INNOVATION BARRIERS AND INTERNATIONAL COMPETITIVENESS OF ENTERPRISES FROM POLISH FOOD PROCESSING INDUSTRY. RESEARCH RESULTS

Małgorzata Stefania Lewandowska

Warsaw School of Economics

Abstract. Innovativeness is crucial in building competitive advantage of firms. Enterprises are facing many innovation barriers that distort innovation performance. The aim of the paper is to assess the influence of innovation barriers on the innovation performance as well as international competitiveness of firms from Polish food processing industry. The analysis is conducted on the representative sample of 1216 medium and large enterprises (NACE Rev. 2, C 10) participating in the survey GUS PNT-02/CIS for the years 2008–2010. The results show a statistically significant relations between innovation barriers and both innovation performance and international competitiveness of surveyed firms. Various advanced statistical methods were used in order to verify research hypotheses. The results of the study reveal complexity of interactions between analysed variables, leading to the conclusion that innovation process cannot be reduced to linear relationships only.

Key words: innovativeness, competitiveness, Polish firms, Community Innovation Survey questionnaire

INTRODUCTION

Recent literature as well as business practices provide evidence that innovation is one of the critical factors affecting the competitive advantage of firms and countries.

In this context, the aim of the paper is to examine the importance of innovation obstacles and their impact on innovation performance (introduction of product and/or process innovation) as well as on internationalization of firms from Polish food processing industry.

The paper is organised as follows: the first part provide an overview of the literature and research hypotheses. The second part contains the sample description, methods applied and the operationalization of variables. In the third part, the results of the data analysis are presented. Conclusions, implications and limitations of the research make up the final section.

Corresponding author – Adres do korespondencji: Małgorzata Stefania Lewandowska, Warsaw School of Economics, Al. Niepodległości 162, 02-554 Warszawa, Poland, e-mail: mlewando@sgh.waw.pl

OVERVIEW OF LITERATURE AND HYPOTHESES DEVELOPMENT

The firm-level studies reveal a positive relationship between innovation and exports, an important indicator of international competitiveness [Soete 1981, Halpern 2007, Montobbio 2003], also in the case of Polish food processing industry [Zalewski and Góralski 2011].

Bleaney and Wakelin [2002] argue that non-innovating firms are more likely to export if they have cost advantage, while innovating firms are more likely to export if they implement more innovations. Another studies show, that the probability of exporting as well as the intensity of export are positively influenced by R&D and successful innovations [Gourlay and Seaton 2004].

As for the impact of process innovation on firms export behaviour no such strong evidence has been found [Clausen and Pohjola 2009], but it is to note that majority of studies refer to mature economies where firms compete mostly based on differentiation rather than cost/price advantage, whereas firms' competitive strategies in CEE countries, including Poland, suggest that they still resemble many characteristics of cost/price advantage and their abilities to increase differentiation-based competitive advantage are still insufficient, although improving [Wziątek-Kubiak et al. 2009, Stojcic et al. 2011].

Given the results of above studies, the first research hypotheses are placed:
− H1a. There is a positive influence of product innovation on intensity of export sales of firms from Polish food processing industry.
− H1b. There is a positive influence of process innovation on intensity of export sales of firms from Polish food processing industry.

Economic approach to research on innovation address a number of innovation policy issues, such as reasons for firms' innovation, innovation driving forces and barriers. There are several studies that focus on the relation between innovation output and its determinants, which can be broadly divided into two groups: factor that enhance innovation performance and those that hamper innovation, important also in Polish food processing industry.

In this article I will argue, following the proposal of Oslo Manual [2005], that innovation barrier is every factor that slows down or even prevents innovation activity. It can also adversely affect innovation activity to the extend, that it does not bring in the expected results. Most often those obstacles are categorized according to resource/competence firm resources or grouped as internal and external ones. Larsen and Levis [2007] distinguish financial and marketing skills shortages, as well as management and personal characteristic barriers and other barriers (such as long-time of new product development, lack of external professional partners, lack of trust).

Saatcioglu and Ozmen [2010], after extended literature revision, have distinguished a list of 7 internal (lack of qualified personnel; bureaucracy; lack of R&D, design, test and other technical problems in companies; too long time for return for innovation; perception of innovation as risky; difficulty to control innovation costs; finance of innovation and 4 external barriers (patent and license policy; lack of incentives applied by government; foreign trade policy and competition policy), important in innovation process undertaken by Turkish firms. The result of barriers interaction show that financial ones affect all other obstacles.

Canadian Survey of Innovation and Advanced Technology (SIAT) divide impediments to advanced technology adoption into five categories: cost-related; institution-related; labour-related; organization-related and information-related [Baldwin and Lin 2002]. Similar list of internal and external barriers present Buse et al. [2010]. Authors argue, that without a thorough understanding of internal business processes and profound analysis of business environment, including both internal and external barriers, full usage of global opportunities, that may strengthen innovation capabilities, is significantly limited.

Innovation barriers are expected to be more important for non-innovation firms. Surprisingly, some research indicate, that they appear to be reported much higher by innovators and those who use advanced technology more often. Baldwin and Lin [2002], based on the representative sample of Canadian manufacturing firm, have found, that the group of innovators and adopters of advanced technology declare innovation obstacles more often, than the group of non-innovators and non-adopter of advanced technology. Similar results, based on the sample of service firms from Canada, were obtained by Mohnen and Rosa [2000].

Looking for factors affecting perception of importance of innovation barriers, Iammarino et al. [2009], using the data from Italian CIS3 questionnaire, have found, that it is influenced by the ownership of firms capital. Foreign-owned firms were more sensitive to innovation barriers than domestic ones.

The impact of different innovation barriers on product, process and management innovation among Spanish firms present Guijarro-Madrid et al. [2009]. Process and management innovations are negatively influenced by internal barriers – human resources and weak financial position. At the same time barriers originating from the environment influence them positively.

The importance of barriers to innovation in new product development process is raised by Larsen and Lewis [2007]. Based on investigation of several case studies of British awarded firms for "ground-breaking product innovation", authors argue, that surprisingly, enterprises are as likely to overcome the existing barriers, as to ignore them, meaning that both strategies may led to success. The majority of studies suggest, that barriers related to cost are most important [Baldwin and Lin 2002, Guijarro-Madrid et al. 2009], whereas those associated with management resistance are least important [Guijarro-Madrid et al. 2009].

Those results are similar also for Polish economy [Okoń-Horodyńska and Zachorowska-Mazurkiewicz 2007, Okoń-Horodyńska 2008, Lewandowska 2012, Wziątek-Kubiak and Pęczkowski 2013], as well as for enterprises from Polish food processing industry, where significant innovation barrier, especially for small enterprises,are insufficient financial resource and high cost of innovation [Kaczorowska 2009], of which the importance decline together with enterprise size [Nieć 2011], followed by law constraints as well as tax law [Biernat-Jarka and Grzymska 2010]. Another reasons for low innovativeness is the conservatism of Polish consumers, not willing to accept innovative products [Gutkowska et al. 2009, Juchniewicz 2011], followed by the lack of sufficient awareness of the innovation necessity among firms' managers [Firlej and Makarska 2012].

Following this extended literature review, covering both international as well as domestic positions, the following hypotheses are placed:

− H2a. Innovation barriers adversely affect introduction of product innovation in firms from Polish food processing industry.
− H2b. Innovation barriers adversely affect introduction of process innovation in firms from Polish food processing industry.

Having in mind the high probability of the link between innovation and export intensity as well as the link between innovation barriers and innovation performance, the last hypothesis is proposed:

− H3. Innovation barriers negatively affect intensity of export sales of firms from Polish food processing industry.

The conceptualization of relations between innovation performance, innovation barriers and internationalization is presented in Figure 1.
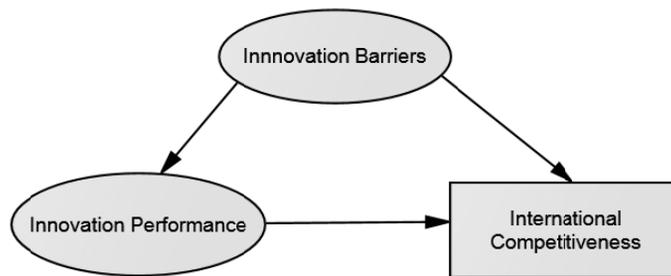
Fig. 1.   Conceptual model of the relations among innovation barriers, innovation performance and international competitiveness of enterprises from Polish food processing industry
Source: Own study.

MATERIAL AND METHOD

The study uses the micro data from questionnaire PNT-02 (Polish version of Community Innovation Survey) for the period 2008–2010, conducted in Poland in 2011 by Polish Main Statistical Office (GUS). The research covered the original sample of 988 medium sized (50–249) and 228 big enterprises (of more than 250 employees) from Polish food processing industry (NACE Rev. 2, section C 10). Chi-square with column proportions was applied to verify statistically significant differences between distinguished clusters of *Active Innovators* (those who introduced product and/or process innovation in 2008––2010) and *Non Active Innovators* ($p < 0.05$) – Table 1.

Within the sample of innovative firms 75.1% of them declare introduction of product innovation, 73.2% – the introduction of process innovation, 46% – marketing innovation and 41.2% – organisational innovation. Medium size firms constitute 63.6%, and large firms 36.4% of the sample. The share of firms belonging to Polish owned capital groups accounts for 12.7%, whereas of firms – members of foreign capital groups amounts to 16.4%. The remaining 70.9% firms in the sample are independent firms.

The explorative character of our study influenced the data analysis methods.

To verify the relationship between the introduction of product and process innovation and sales orientation of surveyed firms, as well as relation between innovation barriers and innovation performance, logistic regression models (a type of probabilistic statisti-

Table 2 cont.

1	3
EU, EFTA and EU candidate countries	Filter "1" if the firm declared sales on other European Union (EU), EFTA, or EU candidate countries markets during the three years 2008–2010 and final declaration if this geographic areas was largest market in terms of turnover during the three years 2008–2010
Other Markets	Filter "1" if the firm declared sales on all other countries markets during the three years 2008–2010 and final declaration if this geographic areas was largest market in terms of turnover during the three years 2008–2010
Latent variable – "Innovation Performance	
ProdInno	"1" if the firm introduced product innovation; "0" otherwise
ProcInno	"1" if the firm introduced process innovation; "0" otherwise
Latent variable – "Innovation Barriers"	
InnoBarrFin	A count if a firm declared a highly important economic factor of hampering innovation activities such as: the lack of funds within the enterprise or group; lack of finance from sources outside the enterprise; innovation costs too high
InnoBarrMark-Know	A count if a firm declared a highly important factors of hampering innovation activities such as: the lack of qualified personnel; the lack of information on technology; the lack of information on markets; the difficulty in finding cooperation partners for innovation; markets dominated by established enterprises; uncertain demand for innovative goods or services; no need to innovate due to the innovation introduction in the prior period; no need to innovate due to no demand for innovations

Source: Own calculations in IBM SPSS 21 based on data for Polish food processing industry from questionnaire PNT-02 for 2008–2010.

RESULTS

Logistic regression results for the relationship between the implementation of innovation and sales destinations of firms will be broken down into "local market" (within the home country), "domestic (national) market"; "EU, EFTA or EU candidate country (EU/ /EFTA)"[1] and „other markets". Another logistic regression models will be constructed in order to investigate the influence of financial as well as market/knowledge related barriers on both the innovation activities and sales orientation of surveyed firms.

Results show, that there is positive relationship between introduction of process innovation and sales on "other markets" (B = 0.53). The probability of being in a group of Polish firms selling on "other markets" increases by a bit less than twice (Exp(B) = = 1.69) with each additional indication for the process innovation. Other relations were not statistically significant.

This leads to the conclusion that hypotheses H1b was supported for sales on "other markets", whereas H1a about the possible relation between introduction of product innovation and international sales orientation, was rejected. For details see Table 3.

Factor analysis of innovation objectives using Oblimin rotation (KMO = 0.886; $x^2(36) = 8079.95$; $p < 0.001$) allowed to determine 2 underlying factors which explain

---

[1]Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Ireland, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovenia, Slovakia, Switzerland, Turkey, Spain, Sweden, the United Kingdom.

Table 3. Results of logistic regression for the relation between the introduction of product and process innovation and the market of sales for enterprises from Polish food processing industry in 2008–2010, split for local, domestic, European Union and other foreign markets, results for *Active Innovators*, N = 354

Type of innovation	local market		domestic market		EU, EFTA and EU candidate markets		other markets	
	B	Exp (B)	B	Exp (B)	B	Exp (B)	B	Exp (B)
Product (*ProdInno*)	0.29	1.33	0.65^a	1.92	0.36	1.43	0.40b	1.50
Process (*ProcInno*)	0.41	1.50	0.56a	1.74	0.35	1.42	0.53*a	1.69

B – Logistic regression estimate of the predictor; Exp(B) odds ratio for p at the level of: $p < 0.10$, *$p < 0.05$, **$p < 0.01$, *** $p < 0.001$. Note: Each letter (a, b) denotes a subset of categories whose column proportions (Bonferroni method) do differ significantly from each other at the 0.05 level; ^ – statistical tendency.
Source: Own calculations in IBM SPSS 21 based on data for Polish food processing industry from questionnaire PNT-02 for 2008–2010.

74,48% of the Variance. The first factor named – "market and knowledge barriers" (*InnoBarrMarkKnow*) explains 60.01% (Crombach's α = 0.910) of the Variance, the second one – "financial barriers" (*InnoBarrFin*) explains 14.47% (Crombach's α = 0.888) of the Variance (details see Table 4).

Table 4. Rotation Matrix for innovation barriers of firms from Polish food processing industry, results for the whole sample, N = 1216

Type of innovation barrier	Component	
	InnoBarrMarkKnow	*InnoBarrFin*
Lack of information on technology	0.919	×
Lack of information on markets	0.916	×
Lack of qualified personnel	0.863	×
Difficulties in finding cooperation partner	0.825	×
Market dominated by established firms	0.640	×
Uncertain demand for innovative goods or services	0.579	×
Lack of funds within firms or group	×	0.903
Innovation cost too high	×	0.888
Lack of finance from sources outside firm	×	0.858

Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization.
Source: Own calculations in IBM SPSS 21 based on Polish CIS 2008–2011 for food processing industry.

The group of "market/knowledge barriers" (*InnoBarrMarkKnow*) consists of such obstacles as: lack of information on technology; lack of information on markets; lack of qualified personnel; difficulties in finding cooperation partner; market dominated by established firms; uncertain demand for innovative goods or services; whereas the group of "financial barriers"(*InnoBarrFin*) covers: lack of funds within firms or group, lack of finance from sources outside firm; too high cost of innovation.

There are significant differences in perception of those two groups of innovation barriers by firms of different level of innovation performance (*Non Active Innovators* and *Active Innovators*). Although for both groups "financial barriers" (*InnoBarrFin*) are more important that "market/knowledge barriers" (*InnoBarrMarkKnow*), the financial ones are more important for *Active Innovators* whereas those related to the market/knowledge obstacles are perceived as slightly more important by *Non Active Innovators*. Details presented in Table 5.

Table 5. Perception of financial and market/knowledge innovation barriers

Group		Mean	Std. Deviation	N
InnoBarrFin	*Active Innovators*	1.64a	0.96	354
	Non Active Innovators	1.35b	1.12	862
	Whole sample	1.43	1.08	1 216
InnoBarrMarkKnow	*Active Innovators*	0.91a	0.71	354
	Non Active Innovators	1.02a	0.99	862
	Whole sample	0.99	0.92	1 216

Each subscript letter denotes a subset of categories whose column proportions (Bonferroni method) do differ significantly from each other at the 0.05 level.
Scale: "1" not important; "2" average importance"; "3" highly important".
Source: as in Table 4.

The relation between both financial (*InnoBarrFin*) and market/knowledge (*InnoBarrMarkKnow*) related barriers and introduction of innovation show, that they have significantly important influence on introduction of both product (*ProdInno*) as well as process innovation (*ProcInno*) by firms from Polish food processing industry.

For both types of innovation, "financial barriers" (*InnoBarrFin*) have more significant impact on introduction of innovation than "market/knowledge related barriers" (*InnoBarrMarkKnow*). Details see Table 6.

Table 6. Results of logistic regression for the relation between the perception of financial and market/knowledge innovation barriers and introduction of product and process innovation in 2008–2010 by firm from Polish food processing industry, results for *Active Innovators*, N = 354

Type of innovation barriers	*InnoProd*		*InnoProc*	
	B	Exp (B)	B	Exp (B)
InnoBarrMarkKnow	0.29**a	0.75	0.39***b	0.68
InnoBarrFin	0.32***a	1.38	0.51***a	1.66

B – Logistic regression estimate of the predictor; Exp(B) odds ratio for p at the level of: $p < 0.10$, *$p < 0.05$, **$p < 0.01$, *** $p < 0.001$.
Each subscript letter denotes a subset of categories whose column proportions (Bonferroni method) do differ significantly from each other at the 0.05 level.
Source: as in Table 4.

The above mentioned results of logistic regression allows us to support hypotheses H2a and H2b.

Another logistic regression model were built in order to verify the relation between both "financial" (*InnoBarrFin*) and "market/knowledge-related barriers" (*InnoBarrMark-Know*) and market orientation of firms from Polish food processing industry. The results revealed, that there is statistically significant relation between "financial barriers" and market orientation of surveyed firms, also this related to external markets. Based on the above, the hypothesis H3 has been supported for financial barriers influence. Details see Table 7.

Table 7. Results of logistic regression for the relation between the perception of financial and market/knowledge innovation barriers and the market of sales for enterprises from Polish food processing industry in 2008–2010, split for local, domestic, European Union and other foreign markets, results for the whole sample, N = 1216

Type of innovation barrier	Target market							
	Local market		Domestic market		EU, EFTA and EU candidate countries'		„Other markets"	
	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)
InnoBarrMarkKnow	−0.13b	0.88	0.01b	1.01	−0.08b	0.930	−0.09b	0.91
InnoBarrFin	0.39a	1.46	0.19a	1.21	0.19a	1.21	0.20a	1.28

Each subscript letter denotes a subset of categories whose column proportions (Bonferroni method) do differ significantly from each other at the 0.05 level.
Source: as in Table 4.

CONCLUSIONS

Taking the above results, it can be argued, that they do not confirm the re-orientation of firms from Polish food processing industry toward gaining differentiation-based international competitive advantage resulting from product innovation. It seems that surveyed firms still base their strategies on international markets on cost/price advantage resulting, among others, from introduction of process innovation.

The importance of financial and market/knowledge related barriers for the introduction of both product and process innovation as well as internationalisation (in case of financial barriers) show, that there is a striking need for both improving financial standing of firms as well as their knowledge base. Deeper analysis may reveal which type of financial obstacles – those related to lack of financial resources within the firm or those coming from external sources are perceived as more important obstacles for both: innovation performance as well as internationalisation of firms from Polish food processing industry.

Certain limitations of study provide opportunities for future research. The research setting is restricted to the medium and big enterprises, and the results cannot be transferred towards the small firms, which sill constitute the majority of Polish food processing industry.

Also analysis based on single-period PNT-02/CIS panel limits the opportunities to assess the long-term trends of the causal effects under study. The limitations of the paper are also caused by the structure of the PNT-02/CIS questionnaire itself, like for example lacking information regarding firm age, share of foreign equity, strategic motives for exporting.

Nevertheless, the analysis provides some hints for further research of connections between innovation and market orientation as well as the impact of innovation barriers on both innovation performance and international competitive advantage of firms.

REFERENCES

Baldwin J., Lin Z., 2002. Impediments to advanced technology adoption for Canadian manufacturers. Research Policy 31(1), 1–18.

Bartlett M.S., 1954. A note on multiplying factors for various chi-squared approximations. Journal of the Royal Statistical Society B, 16.

Biernat-Jarka A., Grzymska E., 2010. Bariery wzrostu innowacyjności przedsiębiorstw w Polsce na przykładzie firm sektora MSP. Acta Scientiarum Polonorum, Oeconomia 9(1), 23−28.

Bleaney M., Wakelin K., 2002. Efficiency, innovation and exports. Oxford Bulletin of Economics and Statistics 64, 3–15.

Buse S., Tiwari R., Herstatt C., 2010. Global innovation: An answer to mitigate barriers to innovation in small and medium-sized enterprises? International Journal of Innovation and Technology Management 7(3), 215–227.

Clausen T.H., Pohjola M., 2009. International competitiveness: internal capabilities and open innovation as sources of export performance. MICRO-DYN, EU Sixth Framework Programme, Working Paper 05/09.

Firlej K., Makarska A., 2012. Działania innowacyjne firm przemysłu spożywczego jako element ich strategii, Folia Pomeranae Universitatis Technologiae Stetinensis. Oeconomica 68, 37–46.

Gourlay A.R., Seaton J.S., 2004. UK export behavior at the firm level. Economic Issues 2, 3–20.

Guijarro-Madrid A., Garcia D., Van Auken H., 2009. Barriers to innovation among Spanish manufacturing SMEs. Journal of Small Business Management 47(4), 465–488.

Gutkowska K., Żakowska-Biemans S.M., Sajdakowska M., 2009. Preferencje konsumentów w zakresie możliwych do zastosowania innowacji w produktach tradycyjnych. Żywność. Nauka. Technologia. Jakość 3(64), 115–125.

Halpern L., 2007. Literature survey on the links between innovation, competition, competitiveness, entry & exit, firm survival and growth. MICRO-DYN, EU Sixth Framework Programme. Working Paper, 02/07.

Iammarino S., Sanna-Randaccio F., Savona M., 2009. The perception of obstacles to innovation. Foreign multinationals and domestic firms in Italy. Revue d'Economie Industrielle 125, 75–104.

Juchniewicz M., 2011. Determinanty konkurencyjności przemysłu spożywczego. In: Studia Ekonomiczne. Zeszyty Naukowe Wydziałowe Uniwersytetu Ekonomicznego w Katowicach. Przegląd Wybranych Zagadnień Rozwoju Ekonomiczno-Społecznego, 173–180.

Kaczorowska J., 2009. Innowacyjna działalność produktowa polskich przedsiębiorstw przemysłu spożywczego. Zeszyty Naukowe SGGW w Warszawie. Problemy Rolnictwa Światowego 50–57.

Kaiser H.F., 1958. The varimax criterion for analytic rotation in factor analysis. Psychometrika 23.

Larsen P., Lewis A., 2007. How Award-Winning SMEs Manage the Barriers to Innovation, Creativity and Innovation Management 6(2), 142–151.

Lewandowska M.S., 2012. Bariery finansowe a sprawność innowacyjna polskich przedsiębiorstw. In: Znaczenie innowacji dla konkurencyjności międzynarodowej gospodarki. Zeszyty Naukowe Uniwersytetu Ekonomicznego w Poznaniu 246, 350–362.

Mohnen P., Rosa J., 2004. Les obstacles a l'innovation dans les industries de services au Canada. CIRANO Scientific Series. Retrieved from http://www.cirano.umontreal.ca/publication/documents.html [Accessed 08.04.2014].

Montobbio F., 2003. Sectoral patterns of technological activity and export market share dynamics. Cambridge Journal of Economics 27, 523–545.

Nieć M., 2011. Bariery wprowadzania innowacji w przedsiębiorstwach przetwórstwa przemysłowego w latach 2002-2010. Roczniki Nauk Rolniczych, Seria G, 98, 4, 23–35.

Okoń-Horodyńska E. (Ed.), 2008. Tendencje innowacyjnego rozwoju polskich przedsiębiorstw. Instytut Wiedzy i Innowacji, Warszawa.

Okoń-Horodyńska E., Zachorowska-Mazurkiewicz A. (Eds), 2007. Innowacje w rozwoju gospodarki i przedsiębiorstw, siły motoryczne i bariery. Instytut Wiedzy i Innowacji, Warszawa.

PNT-02 2008-2010. Retrieved from http://form.stat.gov.pl/formularze/2010/passive/PNT-02.pdf.

Oslo Manual, 2005. Guidelines for Collecting and Interpreting Innovation Data, OECD Publishing.

Saatcioglu O.Y., Ozmen O.N., 2010. Analyzing the barriers encountered in innovation process through interpretive structural modeling: Evidence from Turkey. Yonetim Ve Ekonomi 17(2), 207–225.

Soete L., 1981. A general test of technology gap trade theory. Weltwirtschaftliches Archiv 117, 638–660.

Stojcic N., Hashi I., Telhaj S., 2011. Innovation activities and competitiveness: empirical evidence on behaviour of firms in new EU member states and candidate countries. CASE Network Studies and Analyses 424.

Wziątek-Kubiak A., Balcerowicz E., Pęczkowski M., 2009. Differentiation of innovation behavior of manufacturing firms in the new member states – Cluster analysis on firm-level data, MICRO-DYN, EU Sixth Framework Programme. Working Paper 08/09.

Wziątek-Kubiak A., Pęczkowski M., 2013. Sources and barriers of persistence of innovation of Polish manufacturing companies. Research Papers of Wrocław University of Economics 305, 872–883.

Zalewski R.I., Góralski K., 2011. Innovativeness of Food Production Enterprises in Wielkopolskie Voivodship from the Perspective of Producers. Acta Scientiarum Polonorum, Oeconomia 10(1), 139−148.

BARIERY INNOWACJI A MIĘDZYNARODOWA KONKURENCYJNOŚĆ PRZEDSIĘBIORSTW POLSKIEGO PRZEMYSŁU SPOŻYWCZEGO. WYNIKI BADAŃ

Streszczenie. Innowacyjność ma kluczowe znaczenie w budowaniu przewagi konkurencyjnej przedsiębiorstw. Napotykają one jednak na wiele barier, które zakłócają ich działalność innowacyjną. Celem niniejszego opracowania jest ocena wpływu barier innowacji na sprawność innowacyjną, jak również międzynarodową konkurencyjność przedsiębiorstw polskiego przemysłu spożywczego. Analizę przeprowadzono na reprezentatywnej próbie 1216 średnich i dużych przedsiębiorstw (PKD, sekcja C 10), biorących udział w badaniu GUS PNT-02 za lata 2008–2010. Wyniki wskazują na statystycznie istotne zależności między barierami innowacyjności, sprawnością innowacyjną i poziomem międzynarodowej konkurencyjności badanych firm. W celu weryfikacji hipotez badawczych w badaniu zastosowano wiele zaawansowanych metod statystycznych. Wyniki wskazują na złożoność interakcji pomiędzy analizowanymi zmiennymi, prowadząc do wniosku, że proces innowacji nie może być zredukowany wyłącznie do relacji liniowych.

Słowa kluczowe: innowacyjność, konkurencyjność, polskie przedsiębiorstwa, kwestionariusz CIS