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## **A LOGISTIC MODEL STUDY OF ENDOGENOUS AND EXOGENOUS FACTORS AFFECTING POLISH SMES' INTERNATIONALIZATION SPEED <sup>1</sup>**

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This study is focused on the issue of early internationalization. Its key research objective was to assess how endogenous and exogenous factors discussed in prior research on SME internationalization affect the speed of internationalization. The study is based on data collected via survey research conducted among small and medium private Polish exporters. The results from the survey research are analyzed with the use of non-parametric statistical methods and logistic regression analysis. Our findings indicate that SMEs are pushed to follow the early internationalization path mainly by internal capabilities related to international social capital, to a smaller extent by their unique resources or capabilities, and indirectly by prior international business experience of their managers. Simultaneously they are pulled by opportunities stemming from the possibility to achieve higher margins from foreign sales.

**Keywords:** internationalization, SMEs, Central and Eastern Europe, entrepreneurship

**JEL classification:** L26, M13, M16

### **INTRODUCTION**

According to most prolific authors from the field of international business, company internationalization and SME experiences in internationalization belong to primary research questions in the domain of international business studies (Griffith et al 2009). The same authors indicate that research into specific features of emerging market firms is also on the future research agenda in this field. From the policy point of view, studies into the internationalization process of SMEs are important insofar that research has shown the positive impact of internationalization on the economy. For example, according to the European Commission report on SME internationalization (European Commission 2010, p. 69), SMEs involved in international activities showed greater employment growth rates

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and greater turnover growth rates. Simultaneously, internationalization was found to be correlated with better performance measures and innovation.

SMEs are an important part of Poland's economy, as they contributed 46.9 % of Poland's GDP in 2009 (PARP 2010, p. 28). According to the same report there were 15,178 Polish SMEs (excluding micro firms) involved in exports in 2009, of which over 11,000 were domestically owned and the rest foreign-invested. As of 2009, 31.8% of Polish SMEs were exporters. The average share of SMEs' exports in total turnover (export intensity) was around 21.5%, although it was higher in the manufacturing sector, in this case it amounted to 31.6%. The traditional view of SME internationalization predicted that SMEs would internationalize in a step-by-step manner, gradually increasing their commitment and scale of foreign operations (Johanson and Vahlne 1977). However, we know that this has been changing over the recent years. According to the European Commission report (European Commission 2010, p. 21) 17% of young (not more than 4 years old) SMEs based in the EU are exporters, as compared to 29% among firms older than 25 years. While such new ventures may experience resource constraints which have been traditionally viewed as a major impediment to foreign activities, some more recent studies have indicated (Autio et al 2000) that firms may actually derive special advantages from their 'newness' in the process of internationalization. All this suggests that internationalization among new ventures can be expected to become more and more frequent. Therefore research on early internationalization and comparison of this internationalization path with the more traditional one is a valid research issue, and research in this field can increase our understanding of SME internationalization. While previous studies concerning internationalization paths show that also late-internationalizing firms can pursue rapid internationalization (Bell et al 2001), we will focus on the distinction between early internationalization in the sense of early and rapid entry into international markets and traditional internationalization, understood as delayed and gradual entry into foreign markets.

While recent years have brought significant amount of studies concerning early internationalization from developed countries, relatively fewer studies have been published in respect to transition economies, particularly European transition economies. Most of this research was either case-study driven (Nowinski and Rialp 2010, Vissak 2007, Zidonis 2007) or based on large anonymized datasets (Cieślik and Kaciak 2009). Therefore survey research concerning the issue of early internationalization in the context of European transition economies could supplement the other two

methodological approaches. This study can partly fill this methodological gap by studying the phenomenon of early internationalization among Polish private SME exporters. The key objective of this study consists in verifying the relative importance of the endogenous (push) and exogenous (pull) factors, assumed to drive the internationalization process and contribute to its precocity and speed for the early internationalization of Polish SMEs. We will proceed by first developing a model of early internationalization, rooted in the literature on SME internationalization and international new ventures, then we will present the methodology applied in its testing and finally present and discuss the research results. The paper concludes with key findings, research limitations and suggestions for future research.

## 1. CONCEPTUAL FRAMEWORK

The problem of early internationalization constitutes part of the research on the internationalization processes in general and SME internationalization in particular. Most theoretical frameworks related to the internationalization process, SME internationalization in particular, refer to the three dimensions of: the environment, the entrepreneur and the firm, as the driving forces of internationalization. Etemad (2004) referred to these three dimensions dividing factors affecting SME internationalization into push forces and pull forces. The key point of this framework is that SMEs are simultaneously pushed and pulled towards international markets. Push forces are mainly related to internal factors, such as company and entrepreneur-related capabilities, while pull forces are related to the external environment. Similarly Ruzzier et al (2007) after Antoncic and Hisrich (2000) present SME internationalization as driven by entrepreneur-related forces (linked with human and social capital), firm's characteristics and environmental characteristics. In a similar vein, Jones and Coviello (2005) develop a model of internationalization over time assuming that the starting point of internationalization is characterized by a certain combination of contextual constructs of the environment (business, industry and market related), the entrepreneur and the firm. In their view, the internationalization process is fed by these factors and in turn, the firm's behavior feeds back to the firm and the entrepreneur.

While these SME internationalization models provide useful insights concerning SME internationalization, they do not directly address the issue of internationalization speed as the dependent variable. Such an approach is, however, taken by Oviatt and McDougall (2005), who developed a model of

forces influencing internationalization speed. According to their model, new ventures are motivated to enter international markets by globalization and rising exposure to international competition and are enabled to do so thanks to progress in technology, which diminishes the costs of transportation and improves communication by means of new ICT. The entrepreneur and his/her international business experience, psychological traits which affect the way in which they perceive and act upon international opportunities, constitute intermediaries between motivating and enabling forces and internationalization speed. Finally, knowledge intensity of the field in which the entrepreneur is engaged, combined with the entrepreneur's knowledge and networks, moderates the impact of other factors on internationalization speed. Thus, this model, similarly to Etemad's (2004), links internationalization process to environmental forces, which pull the company towards international opportunities with push factors, treated in this particular model as mediating and moderating forces, linked to the firm and entrepreneur.

As frequently encountered in social research, the number of variables which potentially affect the internationalization process is greater than empirical research allows to collect in any study. Additionally, while there exist literature reviews which present comprehensive lists of factors potentially affecting the internationalization process (for example, Etemad 2004) not all of these factors are relevant to studying early internationalization. One needs to consider also that empirical research focusing on one particular country, in this case Poland, should take into account specific domestic circumstances. In the case of Poland, for example, the internationalization process could have been affected by the process of EU enlargement which took place in 2004. Thus, the choice of variables to the model had to take into account both the literature on SME internationalization in general and on top of that literature on early internationalization. On the basis of these two literature streams we have selected 11 variables which were expected to affect early internationalization.

### **1.1. Push factors**

The impact of international experience on internationalization processes has been signaled by a number of previous studies dealing with new ventures or SMEs (Bloodgood et al 1996, Reuber and Fisher 1997). Bloodgood et al (1996) found, for example, that internationalization is influenced by the international business experience of managers but not by their international

education. Reuber and Fisher (1997) found the international business experience of the SME management teams increases the propensity of these firms to develop international partnerships. Additionally, firms where management has such international experience tend to engage in international sales earlier than firms lacking management with such experience. Therefore we expect that:

*H1: Prior international business experience of the company management team would positively affect early internationalization.*

A number of studies in the past explored the impact of entrepreneurial posture on the internationalization process. Entrepreneurial posture is most frequently related to the construct of entrepreneurial orientation (Miller 1983), which was originally seen as three-dimensional, consisting of: innovativeness, proactiveness and risk-taking<sup>2</sup>. De Clercq et al (2005) for example find that entrepreneurial orientation positively affect intentions to internationalize. Others find a positive relationship between one of the dimensions of entrepreneurial orientation, namely innovativeness and early internationalization performance (Kropp et al 2006). The positive relationship between entrepreneurship orientation and early internationalization has been determined in a transition economy context, although the impact of specific entrepreneurial dimensions diverged, with proactiveness having a direct impact on internationalization speed and innovativeness and risk-taking an indirect impact via foreign market knowledge capability (Zhou 2007). Concluding, it seems justified to argue that

*H2 Entrepreneurial posture displayed by company management will positively affect early internationalization.*

The majority of studies concerning the relationship between involvement in networks and internationalization find some form of positive relationship between the two, even if not all evidence is altogether supportive. Relationships with partners have been assessed by Lithuanian managers as a key capability in the context of international activity (Mockaitis 2007). The positive impact of international network ties on company internationalization is expected to stem from easier access to new information, faster access to information and positive referrals stemming from these ties (Sharma and

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<sup>2</sup> Although a substantial part of research refers to this construct, some researchers question whether firms have to score high on all three dimensions in order to be regarded as entrepreneurial (Lumpkin and Dess 1996). Therefore we decided to ask just one question about the relationship between internationalization and entrepreneurial posture of the management team without referring to all entrepreneurial orientation dimensions.

Blomstermo 2004). Similar effects have been found as regards the impact of domestic network ties on the internationalization of Chinese companies (Zhou et al (2007). Also in the case of other transition economies, such as Bulgaria, research has shown that domestic inter-firm networks may exert a positive impact on internationalization (Manolova et al 2010). Research has shown that company involvement in international networks affects its internationalization patterns (Coviello and Munro 1995) but while contributing to international exchanges, it can also put constraints on internationalization trajectories (Ellis 2011). As far as the relationship of international networks with early internationalization is concerned, international networks have been found to have a mixed impact. Some researchers reported a positive impact on internationalization performance and speed (Coviello and Munro 1997), while others rejected their impact on internationalization precocity (Zuchella et al 2007). In the context of transition economies, Kiss and Danis (2010) recently have argued that in this particular context both domestic and international network ties may positively affect internationalization speed. Case studies from transition economies also tend to show the positive impact of international network ties on early internationalization (Vissak 2007). Considering the above presented arguments, we hypothesize that in the context of Polish SMEs:

*H3: International network ties will contribute to early internationalization.*

*H4: Domestic cooperative relationships will contribute to early internationalization.*

Oviatt and McDougall (1994) argued that unique resources are a necessary condition for the creation of international new ventures. Such unique assets are in their view particularly important for small firms facing resource constraints. Similarly Rialp et al (2005) argued that intangible resources, exemplified by technological, organizational, relational and human capital, are a key source of internationalization capabilities of born global firms, and thus contribute to their existence. Therefore we expect the following:

*H5: Unique resources and/or unique capabilities will contribute to early internationalization.*

## 1.2. Pull factors

Apart from the push factors described above, SMEs involved in international business activities are pulled to foreign markets by a range of factors. We expect several of these factors to explain the internationalization speed.

A recent review of SME internationalization theories (Wright et al 2007) suggests that learning and knowledge theories of international entrepreneurship tend to view restricted domestic market as a driver of a firm's internationalization. This could be ascribed to the general tendency of small firms to pursue market niches to avoid direct competition with larger rivals (Christensen 1991). As a result of such strategy, they are likely to be forced to internationalize when the domestic market has too small a potential to achieve a satisfactory level of sales or even to survive (Zucchella and Palamara 2007). In a similar vein, Madsen and Servais (1997) argue that the size of the domestic market may contribute to greater propensity of firms to become "born global" (Madsen and Servais 1997). These assertions have found some empirical support. Born global firms tend to perceive domestic markets as less attractive than domestic firms (Moen 2002). Simultaneously, firms pursuing a strategy of early and rapid internationalization have been found to follow a niche strategy (Cavusgil and Knight 2005, Zucchella and Palamara 2007).

As prior case study research on Polish born global firms suggests that small, or sometimes non-existent, domestic market is a barrier to SME growth (Nowinski and Rialp 2010) therefore it is reasonable to verify if:

*H6: Insufficient size of the domestic market will positively affect early internationalization.*

Competition has been regarded as an important driver of accelerated internationalization (Oviatt and McDougall 2005). According to Porter's diamond concept (Porter 1990), strong domestic rivalry contributes to the competitive advantage of a country's enterprises. Yiu et al (2007) found that the intensity of domestic competition contributes to international venturing of emerging market firms in the form of FDI. We believe that these findings can be transferred to international venturing in the form of exports. Therefore not only unique resources under company's control, but also the intensity of domestic market competition should contribute to early and accelerated internationalization:

*H7: Competitive pressures on the domestic market contribute to early internationalization.*

Global market integration leads to firms skipping over the traditional internationalization stages proposed by the Uppsala model (Hedlund and Kverneland 1985). Additionally such integration of industries in which newly formed firms operate is strongly related to their international as opposed to domestic market orientation (McDougall et al 2003). The barriers between markets decrease as a result of international agreements, and among others as a result of regional integration processes. Regional integration on the one hand, decreases barriers of entry to new markets which previously limited SME internationalization (Fliess and Busquets 2006), and, on the other, increases the level of competition that firms encounter in their domestic markets. Although Poland joined the EU in 2004, EU enlargement had been negotiated and then prepared for several years prior to the final EU enlargement. Therefore Polish SMEs could have shaped their strategies with EU enlargement in mind already before 2004. On the basis of these arguments we expect that:

*H8: Early internationalization will be positively affected by integration of international markets.*

*H9: Early internationalization will be positively affected by EU enlargement involving Poland.*

Technology progress, in particular changes in ICT enable accelerated internationalization (Oviatt and McDougall 2005, Yu et al 2005) as they make the exchange of knowledge (frequently regarded as crucial to internationalization processes) cheaper and faster. As a result, international markets become more accessible to firms with limited resources (Gassman and Keupp 2007, Mathews and Zander 2007). Access to new knowledge via the Internet facilitates SME internationalization by reducing barriers to internationalization, increasing firm's competitiveness and available international opportunities (Loane 2006). In the case of post-communist economies, their prior isolation might negatively affect the knowledge of international markets among SME managers. In such a case new opportunities to access market knowledge could be expected to have particularly strong relevance for SMEs and their internationalization patterns. Therefore we hypothesize that:

*H10: Access to modern computer technologies, such as in particular the Internet, will contribute to early internationalization.*

Manolova et al (2002) found that perceptions which entrepreneurs or managers have concerning international markets affect the likelihood that



their firms internationalize. The more positive the perceptions, the higher the likelihood to internationalize. Perceptions of attractive international business opportunities may stem from growth opportunities, the existence of market niches but also from differences in price levels and opportunities to realize higher margins abroad than domestically. Prior research from developed markets, such as Norway and France, indicates that born global firms, most often SMEs, tend to view international markets as more attractive than locally oriented and slowly internationalizing firms (Moen 2002). As entrepreneurial behaviour is viewed as fueled by arbitrage opportunities (Kirzner 1997), therefore entrepreneurial internationalization may also benefit from opportunities to realize higher margins in foreign markets. Therefore we hypothesize that:

*H11: Higher margins from foreign market sales will contribute to early internationalization.*

The whole model incorporating all eleven hypotheses is presented in Figure 1.

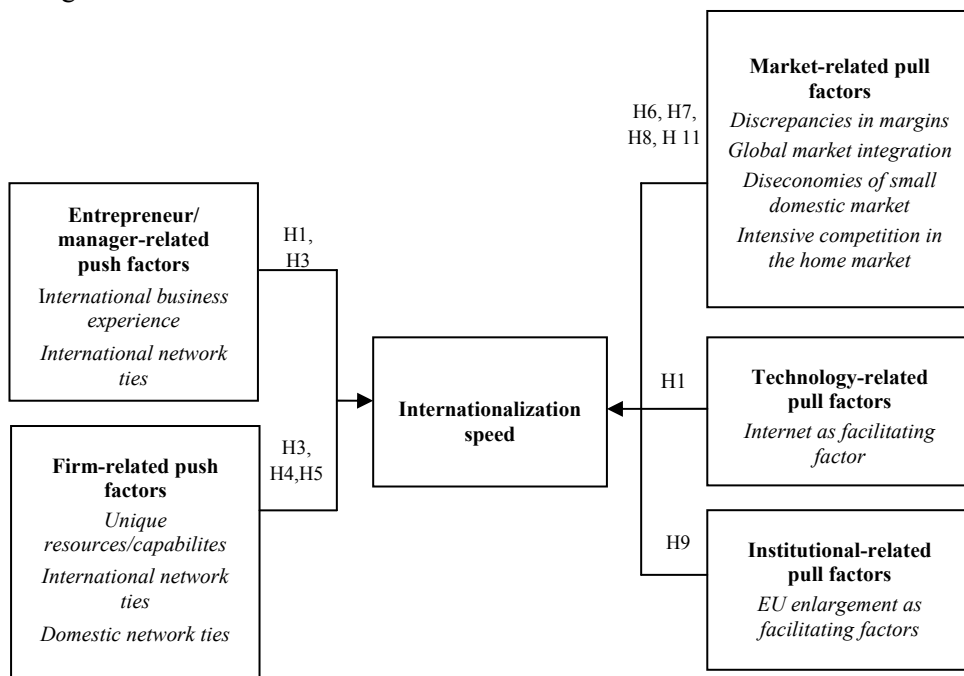


Fig. 1 Model of early internationalization

Source: authors' compilation

## 2. METHODOLOGY

### 2.1. Sample

The firms were selected to the study from the Kompas database which comprises over 90,000 records on firms located in Poland and allows to screen firms, among others, according to such criteria as: size, year of establishment, involvement in export. Data bases run by Kompas used to form a source of company information in other similar studies in the past (Solberg and Durieu 2006). PARP (2010) estimated the number of Polish manufacturing firms with exports at 7,943, as of 2009. According to the Kompas database there were 8,888 firms involved in manufacturing and exporting and employing 11 or more employees (9,480 if we also consider firms that did not provide employment figures and 10,723 if we include additionally firms employing 10 and fewer employees). While there are certainly differences in terms of classification criteria in the case of the two data sources, we can infer that at least the majority of Polish exporters should be included in the Kompas database.

For the sake of this study, we define SMEs in line with the official EU definitions (European Commission 2003) as far as employment criterion is concerned, that is, we included firms employing fewer than 250 employees. However, differently than the European Commission, we applied different turnover criteria, setting the lower limit at PLN 300,000 (no minimum level is included in the EU definition) and the upper at PLN 50 million/year. In Euro terms at current exchange rates this is respectively around 80 thousand and EUR 15 million. The upper limit was thus set below the EU definition which sets the turnover ceiling at EUR 50 million per year (European Commission 2003). One must also note, that only a minority of firms in the data base provided information on their turnover. Therefore we can regard our assumptions concerning the turnover of the studied firms as only approximate. While some reports on SME internationalization (PARP 2010) do not take into account micro firms, we did include in our sample firms which employ fewer than 10 employees, as such micro firms are an important part of the Polish economy. As of 2008, they generated 29.8% of Poland's GDP, that is more than small and medium firms together (17.1%) (PARP 2010). For both technical (sample size) and conceptual reasons we decided to limit our sample to manufacturing firms founded between 2000 and 2004 which were involved in exporting and did not have a state-owned company status. Altogether 642 firms from the database fulfilled the above stated criteria. Two additional criteria were used to make the final selection

of firms to the study. As we wanted to focus on independent firms set up by indigenous entrepreneurs, we eliminated from the sample firms that were formed as a result of privatization or by means of foreign direct investment. These two criteria were implemented by screening company web pages. This decreased the sample size to 372.

Questionnaires were sent out to the selected manufacturing firms by post in two rounds, in December 2009 and January 2010. It was indicated in the cover letter that due to the nature of the questionnaire it was highly recommended that the questionnaire was answered either by the owner/top manager or by a member of management team who was involved in the export activity since its beginning. Firms who did not respond after the first round were contacted by phone. Information collected during these phone calls allowed to reduce sample size to 326 after eliminating firms which turned out not to be exporters, were out of business or underwent other serious changes, such as a change in ownership or business profile.

Altogether 67 questionnaires were collected, of which 50 were qualified as fulfilling our criteria related to size, export behaviour and ownership. Of these, 12 were received after the first round and 38 after the second round. The overall effective response rate is thus 15.3% (50 answers out of 326 firms in the final sample). A similar sample size and response rates can be found in other studies from the domain of international business carried out in emerging economies (Contractor et al 2005, Mockaitis et al 2007).

The average share of exports in the turnover of Polish manufacturing SMEs (export intensity) was 31.6% (PARP 2010, p.74) while in our sample it was 36.9%<sup>3</sup>. If we considered only small and medium sized firms from our sample (excluding micro firms) then their average export intensity rises to 40.7%. Nevertheless, t-tests did not show statistically significant differences between the export intensity of small and medium firms included in our sample and the average export intensity reported by PARP. Non-response bias is often analyzed by comparing first-round respondents with second-round respondents because the latter tend to resemble non-respondents to a greater degree than first-round respondents (Armstrong and Overton 1977). The Mann Whitney U-tests did not show significant differences between these two respondent groups along such dimensions as: the number of employees, export intensity, the number of

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<sup>3</sup> Statistics on the export intensity of Polish firms from the SME sector are available only for small and medium firms (PARP 2010) while our sample also included micro firms. As a result we could not compare export intensity reported by PARP to that shown by our whole sample, as it also included micro firms.

foreign markets served and the time lag between inception and first exports. Therefore we can consider our results as valid.

## **2.2. Measures**

The dependant variable in this study is internationalization speed. We defined this construct consistently with previous studies (Knight and Cavusgil 1996; Oviatt and McDougall 2005, Zhou 2007) which link it to the speed of reaching a substantial part of sales from foreign markets early from inception. In line with Knight and Cavusgil (2005), we categorized firms as born global firms and therefore as firms following an early internationalization path if they obtained 25% of revenues from abroad within three years of their foundation. We measured the time lag since the year of actual inception of the company and not since the year of its last legal incorporation, which normally appears as the starting year in official statistics. In this way we at least accounted for the official history of the company, although we still lack the information about the company gestation period which might precede its legal formation. Following these criteria we distinguished two categories of firms: ones following an early internationalization path (reaching an export intensity of 25% within three years of inception) and the remaining firms which followed a more traditional internationalization path.

Independent variables were accounted for by measuring respondents' perceptions concerning the degree to which push and pull factors, to which we referred in our hypotheses, influenced their foreign market entry decisions. Independent variables were measured in a 5-point scale, in which 1 reflected lack of relevance for international expansion while 5 reflected very significant impact. In the following analyses, variables were numbered in the same order as the hypotheses referring to them.

## **2.3. Statistical methods**

In order to detect differences between the two groups of firms we applied methods adequate for ordinal data, i.e. methods which do not assume normal distribution, such as non-parametric tests and generalized linear models. First we carried out Kolmogorov-Smirnov non-parametric tests, to assess differences in mean values of responses concerning each of the eleven individual push or pull factors which we analyze. Additionally, we applied logistic regression model which is a proper approach when the dependent variable (speed of internationalization) is a discrete, binary variable explained by covariates (McCullagh and Nelder 1989, p. 98-124). In this

way we were able to measure how different values of explanatory variables (respondents' perceptions concerning the impact of specific factors on international expansion) explain the probability of belonging to the two categories of early and traditional exporters.

We used the following logistic model (Agresti 1984, p. 106, Rao and Toutenburg 1999, p. 316):

$$\log \left[ \frac{\pi(\mathbf{x})}{1 - \pi(\mathbf{x})} \right] = \alpha + \mathbf{x} \boldsymbol{\beta}^T,$$

where  $\alpha$  is the intercept parameter of the model,  $\boldsymbol{\beta}^T = \begin{pmatrix} \beta_1 \\ \beta_2 \\ \dots \\ \beta_i \end{pmatrix}$  is the vector of

coefficients,  $\mathbf{x} = (x_1, x_2, \dots, x_i)$  is the vector of covariates, and  $\pi(\mathbf{x})$  is the probability of success of belonging to the category, as the function depending on covariates.

### 3. RESULTS

Kolmogorov-Smirnov tests show that early internationalizing firms differ from other (late) exporters in respect to three out of the eleven studied push and pull factors. Tests (see Table 1) indicate that there are significant differences between the two categories of early and traditionally internationalizing firms in respect of the international business experience of management teams (1), international ties (3) and relevance of higher margins from foreign sales (11). As the relevance of each of these factors for entry to international markets was assessed as higher by early exporters, the obtained results lend some support for hypotheses 1, 3 and 11.

Prior to carrying out logistic regression we calculated Spearman's correlation matrix for all independent variables involved in the analysis in order to see if collinearity might pose a problem (see Table 2). Correlations of three explanatory pairs turned out to exceed the level of 0.5, which is usually regarded as the threshold level for potential collinearity problems. Experience of the management team in international business (1) was correlated with international ties (3) at the 0.64 level. We can hypothesize that this correlation is due to the fact that active involvement in international business also generates international ties. Two more correlations slightly exceeding 0.5 level were detected. We tested if multicollinearity could be a problem by calculating Variance Inflation Factors. Although the maximum VIF value for covariate international business experience of the management team did not exceed 2.5, taking into account its significant correlation with two other covariates we decided to estimate an additional model (no 2)

which did not take into account this covariate (see Table 3). Maximum VIF value for this model was below 2. Model 3 was estimated using best-subset regression method based on Akaike Information Criterion in order to explore which covariates were the best predictors of the dependant variable.

The estimated models were assessed according to their predictive power and goodness-of-fit. The predictive power of the model can be measured by the correct classification rate CCR or by odds ratio. In both cases the higher the value the better the predictive power of the model, although CCR is calculated separately for the two categories of the dependant variable while odds ratio reflects the overall classification rate. The results of these two measures would be fully consistent if the number of cases (firms) falling into each of the categories was the same. As in our case there are 15 firms following an early internationalization path and 35 late exporters, conclusions regarding the predictive power of the analyzed models drawn from the two measures may be slightly different.

Comparison of models on the basis of their goodness-of-fit to data can be measured, among others, by Akaike Information Criterion (AIC) (Sakamoto et al 1986). The best model (with best fit to data) is the one with the lowest Statistics value.

Models 1 and 2 showed the same predictive power while goodness-of-fit was slightly better in the second case due to the lower number of covariates. Both models have an odds ratio of 66 and their correct classification rate (CCR) is 80% for early internationalizing firms and 94% for remaining exporters. While the predictive power of model 3 is a little weaker than in the case of models 1 and 2, its goodness-of-fit measure AIC shows a much lower value as only two covariates were retained in this model. It is notable that model 3 involving only two covariates: international network ties and the role of higher margins from foreign sales, correctly classifies 44 out of 50 analyzed cases, which is only one less than the two models with the highest CCR.

A common finding irrespective of the model applied, is the highly significant impact of international network ties and higher margins from foreign sales to the early internationalization of the studied SMEs. Thus our results provide clear support for hypotheses 3 and 11 (see Table 4 for the list of hypotheses and outcomes). Evidence concerning the impact of unique resources/capabilities on early internationalization is mixed. Its statistical significance reached the 0.05 level only in the full model which disregards collinearity problems. Although the parameter of this covariate is positive also in model 2 its statistical significance is lower in this model, at 0.1. The best sub-set model (no 3) does not include this covariate.

Table 1. Kolmogorov-Smirnov test

Variable	Max. negative difference	Max. positive difference	p	Early		Late	
				Mean	Std.Dev.	Mean	Std.Dev.
1 INTL BUS.EXP**	0	0.486	<b>p &lt; .025</b>	<b>3.733</b>	<b>2.143</b>	<b>1.486</b>	<b>1.353</b>
2 ENTR POSTURE	0	0.305	p > .10	4.133	3.457	1.125	1.379
3 INTL TIES***	0	0.619	<b>p &lt; .001</b>	<b>4.6</b>	<b>2.829</b>	<b>0.828</b>	<b>1.424</b>
4 DOM. TIES	-0.067	0.171	p > .10	1.533	1.457	0.743	0.886
5 UNIQUE RES/CAP	0	0.219	p > .10	3.133	2.514	1.356	1.401
6 MARK. SIZE	-0.124	0.171	p > .10	2.6	2.371	1.682	1.262
7 DOM. COMP.	0	0.257	p > .10	2.667	2.114	1.397	1.105
8 MARKET INTEGR.	-0.114	0.105	p > .10	2.333	2.4	1.397	1.519
9 EU ENLARG.	-0.086	0	p > .10	2.8	3.029	1.699	1.618
10 INTERNET	-0.152	0.067	p > .10	2.8	2.914	1.821	1.56
11 HIGHER MARGINS***	0	0.552	<b>p &lt; .005</b>	<b>4.267</b>	<b>2.8</b>	<b>0.884</b>	<b>1.346</b>

\* significant at 0.1

\*\* significant at 0.05

\*\*\* significant at 0.01

Source: calculations carried out with STATISTICA 9.0

Table 2. Spearman's correlation coefficients for independent variables

	1	2	3	4	5	6	7	8	9	10	11
1 INTL BUS.EXP	1										
2 ENTR POSTURE	0.308	1									
3 INTL TIES	<b>0.636</b>	0.351	1								
4 DOMESTIC TIES	0.252	0.345	0.146	1							
5 UNIQUE RES/CAP	0.222	0.284	0.036	<b>0.505</b>	1						
6 SMALL MARKET	0.195	0.199	-0.022	0.297	0.359	1					
7 STRONG COMP	0.271	0.338	0.141	0.287	0.073	0.437	1				
8 MARKET INTEGR	0.213	0.055	0.109	0.091	0.061	0.164	0.015	1			
9 EU ENLARG	0.178	-0.02	-0.028	0.223	0.039	0.101	0.065	0.394	1		
10 INTERNET	0.031	0.177	-0.006	0.384	0.421	0.198	0.126	0.478	0.265	1	
11 HIGHER MARGINS	<b>0.502</b>	0.305	0.361	0.177	0.23	0.321	0.375	0.091	-0.147	0.057	1

Source: calculations carried out with STATISTICA 9.0 ( correlations above 0.5 level are in bold)



Table 3  
Results of logistic regression

	<b>Variable</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
	INTERCEPT	-17.859***	-17.828***	-10.078***
1	INTL BUS.EXP	-0.072		
2	ENTR POSTURE	-1.445	-1.465	
3	INTL TIES	3.291**	3.266**	1.371***
4	DOMESTIC TIES	-1.018	-1.01	
5	UNIQUE RES/CAP	1.694**	1.679*	
6	SMALL MARKET	-0.262	-0.263	
7	STRONG COMP	1.078	1.099	
8	MARKET INTEGR	-0.175	-0.203	
9	EU ENLARG.	-0.794	-0.82	
10	INTERNET	0.159	0.189	
11	HIGHER MARGINS	1.650**	1.635**	1.049**
	odds ratio	66.00	66.00	45.38
	CCR (early)	80.00	80.00	73.33
	CCR (traditional/late)	94.29	94.29	94.29
	AIC	46.935	44.949	39.287

\* significant at 0.1

\*\* significant at 0.05

\*\*\* significant at 0.01

Source: calculations carried out with STATISTICA 9.0

Table 4  
Results of hypotheses testing

	1	International business experience of the management team	partially confirmed
Push factors	2	Entrepreneurial posture of the management team	rejected
	3	International network ties	confirmed
	4	Domestic cooperative ties	rejected
	5	Unique resources/capabilities	partially confirmed
Pull factors	6	Small size of the domestic market	rejected
	7	Strong competition on the domestic market	rejected
	8	Global market integration	rejected
	9	Enlargement of the EU	rejected
	10	Access to computer/Internet resources	rejected
	11	Higher margins from foreign sales	confirmed

Source: authors' compilation

#### 4. DISCUSSION

We find in our study that a relatively narrow set of variables determines the choice of early and accelerated internationalization path over a slower and more traditional one. Our findings concerning the impact of international ties on early internationalization support the stream of research focusing on international social capital and its role for early internationalization (Coviello 2006). Our findings in respect to the role of foreign market opportunities concerning opportunities for higher margins extend previous research (Manolova et al 2002) insofar that such opportunities (and their perceptions) not only increase the likelihood of internationalization but also affect its precocity and speed. We can also claim that the view of entrepreneurship as arbitrage between the markets (Kirzner 1997) seems to be a viable approach to early internationalization for transition economy SMEs.

It is quite surprising that the relationship between early internationalization and small domestic market (and niche strategy stemming from small domestic market size) do not receive support. This finding is

different than previous research suggested (Knight and Cavusgil 2005, Nowiński and Rialp 2010, Zucchella et al 2007). Nowiński and Rialp (2010) found through case study research that born global firms originating from Poland displayed a typical niche orientation. The relatively low role of domestic market size constraints for early exporters included in our study might be explained in several ways. First, our study included relatively small firms. Secondly, while niche-oriented knowledge-based firms may be bound to become early exporters, their share in the total population of exporters might nevertheless be relatively low in a transition economy like Poland. In order to further explore this issue future research might benefit from controlling the knowledge-content of exporter offering.

Interestingly, we also observe that the relevance of the management team's international business experience (1) for the internationalization process is not a significant predictor of early internationalization, even though early and late internationalizing firms differ substantially on this dimension, as shown by the Kolmogorov-Smirnov tests. A possible explanation is that the positive impact of such an experience occurs through its contribution to building international network ties. This would explain the high correlation between the two covariates. Therefore the effect of international network ties on the precocity and speed of company internationalization encompasses the impact of international business experience.

The remaining push and pull factors, contrary to our hypotheses which expected them to be significant predictors of early internationalization, turn out to be insignificant. Strong domestic cooperative ties do not seem to contribute to early internationalization. While logistic regression analysis does not find the role of domestic ties to be a significant predictor of early internationalization, domestic ties were on average perceived as more important by early rather than late exporters (see Table 1). Domestic ties definitely seem much less relevant for early internationalization than international ties. Our study focused on cooperative ties with business partners. Perhaps future studies could also look at institutional ties, which in the context of China proved to be more important in facilitating international venturing than business ties (Yiu et al 2007). Our study has not found entrepreneurial posture to be a significant determinant of early internationalization even though early exporters do perceive entrepreneurial posture as relatively more contributing to internationalization than late exporters do. Furthermore, firms which perceive market integration as contributing to their internationalization do not internationalize faster.

Actually, those for whom EU enlargement played an important role tend to follow a traditional internationalization path. This indicates that while market integration does facilitate internationalization, its relative importance is greater for firms which follow the traditional path of gradual entry into foreign markets. As we do not find the intensity of domestic competition to have a significant impact on early internationalization choice, we can claim that transition economy firms are driven by a different set of motivating forces than foreseen in the model of Oviatt and McDougall (2005) who regarded global integration and related competitive forces to be motivating forces for early internationalization. Similarly, the other market pull factor which can be regarded as facilitating foreign expansion, namely access to modern IT/Internet, plays a relatively more important role for traditionally internationalizing firms than for early exporters. It seems that new ventures which internationalize shortly after inception while certainly benefiting from market and technology developments are driven by other motives and are potentially capable of overcoming market/technology barriers once they find internationalization to be a worthwhile opportunity.

## CONCLUSIONS

We have tested in this study the impact of a number of factors which push and pull SMEs to foreign markets, on the choice of early and accelerated internationalization path. We found that the existence of international ties and opportunities arising from relatively higher margins in international markets are the most significant predictors of early internationalization. The impact of unique resources/capabilities received mixed support. Surprisingly, we have found that neither pull factors related to small domestic market size nor factors facilitating early internationalization, such as integration of international markets and developments in information technologies, were contributing to early internationalization.

The primary contribution of this study consists in identifying arbitrage price opportunities as an important driver of SME early internationalization. While previous research has noticed the relevance of foreign market attractiveness for born global firms from developed economies such as Norway or France (Moen 2002), our research shows that this is one of the primary factors determining early internationalization in the case of Polish SMEs. Although our study has been conducted in only one emerging market,

we speculate that this result could be generalized to SMEs from emerging markets in general.

Another important contribution of this study refers to the role of international experience in early internationalization. Our results suggest that its positive contribution to early internationalization is mostly related to its impact on developing international ties which then positively affect early internationalization. This suggests that not just any experience in international business but such experience that contributes to the development of useful international ties contributes to early internationalization.

Our study, as any other, has its limitations. First, it is based on data from one country setting. Assuming that economic transition exerts an impact on internationalization paths (Gorton and White 2009), we could expect that forces driving early internationalization might depend on the stage of this transition which considerably varies among countries (De Arriba Bueno 2010). Future studies could benefit from cross-country comparisons in this respect. Second, our analysis is based on retrospective data, although this weakness was minimized by addressing the survey to founders or managers involved in initial stages of internationalization. Finally, a larger sample would probably increase the significance of regression coefficients.

Future research could benefit from addressing two issues. First, it would be beneficial to identify the way in which firms obtain international ties so crucial for their early internationalization. To what extent are these ties the result of congenital learning, i.e. preceding new venture formation, and to what extent they are developed anew by the newly formed venture. Second, it would be worthwhile to combine the study of the timing and the pace of internationalization with its geographical scope and value chain internationalization. Taking into account the relevance of the SME sector for economic growth and considering the positive impact of early internationalization on new opportunities for company growth (Sapienza et al 2006), further research into this domain is warranted.

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