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Institutions, size and age in transition economies: Implications for export growth

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Abstract
We consider the influence of economic institutions on firm performance by examining how size and age are related to export growth under different levels of free-market institutional development. Using a multi-country sample of Central and Eastern European firms, we test our predictions that size and age will have a positive diminishing relationship with export growth in transitional economies, but a U-shaped relationship in less advanced transitional economies. We find significant relationships largely in line with our predictions, demonstrating the importance of considering both economic institutions and firm characteristics when examining export growth.
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INTRODUCTION

Institutions matter. This proposition is widely accepted (North, 1990). Yet Williamson (2000: 595) states: "We are still very ignorant about institutions." To gain understanding of institutional effects, our analysis considers firm-level export growth in the institutional environments of Central and Eastern European (CEE) countries that are transitioning from controlled economies to free-market economies. To explore the possible influence of institutions, we examine the effects of firm size and age on export growth in this transition economy environment. While the relationship between firm size and export behavior is a widely studied relationship (see Calof, 1994), in the vast majority of this research regarding export behavior, organizational size is correlated with the level of exports, age is used as a control variable, and the context is developed economies of the Western world (e.g., Calof, 1994; Reuber & Fischer, 1997). In contrast, our work examines the effects of size and age on export growth in conjunction with societal context (Cheng, 1994). This is important, because institutions do not yet reflect free-market behavior in these economies, thus resulting in different institution–firm relationships than expected in developed economies.

To consider size and age in transitional economies, we examine the situation when the firm–institution pairing has not broken free from the socialist governance of the relations of production and output markets.[1] We utilize economic institutional theory (North, 1990) as a framework for our theory development and analysis. We argue that size and age indicate different firm characteristics that

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receive institutional preferential treatment. Greater size reflects higher employment levels, which governments desire (Park & Luo, 2001), and age has the advantage of institutional relationships that firms can use to their benefit (Benson, 1975; Peng & Heath, 1996). As a result, size and age have a positive relationship with export growth. Further, under conditions of less-developed transitional economy institutions, we predict a U-shaped relationship, given the opportunity for small and young firms to utilize institutional voids (Khanna & Palepu, 2000) and the increased interaction between institutions and large and older firms.

The transition economies of former communist countries offer a naturally occurring experiment to consider our predictions, as firms' actions and outcomes are determined in different institutional environments. To test our hypotheses, we use a unique data set of over 650 CEE firms from four transitional economy countries: Belarus, Bulgaria, Lithuania, and Ukraine. We use the difference in the pace of transition across our studied countries to analyze the impact of economic institutions. The results of our study indicate that size is curvilinearly related to export growth. We find a U-shaped relationship for size in less-developed institutional environments and an inverted U-shaped relationship in more-developed institutional environments. Our results indicate that age has a curvilinear relationship with export growth in its interaction with institutional development. In total, these results suggest that size and age are assets for growing exports in less-developed institutional environments, and liabilities in more-developed institutional environments.

We believe our results offer three contributions to our understanding of export growth and the importance of economic institutions in transition economies. First, the contrasting results for size and age indicate that the institutional preference for employment that size represents and the institutional relationships that age represents contribute unequally to export growth in transitional economies. Second, the relationships for size and age with export growth change at different levels of institutional development. This finding highlights the importance of institutional context in the study of strategic relationships. Third, our results offer empirical support for Peng's (2003) phased model of institutional transition, indicating that transition economies appear to be moving from relationship-based to rule-based exchange. Through these implications, our research contributes to the continuing development of what international business researchers have called the "institution-based view of business strategy" (Meyer & Peng, 2005; Peng, 2002, 2003).

The remainder of the paper is organized as follows. The next section provides the theoretical framework to develop our hypotheses regarding the direct effect of size and age on export growth, as well as in combination with the level of free-market institutional development. We then review the data and methods to test these hypotheses. Our presentation and discussion of the results follows. The paper closes with some limitations of the study, and suggestions for future research.

THEORETICAL BACKGROUND

Firm size and age have long been studied as factors that relate to firm performance (Blau, 1970; Calof, 1994; Dobrev & Carroll, 2003; Evans, 1987; Kimberly, 1976). They are important attributes, because they shape the internal ability and behavior of firms while simultaneously interacting with the external environmental context to shape the behavior and performance of firms (Evans, 1987; Haveman, 1993; Kimberly, 1976). Although considered extensively in the literature, there has been little consideration of how these two variables influence export growth in transition economies. (See Majumdar, 1997, for one exception focusing on India.) Additionally, much of the established literature that considers size and age theorizes that they are strongly correlated, as older firms tend to be larger (Hannan & Freeman, 1984; Henderson, 1999; Kelly & Amburgey, 1991; Stinchcombe, 1965). However, one notable difference between size and age is that while size can increase or decrease, age can only increase (Hannan, 1998).

In the transition economy context, size and age are distinct, because they had different meaning in the previous Soviet system. The government typically established large firms to achieve economies of scale in manufacturing industries, thus bypassing the start-up phase of a firm that is common in developed economies. Thus firm size was manipulated in a centrally controlled economy. Additionally, while firm age cannot be directly manipulated, the lack of bankruptcies in the Soviet system indicates that longevity does not reflect the same conclusion regarding performance that it would in developed markets (Ansoff, 1987). Firms survived in the Soviet system in part because they were not allowed to fail, rather than as a result of superior performance. Hence size and age reflect different

characteristics of the firm, particularly in different institutional environments.

In considering the effect of size and age, we focus on export growth in transition economies for two reasons. First, increasing exports was a major challenge for CEE firms. Prior to the transition, international sales were accomplished largely through state-owned foreign trade companies or government ministries (Filatotchev, Dyomina, Wright, & Buck, 2001; Makhija, 2003). As governments began to transition, and eliminate export agencies, firms gained the right to export directly (Filatotchev et al., 2001). The second reason to consider export growth relates to the drop in domestic demand in transitional economies following the economic restructuring of the 1990s. This drop meant that foreign revenue became an important priority for firms in transitional economies (Filatotchev et al., 2001; Svejnar, 2002). Although there are different ways to increase foreign revenue, we focus on exports, as they are considered to be the first stage of internationalization (Johanson & Vahlne, 1977), and are expected to be relevant to a broad segment of the economy. Expected benefits from this step include increased sales revenue, and the opportunity to build market-based capabilities (Aulakh, Kotabe, & Teegen, 2000; Bilkey, 1978). Thus, given increased opportunities for international growth and decreased local market demand, export business growth was widely viewed as an important goal for many CEE firms (Filatotchev et al., 2001; Peng & Heath, 1996).

Institutions and Transition Economies

In this study, the fundamental idea of institutional theory is that institutions create the "rules of the game" (North, 1990). In doing so, they establish the basis for firm economic activities such as production, exchange, and distribution (North, 1990; Park & Luo, 2001), thereby facilitating or constraining firm performance (Oliver, 1997; Peng & Heath, 1996). It is generally agreed that the effects of the actions of the firm are highly dependent on the institutional environment in which they occur (Douma, George, & Kabir, 2006; Park & Luo, 2001; Peng & Heath, 1996). North's (1990) economic institutional theory argues that the economic performance differences between nations are due largely to differences in their institutions.

The transition economies of our study are countries in Central and Eastern Europe that used a central planning regime through 1990 but since then have been moving towards a market-based economy with weakened bureaucratic control and the introduction of widespread private ownership (Makhija & Stewart, 2002; Peng & Heath, 1996; Svejnar, 2002). The communist system was generally based on government ownership of productive assets and significant government involvement in the economy (Oliver, 1991; Svejnar, 2002). The communist government's institutions were established to support state-owned and state-controlled enterprises through a central planning system. The central planning process of the communist system was driven by adherence to a production plan to meet domestic needs (Makhija, 2003). Profits were not the driving force behind decision-making, and revenue calculations were artificial (Gregory & Stuart, 1990; Peng & Heath, 1996). The production plan and central planning agencies determined what actions firms should take (Makhija, 2003; Peng & Heath, 1996). In this situation, the firm's products, strategies, and core decisions – including those regarding export growth – were centrally controlled by a ministry or similar government body (Filatotchev et al., 2001; Makhija, 2003).

The Soviet system was ruled by power relations and bureaucratic controls in an environment of resource scarcity (Hoskisson, Eden, Lau, & Wright, 2000; Peng & Heath, 1996; White, 2000). Relationships, bargaining, and networking were used to obtain scarce resources in this environment (Hoskisson et al., 2000). Firms and managers were therefore ingrained to conduct exchanges in their networks to obtain essential inputs (Park & Luo, 2001). The importance of these relationships between firms and institutions is a critical aspect of gaining institutional support and the resources required for export growth (Ellis & Pecotich, 2001) in transition economies (Peng & Heath, 1996). Such network relationships are known to provide access to human resources, financial resources, knowledge, management expertise, and linkage to international opportunities (Ellis & Pecotich, 2001; Park & Luo, 2001). In this way, organizational relationships with institutions will be highly relevant to export growth in transitioning economies.

In the move from the communist system, the transitional economies began to form free-market institutions, though not at the same pace (Peng, 2003; Svejnar, 2002). Several researchers have noted that the transition process is ongoing, and may take an extended period of incremental change to achieve free-market systems (Peng, 2003; Svejnar, 2002). Many transition economies are characterized by continued government involvement in the

economy (Hoskisson et al., 2000; Makhija, 2003). Where reformed institutions are not in place, high levels of administrative coordination of economic activity will be retained because of persistent, residual socialist values (North, 1990; Peng & Heath, 1996). Therefore, governments in transitioning economies will be able to maintain a level of administrative control over export trade (Filatotchev et al., 2001; Makhija, 2003; Svejnar, 2002). As a result, institutional support may be required to achieve export growth (Wright, Filatotchev, Hoskisson, & Peng, 2005). Institutional support may manifest itself in the form of ease of obtaining permits, tax advantages, subsidies, regulation relief, and indirect preferential treatment (Hoskisson et al., 2000; Makhija, 2003). Thus, the institutions retain a significant amount of control over which specific firms are supported to achieve export growth (Benson, 1975). At the same time, firm size and age may affect how institutions view and support the firm in transition economies. In developing hypotheses for these two factors, we consider their importance in developed economies, before considering transitional economies.

Size and Export Growth

In developed economies, with their free-market institutions, size may be indicative of market power, slack, capability, market credibility, and scale economies (Haveman, 1993; Park & Luo, 2001; Pfeffer & Salancik, 1978). The most prevalent size-based argument in a developed economy context is that economic scale lowers costs and enables growth (Dobrev & Carroll, 2003; Haveman, 1993; Pfeffer & Salancik, 1978). (See Bonaccorsi, 1992, for a counter view.) The traditional international business view is that size is beneficial as internationalization – export growth – requires the knowledge, resources, and credibility that are typically possessed by larger organizations (Dunning, 1980, 1988; Reuber & Fischer, 1997). Internationalization requires appropriate resources, and resource scarcity limits small firms' capabilities (Dunning, 1980, 1988). The literature also relates large size to geographic expansion (Dobrev & Carroll, 2003; Dunning, 1980). Bonaccorsi (1992) suggests that most firms undertake growth in their home market first, and will explore export markets only after they have achieved some level of age and size by capturing a large market share in their home country. In this way, firm size will be positively related to export growth in developed economy environments.

In transition economies, the importance of size may be different if the firm's resources and capabilities were developed for a controlled economy and thus are no longer as useful. Size, though, may still positively influence export growth due to the institutions in place. In transition economies, institutions maintain administrative involvement in economic exchange (Hoskisson et al., 2000; Makhija, 2003). Therefore size will garner government support for employment, and size aligns well with the previous communist system's focus on economies of scale (Park & Luo, 2001; White, 2000). A primary goal of transition economy governments is employment and revenue growth in larger firms (Park & Luo, 2001), owing to the remnants of the former Soviet system. These governments want to avoid the social unrest caused by massive downsizing (Peng & Heath, 1996). Based on communist historical norms, larger organizations may be viewed as more legitimate and more reliable (Freeman, Carroll, & Hannan, 1983). In the transition economy context, larger organizations will have larger influence and bargaining power with the government because of their employment impact (Benson, 1975; Park & Luo, 2001). The government's desire to keep employment levels stable or growing was stimulated by the loss of business after the transition, and by residual socialist values (Park & Luo, 2001; Peng & Heath, 1996). These characteristics may lead to larger firms having a greater ability to gain the institutional support and advantage required to increase business activity with international customers. This is in contrast to small firms that are not expected to gain such institutional benefits, given their small employment impact (Park & Luo, 2001).

Several researchers have suggested that size effects may not be monotonic, but rather have diminishing rates of effect (Evans, 1987; Haveman, 1993). Likewise, we anticipate that the benefits bestowed on large size will diminish with increasing size in transition economies. In particular, there may be limits on the support that institutions can offer. Institutional support may result in ease of obtaining permits, tax advantages, and regulation relief (Hoskisson et al., 2000; Makhija, 2003). Since there is a natural bound to the amount of such assistance that institutions can offer, once firms reach a critical size the level of assistance cannot increase commensurately. As a consequence, we

predict a diminishing rate of benefit to organizational size with regard to export growth.

Integrating these arguments for transitional economies: large-sized firms may receive greater, but diminishing, institutional support for export growth owing to the likelihood that such activity will increase employment. As a result, we predict:

Hypothesis 1: Firm size will be curvilinearly related to the firm's export growth. Specifically, as firm size increases, the firm's export growth will increase at a diminishing rate.

Age

In developed economies, age may be indicative of experience-based capabilities, refined routines, ability to adapt, reliability, and market credibility (Baum & Shipilov, 2006; Henderson, 1999). The traditional international business view is that age is beneficial, as export growth requires knowledge, experience, credibility, and reliability, which are typically developed over time, and possessed by older organizations (Dunning, 1980, 1988; Reuber & Fischer, 1997). With age, a firm may develop capabilities to undertake change and adapt to new environments, such as those required for export growth (Kelly & Amburgey, 1991). Haveman (1993) argues that, in developed economies, older and larger organizations become more routinized, specialized, and bureaucratized, to the point where they make change a standard procedure.

In transition economies, the experience gained over time may be less beneficial, owing to the changed economic environment. However, age may provide other benefits to firms regarding their export growth activities. Age is an indication of the level of institutional relationships that may enhance the ability to gain institutional support for the firm's activities. Although age reflects relationships in developed economies, the importance of these institutional relationships is greater in transitional economies, given the past controlled economy environment and the continuing administrative involvement in the economy (Hoskisson et al., 2000; Peng & Heath, 1996). Older organizations in transition economies typically possess high legitimacy, due to the longevity of ties and familiarity with government officials. Older organizations may be viewed as more reliable (Freeman et al., 1983), and reliability tends to increase with age (Henderson, 1999). In contrast to older firms, younger firms in transition economies not only lack institutional support, but they may also risk harassment from the government institutions because of weak property-rights protection (Peng & Heath, 1996: 516). Older firms typically possess strong reputations, and their networks may allow access to information that may enable international growth (Dobrev & Carroll, 2003). The networks and relationships with institutions may also provide access to important supporting resources, ease of obtaining permits, tax advantages, and regulation relief (Hoskisson et al., 2000; Makhija, 2003). These characteristics may lead to older firms having a greater ability to grow exports in comparison with younger firms, owing to their legitimacy with the institutions.

Integrating these arguments, age reflects the level of the firm's relationships with institutions. Institutional relationships and legitimacy may lead to older firms having greater ability to gain institutional support to increase exports. Following our previous discussion regarding size, we likewise anticipate a diminishing rate of benefit of organizational age. As a result, we predict:

Hypothesis 2: Firm age will be curvilinearly related to the firm's export growth. Specifically, as firm age increases, the firm's export growth will increase at a diminishing rate.

Level of Free-Market Institutional Development and Export Growth

We now utilize Peng's (2003) phased model of institutional transition regarding the evolution from relationship-based to rule-based structures to understand how the effect of size and age varies according to the level of free-market institutions. Peng suggests that the initial phase of institutional transition will exhibit a relationship-based transaction structure, and that this will gradually shift to a rule-based transaction structure over some lengthy and undetermined period of time. The relationship-based structure is founded on the social networking and personalized exchange of relational contracting. The rule-based structure is founded on the impersonal exchange and third-party enforcement of arm's length transactions. In our analysis, we utilize the fact that the institutions of transition economies are at various points of evolution toward the rule-based transaction structure of a free-market economy (Peng, 2003; Svejnar, 2002). Using this foundation, we shall classify these economies that are still in the early stages of developing free-market institutions as less developed, in contrast to those that are more developed.

We believe that the level of institutional development will change the previously theorized relationships for size and age. The level of institutional development affects export growth in several ways. Transition economy institutions may have high levels of involvement in export transactions through regulatory permissions and taxes (Makhija, 2003). Less-developed institutional environments will be characterized by high levels of subsidies, regulation relief, and preferential treatment (Hoskisson et al., 2000; Makhija, 2003). Through this type of support, institutions may provide preferential access to foreign markets to certain firms. The preferential treatment may be received by firms based on their size and age in less-developed institutional environments because of the relationship-based nature of the institutions (Peng, 2003). This is in contrast to more-developed institutional environments, in which rule-based behavior is expected to provide equitable treatment of firms (Peng, 2003).

North (1990: 5–6) states that "Institutions affect performance of the economy by their effect on the costs of exchange and production." In following this Northian perspective, we are interested in how institutional development affects exchange with foreign customers. In considering the impact of the institutions on export growth, we address the perspective of less-developed institutional frameworks. First, less-developed institutional frameworks restrict access to cross-border trading (Filatotchev et al., 2001). Second, less-developed institutional frameworks are characterized by significant bureaucratic controls and restrictions (Makhija, 2003; Svejnar, 2002). Bureaucratic controls increase the costs of exchange with foreign customers, as the number of approvals goes up and time to cross borders increases (Gelbuda, Meyer, & Delios, 2008). These restrictions make institutional relationships and employment growth of significant importance to gaining preferential access. So, less-developed institutions may hinder export growth for those firms that they do not favor.

Size and Export Growth in Less-developed Institutional Environments

Hypothesis 1 argued that size will be positively related to export growth in transitional economies owing to institutional support for employment growth. We believe the size advantage will be stronger for large firms in less-developed free-market institutional environments. However, the presence of institutional voids (Khanna & Palepu, 2000) also allows small firms to use institutional entrepreneurship (Chiaburu, 2006) to increase exports more than medium-sized firms, resulting in a U-shaped relationship between size and export growth in less-developed free-market institutional environments.

Countries with less-developed institutional frameworks will be characterized by greater government involvement in the economy than those that have progressed further (Hoskisson et al., 2000; Makhija, 2003). The large firms are expected to continue working according to communist institutional norms and to reflect higher embeddedness with the minimally changed institutional frameworks (Granovetter, 1985; Roth & Kostova, 2003). Since the less-developed institutional frameworks have remnants of the previous communist system, they will tend to favor larger firms, because they have institutional legitimacy and political support based on the importance of employment. Therefore larger firm size will result in greater institutional support for the firm's export activities. Less-developed institutional frameworks suggest even higher levels of institutional support and preferential treatment (Hoskisson et al., 2000; Makhija, 2003). This argument suggests that larger firms will receive preferential treatment from the minimally changed institutional framework, and will thus exhibit higher export growth. This argument is similar to the argument for Hypothesis 1, but the relationship between size and export growth will be stronger in this environment.

In the less-developed institutional framework of our transition-economy context, the partial dismantling of communist institutions was not accompanied by a commensurate development of free-market institutions. This resulted in institutional voids (Khanna & Palepu, 2000). Small firms may not be able to take advantage of the institutional benefits offered to large firms in less-developed institutional environments, given their small economic and employment impact. However, their smallness provides them with other advantages not available to larger firms. These advantages emerge because, in less-developed transitioning economies, small firms are likely to be entrepreneurial ventures (Dess, Ireland, Zahra, Floyd, Janney, & Lane, 2003). These entrepreneurs may benefit by exploiting opportunities and voids created during institutional change (Spicer, McDermott, & Kogut, 2000). The entrepreneurial firms of transition economies were often formed by businessmen or government officials who used

their view of the business situation and knowledge of institutional voids to create firms (Chiaburu, 2006). These "institutional entrepreneurs" (Chiaburu, 2006) in a less-developed transition economy, given their decision to create a firm, will be cognizant of the institutional constraints and voids, and will restrain from actions that conflict with the institutional framework. Their small size also allows them to garner less attention from the government (cf. Newman, 2000), which is beneficial when trying to take advantage of institutional voids. Larger firms are too big to avoid the attention of institutions. These firms also have less ability to take advantage of institutional voids, given their lower preponderance toward entrepreneurial behavior (Park & Luo, 2001).

In total: the less-developed institutional environment promotes employment growth (Park & Luo, 2001) – favoring large size. This environment also enables institutional entrepreneurship – favoring smallness. As a result, we expect larger and smaller firms to exhibit higher export growth than medium-sized firms in the less-developed institutional environment. These arguments suggest a U-shaped relationship. We therefore predict:

Hypothesis 3: In less-developed institutional environments the relationship between firm size and the firm's export growth will result in a U-shaped relationship.

Age and Export Growth in Less-developed Institutional Environments

In a fashion similar to the arguments for Hypothesis 3, the age relationship for older firms will strengthen in less-developed institutional environments, whereas younger firms will be enabled by institutional entrepreneurship. Older firms have a higher probability of possessing strong institutional relationships and legitimacy with the institutions (Peng & Heath, 1996). Older firms are more likely to have broad bases of influence and endorsement, historical relationships with important external constituents, and legitimacy in comparison with younger firms (Baum & Shipilov, 2006). The less-developed institutional environment is characterized by higher levels of relationship dependency (Peng, 2003). Since the less-developed institutional frameworks have remnants of the previous communist system, they will tend to support firms with historical relationships. Hence older firms will receive greater support from the minimally changed institutions for the firm's export activities.

Following the logic of Hypothesis 3, the less-developed institutional frameworks of transition economies provided institutional voids (Khanna & Palepu, 2000). These institutional voids could be exploited by institutional entrepreneurs to create firms (Chiaburu, 2006). These entrepreneurial firms were often formed by businessmen or government officials of the previous regime (Chiaburu, 2006). They would therefore be able to use their historical relationships in combination with the weak rule of law to pursue export opportunities. These inherited relationships with government officials could both identify opportunities and provide preferential treatment in a less-developed institutional environment (Chiaburu, 2006). The result is that the young firms of the institutional entrepreneurs would gain institutional support for export growth.

The less-developed institutional environment provides advantages to those firms that possess institutional relationships and, as a result, institutional legitimacy. Relationships and legitimacy require time to establish – favoring older firms. However, the presence of institutional voids allows institutional entrepreneurship – favoring younger firms. As a result, we expect older and younger firms to exhibit higher export growth in the less-developed institutional environment. These arguments suggest a U-shaped relationship. We therefore predict:

Hypothesis 4: In less-developed institutional environments the relationship between firm age and the firm's export growth will result in a U-shaped relationship.

Hypotheses 1 and 2 predict that small and young firms will be at a disadvantage in transition economies in growing exports. This relationship will change in less-developed institutional environments (Hypotheses 3 and 4), with medium-sized and medium-aged firms finding export growth most difficult. With this foundational understanding, we now turn to our empirical tests.

DATA AND METHODS

Our analysis is based on a novel data set developed through a survey of firms in four transitional economy countries: Belarus, Bulgaria, Lithuania, and Ukraine. The four countries were selected to provide a wide variance in institutional development within the CEE region. These countries were in different stages of progress toward European Union accession, with Lithuania and Bulgaria

expecting earlier admittance. At the start of the transition process these four countries were at similar levels of institutional development. However, at the time of the study they reflected a wide variance for the region regarding institutional development, especially for those countries that had not experienced war during the transition period.

A target sample of 1662 non-financial firms in the four countries – 300 from Belarus, 350 from Ukraine, 500 from Bulgaria, and 512 from Lithuania – was created from an initial list of firms, using the Amadeus database developed by Bureau van Dijk (Meyer, 2001), supplemented with local sources. The exception to this process was the work in Belarus, since the country is not part of the Amadeus database. A cooperating research partner had a database of 500 Belarus companies, from which 300 firms were randomly selected. This approach for developing a random sample has been used in transition economies when established databases are not available (Filatotchev, Buck, & Zhukov, 2000; Filatotchev et al., 2001).

The survey instrument was developed based on interviews with managers in Lithuania, Ukraine, and Bulgaria in October 2001. It examined four areas of operation identified as important to firms in the region – quality assurance systems, human resource management, marketing, and technology – with a parallel set of questions examining each of the four areas. To address language issues, the survey was translated from English into the particular foreign language and then back-translated into English (Filatotchev et al., 2000; May, Stewart, & Sweo, 2000). The original English version was compared with the double-translated version to identify and resolve any issues. The survey was pretested prior to large-scale launch, with no issues identified.

One difficulty with surveys in transitional economies is that information was concentrated in a few individuals in the firm (Hoskisson et al., 2000). As a result, this survey relied on one qualified person or a small set of qualified individuals in each firm to provide the required data. This is consistent with prior survey research in similar contexts (Lyles & Baird, 1994; Zander & Kogut, 1995). The survey was sent to the senior director of the firm with a request that he or she identify the person who would be the most appropriate respondent to provide information pertaining to each area (Hoskisson et al., 2000). Since the survey was divided into four sections, the appropriate specialist could complete each section. On average, two respondents participated in completing each survey, thus reducing single-respondent bias.

Survivor bias was tested by comparing firm size for the top 500 firms in each country for 1997 and 2001. The average firm size increased in Ukraine ($p<0.01$), and decreased in Bulgaria ($p<0.05$) and Lithuania ($p<0.01$). These trends may be capturing different transition effects. For Lithuania and Bulgaria there may have been continued restructuring occurring within firms, whereas for Ukraine a consolidation among the firms may have been occurring. Hence there was no consistent pattern regarding survivor bias. Any survivor bias, though, should result in more conservative results, since firm failure should reduce differences across firms. For non-response bias, we compared firm size (number of employees) of the respondents against the group that received the survey, but did not respond (Armstrong & Overton, 1977; McEvily & Zaheer, 1999), using a *t*-test. This was done for Bulgaria and Lithuania, the two countries for which we had data on respondents and non-respondents (Ukraine and Belarus were of less concern given their high response rates). The results indicate that non-respondents were smaller than respondents (Lithuania, $p<0.05$; Bulgaria, $p<0.10$). Given the use of size for some of the hypotheses, this non-response bias will result in more conservative results – decreasing the ability to show predicted curvilinear relationships.

In total, 655 surveys were returned, for a 39.5% response rate. The response rate by country was Belarus 81%, Bulgaria 15.8%, Lithuania 18.6%, and Ukraine 68.9%. We adjust for these different response rates in our regression analysis, as explained in the Methods section. The response rate for Lithuania and Bulgaria compares favorably with the average response rates typically observed for mail-based surveys in transitional economies (Hoskisson et al., 2000). The significantly higher response rates for Belarus and Ukraine reflect the use of face-to-face interviewers rather than a mail-based survey to collect the data, as managers in these countries did not want to participate in mail-based surveys[2] (Filatotchev et al., 2000, 2001). These interviews were structured, and involved completing the same survey that was used in all countries. Four influential outliers in the data set (two due to age, two due to size) were removed to improve the reliability of the resulting model, leaving a final sample size of 651 firms. The measures for our research study are shown in Table 1, and are described in the ensuing paragraphs.

Table 1 Definition of variables

Variable	*Description*
Dependent	
Export growth	Δ% Export sales (1998–2001)
Independent	
Size	Number of employees (average 1998–2000)
Size^2	Square of size (as above)
Age	Number of years since firm founding
Age^2	Square of age (as above)
Institutional development	Average of Trade Freedom, Financial Freedom, and Freedom from Corruption components of the Heritage Foundation Index of Economic Freedom (average 1999–2001)
Control	
Private ownership	% Privately owned (average 1998–2000)
Foreign ownership	% Foreign ownership (average 1998–2000)
Export experience[a]	Firm export sales in 1998 dummy (0/1)
Export importance[a]	Importance of export sales (7-point Likert scale)
R&D density	R&D employees/total employees (average 1998–2000)
Competition	Importance of competitive action (7-point Likert scale)
Foreign relationships	Importance of foreign business partners (7-point Likert scale)
Country export growth	% Growth in exports of the country (1998–2000)
Industry diversity	Herfindahl-type measure (in four sectors: processing, service, capital-intensive, other)
Industry	Industry sector dummies (processing, service, capital-intensive, other)

[a]Only used in the probit model specifications.

Dependent Variable

Export growth. To measure export growth, we calculated the change in the percentage of sales that came from exports over a 3-year period as reported on the survey instrument. This measure indicates the change in export intensity (Bonaccorsi, 1992). Exports are one of the initial steps toward internationalization, they are easily measurable, and are applicable to both large and small firms (Cavusgil, 1982; Johanson & Vahlne, 1977; Sullivan, 1994). From 1993 to 1999 merchandise exports as a percentage of GDP fell in all four countries, and all of the countries, except Bulgaria, had a negative trade balance in each of these years. Although a negative trade balance was expected for these economies, the ability of firms to change their export levels was an important goal at the government and firm level in 1999.

Our measure subtracts the 1998 export percentage of sales from the 2001 export percentage of sales. The correlation between the export growth measure and the initial measurement point is extremely low, at 0.102. This indicator value increases our confidence in the appropriateness of the export growth measure (Bergh & Fairbank, 2002). Approximately 38% of the firms in the sample had export business by 2001. Of these firms, 59% increased their exports over our period of study and 24% dropped their export level.

Independent Variables

Size. We used the number of employees to measure size of the firm (Hypothesis 1, Hypothesis 3), as we argued that institutions will support larger firms for employment reasons. Additionally, revenue is not a consistent measure in transitional economies, because of currency changes and inflation levels (Baum & Wally, 2003; Hoskisson et al., 2000). We used the 3-year average number of employees based on end-of-year data, beginning one year in advance of our evaluation period – from 1998 to 2000 (Filatotchev et al., 2001; Hitt, Dacin, Levitas, Arregle, & Borza, 2000). Although much research utilizes the natural logarithm of size, we do not. The natural logarithm of size assumes a curvilinear relationship (Kimberly, 1976), which is an assumption we do not make. Therefore we use size, directly, because of our interest in the curvilinearity of the hypothesized relationship, following Kimberly (1976) and Haveman (1993). While our variable size has a range from 2 to 9440, which may indicate a risk of heteroskedasticity, we correct for this in our methodological approach.

Age. To measure age (Hypothesis 2, Hypothesis 4), we subtracted the date of firm founding from the year 2002. Firms founded in 2000 or 2001 were deleted from consideration because of incomplete data in our time period of interest.

Level of institutional development. The level of institutional development variable (Hypothesis 3, Hypothesis 4) quantifies the level of export business freedom in the economic environment. The measure attempts to capture the differences across the countries in the study regarding their development of free-market institutions that result from the transitions occurring at different rates (Svejnar, 2002). To measure this variable, we used the Heritage Foundation Index of Economic Freedom measures (Kane, Holmes, & O'Grady, 2007; www.heritage.org; Blumentritt & Nigh, 2002). The measures are on a 100-point scale, with higher numbers indicating greater economic freedom. We established a level of institutional development measure by averaging the trade freedom, financial freedom, and freedom from corruption components (de Haan & Sturm, 2000; Meyer, Estrin, Bhaumik, & Peng, 2009). The trade freedom measure reflects the absence of trade barriers and tariffs that directly affect exports. The financial freedom measure addresses banking independence from government control and political favoritism. The freedom from corruption includes governmental, legal, judicial, and administrative corruption. These components reflect our theoretical premise of direct institutional involvement in and manipulation of export growth. We utilized the average scores for 1999–2001. The resulting scores for each country were 58.9 for Lithuania, 48.8 for Bulgaria, 44.2 for Ukraine, and 32.3 for Belarus.

Control variables. We control for ten variables, given their possible impact on export growth or their impact on the decision to export. *Export experience* is an "initial export" dummy that indicates whether a firm did or did not have export sales at the start of our evaluation period (Filatotchev et al., 2001; Lages, Jap, & Griffith, 2008), with 1=non-zero export percentage in 1998 and 0=zero export percentage in 1998.

Private ownership is theorized to promote free-market behavior and entrepreneurial action (Filatotchev et al., 2001; Zahra, Ireland, Gutierrez, & Hitt, 2000). We calculated the average percentage privately owned over a 3-year period – from 1998 to 2000 – using end-of-year data as reported on the survey. This time frame is one year in advance of our evaluation period, given the expected lagged impact of private ownership regarding export growth (Filatotchev et al., 2001).

Foreign ownership may impact on firm performance, since foreign owners may have broader networks and experience with international trade (Filatotchev et al., 2001; Frydman, Gray, Hessel, & Rapaczynski, 1999). We measured foreign ownership by averaging end-of-year foreign ownership percentages, one year in advance of our evaluation period – from 1998 to 2000 (Filatotchev et al., 2001).

Export importance reflects the firm's view of the managerial choice to pursue export sales. Our survey instrument asked the respondents to indicate the importance of increasing export sales as a reason for implementing change to their functional area from January 1999 to December 2001, on a 7-point Likert scale. We utilize the average response across the four organizational functions to ensure a measure that reflects a widely held view of the firm.

We control for firm resources with *R&D density*, since firms that possess research and development capability are known to have a higher likelihood of capturing new opportunities (Jaffe, 1986). This was measured as the number of employees in R&D divided by the total number of employees (Helfat, 1997). We calculated this measure by averaging end-of-year values, one year in advance of our evaluation period – from 1998 to 2000 (Filatotchev et al., 2001).

Competition may affect firms' choices to internationalize (Wiersema & Bowen, 2008). Our survey instrument asked the respondents to indicate the importance of increasing competitive position as a reason for implementing change to their functional area from January 1999 to December 2001 on a 7-point Likert scale. We utilize the average response across the four organizational functions to ensure a measure that reflects a widely held view of the firm. We selected this measure as it reflects the firm's view of their specific firm-level competition.

Foreign relationships may also affect firms' choices to internationalize through exports (Filatotchev et al., 2001). To proxy for this, our survey instrument asked the respondents to indicate the importance of foreign business partners as a source of ideas for their functional area from January 1999 to December 2001 on a 7-point Likert scale. We utilize the average response across the four organizational functions.

Since the level of *country export growth* may affect firms' export growth performance, we measured this using the EBRD data, which reports total country export sales by year (www.ebrd.com). Our measure is a ratio of the difference between 1998 and 2001 divided by the 1998 value.

Since internationalization may also be related to product diversity (Geringer, Tallman, & Olsen, 2000; Wiersema & Bowen, 2008), we controlled for *industry diversity* of the firm with a Herfindahl-type measure. This measure accounts for the number of industry segments and the importance of each in terms of share of the company's business (Geringer et al., 2000). We use four industry categories in this calculation: "service" (wholesale, retail); "processing" (light industry, heavy industry, food processing); "capital intense" (utilities, chemicals, petroleum); and "other" (Khanna & Rivkin, 2001).

We also control for *industry* using dummy variables for the primary industry of the firm as reported by survey respondents.

Methods

We utilized a two-step endogenous choice model (Heckman, 1979; Shaver, 1998) with a survey-based, weighted least-squares regression analysis in SAS version 9.1 to test our hypotheses. In order to reduce the multicollinearity of the squared and the interacted terms, we mean-centered the appropriate variables (Aiken & West, 1991). To address our survey-based data, we utilized the SAS SurveyReg procedure, which inflates the standard errors to create empirical standard errors. In order to account for the variation in response rates across countries, given their relative size, we adjusted the country stratification weights based on the population of each country in 2002 (Heston, Summers, & Aten, 2006) in relation to the number of observations in each stratum (country).

This combination of procedures provides an analysis that statistically represents the population of firms across our four sampled countries. Also, to address missing responses, we utilized multiple imputation methods (Rubin, 1987) with the survey methodology. This procedure adjusts the standard errors to reflect the variance between and within the data sets to provide a more conservative standard error estimate (Huckman & Zinner, 2008), providing a robust model.

Finally, since our data set includes firms that did and did not have exports initially (1998), we used a procedure that addresses the endogenous choice aspect of such self-selection. We followed Shaver (1998) in using a probit specification to model the probability that firms will have chosen to export (Heckman, 1979). We utilized our dummy variable for export experience as a dependent variable in a probit model to create an export experience self-selection correction variable for use in the second step regression model. We additionally included the control for export importance only in the probit model to differentiate the probit and the regression specifications. We used our survey data directly for the probit specifications, and used the imputed data for the survey-based regression specifications.

This approach provides us with three models each with a probit specification and a survey-based regression model; Model 1 (control variables), Model 2 (non-interacted independent variables), and Model 3 (adds institutional development interactions).

EMPIRICAL RESULTS

The means, standard deviations, and correlations for all variables are reported in Table 2. The results of the regression models are shown in Table 3, and are explained in the following paragraphs.

Model 1 contains only control variables. The probit models for export experience predict the probability of being a non-exporter: therefore the negative signs on export importance and foreign relationships are consistent with general expectations. However, the positive sign on country export growth (5.49) suggests that the probability of being a non-exporter is higher when the country has high export growth. These relationships are generally true across all the probit models. The only significant variable in Model 1 for export growth is the service industry category (−3.14), which indicates that this industry is less likely to be associated with increases in export levels than the "other" industry category. To ease interpretation, the export experience self-selection correction factor in all regression models has been calculated to reflect the probability of exports. Also, we observe that the foreign ownership and private ownership control variables are not statistically significant in any of our models.

Model 2 contains the results to examine Hypotheses 1 and 2. We first notice that size, size-squared, and institutional development levels are significant regarding the choice for exports in the probit Model 2. We next consider Hypothesis 1, which

Table 2 Descriptive statistics

Variable	*Mean*	*s.d.*	*Min.*	*Max.*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*
1. Export growth	1.80	9.41	−44	46															
2. Size	458.56	940.33	2	9440	0.12**														
3. Age	32.48	27.81	3	142	0.08*	0.31***													
4. Institutional development	42.15	9.24	32.3	58.9	−0.02	−0.01	0.21***												
5. Export experience (dummy)	0.34	0.47	0	1	0.15***	0.26***	0.20***	0.24***											
6. Private ownership	79.80	34.80	0	100	−0.01	−0.34***	−0.23***	0.11***	−0.04										
7. Foreign ownership	4.23	16.42	0	100	0.01	0.02	−0.05	0.22***	0.17***	0.12**									
8. Export importance	3.71	2.29	1	7	0.17***	0.23***	0.25***	0.23***	0.63***	−0.02	0.13**								
9. R&D density	0.07	0.15	0	1	0.08†	−0.13**	−0.16***	−0.02	−0.04	0.10*	−0.04	−0.07							
10. Competition	5.83	1.27	1	7	−0.01	0.01	−0.07	0.03	0.17***	0.19***	0.05	0.33***	0.03						
11. Foreign relationships	2.74	1.90	1	7	0.16***	0.16***	0.10*	0.33***	0.47***	0.01	0.26***	0.59***	−0.02	0.23***					
12. Country export growth	0.22	0.03	0.188	0.248	−0.04	0.03	0.39***	0.73***	0.02	0.05	0.06	0.09*	−0.07†	−0.15***	0.11**				
13. Industry diversity	0.94	0.15	0.385	1.000	0.05	0.06	0.05	0.11**	0.02	−0.04	−0.00	−0.02	−0.03	−0.01	0.05	0.18***			
14. Process industry (dummy)	0.44	0.50	0	1	0.00	0.06	0.19***	0.10*	0.12**	0.08*	0.09*	0.20***	−0.13**	0.10*	0.05	0.15***	−0.09*		
15. Service industry (dummy)	0.29	0.45	0	1	−0.10*	−0.23***	−0.32***	−0.08*	−0.17***	0.14***	−0.05	−0.25***	0.04	0.02	−0.09*	−0.22***	0.11**	−0.57***	
16. Capital-intensive industry (dummy)	0.12	0.33	0	1	0.02	0.18***	0.10*	0.07†	0.08†	−0.17***	−0.04	0.04	0.01	−0.09*	0.05	0.10*	−0.04	−0.34***	−0.24***

†p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001.

Table 3 Probit and regression model results

Variables	*Model 1*		*Model 2*		*Model 3*	
Specification	*Probit*	*Regression*	*Probit*	*Regression*	*Probit*	*Regression*
Dependent variable	*Export experience*	*Export growth*	*Export experience*	*Export growth*	*Export experience*	*Export growth*
Size/1000			−1.39***	1.98	−1.25***	2.20†
Size^2/1,000,000			0.28***	−0.40*	0.24***	−0.45*
Age/100			−0.04	2.45	−0.23	2.15
Age^2/10,000			−0.67	−3.15	−0.51	−5.07
Institutional development			−0.05***	−0.09	−0.05*	−0.20†
Interactions						
Institution × Size/1000					0.05†	−0.26*
Institution × Size^2/1,000,000					−0.01†	0.04*
Institution × Age/100					−0.05	0.02
Institution × Age^2/10,000					0.08	0.85†
Controls						
Private ownership	0.00	0.00	0.00	0.01	0.00	0.01
Foreign ownership	−0.01	−0.04	0.00	−0.02	0.00	−0.02
R&D density	−0.10	5.32	−0.36	5.98†	−0.35	5.99†
Competition	0.04	−0.28	0.03	−0.24	0.05	−0.23
Foreign relationships	−0.09†	0.61	−0.10*	0.72†	−0.11*	0.67†
Country export growth	5.49†	−16.22	23.95***	−8.01	24.92***	−1.77
Industry diversity	−0.33	5.22	−0.05	3.75	−0.03	4.11
Process industry	−0.21	−1.78	−0.35	−2.04	−0.36	−1.94
Service industry	−0.31	−3.14*	−0.60*	−1.95	−0.59*	−1.74
Capital-intensive industry	−0.19	−0.63	−0.43	−0.98	−0.40	−0.63
Export importance	−0.43***		−0.39***		−0.39***	
Export experience: self-selection correction		4.23		2.29		2.58
Intercept	1.57†	0.62	−2.51†	−0.31	−2.75†	−2.17
Log likelihood	−200.46		−155.39		−153.71	
n[a]	491	651	466	651	466	651
F		5.04***		3.79***		3.41***
Adjusted R^2		0.079		0.087		0.097
R^2		0.064		0.064		0.069

†p<0.10, * p<0.05, ** p<0.01, *** p<0.001.
[a]Sample sizes for regression models reflect imputed data.

predicts that size will have a diminishing positive relationship with export growth. The coefficient for size-squared is 0.40 and is significant (p<0.05). This result indicates partial support for Hypothesis 1. Hypothesis 2 predicted that age will have a diminishing positive relationship with export growth. The coefficients for age and age-squared in Model 2 are not significant. These results do not support Hypothesis 2. Additionally, coefficients for R&D density (5.98) and foreign relationships (0.72) are positive and significant.

In Model 3, we add interactions with institutional development. This model indicates how the level of institutional development changes the previous relationships. The probit specification of Model 3 indicates that size, size-squared, institutions, and their interactions are significant in determining the choice for exports. Recall that, with the Heritage Foundation data, higher institutional development levels indicate more-developed institutional environments. The relationships in Hypotheses 3 and 4 predicted U-shaped relationships in less-developed environments. Therefore negative coefficients on the interacted size and age terms and positive coefficients on the interacted size-squared and age-squared terms will be consistent with our

hypotheses. Since the variables for the primary relationships in Model 3 have been mean-centered, the interaction variables leave the main effects to reflect values conditional on the institutional development level being at its mean. The interaction of institutional development with size is negative (0.26) and significant ($p<0.05$), with size-squared interaction positive (0.04) and also significant ($p<0.05$). This result suggests strong support for Hypothesis 3. Also, the age-squared interaction with institutions (0.85) is significant ($p<0.10$) – consistent with our prediction in Hypothesis 4, though the age interaction with institutions is not significant. Additionally, the coefficients for R&D density (5.99) and foreign relationships (0.67) are positive and significant. We present the graphed relationships of Model 3, for both size and age for the maximum and minimum institutional values, in Figures 1 and 2 to assist interpretation.

The graphically depicted relationship of Figure 1 indicates the predicted U-shaped relationship for size in less-developed institutional environments. However, in more-developed institutional environments the curvilinear shape meets our predicted positive, diminishing relationship of Hypothesis 1 until the size reaches approximately 3000 employees, at which point the relationship turns negative. The graphically depicted relationship of Figure 2 indicates that there is a curvilinear difference in export growth for older firms, depending on the institutional environment. Older firms increased exports more in less-developed institutional environments than younger firms, and older firms increased exports less in more-developed institutional environments.

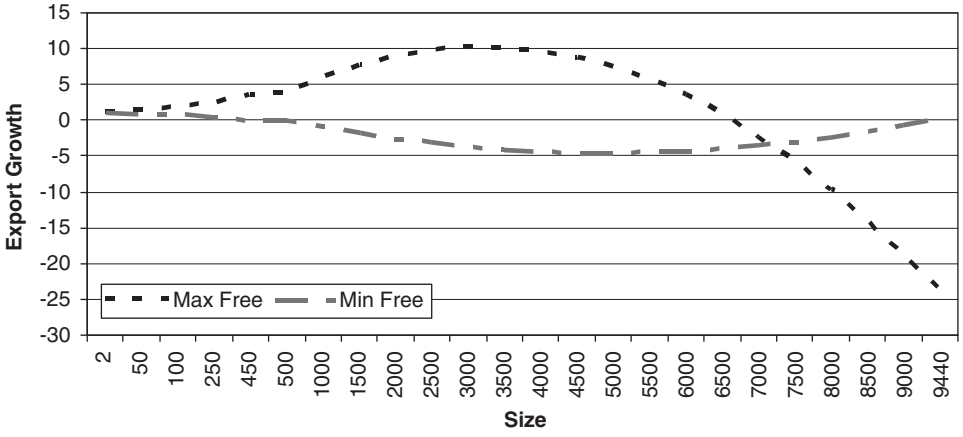

Figure 1 Export growth vs size: institutional development interaction.
Note: The figure is plotted at the maximum and minimum institutional development levels of our sample set.

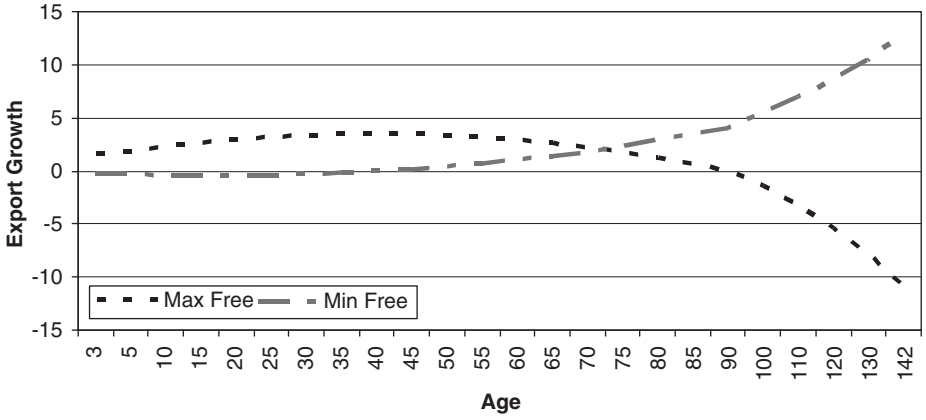

Figure 2 Export growth vs age: institutional development interaction.
Note: The figure is plotted at the maximum and minimum institutional development levels of our sample set.

Overall, our models indicate that:

1. firm size is significant in explaining export growth in transition economies; and
2. the level of institutional development when interacted with size, size-squared, and age-squared is significant in explaining export growth.

We shall discuss these results in the following section.

DISCUSSION

The goal of this study was to examine the impact of size, age, and institutions on export growth within the context of transitional economies. First, we predicted a positive but diminishing relationship between firm size and export growth in Hypothesis 1. The results largely supported this prediction, indicating that larger-sized firms are better able to increase exports than smaller ones in transitional economies. So, size appears to provide firms with favorable treatment from institutions. As we argued, we believe this is due to the desire to support employment levels by growing exports. The negative coefficient for the squared term (Models 2 and 3) indicates that there may be a limit to this positive influence. So, although transitional economy institutions want to support employment, at a certain point they may reach the limit of their ability to manipulate outcomes.

We predicted a positive but diminishing relationship between firm age and export growth in Hypothesis 2. Our results did not support this prediction, suggesting that institutional relationships established over time do not provide benefits to firms regarding export growth. Hannan (1998) suggests that variation in other factors may impact on the age relationship, such as endowments, capabilities, and positional advantages. In our case, with multiple institutional environments and very dynamic economies we may be observing this type of volatility regarding age.

In Hypothesis 3 we predicted a U-shaped relationship in less-developed institutional environments. We found support for this prediction. This can be seen in Figure 1. The results suggest that, in the less-developed institutional environment, small size was an asset, which conforms to our institutional voids (Khanna & Palepu, 2000) and institutional entrepreneurship (Chiaburu, 2006) arguments. Although small firms were able to take advantage of the transitional nature of the economy, large firms also exhibited export growth in such an institutional environment. This result conforms to our prediction that high levels of administrative coordination of economic activity and residual socialist values (North, 1990; Peng & Heath, 1996) promote preferential institutional support for large firms. So, institutions prefer to keep people working in firms rather than risk the economic and political upheaval of unemployment.

In our last hypothesis, we predicted a U-shaped relationship between age and export growth in less-developed institutional environments. We found only partial support for the prediction of Hypothesis 4. Older firms increase exports more in less-developed institutional environments than medium-aged firms. The institutional relationships appear to provide older firms with the needed support to increase exports. However, this relationship is an upward-sloping curve rather than a U-shaped curve, indicating that younger firms do not increase exports more than medium-aged firms. Therefore young firms in less-developed institutional contexts did not exhibit an ability to take advantage of institutional voids. This may be because institutional entrepreneurs were not limited only to starting new companies, but could also have acquired control of existing companies or divested portions of companies during the privatization and restructuring processes of transitioning economies (Spicer et al., 2000).

Across the hypotheses, the findings for size are strongly supported, whereas the findings for age are not as strong. This result aligns with Hannan (1998), who suggests that there are inconsistencies in age effects in organizational research, and that the level of volatility in the environment may be an important factor. Alternatively, the strong size relationships and weaker age relationships may also be due to the institutional progress, even in a less-developed environment, which would reduce the effectiveness of the age-based relationships in comparison with the size-based political support. Given that our analysis takes place almost a decade after the start of the transition, our results suggest that age-based relationships may decay with time, whereas the size-based institutional focus on employment continues to be consequential.

Although we did not develop a hypothesis regarding the relationship between institutional development level and export growth, we were surprised to find a lack of significance for institutional development in Model 2, given past research on the impact of institutions (Makino, Isobe, & Chan, 2004; Roth & Kostova, 2003). Our results may be due to the desire of both more-developed

and less-developed economies for export growth, because exports can increase employment, improve balance of trade, and provide for economic growth. These improvements would be welcomed by both more-developed and less-developed economies. However, in Model 3 we found the institution development variable to be significant and negative, once we controlled for other factors and interactions. This indicates that firms of average size and age experienced lower export growth the more developed the institutional environment was, given that size and age were mean-centered. This is consistent with the expectation that the preferential treatment effect on export growth will be reduced with increasing institutional development.

We found the theorized positive relationship for size and age with export growth in less-developed environments, but we found a declining relationship for both in more-developed institutional environments. Although relationships for more-developed institutional environments were not separately hypothesized, they warrant comment since they are transitional economies, and a positive (though less strong) relationship was also expected. If government institutions have progressed far enough to be closer to a rule-based structure (Peng, 2003), then institutional involvement and manipulation are expected to be reduced. While we are not suggesting that countries in our sample have completed the transition, some have achieved a high level of progress. With such progress, the economies may reflect the duality of outcomes predicted in the developed-economy literature regarding size and age. The duality is that size and age may reflect organizational flexibility or organizational rigidity (Haveman, 1993). The developed-economy literature suggests that size and age may be indicative of slack, experience-based capability, and market credibility, leading to organizational flexibility (Blau, 1970; Haveman, 1993; Kimberly, 1976; Park & Luo, 2001; Pfeffer & Salancik, 1978). With such a perspective, age- and size-based flexibility suggest a positive relationship of size and age with export growth. In a contrasting view, rigidity suggests a negative relationship with export growth. This literature suggests that size and age are indicative of an inability to change, based on inertia and imprinting, leading to rigidity (Hannan & Freeman, 1984; Kriauciunas & Kale, 2006; Stinchcombe, 1965). The government and institutional involvement in transitional economies led our hypothesis development to suggest positive relationships with size and age. However, our results suggest that size and age may be a detriment rather than a benefit in more-developed institutional environments. In other words, there may be a liability of bigness (Freeman et al., 1983) and a liability of obsolescence (Baum, 1989) that emerge when transition economies create highly developed free-market institutions.

Furthermore, we believe that our results offer support for Peng's (2003) phased model of institutional transition. He suggests that the first phase of institutional transition will exhibit a relationship-based transaction structure, and that this will gradually shift to a rule-based transaction structure. Since the countries in our sample were at different levels of institutional transition, it is possible that the more-developed economies in our sample were operating a more rule-based structure, and that the less-developed economies were operating in a more relationship-based structure. This would create a situation in which larger, older firms in less-developed institutional environments with a relationship-based structure would use their powerful relationships to gain advantage. Similarly, in a rule-based structure, greater size and age may be indications of organizational rigidity and a reduced ability to achieve export growth (Hannan & Freeman, 1984; Haveman, 1993; Stinchcombe, 1965). These results suggest that a developed free-market environment – a rule-based transaction structure – is required to expose organizational rigidity in a transition economy context.

In order to tease out the influence of institutions, our model strives to control for alternative explanations for export growth. R&D density is significant and positive in both Model 2 and 3, conforming to the expectation that knowledge and innovation capability support export growth (Dunning, 1980, 1988; Reuber & Fischer, 1997). The foreign relationship variable is positive and significant in Models 2 and 3. This result is consistent with previous research that such relationships may provide access to markets (Filatotchev et al., 2001). The export experience self-selection variable was not significant, indicating that firms with and without export experience were supported to grow exports. While suggestive only, this is consistent with our institutional influence and preferential treatment arguments.

Limitations

This paper considers how firm size and age influence export growth in different institutional environments using a unique, four-country,

firm-specific data set. This research, though, is not without limitations. First, an important element of all research is generalizability. Although we focus on CEE countries, we believe our institutional development measures and multi-industry sample provide the foundation for generalizability to similar conditions. Many countries, such as Russia, China, Vietnam, Cuba, and Venezuela, still have strong government intervention in markets, with varying degrees of movement towards free-market institutions. As these countries move towards or return to free-market systems, our results should inform them of the institutional and firm-level factors that need to be considered to improve export growth.

Second, in any study of size and growth the risk of reverse causality is a concern (Bonaccorsi, 1992) – high export growth may cause larger firm size. In our study we have evaluated our independent variables one year in advance of our export growth dependent variable. Additionally, we averaged over a multiple-year period to address possible employment fluctuations.

Third, we acknowledge that researchers studying the evolution of institutional arrangements have indicated that, in a dynamic interaction process, firms may affect institutions and institutions may affect firms (Chiaburu, 2006; Seo & Creed, 2002). Our theoretical focus was limited to the impact of institutions on firms.

Finally, our data set included only four countries, with four resulting levels of institutional development. Although a positive step from using binary measures, the study could be enhanced by increasing the variance in the institutional framework measure through a larger sample of countries.

Future Research

The finding that private ownership and foreign ownership were not significant in any of our probit or regression models was unexpected. Past research has indicated that foreign ownership and private ownership are important to CEE firm behavior (Filatotchev et al., 2001; Frydman et al., 1999; Zahra et al., 2000). We suggest two potential reasons for this lack of significance. First, our controls for foreign relationships and export experience may have addressed a significant portion of the benefit of ownership in our sample. Second, ownership may have different effects across institutions. Just as the size relationship changes in different institutional frameworks, so too, ownership may need a particular institutional framework to be beneficial. While private ownership has a strong research literature (Cuervo & Villalonga, 2000), foreign ownership deserves more detailed investigation. Foreign ownership may enable firms to grow international relationships faster, especially in an appropriate institutional environment. In some cases, foreign ownership may result in special incentives and allowances not granted to domestic owners. Future researchers should also consider the different types of institutions, and their presence and effect at different levels. As many of the countries in the region have changed their institutions to achieve EU membership, it is worth considering how those changes relate to firm behavior. This includes various macro, national, regional, and micro aspects of institutions.[3]

Future researchers should also consider more detailed analysis of the target country for exports. Particularly in former communist countries, it would be helpful to distinguish among exports to former communist countries, to emerging economies, and to developed economies. A richer understanding of the transition of networks, and a more detailed firm-level understanding of the antecedents to export growth to various regions, could be derived from such a study. We expect that the network of relationships could be a significant influence on firm performance during major institutional transition. This could be important, as trade patterns in the region have significantly changed over the past 10–15 years. This type of research could provide several contributions to the international business literature, as well as to theories regarding institutions and organizational performance in dynamic environments.[4]

CONCLUSION

This research provides several important contributions to our understanding of firm attributes and economic institutions with respect to export growth.

First, the significant but contrasting results for size and age indicate that they reflect different characteristics of firms in transition economies, with implications for achieving export growth in such conditions.

Second, the curvilinear relationships for size and age with export growth in less and more developed institutional environments highlight the importance of institutional context in understanding the benefits and detriments that size and age provide.

Third, our research offers support for Peng's (2003) phased model of institutional transition,

showing that transition economies are moving towards rule-based exchange, with resulting implications for growing exports.

This research also begins to address the internationalization of emerging economy firms as called for by Wright et al. (2005), and contributes to the institution-based view of business strategy (Meyer & Peng, 2005; Peng, 2002, 2003). The results suggest that the factors impacting on export growth need to be considered both individually and interactively with institutional development. Governments should note that institutions do matter, although in ways that may be different than they believe. Our research supports recent arguments from international business scholars who suggest an institution-based view of business strategy that is substantially different from developed-economy perspectives (Meyer & Peng, 2005; Peng, 2002, 2003).

Most importantly, our research demonstrates that the developed-economy foundations of our management literature may deserve reconsideration in light of our increasingly global business world and its emerging economies.

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NOTES

[1]We appreciate this suggestion from an anonymous reviewer.

[2]The sample determination and data collection methods were different across countries, as discussed. This was necessary to simultaneously obtain responses and minimize expenses. We follow the example set by others (Filatotchev et al., 2001).

[3]We appreciate this suggestion from an anonymous reviewer.

[4]We appreciate this suggestion from an anonymous reviewer.

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