

Identification of Linkages between the Competitive Potential and Competitive Position of SMEs Related to their Internationalization Patterns Shortly after the Economic Crisis

Piotr Trąpczyński, Barbara Jankowska, Marlena Dzikowska, Marian Gorynia

ABSTRACT

Objective: We aim to identify internationalization profiles of SMEs for the period immediately following the global economic crisis (years 2010-2013) and characterise them with reference to the firms' competitive potential during the crisis (year 2009), and their competitive position at the end of the analysed period.

Research Design & Methods: The study is based on a complementary data set derived from secondary (AMADEUS database) and primary sources of information (computer assisted telephone interviews with top managers) for 553 micro, small and medium firms located in Poland. We conduct a cluster analysis to identify different internationalization profiles of SMEs for the years 2010-2013.

Findings: In the year of the global economic crisis ambitious investors on average had at their disposal substantially better competitive potential than the remaining two groups. Ambitious exporters were better equipped than cautious internationalizers only in terms of human resources, intangible resources and quality control.

Implications & Recommendations: Policy support should be particularly oriented towards supplying information about foreign markets and fostering firms in an optimal allocation of their resources.

Contribution & Value Added: The study suggests that the strategy of diversifying international markets during the economic crisis and recovery can be a means of improving performance and reducing excessive dependence on fluctuations in key markets.

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INTRODUCTION

Poland is often regarded as a country, which had not been significantly affected by the global economic crisis. In fact, Poland's annual GDP growth in 2009 amounted to 2.63% as opposed to the average for OECD members of -3.94% (World Bank, 2012). Undoubtedly, the expansion of a nation's exports has positive effects on the growth of the economy as a whole, as well as on individual firms (Cavusgil & Nevin, 1981). Additionally, an extensive network of international operations allows firms to react swiftly to unexpected declines in demand or increases in production factor prices in both domestic and international markets, as it allows to shift sales to customers in more munificent environments or benefit from operational flexibility and move operations to less costly locations (Kogut & Kulatilaka, 1994; Roberts & Tybout, 1997). At the same time, the capacity of the firms to react actively to the challenges brought by the crisis, deeply influences the ability of the whole economy to recover from it. From this perspective changes in internationalization level of companies during economic crisis period is an interesting research area worth further investigation. It is especially important in terms of a country that was performing relatively well in terms of its economic results during the global economic crisis (Poland) and relations of international expansion issue with aspects of firm competitiveness in general. Therefore, the scientific problems undertaken in this paper is the identification of internationalization profiles of Polish SMEs for the period following global economic crisis and their background in terms of the competitive potential possessed by those companies before that period and the competitive position occupied by them at its end.

Macroeconomic data indicate that changes in terms of Polish companies involvement into foreign markets were taking place during the global economic crisis. This evidence pertains to the most advanced form of firm internationalization, i.e. foreign direct investment (FDI): net outflows from Poland in 2009 grew by 21.51%, as compared to a sharp decline of 32.85% for the OECD group. This can reflect a relatively high immunity of Polish firms to the economic downturn and increase in Polish companies' interest in expansion to foreign markets (Gorynia, Nowak, Trąpczyński & Wolniak, 2015b). Still, the export of goods and services from Poland in 2009 decreased by 6.28%, and it was accompanied by a decrease in import of goods and services amounting to 12.38% (as opposed to a decline of respectively 11.40% and 11.76% for the OECD group) (World Bank, 2016).

Adopting a microeconomic perspective towards Polish companies, in particular small and medium enterprises (SMEs), extant studies point to clearly negative effects of the crisis for domestic firms, including *inter alia* the decline of orders, sales, delayed or cancelled payments (Orłowski, Pasternak, Flaht & Szubert, 2010), decline in corporate value and increase in costs (Grądzki & Zakrzewska-Bielawska, 2009; Brojak-Trzaskowska & Porada-Rochoń, 2012). Additionally, the study of Zelek and Maniak (2011) suggest that SMEs most frequently recurred to defensive rather than offensive reactions to the crisis. Furthermore, in the context of Polish SMEs there was evidence of a rather low perceived effectiveness of expansion to new markets (Burlita, Bursiak, Grzesiuk, Lachowska, Maniak, Świergiel & Zelek, 2011). Nevertheless, in the post-crisis time firms can respond to changes in external settings by *inter alia* extending or limiting their international opera-

tions, and deepening or shallowing their internationalization level. Thus, the aim of our study is threefold. Firstly, we aim to identify the internationalization profiles of Polish SMEs in terms of their internationalization after the global economic crisis (years 2010-2013). For this purpose we look at the intensity of internationalization in terms of its breadth and depth. Second, our research is to detect whether the most ambitious internationalization behaviour described by the changes in its depth and breadth can be associated with possessing a superior competitive potential. Third, our investigation is to discover any links between the changes in the depth and breadth of internationalization and competitive position of the firms.

We set out by outlining the conceptual background behind internationalization, firm competitiveness, as well as their mutual relationships. We then use existing literature on the effects of economic crisis on competitiveness and internationalization of firms to formulate hypotheses related to the interplay of firm internationalization and competitiveness under crisis conditions. Subsequently, we present the methodology of our empirical data collection, as well as the findings of the related cluster analysis and the Kruskal-Wallis H test. In the final part of the paper, we discuss the findings and highlight their implications.

LITERATURE REVIEW

Firm Internationalization and Competitiveness

Welch and Luostarinen (1988, p. 36) define firm internationalization as “the process of increasing involvement in international operations”. However, business reality clearly indicates that sometimes firms tend to limit their international commitment. Particularly for firms with less advanced international operations the probability of exiting foreign markets is high (Benito & Welch, 1997). In fact, Benito and Welch (1994) argue that firms learn throughout the process of internationalization, thus adjusting their approach to risk and paying greater attention to subsequent expansion steps. Moreover, since both organizational and environmental complexity rises with the widening of a firm's international operations (Verbeke, Li & Goerzen, 2009), Calof and Beamish (1995) argue that internationalization is related to adapting the firms' operations to international environments, which pertains to their strategy, structure and resources.

One of the key questions in the research on internationalization is whether the increase of its degree is beneficial to firm performance (Verbeke, Li & Goerzen, 2009). Meanwhile, the related academic debate remains inconclusive (Matysiak & Bausch, 2012). It has been argued that the predominant focus on the direct link between internationalization degree and performance is not entirely legitimate, as performance is a derivative of its capabilities, leveraged in international markets (Luo, 2002). Thus, in order to account for the interplay of resources, internationalization, and performance, it appears legitimate to explore the concept of firm competitiveness.

In the presence of numerous determinants of competitiveness, it is relevant to decompose this concept into specific dimensions (Gorynia, Jankowska & Tarka, 2013; Buckley, Pass & Prescott, 1988; Wach, 2014). According to the model of Gorynia (2004; 2005), firm competitiveness can be divided into competitive potential, competitive strategy and competitive position. However, even the deconstruction of the competitiveness concept into competitive potential, competitive strategy and competitive position still does not

allow to conduct its measurement, and therefore, all those dimensions need to be operationalized into variables. Due to the aims of this paper our understanding of competitive potential and competitive position are of special importance. In regard to competitive potential, answering to an issue raised in the literature (Collins, 1991; Porter, 1991; Dess, Gupta, Hennart & Hill, 1995; Spanos & Likoukas, 2001; Sheehan & Foss, 2009), the perspective applied in the paper combines competences (Porter, 1985) and resources (Wernerfelt, 1984; 1995; Prahalad & Hamel, 1990; Barney, 1991; 2002; Barney & Clark, 2009) as sources of a company's competitiveness. Such approach has been also suggested in some previous studies referring to firm competitiveness (Dzikowska, 2014).

On the other hand, competitive position can be defined as the result of market evaluation of a firm's offering. It reflects constant rivalry between competitors and since that it has a dynamic character (Porter, 2006). Variables expressing this dimension can be classified into three basic groups: financial results (i.e. profits, rate of return on assets, rate of return on investments etc.), market results (i.e. profits, market shares etc.) and shareholders results (i.e. shareholder total return, economic value added etc.) (Richard, Devinney, Yip & Johnson, 2009). Additionally, the mentioned variables can be expressed as objective measures (nominal values) or subjective ones (evaluations of respondents).

It is easy to notice that the above mentioned competitive dimensions are inter-linked. Competitive positions are results achieved thanks to the competitive potential used during a competition process, conducted according to a scheme set by a company's competitive strategy that takes into account environmental conditions (Dzikowska, 2014; Jankowska, 2011).

The achievement of a given competitive position is determined by the possession or lack of competitive advantage, which pertains to the ability to survive in the middle- and long-run. Competitive advantage results from "a skilful exploitation of existing potential with the use of appropriate competitive instruments" (Gorynia, Jankowska & Tarka, 2013, p. 28).

The Role of Internationalization Depth and Breadth during Economic Crisis

Many international business studies focus on the relationship between widely understood enterprise's internationalization and its performance. However, at it was already mentioned, the results remain inconclusive. While some results indicate that the relationship between the mentioned variables is linear and positive (Vernon, 1971; Grant, 1987) or negative (Collins, 1990), others suggest existance of U-shaped (Qian, 1997; Elango & Pattnaik, 2009), reverted U-shaped (Ramaswamy, 1995; Gomes & Ramaswamy, 1999) or S-shaped (Contractor, Kundu & Hsu, 2003) relationship. In a call to better explain the performance effects of internationalization, it has been argued that further studies should explore the actual substance of internationalization, rather than simple measures like the share of foreign sales (Verbeke, Li & Goerzen, 2009). While most studies still focus on the effect of the share of foreign sales on firm performance (for an overview see Matysiak & Bausch, 2012), there is also empirical evidence that it is FDI that affects economic outcomes in international markets (Fang, Wade, Delios & Beamish, 2012; Luo, 2002). Hence, we argue that the breadth of internationalization should be distinguished from its depth, the former meaning the number and diversity of foreign markets served by the firm, while the latter referring to the advancement of the commitment of resources to foreign markets. In fact, as it has been argued, the influence of

internationalization on firm competitiveness is contingent upon its stage of advancement (Trąpczyński & Wrona, 2013), which can be measured both along its depth and breadth.

The ability of firms to sustain a favourable competitive position and even improve financial performance during the period of crisis can be enhanced by the possession of appropriate competitive potential in terms of product, process and organizational innovativeness (Antonioli, Bianchi, Mazzanti, Montresor & Pini, 2011; Köksal & Özgül, 2007). Lee, Beamish, Lee and Park (2009) argue, based on their study of Korean exporters during the Asian crisis that firms with a leading market position were the most internationalized. Meanwhile, this relationship was positively moderated by the possession of above-average R&D capabilities (Lee *et al.*, 2009). In the same vein, Filippov and Kalotay (2011) argue that foreign operations of firms whose strategic position was strong already before the crisis, were able to grow more quickly throughout the crisis. As far as the depth of internationalization, i.e. the role of FDI in foreign expansion, is concerned, it has been argued that the crisis increases the propensity of firms to raise control of foreign operations through capital ownership (Williams & Martinez, 2012). In fact, foreign operations with a higher investment of the parent firm show higher survival chances (Chung & Beamish, 2005). Another argument for the particular role of internationalization depth during the crisis pertains to the acquisition mode. In fact, research indicates that recession conditions favour high-performing acquisitions as compared to pre- and post-crisis conditions, which can be related to the emerging takeover opportunities (Wan & Yiu, 2009). Given the above, we propose that:

- Higher competitive potential of SMEs at the outset of the economic crisis is
- H1:** characteristic for firms that increase their internationalization depth rather than breadth thorough the post-crisis period.

The gross financial results of Polish exporters declined from 44.4 billion PLN in the first half of 2008 to 34 billion PLN in the first half of 2009. However, firms specialised in export (whose share of export in total revenues exceeds 70%) managed to increase their results in the same period from 9.2 billion PLN to 12.2 billion PLN (Wołodkiewicz-Donimirski, 2010). Likewise, Amendola, Ferragina, Pittiglio & Reganati (2012) found that Italian exporters from different sectors had higher survival chances, although this relationship was also affected by their liquidity and level of debt. In a similar vein, exporters knowing a variety of host countries and having a network of foreign contacts, were more able to cope with uncertainty related to economic risk, thus achieving higher performance gains (Jansson, Hilmersson & Sandberg, 2010).

In the light of extant research, an extensive network of international operations allows firms to react swiftly to unexpected declines in demand or increases in production factor prices in both domestic and international markets, as it allows to shift sales to customers in more munificent environments or benefit from operational flexibility and move operations to less costly locations (Kogut & Kulatilaka, 1994; Roberts & Tybout, 1997). During the crisis, enhancing internationalization depth in a narrow number of locations may not necessarily be an appropriate solution, since firms seek to limit their investment risk in locations with higher uncertainty (Hryckiewicz & Kowalewski, 2010). In fact, the economic crisis even intensifies the phenomenon of international divestment (Benito & Welch, 1997; Filippov, 2011). Hence, we argue that it is the firms which diversi-

fy risks under crisis conditions by extending internationalization breadth more intensively that will enjoy higher performance gains (Figure 1):

- H2:** The improvement of competitive position of SMEs shortly after the economic crisis is more positive for firms that increase their internationalization breadth rather than depth.

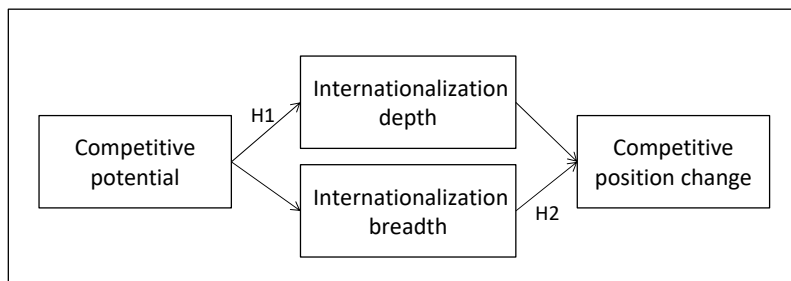


Figure 1. Analytical framework

Source: own study.

MATERIAL AND METHODS

Objective, Methods, Variables and Operationalisation

The objective of the presented study is the identification of the linkages between the competitive potential and competitive position of SMEs in Poland shortly after the economic crisis with regard to their internationalization patterns. To meet this objective we conducted the in-depth literature studies and then we collected primary data on the topic using computer assisted telephone interviews (CATIs). CATIs were conducted with firms fulfilling particular criteria presented in the next section and with the use of a questionnaire. The in-depth critical literature studies proceeded and supported the design of the questionnaire. The results of the literature studies were exploited to properly define the research variables and their measures. The initial version of the questionnaire was discussed with the representatives of firms that were to participate in CATIs and later updated according to their comments. It was necessary to test the the accuracy of the face validity of the questionnaire and check the understanding and unambiguity of questions. Then the authors conducted the pilot study among 154 firms. This allowed for the preparation of the final version of the questionnaire. The questionnaire referred to the competitiveness of the firms, intensity of their internationalization, diversified external circumstances related to demand, competition and resource conditions the firms had to cope with. Nevertheless in the presented paper the authors report just on the results related to the internationalization intensity and the competitiveness of the firms under study. The dimensions of competitiveness of the firms in the years 2009, 2010, 2011, 2012 and 2013 were evaluated with the use of a 7-point Likert scale, with the range of <-3; 3>, where the response -3 stood for "the company was much worse than competitors", and the 3 meant "the firm has been much better than the competitors" (Chang, Chen & Huang, 2015; de Jong, van Dut, Jindra & Marek, 2015; Fernández-Mesa & Alegre,

2015; Nguyen & Rugman, 2015). The internationalization issue was evaluated with regard to the export intensity and intensity of foreign investment.

Table 1. Operationalisation of variables

Variable	Operationalisation	Internal consistency
Internationalization depth		
FDI intensity (<i>IFDI</i>)	The number of new FDI projects undertaken by a firm diminished by the number of previous FDI projects abandoned by a firm in the period 2010-2013.	
Export intensity (<i>EXPI</i>)	The share of export in total sales of the company in the period 2010-2013.	
Internationalization breadth		
Number of new foreign markets in the portfolio of markets (<i>NFM</i>)	The number of new foreign markets a firm entered in the period 2010-2013 diminished by the number of previous markets a firm left in the period 2010-2013.	
Competitive potential in the crisis period (2009)	13 variables on a 7-point Likert scale, where -3 stands for " <i>much worse than direct competitors</i> ", an 3 stands for " <i>much better than direct competitors</i> ". The set of variables included resources and competences.	
Resources	Material resources, human resources, intangible resources (knowledge, brand, patents, etc.); financial resources.	Cronbach's Alpha (2009) = 0.974
Competences	Logistics (<i>performance and efficiency</i>), production (<i>performance and efficiency</i>), marketing and sales (<i>effectiveness and efficiency</i>), service (<i>effectiveness and efficiency</i>), supplies (<i>performance and efficiency</i>), technology (<i>advancement and efficiency</i>), management of human resources (<i>efficiency and performance</i>), firm management systems (<i>efficiency and effectiveness</i>), quality control (<i>efficiency</i>)	
Competitive position in the crisis period and shortly after (years 2009 and 2013 respectively)		
Subjective measures	5 variables (<i>profitability, sales growth, market share, overall financial condition, customer satisfaction</i>) evaluated with the use of 7-point Likert scale, where -3 stands for " <i>much worse than direct competitors</i> ", 3 stands for " <i>much better than direct competitors</i> "	Cronbach's Alpha (2009) = 0.949 (2013) = 0.940
Objective measures	4 variables related to the financial position of a firm: <i>the profit margin (EBIT/revenues), sales growth (based on company revenues - year to year), return on equity</i>	

Source: own study.

To analyse primary data we applied the following statistical methods: two-step clustering technique, the post-hoc test descriptive statistics and non-parametric analysis of variance. Firstly, a hierarchical cluster analysis based on Ward's minimum variance technique was carried out in order to identify the most stable number of clusters for the proposed solution. To distinguish the clusters we used two variables – internationalization breadth and internationalization depth (Table 1). The Cornbach's alfa was applied to check the reliability of indicators used to measure the construct of the competitive potential and competitive position (Table 1). Secondly, a K-means cluster analysis was performed to verify the hierarchical cluster analysis. To be more confident about the number of clusters that were to be indicated for the K-Means cluster analysis we applied additional measure suggested by Mojena (1977) also known as the upper tail rule. In order to check the differences between the variables in relation to the generated clusters, the F-test was applied. Then the post hoc test – Games Howell test was conducted.

In the next step we characterised the clusters with regard to internationalization and evaluated the competitive potential and position of firms in the identified clusters using descriptive statistics. Last but not least, we checked whether there are any statistically significant differences among the clusters with regard to their competitive potential and position using the Kruskal-Wallis non-parametric analysis of variance.

Sample and Time Frame

The study is based on data from the AMADEUS database and primary data from computer assisted telephone interviews with top managers of 553 micro, small and medium firms located in Poland and operating in 7 manufacturing industries defined according to NACE Rev. 2 at the level of divisions (Table 2). The delimitation of the sectoral background of sample firms was determined by a prior analysis with the use of linear ordering of objects (Dzikowska, Gorynia & Jankowska, 2015). The latter's aim was to identify industries in which firms did relatively well during the economic crisis (division 10, 17, 25, 32) in Poland and those that had difficulties with returning to pre-crisis performance (division 14, 15, 24). Subsequently, a ranking of industries was developed. The industries included in our study encompass 44% of firms registered in Poland and operating in the manufacturing sector.

Our proprietary electronic database featured complete contact and financial records for a total of 2533 firms representing the 7 selected industries¹. Thereof, 750 firms were contacted in July and August 2015 and 701 completed questionnaires were accepted as reliable data, resulting in an effective response rate of 25%. Among those 701 companies, there are 553 micro, small and medium entities, thereafter called SMEs for the purpose of this study. The majority of SMEs represent division 10 (242 entities) and division 25 (190 entities) which are industries that coped relatively well with the crisis. The criteria used to identify the SMEs was the number of employees in 2009 indicated by respondents in questionnaires.

The timeframe of the study embraces the period 2009-2013. The year 2009 is recognised as the crisis period, while the years 2010-2013 represent the post-crisis time. The

¹ That is the number of entities in the database without records related to firms that participated in the pilot study that was conducted by the authors in 2014.

first symptoms of the global economic crisis in Poland were visible in the second half of 2008, hence the year 2009 was defined as the period of the crisis. The growth of GDP in 2009 was 1.79%, down from 5.13% in 2008. In 2010, GDP growth recovered to the level of 3.88% (World Bank, 2015).

Table 2. Sectoral structure of the sample – number of firms from particular divisions ($n = 553$)

Division	Description of activity	≤ 9 employ- ees	10-49 em- ployees	50-249 employees	Total number
Division 10	manufacture of food products	15	80	147	242
Division 25	manufacture of fabricated metal products, except machinery and equipment	19	89	82	190
Division 17	manufacture of paper and paper products	0	19	30	49
Division 24	manufacture of basic metals	4	8	10	22
Division 32	manufacture of other manufacturing	4	9	8	21
Division 14	manufacture of wearing apparel	0	14	9	23
Division 15	manufacture of leather and related products	1	4	1	6

Source: own study.

RESULTS AND DISCUSSION

Identification of the most Ambitious Internationalizers – Cluster Analysis

First, the authors used a hierarchical clustering which created a hierarchy of clusters. The applied algorithms for hierarchical clustering were agglomerative. The obtained dendrogram allowed to determine Euclidean distances between the analysed units. To determine the appropriate number of clusters the authors examined the fusion curve and it suggested that there are 3 clusters of firms differ in terms of their internationalization breadth and depth. The suggestion was supported by the upper tail rule. According to the rule, we have selected the first number of groups that satisfied the Mojena's equation which in our case amounted to 3. The three clusters embraced 492, 29 and 32 firms respectively. The accuracy of delimitation of three clusters resonates with the results of the analysis of variance presented in Table 3, statistically significant differences among the identified clusters are easily visible. The variables were normalised to assure their comparability.

The highest evaluation of IFDI is characteristic for cluster 3 (MN = 3.625). The EXPI in cluster 3 (MN = 0.303) is higher than in cluster 1 (MN = 0.133), but lower than in cluster 2 (MN = 0.446). It means that firms in cluster 3 are the most involved in FDI, being at the same time characterised by a lower export intensity. Firms in cluster 2 are practically not involved in FDI as the mean value for IFDI is 0.000, but they report strong development of their market portfolio (MN = 3.483), which means the breadth of their internationali-

zation is the largest. The same firms are the most involved in exporting (EXPI) (MN = 0.446). The lowest evaluation of the EXPI (MN = 0.133) and IFDI (MN = 0.004) variables is characteristic for cluster 1. Looking at the data in Table 4 we can conclude that the most ambitious internationalizers – firms involved the most in the highest degree of internationalization depth belong to cluster 3. However, to obtain a more detailed and meaningful view of internationalization profiles of the identified clusters, it is useful to analyse a number of indicators.

Table 3. Analysis of variance

Variables	Between Clusters	df	Within Clusters	df ²	F Test	Significance level
Export intensity (EXPI)	3.3834	2	22.9027	550	40.625	0.000
Foreign outward investment intensity (IFDI)	395.3291	2	17.4919	550	6215.201	0.000
Number of new foreign markets in the portfolio of markets (NFM)	327.5687	2	171.8237	550	524.266	0.000

Source: own study.

Table 4. Mean values for cluster variables (normalised) (n = 553)

Variables	Cluster 1	Cluster 2	Cluster 3
EXPI	0.133	0.446	0.303
IFDI	0.004	0.000	3.625
NFM	0.024	3.483	0.188
Number of firms	492	29	32

Source: own study.

The results of the analysis of variance (Table 3) show that the entities in the clusters differ in a statistically significant way with regard to the breadth and depth of internationalization, but we still don't know which of the specific clusters differ. To check it we ran the multiple comparisons, post hoc test using the Games Howell test. There are differences between the pair of clusters 1, 2 and 3 in terms of the EXPI, differences between the following pairs of clusters – cluster 1 and cluster 3; cluster 2 and cluster 3 in terms of IFDI, and last but not least differences between the following pairs of clusters: cluster 1 and cluster 2; cluster 2 and cluster 3 in terms of NFM.

Characteristics of the most Ambitious Internationalizers – Cluster Profiles

Looking at the shares of export in total value of sales, they were the highest in cluster 2 (Table 5). In each of the three identified clusters, the intensity of export grew throughout the analysed period. However, the strongest growth of that indicator was observed in the second cluster (over 6 percentage points).

Additionally, it is visible that cluster 2 is composed of firms that serve the biggest number of foreign markets which confirms that their internationalization breadth is the

² The number 550 results from subtracting the number of clusters on the number of survey units for which complete data existed or 553-3 = 550.

largest (Table 6). Simultaneously, when we compare the change in the number of foreign markets that the firms entered and the number of foreign markets the firms left in all respective years of the post-crisis period, the net result is positive and the most satisfactory in the case of cluster 2. Accordingly, these firms were the most engaged in extending the breadth of their internationalization. On the other hand, the same difference in cluster 1 is negative in 2010 and 2013, which means that de-internationalization occurred and affected the breadth of internationalization. Cluster 1 encompasses companies that indicated the lowest number of foreign markets served.

Table 5. Share of import in total purchases and share of export in total sales during the post-crisis period (n = 553)

Category		2010		2011		2012		2013	
		MN	SD	MN	SD	MN	SD	MN	SD
Share of export in total sales (%)	Cluster 1	12.92	19.83	13.35	20.36	13.40	20.26	13.52	20.58
	Cluster 2	42.28	24.40	42.28	25.89	46.28	24.46	47.52	23.65
	Cluster 3	28.75	20.15	30.50	21.88	30.72	22.46	31.25	23.37

Source: own study.

Table 6. The number of foreign markets served, left and entered by the company during the post crisis period (n = 553)

Category		2010		2011		2012		2013	
		MN	SD	MN	SD	MN	SD	MN	SD
The number of foreign markets served by the company (<i>incl. export markets</i>)	Cluster 1	2.42	5.09	2.41	5.07	2.45	5.10	2.45	5.10
	Cluster 2	7.76	5.00	8.83	4.53	9.83	5.29	10.55	5.59
	Cluster 3	4.59	4.11	4.72	4.12	4.66	4.17	4.72	4.19
The number of foreign markets the firm left (<i>incl. export markets</i>)	Cluster 1	0.02	0.16	0.04	0.27	0.02	0.15	0.03	0.17
	Cluster 2	0.03	0.18	0.17	0.91	0.03	0.18	0.03	0.18
	Cluster 3	0.00	0.00	0.00	0.00	0.09	0.29	0.00	0.00
The number of new foreign markets the firm entered (<i>incl. export markets</i>)	Cluster 1	0.02	0.15	0.03	0.19	0.05	0.29	0.02	0.14
	Cluster 2	0.69	0.88	1.28	1.11	1.03	1.71	0.76	1.07
	Cluster 3	0.06	0.24	0.13	0.33	0.03	0.17	0.06	0.35

Source: own study.

The most diversified set of foreign markets is visible for cluster 2 (Table 7). This reinforces the earlier remark about the focus of firms in cluster 2 on extending internationalization breadth rather than depth. The role of Central and Eastern Europe, Western Europe, USA and Africa did not change in the post-crisis period, on the whole. The percentage of indication for particular regions in the case of firms from cluster 3 is stable and similar for the crisis and post-crisis period, with the exception of Asia, where in 2009 its level of indication was 12.50% and in the post-crisis period it reached the level of 15.63%.

As far as FDI operations are concerned, it is visible that Cluster 3 is characterised by firms strongly involved in FDI (Table 8). In the crisis year more than 80% of firms in cluster 3 reported new FDI projects and the involvement of the companies in FDI has grown since that year. It could suggest that they exploited the crisis to increase the depth of their internationalization. Bearing in mind that their portfolio of markets was not that much developed as in the case of cluster 2, we can suppose that they trade off breadth

for depth by switching from mere exporting to FDI, rather than diversifying their geographic portfolios. The highest mean values for IFDI (Table 4) is in a way confirmed by the fact that more than 96% of those businesses reported undertaking new FDI projects and just around 3% indicated dismantling their foreign investments. Thus, they can be referred to as ambitious investors.

Table 7. Percentage of firms doing business in particular locations in the post crisis period (n = 553)

Region	Cluster	2010	2011	2012	2013
Central and Eastern Europe	Cluster 1	32.59	32.79	32.65	32.38
	Cluster 2	93.10	93.10	93.10	93.10
	Cluster 3	93.75	93.75	93.75	93.75
Western Europe	Cluster 1	25.66	25.66	25.92	26.07
	Cluster 2	82.76	82.76	86.21	86.21
	Cluster 3	46.88	46.88	46.88	46.88
USA	Cluster 1	2.65	2.65	2.86	2.65
	Cluster 2	24.14	20.69	27.59	34.48
	Cluster 3	6.25	6.25	6.25	6.25
Asia	Cluster 1	5.30	5.50	5.51	5.50
	Cluster 2	37.93	51.72	51.72	51.72
	Cluster 3	15.63	15.63	15.63	15.63
Africa	Cluster 1	2.65	2.65	2.65	2.65
	Cluster 2	3.45	3.45	3.45	6.90
	Cluster 3	9.38	9.38	9.38	9.38

Source: own study.

Cluster 2 embraces firms that are involved the most significantly in exporting since the EXPI indicator reached the highest value. No firm from that cluster reported any new FDI projects in the crisis year 2009 and in the post-crisis period of 2010-2013 (Table 8). There are no firms involved in withdrawing from FDI activities. However, they expanded abroad by entering new foreign markets (Table 5). The mean values for the number of new foreign markets is the highest in the case of cluster 2 and the set of foreign markets served by the firms from cluster 2 is diversified the most (Table 6). Hence, they can be called ambitious exporters.

Table 8. Undertaking or abandonment of FDI in the post-crisis period – percentages of indications (n = 553)

Category		2010	2011	2012	2013
Undertaking of new FDI	Cluster 1	0.41	0.00	0.20	0.41
	Cluster 2	0.00	0.00	0.00	0.00
	Cluster 3	93.75	96.88	96.88	96.88
Abandonment of FDI	Cluster 1	0.00	0.20	0.00	0.41
	Cluster 2	0.00	0.00	0.00	0.00
	Cluster 3	9.38	6.25	3.13	3.13

Source: own study.

Cluster 1 are firms undertaking export and trying to win new foreign markets, but their intensity of export is still the lowest within the whole sample of firms. Accordingly, we call them cautious internationalizers. It should be noted at this juncture that they constitute the majority of our total sample.

Competitive Potential of Ambitious Investors, Ambitious Exporters and Cautious Internationalizers in the Crisis

A closer look at the elements of the competitive potential of firms within particular clusters allows us to state that the highest values were reported among ambitious investors (cluster 3, Table 9). Firms the most involved in FDI possessed the best competitive potential in the crisis year 2009. In the case of ambitious exporters and cautious internationalizers, a higher assessment for a larger number of aspects is visible for the cluster of cautious internationalizers. This provides additional rationale for the term cautious. In fact, they were better equipped than the ambitious exporters during the crisis, but still expanded very carefully (Tables 4, 5 and 6).

In order to verify whether the differences in the competitive potential of firms representing particular clusters are statistically significant, we used the Kruskal-Wallis test. The results presented in Table 9 include critical values and significance levels in relation to the elements of competitive potential where clear differences were observed in the distribution of the answers related to the evaluation of its particular elements. A comparison between the H-values and the critical value in the statistical table of the chi-square distribution for $k-1 = 3-1 = 2$ degrees of freedom and $p = 0.05$, which equals 5.991, showed that the calculated values of the H statistics were above the critical range ($H > 5.991$). Therefore, the differences in the competitive potential of ambitious investors, ambitious exporters, and cautious internationalizers are statistically significant.

Table 9. Competitive potential of firms in 2009 – during the crisis (n = 553)

Aspects of competitive potential	Cluster	MN	SD	Kruskal-Wallis test	Level of significance
Material resources (<i>available machines, assets and infrastructure</i>)	Cluster 1	0.41	0.87	H = 29.97	p = .0000
	Cluster 2	0.41	0.93		
	Cluster 3	1.47	1.09		
Human resources	Cluster 1	0.46	0.79	H = 30.81	p = .0000
	Cluster 2	0.48	0.72		
	Cluster 3	1.47	1.09		
Intangible resources (<i>knowledge, brand, patents, etc.</i>)	Cluster 1	0.45	0.86	H = 33.87	p = .0000
	Cluster 2	0.52	0.93		
	Cluster 3	1.50	1.00		
Financial Resources	Cluster 1	0.39	0.93	H = 30.85	p = .0000
	Cluster 2	0.10	0.92		
	Cluster 3	1.47	1.09		
Logistics (<i>efficiency and effectiveness</i>)	Cluster 1	0.48	0.77	H = 28.52	p = .0000
	Cluster 2	0.31	0.53		
	Cluster 3	1.31	0.92		
Production (<i>efficiency and effectiveness</i>)	Cluster 1	0.73	0.99	H = 14.35	p = .0008
	Cluster 2	0.34	0.88		
	Cluster 3	1.38	1.29		
Marketing and sales (<i>effectiveness and efficiency</i>)	Cluster 1	0.35	1.28	H = 11.47	p = .0032
	Cluster 2	0.17	1.12		
	Cluster 3	1.25	1.62		
Service (<i>efficiency and effectiveness</i>)	Cluster 1	0.17	1.13	H = 13.13	p = .0014
	Cluster 2	0.07	0.98		
	Cluster 3	1.19	1.65		
Supply (<i>efficiency and effectiveness</i>)	Cluster 1	0.73	0.97	H = 17.43	p = .0002
	Cluster 2	0.28	0.69		
	Cluster 3	1.38	1.29		
Technology (<i>advancement and performance</i>)	Cluster 1	0.42	0.89	H = 29.52	p = .0000
	Cluster 2	0.34	0.71		
	Cluster 3	1.47	1.09		
HR management (<i>efficiency and effectiveness</i>)	Cluster 1	0.48	0.80	H = 29.15	p = .0000
	Cluster 2	0.52	0.81		
	Cluster 3	1.47	1.09		
Company management systems (<i>efficiency and effectiveness</i>)	Cluster 1	0.35	1.27	H = 11.08	p = .0039
	Cluster 2	0.24	1.13		
	Cluster 3	1.25	1.62		
Quality control (<i>efficiency</i>)	Cluster 1	0.15	1.12	H = 10.40	p = .0055
	Cluster 2	0.31	0.99		
	Cluster 3	1.03	1.65		

Source: own study.

The Competitive Position of Ambitious Investors, Ambitious Exporters and Cautious Internationalizers – Contrasting the Crisis and Post-crisis Period

The changes in the intensity of internationalization, which can be considered as one of the reactions to crisis, can have an impact on the competitive position of firms. Interestingly, the mean values for subjective indicators of performance (Table 10) are generally the lowest for the ambitious exporters (cluster 2) in the crisis period (year 2009), with the exception of client satisfaction. It could mean that firms tried to keep their clients even at the expense of their profitability (MN = -0.07). Being exporters very much focused on EU markets (Table 7), whose situation at that time was difficult, and coping with the consequences of the depreciation of the Polish currency (PLN), which are negative in case of firms using imported goods in production (Table 5), they clearly perceived their position as the worst within the whole sample. However, the evaluation of competitive position for 2013 compared with the results from 2009 reveals that ambitious exporters improved their performance to the highest extent during the post-crisis period (Table 10).

Table 10. Competitive position according to subjective indicators contrasting the crisis and post-crisis period (n = 553)

Dimensions of competitive position	Cluster	2009		2013		Change 2013-2009	Kruskal-Wallis test	Level of significance
		MN	SD	MN	SD			
Profitability	Cluster 1	0.32	1.40	0.63	1.39	0.31	H = 14.07	p = .0009
	Cluster 2	-0.07	1.39	0.72	1.23	0.79		
	Cluster 3	1.25	1.50	1.59	1.30	0.34		
Sales growth	Cluster 1	0.43	1.43	0.65	1.38	0.22	H = 13.65	p = .0011
	Cluster 2	0.10	1.40	0.72	1.23	0.62		
	Cluster 3	1.25	1.62	1.59	1.30	0.34		
Market share	Cluster 1	0.33	1.38	0.63	1.40	0,30	H = 13.65	p = .0011
	Cluster 2	0.10	1.42	0.72	1.23	0.62		
	Cluster 3	1.31	1.51	1.59	1.30	0.28		
Overall financial condition	Cluster 1	0.46	1.45	0.61	1.44	0.15	H = 9.65	p = .0080
	Cluster 2	0.10	1.32	0.66	1.18	0.55		
	Cluster 3	1.13	1.65	1.44	1.48	0.31		
Client satisfaction	Cluster 1	0.75	0.77	0.76	0.76	0.02	H = 24.29	p = .0000
	Cluster 2	0.79	0.71	0.86	0.68	0.07		
	Cluster 3	1.63	0.99	1.63	0.99	0.00		

Source: own study.

To check if the differences in the competitive position of firms from particular clusters measured with subjective indicators are statistically significant, we used the Kruskal-Wallis test. The results, also presented in Table 10, include the critical values and significance levels in relation to the indicators of competitive position, where clear differences were observed in the distribution of the answers related to the evaluation of its particular dimensions. A comparison between the H values and the critical value in the statistical table of the chi-square distribution for $k-1 = 3-1 = 2$ degrees of freedom and $p = 0.05$,

which equals 5.991, demonstrates that the calculated values of the H-statistics are above the critical range ($H > 5.991$). Thus, the differences in the competitive position of firms measured with subjective indicators representing our identified clusters are statistically significant.

The evaluation of objective measures of competitive position for particular clusters are presented in Table 11. The measures are based on the financial results reported by the firms and available in the AMADEUS database. In the crisis period, the sales growth was the highest in the case of cautious internationalizers, and the worst in the case of ambitious exporters. To calculate the sales growth in 2009, we used data from 2009 and 2008. As 2008 was marked by recession particularly in Western Europe, which constitutes the main export area of the firms representing the ambitious exporters, this finding is not surprising. Cautious internationalizers depended much less on foreign markets, thus they were able to achieve relatively higher sales growth. The highest profit margin can be observed for ambitious investors in the crisis year 2009 in Poland. Ambitious exporters scored the best result in terms of return on equity in 2009. It was the group of firms that managed to improve its sale growth and profit margin the most – when we compare the results from 2013 and 2009. However, these findings for objective indicators are not statistically significant at $p = 0.05$.

Table 11. Competitive position according to objective indicators contrasting the crisis and post-crisis period

Dimensions of competitive position	Cluster	2009		2013		Change 2013 vs 2009	Kruskal-Wallis test	Level of significance
		MN	SD	MN	SD			
Sales growth	Cluster 1	0.96	10.43	0.02	0.48	-0.93	H = 4.84	p = .0888
	Cluster 2	0.00	0.24	0.09	0.19	0.09		
	Cluster 3	0.06	0.28	0.00	0.26	-0.06		
Profit margin	Cluster 1	0.03	0.96	-0.05	1.59	-0.08	H = 4.42	p = .1095
	Cluster 2	0.03	0.08	0.05	0.07	0,02		
	Cluster 3	0.06	0.07	-0.07	0.70	-0.13		
Return on equity	Cluster 1	0.15	1.19	-0.21	9.35	-0.37	H = 1.51	p = .4698
	Cluster 2	0.31	0.71	0.18	0.19	-0.13		
	Cluster 3	0.15	0.31	0.18	0.22	0.03		

Source: own calculations based on data from the AMADEUS database.

CONCLUSIONS

Our study corroborates the findings or earlier research on the internationalization of Polish firms that they are still at an early stage of evolution of their international operations (Burlita *et al.*, 2011; Gorynia, Nowak, Trąpczyński & Wolniak, 2015b). In fact, we identified three groups of firms characterised by different profiles of their international strategy, as expressed by the breadth and depth of internationalization. Clearly, firms belonging to cluster 1 (cautious internationalizers) are still limited both in terms of the breadth and depth of their internationalization. They constitute the vast majority of our sample, which is indicative of overall trends in the actual population of Polish SMEs doing business abroad. Conversely, firms involved in broader and deeper internationalization,

i.e. ambitious exporters and ambitious investors, respectively, are far less numerous, pointing to the still limited scale of this phenomenon.

In addition to this more descriptive contribution, our findings bear several normative implications related to reactions to crisis and their consequences. In fact, the identified firm clusters differ significantly in terms of changes in depth and breadth of their internationalization, as well as the initial competitive potential and the changes in their competitive position during the crisis. Our cluster analysis provides support for the hypothesis that better competitive potential of SMEs at the outset of the economic crisis is characteristic for firms that increase rather their internationalization depth than breadth through the post-crisis period (Hypothesis 1). In fact, we find that firms which are the most dynamically engaging in FDI activities during the period of crisis and thereafter, are the ones best equipped with different resources and capabilities, which resonates with existing theoretical concepts of FDI. Second, we argued earlier in the paper that bigger improvement of competitive position of SMEs shortly after the economic crisis is more positive for firms that increase rather their internationalization breadth than depth (Hypothesis 2). Our empirical evidence provides support for this assertion. In fact, it is the ambitious exporters, focusing more on internationalization breadth than depth, that managed to enhance their financial and non-financial performance most visibly, although in absolute terms their performance was on average the lowest among our sample firms. In particular, given the fact the crisis affected the key export markets of Polish firms, it seems legitimate to argue based on the present findings that the strategy of diversifying international markets during the economic crisis and recovery can be a mean of improving performance and reducing excessive dependence on fluctuations in key markets. Overall, the findings contribute to the discussion whether reactive or proactive steps are more effective in sustaining the crisis period. Contrary to some prior studies pointing to a lesser perceived role of expansion as a means of withstanding the crisis (Lachowska, 2011; Orłowski *et al.*, 2010; Zelek & Maniak, 2011), our study provides some arguments to the debate about the effectiveness of proactive measures in crisis times.

Interestingly, we find that decisions related to enhancing or limiting a firm's internationalization breadth and depth are not necessarily linked to their resources and capabilities, or their performance outcomes, as the cautious internationalizers turned out to excel in certain specific dimensions. This reinforces the notion that internationalization decisions are complex in nature and highly affected by managerial values (Wrona & Trąpczyński, 2012). Thus policy support should be particularly oriented towards supplying information about foreign markets and fostering firms in an optimal allocation of their resources (Gorynia, Nowak, Trąpczyński & Wolniak, 2015a).

The study is burdened with several limitations. The reliance on predominantly interview-based measures may provide a biased account on the evaluations of resources and performance. Applying the cluster analysis the authors are aware of its limitations. Bearing in mind the strengths and weaknesses of this method of exploration of data, the authors purposefully combined the hierarchical and non-hierarchical cluster analysis. Moreover, while our cluster analysis allowed identifying the internationalization profiles of SMEs as a reaction to crisis, how it was affected by the possession of capabilities, and how it affected firm performance, the choice of our research methods only provides an initial exploratory look at the data. We are aware that our study does not provide a full

understanding of causality in the studied relationships. Further studies should recur to econometric modelling to investigate moderating effects of internationalization depth and breadth on the relationships between firm resources and strategy on performance, in order to seize the effect of internationalization in a more direct manner. To profile the clusters we used the Kruskal-Wallis test which provides a correct in terms of methodology, but rather not a very detailed and in-depth picture of the phenomenon. To obtain more valuable results the authors plan to apply more advanced methods in the future, such as discriminant analysis or decision trees. Furthermore, the nature of the sources of competitive advantage of firms should be explored in more detail in different geographic contexts, as it is the contexts in which the resources are deployed that their value can be assessed. Accordingly, a more nuanced analysis with consideration of the geographic patterns of expansion should be undertaken by future studies.

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Authors

The contribution share of authors is amounted to 25% of Piotr Trąpczyński, 25% of Barbara Jankowska, 25% of Marlena Dzikowska, 25% of Marian Gorynia.

Piotr Trąpczyński

Assistant Professor in Department of International Competitiveness at the Poznan Univeristy of Economics and Business. His research focuses on strategy adaptation and performance in the internationalization of firms as well as de-internationalization.

Correspondence to: Dr. Piotr Trąpczyński; Poznan Univeristy of Economics and Business, Faculty of International Business and Economics, Department of International Competitiveness; al. Niepodleglosci 10, 61-875 Poznan, Poland; e-mail: piotr.trapczynski@ue.poznan.pl

Barbara Jankowska

Associate Professor in Department of International Competitiveness at the Poznan Univeristy of Economics and Business. Her research focus on internationalization with particular emphasis on FDI and international competitiveness of firms and industries, on the role of business cluster for innovativeness, internationalization and competitiveness of firms.

Correspondence to: Dr. hab. Barbara Jankowska; Poznan Univeristy of Economics and Business, Faculty of International Business and Economics, Department of International Competitiveness; al. Niepodleglosci 10, 61-875 Poznan, Poland; e-mail: barbara.jankowska@ue.poznan.pl

Marlena Dzikowska

Assistant Professor in Department of International Competitiveness at the Poznan Univeristy of Economics and Business. Her research focuses on internationalization and international competitiveness of firms with particular emphasis on global sourcing.

Correspondence to: Dr. Marlena Dzikowska; Poznan Univeristy of Economics and Business, Faculty of International Business and Economics, Department of International Competitiveness; al. Niepodleglosci 10, 61-875 Poznan, Poland; e-mail: marlena.dzikowska@ue.poznan.pl

Marian Gorynia

Full profesor in Department of International Competitiveness at the Poznan Univeristy of Economics and Business. His research focuses on internationalization of firms and international competitiveness of firms and industries.

Correspondence to: Prof. dr hab. Marian Gorynia; Poznan Univeristy of Economics and Business, Faculty of International Business and Economics, Department of International Competitiveness; al. Niepodleglosci 10, 61-875 Poznan, Poland; e-mail: marian.gorynia@ue.poznan.pl

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