

The impact of institutional risk and competition on the entry timing decision of MNEs into transition economies.

Case study: the Former Soviet-Union.

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Abstract: In this research I investigate the impact of formal institutional risk, informal institutional risk, the difference in informal institutional risk between the home and host country, and competition, on the entry timing decision of multinational enterprises from 20 Western European countries into the Former Soviet-Union countries in the time period 1996-2013. Results from the hazard regression models show that there is a positive relationship between the level of formal institutional risk and entry timing in transition economies. Secondly, there is a negative relationship between the level of informal institutional risk and entry timing in transition economies. Thirdly, there is a positive relationship regarding the difference between the level of informal institutional risk in the host country and home country, and entry timing. Lastly, no significant results are found for the effect of competition on the entry timing of MNEs in transition economies.

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1. Introduction

March 2016, the President of the United States Barack Obama travels to Cuba to discuss the political and economic relations between the two countries. President Obama is not travelling alone, with him are the CEOs of house rental company Airbnb, print and copy manufacturer Xerox, payment service PayPal, hotel chain Marriot, clothing brand Fubu and restaurant owner Jose Andres. They are not the only companies that are looking for new investment opportunities. Companies from all over the world are interested in doing business in Cuba. The British-Dutch company Unilever and Google already managed to establish a contract with the Cuban government.

For multinational enterprises (MNEs) Cuba is very interesting. A country opening up his borders for international trade after decades of being a centrally planned economy dominated by state-run enterprises offers great opportunities for investment because technology is lacking behind, sales can be expanded or plants can be established to lower production costs. However, it is not only beneficial for the MNEs to invest in Cuba, the Cuban government has good reason to attract these MNEs as well. The Cuban government is hoping to attract 2 billion dollars of foreign investments every year which could stimulate economic growth through knowledge transfer and adoption of new technology (Hansen & Rand, 2006; Van der Marel, 2016).

The process of change from a centrally planned economy to a market economy is associated with changing old institutions and creating new institutions. During this process the country's economy is called a transition economy (EBRD, 1994). Besides Cuba there are many examples of these transition economies in the past. Recently, Iran opened up their borders for international trade and going back further in history, we witnessed a great economic transition in China, Vietnam, Myanmar and the Central and Eastern European countries (CEEC) after the removal of the Berlin Wall on 9 November 1989. Two years later, the Soviet-Union collapsed, and the former Soviet-Union (FSU) countries went into a process of transition. Most of these transition economies have faced severe short-term difficulties and longer-term constraints on development, such as disappointing levels of economic growth, high levels of unemployment, short-term decline or even long-term decline in output levels, high levels of inflation, currency devaluation, high levels of external debt, income inequality and difficulties in attracting foreign direct investment (FDI). These are all severe problems, and policy makers want to overcome them. A step in the right direction is to attract MNEs because FDI can contribute to economic growth, can expand local knowledge of institutional arrangements and practices which stimulates the demand for new market-supporting institutions and increases the speed of transition. Moreover, it can promote technological advancement and accelerate enterprise restructuring (EBRD, 2000). Therefore, it is very important for policy makers of transition economies to implement policies that can attract MNEs, and accelerate the transition from a centrally planned economy to a market economy (Bevin & Estrin, 2004; De Melo et al., 2001; Svejnar, 2002).

There has been much research into the investment decision of firms to internationalize either into already developed countries or into new emerging economies and transition economies. In this field of economics, international economics, there has been research with a focus on a large set of determinants that explain FDI into transition economies (Bevan & Estrin, 2000, 2004; Kenisarin & Andrews-Speed, 2008; Kinoshita & Campos, 2003). Other researchers aimed solely on formal or informal institutions into Central- and Eastern European countries (Ali, Fiess & Macdonald, 2010; Bevan, Estrin & Meyer, 2004; Fischer & Sahay, 2004). Wang (2000) focuses on the effect of informal institutions on FDI in China, and Meyer and Nguyen (2005) in Vietnam. Besides these two areas existing literature explores the transition economies of the former Soviet-Union countries (Fischer & Sahay, 2004; Kenisarin & Andrews-Speed, 2008; Kinoshita & Campos, 2003).

In my research I will also focus on transition economies in the former Soviet-Union countries but my approach is different to the approach of most previous researchers. They have investigated the effect of several determinants on the level of FDI. I will not focus on the level of FDI but on the entry timing decision of firms into the Former Soviet-Union countries, i.e. when firms invest, using survival analysis. This is also different from research about the entry mode of investment, which is how they invest (Meyer, 2001; Rodriguez, Uhlenbruck & Eden, 2005). Moreover, I will focus on a larger time period. The time period consists of 18 years, from 1996 until 2013. Other research have investigated a shorter period. The previous papers I mentioned investigated a time period starting from 5 years up to 12 years. Only Wang (2000) investigates a time period of 16 years, namely the period 1980-1995. Although Isobe, Makino and Montgomery (2000) include entry timing in their model, it is different from my model since they investigate the effect of early entry on performance. In addition, a limitation of this study is that it focuses on a single host country and a single home country.

As Isobe, Makino and Montgomery (2000) show, timing of entry is important in the strategy decision of MNEs. Early entrance can lead to capturing a high market share which can lead to higher profits. However, it also involves more risk and the rate of survival is lower than the market is entered in a later stadium (Isobe, Makino & Montgomery, 2000; Luo, 1998). Theories that explain strategic decision making of the firm, such as the eclectic paradigm (Dunning, 1980) and internationalization theory (Buckley and Casson, 1976), are static and do not directly address the timing of entry. Although more recent studies, such as the study by Rivoli and Salorio (1996), have incorporated timing of entry, it still remains challenging.

However, there are two important papers that have addressed the timing of entry of multinationals. The empirical setting of these two papers have inspired me to take the approach that I have chosen. The first paper is written by Gaba, Pan and Ungson (2002) in which the timing of entry in China of U.S. Fortune 500 firms is investigated over the time period 1979-1995. These investments are from a

single home country to a single host country on a monthly base. I will look at multiple home and host countries on a daily base.

The second paper using survival analysis is a paper written by Karreman, Nacken and Pennings (2012). There are two differences worth mentioning between my paper and this paper: they focus on the entry timing decision of multinational banks where I focus on MNEs, and the investigated countries are the CEE countries. Moreover, they indicate in the conclusion section that a limitation of their study is that informal institutions are not taken into consideration. This is also a limitation in the study by Bevan, Estrin and Meyer (2004). In addition, Meyer and Nguyen (2005) argue that it is necessary to have a clearer division between formal and informal institutions. All these limitations has led me to make this attempt and I will make a division between formal institutional risk and informal institutional risk to show their impact on the entry timing decision of MNEs. Furthermore, I will research the impact of competition on the entry timing decision as well.

Hence, the aim of this research is to investigate the impact of formal institutional risk, informal institutional risk, the difference in informal institutional risk, and competition, on the entry timing decision of multinational enterprises from Western Europe into the FSU countries. This research can give insight into the effect of these factors for other transition economies as well or economies that will be in transition in the future, and the results are therefore applicable more broadly. Based on an institution-based perspective I hypothesize that there is a negative relationship between formal institutional risk, informal institutional risk, the difference in informal institutional risk between the host and home country, and entry timing. This means that if the level of institutional quality increases, risk will decrease, and the hazard of entry by MNEs increases. Furthermore, I expect that competition has a positive impact on the entry timing decision of MNEs. This means that if the level of competition increases, the hazard of entry increases as well. To test my hypothesis I use hazard models on 976 MNEs from 20 Western European countries into the FSU countries covering the period 1996-2013.

Findings were mostly different than hypothesized. Firstly, there is a positive relationship between the level of formal institutional risk and entry timing in transition economies. Secondly, there is a negative relationship between the level of informal institutional risk and entry timing in transition economies. Thirdly, there is a positive relationship regarding the difference between the level of informal institutional risk in the host country and home country, and entry timing. Lastly, no significant results are found for the effect of competition on the entry timing of MNEs in transition economies. There are various ways in which this paper contributes to existing empirical research in international economics. A main contribution is the distinguishment between formal institutional risk and informal institutional risk, measured over a large time period and a large dataset of countries, which has been called for in previous literature. In addition, I added a variable that also took into

account the informal institutional risk level in the home country. It also contributes because it takes into account timing of entry, which is important in the strategy decision of MNEs.

The research has been outlined as follows. In section 2, I will make hypotheses based on existing literature. This is the theoretical framework. In section 3, I will explain my data, methodology and the variables will be described. Section 4 shows my results and they will also be discussed in this section. Finally, section 5 consists of my conclusion, implications, limitations, and ideas for future research.

Chapter 2. Theoretical framework

In this following part I will address theory and empirical research about the impact of institutional risk, and the impact of competition on the entry timing decision of MNEs in transition economies. I have divided institutional risk into formal institutional risk and informal institutional risk.

2.1. Institutional risk

In order to investigate the impact of institutional risk on the investment decision of MNEs in transition economies, I will place the factors in the context of institutional theory. Institutional theory studies how institutions drive change and how they shape the nature of change across levels and contexts as well as how they change themselves in character and potency over time (Dacin, Goodstein, & Scott, 2002). This institutional theory has been expanded over the years into a new theory that is called neoinstitutional theory. This theory seeks to apply economic arguments to account for the existence of organizations and institutions. Important in this theory is the fact that economic activity is not simply a matter of market-mediated transactions but involves other types of institutional structures. Governmental systems and organizations play a very important role in this. One branch of neoinstitutional economics is transaction cost economics which focuses on how rule and governance systems regulate or manage economic exchange both on a macro- and a micro-level (Scott, 2001). One of the ground layers of this neoinstitutional economics is Coase (1937) who states that there are transaction costs involved in each exchange transaction that takes place in the market due to imperfect information. Namely “the costs of negotiating and concluding a separate contract for each transaction that takes place in a market” (p.389). Later transaction costs were divided into three categories: search and information costs, bargaining costs, and policing and enforcement costs (Dahlman, 1979). Williamson expanded the theory of Coase by adding that economic agents are bounded rationally because of high complexity, uncertainty, and behavioral opportunism, which is the possibility of economic actors to lie and cheat. Under such conditions, exchanges are moved from the market and brought within an organizational framework (Williamson 1975, 1985).

Within neoinstitutional economic theory Scott (2001) writes that “institutions impose restrictions by defining legal, moral, and cultural boundaries setting of legitimate from illegitimate activities. But it is

essential to recognize that institutions also support and empower activities and actors. Institutions provide guidelines and resources for acting as well as prohibitions and constraints on actions" (p.50). Furthermore, he divides institutions into three pillars of which I want to highlight two, the regulative pillar and the normative pillar. The regulative pillar consists of establishing rules, monitoring them and if necessary punish actors that break the rules. This can be highly formalized and assigned to the police and courts. The normative pillar consists of social obligations, binding expectations, appropriate behavior, and is morally governed. Both impose constraints on social behavior. A decade before, North (1990) has made a similar division but has named them differently. He states that formal institutions are laws, hierarchical and made to handle more complex disputes. They are written, making them enforceable for people and society. This can be thought of as the regulative pillar of Scott. Informal institutions however, are shaped by traditions and a code of conduct, norms, and values, i.e. the normative pillar of Scott. In the next sections of my paper I will follow North and call the regulative pillar, formal institutions, and the normative pillar, informal institutions.

Associated with institutions and organizations is uncertainty. Moreover, it is a reason why institutions were shaped and plays an important role in economic agents' and firms' strategy decision making (Williamson, 1985). Uncertainty is always the result of imperfect or unknown information and can be distinguished into exogenous uncertainty and endogenous uncertainty (Folta, 1998). Rivoli and Salorio (1996) argue that uncertainty is an exogenous problem and can only be resolved over time. In an institutional framework, it could be that a lack of information results in exogenous uncertainty about an important legislation that is pending. On the other hand, Folta (1998) argues that endogenous uncertainty can be resolved by actually undertaking a project. For instance, trade with local agents to resolve uncertainty about the decision of another agent in keeping the contract. This can be costly but with the gained knowledge, uncertainty is reduced. Closely related to uncertainty is risk, which also affects a firm's decision to invest. If the MNE knows that there is uncertainty involved in his transaction, he assigns a certain probability to the uncertain outcomes to see how much risk there is involved in the transaction. With less uncertainty about the positive outcome, he can assign a higher probability to the positive outcome and a lower probability to the negative outcome of his transaction. This way the risk of a negative outcome decreases (Knight, 2012). The risk of a negative outcome for the MNE is less in more efficient markets which depend both on formal rules and informal rules, the institutional framework of society, because they can reduce uncertainty and lower transaction costs. In addition, the costs of legal, political, administrative systems, and informal institutions determine the international attractiveness of a location which in turn influences corporate strategies (Mudambi and Navarra, 2002; Olivier, 1997; Peng, 2000). How this process works can be best described by combining institutional economics with transaction cost economics which is more often the case in existing literature (Hoskisson et al.,

2000; Meyer, 2001; Roberts and Greenwood, 1997). North and Wallis (1994) even state that institutional change and falling transaction costs have been a significant source of economic growth in the last two centuries and Hardt (2009) states that without institutions making transactions would be impossible.

When combining these two theories I begin by looking at the institutional framework in transition economies. In transition economies the institutional framework is unstable because it is in a process of rapid change. Especially in the beginning of the process, the institutions are very far removed from the institutional framework in a market economy. This unstable framework leads to a market where economic exchanges are inefficient and considerable transaction costs are involved. For instance, there could be enforcement costs as a result of behavioral opportunism, i.e. the other party may cheat, short, or deny agreements. Moreover, transaction costs could be high because western business are dealing with local partners that are inexperienced in dealing with other agents. This results in high negotiation costs. Informal institutions can reduce costs in personal exchanges because in these exchanges you have information, and thus less uncertainty, about the other agent. However, in complex impersonal exchanges that MNEs are dealing with this information is not available, and in the benefit of the MNEs, formal institutions have to be well functioning (Meyer, 2001). In addition, Henisz and Williamson (1999) and Henisz (2000) point out that if property rights are not well protected MNEs have to deal with two more risks when investing in a transition economy. Firstly, the government can nationalize the firm that was invested in and appropriate the returns. Secondly, the government can favor local competitors or partners at the expense of foreign investors. All these costs can impact the investment decision of MNEs.

Hence, in transition economies transaction costs are high because the weak institutional framework leads to uncertainty, which leads to inefficient market exchanges but also to a higher probability of a negative outcome for the MNE, i.e. more risk. This opposes costs on the MNE and affects its investment decision. It is in the benefit of the country in transition to develop this institutional framework rapidly to reduce costs and attract MNEs. Therefore, an institution-based view can be very relevant to examine such strategic decisions of MNEs (Meyer, 2001; Williamson, 2005).

2.2. Formal institutional risk and entry timing

There are several papers that have taken this institution-based view. Bevan, Estrin and Meyer (2004) investigate the impact of institutions on selecting the investment location for FDI from developed market economies to Eastern European transition economies. They find that the quality of several specific formal institutions are very important determinants for FDI inflow: private ownership of

business, banking sector reform, foreign exchange and trade liberalization, and effectiveness of legal reform. Shiells (2003) investigates the investment climate in the Commonwealth of Independent States countries using data collected from IMF country teams' survey responses. The Commonwealth of Independent States (CIS) is a regional organization formed during the falling of the Soviet-Union formed by multiple former Soviet-Union states. Only six former Soviet-Union states are not members of this organization.¹ His findings are consistent with previous research regarding formal institutional quality and FDI: extensive state intervention coupled with weak legal and regulatory frameworks and incomplete structural reforms reduce FDI inflows.

Another research that focuses on this area is a study by Kinoshita and Campos (2003). However, their sample is a combination of the FSU countries and the Central and Eastern European (CEE) countries. In their paper they use quality of bureaucracy, and rule of law as indicators of institutional quality. They show that the higher quality of rule of law and higher quality of bureaucracy results in higher inflows of FDI. These previous papers did not make a division between sectors. Ali, Fliess and Macdonald (2010) do investigate if there is a different impact of institutional quality on the strategic decision of firms in different sectors. Their results show that institutions do not have a significant impact on FDI in the primary sector but that institutional quality matters for FDI in manufacturing, and particularly in services. There is also research that has not find significant results for the effect of institutions on FDI. Asiedu (2002) focused on political risk as a measurement for formal institutional quality and finds no significant result. However, this study focused on Africa. In addition, this paper used a proxy related to government stability for formal institutional quality while other research using this proxy did find significant results (Busse & Hefeker, 2007). Although these papers did not focus on the entry timing decision of firms, they show that institutions impact the strategy decisions of MNEs. The papers that focus on the entry timing decision of multinationals, show this effect as well. Karreman, Nacken and Pennings (2012) show that a lower level of institutional risk results in a higher likelihood of entry by multinational banks while Gaba, Pan and Ungson (2002) have shown this effect for MNEs. Both papers focus on formal institutional risk.

As mentioned, just after the transition has commenced is the institutional framework in transition economies still very close to the framework of a centrally planned economy. At that time, exchanges on the market are inefficient and the weak formal institutional framework cannot reduce these inefficiencies. This opposes costs on the MNE. If I combine this knowledge with the empirical literature, the MNE will postpone his investment until the framework is more developed and

¹ Georgia, Estonia, Latvia, Lithuania, Turkmenistan and Ukraine

uncertainty and risk are reduced. Hence, there is a negative relationship between formal institutional risk and entry timing. Therefore, I hypothesize the following.

Hypothesis 1: There is a negative relationship between the level of formal institutional risk and MNE entry timing in transition economies.

2.3. Informal institutional risk and entry timing

Now, I want focus to on the informal institutions. Informal institutions are shaped by traditions, codes of conduct, norms and values and can range from bureaucratic and legislative norms to clientelism and patrimonialism (Helkme & Levitsky, 2004; North, 1990). North (1990) argues that when formal institutions fail or as Meyer (2001) argues, when they are 'unstable' during transition from a centrally planned economy to a market economy, informal institutions will become more important because actors will rely more on their personal business network. In transactions with actors from their network, they have more information, thus more certainty, and they are less dependent on the institutional framework that has the objective to reduce uncertainty. Peng and Heath (1996) add to this that informal institutions will "play a larger role in regulating economic exchanges in these countries during transition" (p.504). Based upon Williamson's (2005) transaction cost economics theory this would mean that if informal institutions are still close to when the transition country was in a centrally planned economy, it will result in higher costs for MNEs causing them to postpone investment. Meyer and Nguyen (2005) and Meyer et al. (2009) state that besides formal institutions, informal institutions, which are much less transparent, are very important for the entry decision of MNEs as well and their impact on FDI should be investigated. This is what many researchers have been indicating: empirical results on this subject is scarce. Karreman, Nacken and Pennings (2012) even state that this is one of the limitations of their study.

I have tried to find previous empirical research about the impact of informal institutional risk on the entry timing decision of MNEs. In the papers I found corruption indices were used to measure to measure the quality of informal institutions in the CIS countries or FSU countries and they underlined the theory that less informal institutional risk results in higher levels of FDI (Javorcik & Wei, 2000; Kenisarin & Andrews-Speed, 2008; Kudina & Jakubiak, 2012; Shiells, 2003).

These results are in line with the results Wei (2000) found in developed countries. However, Wang (2000) did not find a significant relationship between corruption, measured by the corruption perception index, and FDI into developed and developing countries. This would indicate that corruption does not have impact on the FDI level in the host country but as she indicates herself,

“corruption perceptions reflect foreign investors’ opinion of the effectiveness of the formal legal system, but they do not capture their view of the quality of informal institutions of the host country” (p.530). Furthermore, she adds that data should be gathered from a larger number of countries which is beyond the scope of her research.

From this empirical literature it shows that higher levels of informal institutional risk have a negative effect on FDI in transition economies. Moreover, we know that in transition economies just after the transition has commenced, the institutional framework is still very close to the framework of a centrally planned economy. At that time exchanges on the market are inefficient and the weak formal institutional framework and informal institutional risk cannot reduce these inefficiencies. This opposes costs on the MNE and he will postpone his investment until the framework is more developed, and uncertainty and risk are reduced. Hence, there is a negative relationship between formal institutional risk and entry timing.

Hypothesis 2: There is a negative relationship between the level of informal institutional risk and MNE entry timing in transition economies.

Although empirical research argues a negative relationship between corruption in the host country and the investment decision of MNEs, Meyer and Nguyen (2005) argue that one might expect that informal institutions, such as corruption, might deter foreign entry by MNEs but that this does not have to be the case if MNEs establish an amicable relationship with the local authorities. In this case they can even benefit from it. This argument is investigated by Cuervo-Cazurra (2006). He finds that countries with a higher level of corruption, invest relatively more into countries where there is a higher level of corruption as well. For these investors bribery and corruption are not reason enough to deter them, possibly because for them this is a normal way of doing business and they know how to cope with it. He continues and argues that it could even be that it attracts them because they can have lower costs than other companies from countries where there are lower levels of corruption. Those firms still have to learn how to cope with corruption and this incurs costs. Secondly, the host country has similar institutional conditions to their home country and firms prefer to invest in countries with similar conditions (Johanson & Wiedersheim-Paul, 1975). If I combine these two studies and the knowledge that transition economies have high levels of uncertainty and institutional risk just after the transition has commenced, with the knowledge that in Western Europe these conditions are not similar, MNEs will postpone their investment. Therefore, my third hypothesis is stated as follows.

Hypothesis 3: There is a negative relationship between the difference in the levels of informal institutional risk in the host country and informal risk in the home country, and MNE entry timing in transition economies.

2.4. Competition and entry timing

Besides institutional risk, the strategy of competitors can have an effect on the entry timing decision of a MNE as well. Previous research has shown that over time foreign entry strategies of firms in transition economies change but more interestingly, firms adopt similar entry strategies within a given period of time (Xia, Tan & Tan, 2008). The 'bandwagon-effect' implies that when firms notice that another firm is choosing a new strategy, they feel the pressure to adopt this new strategy as well and this pressure can overpower the disadvantages of investment (Abrahamson & Rosenkopf, 1993). This interorganizational imitation mechanism is especially applicable to firms with a common background such as industry or geographical proximity (Baum et al., 2000; DiMaggio & Powell, 1983; Lee & Pennings, 2002). Furthermore, there could be strategic conditions when a firm feels the urge to speed up his investment in order to preempt existing or potential competitors or because his payoff will be influenced by competitors where a low level of competition can make his entry more profitable (Lieberman & Montgomery, 1998; Wernerfelt & Karnani, 1987).

Moreover, in transition economies the imitative behavior of rivals will be particularly great because of the distinctive nature of the business environment (Karreman, Nacken & Pennings, 2012). Empirical results have indeed showed that entry by competitors accelerates the time of entry by other MNEs (Gaba, Pan & Ungson, 2002).

Taken together the theory, the empirical results, and the fact that in this paper firms have a common background because they are all based in Western Europe, I argue that the strategic investment decision of a firm will be affected by its competitor's behavior. More specifically, entry by competitors will accelerate the entry of a firm into transition economies and therefore increase the likelihood of entry.

Hypothesis 4. There is a positive relationship between the number of entry by competitors and MNE entry timing in transition economies.

Chapter 3. Data, methodology and variables description

3.1. Data

In this study I analyse the entry timing decision of 976 firms from 20 Western European countries into 14 FSU countries in the time period 1996-2013. There are 15 FSU countries but there has not been any investment in Turkmenistan. I used the investment research tool Thomson ONE in order to select my sample of companies. The selection of firms is based on a merger or acquisition of minimum 20 percent by the acquiring company into the target country or host country. This percentage is chosen because a minimum of 20 percent is needed for the acquiring company to have a strategic influence (Karreman, Nacken & Pennings, 2012). I only selected companies from the services and manufacturing sector. Some of the companies that invested are Heineken, Carlsberg, Coca-Cola and Nestle, which are among the largest companies in the world. In total there are 1266 investments in my dataset. In analyzing the hypotheses related to strategic decision making of competitors, I selected companies from over the whole world. The other selection criteria are the same. The main advantage of using the FSU region as the empirical context is that foreign trade played a minor role in the early 1990s. This makes it a somewhat unique empirical setting where many new investment opportunities emerged at the same time (Karreman, Nacken & Pennings, 2012; Meyer & Pind, 1998).

Figure 1. Cumulative number of investments over time.

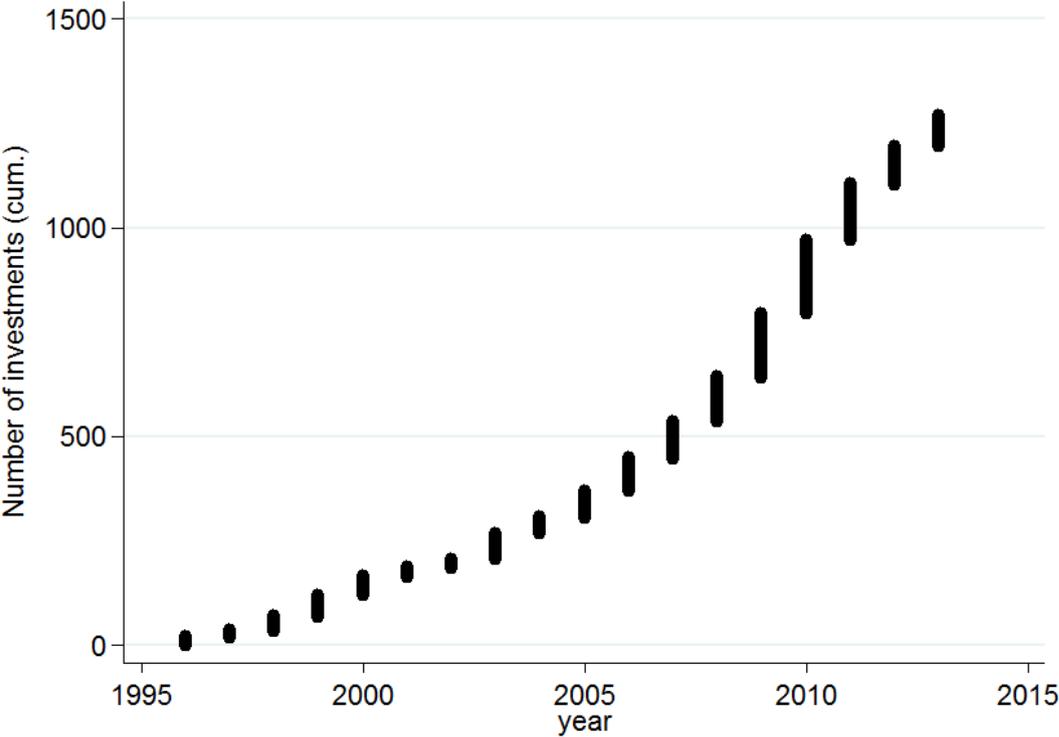


Figure 1 shows the cumulative number of investments that have been made over time into the FSU countries. As you can see the bars in the figure are small in the beginning years up to 2002. The years hereafter we see an increase in investment with 62 investments in 2003, but in 2004 the number of investments decreases again. After 2005, the number of investments keeps increasing until 2010 with a maximum of 175 investments. After 2010 the number of investment is declining again. In total, this leaves us with 1266 investments from 1996 up to and including 2013.

3.2. Methodology

The main objective of this study is to examine which forces in the business environment of a transition economy have an impact on the entry timing decision of MNEs. In situations when the object of observation is the time that elapses before the occurrence of an event, such as the time to market entry, one may think of time-to-event analysis or survival analysis. This type of analysis is very common in biomedical sciences but it can be used in every setting where a first event is followed by a second event in the future. The first point in time is the event that makes a change to the group that is observed. After this event, the group will be observed to find out if and when the critical event (endpoint) occurs. The probability that this critical event occurs is called the hazard rate.

The hazard rate measures the instantaneous probability that the event of interest, which in my case is that investment occurs in the next small interval from t to $t + \Delta t$, with the condition that investment has not been made prior to the beginning of this interval. In this study, the conditional probability that a MNE invests in a transition economy is equal to $\text{Prob}(t < T < t + \Delta t | t \leq T)$. Consequently, to obtain the instantaneous probability of investment at time t this function must be evaluated when $\Delta t \rightarrow 0$. This is defined as

$$h(t) = \lim_{\Delta t \rightarrow 0} \left[\frac{\text{Prob}(t < T < t + \Delta t | t \leq T)}{\Delta t} \right]$$

There are more functions that can be used to give a graphical description of the risk of entry by MNEs but the hazard function is more useful since it is an instantaneous measure at any time point t (Parmar & Machine, 1995).

There are several parametric models which are useful with survival data. One model that is used extensively in the analysis of survival data and in the literature on investment timing is the proportional hazard model proposed by Cox (1972) (Karreman, Nacken & Pennings, 2012; Parmar & Machine, 1995).

In investigating the MNEs' entry timing, we wish to relate the length of time before entry to various country characteristics that the multinational has to coop with. To do this, it is useful to define an

underlying hazard for the ‘average’ multinational, we denote this average hazard by $\lambda_0(t)$. This is also called the baseline hazard function. We can then specify the hazard for a particular multinational, $\lambda(t)$. Now, to get our proportional hazard we can combine these two hazards and we get the so-called relative hazard as

$$h(t) = \frac{\lambda(t)}{\lambda_0(t)}$$

However, the logarithm of the hazard rate is often used. As a consequence it is convenient to write

$$\log [h(t)] = \log\left[\frac{\lambda(t)}{\lambda_0(t)}\right] = \beta$$

The influence of time on the hazard is divided out in the previous equation. As a consequence, the HR is a constant. Now at a given time t , for a particular multinational, we get the hazard, β and from this follows that the hazard rate is

$$HR = \exp(\beta)$$

Then, we can introduce the indicator variable x_i , where i is the subject from our group. This variable helps to describe or model the variation in the relative hazard. Therefore, variation between subjects only results from difference in the underlying values of the covariates.

$$HR = \exp(\beta x_i)$$

The strength of this model is that it allows the hazard rate to be modelled without making any assumption about the baseline hazard and can be left unestimated. Whatever the shape of the baseline hazard is, it is the same for everyone (Cleves et al., 2008).

3.3. Variable descriptions

In this subsection I elaborate on the variables used in my model and how they were constructed. The sign that I expect in my results are indicated in brackets.

Dependent variable

Timing of entry. The dependent variable measure is the duration in days that a Western European country waited before entry into a transition economy. For the entry timing, the duration is the

difference between the actual time of entry (day and year of entry) and the starting point when it was possible to enter a FSU country, i.e. January 1st of 1992.

Independent variables

Formal institutional quality. To measure the level of formal institutional risk I use five structural change indicators retrieved from the European Bank for Reconstruction and Development. Each of these individual indices are reported on a 1–4+ scale with higher numbers indicating that institutions are more reformed and closer to a free market model of mature market economies, meaning a higher quality and thus less risk. These structural change indicators are divided into five subsets of variables: enterprises (competition policy), markets (price liberalization), trade (trade and foreign exchange liberalization), the financial sector (banking sector reform) and privatization (small scale privatization). The EBRD transition indicator score is a good measurement for the quality and speed of the transition of institutional quality and economic reforms and have been used to track reform developments in transition economies since 1989 (EBRD, 2016). Furthermore, I have applied factor analysis to these variables. Factor analysis is a technique that has been used for the first time in psychology but can be applied in economics, medicine, political science and sociology as well. Spearman (1904) showed that if certain relationships exist among the correlations, all the variables can be resolved into linear expressions involving only one general factor and an additional factor unique to each variable (Harman, 1976). In my case, the factor that I use to measure formal institutional risk is the overall score of the five structural change indicators, i.e. the general score of formal institutional risk in a FSU country. I will regress both the general score of formal institutional risk as the five structural change indicators separately. I expect a positive effect of formal institutional quality on the hazard of entry.

Informal institutional quality. I chose the control of corruption index from Worldwide Governance Indicators (WGI) to measure the level of informal institutional risk. Control of Corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5. A higher score indicates a higher quality and thus less risk. The data ranges from 1996 until 2013 with missing values for 1997, 1999, and 2001, for which I made an interpolation. I expect a positive effect of informal institutional quality on the hazard of entry.

Difference in informal institutional quality. For hypothesis 3 I constructed a variable to measure the difference between the home and host country corruption levels. These levels were again retrieved from the database WGI. For the home countries there was the same missing data and an interpolation was made. For this variable I expect that if the difference in quality increases the hazard of entry will be negatively effected because there is more risk involved and this incurs costs on the MNE. In other words, I expect a negative sign.

Competition. Competition is measured by the number of competitors that have entered the FSU countries in the same product sector in the previous year for investment (Gaba, Pan & Ungson, 2002). The conditions of the investment were the same for the competitors. The only difference is that investments from all over the world were taken into account and not only for the Western European countries. The FSU countries were excluded. If the number of entry by competitors increases, I expect the probability of entrance by MNEs to increase as well, and therefore I expect a positive sign.

Control variables

In order to assure that the effects in the hazard models are the results of my explanatory variables, I have included a number of control variables. *Distance* is measured by the log of the distance in kilometers between the nations' capital of the acquiring company and the nations' capital of the target company. For this variable I expect a negative sign. A log variable is also constructed to measure *market size* for which I expect a positive sign. *Market size* is measured by the log of GDP in current US\$ from the World Bank, IMF and Official Statistics Portal Lithuania. *Education* measures the gross enrolment ratio from primary to tertiary education for both sexes of the population in percentages. The data was retrieved from the World Databank. *Experience* is a dummy variable that takes on a value of one if a company has made a previous investment in a FSU country and zero otherwise. For both variables I expect a positive sign. Finally, I introduce an additional dummy variable *Sector* to see if there is a difference in the hazard of entry between the services and manufacturing sector. The dummy variable takes on a value of one if a company invests in the services sector and zero if investment is made in the manufacturing sector.

Table 1 shows the means, standard deviations, and correlations between the independent variables. Variables one until six are measures of the formal institutional risk, as described before in the variables and measures section. As can be seen in table 1, there is very high correlation between multiple variables and this leads to multicollinearity in the model. It should be avoided when possible, but otherwise the consequences of multicollinearity should be minimized. There are

multiple remedies against severe multicollinearity but every remedy has its downside. For instance, when omitting a variable, it is possible to get omitted variable bias or specification bias, so I would purposely be creating bias. However, if multicollinearity in my model causes unacceptably large variances in the coefficient estimates or changes the sign of the coefficient, I will take certain remedies (Studenmund, 2011).

To begin with, there is very high correlation between formal institutional risk and the formal institutional risk variables separately, variables two to six. This is a natural consequence of the factor analysis that I did. Moreover, there is high correlation among the formal institutional variables. To overcome potential multicollinearity problems I estimated separate regression models for each variable first to obtain the individual effects of each covariate. Furthermore, there is high collinearity between the formal institutional variables and the informal institutional risk variable. This is not strange since they are both measuring institutional risk. Again, to overcome potential multicollinearity problems I estimated separate regression models for each variable to obtain the individual effects of each covariate. Hereafter, I will try to include them in the same model but only if the results are stable over the different models they can be interpreted.

Unfortunately, there is more possible problematic correlation in the data. Formal institutional risk is relatively high correlated with different levels of corruption and distance. The same is true for informal institutional risk. Again, different levels of corruption and distance will only be included in the same model if the results are stable when included. Furthermore, there is severe multicollinearity between informal institutional risk with market size. Therefore, I will not include market size or distance in the same model as informal institutional risk when it affects the results.

Lastly, there is high collinearity between distance and market size. I prefer to include both variables because they do not measure the same thing and previous empirical literature has proven they a significant impact on the investment decision of MNEs.

Table 2 and Table 3 show the frequency of investment per country. As can be seen, there are 14 host countries and 20 home countries in the dataset, and a total of 1266 observations.

Table 1. Means, standard deviations, and correlations.

Variables	Means (S.D.)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1) Formal institutional quality	0.14 (0.89)	1.00													
2) Enterprises	2.54 (0.41)	0.74 ⁺	1.00												
3) Financial sector	2.85 (0.51)	0.95 ⁺	0.72 ⁺	1.00											
4) Markets	4.04 (0.24)	0.88 ⁺	0.55 ⁺	0.73 ⁺	1.00										
5) Privatization	4.04 (0.24)	0.82 ⁺	0.56 ⁺	0.69 ⁺	0.77 ⁺	1.00									
6) Trade	3.70 (0.50)	0.86 ⁺	0.56 ⁺	0.76 ⁺	0.74 ⁺	0.65 ⁺	1.00								
7) Informal institutional quality	-0.62 (0.63)	0.76 ⁺	0.65 ⁺	0.78 ⁺	0.57 ⁺	0.58 ⁺	0.63 ⁺	1.00							
8) Difference in informal institutional quality	2.30 (0.62)	-0.56 ⁺	-0.51 ⁺	-0.58 ⁺	-0.42 ⁺	-0.41 ⁺	-0.45 ⁺	-0.56 ⁺	1.00						
9) Competition	1.51 (3.37)	-0.07 ⁺	-0.07 ⁺	-0.05	-0.06 [*]	-0.07 [*]	-0.08 ^{**}	-0.12 ⁺	-0.04	1.00					
10) Market size	7.28 (0.80)	-0.48 ⁺	-0.24 ⁺	-0.51 ⁺	-0.33 ⁺	-0.26 ⁺	-0.51 ⁺	-0.79 ⁺	0.34 ⁺	0.12 ⁺	1.00				
11) Education	26.24 (2.14)	0.47 ⁺	0.69 ⁺	0.43 ⁺	0.35 ⁺	0.50 ⁺	0.28 ⁺	0.44 ⁺	-0.34 ⁺	-0.06 [*]	0.02	1.00			
12) Distance	84.88 (6.69)	-0.53 ⁺	-0.35 ⁺	-0.55 ⁺	-0.45 ⁺	-0.40 ⁺	-0.44 ⁺	-0.69 ⁺	0.15 ⁺	0.09 ^{**}	0.60 ⁺	-0.18 ⁺	1.00		
13) Experience	0.23 (0.42)	-0.02	0.01	-0.01	-0.02	-0.02	-0.01	0.03	0.12 ⁺	0.06 [*]	-0.02	0.02	-0.08 ^{**}	1.00	
14) Sector	1.46 (0.50)	0.13 ⁺	0.10 ⁺	0.11 ⁺	0.14 ⁺	0.11 ⁺	0.11 ⁺	0.10 ⁺	-0.05	0.21 ⁺	-0.04	0.10 ⁺	-0.06 [*]	0.04	1.00

* p < 0.05, ** p < 0.01, + p < 0.001

Table 2. Entry frequency per host country.

Host country	Freq.	Percent	Cum.
Armenia	3	0.24	0.24
Azerbaijan	1	0.08	0.32
Belarus	9	0.71	1.03
Estonia	151	11.93	12.95
Georgia	7	0.55	13.51
Kazakhstan	4	0.32	13.82
Kyrgyzstan	2	0.16	13.98
Latvia	71	5.61	19.59
Lithuania	103	8.14	27.73
Moldova	10	0.79	28.52
Russian Fed	724	57.19	85.70
Ukraine	171	13.51	99.21
Uzbekistan	10	0.79	100.00
Total number of entries	1266	100.00	

Table 3. Entry frequency per home country.

Home country	Freq.	Percent	Cum.
Austria	28	2.21	2.21
Belgium	16	1.26	3.48
Cyprus	419	33.10	36.57
Denmark	39	3.08	39.65
Finland	139	10.98	50.63
France	53	4.19	54.82
Germany	92	7.27	62.09
Greece	5	0.39	62.48
Iceland	13	1.03	63.51
Ireland-Rep	11	0.87	64.38
Italy	18	1.42	65.80
Liechtenstein	2	0.16	65.96
Luxembourg	18	1.42	67.38
Malta	2	0.16	67.54
Netherlands	90	7.11	74.64
Norway	43	3.40	78.04
Spain	19	1.50	79.54
Sweden	118	9.32	88.86
Switzerland	49	3.87	92.73
United Kingdom	92	7.27	100.00
Total number of entries	1266	100.00	

4. Results and discussion

The results of the proportional hazard regressions are reported in Table 4 and Table 5. The reported coefficients represent the log relative hazard (i.e. risk scores) while the exponentiated coefficients are to be interpreted as the change in the hazard when the covariate increases by one unit. Moreover, I use robust standard errors for the parameter estimates as recommended by Cameron and Trivedi (2009) to control for mild violation of underlying assumptions. I also want to note that since I am dealing with panel data, my results will give the ‘average effect’ over timepoints that are observed in the dataset (Allison, 1995).

Table 4. Results survival analysis MNE entry: formal institutional risk and informal institutional risk separately.

Variables	Model 1a	Model 1b	Model 1c	Model 1d	Model 1e	Model 1f	Model 2
Formal institutional quality	-0.222*** (0.061)						
Enterprises		-1.791*** (0.152)					
Financial sector			-0.697*** (0.135)				
Markets				0.086 (0.170)			
Trade					-0.753*** (0.109)		
Privatization						0.531*** (0.156)	
Informal institutional quality							1.412*** (0.118)
Difference in informal institutional quality	0.408*** (0.070)	0.128 (0.081)	0.357*** (0.075)	0.533*** (0.067)	0.342*** (0.064)	0.586*** (0.070)	0.618*** (0.074)
Competition	-0.008 (0.009)	-0.012 (0.008)	-0.007 (0.009)	-0.004 (0.009)	-0.011 (0.009)	-0.003 (0.009)	-0.010 (0.008)
Distance	-0.159* (0.081)	-0.461*** (0.074)	-0.244*** (0.090)	-0.092 (0.074)	-0.151* (0.081)	-0.078 (0.074)	0.044 (0.094)
Market Size	-0.428*** (0.024)	-0.434*** (0.027)	-0.444*** (0.026)	-0.415*** (0.025)	-0.453*** (0.025)	-0.414*** (0.026)	
Education	-0.028*** (0.005)	0.012 (0.008)	-0.025*** (0.005)	-0.037*** (0.005)	-0.032*** (0.006)	-0.043*** (0.005)	-0.097*** (0.006)
Experience	-0.100 (0.083)	-0.142 (0.092)	-0.091 (0.083)	-0.051 (0.076)	-0.133 (0.096)	-0.025 (0.077)	-0.058 (0.078)
Sector	0.058 (0.071)	0.044 (0.074)	0.029 (0.073)	0.022 (0.071)	0.136* (0.070)	0.006 (0.072)	0.059 (0.068)
Log Likelihood	-7393.75	-7280.07	-7385.16	-7407.91	-7329.93	-7399.11	-7474.02
No. of failures	1266	1266	1266	1266	1266	1266	1266
No. of observations	1266	1266	1266	1266	1266	1266	1266

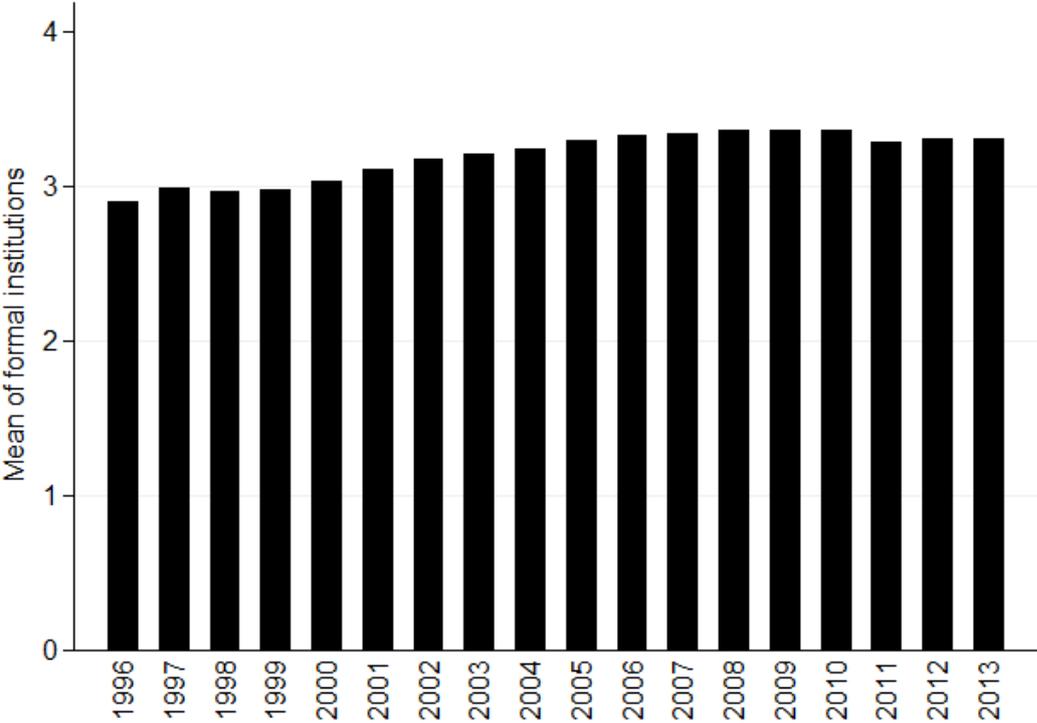
Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Model 1 presents the results to test my first hypothesis. This hypothesis suggests that there is a negative relationship between formal institutional risk and the hazard of entry in transition economies. As mentioned before in my variables description, I have applied factor analysis on the five institutional risk variables to resolve them into one general factor, formal institutional risk. Besides formal institutional risk, I will regress each institutional risk variable as well in different models. Therefore, Model 1 consists of six submodels.

Regression results in model 1a show a negative significant coefficient for formal institutional risk ($\beta = -0.222$, $P < 0.01$). This means that if formal institutional quality increases by one standard deviation, which means lower risk, the effect on hazard of bank entry equals $-0.222 * 0.89 = -0.198$, implying that the probability of entry by MNE decreases by 17.9 percent (i. e. $e^{-0.198}$). In other words, the hazard (probability) of entry by MNEs is lower in economies with an institutional framework that is closer to a market economy, i.e. more developed. This is not in line with my hypothesis. If I look at the models with enterprises, financial sector, or trade as a measurement for formal institutional risk, I find highly significant negative coefficients as well. For markets I find no significant results. Only privatization has a positive significant impact on the probability that a MNE enters a transition economy. This is in line with my hypothesis. Since formal institutional quality is a combination of these five covariates, it is not surprising that the coefficient of the general factor formal institutional quality is negative.

In Figure 2 it is shown that there is a small improvement in the overall quality of the formal institutional framework over time, i.e. the framework is more developed towards a market economy where there is less uncertainty and risk. Following the results, MNEs will not use a wait-and-see approach, and invest rapidly after the transition has commenced. However, it is remarkable and not in line with neoinstitutional theory, transaction cost theory or findings in previous empirical research.

Figure 2. Mean of five formal institution variables EBRD over time.



The first explanation could be that the MNEs investing in regions with high levels of risk, such as a transition economy, are risk-seeking or have the possibility to take risks, which can make them more successful (March & Shapira, 1987; Peng, 2001). Especially when the transition has just commenced, there is a high degree of risk involved in the strategic investment decision of MNEs. Therefore, the negative coefficient of formal institutional risk could be a result of the risk attitudes or the risk-taking possibility of the investing MNEs. If over time the level of formal institutional risk has been reduced, these risk-seeking MNEs will be less attracted to invest in the FSU countries and the advantage of having the possibility to take risks vanishes. Hence, a negative sign and MNEs will not postpone investment but invest rapidly after the transition has commenced, when the quality of formal institutional is low and the risk is high. Firms with the strongest competitive advantages are most likely to earn the highest profits and therefore willing to take the risk of being an early entrant (Ursacki & Vertinsky, 1992). Often, firms that can capture first-mover advantages are larger firms with more resources or that have a broader scope of products and services (Gaba, Pan & Ungson, 2002; Kalyanaram, Robinson & Urban, 1995; Luo & Peng, 1998). It could be that more risk-neutral firms or firms that do not have the possibility to take high risks, such as small sized firms or with a narrow scope of products and services, apply a more wait-and-see approach until the formal institutional framework is more stable.

A second explanation could be in the small variation of the covariates. All the covariates have in common that the variation is small over the years. A consequence of small variation or ‘near-zero

variance' is that it can have an unjust effect on the model (Kuhn, 2008). This could be the explanation that we do not find results in line with my first hypothesis.

In Model 2 the results to test my second hypothesis are shown. This hypothesis proposes that there is a positive relationship between level of informal institutional risk and the hazard of entry in transition economies. Market size has been left out of the model because including both market size and distance affected the results problematically. Market size even affected the model when included alone, as can be seen in Table 6 in appendix A. In addition, I calculated the Variance Inflation Factor (VIF) of the model with and without market size. In the first model, the VIF was higher, meaning more severe effects of collinearity. This is shown in Table 7 of appendix A.

The coefficient is positive and highly significant ($\beta=1.412$), $p<0.01$). This means that if informal institutional quality increases, and thus the level of informal institutional risk decreases, that the hazard of entry increases. In this case, an increase of one-standard deviation has an effect on the hazard of bank entry equal to $1.412*0.63 = 0.890$, implying that the probability of entry by a MNE increases by 143 percent (i.e. $e^{0.890}$). This effect is very strong and perhaps seems too strong. However, this is most likely not the case. During the time period 1996-2013, the variation in the control of corruption has been small throughout the FSU countries and an increase in the level of control of corruption by one-standard deviation (0.63) takes a lot of time as can be seen in Figure 3. The result is in line with my hypothesis.

Figure 3. Mean of control of corruption index host country over time.

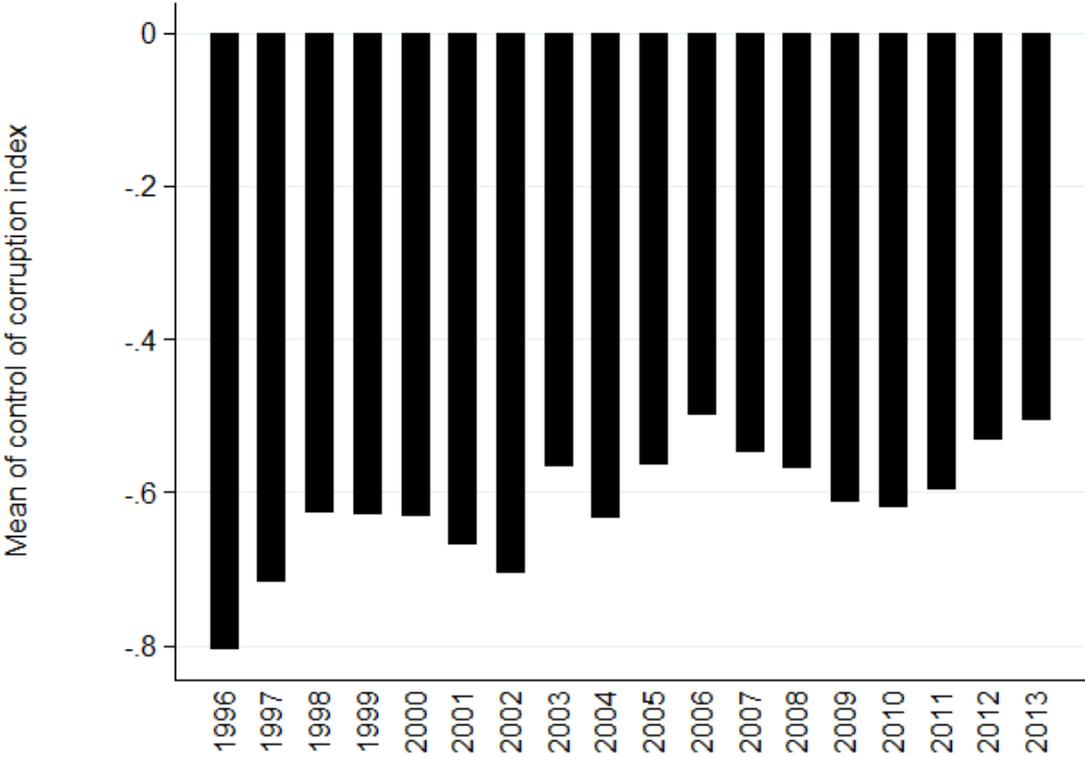


Figure 2 showed that there is an improvement in the overall quality of the formal institutional framework in the time period 1996-2013, i.e. formal institutional risk decreases over time. Figure 3 shows that this improvement is also visible for the informal institutional framework. Noticeable is that the framework is unstable. Following the results, MNEs invest when informal institutional risk has decreased and stabilized. Therefore, MNEs will postpone their investment.

Table 5. Results survival analysis MNE entry: formal institutional risk and informal institutional risk.

Variables	Model 3a	Model 3b	Model 3c	Model 3d	Model 3e	Model 3f
Formal institutional quality	-0.274*** (0.085)					
Enterprises		-2.914*** (0.215)				
Financial sector			-1.060*** (0.169)			
Markets				0.110 (0.252)		
Trade					-0.767*** (0.139)	
Privatization						0.536*** (0.183)
Informal institutional quality	1.560*** (0.147)	2.412*** (0.167)	1.857*** (0.163)	1.403*** (0.123)	1.598*** (0.158)	1.389*** (0.116)
Difference in informal institutional quality	0.530*** (0.073)	0.373*** (0.094)	0.498*** (0.079)	0.626*** (0.074)	0.485*** (0.071)	0.667*** (0.075)
Competition	-0.013 (0.009)	-0.017** (0.008)	-0.013 (0.010)	-0.009 (0.009)	-0.014 (0.009)	-0.008 (0.009)
Distance	0.040 (0.100)	-0.065 (0.093)	0.010 (0.107)	0.044 (0.093)	0.065 (0.108)	0.045 (0.092)
Education	-0.089*** (0.006)	-0.030*** (0.008)	-0.092*** (0.006)	-0.098*** (0.006)	-0.095*** (0.008)	-0.104*** (0.006)
Experience	-0.125 (0.087)	-0.268*** (0.101)	-0.143 (0.088)	-0.051 (0.077)	-0.151 (0.100)	-0.021 (0.076)
Sector	0.090 (0.069)	0.057 (0.078)	0.072 (0.072)	0.055 (0.068)	0.130* (0.068)	0.038 (0.069)
Log Likelihood	-7456.41	-7230.60	-7433.86	-7473.79	-7409.73	-7465.18
No. of failures	1266	1266	1266	1266	1266	1266
No. of Observations	1266	1266	1266	1266	1266	1266

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

In Table 5 I have included both the formal institutional variables and informal institutional variables. Again, market size is not included in the same model as informal institutional risk. Although there is multicollinearity, the results are stable and the regression results can be interpreted. As a consequence of omitting market size, the log likelihoods of all models, except model 3b where enterprises is included, have decreased.

The third hypothesis states that when the level of informal institutional risk between the host country and the home country is different, the probability to invest by a MNE from a home country in the dataset decreases, a negative coefficient would confirm this hypothesis. However, we find a positive coefficient which is highly significant in every model ($p < 0.01$). I was hoping to find that the most corrupted countries from Western European countries invest in transition economies where the level of corruption, informal institutional risk, is high. This is not what I find here. In contrary, I find that if the difference between the levels of informal institutional risk in the host country and the host country increases, the probability of MNE investment will be higher. These outcomes show that MNEs invest when the difference in the risk levels is large.

Figure 4. Mean of control of corruption index home countries over time.

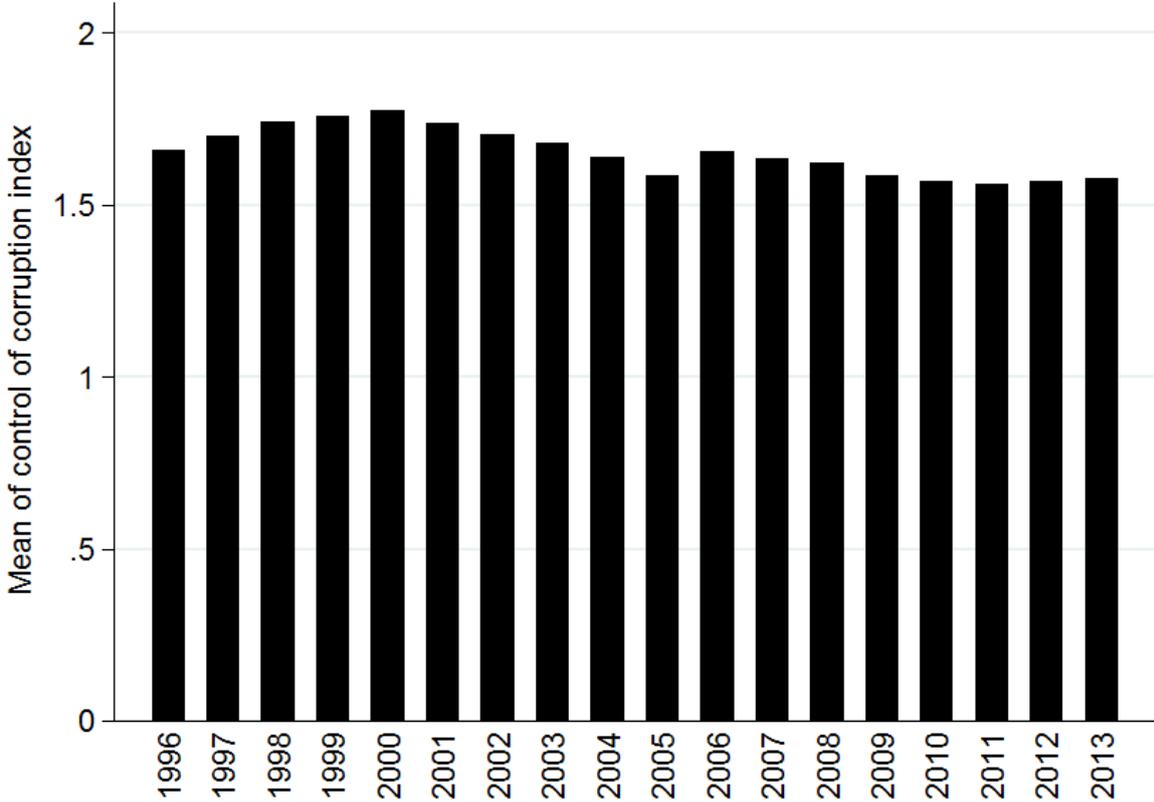


Figure 3 showed that the average level of informal institutional risk is decreasing in the FSU countries. Figure 4 shows that the quality of the informal institutional framework is slightly decreasing in the Western European countries over the time period. This means that if this trend continues, the longer MNEs wait with their investment, the smaller the difference in the levels of informal institutional risk. The outcomes in Table 4 and Table 5 have shown that when this difference

is large, they are more likely to invest. Therefore, MNEs do not wait to enter the transition economy and invest in the early years of transition.

It seems that in transition economies it is not true that MNEs invest in host countries with similar conditions. However, this is not what Cuervo-Cazurra (2006) finds in his empirical research, and not in line with the theory of Johanson and Wiedersheim-Paul (1975). Cuervo-Cazurra (2006) compared FDI into countries where corruption is prevalent from countries that have signed the Organization for Economic Cooperation and Development (OECD) Convention on Combating Bribery of Foreign Public Officials in International Business Transactions relative to countries that have not signed this Convention. His results show that when the difference between the levels of informal institutional risk increases, there will be relatively less FDI.

From Table 2 I know that 1/3rd of the investments into the FSU countries comes from MNEs in Cyprus. An explanation for this large amount of investments is that they come from investment funds or Russian companies that have registered in Cyprus because of the country's favourable legislative and regulatory framework (Pelto, Vahtra & Liuhto, 2004). Remarkable is that Cyprus is the only member in the dataset that has not signed this OECD agreement and there are no laws against bribery abroad (OECD, 2016). Since Cyprus has a very large impact on my results, it could be that we find a positive coefficient, which means that MNEs from Cyprus are even benefitting from higher corruption levels in the FSU countries, because those firms have more money than local competitors and can offer bribes to government officials or officials of public international organizations. This way they obtain benefits to which they would not have access otherwise, such as a contract without competition, while they cannot be punished for it in their home country or by other OECD members (Cuervo-Cazurra, 2006). Baughn et al. (2010) show that the propensity to provide bribes was indeed the lowest in countries that signed the convention. However, removing Cyprus from the dataset, as can be seen in Table 8 in appendix B, does not change the sign for the difference in informal institutional risk. It does reduce the magnitude of the coefficient. Therefore, looking at the data I cannot find an explanation for the unexpected sign and more research is needed.

My fourth hypothesis states that if competition in the host country increases, MNEs are more inclined to invest. Therefore, a positive relationship between competition and the hazard of entry would confirm the hypothesis. Results show that the coefficient of competition is negative and not significant ($p > 0.10$). This would mean that competition does not impact the entry timing decision of MNEs. One of the arguments to expect a positive impact of competition on the entry timing decision of MNEs is that entry, when the level of competition is low, can be more profitable (Lieberman & Montgomery, 1998; Wernerfelt & Karnani, 1987). However, in my dataset the level of competition is

low throughout the whole time period, and profits are not affected much when they invest now or postpone their entry. This argument is strengthened by looking at the papers by Karreman et al. (2012) and Gaba et al. (2002). In their papers the levels of competition are higher, showed by their means.

Surprisingly, I find a negative impact of competition in model 3b. This model gives me more surprising results since it is the only model where experience is significant at the 5-percent level where there are no significant results in all the other models. It would indicate that more competition has a negative impact on the entry timing of other MNEs. An explanation could be that, in contrary to my hypothesis, because of a first-mover advantage, late entrants will incur additional costs, leading to lower profits. This is also what Luo and Peng (1998) find in their research. However, taken as a whole the results in Table 4 and 5 provide evidence there is no significant effect for competition. In contrary, the previous outcomes show that institutional risk is an important factor in the external environment of a transition economy that MNE take into account when deciding on the optimal time to enter.

Moreover, it is interesting to look at the control variables. Again, I will compare the models from Table 4 with the models from Table 5, and interpret the coefficients from the model with the lowest log likelihood score (Hamilton, 1994). Therefore, I will look at the models 1 except for model 1b. In most models I find that distance has a negative impact on the hazard of entry although it is not significant in every model. The negative coefficient indicates that the larger the geographical distance between the acquiring company and the target company, the less inclined MNEs are to invest in the host country. This is in line with the theory that firms will expand into countries that are physically near (Bevan & Estrin, 2004; Kinoshita & Campos, 2003). Furthermore, market size has a strong negative impact on the entry timing decision of MNEs. The larger the size of the market in terms of economic output as measured by the value of gross domestic product (GDP) in a host country, the less incentive for MNEs to accelerate the speed of entry. This is not as I expected but there is an explanation for this effect. A large domestic market size might be important if FDI is aimed to serve a domestic consumer market. However, it could be that the investing MNEs are export-oriented and selling their product in other countries outside the FSU and only use these countries for their cheap labour costs (Kinoshita & Campos, 2003). A negative coefficient is observed for the level of education as well. The coefficient is very small, indicating that there has to be an immense change in the level of education to have an impact on the strategy decision of MNEs to invest. This is not likely to happen and it can be stated that education did not have a large impact on the hazard of entry throughout the time period. A possible explanation is that in the manufacturing sector there is more demand for low-skilled labour because they are cheaper. Previous empirical papers show indeed that

lower wages or lower unit labour costs lead to higher levels of FDI (Holland & Pain, 1998; Shiells, 2003; Bevan & Estrin, 2000). Moreover, in the services sector there are many services that are knowledge intensive business services. MNEs from Western Europe possess this knowledge, whereas local competitors from the host country do not. MNEs can offer superior levels of services which gives them a competitive advantage. This is also what Hooley et al. (2003) show in their paper. Therefore, the lower level of education in the FSU country, increases the probability that a MNE will enter. I find an insignificant impact of the variable experience. This is unexpected but could be the result of very low levels of experience in my dataset. Almost thousand firms did not have experience in another FSU country when investing. Therefore, there is very little variation and unexpected, but not surprising, no significant effect of experience on a MNEs entry timing. Sector was included to see if there is a difference in the hazard of entry between the services and manufacturing sector. The variable is not significant, except for model 1e but only at the 10 percent level. Taking all models into account, this shows that whether a MNE invests in the manufacturing or services sector does not impact entry timing.

Finally, there are still unexpected results left unexplained. Therefore, I will look at the model and methodology to see if I can find an explanation. A first explanation could be that multicollinearity in the models causes the unexpected results. A consequence of multicollinearity in a model is that estimates will become very sensitive to changes in specification. Adding a new variable could therefore cause major changes in the value of estimated coefficients and different results. This is what I observe in some cases when I regress models with and without the variables where there was high multicollinearity. For instance, when removing distance and market size from the model with financial sector (model 6c), the coefficient becomes positive and significant. This is in line with my hypothesis. When removing formal institutional risk, informal institutional risk, market size, and distance from the model with different level of corruption (model 6f), results show a negative coefficient for different corruption level which is also in line with my hypothesis. Moreover, competition becomes more significant. For these regressions see Table 9 in appendix C. In this table the variables with correlation higher or equal to 0.50 are left out of the model, based on Pierce et al. (1998). However, one might wonder if these models are better than the models in Table 4 and Table 5 where more variables were included, because previous empirical research has shown that institutional risk, distance, and market size have a significant impact on the level of FDI inflow, and omitting them would create omitted variable bias (Cuervo-Cazurra, 2006).

A second explanation is that there are no censored observations included in the model. Newell and Hyun (2011) find that exclusion of censored data affects survival probabilities and therefore, it is better to include them. Without exclusion the functions will be more biased from the survival

function and has a higher standard error. This means that the probabilities that I have in my regression models do not as accurately represent the true hazard rates as they could have. This is called a measurement error and as a consequence, my results are less reliable. The increase in the standard error and variance can lead to an unexpected sign because the distribution of the estimator is wider, increasing the probability that a particular observed estimator will be on the other side of zero from the true coefficient. It also results in smaller significant levels and the conclusion that an observed variable significantly impacts the entry timing decision of a MNE could be wrong. The results in this paper should therefore be interpreted with caution (Studenmund, 2011).

5. Conclusion, implications, limitations and further research

The objective of this study is to examine the impact of formal institutional risk, informal institutional risk, the difference in informal institutional risk between the host and home country, and competition, on the entry timing decisions of multinational enterprises into transition economies. Analysis of the results mostly shows different results than hypothesized. Firstly, there is a positive relationship between the level of formal institutional risk and entry timing in transition economies. Secondly, there is a negative relationship between the level of informal institutional risk and entry timing in transition economies. Thirdly, there is a positive relationship regarding the difference between the level of informal institutional risk in the host country and home country, and entry timing. Lastly, no significant results are found for the effect of competition on the entry timing of MNEs in transition economies.

There are various ways in which this paper contributes to existing empirical research in international economics. A main contribution is the distinguishment between formal institutional risk and informal institutional risk which is measured over a large time period and a large dataset of countries. In addition, I added a variable not only taking into account the informal institutional risk level in the host country but also in the level in the home country. Moreover, where some results deviate from previous empirical literature, I shed a different light on these results with new theories and perspectives on entry strategies of MNEs. It also contributes because it takes into account timing of entry, which is important in the strategy decision of MNEs.

The results yield important implications for governments and policy makers in transition economies. Policy makers should try to attract MNEs as soon as possible when the transition to a market economy has commenced and formal institutional risk is high because host countries can learn from MNEs, such as adopting new technologies, and developing the institutional framework. This will accelerate the speed of the transition. Governments need to focus on decreasing informal institutional risk, i.e. decreasing corruption, which will be a challenge, considering that corruption in

transition economies has been high for years. This is very important since informal institutions become more important if the formal institutional framework is unstable.

This study also suffers from several limitations. First, censored observations are not included in the model. As a consequence, results could be biased. A second limitation is multicollinearity in my model. Therefore, I could not include all the variables that I wanted to include. The multicollinearity in the model is noticeable since the model is very sensitive to changes to in specification, which is one of the consequences of multicollinearity. It was not possible for me to account for all of these multicollinearities because omitting them would cause omitted variable bias. Third, most of the variables are on country level. I would have liked to include firm level variables as well, such as firm size, firm age or scope of products and services. Unfortunately, this was not possible due to data unavailability. Fourth, when constructing the experience variable I did not take into account if MNEs invested in other transition economies outside the FSU countries. However, it is reasonable to assume the large MNEs, such as Heineken, Carlsberg, Coca-Cola, and Nestle, can use their experience from other transition economies in the FSU countries as well. Moreover, I did not include variables for initial positive conditions in a host country, such as labor costs or natural resources in my model although empirical research has shown that this is an important determinant in attracting MNEs. Unfortunately, data was not available. Data was also not available for the years just after the transition has commenced, 1992-1995. Furthermore, results about MNEs' timing of entry cannot give us information about the survival rate or performance. Therefore, I do not know what would be the optimum time to invest for MNEs and managerial implications could not be given. Finally, this study focuses on the entire FSU but this cannot give us information about the countries individually.

These limitations can be addressed in future empirical research. For instance, including parent asset size, scope of products and services, or firm profits could be included to show that the MNEs investing are indeed companies that are risk-seeking or able to take risks, which gives them a competitive advantages over other companies. Therefore, it would also be contributinal to take a resource-based view to investigate the interaction between firm resources and institutions. Moreover, further research is needed into the effect of the difference in informal institutional quality between the host country and the home country on entry timing of MNEs. At last, I would advise future researchers to focus on a smaller amount of companies or countries for which more firm level data is available because this will contribute to the quality of the research.

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Appendices

Appendix A

Table 6. Regressions informal institutional risk with and without market size and distance.

Variables	Model 4a	Model 4b	Model 4c	Model 4d
Informal institutional quality	0.953*** (0.077)	1.412*** (0.118)	0.191 (0.155)	0.067 (0.182)
Difference in informal institutional quality		0.618*** (0.074)	0.564*** (0.073)	0.538*** (0.077)
Competition	-0.020*** (0.008)	-0.010 (0.008)	-0.005 (0.009)	-0.005 (0.009)
Distance		0.044 (0.094)		-0.078 (0.086)
Market size			-0.394*** (0.039)	-0.405*** (0.039)
Education	-0.097*** (0.005)	-0.097*** (0.006)	-0.040*** (0.007)	-0.038*** (0.008)
Experience	0.025 (0.077)	-0.058 (0.078)	-0.057 (0.079)	-0.058 (0.079)
Sector	0.087 (0.069)	0.059 (0.068)	0.029 (0.070)	0.027 (0.070)
Log likelihood	-7524.89	-7474.02	-7408.94	-7408.00
No of. failures	1266	1266	1266	1266
No of. observations	1266	1266	1266	1266

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 7. Variance Inflation Factor with and without market size.

Variables	VIF	1/VIF	VIF	1/VIF
Informal institutional quality	9.71	0.103	3.78	0.264
Difference in informal institutional quality	1.88	0.533	1.82	0.549
Competition	1.10	0.906	1.10	0.907
Distance	2.39	0.419	2.37	0.422
Market Size	5.01	0.199		
Education	2.34	0.428	1.30	0.768
Experience	1.04	0.961	1.04	0.961
Sector	1.07	0.933	1.07	0.934
Mean VIF	3.07		1.78	

Appendix B

Table 8. Results survival analysis without Cyprus.

Variables	Model 5a	Model 5b	Model 5c	Model 5d	Model 5e	Model 5f
Formal institutional quality	-0.163*** (0.059)					
Enterprises		-2.727*** (0.171)				
Financial sector			-0.799*** (0.129)			
Markets				0.163 (0.162)		
Trade					-0.478*** (0.105)	
Privatization						0.610*** (0.155)
Informal institutional quality		2.090*** (0.172)				
Difference in informal institutional quality	0.332*** (0.087)	0.205** (0.099)	0.184** (0.089)	0.450*** (0.084)	0.326*** (0.080)	0.501*** (0.086)
Competition	-0.059** (0.024)	-0.065** (0.025)	-0.062** (0.025)	-0.050** (0.021)	-0.060** (0.025)	-0.046** (0.021)
Distance	-0.128* (0.067)	-0.104 (0.080)	-0.242*** (0.078)	-0.080 (0.061)	-0.116* (0.065)	-0.072 (0.061)
Market size	-0.397*** (0.023)		-0.409*** (0.024)	-0.398*** (0.025)	-0.420*** (0.023)	-0.406*** (0.026)
Education	-0.032*** (0.006)	-0.024** (0.009)	-0.027*** (0.007)	-0.041*** (0.006)	-0.034*** (0.007)	-0.051*** (0.007)
Experience	-0.017 (0.093)	-0.222** (0.105)	-0.030 (0.097)	0.035 (0.088)	-0.035 (0.100)	0.079 (0.088)
Sector	0.098 (0.080)	0.134 (0.082)	0.099 (0.084)	0.050 (0.080)	0.142* (0.079)	0.020 (0.082)
Log likelihood	-4643.46	-4543.78	-4621.27	-4649.92	-4626.18	-4639.13
No. of failures	847	847	847	847	847	847
No. of observations	847	847	847	847	847	847

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Appendix C

Table 9. Regression without correlation between variables ≥ 0.50 .

Variables	Model 6a	Model 6b	Model 6c	Model 6d	Model 6e	Model 6f
Formal institutional quality	-0.288*** (0.048)					
Enterprises		-1.757*** (0.112)				
Financial sector			0.811*** (0.117)			
Trade				-0.600*** (0.110)		
Privatization					0.108 (0.143)	
Difference in informal institutional quality			0.141** (0.059)	-0.064 (0.060)	0.702*** (0.069)	-0.104** (0.051)
Competition	-0.016* (0.008)	-0.017** (0.008)	-0.022*** (0.006)	-0.024*** (0.007)	0.009 (0.007)	-0.028*** (0.006)
Distance		-0.461*** (0.075)		-0.689*** (0.080)	0.018 (0.068)	
Market size	-0.409*** (0.023)	-0.410*** (0.025)			-0.468*** (0.024)	
Education	-0.032*** (0.005)		-0.070*** (0.005)	-0.074*** (0.006)		-0.064*** (0.005)
Experience	-0.035 (0.082)	-0.124 (0.091)	0.073 (0.067)	-0.063 (0.080)	-0.046 (0.077)	0.078 (0.068)
Sector	0.085 (0.072)	0.063 (0.074)	0.107* (0.057)	0.133** (0.062)	-0.070 (0.073)	0.132** (0.057)
Log likelihood	-7425.95	-7285.52	-7657.21	-7548.84	-7441.64	-7690.06
No. of failures	1266	1266	1266	1266	1266	1266
No. of observations	1266	1266	1266	1266	1266	1266

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.