Real Options and the Resource-Based View: Evidence from Entry Timing in Transition Economies

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Abstract

In a transition context, we develop a theoretical framework integrating real options theory with insights from the resource-based view to explain the role of firm resources in the entry timing strategies of multinational enterprises under uncertainty. We argue that the well-known positive relationship between economic uncertainty and time until entry is contingent on the size and previous experience of firms. In turn, we contend that host country institutional and competitive conditions moderate these relationships. Survival analysis on a sample of 180 subsidiaries of 43 multinational banks across Central and Eastern Europe between 1993 and 2008 supports most hypotheses. This study adds to the literature on real options and firm resource heterogeneity and has managerial and policy implications.

INTRODUCTION

For many multinational enterprises (MNEs) from developed countries, transition economies are attractive new investment locations with untapped markets and ample growth opportunities (Hoskisson, Eden, Lau, and Wright, 2000; Peng, Wang and Jiang, 2008). However, entry into transition economies is a risky and highly uncertain endeavor (Uhlenbruck, 2004). Volatile economic environments and ongoing drastic institutional reforms are critical concerns that MNEs need to consider in their strategic decision when to enter these markets (Luo, 1998). Accordingly, previous studies using a real options approach demonstrate that firms are generally discouraged to invest in transition economies when uncertainty is high (de Brito and de Mello Sampayo, 2005; Pennings and Altomonte, 2006).

MNEs not willing to invest instantly when opportunities emerge could adopt a wait-and-see strategy. By delaying entry, firms can avoid downside risk, observe how market conditions unfold and wait for uncertainty to recede before deciding to enter (Li and Rugman, 2007). Although a wait-and-see approach has strategic appeal in turbulent markets from a real options perspective, the gains that MNEs might be able to realize from entering early can substantially outweigh the option value of waiting. Entering transition economies quickly can generate early mover advantages and, hence, a competitive advantage over firms that are slow to respond to investment opportunities (Luo and Peng, 1998; Pan, Li and Tse, 1999). Accordingly, choosing when to enter a transition economy is an essential strategic decision in which MNEs need to balance a lower risk when waiting with the potential benefits of entering quickly (Luo, 1998; Paul and Wooster, 2008). Given that this tradeoff ultimately has severe implications for competitive advantage (e.g. Hsu, Chen and Caskey, 2017), it is imperative to understand the contingencies that drive these strategic entry decisions of firms under uncertainty. A topic that is currently lacking close examination.

Previous studies have identified various firm-level and host country determinants of entry timing in transition economies, but only examine these determinants *directly* without explicitly considering the role of uncertainty. Most research has evolved along two lines of inquiry, the resource-based view (RBV) and the external market approach (cf. Makhija, 2003). Regarding the RBV (e.g. Wernerfelt, 1984; Barney, 1991), research shows that firm-level resources including *inter alia* managerial capabilities, financial resources and international experience constitute key entry timing determinants (Gaba, Pan and Ungson, 2002; Fuentelsaz, Gomez and Polo 2002; Tan, Hung and Liu, 2007). Examining direct effects, however, ignores that firms have heterogeneous strategic preferences in dealing with uncertainty in their investment decisions. Because these preferences are shaped by firms' resources and capabilities (Peng *et al.*, 2008), we argue that firm-level resources determine how firms deal with uncertainty and hence affect entry timing also *indirectly*. Furthermore, external conditions also affect firm strategies, particularly when investments involve large sunk cost. In transition economies, where sound institutions are lacking, the sunk costs of entry can be exceptionally high. If market conditions deteriorate, the potential incurred losses make firms reluctant to invest (Dikova and van Witteloostuijn, 2007; Meyer *et al*., 2009). In contrast, investments cannot be delayed too long when rivals compete for early mover advantages (Rivoli and Salorio, 1996; Miller and Folta, 2002). Hence, we posit that MNEs' investment timing under uncertainty, is *indirectly* affected by the resources they possess and, consecutively, by variations in external conditions.

Consequently, our primary objective is to investigate whether the well-known positive relation between uncertainty and entry timing in transition economies is contingent on firm-level characteristics under varying market conditions. Particularly, we leverage real options theory augmented with insights from the RBV to postulate that the size of the investing firm and its previous experience in other transition economies moderate the relation between uncertainty and entry timing. Moreover, we expect these outcomes to vary with institutional

development and competition. To test our hypotheses we use data on 43 multinational banks (MNBs) from Western Europe that established 180 subsidiary across 17 transition economies in Central and Eastern Europe (CEE) between 1993 and 2008[1]. Anticipating the results, we confirm findings obtained in previous studies that economic uncertainty decreases the likelihood of entry in transition economies. We also obtain supportive evidence that larger and more experienced MNBs are more likely to undertake investment under uncertainty. When we take external market conditions into consideration, we discover that firm resources are more important determinants of entry timing under uncertainty in transition economies characterized by weaker institutions and more competitive markets.

Our study makes several contributions. Most importantly, by combining real options theory with the RBV, we provide new insights how firm contingencies shape the relation between uncertainty and entry timing. Our theoretical approach thus enhances the still limited understanding of how firm heterogeneity affects real option values (Trigeorgis and Reuer, 2017). Moreover, from an empirical perspective, the real options literature mainly uses aggregate industry-level investment data (Li, 2007). These studies may be biased, because firm heterogeneity likely affects the sunk cost of entry and growth option values (Folta, Johnson and O'Brien, 2006). Since entry timing is a firm-level decision and firms have heterogeneous resources, using disaggregated data is more suitable to examine how MNEs respond to uncertainty. Furthermore, the paper provides a novel contribution to the still underdeveloped empirical literature on bank internationalization (e.g. Qian and Delios, 2008). Increasing our understanding of bank internationalization in transition economies is particularly important, as foreign entry may have direct implications for the restructuring of the domestic banking sector and economic performance (Naaborg *et al*., 2004; Bonin, Hasan and Wachtel, 2014).

THEORETICAL FRAMEWORK

Entry Timing: Real Options and the Resource-Based View

Deciding the optimal time to enter a foreign market is challenging when environmental turbulence creates uncertainty about how future market conditions will unfold. To study the entry timing strategies of MNEs under uncertainty, extant research increasingly leverages real options theory (Dixit and Pindyck, 1994). This theory starts from the notion that managers are typically confronted with uncertainty when making investment decisions. Uncertainty arising from *inter alia* future consumer demand, inflation, exchange rates, interest rates and governmental policy (e.g. Folta *et al.*, 2006; Li and Rugman, 2007) exposes firms to risk, because future investment returns cannot be accurately predicted and many investments involve making irreversible capital expenditures (Kogut and Kulatilaka, 2001). Under these conditions, retaining a flexible position is valuable because it allows firms to adjust their investment decisions in light of future market developments (Bowman and Hurry, 1993; Tong and Reuer, 2007). By limiting or postponing their (initial) commitment, flexibility facilitates in containing downside risk. At the same time, firms retain their ability to capitalize on the upside potential of investment opportunities by making an initial or subsequent investments should uncertainty resolve favorably (Trigeorgis, 1991; Li and Rugman, 2007). Firms that commit prematurely relinquish this flexibility, effectively constraining their capacity to act on new information. Accordingly, for entry timing decisions, the role of uncertainty in the trade-off between flexibility and committing to an irreversible investment proves to be particularly apparent.

Research on entry timing has placed particular emphasis on the option to wait (Li and Rugman, 2007). Compared to other market entry modes such as exporting or licensing, foreign direct investment (FDI) is a commitment entailing high sunk investments, for instance to set up the entity, to comply with bureaucratic and legal procedures, and to obtain market knowledge and resources (Gaur, Kumar and Singh 2014). Because these resources are often host country

specific and tied to the MNE's operations, they depreciate when transferred to another country or sold to another firm. The option to wait is particularly relevant for such high commitment investments when environmental conditions are uncertain. When confronted with uncertainty, MNEs can decide either to enter now or postpone their investment. Accordingly, investing instantly when there is uncertainty involves an opportunity cost because firms sacrifice flexibility to monitor conditions before making an investment decision (McDonald and Siegel, 1986). Evidently, since both the option to wait and the opportunity cost to invest increase with uncertainty, uncertainty encourages a wait-and-see strategy.

Contrary to being valuable, waiting also involves an opportunity cost when the investment opportunity is not proprietary but shared among many firms (Trigeorgis, 1991). Firms that wait too long might not be able to make a successful investment once uncertainty resolves, because competitors may have preempted the opportunity (Miller and Folta, 2002). Preemption is even a greater concern when an initial commitment creates future growth options. Foreign investments typically contain such options (Li and Rugman, 2007), as an initial investment enables MNEs to accumulate foreign market knowledge and discover new ways to expand their market reach (Tong and Reuer, 2007). Growth options are especially relevant to entry timing when they arise from early mover advantages such as strategic preemption and switching costs (Lieberman and Montgomery, 1988). These advantages can raise entry barriers creating an asymmetry between firms entering at different times. Because advantages based on entry timing are available to a limited number of firms, growth options and early mover advantages dissipate quickly through competitive entry (Folta and O'Brien, 2004). Hence, when entry barriers are low and investments subject to rivalry, firms are more inclined to sacrifice the option to wait (Rivoli and Salorio, 1996).

Yet, entering transition economies is not easy. In these countries, structural transformations to develop market-based institutions provide apparent sources of risk and uncertainty that

impact the timing of entry (Li, 2007). Institutions, defined as the regulatory constrains structuring interactions between economic agents (North, 1990), are critical to foreign entry as they ensure that markets function efficiently by overcoming high transaction costs (Hoskisson *et al*., 2000; Peng *et al*., 2008). For instance, sound institutions facilitate access to market knowledge, human capital, and reduce the sunk costs associated with the search, negotiation and contracting of these local resources (Bevan, Estrin, and Meyer 2004). However, since institutional conditions are similar to all foreign MNEs, real options theory alone cannot fully explain why firms enter uncertain markets at different times. Essentially, MNEs make different entry decisions and value real options differently because they control different resources.

Understanding these inter-firm differences requires insights from the RBV that conceptualizes firms as bundles of tangible and intangible resources and capabilities (Wernerfelt, 1984). Especially resources that are valuable, rare and inimitable (Barney, 1991) provide future discretionary opportunities and can thus be viewed as a collection of real options on FDI decisions (Bowman and Hurry, 1993; Rivoli and Salorio, 1996). On the contrary, entries that take place by firms in absence of strong firm-specific advantages can be viewed as growth options that generate access to valuable host country resources, knowledge and information, which in turn represent important sources of organizational learning (Peng and Wang, 2000).

HYPOTHESES

As transition economies do not always succeed in implementing economic stabilization policies, macroeconomic conditions are often unstable, especially during the early stages of economic transition (Altomonte, 2000; Dikova and van Witteloostuijn, 2007). Notwithstanding the fact that economic transition often creates investment opportunities, foreign MNEs contemplating entering these markets also face uncertainty. Under volatile economic conditions, investments are subject to downside risk, motivating MNEs to postpone their

investment and wait for uncertainty to resolve. Accordingly, empirical research reveals that economic uncertainty makes firms reluctant to invest in transition economies (e.g. de Brito and de Mello Sampayo, 2005; Pennings and Altomonte, 2006). However, based on the insights from the RBV, firms will implement different entry strategies under uncertainty because they have different resource profiles.

Economic Uncertainty and Firm Size

Within the literature drawing on the RBV, a key determinant of foreign entry timing decisions is firm size (Gaba *et al*., 2002; Paul and Wooster, 2008). The importance of firm size relates directly to the resources and capabilities of the MNE that influence its internal assessment of the option values to wait and grow. Concerning the option to wait, large MNEs are less inclined to follow a wait-and-see strategy, because they are less sensitive to downside risk and place a lower value on the waiting option. The rationale is that large MNEs have more financial slack (Fuentelsaz *et al.*, 2002) and, consequently, are better able and more willing to make risky investments and bear the sunk costs associated with foreign investments (Tan and Vertinsky, 1996). Financial slack also secures foreign subsidiary survival by absorbing losses during economic downturns (Song and Lee, 2017). Furthermore, large and diversified MNEs spread their investment risk over multiple markets, leading to lower overall risk exposure (Petersen and Pedersen, 1999). Thus, even when an investment drops in value, the loss is small compared to the MNEs overall size.

Growth options in transition economies are also valued higher by larger MNEs. While slack resources decrease risk aversion, it also facilitates aggressive expansion (Gaba *et al*., 2002) and afford flexibility to pursue high-variance investments that might unlock future growth opportunities (Fuentelsaz *et al.,* 2002). Slack resources thus constitute real options on future growth prospects (Bowman and Hurry, 1993; Tong and Li, 2008). Large MNEs also have more

intangible resources available including managerial skills, international market knowledge, and a strong brand name (Delgado-Gómez, Ramírez-Alesón and Espitia-Escuer, 2004) that can facilitate early market entry (Chang, 1995). Furthermore, larger MNEs are also often credited with capabilities to build political connections and wield political clout (Schuler, Rehbein, and Cramer, 2002), a capability especially relevant in transition economies. By using their bargaining position in negotiations with governments (Tan *et al.*, 2007), large MNEs might secure privileged treatment, favourable operating conditions, and access to resources (Frynas, Mellahi and Pigman, 2006). Government support can generate early mover advantages and opportunities to exploit growth opportunities in uncertain markets. Accordingly, because large MNEs attach a lower value to the waiting option and a higher value to growth options, MNE size is expected to moderate the uncertainty and entry timing relationship.

Hypothesis 1: MNE size weakens the positive relationship between economic uncertainty and entry timing in transition economies.

Economic Uncertainty and Previous Experience

International experience has emerged as an essential resource driving firm internationalization as it enables firms to build valuable capabilities that are not easily imitated (Johanson and Vahlne 1977). Following Barkema, Bell and Pennings (1996), the basic rationale is that operating in diverse country settings exposes firms to various consumer preferences, competitive pressures, cultural characteristics and political conditions. By managing foreign operations, firms accumulate a rich knowledge base through organizational learning that enhances their ability to spot and exploit investment opportunities (Luo, 2000). However, experience is not universally applicable especially when transferred to foreign markets dissimilar from those previously entered (Barkema and Drogendijk, 2007). Strategies that

worked well in developed economies are no gateway to success in transition economies (Khanna, Palepu and Sinha, 2005). Yet, research supports the view that firms can benefit from their experience in other transition economies (e.g. Dikova and van Witteloostuijn, 2007). Because MNEs with such experience have developed capabilities that inexperienced firms do not possess, they will also differ in how they perceive investment opportunities and uncertainty in other transition economies. Consequently, MNEs that can leverage such experience perceive lower sunk costs when entering other transition economies.

A similar argument holds for conforming to informal institutional pressures. Adjusting to the norms, beliefs, values and cultural characteristics is critical to achieving social acceptance and external legitimacy and, consequently, for successfully investing in a new market (DiMaggio and Powell, 1983). However, attaining legitimacy is costly. Foreign entrants need to align their organizational practices to local informal institutional conditions (Kostova and Zaheer, 1999). Firms already familiar with informal institutions in transition economies will encounter less difficulty in adjusting to normative pressures (Ionascu, Meyer and Estrin, 2004) and have an advantage in attracting local customers compared to inexperienced firms. Therefore, experienced MNEs are less discouraged by uncertainty, because they perceive lower risk and are better positioned to exploit growth opportunities.

Hypothesis 2: Previous experience weakens the positive relationship between economic uncertainty and entry timing in transition economies.

Economic Uncertainty, Firm Contingencies and Institutional Quality

Incentives to postpone investment depend on the sunk costs incurred when entering transition economies under uncertainty. These sunk costs are partly determined by institutions regulating economic activities. While all transition economies face challenges in pursuing market reform

(Meyer and Peng, 2005), institutional development has been uneven across countries (Bevan *et al.*, 2004). This disparity arises from different initial country conditions and each government's commitment to undertake reforms (Peng and Heath, 1996; Hoskisson *et al.*, 2000). Despite continued efforts, many transition economies still suffer from ineffective legal systems, unsupportive policies, unclear regulations, inexperienced bureaucracies and corruption (Meyer, 2001; Khanna *et al*., 2005). These institutional deficiencies create inefficient markets, increasing the transaction costs that firms entering these economies incur.

The transaction costs associated with entry pose a concern, because to commence operations MNEs need to combine their own resources with complementary host country inputs. When underdeveloped institutions interfere with market exchanges, obtaining these resources generally involves high sunk costs (Dikova and van Witteloostuijn, 2007; Meyer *et al*., 2009). For example, MNEs have to invest managerial and financial resources to deal with imperfect factor markets, unclear bureaucratic procedures and engage in, often tedious, negotiations with government officials (Meyer and Peng, 2005). For small firms such investments are relatively more costly and increase downside risk. Compared to large MNEs that are typically more vertically integrated, small firms rely more heavily on business networks and ancillary service providers as a pool of complementary resources to facilitate entry (Peng *et al.*, 2008). Such network dependence to procure local resources makes entry more contract intensive. Given that the writing, negotiation and enforcement of contracts is complex in institutionally underdeveloped markets (Bevan *et al.*, 2004), small firms depend more on institutional quality than large firms (Smit, Pennings and van Bekkum, 2017).

Moreover, cultivating long-term relationships with indigenous firms takes time (Meyer and Peng, 2005) thus impeding effective collaboration and coordination (Puffer and McCarthy, 2011). Consequently, smaller firms encounter higher transaction costs and longer processing times to access local resources, which increases their option value of waiting and incentives to

postpone entry. In contrast, large MNEs rely less on business networks, because their enhanced capabilities to leverage political clout and exploit favorable business conditions to obtain local inputs (Frynas *et al.*, 2006) provides an advantage in overcoming high transaction costs arising from market imperfections and institutional voids. Accordingly, when institutions are weak, large MNEs are less likely to defer investment under uncertainty as their sunk cost and downside risk are lower compared to smaller MNEs.

Hypothesis 3a: MNE size weakens the positive relationship between economic uncertainty and entry timing in transition economies. This effect is stronger in transition economies with weaker institutions.

Similar to MNE size, previous experience has a greater impact on entry timing when institutions are underdeveloped. By investing in transition economies, firms accumulate knowledge and develop capabilities to operate in complex institutional settings. These capabilities enable MNEs to identify, assess, circumvent and possibly even fill institutional voids when entering other transition economies (Meyer, 2001; Khanna *et al.*, 2005). When markets are inefficient due to weak institutions, MNEs that govern larger subsidiary networks can more easily conduct operations, because they can exploit their internal market to transfer knowledge between subsidiaries (Chari and Banalieva, 2015; Kafouros and Aliyev, 2016). Since institutional deficiencies are similar across transition economies (Dikova and van Witteloostuijn, 2007), the intra-firm network provides a source of knowledge when the MNE enters another transition economy. Besides relying on internal markets, MNEs with local experience can more easily obtain institutional knowledge by collaborating with domestic firms. Because more experienced firms are better integrated in the local environment, they have learned how to select qualified partners to bridge institutional voids and adapt to local institutional conditions (Zhang and

Beamish, 2017). Accordingly, in institutionally weak environments, the sunk cost of subsequent investments are lower for more experienced MNEs.

Hypothesis 3b: Previous experience weakens the positive relationship between economic uncertainty and entry timing in transition economies. This effect is stronger in transition economies with weaker institutions.

Economic Uncertainty, Firm Contingencies and Competition

Even when investment under uncertainty involves making large irreversible investments, waiting to enter is not always an optimal strategy. When transition economies remove regulatory barriers and take a more accommodating stance toward FDI, many new investment opportunities arise for foreign MNEs. These opportunities are not strictly proprietary and increase preemption risk as competitors hold similar options to invest. Preemption is especially acute when entering quickly can generate early mover advantages and growth opportunities (Nakata and Sivakumar, 1997). For instance, early entrants have a lead-time in accumulating experience and local market knowledge (Luo and Peng, 1999), and hold preemptive advantages in procuring scarce resources including investments locations, human resources and distribution channels (Hoskisson *et al*., 2000; Pan *et al*., 1999). From the demand side, early entrants may preempt consumer perceptual space. Because perceptions are relatively immutable, switching costs increase and reduce how effectively later entrants can use marketing to create demand (Kerin, Varadarajan, and Peterson, 1992). Besides, by entering early, firms might leverage political influence and secure preferential treatment from country governments, strengthening opportunities vis-a-vis later entrants to obtain the resources required to start operations (Tan *et al.*, 2007).

To avoid preemption, MNEs constantly re-evaluate entry decisions based on how competitive conditions evolve. When no or only few competitors are present, the lower downside risk makes the option to wait more prominent than securing future growth options. Deferring investment can be particularly valuable for large MNEs. Compared to small firms, large MNEs generally possess stronger firm-specific advantages derived from their superior intangible resources (Delgado-Gómez *et al*., 2004). These advantages reduce vulnerability to competitive entry and erosion of option values, thus providing large MNEs with more flexibility in deciding when to invest (Rivoli and Salorio, 1996). Flexibility to postpone entry is particularly valuable when investment returns are unpredictable and there is no certainty whether growth options will materialize. However, large MNEs are not immune to preemption and cannot delay investment decisions indefinitely. As competition intensifies, concerns over the erosion of early mover advantages and option values will increase (Trigeorgis and Reuer, 2017). Since firms that entered earlier can gain an advantage by raising entry barriers, large MNEs should forestall competitive actions from locking them out of the market. Delaying entry too long in more competitive environments can be detrimental as the probability to achieve positive investment returns diminishes. As competition intensifies, priorities change and large MNEs' incentives to invest quickly outweigh considerations over downside risk.

Hypothesis 4a: MNE size weakens the positive relationship between economic uncertainty and entry timing in transition economies. This effect is stronger when competition increases.

While enhanced capabilities from previous experience may provide an incentive to invest early into other uncertain markets, such a strategy also depends on the competitive conditions. Because capabilities created through previous investment experience also constitute a valuable firm-specific advantage (Dikova and van Witteloostuijn, 2007), experienced MNEs are more

flexible to defer their decision to enter other transition countries. For experienced MNEs, incentives to rush into markets with few competitors will be weak, because preemption risk is low and the option value of waiting high. Even though new entrants will also accumulate market knowledge and experience over time, the most valuable knowledge about how to operate in a business environment is tacit and can only be acquired through a time-consuming process of organizational learning (Zhang and Beamish, 2017). Nonetheless, a firm-specific advantage based solely on experience is not sustainable as competitors will eventually catch-up. Since option values erode once competition increases, opportunities to secure growth options will then be the primary factor driving investment decisions. Therefore, we expect that previous experience will induce MNEs to postpone entry into non-competitive markets, but will enter more quickly as competition intensifies.

Hypothesis 4b: Previous experience weakens the positive relationship between economic uncertainty and entry timing in transition economies. This effect is stronger when competition increases.

RESEARCH CONTEXT, DATA, METHODS AND MEASURES

Multinational Banks in Central and Eastern Europe

Our empirical analysis is focused on the entry decisions of MNBs into CEE. The main advantage of using the CEE region is that foreign investment was virtually non-existent before the Iron Curtain crumbled, creating a natural starting point for analyzing the foreign entry strategies of firms. Furthermore, attracting foreign banks was a deliberate approach in CEE countries to facilitate transition towards market-based economies (Naaborg *et al.*, 2004). Additionally, financial liberalization and the elimination of regulatory barriers suddenly created many similar and geographically dispersed growth opportunities for 'Western European' banks

confronted with saturated markets and intensifying competition in their home countries (Lensink and de Haan, 2002). However, especially during the initial transition stages, unstable economic conditions and underdeveloped institutions made entry into CEE a highly risky endeavor (Uhlenbruck, 2004). Because competitors could make comparable investments to exploit similar opportunities emerging at relatively the same time, preemption posed a serious threat, forcing banks to make crucial strategic choices regarding (irreversible) investments under uncertainty. The outcome is known: MNBs, mainly from 'Western Europe', control most banking assets throughout the region (Bonin *et al.*, 2014). Given the predominant role of foreign MNBs in CEE banking systems, these transition economies provide a unique setting to examine the entry strategies that MNBs pursue under uncertainty.

Sample

Our primary data source is BankScope, containing balance sheet, income statement and other information for approximately 2,450 banks in CEE. To ensure a homogenous sample, we only include subsidiaries classified as commercial banks in which an MNB holds an ownership stake of at least 20 percent. Furthermore, since our interest lies in the initial decision to enter, we only consider the first investment of each MNB in each transition economy. However, BankScope does not contain information on all subsidiaries and ownership stakes. Hence, we collect MNB annual reports to identify all subsidiaries these companies established in CEE and their ownership levels. This information is complemented and cross-checked using subsidiary annual reports, ZEPHYR, supplementary company reports, press releases, banking association and central bank reports.

Excludes are some banks with at least one investment in CEE. These are omitted because annual reports and other sources often lack precise investment or ownership data. Finally, we restrict the sample period to 2008. Following the financial crisis, the growth-oriented strategies

that many foreign MNBs pursued changed towards focused sub-regional investment strategies. Given this change in strategic conduct, it would be inappropriate to assume that the same underlying forces are driving entry decisions in the pre- and post-crisis periods. Our final sample includes 43 MNBs responsible for 180 investments in 17 transition economies between 1993 and 2008.

Estimation Technique

When the object of observation is the time to an event, such as the time to entry, survival analysis is commonly applied. Survival analysis is used to model the hazard rate, which is the (instantaneous) probability an event takes place during time interval $t + \Delta t$, conditional on the event not occurring before the interval starts. In our setting, the hazard rate is the probability that an MNB decides to enter a transition economy at time t, conditional on not already having entered the country. Although several methods exist, the Cox proportional hazard (PH) model (Cox, 1972) is the most widely used. The hazard rate in this model is equal to a baseline hazard multiplied by an exponential function of the independent variables:

$$h_{ij}\left(t|X_{ij}\right) = h_0(t)e^{X_{ij}\beta}$$

Here $h_{ij}(t)$ is the hazard for the *i*th firm, in the *j*th host country, at time t, $h_0(t)$ is the baseline hazard, X_{ij} represents a covariate matrix, and β is a parameter vector. What makes the Cox PH model attractive is that the parameters can be obtained by maximum likelihood without making distributional assumptions about the baseline hazard (Lawless, 1982). However, this model assumes that time is continuous and that the probability that subjects experience an event simultaneously, i.e. a tied event, is negligible. Treating time as continuous is not appropriate in our case, because we record investments within one-year intervals, meaning that time only takes on distinct integer values. Furthermore, by using one-year intervals, there are many ties in our dataset.

Given our data characteristics, discrete time models are more appropriate. For the discrete model (Allison, 1982), the hazard rate is equal to:

$$h_{ij}(t|X_{ij}) = \Pr(\mathrm{T} = t \mid \mathrm{T} > t-1, X_{ij})$$

The discrete hazard rate represents the probability of an event occurring in interval *t*, given covariate matrix X_{ij}, conditional on the event not having occurred in previous intervals. According to Allison (1982), the complementary log-log model is suitable in our setting, because it assumes that the data generating process follows the continuous time Cox PH model and time discreteness is simply a consequence of the data collection process. The model is derived from the Cox PH model by assuming discrete instead of continuous time units:

$$\log[-\log(1 - P_{ij}(t|X_{ij}) = \alpha_t + X_{ij}\beta \; ; \; P_{ij}(t|X_{ij}) = 1 - \exp[-\exp(\alpha_t + X_{ij}\beta)]$$

The conversion on the left hand side of the equation is the complementary log-log transformation, where the logarithm is taken of the negative logarithm of the hazard complement. This creates a linear equation and the parameters can be estimated using maximum likelihood. The α_t parameters are constants, one for each time interval capturing how the hazard rate depends on time. For interpretation, note that the dependent variable is the complementary log-log transformation of the hazard ratio, while our hypotheses are formulated in entry times. There is an inverse relation between entry times and this hazard function: a longer entry time implies a lower hazard ratio. Hence, proposing a positive relation between uncertainty and entry timing is equivalent to stating that uncertainty is negatively related to the hazard ratio.

The main challenge in applying survival models is selecting an unambiguous point in time from when an investment opportunity arises, i.e. the 'onset of risk'. Fortunately, this issue is more easily resolved in CEE because transition processes commenced throughout the region around 1990. This year marks a clear departure point to examine foreign entry (Pennings and

Altomonte, 2006). Hence, we use the year 1990 as the onset of risk and measure the time that a firm has the opportunity to enter as the years elapsed since 1990.

Independent Variables

Creating a variable that captures economic uncertainty raises two issues (Folta *et al.*, 2006). First, what economic variable to use to construct the uncertainty measure. Due to data restrictions, we follow Huizinga (1993) and use monthly inflation rates. The advantages of inflation rates over other proxies are the availability of historical time-series and the considerable within- and cross-country variation of the data. Besides, inflation provides a good success indicator of economic stabilization policies (Kinoshita and Campos, 2003). Inflation data come from the Vienna Institute for International Economic Studies (WIIW). Second, what method to select to capture random fluctuations to represent uncertainty. To differentiate between predictable and unpredictable movements in the underlying variable, recent studies rely on ARMA or ARCH/GARCH models (Folta and O'Brien, 2004). Because ARCH/GARCH models necessitate long time-series we use ARMA(1,1) models, calculating the unpredictable component by subtracting the mean ARMA prediction from the realized monthly inflation rate. Hence, yearly *Uncertainty* is defined as (the log of) the average of the twelve previous squared residuals.

Regarding our two firm-level independent variables, we measure *MNB Size* as the logarithm of total assets and *Previous Experience* as the number of transition economies where an MNB has previously established a subsidiary. Data on total assets come from BankScope. Parent company and subsidiary annual reports serve as the main data sources for our experience measure. *Competition* is defined as the logarithm of the ratio of the number of banks to the country's population (in millions). Data on the number of banks come from the European Bank for Reconstruction and Development (EBRD) and population data from the World Bank.

Following Lu, Liu, Wright, and Filatotchev (2014), we measure institutional development using the world governance indicators (WGI) from the World Bank. These indicators cover a several institutional dimensions. Given that it is unclear which indicator matters most for entry decisions, using a single indicator is not desirable (Lensink and De Haan, 2002). Accordingly, we use an unweighted average based on six indicators[2]. As our hypothesis refers to *Institutional Weakness*, we take the negative of this average.

Controls

Based on previous research, we include several control variables. First, the choice to enter a foreign market depends on bank profitability (Tan and Vertinsky, 1996). It stands to reason that more profitable banks will enter new foreign markets faster, because they have more slack resources available to undertake investment (Fuentelsaz *et al.*, 2002). We measure *Profitability* by return on assets (ROA). Second, a strong motivation for bank internationalization is to continue servicing existing clients that expanded internationally (Williams, 2002). To control for this 'follow-the-client' behavior, we include the *FDI Stock* in each country. Third, since large economies usually attract more FDI we include gross domestic product (GDP) to control for *Host Country Size*. Fourth, we account for *Geographical Distance*, measured as the kilometers between the city where the MNB headquarters is located and the capital city of each CEE country. Greater geographical distance increases transaction costs by impeding knowledge transfer, effective coordination and monitoring (Bevan *et al.*, 2004). More importantly, historic ties between nearby countries have played a pivotal role in facilitating FDI between Western Europe and CEE (Altomonte, 2000). Besides ROA all control variables are measured in log form. Finally, we add year, host country and MNB indicator variables to account for time effects and unobserved firm and country heterogeneity.

RESULTS

Descriptive Statistics

Table 1 reports the descriptive statistics. The correlations between uncertainty and institutional weakness (0.47), and between MNB size and previous experience (0.46), are relatively high. However, with variance inflation factors (VIFs) below 3.5, multicollinearity seems no concern. Figure 1 plots our uncertainty measure against the number of investments in the CEE region between 1993 and 2008. The downward slope of the fitted line demonstrates an inverse relationship. An alternative explanation for this relation is that large countries attract more FDI and are also characterized by lower uncertainty. To rule out this possibility we examined the correlation between country size and uncertainty. This correlation should be negative when differences in host country size cause this negative relationship. There is no evidence for this as there is a (strong) positive association between country size and uncertainty. Furthermore, this high correlation is mainly caused by a single country, namely Russia. Excluding Russia decreases the correlation from 0.45 to 0.10.

[Table 1 about here]

[Figure 1 about here]

Main Results

Table 2 reports the main results. Model 1 is the baseline model including the independent and control variables. Model 2 includes year, parent company and host country indicator variables. The negative uncertainty coefficient in Model 2 (β=-0.355, $p<0.01$) is consistent with extant research showing that the hazard of entry decreases with uncertainty. This coefficient indicates that a one standard deviation increase in uncertainty reduces the hazard with roughly 40 percent[3]. Model 3 tests Hypothesis 1, which suggests that large MNEs are more likely to invest under uncertainty. The positive interaction term corroborates this prediction (β=0.133, $p<0.01$).

Hypothesis 2 proposes that more experienced MNEs are also less deterred by uncertainty. Model 4 supports this hypothesis, revealing that experience weakens the relation between uncertainty and the hazard of entry (β=0.284, $p<0.05$).

[Table 2 about here]

The remaining hypotheses investigate how the relationship between entry timing under uncertainty and firm-level resources vary with institutional and competitive conditions. Hypotheses 3a and 3b state that MNE size and previous experience have a more pronounced influence on the relation between uncertainty and entry timing in weak institutional environments. The three-way interaction between uncertainty, MNE size and institutional weakness in Model 5 is positive and significant (β=0.224, $p<0.05$), validating hypothesis 3a. As demonstrated in Model 6, this result does not extend to previous experience. Hypothesis 4a and 4b examine how competitive conditions moderate the association between uncertainty, firm resources and entry timing. Consistent with hypothesis 4a, the three-way interaction in Model 7 is positive and significant (β=0.178, $p<0.05$). In contrast, the interaction in Model 8 (β=-0.170, $p>0.10$) is not significant and refutes hypothesis 4b.

[Figure 2 about here]

Interactions are difficult to comprehend in non-linear models, especially three-way interactions. To facilitate the interpretation, we provide an intuitive understanding of the two-way interactions from models 3 and 4 in Figure 2, and the (significant) three-way interactions from Models 5 and 7 in Figure 3. Both graphs in Figure 2 contain three curves showing how the hazard ratio for low, median and high uncertainty, i.e. relative to very low uncertainty, depends on MNB size and previous experience.[4] This approach isolates the main uncertainty effect and the moderating influence of firm resources. Clearly, the hazard rate decreases with uncertainty. Furthermore, the increase in the hazard rate is modest when MNB size and previous

experience are low, but the slope increases as we move along the curves from left to right. Since the hazard ratio is always below one, uncertainty and the hazard of entry are inversely related, regardless of firm-level resources.

[Figure 3 about here]

In Figure 3, we are interested in the interaction of the main effect between uncertainty and MNB size, and the three-way interactions with institutional weakness and competition. To create these figures, we fix uncertainty at a low level and allocate two values to MNB size: one standard deviation below the mean, i.e. small MNBs, and one standard deviation above the mean, i.e. large MNBs. These firms are then compared to average MNBs. The same procedure is used for high uncertainty. To demonstrate how the main interaction effect varies with institutional weakness and competition, these last two variables are not constrained. The left graph shows that as institutions weaken, smaller MNBs are less likely to invest relative to average MNBs. This effect is stronger for high than low uncertainty. The curves converge when institutions improve, until there is no systematic difference in probability that different sized MNBs undertake investment. The relation reverses when institutional weakness is below -0.7. However, this part of the curve is not representative as almost no entries occur at these values, especially for high uncertainty. The same reasoning applies to the graph depicting competition.

There are also some interesting aspects regarding the control variables. In Model 1, institutional weakness, competition and MNB size are significant. Competition and MNE size have the expected signs, while institutional weakness has the opposite sign. Once indicator variables are included, institutional weakness changes sign but becomes insignificant. The coefficients of competition and MNE size remain, respectively, negative and positive, but are no longer significant. Profitability also loses its significance. There is no evidence that the FDI stock in host countries have an impact on entry timing. Host country size and previous

experience are significant and positive all regressions. Similarly, geographic distance always has a negative significant effect on the hazard of entry.

Robustness Analyses

We carried out several robustness checks. First, our decision to use discrete models is based on clear arguments, but the choice between discrete and continuous time remains subjective. To address this issue, we re-estimate our models using the Cox PH model. The results in Table A1 are almost identical, both in terms of the coefficients and significance levels. Second, uncertainty in Table 2 is calculated for each year. This approach may not accurately reflect the investment decision-making process. For instance, when entry occurs at the beginning of the year, this decision is not only based on uncertainty in that year. A similar reasoning holds when an investment is made later, since there is typically a longer time lag between the decision to invest and its actual implementation. Alternatively, we calculated uncertainty using the previous 24 residuals from the ARMA model. As shown in Table A2, the results do not deviate from our main findings.

DISCUSSION

This study has two objectives: To examine whether the relation between uncertainty and entry timing in transition economies depends on firm resources, and to uncover whether this relationship is moderated by host county institutional and competitive conditions. Our results demonstrate that the relationship between uncertainty and entry timing is more complex than currently assumed and depends crucially on MNE resources. In turn, the impact of MNE resources is contingent upon institutional quality and competitive conditions. Considering these findings and the specific industry we analyze, this paper not only contributes to the still limited literature on firm-level determinants of investment under uncertainty (Trigeorgis and Reuer,

2017), but also advances work on an important but under researched setting, namely foreign bank entry strategies in transition economies (Qian and Delios, 2008).

Implications

Our results show that economic uncertainty prompts MNBs to pursue a cautious wait-and-see strategy. The implications of this finding for the banking sectors in transition economies cannot be understated, because the ability to attract foreign banks has major consequences for financial development and economic growth (Naaborg *et al*., 2004). With domestic state-owned banks lacking managerial expertise, modern IT technology and advanced risk management practices, and with equity markets being underdeveloped, foreign banks are considered a viable alternative to raise capital and boost transition processes (Bonin *et al.*, 2014). For public policymakers in transition economies, creating a sound banking industry is a priority to improve economic performance by ensuring that financial resources are accessible and efficiently allocated (Lensink and de Haan, 2002). Our results indicate that to achieve this governments need to implement stabilization policies to curb uncertainty.

However, foreign MNEs are not equally susceptible to uncertainty. Our key findings demonstrate that MNEs with superior resources not only display a greater willingness to make risky investments, but also have an advantage over resource-constrained firms in capitalizing on growth opportunities. Casual observation of the expansion patterns of MNBs in CEE substantiate our findings. Early entrants are predominantly larger MNBs that, according to De Haas and Naaborg (2006), commenced operations by serving corporate clients but over time expanded their operations by entering retail segments, servicing small and medium sized enterprises (SMEs) and diversifying into other areas. Initial commitments thus functioned as a foothold to secure growth options. Likewise, MNBs with previous investment experience are less sensitive to uncertainty. Particular capabilities developed through experience are mainly

customer-oriented and technology intensive such as improved screening, due diligence, and risk management practices. Our findings may help public policymakers in developing regulations that facilitate large MNBs to appropriate growth options. To accelerate financial sector development, policies aimed at attracting large and experienced MNBs should therefore be accompanied by reforms that promote firm growth.

Another important result is that, conditional on uncertainty, larger MNEs are more likely to enter transition economies with weaker institutions. Large MNBs target different customers and can circumvent market imperfections in obtaining local resources. Smaller banks mainly service local SMEs through relationship lending, whereas larger MNBs focus on corporate clients using standardized arms-length transactions, screening and risk management practices (De Haas, Ferreira and Taci, 2010). Especially in economies with weak institutions, where evaluating credit risk of opaque borrowers is challenging (De la Torre *et al*., 2008), relationship lending is risky and time-consuming. Consequently, under uncertainty and weak institutions, smaller MNBs attach greater value to the waiting option. Governments should therefore prioritize developing supportive institutions ensuring that foreign banks have equal access to resources. Furthermore, since SMEs are vital for job creation and economic development (De Haas *et al*., 2010), policymakers should increase business transparency, introduce stricter reporting standards and provide better creditor protection. Such reforms might encourage smaller MNBs to enter and increase SME lending.

Competition also provides a motivation for larger MNBs to speed-up entry under uncertainty. This is consistent with Berger and Dick (2007) who claim that banks enjoy early mover advantages through preemptive opportunities and switching costs. However, entry barriers are not insurmountable and early mover advantages less sustainable in service industries (Song, Benedetto and Zhao, 1999). However, larger MNBs will not invest immediately as they can overcome these barriers through their superior resources. Only when

competition becomes a serious threat, will MNBs decide to invest. This finding may help managers to conceive better entry strategies in transition economies. When a market is characterized by uncertainty, early mover advantages and competition, designing an optimal entry strategy is a careful balancing act. Acknowledging these factors is important to avoid unnecessary risks, but also to be aware that entering late might erode early mover advantages and growth opportunities.

RESEARCH AGENDA

Several research endeavors remain that may improve our understanding of the relation between firm resources and entry strategies under uncertainty. First, we only provide a limited theoretical integration of the RBV and real options reasoning. Despite their expected high correlation, firm size and previous investment experience are rudimentary proxies to measure the quantity and quality of firm-level resources. An improved way to establish a connection between resources and entry timing under uncertainty would be to introduce more fine-grained measures of resource heterogeneity. Doing so would also force a deeper theoretical integration of resource heterogeneity within real options theory. Second, our uncertainty measure might not be optimally devised. Several other variables such as exchange rates, market demand and stock prices are also intuitive measures. Future research might complement our findings using these alternatives. Finally, our study focusses on initial investments during the early transition period. While this setting facilitates a better assessment of entry strategies, it leaves unanswered questions about the drivers of subsequent investments or divestments. Such questions are highly relevant and especially important to address given the recent financial crisis and the dependence of transition economies on financial sector FDI.

ENDNOTES

[1] CEE consists of Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Poland, Romania, Russia, Serbia, Slovakia, Slovenia and the Ukraine.

[2] The indicators include Control of Corruption, Government Effectiveness, Political Stability, Regulatory Quality, Rule of Law and Voice and Accountability.

[3] $100 * ((e^{-0.355*1.30}) - 1) = -39.96\%$.

[4] Low, median and high uncertainty correspond to, respectively, the 25th, 50th and 75th percentiles of the uncertainty distribution. Uncertainty in the denominator equals the 10st percentile.

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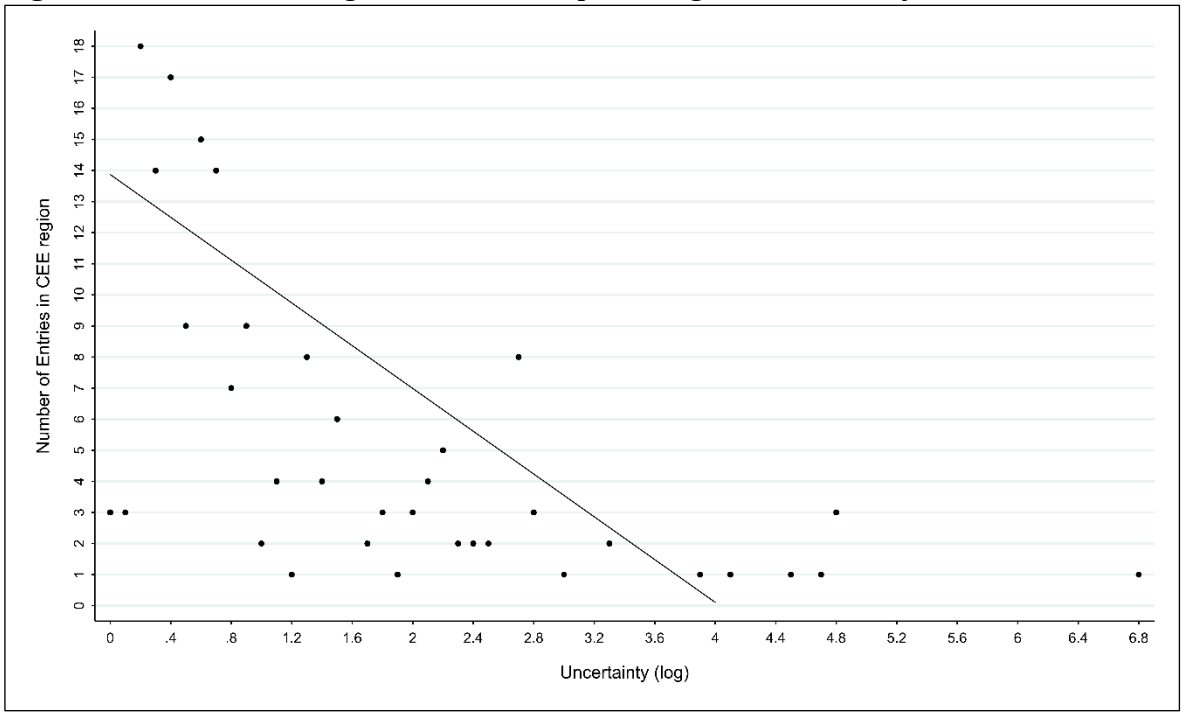
Table 1: Descriptive statistics (N=8114)**.**

Variables	Mean	S.D.	1	2	3	4	5	6	7	8
Uncertainty	1.16	1.30								
Institutional Weakness	-0.19	0.61	0.47*							
Competition	1.91	0.57	-0.08*	-0.08*						
MNB Size	18.33	1.63	-0.09*	0.01	0.00					
Previous Experience	0.96	0.78	-0.15*	0.01	-0.02	0.46*				
Profitability	0.62	0.74	-0.05*	-0.01	-0.03	-0.25*	-0.09*			
FDI Stock	8.52	1.56	-0.25*	-0.28*	-0.24*	0.06*	0.15*	0.09*		
Host Country Size	10.80	1.27	0.25*	0.04*	-0.22*	-0.09*	-0.12*	0.03*	0.67*	
Geographical Distance	7.04	0.58	0.18*	0.21*	-0.05*	0.16*	0.01	0.15*	0.02	0.07*

Note: * $p < 0.01$.

Figure 1: Number of foreign entries in CEE plotted against uncertainty: 1993-2008.



Note: Number of entries based on Bankscope, annual reports and other sources; uncertainty based on WIIW data.

Table 2: Results Complementary Log-Log Model.

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Uncertainty	-0.028	-0.335***	-2.825***	-0.762***	-3.128**	-0.467*	2.601	-1.899
	(0.068)	(0.091)	(0.923)	(0.230)	(1.522)	(0.257)	(2.954)	(1.262)
Institutional Weakness (IW)	0.603***	-0.761	-0.865	-0.951	8.613***	-0.280	-1.236	-1.147
	(0.168)	(0.797)	(0.801)	(0.800)	(2.570)	(1.290)	(0.837)	(0.875)
Competition (Comp)	-0.463***	-0.678	-0.663	-0.746	-0.313	-0.566	1.922	-1.928*
	(0.148)	(0.697)	(0.727)	(0.717)	(0.725)	(0.716)	(3.173)	(0.993)
MNB Size (Size)	0.142***	0.017	-0.180	-0.019	-0.237	-0.026	0.164	-0.015
	(0.054)	(0.205)	(0.217)	(0.204)	(0.237)	(0.202)	(0.339)	(0.205)
Previous Experience (PE)	1.263***	3.066***	3.090***	2.753***	3.077***	2.910***	3.109***	2.133***
	(0.159)	(0.561)	(0.554)	(0.578)	(0.549)	(0.638)	(0.568)	(0.738)
Profitability	0.358***	0.088	0.083	0.079	0.100	0.083	0.082	0.080
	(0.075)	(0.123)	(0.119)	(0.121)	(0.118)	(0.125)	(0.119)	(0.121)
FDI Stock	-0.245***	0.517	0.437	0.392	0.416	0.298	0.498*	0.450
	(0.089)	(0.371)	(0.359)	(0.378)	(0.399)	(0.402)	(0.291)	(0.345)
Host Country Size	0.714***	2.349**	2.136**	2.307**	3.030**	3.457**	2.512**	2.541**
	(0.118)	(1.024)	(1.041)	(1.017)	(1.422)	(1.359)	(1.084)	(1.058)
Geographic Distance	-1.389***	-2.913***	-2.886***	-2.886***	-2.882***	-2.854***	-2.842***	-2.927***
	(0.136)	(0.370)	(0.368)	(0.358)	(0.377)	(0.347)	(0.375)	(0.374)
Uncertainty*MNB Size (H1)			0.133***		0.158**		-0.192	
			(0.047)		(0.079)		(0.151)	
Uncertainty*PE (H2)				0.284**		0.218		0.634
				(0.120)		(0.153)		(0.604)
Uncertainty*Size*IW (H3a)					0.224**			
					(0.110)			
Uncertainty*PE*IW (H3b)						-0.009		
						(0.255)		
Uncertainty*Size*Comp (H4a)							0.178**	
							(0.084)	
Uncertainty*PE*Comp (H4b)								-0.170
								(0.275)
Uncertainty*IW					-4.871**	-0.602		
					(2.025)	(0.393)		
Uncertainty*Comp							-2.964*	0.608
							(1.633)	(0.590)
MNB Size*IW					-0.467***			
					(0.132)			
PE*IW						0.329		
						(0.419)		
MNB Size*Comp							-0.181	
							(0.165)	
PE*Comp								0.333
								(0.379)
Constant	-3.536**	-15.437	-9.335	-12.762	-17.254	-23.653	-18.644	-13.046
	(1.460)	(11.074)	(11.436)	(10.974)	(15.075)	(14.581)	(13.561)	(10.976)
Observations	8114	8114	8114	8114	8114	8114	8114	8114
Number or Entries	180	180	180	180	180	180	180	180
AIC	1493	1364	1358	1355	1341	1348	1351	1350

Note: Cluster robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1. Models 2-8 includes year, host country and MNB dummies.

Figure 2: Two-way interactions.

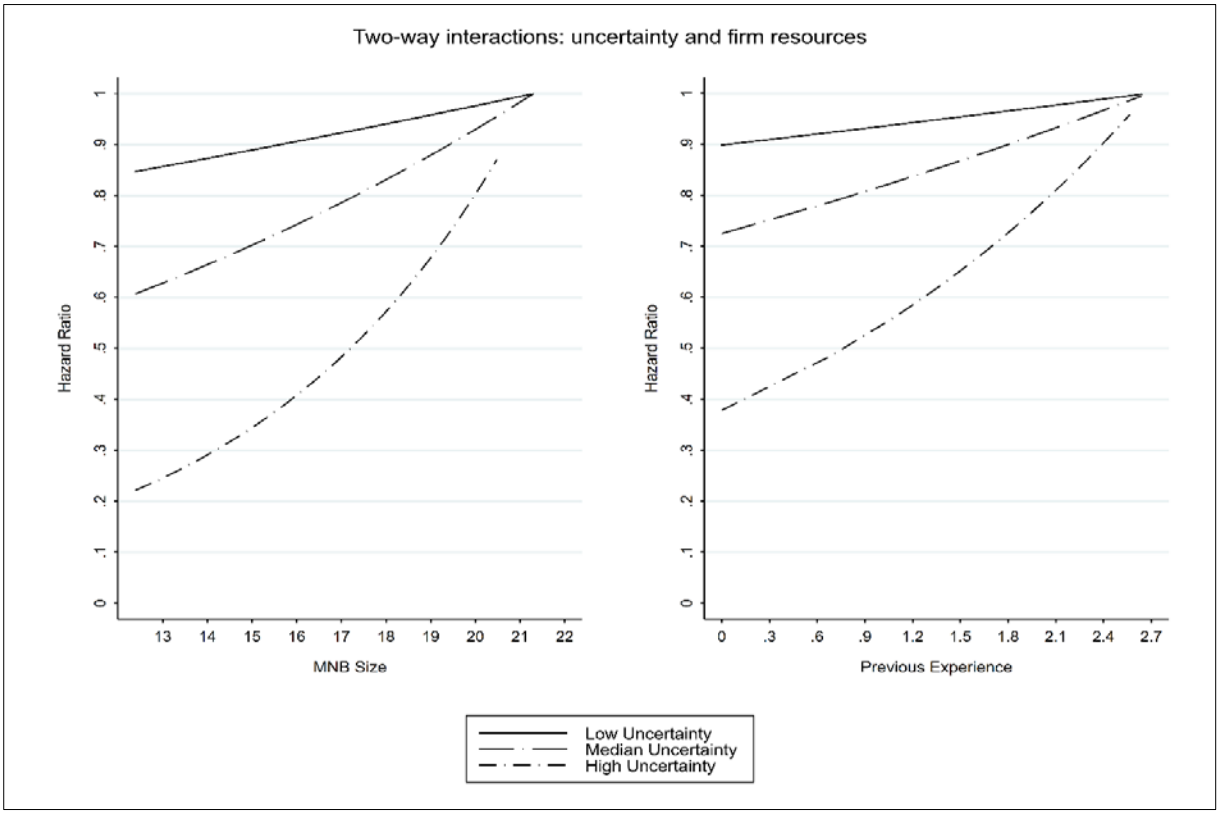
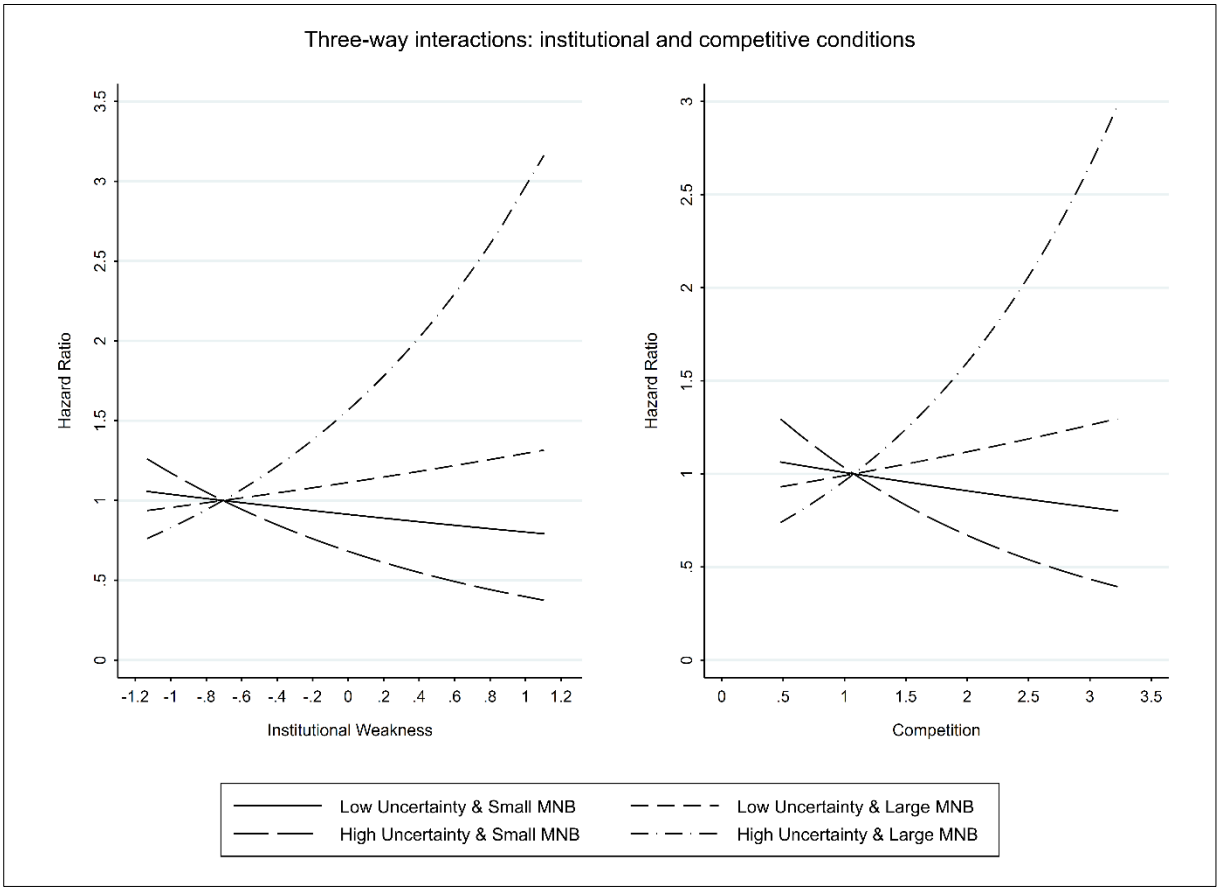


Figure 3: Three-way interactions.



Appendices

Table A1: Results robustness analyses Cox Proportional Hazard Model.

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Uncertainty	-0.118	-0.310***	-2.645***	-0.719***	-3.108**	-0.451*	2.560	-1.678
	(0.082)	(0.083)	(0.868)	(0.210)	(1.453)	(0.243)	(2.575)	(1.083)
Institutional Weakness (IW)	1.021***	-0.784	-0.883	-0.974	7.731***	-0.379	-1.167	-1.153
	(0.192)	(0.741)	(0.737)	(0.745)	(2.118)	(1.139)	(0.749)	(0.790)
Competition (Comp)	-0.435***	-0.575	-0.573	-0.636	-0.257	-0.474	1.927	-1.715**
	(0.147)	(0.638)	(0.658)	(0.656)	(0.656)	(0.651)	(2.816)	(0.867)
MNB Size (Size)	0.139**	0.019	-0.169	-0.019	-0.229	-0.025	0.163	-0.016
	(0.056)	(0.194)	(0.205)	(0.193)	(0.222)	(0.191)	(0.311)	(0.194)
Previous Experience (PE)	1.378***	2.865***	2.886***	2.558***	2.862***	2.693***	2.906***	2.046***
	(0.134)	(0.499)	(0.491)	(0.515)	(0.477)	(0.558)	(0.506)	(0.670)
Profitability	0.331***	0.088	0.084	0.080	0.098	0.081	0.082	0.081
	(0.081)	(0.119)	(0.116)	(0.118)	(0.116)	(0.121)	(0.115)	(0.118)
FDI Stock	0.334	0.424	0.350	0.299	0.316	0.205	0.452*	0.375
	(0.221)	(0.318)	(0.294)	(0.319)	(0.333)	(0.342)	(0.232)	(0.285)
Host Country Size	0.212	2.207**	1.986**	2.149**	2.821**	3.233***	2.329**	2.343**
	(0.208)	(0.916)	(0.926)	(0.910)	(1.320)	(1.236)	(0.982)	(0.953)
Geographic Distance	-1.221***	-2.662***	-2.633***	-2.643***	-2.634***	-2.613***	-2.586***	-2.673***
	(0.138)	(0.304)	(0.302)	(0.293)	(0.309)	(0.281)	(0.304)	(0.302)
Uncertainty*MNB Size (H1)			0.124***		0.157**		-0.186	
			(0.044)		(0.075)		(0.131)	
Uncertainty*PE (H2)				0.274**		0.215		0.525
				(0.111)		(0.144)		(0.512)
Uncertainty*Size*IW (H3a)					0.183*			
					(0.098)			
Uncertainty *PE*IW (H3b)						-0.025		
						(0.216)		
Uncertainty*Size*Comp (H4a)							0.169**	
							(0.073)	
Uncertainty*PE*Comp (H4b)								-0.122
								(0.235)
Uncertainty*IW					-4.061**	-0.535		
					(1.791)	(0.347)		
Uncertainty*Comp							-2.811**	0.521
							(1.431)	(0.512)
MNB Size*IW					-0.425***			
					(0.113)			
PE*IW						0.313		
						(0.362)		
MNB Size*Comp							-0.174	
							(0.149)	
PE*Comp								0.279
								(0.334)
Observations	8114	8114	8114	8114	8114	8114	8114	8114
Number or Entries	180	180	180	180	180	180	180	180
Host Country Dummies	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MNB Dummies	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AIC	1951	1859	1854	1855	1840	1850	1850	1854

Note: *** p<0.01, ** p<0.05, * p<0.1.

Table A2: Results robustness analyses Complementary Log-Log Model.

Variables	Model 1	Model 4	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Uncertainty (24 months)	0.013	-0.198***	-1.974**	-0.700***	-1.897	-0.501*	2.484	-2.471**
	(0.064)	(0.072)	(0.945)	(0.225)	(1.485)	(0.290)	(2.303)	(1.042)
Institutional Weakness (IW)	0.650***	-0.415	-0.433	-0.588	8.949***	-0.666	-0.799	-0.847
	(0.173)	(0.854)	(0.850)	(0.847)	(2.686)	(1.455)	(0.826)	(0.857)
Competition (Comp)	-0.488***	-0.373	-0.405	-0.397	-0.296	-0.386	1.161	-2.482**
	(0.147)	(0.807)	(0.823)	(0.829)	(0.805)	(0.834)	(3.208)	(1.077)
MNB Size (Size)	0.154***	0.027	-0.149	-0.024	-0.188	-0.032	0.141	-0.027
	(0.059)	(0.209)	(0.222)	(0.207)	(0.239)	(0.204)	(0.329)	(0.210)
Previous Experience (PE)	1.254***	3.028***	3.052***	2.605***	3.042***	2.797***	3.092***	1.541**
	(0.167)	(0.562)	(0.550)	(0.576)	(0.534)	(0.651)	(0.568)	(0.752)
Profitability	0.355***	0.093	0.086	0.079	0.106	0.080	0.095	0.081
	(0.070)	(0.117)	(0.114)	(0.116)	(0.113)	(0.118)	(0.115)	(0.117)
FDI Stock	-0.217**	0.526	0.456	0.354	0.476	0.288	0.662**	0.491
	(0.095)	(0.390)	(0.382)	(0.394)	(0.400)	(0.406)	(0.273)	(0.301)
Host Country Size	0.671***	1.936*	1.820*	1.835*	2.132	2.365	2.542**	2.469**
	(0.122)	(1.021)	(1.020)	(1.017)	(1.541)	(1.448)	(1.112)	(1.137)
Geographic Distance	-1.410***	-2.910***	-2.895***	-2.881***	-2.939***	-2.880***	-2.876***	-2.966***
	(0.140)	(0.389)	(0.392)	(0.371)	(0.411)	(0.369)	(0.402)	(0.394)
Uncertainty*MNB Size (H1)			0.095**		0.094		-0.186	
			(0.048)		(0.076)		(0.118)	
Uncertainty*PE (H2)				0.326***		0.247		0.913*
				(0.112)		(0.159)		(0.512)
Uncertainty*Size*IW (H3a)					0.225**			
					(0.104)			
Uncertainty*PE*IW (H3b)						-0.036		
						(0.266)		
Uncertainty*Size*Comp (H4a)							0.156**	
							(0.064)	
Uncertainty*PE*Comp (H4b)								-0.276
								(0.204)
Uncertainty*IW					-4.528**	-0.160		
					(1.951)	(0.491)		
Uncertainty*Comp							-2.461*	0.898**
							(1.258)	(0.422)
MNB Size*IW					-0.490***			
					(0.133)			
PE*IW						0.371		
						(0.483)		
MNB Size*Comp							-0.148	
							(0.168)	
PE*Comp								0.567
								(0.385)
Constant	-3.366**	-12.472	-7.629	-8.464	-9.991	-13.175	-19.522	-10.968
	(1.531)	(10.874)	(11.096)	(10.875)	(15.806)	(14.925)	(13.051)	(11.695)
Observations	7920	7920	7920	7920	7920	7920	7920	7920
Number or Entries	178	178	178	178	178	178	178	178
Year Dummies	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Host Country Dummies	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MNB Dummies	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustered std. errors	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AIC	1421	1266	1263	1259	1252	1258	1251	1248

Note: *** p<0.01, ** p<0.05, * p<0.1.