046)	(2.039)
Internationalization squared			-0.31	-0.36*
			(0.198)	(0.199)
MNE Cultural Diversity squared			-6.34***	-8.17***
			(1.615)	(1.800)
Internationalization * MNE Cultural Diversity				-3.22**
				(1.419)
Control variables: MNE characteristics				
MNE Size	0.75***	0.51**	0.56**	0.56**
	(0.192)	(0.248)	(0.244)	(0.243)
MNE Sales Growth	1.07***	1.00***	1.02***	1.03***
	(0.375)	(0.379)	(0.372)	(0.370)
MNE Age	0.34**	0.33**	0.33**	0.33**
	(0.160)	(0.160)	(0.158)	(0.157)
Control variables: Industry				
Division SIC2 (Commodities)	1.49	1.23	2.14*	2.09
	(1.292)	(1.303)	(1.294)	(1.290)
Division SIC3 (Manufacturing)	1.24	1.32	1.02	1.08
	(1.018)	(1.021)	(1.003)	(0.999)
Division SIC4 (Transportation & Utilities)	1.43	1.48	1.27	1.30
	(0.964)	(0.970)	(0.952)	(0.948)
Division SIC6 (Finance)	3.35**	3.46**	3.33**	3.49**
	(1.517)	(1.519)	(1.489)	(1.485)
Division SIC7 (Services)	3.02	2.36	2.58	2.35
	(1.837)	(1.889)	(1.854)	(1.849)
Model fit				
N	568	568	568	568
R^2	0.10	0.11	0.14	0.15
Adj. R^2	0.07	0.07	0.11	0.11
F-stat	3.30	3.09	3.99	4.06
P-value	0.00	0.00	0.00	0.00

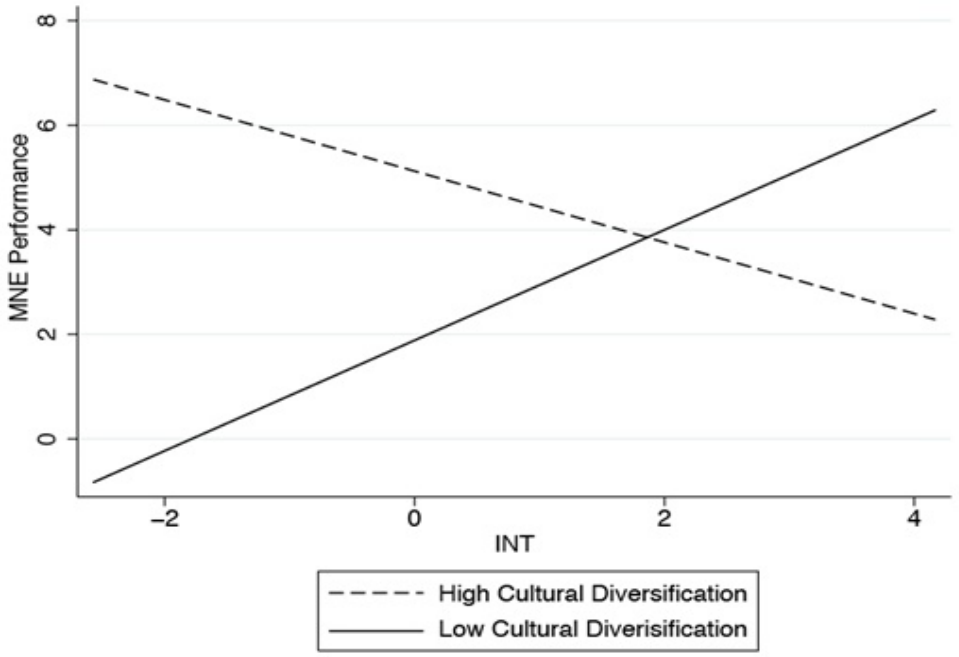
Notes: WLS estimates with robust standard errors in parentheses. * $p<0.10$, ** $p<0.05$, *** $p<0.01$. Country dummies are included in the model.

Table 5 provides convincing evidence for hypothesis 1. First, regression Model 2 in Table 5 shows that neither the degree of internationalization (β = 0.61; not significant) nor the MNE cultural diversity (β = -0.48; not significant) have linear relationships with MNE performance. To test the more complex relationships we

add the squared terms for internationalization and MNE cultural diversity. Model 3 reports evidence that the relationships are non-linear but also that the degree of internationalization and MNE cultural diversity are intertwined in their effects on MNE performance. Model 3 reports evidence for an inverted U-shaped relationship between the degree of internationalization and MNE performance. The parameter estimates have the expected opposite signs, albeit not significant ($\beta = 0.26$ for the linear term and $\beta = -0.31$ for the squared term, both not significant). The parameter estimates for MNE cultural diversity variables have signs that confirm an inverted U-shaped relationship and they are significant ($\beta = 5.74$ with a p-value < 0.01 for cultural diversity and $\beta = -6.34$ with a p-value < 0.01 for cultural diversity squared).[23] This is in line with our hypothesis that the degree of internationalization can have a positive or a negative impact on MNE performance, depending on the level of MNE cultural diversity. The model reveals that cultural diversity has an inverted U-shaped relationship with MNE performance, implying that MNEs will eventually perform more poorly when they operate in culturally diverse countries. To test our hypothesis more thoroughly, Model 4 adds the interaction effect of the degree of internationalization and MNE cultural diversity. This effect is negative and significant at the 5% level, implying that the impact of internationalization on MNE performance varies with the level of MNE cultural diversity, with internationalization reducing performance to a larger extent at higher levels of MNE cultural diversity ($\beta = -3.22$, p-value < 0.05). We therefore conclude that MNE cultural diversity determines the relationship between internationalization and firm performance. Put differently, higher degrees of internationalization negatively affect MNE performance, and this effect is stronger when MNE cultural diversity is great. Although the statistically significant interaction effect indicates that the effect of internationalization on MNE performance varies with MNE cultural diversity, it does not clarify how this effect varies exactly. Figure 2 therefore plots the relationships between the degree of internationalization and MNE performance for both low (i.e. one standard deviation below the mean) and high (i.e. one standard deviation above the mean) values of MNE cultural diversity, keeping all other variables constant at their mean. In line with our prediction, the figure shows that the degree of internationalization has a negative effect on MNE performance at high levels of MNE cultural diversity and a positive effect at low levels.

23 A separate regression without the squared term for cultural diversity does report significant relationships for internationalization and internationalization squared on MNE performance, further confirming our key perspective.

Figure 2. Internationalization, MNE cultural diversity and MNE performance



Model 4 in Table 5 also shows that the effect of MNE cultural diversity on MNE performance is initially positive (β = 5.91, p-value < 0.01) and at higher levels it is negatively related to MNE performance (β = -8.17, p-value <0.01). Hence, our results confirm a non-monotonic inverted U-shaped relationship between MNE cultural diversity and firm performance, as is generally suggested in the literature. The inflexion point of the weighted cultural diversity variable from the WLS estimate is 0.36, and Figure 3 confirms the inverted U-shaped relationship between cultural diversity and MNE performance.[24] Model 4 in Table 5 provides strong support for international diversification being curvilinearly related to firm performance (linear β = 1.84, p-value < 0.05; quadratic β = -0.36, p-value < 0.10), offering support for non-linearity between the degree of internationalization and performance. The inflection point of the international diversification variable from the WLS estimate is 2.56, and Figure 4 confirms the inverted U-shaped relationship between the degree of internationalization and MNE performance.[25]

24 Reversing the double-root transformation gives a value of 0.78, which is within the original data range. The inflection point occurs at +1.07 standard deviations.

25 Reversing the re-centering method and the natural logarithm gives a value of 0.16, which is within the original, non-transformed data range. The inflection point occurs at +2.6 standard deviations.

Figure 3. Total effect of MNE cultural diversification (with 95% value-wise confidence band)

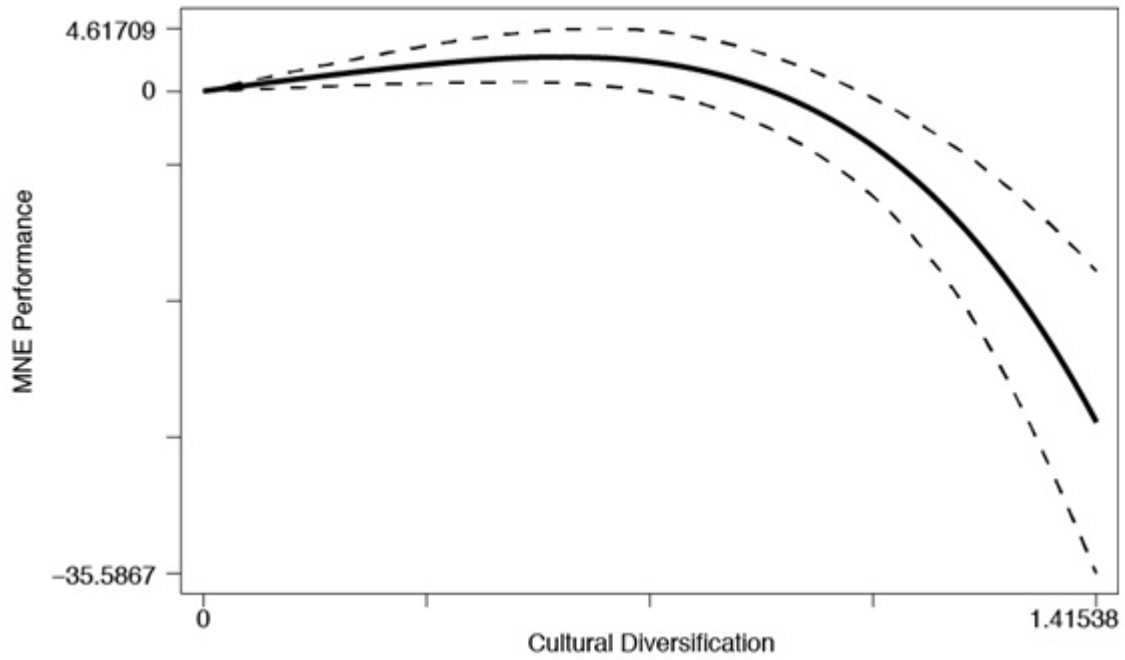
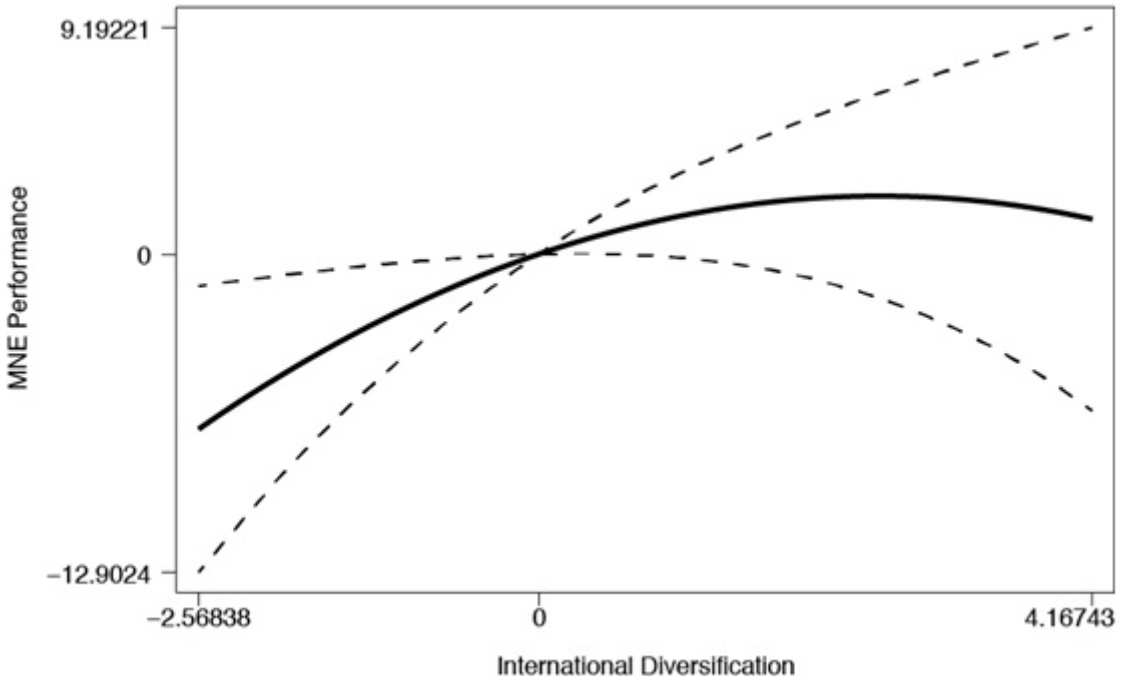


Figure 4. Total effect of international diversification (with 95% value-wise confidence band)



It is worth mentioning that the results for the control variables show that MNE size ($\beta = 0.56$, p-value < 0.05), MNE sales growth ($\beta = 1.03$, p-value < 0.01) and MNE age ($\beta = 0.33$, p-value < 0.05) foster firm performance. This is in line with our expectations. Table 5 shows that industry differences do not exist with the notable exception of the finance sector. This implies that firms in the financial sector perform significantly better than those in the benchmark industry. The above average performance of the financial sector in our database aligns with the overall economic growth in this sector during our window of observation (2003-2007). With the exception of Denmark, none of the country dummies included in each of our models are significant (available upon request).

As a test of robustness, we estimated models that include cubic terms for MNE cultural diversity and internationalization, in line with recent perspectives that the relationships are S-shaped (Contractor et al., 2003; Lu & Beamish, 2004; Ruigrok et al., 2007). These results indicate that the parameter estimates for the cubic terms are negative and significant but, at the same time, the estimates for the linear terms and the squared terms are not significant. This provides confidence that in our sample, the relationships between internationalization and performance and between MNE cultural diversity and performance are inverted U-shaped, as is generally argued in the IB literature (Wang et al., 2011; Assaf et al., 2012; Qian et al., 2008). We also estimated models with interaction terms between MNE cultural diversity and the squared terms of internationalization, following the perspective that the interaction may flatten the internationalization curve (Geringer et al., 2000). The results do not report significant effects for these more complex interaction terms, which builds confidence in our main findings, as reported above.

3.6 Conclusions

Firm performance studies report ambiguous, inconclusive and sometimes contradictory findings on internationalization (Hitt, Hoskisson, & Hicheon, 1997; Tihanyi, Griffith, & Russel, 2005). Additionally, prior work on internationalization and firm performance did not include cultural diversity. Our study is among the first to investigate the relationships between MNE cultural diversity, the degree of internationalization and firm performance. We offer a unique perspective that solves an important part of the ongoing debate concerning the trade-off between the benefits and costs of internationalization to MNEs (Bobillo et al., 2010; Ruigrok et al., 2007). We argue that the effect of the degree of internationalization on MNE performance is conditional on the level of cultural diversity that accompanies internationalization. We empirically show that the impact of the degree of internationalization on performance is indeed not the same for all MNEs: it is positive for MNEs that operate in culturally similar countries and negative for MNEs that operate in culturally diverse countries.

International business research is dominated by the question concerning the precise relationship between the degree of internationalization and firm performance. We move beyond this I-P relationship debate by integrating MNE cultural diversity in firm performance research from a contingency perspective. Some of the international business studies highlight the benefits of internationalization on MNE performance (Dunning, 1981; Click & Harrison, 2000; Denis, Denis, & Yost, 2002; Goerzen & Beamish, 2003). MNEs that expand their activities abroad are expected to reap a variety of economic benefits – such as economies of scale and scope – beyond that which can be achieved by operating only domestically (McGahan & Victer, 2010; Wan, 2005; Keller & Yeaple, 2009). Further, it is well known that there are differences in market conditions across geographic areas which enable firms to capitalize on market imperfections and to obtain sustainable returns on their invested resources (Verbeke, 2010; Xu & Shenkar, 2010). In turn, these economic benefits are expected to improve the financial performance of a company.

Although this suggests a positive relationship between the degree of internationalization and performance, we question to what extent such a positive relationship exists ad infinitum. For example, internationalization could crowd out alternative investments and erode incentives for other activities that foster MNE performance. As internationalization increases, the positive effect of the increased access to markets or capabilities could be offset by the inefficient allocation of resources and thus result in lower performance. This implies that internationalization could offer a diminishing return for MNE performance (Wang et al., 2011; Qian et al., 2008). Research into cultural diversity and firm performance largely mirrors this line of argument (Palich & Gomez-Mejia, 1999; Palich, Cardinal, & Miller, 2000). Gomez-Mejia and Palich (1997) is a landmark study offering convincing theoretical arguments that cultural diversity should hamper MNE performance. Using a sample of 442 large US firms and introducing a wide range of different CD measures, they nonetheless were unable to find significant support for the hypothesized CD-P relationship for three discrete time periods (i.e. 1985-1989, 1990-1994 and 1985-1994).

We continue to work in line with the main explanations that Gomez-Mejia and Palich offer for the non-significant findings, including first and foremost our contingency perspective along with the non-monotonic relationships between the variables of interest, a refined measure of MNE cultural diversity, and a more recent panel dataset for European MNEs. Our empirical findings generally support our contingency hypothesis. Based on a unique panel dataset of 568 European multinationals, we introduce a new measure for MNE cultural diversity, which is a refinement of the original Kogut and Singh (1988) index. Our measure not only accounts for asymmetry in cultural distance between countries, but also for the level of international experience

of the multinational enterprise. In so doing, we anticipate a criticism enunciated by Shenkar (2001), who suggests that the effects of cultural distance are by no means homogeneous for all firms. We argue that the number of subsidiaries per country differs per MNE and needs to be accounted for in studies that aim to analyse the effects of the degree of internationalization on firm performance.

Our study finds significant support for the interaction between MNE cultural diversity and the degree of internationalization that conditions the non-monotonic inverted U-shaped relationships between the degree of internationalization and firm performance, and between MNE cultural diversity and firm performance. The aforementioned peculiarities of our study help reassess the overwhelming non-significant findings reported by Gomez-Mejia and Palich (1997) and suggest that careful consideration of model specifications, samples, observation periods, measures and methods is required to understand the relationship between internationalization and firm performance. Our study also offers an explanation for the recent suggestions that many firms do operate internationally but still remain relatively local rather than being truly global (Tung & Verbeke, 2010; Mayer & Ottaviano, 2008). Rugman and Verbeke (2004, 2005), for example, found that most Fortune Global 500 firms are home-region-oriented, suggesting that the internationalization of MNE activities is not unlimited and comes at a cost (Collinson & Rugman, 2008; Osegowitsch & Sammartino, 2008). We offer a new contingency perspective for this observation: MNEs can realize higher performance levels from diversified access to country-specific assets that match and complement existing activities.

Our findings have two important implications for managers who want to determine whether internationalization will be a successful strategy and which factors facilitate or hamper the envisioned performance-enhancing internationalization efforts. First, the results indicate that not all firms derive the same benefits from their internationalization efforts. In such efforts, managers need to carefully decide which country to enter and do business in, bearing in mind their company's existing cultural diversification level. MNEs face costs due to liabilities of foreignness (Mezias, 2002; Zaheer, 1995), and these costs are likely to be amplified when MNEs do business in host countries with very different cultural contexts. Our results reaffirm the importance of intercultural management, because we show that the costs of internationalization exceed the benefits as cultural diversity increases. Given that national cultures are relatively stable (Hofstede, 2001; Tihanyi et al., 2005; Kirkman et al., 2006), investments in learning foreign cultures – for example by means of cross-cultural training – will result in firm-specific knowledge that helps entry decisions or postpones the internationalization threshold (Ruigrok et al., 2007). Second, managers should be patient when exploring international markets, controlling costs at moderate levels

of internationalization and avoiding high levels of internationalization. An increasing number of firms are limited in their expansion ambitions by the size of their home markets, as is often the case in European countries. Internationalization can open up new avenues for successful performance, such as scale and scope economies, and learning and taking advantage of differences in factor markets. Although our results show that internationalization is largely beneficial to MNE performance, there is a threshold beyond which internationalization no longer benefits but actually hampers firm financial achievements. Accordingly, the performance of firms is less optimal if they focus too little or too much on internationalization. Managers therefore need to assess the benefits and costs of internationalization at the margins, because we have demonstrated that a monotonous I-P relationship is absent.

We would like to mention a number of limitations that offer opportunities for future research. First, our empirical study shows the relevance of using fine-grained measures for cultural diversity anticipation, including asymmetry in home-host country differences. This is important for I-P and CD-P relationships and the interrelatedness between the degree of internationalization and cultural diversity, as presented here. Our cultural diversity measure is a first step towards a new line of measures and can be complemented with subsidiary characteristics or internationalization motives other than the ones studied here. For instance, the type of activity performed by a subsidiary – for example design, marketing, sales, purchasing or production – could also be affected, as some are more reliant on tacit knowledge and information (Gereffi, Humphrey, & Sturgeon, 2005) and are therefore more subject to the impediments or enrichments that cultural diversity can offer. MNEs can locate their subsidiaries or even their headquarters in countries that offer preferential tax treatment or other government policies beneficial to the firm. Further, the size of subsidiaries per MNE per country could vary, creating different management relationships between headquarters and subsidiaries. MNEs could also differ in the exact timing of their international expansion, depending on, for instance, the level of economic growth in the host countries under consideration.

It is an acknowledged limitation that due to data availability, our measure of cultural diversity is not yet able to account for the aforementioned features. A new country where the investing firm establishes a single person representation unit receives as much weight as a manufacturing unit with a substantial number of employees. Future research could collect more detailed information for each of the aforementioned subsidiary characteristics and MNE internationalization motives and, as such, analyze whether they also determine the relationship between the degree of internationalization and firm performance.

Second, we tested our model for European firms. Europe offers an appropriate research context because of the cultural differences between European countries. A next logical step would be to test our model for firms headquartered in other regions and, in so doing, determine whether the role of MNE cultural diversity for I-P relationships is similar. Selecting MNEs from the United States or Japan would enable cross-validation of our study with other insightful studies that have analyzed the I-P relationship of firms from these Triad countries (e.g. Lu & Beamish, 2001; Qian et al., 2008). Additionally, our research is particularly relevant in the context of Central and Eastern European (CEE) countries. CEE countries have experienced a strong inflow of foreign direct investment, due to the liberalization of trade policies and the mass privatization of state-owned companies (Meyer & Peng, 2005). The majority of CEE countries privatized through divestment of state assets to strategic investors, with an important role for MNEs. MNEs from all over the world enter CEE markets using different entry modes and applying diverse patterns of ownership and control, which raises the question of whether MNE cultural diversity also determines the I-P relationship in this region.

New data collection would also allow confirmation of the validity of our results by utilizing diversity dimensions other than cultural diversity, such as language, religious, economic and regulatory diversity (Shenkar, 2001; Brouthers & Brouthers, 2001). The latter is a special case, given that regulatory dimensions are unique to a country's institutional context and an important feature that, alongside and on top of cultural diversity, confronts internationalizing MNEs. A new sample could also include small-and-medium-size enterprises (SMEs). We found inverted U-shaped relationships for the CD-P and I-P relationships, and no significant support for S-shaped curves in our sample (cf. Kumar & Singh, 2008). Our sample consists of large MNEs that have substantial international operations and, therefore, the I-P relationship could empirically reveal only the second and third stages of the S-curve. A sample of SMEs with less international experience would permit testing whether such firms also experience the first stage of the S-curve, and to what extent cultural diversity moderates the I-P relationship for the particular circumstances of these companies. For example, the negative moderating effect could be more prominent if a firm enters a culturally distant country in the early stages of internationalization as compared to later stages. This implies that the curves (see Figure 2) could be different for MNEs and SMEs.

In conclusion, internationalization will remain crucially important for MNEs that operate in the contemporary world economy, and a thorough understanding of the impact of internationalization on MNE success remains central to IB research. With the above limitations acknowledged, we are confident that this study makes an important

contribution to this line of research by explaining how the relationship between degree of internationalization and MNE performance and MNE cultural diversity varies. The impact of the degree of internationalization on firm performance is contingent on the aggregate level of cultural heterogeneity with which a firm is brought into contact as a result of its international operations.

CHAPTER 4. BRIBERY AND FIRM PERFORMANCE

Summary

This paper investigates whether bribery in emerging economies matters and whether such bribery has a diminishing return to performance. Bribery allows entrepreneurs to develop and foster a network of informal relationships with public officials, and reap the accompanying benefits, but it may also have disadvantages such as an inefficient allocation of resources. The relationship between bribery and performance was estimated using unique data derived from a survey of 606 Vietnamese entrepreneurs. We controlled for various entrepreneurial, organizational and industrial characteristics. The exploratory results provide support for a hill-shaped non-monotonic relationship between bribery and revenues.

Keywords: bribery, entrepreneurs, transition economies, Vietnam

4.1 Introduction

Bribery has attracted the attention of scholars in various fields and is usually studied at either the country or the individual level (Luo, 2004). Depending on context, the word "bribery" can have different meanings (Bardhan, 1997). According to the World Bank (2000), bribery is the abuse of public office for private gain. In our research, it is the payment of cash by an organization with the aim of influencing the actions of a public official. Notwithstanding substantial progress, it is not yet fully understood why firms are willing to pay bribes and how bribes are related to their performance (Hannefey, 2003; Martin, Cullen, Parboteeha, 2007). Exploring in more detail such a firm-specific rationale of bribery would be important because the firm is usually the unit that decides to bribe. Although the payment of bribes by firms has been acknowledged (Aidis & Van Praag, 2007; Svensson, 2003), relatively little is known about what distinguishes bribing from non-bribing entrepreneurs as well as about the relationship between bribery and entrepreneurship performance in general, and for transition economies such as Vietnam in particular. Our study aims to further this new field of research by addressing these two research gaps.

We draw on the extant literature about entrepreneurship in transition economies (for excellent reviews see Bruton, Ahlstrom & Obloj, 2008 or Chilosi, 2000). This literature highlights the importance of institutions to entrepreneurship because they provide guidance, allow for routines to develop and ultimately reduce the uncertainty of interaction (Boettke & Coyne, 2009; Baumol, 2005, North, 2005). Entrepreneurs in transition economies, however, face many difficulties that can be directly linked to deficiencies in their formal institutional structure such as legal activism and underdeveloped financial markets in starting up and running their businesses (Scase, 1997). Notwithstanding these obstacles, large parts of the new markets in transition countries developed spontaneously, through the initiatives of

entrepreneurs. Smallbone and Welter (2001), for example, identify various forms of entrepreneurship under transition conditions including nomenclatura enterprises, self-employment and part-time businesses, small business ownership, and family businesses (cf. Chrisman, Steier & Chua, 2005). Networking appears to be a common underlying principle for the various forms of entrepreneurship. In particular political connections are extremely important in transition economies (Yiu & Lau, 2008; Peng & Zhou, 2005). The incentive for entrepreneurs to establish government relationships ultimately arises from state control of key resources. In transition economies, the government controls bank loans, business formation, investment size and finance. Relationships with local government officials help to, e.g., mobilize resources, win orders and cope with the constraints imposed by bureaucratic structures, ultimately improving the performance of entrepreneurs. In this context, bribery can be regarded as an investment that entrepreneurs need to make in order to operate successfully in an institutionally weak transition economy (Peng & Heath, 1996).

Although this suggests a positive relationship between bribery and entrepreneurship performance, there is a question to what extent such a positive relationship exists ad infinitum. Bribes, for example, may crowd out alternative investments and erode incentives for innovation or other activities such as training and marketing (Luo, 2004). The higher the bribes the more the disadvantages may contaminate the entrepreneurial organization. As the volume of bribes increases, the positive effect of the increased access to key resources may be offset by the inefficient allocation of resources and thus result in lower performance. This implies that bribery may have a diminishing return to entrepreneurship performance.

Hence, the purpose of this article is to contribute to a better understanding of the performance of entrepreneurs in transition economies by: (1) exploring which entrepreneurs bribe; and (2) examining the relationship between bribery and entrepreneurship performance. In so doing, we offer the following contributions to the literature. First, ours is one of the few studies to assess bribery at the level of individual agents, i.e., entrepreneurs. With few exemptions, the existing literature is based on cross-country analyses, applying data on bribery derived from perception indices that are constructed by the assessment of foreign experts of overall bribery in a country, and explain bribery as a function of public policies and institutions. Aggregate data, however, offer limited opportunities to study the relationship between bribery and individuals and why firms facing similar institutions pay different amounts of bribes for the same services. We believe that micro-level empirical research helps to understand the likely heterogeneity of bribery within countries. Second, ours is one of the few studies that explicitly examined in detail the consequences of bribery for entrepreneurial performance. The dominant view of bribery put forward by, e.g.,

international institutes considers bribery as an illegal act that seriously hampers the well-being of citizens. Existing research tends to "over-moralize" (cf. Granovetter, 1985) bribery and, therefore, inadequately accounts for the potential benefits of bribery. Our work departed from the norm and, fully cognizant of the ethical issues involved, accepts that bribery in transition economies exists and that, at least at micro-level, bribery may have advantages and disadvantages. In summary, the present research not only shows that quantitative data of bribery at the level of individual entrepreneurs can be collected but also why some entrepreneurs are more likely to engage in bribes than others and how variations in bribery explain variations in organizational performance. Hence, in comparison to existing studies, our research provides additional insights into the role of bribery at a different level of analysis using new, exploratory data.

4.2 Theoretical background and hypothesis

In our research, bribery is the payment of cash by an organization with the aim of influencing the actions of a public official. A distinction can be made between administrative or bureaucratic corruption, which refers to paying bribes for services concerning the implementation of regulations, and state capture, where firms try to influence the formulation of laws and other government policies to their own advantage through illicit or non-transparent means (Fries, Lysenko, & Polanec, 2003). The former includes regular payments of relatively small amounts of money by small and medium sized organizations to officials; and the latter relatively large amounts infrequently paid by in particular large organizations to political leaders. We focus on the first category as it establishes a direct link between the volume of the bribes and entrepreneurial returns. For instance, in the Vietnamese context, entrepreneurs must acquire the consent of officials in order to start their business and to carry out their investment plans. A small amount of cash money may help to speed up the delaying bureaucratic process.

Bribery activities have a demand and a supply side and may involve public or private sector institutions (Cuervo-Cazura, 2006). There is a substantial amount of research aimed at understanding the characteristics of countries or public institutions that affect the demands for bribes (Wu, 2005). From these studies we know that national levels of bribery relate to socio-economic factors (Getz & Volkema, 2001) and that bribery may hinder the entry of multinational enterprises (Uhlenbruck et al., 2006). This line of research also offers various explanations to explain bribe extraction by bureaucrats. For example, an often-used approach to explain the incidence of bribery is the so-called Klitgaard formula according to which bribery positively depends on the monopsony power of government officials and their bureaucratic discretion and negatively on their accountability (Klitgaard, 1998). An alternative explanation is

the wage level in the public sector, that is, civil servants with low wages need to supplement their income with bribes to reach an acceptable income level (World Bank, 2000).

Contrary to the aforementioned research, the focus of our paper is on the supply side of bribery and on the entrepreneur as the unit of analysis (cf. Aidis & Van Praag, 2007; Martin et al., 2007). The payment of bribes by entrepreneurs to government officials needs to be put into the perspective of the transition economy because the weak institutional environment promotes the need to establish and maintain political connections (Peng & Luo, 2001). We will argue that a multi-level and interdisciplinary analysis is a viable approach to understand bribery determinants. The entrepreneur is a first level of analysis. In line with human capital theory (Marvel & Lumpkin, 2007), we suggest that well-educated entrepreneurs would see and capture bribery opportunities better than low educated entrepreneurs because of their superior cognitive skills. The organization is a second level of analysis. In line with bargaining theory (Svensson, 2003), we may understand that small and medium-sized firms are more likely to pay bribes because they have less resources to tap upon than their larger counterparts in the bribery game. The environment of an organization is a third level of analysis. Following anomy theory (Martin et al., 2007), we can explain that bribery offers entrepreneurs a unique tool to counter hostile industry conditions.
In order to explore the second research question, we will analyze the positive effects of bribes and explain why bribes may be subject to diminishing returns. Diminishing returns means that at any single point in time, holding all other resources constant, the benefit-cost ratio diminishes with the size of the bribe. Diminishing returns offers a feasible perspective for entrepreneurs in transition economies because they are usually very small firms and therefore their production capacity, level of innovation, labor input and capital stock is fixed, at least in the short run. Bribery is among the few instruments that can be varied on the short term but given the peculiarities of entrepreneurs in transition economies is expected to have a diminishing marginal return.

We will argue that bribes facilitate entrepreneurship performance through higher levels of social capital. Building such social capital will have a positive effect on performance through at least two different interdependent channels of influence. First, bribes increase trust and establish a shared belief of reciprocity (cf. Graeff, 2005). Through bribes entrepreneurs obtain favorable treatment that will increase their revenues because it enables them to win government projects or to obtain loans. Second, bribes are investments in networks that overcome liabilities of "newness" or "smallness" (Aldrich & Auster, 1986). Favourable relationships with public officials provide entrepreneurs legitimacy and thus decrease the risk for closure. These

network effects may be subject to diminishing returns because of firm-specific congestion effects. All else equal the positive performance effect of an additional unit of bribery will decrease because particularly small and medium sized organizations cannot unlimitedly absorb new opportunities that bribes create (cf. Yiu & Lau, 2008). In addition to the two network arguments, bribes can also be considered as "grease money", meaning that paying bribes will speed up the bureaucratic processes (Kaufmann & Wei, 1999). It reduces delay in moving files in administrative offices and in getting ahead in slow-moving queues for government services as well as the relaxation of audits and inspections or advice on legal ways of reducing the regulatory burden. This will increase the efficiency of the entrepreneur and will be reflected in higher revenues.

There are also at least four rationales supporting the possibility that bribery may be an impediment to the revenues of entrepreneurs. The four rationales are arguments that the entrepreneur in a transition economy does not have control over the amount of bribes. Therefore, there is a tendency to bribe past the point where it is justified by the marginal benefits. First, bribes may increase rather than decrease the costs of red tape (Kauffman & Wei, 1999). Entrepreneurs that pay bribes are more likely to be under bureaucratic control and are therefore more exposed to bribe demands (Svensson, 2003). These entrepreneurs will pay higher bribes in an effort to reduce the cost of red tape, but despite the higher bribes they will have more and more regulations and arbitrary behavior to deal with. Second, bribes may have crowding out effects and opportunity costs. They create disincentives for investments in innovation, which limits the potential scale and scope economies as financial and human resources are misallocated and wasted (Bardhan, 1997). Third, bribes breed bribes. In a way, this density-dependence effect is a reflection of economics' Law of Say in the bribery arena. By introducing a bribe, demand for additional bribes is boosted as officials are triggered to ask for more, being aware of the potential to regulate. As a consequence, the growth in bribes increases as the volume of bribes goes up, implying that bribes expand almost of its own accord. Because of the effect on the number of bribes, high volumes of bribes are expected to be less effective than small volumes. In a transition economy, a public official may try to extract as high a bribe as possible – subject to the virtually non-existent constraints that he/she might get caught – using all the power at their discretion for personal gain. Hence, entrepreneurs are either forced to pay bribes or to exit. Given that exiting is not a viable situation for entrepreneurs – due to high costs of starting up a new firm and because this new firm would face bribery again – entrepreneurs are easily trapped into vicious circles of ever-increasing bribes that absorb resources and limit revenues. Fourth, a disadvantage of a network is that it increases liabilities of "staleness" and "sameness" (Star & Bygrave, 1991). The former means that the entrepreneur will base guidelines and shortcuts on a

relatively small sample of actors, which may impair the entrepreneur's ability to bring a new perspective on business activities. The latter implies that entrepreneurs often favour familiar circles of network relationships. Uzzi (1997) argues that such embeddedness initially promotes economies of time, integrative agreements, and complex adaptation. However, these positive effects rise up to a threshold, after which embeddedness can derail economic performance by making firms vulnerable to exogenous shocks or insulating them from information that exists beyond their network. Consequently, putting strong and increasing, excessive emphasis on bribery may lead to liabilities of staleness and sameness, which may lower entrepreneurial performance.

In sum, we argue that in transition economies bribery can be revenue-enhancing but will be subject to diminishing returns. The arguments above lend support to the following hypothesis:

Hypothesis: There will be an inverted U-shape relationship between bribery and entrepreneurship performance.

4.3 Research methods

Research Context

Among the transitional economies, Vietnam is one of the least studied, in particular in terms of entrepreneurship performance. Vietnam offers an interesting research context, for it is an extreme case in its lack of formal market-institutions but it reports a robust growth of de novo private firms (Heberer, 2003).[26] The country is the third largest transitional economy after China and Russia, with 80 percent of its population of more than 80 million people living in rural areas (Masina, 2006). Despite its rich natural resources, Vietnam remains a poor country with per capita GDP at US$ 832 (in 2007). The war for independence against the French stretched from the late 1950s to the early 1960s leading to the division of the country into North and South. This was soon followed by the war against the United States, which continued until the country was reunited in 1975. Under the rule of the Vietnamese Communist Party, Vietnam's economy was built on a Soviet-style central planning model. This was not successful, and by the mid-1980s Vietnam was close to bankruptcy after withdrawal of Soviet assistance and several years of conflict with China. Prior to the mid-1980s, essentially all economic activity in Vietnam was undertaken by state firms or cooperatives. The transition to a market economy began in 1986 when a series of economic reforms (doi moi) were introduced. Most importantly, under state supervision, entrepreneurship

26 For example, the four main state-owned banks account for approximately 80 percent of total Vietnamese bank assets and prefer to support state-owned enterprises rather than entrepreneurs, who often have insufficient reputational capital and are therefore considered high-risk borrowers (Masina, 2006). The costs and delays of setting up a business are on average much higher in transition economies. In Vietnam, an official application takes nearly six months and costs 150 percent of per capita GDP in government fees (McMillan & Woodruff, 2003).

was encouraged.

Along with other Asian countries, Vietnam has a reputation for bribery; for decades it has been among the top ten of the most corrupt countries (World Bank, 2000). There have been many attempts by the Vietnamese government to limit bribery by means of legislation, sentencing people to long periods in prison or even imposing the death penalty (Johnson, Kaufmann, McMillan, & Woodruff, 2000). Nonetheless, bribery continues to exist. There are at least three explanations for the persistence of bribery in Vietnam. First, bribery tends to take place in secret; no contracts are written, making it hard to detect in the first place (Bardhan, 1997). There are many cases were bribery is mutually beneficial, which fosters tacit collusion between the participants. Furthermore, policy measures aimed at detecting and correcting bribery have to be sustained over long periods of time in order to be credible. The campaigns in Vietnam are usually ad hoc and induce bureaucrats to direct bribery transactions towards lower-detection activities (McMillan & Woodruff, 2003). Also, the content of anti-bribery regulations in Vietnam is often of a low quality and complex. The resulting difference between "law on paper" and "law in reality" has often created more rather than fewer opportunities for bribery. Second, those who complain may, in turn, become the subject of retaliatory measures themselves. Many Vietnamese do not feel guilty about their own personal attempt at bribery (Masina, 1996). Close family and business structures (guanxi) are an integral part of Vietnamese society. It is widely accepted that these social relationships have to be fostered through favors, gifts or hospitality such as invitations to restaurants or karaoke bars. Those who oppose bribery become outcasts in a society where bribery has become an ever-present and "legal" phenomenon that extends throughout all areas of life (Heberer, 2003). Third, Vietnam is a growing and strongly decentralized economy. It is a state with an advanced system of permits and licenses that especially affects entrepreneurs because their activities need government approval. As the economy expands and becomes more complex, public officials see more opportunities to make money (Bardhan, 1997). Different agencies, ministries and local governments have broad autonomy to introduce their own regulations. Subsequently, they all set their own bribes in order to maximize their own revenues. Hence, bribery also persists due to a decentralized local government with badly trained and poorly paid bureaucrats who operate in a poorly developed institutional framework and use all power at their discretion to maximize their income.

Sample and Data Collection Procedures

Much anecdotal and case-study evidence of bribery in Vietnam is available (World Bank, 2005; Masina, 2006; Heberer, 2003). Case studies help to identify and explore processes, and for that reason many bribery studies have used this method to

investigate particular bribery-related events. From these studies we have learned about the structure and methods of bribery. Using case studies, researchers revealed insights into the origin, flow and process of network-based bribery, and the role of bribery methods such as red-envelope (money payment), adult entertainment and power exchange. Notwithstanding the importance of case studies, they focus on single events and therefore lack the scope needed to generalize findings, determine correlations and discuss causalities. This study intends to move beyond case-study literature and to collect firm-level information for a sample of companies. Although our survey method has limitations – which we will elaborate on in the discussion section – the data have enabled us to develop a good insight into both factual information and subjective interpretations concerning the role of bribery in entrepreneurial performance.

In Vietnam, secondary data can be easily collected for each province, using local administrative offices such as those concerned with statistics, investment and tax, but these data are often aggregated and thus are not applicable at the firm level. For this reason, the key activities of our research project included the design and implementation of a large-scale business survey to collect firm-level information. Such business surveys are rare in Vietnam. One of the implications is that business managers will not be used to providing confidential business information to outsiders or to providing opinions on Likert-scale-rated questions (see, e.g., Aidis & Van Praag, 2007, for a list of similar challenges). This paper will apply a dataset from 2004.
Our research proceeded in three stages. In the preparatory phase of the fieldwork, we revised an existing business questionnaire (Le, 2003), discussing it with researchers and business practitioners, and consulting other business questionnaires. Next, we implemented several pilot surveys in two provinces of the Mekong River Delta, namely, Can Tho and Kien Giang. This resulted in a number of modifications to the questionnaire. The final questionnaire contained 35 questions that offered us the chance to measure our constructs. Additionally, we also learned that personal interviews would be the best strategy for collecting firm-level data in Vietnam. The reason for this was two-fold. First, given the sensitive nature of some of the questions (e.g., bribery and revenues), we expected a very high level of non-response from a mail survey (computerized surveys via the internet are not a feasible alternative at this moment in Vietnam). Personal contacts are pivotal in the Vietnamese (business) culture. Bribery, for example, is a well-known phenomenon and to some extent a subject for debate but then only in a personal conversation. Second, while secondary data first provided us with a list of private firms, we doubted the reliability of this data due to the fact that it was not up-to-date, especially with respect to the number of newly established firms, mergers or changes of ownership type. Therefore, it was decided that a personal interview with business managers would be the best strategy

in order to collect our required data in Vietnam.

In the second stage, a team of interviewers was trained, consisting of teachers and students from the School of Economics and Business Administration, Can Tho University, Vietnam. The selected interviewers were required to have experience in conducting surveys. We trained the interviewers on the key topics of the survey. We also made them aware of the importance of the data they would be collecting for the university, with the intention of motivating the interviewers to take personal responsibility for the data collection as a means of improving data quality. The interviewers were generally younger than the participants and hence, not a threat for the entrepreneurs. In addition, the interviews were conducted in the local dialect of Vietnamese, which interviewees respond to more easily, making their answers more precise. In the third stage, we conducted intensive interviews with entrepreneurs of 606 firms identified in six out of the thirteen provinces of the Mekong River Delta (one of which had recently been reclassified). The reason we concentrated on the Mekong River Delta was because it has shown a significant increase in the number of private firms in recent years, the performance of which is differently reflected in profits. Additionally, the key role of private firms in this region contributes greatly to the GDP of the entire country. The six provinces were Kien Giang, An Giang, Dong Thap, Can Tho, Vinh Long and Soc Trang. Because of cost efficiency reasons, we concentrated our efforts on these six provinces; the density of firms is the greatest in these provinces.

We did not select a sample prior to the interviews; rather, the sample was selected on the basis of those entrepreneurs willing to cooperate. The interviewees were either the owners or the persons who directly managed the company, who we define as entrepreneurs.[27] Demographic studies in advanced economies tend to focus on the role of the top management team because many companies are large and are supervised by teams. In Vietnam, however, the entrepreneur is the most appropriate unit of analysis because decision-making power is predominantly centralized in the hands of this person, especially when the person is also the owner, as is often the case. The entrepreneur has the power to make final decisions and has a direct impact on any strategy. If the prospective interviewees agreed, we started to interview them, whereas if they refused we apologized and proceeded to the next firm. The questionnaire was conducted only if the owner was available to answer personally in order to obtain complete and correct information. If the prospective interviewees were absent, we left the questionnaire and returned having made a new appointment.

27 We take a broad view of entrepreneurship, focusing not only on the creation of new business organizations, but also on the generation of new economic opportunities (Casson, 2003). A person can be said to engage in an entrepreneurial venture if she perceives and creates new products, services, organizational schemes or product market combinations; and introduces her idea in the market, in the face of uncertainty and other obstacles by making decisions on location, form, and the use of resources and institutions (Wennekers & Thurik, 1999). Our respondents meet these criteria. All private firms in our sample are de novo enterprises and not ad-hoc spin-offs from state firms.

At the start of the interview, the interviewers showed their university employee card and an introduction letter from the Dean of the university that, among other things, ensured full anonymity of the company and information provided. During the interview, the main topics, such as work experience, education, investment, loans and industry context, were discussed. Some extra questions were added to invigorate the interview and to enable the respondents to tell their own story to some extent.
This approach resulted in a satisfactory response rate. We contacted approximately 1,000 prospective firms and obtained 606 useable responses. Occasionally this sample included missing observations for particular items. For our regression analysis, we deleted all observations with missing values on any questionnaire item. This resulted in a conservative dataset with 395 full observations, giving an effective response rate of approximately forty percent. This response rate is considered to be adequate for analysis and reporting (Aidis & Van Praag, 2007). The reasons for not participating in the survey included not wishing to disclose information, being too busy or feeling uncomfortable when being asked about their business. We were not able to collect information from the non-respondents. Often survey research collects data from secondary data sources on simple but key characteristics, such as firm size or turnover, and applies bivariate tests to determine whether significant differences between the sample and non-respondents exist. This information was not available, and for that reason we were not able to perform sample bias tests. Although this contributes to the exploratory nature of our research, we believe that the quality of the survey, the interview process and the substantial number of respondents ensures sufficient confidence in the quality of the dataset (for an extensive discussion on related methodological issues in entrepreneurship research see, for example, Coviello & Jones, 2004).

Control Variables

We entered three sets of controls when we tested the hypothesized relationships. The first set concerned the human capital of the entrepreneur (Wright, Hmieleski, Siegel, & Ensley, 2007). Entrepreneurs may increase their human capital through work experience, formal and informal education. The longer an entrepreneur has held a management position in the focal firm or elsewhere, the more work experience has been gained. This is important because, for example, entrepreneurs with a great deal of experience tended to put more weight on the process of developing formal strategies than those who lack the relevant managerial work experience. The level of formal education was defined as having an official degree as a result of full-time or long-term training, and it measured an individual's knowledge or competence base. Entrepreneurs with higher levels of formal education were expected to generate a wider range of creative solutions when faced with complex problems. The level of informal training was determined by participation in management courses, including short-term ones (post-graduate education). These investments in human capital

would also foster the productivity and cognitive skills of the entrepreneurs. The second set concerns firm characteristics, that is, firm age, firm size and the firm's type of ownership. The age of a firm may be a potential moderator of a firm's financial value as generated by managers (Jayaraman, Korona, Nelling, & Covin, 2000). Older firms may have lower performance levels than younger ones because of the continued use of outdated management and/or obsolete technology and their resistance to new approaches. Previous literature has documented firm size as an organizational attribute that significantly impacts firms' strategic orientation and performance (Peng & Luo, 2000). Specifically, large firms enjoy advantages such as low costs and higher returns due to greater access to the capital market and economies of scale. The ownership structure may influence firm performance. For instance, with substantial ownership of cash-flow rights, sole proprietorship provides the incentive and power to undertake actions that will benefit the owner at the expense of the firm's performance. In contrast, firms with shareholders are presumed to evaluate investments using market-value rules that maximize the value of the firm's residual cash flows (Anderson & Reeb, 2003). The third set concerns the industry context. Firms in new, expanding industries are expected to perform better than those operating in old, declining industries (in Vietnam, the new industries are predominantly service-related, which are usually more relationship-intensive and rely more on external resources). Our final control variable was the level of competition. Some firms operated in emerging markets, that is, in new markets characterized by modest competition due to low demand and high uncertainty, since potential customers are often unfamiliar with the products and services offered (Eisenhardt & Schoonhoven, 1990). Others operated in growth markets that were characterized by severe competition due to high rates of entry.

Measurements

We measured entrepreneurship performance using the natural logarithm of the firm's total revenues in 2004 (in millions of Vietnamese dong). Total revenue is a commonly used item in firm surveys because, among other things, respondents have instant and accurate knowledge of their enterprise's achievements in terms of yearly revenues (Murphy, Trailer, & Hill, 1996; Brush et al., 2008; Kurakto & Audretch, 2009). Bribery is measured by the amount of money that the enterprise pays to government officials to conduct their business (in millions of Vietnamese dong per year).[28] Work experience was measured by the total number of years the respondent had worked

28 The question was asked in Vietnamese. We used the usual forward and backward translation process to obtain the English version. The specific question was: "Monthly, how much must your enterprise pay "to lubricate" its business affairs". The expression "bôi trơn" in the original Vietnamese question literally means "to lubricate". This is a colloqial, synonym reference to money paid as bribes at government offices or administrative regulators. The closest English equivalent is "to grease someone's palm". In the survey, we explicitly defined "to lubricate" as money spend. Our measure does not include other forms of bribery such as gifts that may have monetary value as well. Our measure is very similar to the ones used by Transparency International and the World Bank. Also, we asked the respondents to indicate the amount in thousands of Vietnamese dong per month. For the regression analysis, we transformed this into millions of Vietnamese dong per year in order to maintain consistency with the scale for firm performance.

for both the focal firm and at other firms (Hambrick & Fukutomi, 1991). Formal education was measured by a dummy variable that equaled 1 if a respondent had a university degree, and 0 otherwise (Aidis & Van Praag, 2007). Informal education was measured by the number of times a respondent had participated in management training courses (Aidis & Van Praag, 2007). The age of the company was calculated by subtracting the year the firm was founded from the current year (Goll & Rasheed, 2005). Firm size was measured by the actual number of employees who in 2004 worked frequently for the company (Peng & Heath, 1996).[29] Firm ownership was measured by a dummy variable that equals 1 if the firm was a sole proprietorship, and 0 otherwise (Gundry & Welsch, 2001).[30] Our respondents operate in three main industries, namely services, trading and manufacturing. We constructed two dummy variables to account for industry differences, that is, one for services (that equals 1 if the firm operates in the service sector, and 0 otherwise) and one for trading (that equals 1 if the firm operates in the trading sector, and 0 otherwise). Manufacturing was considered as the base case in the model and was thus not included. Competition is the final control variable in our model. We use a perceptual measure because, among other things, it has been argued that small and medium-sized enterprises form their competitive maps based on perceived information and events (Hodgkinson, 1997; Daniels et al., 1995). In our survey we asked the respondent's opinion of the level of competition in their industry. We measured the level of (perceived) competition using a dummy variable that equals 1 if the respondent indicates that the company operates in a sector with a high or very high competition level, and 0 otherwise (Lang, Calantone, & Gudmundson, 1997).

29 As elsewhere, the number of employees in our Vietnamese organizations varied during the year. These entrepreneurs generally do not maintain employee records with, for example, employee contracts that would allow respondents to precisely determine start and end-dates for all their employees. However, given the relatively small scale of their companies, the respondents knew the number of employees with fixed appointments as well as the number of persons they employed during peaks. The former category consisted of persons with an oral agreement concerning working hours and salaries (written employee contracts are rare in Vietnam) and who worked for the company throughout the year. We used this information to measure the size of the company. Our respondents also indicated the number of seasonal employees. We decided not to use this information because the length of peak seasons was not known and typically varies for companies and industries.

30 The type of ownership in Vietnam is determined by the Central Institute for Economic Management (CIEM). The rights and obligations per ownership type are specified in the Enterprise Law (CIEM, 2005). The Enterprise Law specifies five main ownership types: sole proprietorship, limited liability company, shareholding company, family business and collectives.

4.4 Emperical results

Means, standard deviations (SDs) and correlations are provided in Table 1. The yearly untransformed average volume of sales in the sample was VND 4,522 billion (US$ 270,290, with the 2004 official exchange rate of VND 15,770 to US$ 1). Of the observations, 75 percent (297 firms) reported that they did not pay bribes. According to our data, for the firms reporting positive bribes, the yearly average amount of bribes that firms paid was VND 60.2 million (US$ 3,815). These are substantial amounts, on average corresponding to US$ 109 per worker, or roughly about 10 percent of the total cost. Including firms reporting zero bribe payments, the average payment is VND 16.1 million (US$ 1,024).

Table 1. Correlations, Means and Standard Deviations (SD)

	mean	SD	1	2	3	4	5	6	7	8	9	10
1. Firm performance (lgsales)	6.40	1.86										
2. Bribery	16.15	77.40	.15 **									
3. Work experience	8.05	6.55	.01	−.01								
4. Formal education	.22	.41	.25 **	.18 **	−.09							
5. Informal education	1.00	2.58	.21 **	.06	−.01	.11 *						
6. Firm age	7.76	7.72	−.11 *	−.08	.63 **	−.19 **	.06					
7. Firm size	18.54	58.03	.30 **	.17 **	.05	.11 **	.18 **	−.03				
8. Firm ownership	.52	.50	.10 *	−.02 *	−.11 *	−.01	.04	−.09	−.07			
9. Services	.16	.36	−.10	.09	−.08	.05	.07	−.14 **	.17 **	.01		
10. Trade	.50	.50	.10	.01	−.14 **	.12 *	.04	−.12 *	−.17 **	.04	−.44 **	
11. Competition	.67	.47	.13 *	.03	.02	−.02	−.01	−.06	−.02	.10 *	.00	.05

* $p < 0.05$; ** $p < 0.01$, two-tailed test.

Characteristics of Bribing Entrepreneurs

We used our data to explore our first research question, that is, to analyze why some firms bribe and some do not. For this, we estimated a logit model differentiating the bribing and non-bribing firms using data on entrepreneurs' personal attributes, firm characteristics (excluding performance), and industry sectors (see Table 2). We measured the dependent variable by a dummy that equals 1 if the respondent indicates that the company paid a bribe, and 0 otherwise. In what follows, we offer a theoretical interpretation for each of these bribery determinants.

Table 2. Antecedents of Bribery in Vietnam

	Model 1	
Constant	−2.08	***
	(.41)	
Characteristics entrepreneur		
Work experience	.02	
	(.02)	
Formal education	.50	*
	(.29)	
Informal education	.16	***
	(.05)	
Characteristics firm		
Firm age	−.02	
	(.02)	
Firm size	.01	**
	(.00)	
Firm ownership	.49	*
	(.26)	
Industry sector		
Services	.84	**
	(.37)	
Trade	.06	
	(.31)	
Competition	.06	
	(.27)	
Fitness indices		
LR	42.56	***
Pseudo R^2	.098	

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Work experience is our first demographic characteristic of an entrepreneur. Top management team literature emphasizes the importance of work experience particularly for the design of a firm's strategy (Finkelstein, Hambrick, & Canella, 2009). Experience might influence the likelihood of bribery because more mobile, short-term tenured entrepreneurs are more likely to engage in high risk activities such as bribery. Working experience is associated with moral development, deliberateness in decision making, and more accurate diagnosis of the information. For that reason, entrepreneurs with much working experience are expected to engage less likely in bribery activities. Working experience, however, seems to be a less relevant

determinant of bribery incidence. The impact of experience on the likelihood of bribery is positive but not significant (B = .02; n.s.).

The second finding is at first sight perhaps counterintuitive: the higher the level of formal education, the more likely an entrepreneur will pay a bribe (B = .50; $p < .10$). By contrast, macro-level studies have found that countries with higher levels of education are positively correlated with lower figures of corruption (Ades & Di Tella, 1999; Treisman, 2000). This correlation, in turn, has been interpreted as proof that education decreases corruption supported by the argument that a more educated society would be expected to tolerate bribes less (Rest & Thoma, 1986). However, there is a plausible explanation why more education results in a higher likelihood of paying bribes. Bribery is a complex strategic tool because it involves uncertainty and ambiguity. Entrepreneurs must select appropriate information in order to offer the appropriate bribe to the appropriate official at the appropriate time. In line with human capital theory (Marvel & Lumpkin, 2007), well-educated managers would see and capture bribery opportunities better than low educated managers because of their superior awareness levels, cognitive skills and decision-making capabilities. Thus, entrepreneurs that are endowed with superior human capital are better able to effectively plan and play bribery games to their advantage (cf. Guerrero & Rodriguez-Oreggia, 2008; Olken, 2009).

Our third finding concerning entrepreneurial characteristics is in line with the previous one. Attending (short-term) management courses allows entrepreneurs to update their business competencies and knowledge. Like formal (higher) education, these investments in human capital will improve the cognitive skills and competencies of entrepreneurs and, as such, increase the likelihood of bribery (B = .16; $p < .01$). The content of business courses offers an additional explanation for the significant effect of informal training on bribery incidence. As said, the level of education often is positively associated with the level of moral development. However, it is argued that business education may cause a decline in moral development because these programs typically focus on learning competitive strategies that stress the importance of free riding, defection and selfishness (Goshal, 2005; Williams, Barrett, & Brabston, 2000). Additionally, management courses are often attended not only to update knowledge and improve managerial skills but also to initiate and develop personal networks. Privileged knowledge is the key advantage of a business network. Hence, by attending management courses, entrepreneurs may build networks and learn about prevailing norms and practices of bribery (Brass, Butterfield, & Skaggs, 1998). Informal education is often organized by government institutes and participated by government officials as well. The effect of a social network can be pervasive because existing network members might enforce their norms to new participants at the threat of exclusion from the network (Cartier-Bresson, 1997).

Our second set of bribery determinants concerns the characteristics of the firm. The age of the company is our first firm-level characteristic. It stands to reason that young private firms are more likely to pay bribes than established companies because bribes help to develop a network of relationships with government officials, which, in turn, helps them to overcome "liabilities of newness". Such government networks enable access to economic resources and relevant, exclusive information. Firm age, however, seems to be a less relevant determinant of bribery incidence. The impact of firm age on the likelihood of bribery is negative as expected but not significant (B = -.02; n.s.).

Table 2 confirmed that the size of the organization increases the likelihood of paying a bribe, a finding that can be supported by the bargaining theory of bribery (Svensson, 2003). If all firms face the same set of rules and regulations, then the bribe to be paid depends on the bargaining power of the firm. The bargaining theory suggests that the amount a firm is requested to pay depends on the officials' perception of the firm's ability to pay, which varies from firm to firm as the bureaucrat discriminates bribe. The size of the company is a proxy for a firm's bargaining power. Small and medium-sized firms are more likely to pay a bribe than their larger counterparts because large companies can use their resources to influence public officials or pursue legal action. Furthermore, larger firms are more established and connected, do not fear exiting the market, are less likely to be harassed and for that reason have better bargaining positions (McKendall & Wagner III, 1997). Smaller firms, however, have less resources and are therefore perceived by officials as "ideal" trading partners. The fact that we find a significant positive effect of firm size on the likelihood of bribery (B = .01; $p < .05$) supports the bargaining hypothesis because our sample is dominated by small- and medium sized enterprises.

The type of ownership is relevant for the incidence of bribery as well. Theoretical support for the observed positive relationship between single proprietorship and the incidence of bribery (B = .49; $p < .10$) derives from agency theory (Fama & Jenssen, 1993). Stockholders of large publicly held corporations delegate decision making to managers. Among others, large companies have boards of directors or audit committees that monitor the behavior of managers and, as such, limit the incentives and opportunities for bribery. An entrepreneur who owns the company by himself has a strong motive to maximize company performance – because company performance is almost synonym to personal income – and he or she operates without any form of supervision. Due to these incentives and opportunities, firm ownership in terms of single proprietorship contributes to the likelihood of bribery as is confirmed in our sample.

Our third set of bribery determinants concerns characteristics of the environment in

which the entrepreneur operates. Anomie theory is one of the leading sociological theoretical frameworks that helps to understand deviant behavior, such as bribery, due to peculiarities in a context (Zahra, Priem, & Rasheed, 2005; Merton, 1968). At societal level, anomie theory proposes that individuals who are unable to achieve their aspiration by conventional means experience strain and may seek to relieve this strain by using deviant means such as violence. Hence, in anomic organizational contexts, pressures exists to take any path that leads to the achievement of organizational goals, regardless of its acceptability or legitimacy (Martin et al., 2007). Table 2 offered partial support for the anomie hypothesis. On the one hand, it supported the perspective that a firm's industry may be a good way to understand the likelihood of bribery. Challenging conditions in the service sector – such as short investment horizons and decreasing financial returns due to environmental hostility or –heterogeneity – explain that firms in this industry are more likely to bribe government officials ($B = .84$; $p < .05$) than firms in other industries such as the trade sector ($B = .06$; n.s.). On the other hand, we do not find support for the impact of perceived competition on the likelihood of bribes ($B = .06$; n.s.).

In summary, our significant results suggest that particular entrepreneurial-, firm- and industry-specific characteristics affect the likelihood of bribes. An interdisciplinary model that integrates theoretical perspectives along the lines as we suggested above offers a unique opportunity to understand why some firms bribe and others do not.

Bribery and Entrepreneurship Performance

We continue with the analysis of our second research question. Results from the hierarchical OLS regression analyses are summarized in Table 3. In preparation for the regression analyses, we performed the regular tests to obtain reliable estimates. These tests reported satisfactory results, that is, there is no heteroskedasticity, multicollinearity or serial autocorrelation. Among other things, we tested for possible bias caused by collinearity among variables by calculating the variance inflation factor (VIF) for each of the regression coefficients. Calculations of VIF ranged from a low of 1.05 to a high of 7.64. The higher values were for bribery and the squared term of bribery but all were well below the cut-off figure of 10 recommended by Neter, Wasseman, & Kutner (1985).

Table 3. Regression Results of the Effect of Bribery on Vietnamese Entrepreneurial Performance

	Model 1	Model 2	Model 3
Constant	5.52 ***	5.52 ***	5.51 ***
	(.25)	(.25)	(.25)
Control–entrepreneur			
Work experience	.11 *	.10 *	.10 *
	(.02)	(.02)	(.02)
Formal education	.19 ***	.18 ***	.18 ***
	(.21)	(.21)	(.21)
Informal education	.15 ***	.15 ***	.14 ***
	(.03)	(.03)	(.03)
Control–firm			
Firm age	−.15 **	−.14 **	−.14 **
	(.01)	(.01)	(.01)
Firm size	.28 ***	.28 ***	.26 ***
	(.00)	(.00)	(.00)
Firm ownership	.11 **	.11 **	.10 **
	(.17)	(.17)	(.17)
Control–industry			
Services	−.16 ***	−.16 ***	−.18 ***
	(.26)	(.26)	(.26)
Trade	.04	.04	.04
	(.19)	(.19)	(.19)
Competition	.11 **	.11 **	.12 ***
	(.18)	(.18)	(.18)
Independent variable			
Bribery		.06	.34 ***
		(.00)	(.00)
Independent variable–square term			
Bribery^2			−.29 **
			(.04)
Fitness indices			
R^2	.225	.228	.241
Adj. R^2	.207	.209	.219
F	12.453 ***	11.397 ***	11.027 ***
ΔR^2		.003	.013
F ΔR^2		1.692	5.878 **

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Note: The entries in the table are standardized coefficients (βs). The numbers in brackets are standard errors.

The various fit parameters show that our model increasingly fits the data better. The R-square index improves from 22.5 percent in Model 1 to 22.8 percent in Model 2 ($F = 1.692$, n.s.) and, subsequently, to 24.1 percent in Model 3 ($F = 5.878$, $p < .05$). Also, the estimates remain robust in terms of signs and significance levels. In Model 1, log revenues were regressed on control variables. In Model 2, bribery was added. Surprisingly, bribery had a positive but non-significant effect on performance ($\beta = .06$; n.s.). The bribery variable also explained only a marginal additional percentage of the variance beyond that explained by the control variables in Model 1. This indicated that in Vietnam there is no direct relationship between bribery and revenues. However, when we entered the squared bribery term in Model 3, we found that the bribery term was positive and significantly related to revenues ($\beta = .34$; $p < .01$), and the squared term negative and significantly related to revenues ($\beta = -.29$; $p < .05$). The size of the estimated coefficients for bribery is among the largest compared to the estimated coefficients of the other variables in the model indicating the relative importance of bribery for entrepreneurship performance. Taken together, these results confirmed our hypothesis that bribery has a diminishing return to entrepreneurial performance.[31]

Among the control variables, Table 3 showed that all entrepreneurial characteristics fostered entrepreneurship performance. Thus, work experience ($\beta = .10$; $p < .10$), formal education ($\beta = .18$; $p < .01$) and informal education ($\beta = .14$; $p < .01$) each significantly improve the revenues. These relationships were in line with our expectations. The results also validate the incorporation of our firm characteristics. Conforming to expectations, firm age was negatively ($\beta = -.14$; $p < .05$), and firm size ($\beta = .26$; $p < .01$) and sole proprietorship ($\beta = .10$; $p < .05$) were positively related to revenues. Finally, Table 3 reports that entrepreneurs who operate in service industries report mediocre performance more often than those who operate in other industries ($\beta = -.18$; $p < .01$), albeit that the dummy for trade reports has a positive but non-significant effect on revenues ($\beta = .04$; n.s.). A high level of competition as perceived by our interviewees increased performance as expected ($\beta = .12$; $p < .01$).

Robustness Tests

We performed five additional tests of robustness. First, we replaced the missing value for a particular question by an estimated mean value of that question. By doing so, we were able to include all 606 observations, to compare the regression models and determine whether a sample bias existed. It turned out that the regression results were the same as for the conservative dataset. Additionally, a one-way ANOVA test was employed to compare the final sample and the cases deleted. No significant difference was found in terms of industry, size, bribery and revenues. Second, although all of our VIF values are well below the threshold value, in an additional test,

31 Because the log function is monotonic, this result applies to the relationship between revenue and bribery as well.

we mean-centered bribery to minimize the threat of multicollinearity in equations where we had included the squared term of bribery. This did not affect the regression results. Third, we re-estimated our model for a sample without potential outliers. This also did not change the results. Fourth, we estimated our model for a sample with firms that pay positive bribes (n = 106). Accounting for outliers, the results from this test confirmed the non-monotonic relationship between bribery and firm performance in terms of revenues (log), by and large. Fifth, we also estimated a set of regression models with net profits as the dependent variable (n = 363, the number of observations is somewhat smaller due to missing values for net profits). Accounting for outliers, these results also showed a non-monotonic relationship between bribery and net profits. Separate tables for these robustness tests are available from the first author upon request.

Limitations

Our study is not without limitations. First, the use of cross-sectional data from Vietnamese entrepreneurs in the Mekong River Delta limits the generalizability of our results. Second, it is well known that cross-sectional databases prevent intertemporal, causal analysis of processes that determine the outcomes observed with the use of a questionnaire. Third, a lack of other financial measurements for performance, such as market share or sales growth, limits us to using revenues as a performance measurement (with the exception of net profits, see the robustness tests for this). Within the entrepreneurship literature, entrepreneurial performance can be revenues but it can also be the launching of the venture, survival after a number of years, growth or value created. The sets of determinants for these alternative measures overlap but may not completely coincide. Similarly, our measure for bribery considers solely payment of cash. The interaction between an entrepreneur and a public official may also incorporate other forms of bribery. For example, entrepreneurs may indirectly spend money on bribery via, e.g., gifts or visits to bars. Our measure may understate the total amount of bribes paid when direct and indirect expenditures go together. New data with other bribery measures not only allows us to test the role of different forms of bribery but also whether our measure understates bribery and how this matters for the performance of entrepreneurs.

Fourth, the concept of diminishing returns applies to a single firm situation. We test our proposition in a cross-section sample of firms with the presumption that the firms are homogeneous. This presumption is a limitation and contributes to the exploratory nature of our research. We would like to mention that our approach is common practice in management research. Individual decisions and behavior such as the development of trust, for instance, are often tested with cross-sectional data (Chua, Ingram & Morris, 2008; Welter & Smallbone, 2006). Nonetheless, more research including longitudinal data is needed to overcome this limitation.

Fifth, our results may be biased because our analysis was based on a non-random survey. A random dataset in Vietnam was difficult because a list of Vietnamese entrepreneurs in general as well as of those who bribe in particular was not available. Similarly, we used one respondent per company to obtain our information. Our assessment relies on the personal judgments of these individuals which is a recognized limitations of the study. Although management research often obtains reliable information from single respondents (Seppännen, Blomqvist, & Sundqvist, 2007), bias may exist due to person's vested interest in the practices being described. For larger organizations it is a question to what extent a single respondent represents the overall firm. Bias may also exist because we measure all our constructs from one survey (no secondary data were available to apply triangulation) and we did not use multiple questions to measure bribery. As a result, respondents may have reported too high or too low levels for bribery and revenues. Our focus, however, is not on levels of bribery and revenues per se, but rather on the correlates (cf. Svensson, 2003). We believe that the data-collection strategy has minimized bias in the correlation between our key variables. The whole survey instrument was carefully piloted and built on existing surveys. The survey was implemented by academic researchers whom most entrepreneurs had confidence in – in Vietnam there is a deep-rooted distrust of the government – and so avoided the problem of suspicion by the entrepreneurs concerning the objective of the data-collection effort. Furthermore, the sequence of the questions first addressed the overall performance and the background of the entrepreneur. The bribery question was asked in the middle of the interview, by which time the interviewer had established some necessary credibility and trust. The questions were simple and we used different scales for revenues and bribery. Nonetheless, bias may exist and a replication of our study with, for example, more and other questions concerning bribery would allow for cross-validation of the non-monotonic relationship between bribery and revenues that is reported here.

4.5 Conclusions

Added Value of the Research

The role of entrepreneurs in economic theory and in Western economies is well established (Brush, Manolova, & Edelman, 2008; Low, 2001). By the same token, we suggest that entrepreneurs play an important role in transition economies as well (cf. Yamakawa, Peng, & Deeds, 2008). They create employment, productivity growth and innovation and produce important spillovers that affect regional economic growth. Until now, the performance of entrepreneurs in transition economies in general and that in Vietnam in particular has largely remained unaddressed. Svensson (2003) offers a landmark study concerning firm-level antecedents of bribery in developing economies. Based on quantitative information of 176 Ugandan firms he shows that firms' "ability to pay" and firms' "refusal power" can explain a large part of the

variation in bribes across graft-reporting firms. Our focus on the bribery-performance relationship, research setting and particular set of bribery antecedents adds to Svensson's contributions. More in particular, our added value to the field of research is threefold. The first contribution concerns the role of bribery in transition economies. The results have implications for and must be taken into consideration in entrepreneurial decision making. Our emphasis on bribery complements recent performance literature that focused on human capital (see, for instance, Van Praag & Versloot, 2007). Notwithstanding the importance of these and other performance antecedents, we argue that bribery is key for entrepreneurs who operate in a business environment with insufficient formal institutions, and that is dominated by a dual market structure (state versus non-state-owned enterprises) and powerful government officials who, among other things, preferentially distribute government resources. The precise form of the relationship between bribery and entrepreneurship performance is, however, an open question. Bribes enable entrepreneurs to use government resources, avoid red tape and thus foster revenues. We suggest, however, that bribes are subject to diminishing returns because high levels of bribes increasingly absorb the returns on entrepreneurial activities, and distort entrepreneurial spirit and behavior.

The second contribution concerns the empirical study. In the analysis of the relationship between bribery and entrepreneurship performance, we used unique firm level data. Firm-level data is needed not only to understand bribery and how it works for entrepreneurs, but also to move beyond the available country and individual-level studies. Our research was based on primary data collected from the owners directly responsible for their Vietnamese firms. The topic of research (i.e., bribery and revenues) and the research context (i.e., a transition economy) make large-scale empirical studies at firm level challenging. For example, there is no government database on bribing by firms. Hence, a database like ours is exceptional and shows that firm-level information on bribery can be collected by means of a carefully designed questionnaire and data-collection strategy (cf. Svensson, 2003).

Our third contribution derives from the significant empirical findings of our work. Measuring bribery with quantitative indicators is one thing, explaining variations in bribes is another. This study makes a contribution to the literature by simultaneously looking at how individual-, firm- and context variables determine bribery incidence of entrepreneurs within a nation state. A combination of the significant results suggests that well-educated entrepreneurs with single proprietorship of small- or medium sized service delivering companies are more likely to bribe government officials than others. Furthermore, to the best of our knowledge, ours is one of the first that has explored the relationship in transition economies between bribery and entrepreneurship performance in terms of revenues. We found support for a diminishing return of bribery to revenues, while controlling for a substantial number of entrepreneurial,

firm and industrial characteristics. By doing so, we eliminated potentially spurious relationships as well as alternative explanations for entrepreneurship performance.

Future Research

Given the increasing focus on bribery and entrepreneurship performance in transition economies, our study can only be a first step. We would like to mention that Vietnam shares many similarities with its neighbors (Taiwan, Singapore, Hong Kong and South Korea) as well as China. For more than a hundred years, China occupied Vietnam. The countries share the cultural inheritance of Confucianism and have similarities in market structures, state ideologies, reform processes, institutional frameworks and entrepreneurial vividness (Heberer, 2003). A next logical step would be to test our model in China and, in so doing, determine whether the role of bribery in entrepreneurship performance in these two countries is similar as well. In a similar vein, new data from entrepreneurs in Central and Eastern European countries or advanced nation states allow testing of the general validity of our findings in other transition economies and whether our perspectives hold for modern democracies as well. Although bribery is omnipresent in transition states it is acknowledged that it also exists in Western economies (Wu, 2005). An international firm-level dataset enables us to investigate the combined effect of macro- and micro-level variables on e.g. the incidence of bribery payouts by entrepreneurs and, as such, to determine how the role of bribery for entrepreneurs varies across institutional frameworks. New data collection would also allow confirmation of the validity of our results by utilizing financial and non-financial performance indices other than revenues or net profits as well as alternative measures for bribery.

Our results only suggest that bribery may have a non-monotonic relationship with entrepreneurial revenues, while no evidence of causality can actually be provided. Although we provide theoretical arguments that bribery impacts revenues, one could also argue that revenues determine bribery. For example, some of the low-revenue firms may have small transactions that call for small bribes to local officials. Bribery in Vietnam, however, involves much asymmetric information. Government officials usually do not know the size of revenues of a particular entrepreneur either because the entrepreneur will not provide credible information or the entrepreneur lacks this information (a new entrepreneur does not yet know his revenues and costs). Government officials may use firm size as a proxy for revenues because large firms will likely earn large revenues. In that case, however, the reversed causality will likely run via firm size and may bias results for large companies (albeit that large firms will also have more opportunities to impose political power or ignore bribery demands). Our Vietnamese respondents manage and own small and very small organizations, and size has been included as a control variable in our model. Furthermore, the Durbin-Wu-Hausman or augmented regression test reports that our OLS estimates

are consistent, and therefore that endogeneity with respect to revenues and sales in our sample is of less concern (Davidson & MacKinnon, 1993). Nonetheless, additional longitudinal or lagged data will be needed to test alternatives and address the causality issue in more detail.

CHAPTER 5. BRIBERY AND PERSONAL RELATIONSHIPS

Summary

Prior work on corruption has largely overlooked personal relationships as an essential determinant of bribery incidence in transition economies. In these countries, relationships with public officials are instrumental in enabling transactions and lowering transaction costs, due to incoherent and ever-changing business regulations. Our study examines the impact of personal relationships on bribery incidence in Vietnam, finding that relationships with central government officials decrease the likelihood of bribery, while relationships with local government officials increases the likelihood of bribery. The results provide convincing support for the alleged importance of public-private relationships in contemporary transition economies.

Keywords: corruption, bribery, personal relationships, central officials, local officials, Vietnam

5.1 Introduction

In recent work on firm-level bribery it has been shown that firm characteristics (e.g., size, age, profit and ownership structure) and the business environment (e.g., the quality of government service, the quality of the legal environment, competition, regulatory burden) influence a decision to bribe (Birhanu et al., 2013; De Jong et al., 2012; Chen et al., 2008; Clarke and Xu, 2004; Gaviria, 2002; Martin et al., 2007; Svensson, 2003; Wu, 2009). This finding has interesting implications for the literature on corruption. First, it focuses on the firm as opposed to conventional macro or country-level determinants of bribery, and second, it shifts the focus of the analysis from the bribe demanding agent (i.e., the public official) to the bribe-offering agent (i.e., the manager of a firm). Despite all efforts, however, the persistent nature of bribery is still the subject of ongoing debate due to inconclusive findings. While the volume of macro-level corruption research is substantial and theories on corruption are abundant, the inadequacy of our current understanding of firm-level bribery continues. Thus, while the corruption research domain is broad, it has not yet reached maturity and there is a need to disentangle the underlying causal structure of firm-level bribery in general and in relation to transition economies in particular. The aim of this study is to study whether there is a relationship between personal relationships with government officials and bribery incidence. The relationship-bribery micro-level perspective is largely overlooked in existing corruption research that is dominated by country-level studies incorporating macro-level causes and consequences of macro-level corruption. Our study aims to fill this research gap by introducing new theoretical foundations and new empirical evidence for the research question at hand.

One of the most important dimensions of transition economy contexts that may have an impact on the behaviour and decision-making of firms is the firm's relationship with

government officials. Particularly in the context of a transition economy, cultivating a personal relationship with government officials can be viewed as a unique type of entrepreneurial capital, which is expected to improve the performance of new and other ventures (Fan, Wong and Zhang, 2007; Peng and Luo, 2000; Peng and Zhou, 2005). For example, building relationships with government officials can help firms to obtain goods and services, win contracts, cope with bureaucratic constraints and obtain favours and protection not otherwise available (Xin and Pearce, 1996). Relationships with government officials are important in each country but particularly in transition economies because of the peculiar weak institutional environments that characterize states in transition; entrepreneurs adapt to these circumstances and personal relationships with officials is one of these.

We add depth to the understanding of corruption in transition economies by adding the relational dimension as a crucial determinant of bribery incidence. Firm managers do not operate in a vacuum. They are embedded in networks of personal relationships (Sinani et al., 2008; Coleman, 1990; Uzzi, 1997; Chavis, 2012) and these relationships matter, not only to firm survival and growth (Adler and Kwon, 2002; Carreta et al., 2012; Fan, 2002; Lin-Hi and Blumberg, 2012) but also, as we argue, regarding the likelihood of paying a bribe. We emphasize the role of entrepreneurs as the unit of analysis in examining the possible effects of personal relationships with government officials on bribery in the context of an institutionally weak transition economy. Not all entrepreneurs in transition economies pay bribes, and entrepreneurs respond to bribery demands differently. Entrepreneurs may vary in the relationships they initiate and maintain with public officials. Thus, the paper's key aim is to determine whether variations in these public-private relationships lead to variations in bribery incidence. We differentiate between relationships between entrepreneurs and local government officials and between entrepreneurs and central government officials.

The outline of this paper is as follows. We begin by reviewing research that serves as the foundation of our framework of bribery. We offer a definition of our key concepts and characterize the public system in transition economies. Building on this research background, we then develop an argument that explains how personal relationships between entrepreneurs and government officials affect bribery incidence. In particular, we explain how relationships with different groups of government officials in transition economies, that is, central and local government officials, influence the likelihood of bribery. We will then introduce the paper's research methodology, addressing issues related to our data collection and measures of the variables. For our study of firms in Vietnam we use cross-sectional data and while such data may suffer from endogeneity and prevent a causal analysis of processes that determine the outcomes that were observed with the use of a questionnaire, given that our study is one of the first of its kind, the data set offers an opportunity to explore the relationship between

personal networks and bribery incidence. Following the presentation of the research methodology, we will present our empirical evidence. Finally, we will conclude with an appraisal, discussing policy implications, research limitations and opportunities for future research.

5.2 Theory and hypotheses

Concepts and definitions

We need a fine-grained perspective to define corruption in nondemocratic societies, the more so when a country is in a transition process from a centrally led government to a market economy (Guerrero and Rodriguez-Oreggia, 2008; Hodgson and Shuxia, 2007; Li, 2009; Luo, 2002). The word 'corruption' is used to mean different things in different countries and different global contexts (Collier, 2002; Bardhan, 1997; Kurer, 2005; Kwok and Tadesse, 2006). The term's definition ranges from an ad-hoc individual act of an illegal payment to the endemic malfunction of an entire political system. The definitions used in studies of corruption vary from 'the misuse of public power' and 'moral demolition' to more strict legal definitions such as 'an act of bribery concerning a public servant and a transfer of wealth' (Heidenheimer and Johnston, 2002; Lancaster and Montinola, 1997; Philp, 1997). Our conceptualization of corruption relates to that used by the World Bank (2000), which defines corruption as 'the abuse (misuse) of public power (entrusted power) for private gain'. Corrupt transactions take place at the interface of the public and the private sectors (Rose-Ackerman, 1978), through which public goods are illegitimately transferred into private payoffs (Luo and Han, 2009).

In the preceding definition, the determination of misuse or abuse typically involves applying a legal standard, revealing a breach of legal norms (Johnston, 1996; Kaufmann and Wei, 1999). Public (entrusted) power/office refers to the power the public delegates to officials. Corruption occurs when the officials use the power to further their own interests at the expense of the common good. The misuse of public power for private gains may be traditionally understood either as private wealth-seeking behaviour that deviates from the formal duties of a public role (Khan, 1996), or as a response to situations in which opportunities for gain and discretionary power to appropriate that gain are available (Misangyi et al., 2008). Public power, on the one hand, is abused for private benefit when an official accepts, solicits or extorts a bribe. On the other hand, it is also abused for personal gain when officials actively offer bribes to other high-level bureaucrats to circumvent public policies to gain competitive advantage. Even without a bribe transaction, public power can be abused for personal gain through other forms of corruption, such as nepotism, patronage, embezzlement of state assets, and the diversion distraction of state revenues.

The above-mentioned definition of corruption may broadly capture, for example, the sale of government property by government officials, kickbacks in public procurement, bribes (i.e., an offer of money or other favours aiming to influence a public official), embezzlement of government funds (i.e., stealing money or other government property), fraud (i.e., cheating the government through deceit), nepotism (i.e., favouritism shown by public officials to relatives or close friends) and extortion (i.e., money or other resources extracted by the use of coercion, violence, or the threat of force). These concepts are used interchangeably, but 'corruption' is the most frequently used term and is defined in the tradition of the World Bank.

The term 'corruption' is often used interchangeably with 'bribery' or a closely associated phenomenon (Weber and Getz, 2004). In the definition of the World Bank, bribery is defined as 'the offer or solicitation, promise or gift of undue pecuniary or other advantages whether made directly or through intermediaries, to (foreign) officials or to a third party with the aim of influencing the actions of a public official or the official's duties' World Bank 2000: 10). This definition thus captures several features: (1) giving, offering, or soliciting, which encompasses both sides of the transaction (i.e., the supply [the private sector or the supplier] and demand [the public sector or the receiver] sides of bribery); (2) something of value, including money, services, jobs, favours, payoffs or promises and (3) influencing the actions of a public official or the official's duties, which implies that the action goes against the law, formal regulation, moral standard or other legal agreement. From the above-mentioned definition, bribes can be understood as payments made to induce a government official to act contrary to his or her duties (James, 2002).

Thus, bribery is a bilateral event that involves a person from the public sector (a bribe receiver) and a person from the private sector (a bribe payer) (Birhanu et al., 2013; Cuervo-Cazurra, 2006; Treinsman, 2000). This paper focuses on the bribe payer; that is, entrepreneurs (in a transition economy), who are the unit of analysis (Aidis and van Praag, 2007). In part, entrepreneurs can choose whether or not to engage in bribery activities and use them, for example, to manipulate officials to obtain contracts or loans. This choice is challenging because it is sometimes related to the survival of their firms: sometimes if firms bribe they may stay in business and at other times when they do not they may go out of business. We do not imply that all entrepreneurs actively engage in bribery; however, of those who do some are more involved in bribery than others. In other words, entrepreneurs do not pay the same amount of money to the same officials for similar services or products at the same time. In Svensson's (2003) study of Ugandan firms that reported positive bribes, for example, the average amount of corrupt payments was about USD 8,300 with a median payment of USD 1,800 (in 1997). In our sample of Vietnamese firms, the average amount was about USD 5,273 with a median of USD 280 (in 2009). One of

this paper's aims is to understand this variation.

A further distinction can be made between administrative or petty corruption, which refers to paying bribes (between bureaucrats and the political elite or between bureaucrats and the public) for services involving the implementation of regulations, and state capture or political corruption/grand corruption, in which firms or the political elite attempt to influence the formulation of laws, regulations, decrees or other government policies to their own advantage (Fries et al., 2003). Grand corruption is often associated with substantial amounts of money and high-level officials, whereas petty corruption involves smaller sums of money and usually junior officials. The subject of this study is petty corruption. It refers to the extent to which firms offer payments to public officials to 'get things done' with respect to public services, such as customs, taxes, licences, regulations and services.

In summary, depending on the context, the word 'bribery' can have different meanings. According to the World Bank (2000), 'bribery' is the abuse of public office for private gain. In our research we begin with this definition by the World Bank but adapt it to the particular circumstances of a transition economy, more specifically the uncertainty associated with weak institutional environments and the independence and discretionary power of public officials. We define bribery as the payment of cash by an organization with the aim of influencing the actions of a public official. This definition is relevant because it specifically accounts for (a) the type of bribery (i.e., money rather than, for example, visits to bars), (b) the unit of analysis (i.e., a firm offering a bribe), and (c) the aim of bribery (i.e., to make arrangements for the firm in question).

Personal relationships in a transition economy

In the context of a transition economy, personal relationships with government officials at various levels – such as officials in industry departments, regulatory and supporting organizations (Peng and Luo, 2000) – can be viewed as a unique entrepreneurial resource that may improve the performance of both new and established ventures (Li and Atuahene-Gima, 2001), as well as fostering private firm survival (Xin and Pearce, 1996). Personal ties help firms compensate for institutional failures. In a transition economy, with weak institutional support and distorted information, managers may cultivate personal ties and use them when entering exchange relationships (Burkhardt and Brass, 1990; Pfeffer and Salancik, 1978; Powel, 1990), obtaining resources or protection not otherwise available (Xin and Pearce, 1996).

In a discussion of the relationship between personal ties and bribes, the context of a transition economy in general and the characteristics of existing government systems in particular cannot be neglected. The current institutional setting in many transition

economies is one of duality: firms – often based on arbitrary legal requirements – need to interact with local and central government officials in order to run the business. This also applies to our research context, that is, Vietnam (for a detailed description see, for example, CIEM, 2005; Gillespie, 2001; McMillan and Woodruff, 2002).

In a dual public system, central government officials have an inherited legitimacy to impose regulations on business. For a long time, entrepreneurs in transition economies have developed relationships with central government officials in order to overcome obstacles imposed by central government officials that may hamper their activities. Institutional change in a transition economy also fosters the legitimacy of local officials, due to the creation of the institutional voids that result from the decentralization of decision-making power in government administration, amongst other things. Such decentralization usually results in local administrators supervising the region, district, province or village, and these officials have discretion to raise taxes or process licences, for example, even though this authority may be constrained (albeit imperfectly) by formal central legislation. Thus, both local and central government officials are able to create complicated administrative procedures, which may be a burden to and confuse entrepreneurs because of unclear and overlapping regulation and lack of transparency (Shleifer and Vishny, 1993).

In addition to the formal institutional voids, there are informal deficiencies. Processes of institutional change may lead to the segmentation of society as a result of the deterioration of institutional trust and increased uncertainty (Rose, 1995). In such a society, there is a distinction between the upper- and lower-class segments. Central public officials are usually part of or related to the upper-class segment and are thus part of the ruling elite. Such societal elites are characterized by values and norms that may be distinctly different from the lower-class segments. Local government officials are usually part of or related to the lower-class segments. Each of these segments have their own norms, values and decision-making behaviours. For example, the institutional elite may have more of a reputation to lose and more contact with outsiders, particularly international outsiders.

Taking the above into account, we argue that entrepreneurs in transition economies have personal relationships with public officials in various segments of the system. We make a distinction between relationships with local and central government officials, and argue that these different relationships are potentially subject to different norms and values that may ultimately lead to a different impact of the personal relationship on the likelihood of bribery.

Personal relationships and bribery

A personal relationship can be defined as any tie between two persons, or all possible dyads (e.g., kinship, material transactions, behavioural interactions). A direct relationship links entrepreneurs to individuals with whom they may have a tie (Melé, 2009). The three most common relationships are social ties with friends or relatives (Granovetter, 1985), business ties with agents of other firms, that is, suppliers, buyers or competitors (Peng and Luo, 2000), and – as we highlight here – ties with public officials.

There are several reasons why the effect of personal relationships between entrepreneurs and central (upper-class) and local (lower-class) officials on bribery will vary. First, when ongoing personal interactions between government officials and entrepreneurs are extensive, the opportunities for engaging in bribery transactions increase (Buchan, 2005; Collins et al., 2009). Thus, the frequency of interactions and the amount of time entrepreneurs spend with the government official are expected to positively correlate to bribery (Kaufmann and Wei, 1999). This typically characterizes personal relationships between entrepreneurs and local officials in transition economies because of the geographical proximity of the agents and the inherent need of entrepreneurs to frequently interact with local officials rather than with central government officials (Svensson, 2003). Also, due to the tacit and risky nature of bribery, government officials and entrepreneurs require time to build mutual understanding and trust before they will engage in these transactions. This is in line with Lave and Wenger (1991), who claim that new members of a network remain peripheral for some time so that they can internalize tacit meanings, norms and values of behaviour in a new social context and become habituated. Again, this characteristic differentiates local from central government officials and will therefore materialize in differing effects on bribery incidence.

Second, personal relationships with local government officials are likely to foster bribery due to the reciprocal nature of these ties. When a person becomes embedded within a social relationship (e.g., a family, an organization), the identification with the group leads to shared norms and creates an expectation or obligation to support others in the group (Uzzi, 1997). Relationships with local government officials are often personalized and therefore imply reciprocity, with mutual obligations, shared interests and long-term commitments to perpetual exchanges (Li, 2007; Lin, 2007). With such characteristics, relationships with local officials are more like a friendship or a family relationship. Relationships with friends and family are characterized by frequent contact and emotional closeness. Such relationships facilitate reciprocity, mutual cooperation, high levels of trust and mutual loyalty. Consequently, this increases the likelihood of favouritism by both the entrepreneur and the local government official. Hence, entrepreneurs who have personal relationships with local

government officials may more readily consider engaging in bribery out of a sense of social obligation (Coleman, 1988; Collins et al., 2009; Westphal and Zajac, 1997). This is particularly relevant if government officials rely on illegal payments to facilitate government services so as to obtain higher income levels for themselves, which is typically the case for local but not for central government officials (Kwok and Tadesse, 2006).

Third, administrative decentralization due to economic policy reforms that characterize a transition economy provides decision-making discretion to local officials. In addition, the lack of state control increases the possibility that a local official will ask for a bribe. Furthermore, as suggested above, local government officials may need to supplement their income to obtain a decent standard of living, which increases the incentive to demand bribes. Given the fact that entrepreneurs more frequently interact with local government officials than central government officials, relationships with local officials will therefore foster the likelihood of bribes. Following this argument, the opposite applies to the relationship with central government officials.

Fourth, central government officials are less likely to have the opportunity to extort bribes in daily business that is largely delegated to local government officials. Moreover, they may receive higher incomes. In addition, bribes may be culturally unacceptable in a more elite type of network, to which central government officials may belong. Consequently, the risk of losing their reputation, status and respect in the elite network is greater, which is likely to decrease the incentive to engage in bribery transactions. Given these risks, personal relationships with central government officials may be built more adroitly on the basis of value-added services, such as educational or training trips outside the country (Quelch and Tan, 1998), further reducing the likelihood of bribery transactions.

Fifth, local public officials may have more opportunities to extort bribes because they are better able to tightly manage and closely supervise firms in the local area (Walder, 1995; Svensson, 2003). Thus, a local official's interest in personal income is more likely to be translated into entrepreneurial behaviour by the local government official. For example, local tax officials are entitled to impose arbitrary tax measures on firm sales. Thus, entrepreneurs are more likely to pay a bribe to local officials to avoid an arbitrary amount of tax.

Considering all of these arguments, we hypothesize that public-private relationships with officials in different segments of the public sector will have a different effect on the likelihood of an entrepreneur paying bribes in a transition economy. In the central government sector, for example, the higher income levels of these ruling elites reduces any financial incentive to engage in bribery as a source of income,

and greater exposure to media and international and other outsiders increases the danger of a loss of reputation. Moreover, bribes may be culturally unacceptable to central government officials and entrepreneurs may thus be protected from paying bribes. This contrasts with the needs and attitudes of local officials, who are often in the lower levels of the public service, in which low incomes and reasons of reciprocity can make bribes acceptable as gift exchanges or as add-ons to business transactions. We therefore hypothesize:

Hypothesis 1 (H1). More close personal relationships with local government officials are positively related to the likelihood of paying bribes.

Hypothesis 2 (H2). More close personal relationships with central government officials are negatively related to the likelihood of paying bribes.

5.3 Research methodology

Research context: Vietnam

Among transition economies, Vietnam is one of the least studied, but it offers a worthwhile research context for our study for several reasons. First, despite market reforms, Vietnam continues to report a weak formal institutional framework, which remains a major obstacle to firms (Meyer and Nguyen, 2005). Firms are confronted with a high degree of uncertainty in the Vietnamese business environment (Boisot and Child, 1996). Although the number of private firms has increased significantly (Heberer, 2003), many are small, informal, short-term oriented companies that often have insufficient reputational capital and typically lack government support as well as market legitimacy compared with state-owned enterprises (Le and Nguyen, 2009; Li and Zhang, 2007; Xin and Pearce, 1996). The dual government mechanism in transition economies (i.e., a market economy and a government-led redistributive regime) implies that government officials at all levels still have considerable power to influence business practices (Boisot and Child, 1996; Li and Zhang, 2007) and resource allocation (Meyer and Nguyen, 2005). Vietnam, like other emerging economies, such as China, Taiwan and Eastern Europe, is no exception (Le et al., 2006; Smallbone and Welter, 2001). Furthermore, the state officials' attitudes toward the private sector vary greatly (VNCI-VCCI, 2005; CIEM, 2005). Attitudes towards entrepreneurship are important because they demonstrate whether a society accepts or tolerates entrepreneurship, which in turn affects entrepreneurial response (Birhanu et al., 2013; Welter and Smallbone, 2011). For example, the four main state-owned banks account for approximately 80 percent of total Vietnamese bank assets and prefer to support state-owned enterprises rather than entrepreneurs, who often have insufficient reputational capital and are therefore considered high-risk borrowers (Masina, 2006). The costs and delays of setting up a business is on average much higher in transition economies. In Vietnam, an official application takes nearly six months and can cost 150 percent of per capita GDP in government fees (McMillan and

Woodruff, 2002; for similar findings see World Bank 2013).

Second, in Vietnam, the coexistence of the new law-based state and socialist legality has created problems in three areas: the legislative framework, the coordination of the legal framework, and the implementation of the legal framework. The National Assembly is responsible for drafting primary legislation, while ministries and People's Committees at local government or provincial level are allowed to draft subordinate legislation, such as the decrees, decisions and instructions that guide the implementation of the laws. In general, the quality of subordinate legislation is low, and the implementation of legislation is not supervised or controlled by the central government. Consequently, administrators at different levels have considerable discretionary power to approve projects, including business ventures and the allocation of resources (Meyer and Nguyen, 2005). This discretionary power allocated to public officials can be used arbitrarily and manipulated. In other words, despite the formal allocation of rights and responsibilities between central government, city and provincial levels, there are inconsistencies and overlaps between higher-level and lower-level subordinate regulation. In addition, the overlapping responsibilities and poor cooperation between authorities provide considerable autonomy to local public officials, creating opportunities to manipulate rules and request bribes, particularly when private firms are involved. As a result, entrepreneurs in Vietnam face barriers across a broad range of policy, administrative and institutional realms (Swierczek and Thanh Ha, 2003). Compared with state-owned enterprises, privately owned firms receive little support from the government and typically lack market legitimacy (Li and Zhang, 2007; Nguyen et al., 2005; Xin and Pearce, 1996).

Data collection procedures

The data used in this study were collected by means of an extensive survey in 14 provinces in South Vietnam. The data were collected in 2009 using face-to-face interviews with 111 of 201 contacted entrepreneurs who were willing to answer all of the questions relevant to this study. In line with common convention, we apply a conservative approach to our data set and do not use the information of respondents that did not answer the bribery question (in 21 per cent of the cases) or one of the other questions. The interviews and data obtained enabled us to analyse the relationship between key constructs and bribery activities. In Vietnam, secondary data can be easily collected for each province using local administrative offices, such as those involved in statistics, investment and taxation; however, these data are often aggregated and thus are not applicable at the firm level. For this reason, the key activities of this research project included the design and implementation of a business survey to collect firm-level information. Such business surveys are rare in Vietnam, which means that business managers may not be accustomed to providing confidential business information to outsiders or providing opinions on Likert-scale

questionnaires (see also Aidis and van Praag, 2007).

The research proceeded in three stages. In the preparatory phase of the fieldwork, we designed a questionnaire, discussing it with researchers and business practitioners and consulting other questionnaires (including those by the World Bank). We then implemented several pilot surveys in two provinces of the Mekong River Delta (MRD), namely, Can Tho and Kien Giang. This resulted in several modifications to the questionnaire, such as adding a few questions to enliven the interview. In addition, we learned that personal interviews would be the best strategy for collecting firm-level data in Vietnam, for two reasons: first, given the sensitive nature of some of the questions (e.g., bribery, revenues), we expected a high level of non-response from a mail survey (using computerized internet surveys was not a feasible alternative at the time of the survey in Vietnam). Bribery, for example, is a well-known phenomenon and to some extent a subject of debate – but only in personal conversation. Second, the secondary data's reliability was questionable because it was not up-to-date, especially with respect to the number of newly established firms, mergers and changes in ownership type. Therefore, we decided that a personal interview with business managers would be the best strategy to collect the required data.

In the second stage, a team of interviewers was trained. It consisted of lecturers and students from the School of Economics and Business Administration, Can Tho University, Vietnam. The selected interviewers were required to have experience in conducting surveys and were trained on the key topics of the survey. They were also made aware of the importance of the data they would be collecting for the University, with the intention of motivating them to take personal responsibility for the data collection as a means of improving data quality. In general, the interviewers were younger than the participants and thus did not pose a threat to the entrepreneurs. In addition, the interviews were conducted in the local dialect, enabling interviewees to respond more easily and provide more precise answers.

In the third stage, intensive interviews were conducted with entrepreneurs from 111 firms identified in 13 provinces of the MRD, Ho Chi Minh City and Binh Duong province. Ho Chi Minh City and Binh Duong province are located in southeastern Vietnam. The reason for concentrating on the MRD, Ho Chi Minh City and Binh Duong was that they have shown a significant increase in the number of private firms in recent years, the varying performance of which has been reflected in profit levels. In addition, the key role of private firms in this region contributes greatly to the GDP of the entire country. The provinces in the MRD were Kien Giang, An Giang, Dong Thap, Can Tho, Vinh Long, Soc Trang, Ben Tre, Bac Lieu, Long An, Tien Giang, Tra Vinh, Hau Giang and Ca Mau. The interviewers' efforts were concentrated in these provinces for cost-efficiency reasons, as those with the greatest density of firms.

A sample was not selected before the interviews; rather, it was selected on the basis of those entrepreneurs willing to cooperate.[32] The interviewees were either the owners or the persons who directly managed the company, defined in this research as 'entrepreneurs'.[33] Demographic studies in advanced economies tend to focus on the role of the top management team because many companies are large and are thus supervised by teams. In Vietnam, however, the entrepreneur is the most appropriate unit of analysis because decision-making power is predominantly centralized in the hands of this person, especially when they are also the owner, as is often the case. The entrepreneur has the power to make final decisions and has a direct impact on any strategy.

If the prospective interviewees agreed, the interviewers began to interview them; if the interviewee refused, the interviewer excused themselves and proceeded to the next firm. The questionnaire was administered only if the owner was available to answer the questions personally so that complete and correct information could be obtained. If the prospective interviewees were absent, the interviewer left the questionnaire and requested a new appointment. At the beginning of the interview, the interviewers presented their university employee card and an introduction letter from the Dean of the University that, among other things, assured the interviewee of full anonymity for the company and the information provided. During the interview, the main topics (e.g., work experience, education, investment, loans and industry context, bribery, personal ties, opinions about bureaucratic burdens) were discussed. Some additional questions were added to invigorate the interview and enable the respondents to tell their own story.

Dependent and independent variables

In this study, bribery is defined as a cash payment made to an organization with the purpose of influencing the actions of a public official. The likelihood of bribery was measured by a dummy variable that takes the value of 1 if the firm reports having paid money to government officials to conduct their business, and 0 otherwise. The measure is similar to that used by the World Bank. The specific item dealing with this in the questionnaire was: 'Monthly, how much must your enterprise pay to 'lubricate' its business affairs?' The question was asked in Vietnamese. We used the usual forward and backward translation process to obtain the English version. The expression bôi trơn in the original Vietnamese question literally means 'to lubricate'.

32 The sample selection method may possibly create biases. Nevertheless, the exploratory nature of the study may legitimize the approach as a first step (e.g. snow-balling survey methods).

33 We take a broad view of entrepreneurship, not only focusing on the creation of new businesses but also on the generation of new economic opportunities (Casson, 2003). A person can be said to engage in an entrepreneurial venture if he or she perceives and creates new products, services, organizational schemes or product-market combinations and introduces his or her idea to the market in the face of uncertainty and other obstacles by making decisions on location, form and the use of resources and institutions (Wennekers and Thurik, 1999). All of the respondents met these criteria. All of the private firms in the sample were new enterprises and not ad-hoc spinoffs from state firms.

This is a colloquial synonym for money paid as a bribe to government officials or administrative regulators. The closest English equivalent is 'to grease someone's palm'. In the survey, we explicitly defined 'to lubricate' as money spent. The measure does not include other forms of bribery, such as gifts that may also have monetary value. In line with previous studies (Svensson, 2005) we estimate models for bribery incidence given that the levels of corruption payments as reported by the respondents are usually less precise hampering estimations of bribery levels. This choice in favour of bribery incidence is indeed confirmed by our data (see the empirical results below).[34]

To test the main hypotheses, we differentiated between relationships with local government officials and relationships with central government officials. Local government officials are civil servants in local villages, who are at the lowest level of the government's hierarchical bureaucratic system and work where the company is located. Central government officials are civil servants in the National Assembly and the ministries located in and around the capital of Vietnam. Personal relationships with local and central government officials was measured by the perceived quality of the relationships the entrepreneurs had during the past three to five years (Yli-Renko et al., 2001; Adler and Kwon, 2002). The question regarding these relationships was: 'What was the quality of the personal relationships of the manager with local authority/government agencies over the last three to five years?' Relationships with central government officials were measured by a five-point Likert scale (1 = 'poor quality,' and 5 = 'very good quality'). Relationships with local government officials were also measured by a five-point Likert scale (1 = 'poor quality', and 5 = 'very good quality'). For local government officials, we used a dummy variable that equalled 1 for a relationship of good to very good quality and 0 otherwise. For central government officials, we also used a dummy variable that equalled 1 for a relationship of good to very good quality and 0 otherwise.

Control variables

We included several variables to control for individual and organizational characteristics, opinions about bureaucratic burden and network characteristics. In line with macro-level studies, formal higher education is expected to have a negative relationship with the likelihood of bribery. The main reason is that a more educated society would be expected to bribe less (Gatti et al., 2003; Treisman, 2000). In this study, formal higher education was measured by a dummy variable that equalled 1 if the entrepreneur had a university degree and 0 otherwise. The gender of the entrepreneur was measured by a dummy variable that indicates 1 for men and 0 for women. Men are more likely to pay a bribe than women because they are more active in the labour market than women and are thus expected to be more frequent targets of bribery (Mocan, 2008;

34 As a test of robustness, we estimated models with the level of bribery as a dependent variable using ordinary least squares. We largely find non-significant results that are due to the (skewed) nature of bribery level data. This also confirms our approach of using bribery incidence.

Mocan and Rees, 2005; Swamy et al., 2001). In addition, men tend to take more risks (Paternoster and Simpson, 1996) and take a lesser stance on ethical behaviour (Glover et al., 1997). Entrepreneur age was measured by subtracting the year the respondent was born from the current year. Because of their experience, older entrepreneurs are expected to be less prone to corruption because they are less involved in bureaucratic procedures (Cabelkova and Hanousek, 2004; Gatti et al., 2003).

We also controlled for the phase in the life cycle of a company. For this, we constructed a dummy variable (labelled 'start-up firm') that equalled 1 for firms two years of age and younger (and 0 otherwise) to understand whether there are differences in the propensity to bribery practices between young or old firms. We expected that bribes help start-up firms to develop relationships with government officials, which, in turn, helps them overcome the liabilities associated with being new, as well as to achieve legitimacy (Peng and Luo, 2000). We also controlled for type of ownership, in particular for sole proprietorship. Sole proprietorship was measured by a dummy variable that equalled 1 if the firm was a sole proprietorship and 0 otherwise. A single proprietor has a strong motive to maximize his or her company performance, which offers more incentives and opportunities to bribe due to the absence of forms of supervision.

It is well known that a firm's willingness to pay bribes is a function of government-related burden (Kuncoro, 2006; Svensson, 2003). Less business-friendly institutions are more likely to increase an entrepreneur's likelihood of becoming involved in corruption (Tonoyan et al., 2010). We measured this element on a five-point Likert scale (1 = 'strongly disagree', and 5 = 'strongly agree') concerning the statement: 'In the last three years, all business licenses have been difficult to obtain, they are time-consuming to obtain and involve other costs'. Bribe enforcement in this study is indicated by the degree of enforcement involved in paying a bribe, measured on a five-point scale (1 = 'completely involuntary bribe payments', and 5 = 'completely voluntary bribe payments') regarding the statement: 'Paying an amount of cash to "lubricate" your business affairs is completely involuntary … [or] completely voluntary' (Chen et al., 2008).

We also controlled for the diversity of ties, which refers to the heterogeneity of an entrepreneur's network of partners. Each entrepreneur maintains ties with people in different groups. This study measured the diversity using a count variable that was derived from asking respondents about their connections to other groups: 'Are you now a member of (a) a youth union, (b) the communist party, (c) a labour union, (d) trade union and/or (e) social organization?' and 'Do you have a relative or close friend who works for (a) a government agency, (b) state-owned enterprises,

(c) private enterprises?' The score was the number of different groups with which an entrepreneur had ties. Using Marsden's (1987) index of qualitative variation, we measured the ego-centred network diversity for the ith ego with N alters, where alters are classified into K discrete or ordered categories, considering the square of the proportion (pj2) of alters in the jth category. We measured network diversity as the probability of randomly choosing people with two different attributes from the possible eight attributes mentioned above.

Finally, we controlled for a change of member status in social groups, which was defined as the difference in membership status at present from that in the past. This variable was measured by subtracting the existing number of direct ties of an entrepreneur in various social groups (e.g., political parties, youth unions, labour unions, clubs, social organizations) from the number of direct ties that an entrepreneur had previously. A positive value indicated an increase in the number of new direct ties. It is argued that when the number of personal relationships increases, entrepreneurs are more likely to engage in bribery because of the increase in risk of malfeasance and increasing conflicts of interests (Buchan, 2005; Velthouse and Kandogan, 2007).

5.4 Results

We used a logit binary choice model to empirically test the hypotheses (Chen et al., 2008; Svensson, 2003) while controlling for individual characteristics, organizational characteristics, opinions about the bureaucratic system and network characteristics. To interpret the coefficients of the explanatory variables, we estimated the standardized coefficients. We performed the regular tests to assess the validity of our estimation procedures. First, to check whether the logit model was suitable, we used the Hosmer-Lemeshow test for goodness-of-fit, which measures the predicted and observed frequencies; they should match closely, and the more closely they match, the better the fit. This was confirmed in the model (Hosmer-Lemeshow $\chi 2 = 10.97$; non-significant with $p = .20$). Second, before running the logit model, we also investigated whether being corrupt is driven by a different process depending on the level of corruption, given that entrepreneurs are corrupt. For this, we used the Heckman two-step or Tobit-2 procedure, which included two submodels to explain the amount of bribery: the probit (or logit) and the ordinary least squares. The idea is that if the second ordinary least squares model is estimated and we ignore the link to the first logit model, the estimators would not be consistent (Cameron and Trivedi, 2005). The results from the Heckman model, however, showed no connection between these two stages, with insignificant values for the Mills ratio ($B = 48.23$; and non-significance with $p = .45$). Thus, the sample selection issue is of less concern and, thereby, we concluded that logit models are an appropriate choice. Third, we applied Harman's (1967) single factor test to assess whether or not

the data featured significant common variance (Chang et al., 2010; Podsakoff and Organ, 1986; Podsakoff et al., 2003). An unrotated factor analysis using the eigen-value-greater-than-one criterion revealed five factors, with the first factor explaining 47.30% (which is below the threshold value of 50% recommended by Podsakoff et al., 2003). If a substantial amount of common-method variance was present, the factor analysis would have resulted in a single factor accounting for the majority of the covariance among the variables. Thus, in our case, it is unlikely that the findings can be attributed to common-method bias. Finally, in preparation for the regression analyses, we also performed the regular tests to obtain reliable estimates. The latter tests gave satisfactory results: neither heteroskedasticity nor non-normality were an issue. We tested for possible biases caused by collinearity among variables by calculating the variance inflation factor (VIF) for each of the regression coefficients. Calculations of VIF ranged from a low of 1.09 to a high of 1.93. The VIF values were well below the cut-off value of 10 recommended by Neter, Wasseman and Kutner (1985).

Table 1. Correlations, Means and Standard Deviations (SD) (a)

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Bribery	0.60	0.49	1.00											
2. Relationships: local officials	0.91	0.28	.14	1.00										
3. Relationships: central officials	0.69	0.46	−.07	.49	1.00									
4. Change membership status	−0.08	0.58	.11	.03	.10	1.00								
5. Network diversity	0.98	0.01	.01	−.12	−.23	−.39	1.00							
6. Bribe enforcement	3.49	0.85	−.19	−.04	.12	−.06	.01	1.00						
7. Government burden	2.51	0.89	.22	.11	−.01	.07	.00	−.29	1.00					
8. Entrepreneur age	44.23	9.39	.06	.10	−.05	.12	.06	.11	.00	1.00				
9. Entrepreneur gender	0.84	0.37	−.18	.01	−.07	.01	−.03	−.12	−.05	−.06	1.00			
10. Entrepreneur higher education	0.42	0.50	−.06	−.07	.05	.04	−.13	.20	.04	−.09	.05	1.00		
11. Firm start-up status	0.24	0.43	.00	−.05	.17	−.15	.04	−.04	−.05	−.29	−.06	−.11	1.00	
12. Firm sole proprietorship	0.33	0.47	.28	.11	−.09	−.05	.12	−.01	.04	.11	−.14	−.27	−.16	1.00

(a) Correlations larger than |0.15| are significant at $p < 0.05$ (two-tailed) and larger than |0.20| at $p < 0.01$ (two-tailed)

Table 2. The impact of personal relationships on bribery incidence (a)

	Model 1	Model 2
Main effects		
Relationships with local officials		0.183**
		(0.102)
Relationships with central officials		-0.192**
		(0.106)
Controls		
Change in member status	0.148**	0.155**
	(0.089)	(0.089)
Bribe enforcement	-0.250***	-0.225***
	(0.098)	(0.098)
Government burden	0.105	0.113*
	(0.090)	(0.089)
Entrepreneur age	0.157**	0.146*
	(0.093)	(0.092)
Entrepreneur gender	-0.226***	-0.239***
	(0.088)	(0.087)
Entrepreneur higher education	0.114	0.129*
	(0.100)	(0.099)
Firm start-up status	0.211**	0.263***
	(0.093)	(0.096)
Firm sole proprietorship	0.268***	0.249***
	(0.095)	(0.094)
Entrepreneur's network diversity	0.001	0.013
	(0.087	(0.089)
Constant	-1.703	-1.196
	(1.675)	(1.745)
Pseudo R^2	0.263	0.294
Log Likelihood	-55.439	-50.709
Wald Chi^2	28.960***	28.520***
Observations	111	111

(a) Standardized parameter estimates. Robust standard errors in parentheses. *** $p < 0.01$; ** $p < 0.05$ * $p < 0.10$

Table 1 provides descriptive statistics and correlations for our sample of 111 observations. Table 2 presents the hierarchical (logit) regression results. Model 1 includes the control variables. In Model 2 the main effects are added to the control variables. Of the respondents, 60% reported that they did pay bribes. According to our data, for the firms reporting positive bribes, the annual average amount of bribes paid was VND 94.03 million (USD 5,273.10 with the official exchange rate of VND 17,832 to USD 1).

The various fit parameters show that our model increasingly fits the data better. The R-square index significantly improved from 26.3% in Model 1 to 29.4% in Model 2. The data convincingly support Hypotheses 1 and 2, which consider the relationships with government officials. For Hypothesis 1, the parameter estimate of relationships with local government officials was positive and significant ($\beta = 0.183$; $p < 0.05$), indicating that these types of relationships make firms in a transition economy more susceptible to using bribery. For Hypothesis 2, which predicts that a relationship with officials from the central government will decrease the need to pay bribes, the parameter estimate was negative and significant ($\beta = -0.192$; $p < 0.05$).

The results were obtained while controlling for a substantial number of other bribery determinants. Some of these determinants are worth highlighting because they provide insights into firm-level bribery in transition economies. For example, we found that the impact of bribe enforcement on the likelihood of bribery was negative and significant ($\beta = -0.225$; $p < .01$): the higher the level of voluntariness, the less likely entrepreneurs are to pay a bribe. In line with expectations, we find a significant and positive effect of bureaucratic burden on the likelihood of bribery ($\beta = 0.113$; $p < .10$). Table 2 reports that older managers are more likely to pay bribes ($\beta = 0.146$; $p < .10$). One potential reason for this is that older people become more sensitive to the threat of sanctions, more dependent on the reactions of others, and more susceptible to the potential costs of sanctions if a bribe is not paid. In line with our expectations, a change of member status is indeed positively related to the likelihood of paying a bribe ($\beta = 0.155$; $p < .05$). We also found significant evidence for the impact of the firm's life cycle on the likelihood of bribery ($\beta = 0.263$; $p < .01$). This result confirms that young firms are more likely to pay bribes than established firms: bribery helps young firms to overcome the liabilities associated with newness. In addition, we found significant support for single proprietorship and the incidence of bribery ($\beta = 0.249$; $p < .01$), confirming the importance of this control variable.

5.6 Conclusions

This study theoretically and empirically investigated the relationship between two different types of personal relationships – relationships with local government officials

and relationships with central government officials – and the likelihood of bribery. The results suggest that personal relationships with local government officials positively affect the likelihood of bribery. These relationships are characterized by frequent interactions and by individuals who know each other well. Such relationships reinforce exclusive identities, encourage loyalty and particularized trust. These factors increase the incentives and the opportunities for bribery, which is illegal in transition economies but common practice between entrepreneurs and local government officials. Entrepreneurs who have relationships with local government officials may engage in bribery because they accept the norms of reciprocity or 'normative rules' that are strictly enforced (Della Porta and Vannucci, 1999). If they break such rules, there may be personal costs (costs of not paying bribes) and other risks (e.g., being excluded from the network, getting caught or punished by authorities or outsiders). In local relationships, the moral cost associated with corruption is likely to be reduced, because bribery is considered 'a good return to favour' (Choi, 2007). This significant finding on the impact of relationships with local officials on bribery also confirms the results of Lipset and Lenz's (2000) macro study, which indicated that corruption is greater in countries with high scores on familism. Hence, what we aim to address is a tension between paying bribes and personal relationships. To some extent, relationships and money can be thought of as substitutes or complements. If these are substitutes, firms with relationships are less likely to pay bribes while if these are complements relationships will lead firms to bribe more. On the one hand, entrepreneurs in transition economies do not want to pay bribe but it is the nature of their personal relationships with government officials that in part explains whether or not they are (less) likely to pay bribes. Arguments for similar tensions have also been reported for other studies in transition economies. Johnson et al. (2002), for example, use a similar line of arguments and show that entrepreneurs in Eastern Europe reinvest less of their profits when faced with paying bribes.

In line with our second hypothesis, we also determined that entrepreneurs who have relationships with central government officials are less likely to engage in bribery. This result confirmed our assumption that there are different effects of personal relationships on bribery with respect to the two different groups of public officials. Entrepreneurs who have personal relationships with central public officials may not engage in bribery because central public officials may earn higher incomes and thus do not need a bribe in return. Moreover, relationships with central government officials may offer protection from bribery demands by local government officials. In addition, bribe payment is less culturally accepted in the elite network, to which central government officials often belong, because these public officials face a high risk of losing their reputation and position, which is likely to lower the incentive to engage in bribery transactions. The results suggest that researchers should conceptually

differentiate between the two segments of government officials – that is, local and central public officials – especially when conducting research in transition economies, where government still plays a key role.

This paper developed and tested hypotheses to investigate how personal relationships matter to firm-level bribery activities in the context of Vietnam's transition economy. Such investigations of dyadic determinants of bribery are scarce and theoretically underdeveloped. Few management scholars have taken on the challenge of specifying whether and how personal relationships contribute to the incidence of bribery by entrepreneurs. This research is a first step in this direction. We have explained the link between public-private relationships and the likelihood of bribery, and by so doing have extended the theory of corruption. The data allowed us to measure bribery at the organizational level and to measure the key concepts. Although case study literature on corruption provides insights into single bribery-related events, processes, structures and methods of bribery in practice, it is limited with respect to the generalization of results. Our efforts to acquire a broader sample of companies have resulted in information regarding the role of personal ties and bribery in entrepreneurship.

Our study enriches empirical insights into bribery activities by entrepreneurs active in a transition economy, the more so because these countries have a large informal sector. Although the existence of an informal economy in Vietnam has been recognized for decades, its size and function remained relatively unknown, primarily due to a lack of data. Recently, the International Labor Organization (ILO) estimated that 20% of Vietnamese Gross Domestic Product derives from the informal sector, and the sector accounts for almost 11 million out of 46 million jobs. This study contributes to these ILO findings by disentangling a part of the underlying causal structure that influences entrepreneurial behaviour. The dual government mechanism in transition economies (that is, a market economy and a government-led redistributive regime) implies that government officials at all levels still have considerable power to influence business practice. In Vietnam, for example, the coexistence of the new law-based state and socialist legality has created problems in the coordinating and implementing of the legislative framework. As a result, entrepreneurs in Vietnam have to face considerable uncertainty in a broad range of policy, administrative and institutional realms. In this context, our research explains whether and how entrepreneurs in a transition economy with a large informal sector are involved in bribery.

Our study offers various implications for managers that already operate in transition economies or about to do so at a short notice. Our research shows that bribery is indeed common practice in such economies but with substantial variations. Benchmark information of bribery incidence in transition economies is far and between. Our

study offers managers an opportunity to estimate costs of bribery and, following this information, make a decision whether or not to operate in transition economies balancing such costs against future revenues. Additionally, managers are informed about differences in consequences of personal relationships with government officials: the effects of personal relationships are not uniform and one-directional. Again, such awareness and information can help managers to make conscious decisions about their existing or planned business activities in such countries the more so given the increased importance of corporate governance in home countries of Western investors. From a policy perspective, the question is how corrupt agreements can be circumvented, given that at the macro level, they have negative effects on growth and welfare. We believe that our research has implications for policies seeking to curb illegal behaviour. First, a weakening of particularized trust between the bureaucrat and the businessperson is necessary to limit corruption. Lambsdorff and Nell (2006) suggested the implementation of legal sanctions that destabilize corrupt deals by introducing regular staff rotation into public administration. Second, if public relationships facilitate bribery practices, this may cause harmful effects for outsiders (potential bribe payers). This also means that to circumvent bribery practices, entrepreneurs need to arrange collective action against bribery, with everyone better off if they all mutually agree not to pay bribes. This is in line with Kingston (2005) who, for example, suggested that the level of corruption in Indian states actually decreases when citizens build up informal norms against bribery or make commitments not to pay bribes.

Third, our firm-level line of research illustrated that in many situations acts of bribery are mutually beneficial and foster tacit collusion between exchange partners. Consequently, to stimulate new firms, for example, government policies should seek to reduce the benefits of bribery for both officials and entrepreneurs. Policies may attempt to improve the working conditions of local government officials and the quality of institutions. Government policies seeking to improve the skills and competences of new entrepreneurs in transition economies may also offer them alternatives which help them successfully manage their enterprise without depending on informal relationships. Fourth, our research illustrated that firms respond differently to pressures and demands to engage in corrupt behaviour: not all firms pay a bribe to get things done. These different responses suggest the need for a more fine-grained policy designed to incorporate firm-specific heterogeneity. Generic policies may not be able to address firm-specific drivers of bribery. We found that the likelihood of bribery activities is determined by public-private relationships but also by the age and gender of the entrepreneur and the firm's position in its overall life cycle. If governments want to address corruption in a meaningful way, they should be aware of the multiple determinants of bribery, both for existing and new firms.

Fifth, public policies aimed at detecting and addressing bribery must be sustained over long periods of time in order to build up credibility. In societies such as Vietnam, tightly knit family and business structures are an integral part of informal Vietnamese society. It is widely accepted that social relationships have to be fostered through favours. Changing the established patterns and habits of business exchanges may take considerable time.

Sixth, public policies should focus on the negative consequences of deregulation in the government sector. When institutions are weak and the economy expands and becomes increasingly complex, public officials may see more, rather than fewer opportunities to use public authority to their own ends. Our research suggests that bribery may also flourish as a consequence of decentralized local government, with poorly trained and poorly paid bureaucrats who operate in a poorly developed institutional framework.
Seventh and finally, public policies cannot be developed without empirical evidence. Our research shows that firm-level information on illegal activities can be collected by means of a carefully designed questionnaire. Bribery tends to take place in secret. No contracts are written, which makes it difficult to detect in the first place. We suggest that business-level research like ours helps to quantify the issue and to a certain extent makes corruption a more empirical phenomenon, rather than a purely ethical consideration that dominates policy discussions on this matter.

Our study is not without limitations that offer opportunities for future research. The first limitation of this study is that cross-sectional data from Vietnamese entrepreneurs in the Mekong River Delta was used, which limits the generalization of the results. We believe that the quality of the survey and the interview process ensured sufficient confidence in the quality of the data set (for an extensive discussion of related methodological issues in entrepreneurship research, see for example, Coviello & Jones, 2004). Nonetheless, the use of cross-sectional data prevents intertemporal, causal analysis of processes that determine the outcomes that were observed with the use of a questionnaire. Cross-sectional data may suffer from endogeneity that can be addressed through instrumental variable estimation methods. Further research could look for a longitudinal or international firm-level panel study that incorporates bribery events over time so that any direct causality between individual preconditions and firm-level corruption may be identified. Such new data enable to study the potential dynamic relationship between experience with bribery and personal relationships that, in interplay with other firm-, relational or context characteristics, may reinforce each other in co-evolutionary processes. Second, due to data limitations this study did not investigate indirect links between government relationships and the likelihood of bribery. Personal relationships may affect corruption both directly and indirectly through, for example, potential mechanisms that reduce the opportunistic behaviour

of the bribers and thus make corruption more predictable. Further research could fill this gap by investigating whether entrepreneurs are confidently able to predict that the goods will be delivered as agreed in a corrupt transaction. Future research might also add complexity at the firm level by estimating moderator effects (Bennedsen et al., 2011). In robustness analyses, we were not able to find significant relationships in models with moderator specifications. Although this seems to suggest that moderator effects are of little importance, future research is needed in order to overcome some of the data limitations in the present study that may hamper extensive two-way or three-way moderator specifications. In a similar vein, it would be interesting to learn to what extent firm size matters in the management of personal relationships with different segments of government officials. It has been suggested that very small firms with only a few employees can hide from bribery activities and the same applies to very large firms while medium sized firms are the most vulnerable in bribery. Future research with more and new data on different dimensions of firm size may investigate whether, and if so, how, this matters in the personal ties between entrepreneurs and government officials.

Third, future studies could replicate this research in other Asian or transition economies. Although weak institutional frameworks are a common characteristic of many states in transition, variations in the quality of government services, attitudes and behaviour exist. This implies also that roles and outcomes of personal relationships between entrepreneurs and government officials in different transition economies or other Asian countries may vary and need to be accounted for in future research. Fourth, in this study, bribery was only measured in terms of cash payments. It would be worthwhile to investigate other forms of bribery. For example, entrepreneurs may indirectly spend money on bribery through gifts or invitations to bars. New data on other bribery measures would enable researchers to test the role of different forms of bribery.

In this study, the measure of the quality of personal relationships between the entrepreneur and government officials was valuable but not so specific as to which central or local government the respondent referred to in their response to our survey. New data collection would enable researchers to ask respondents more precisely about the particular government official they deal with when running their business. Future research could also develop alternative measures of the quality of the personal relationships, following, for example, the measures used for network heterogeneity. Such alternative measures would also enable opportunities to investigate the direct and moderating effect of the entrepreneur's political affiliation or the presence of a family member in government offices on the incidence of paying bribes. In a similar vein, it would be interesting to classify entrepreneurs into specific groups stratified

according to a combination of the type of relationship with government officials. This would result in, for example, entrepreneurs that have good relationships with both, local and central government officials or those that have good relationships with either of them. The present study has insufficient observations to make such meaningful classifications. Future efforts building on new data could study whether and if so how a refined classification of personal relationships matters for bribery incidence.

In conclusion, bribery will remain important for entrepreneurs who operate in transition economies and a thorough understanding of the determinants of bribery incidence remains central to entrepreneurship and management research. With the above limitations acknowledged, we are confident that this study makes an important contribution to bribery research at the firm-level by explaining the connection between different types of personal relationships and the likelihood of corruption.

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