STUDIA OECONOMICA POSNANIENSIA 2018, vol. 6, no. 1

DOI: 10.18559/SOEP.2018.1.5

Bartosz Michalski
University of Wroclaw, Institute of International Studies, Department of International Economic Relations and European Integration
bartosz.michalski@uwr.edu.pl

THE COMPETITIVENESS OF POLISH RESOURCE- AND LABOUR-INTENSIVE EXPORTS IN THE CONTEXT OF MEMBERSHIP OF THE EUROPEAN UNION

Abstract: The paper focuses on the evolution and evaluation of the technological intensity of Polish exports. A particular emphasis is placed on the resource- and labour-intensive (R+L) product clusters. The analysis is supplemented with a case study covering Polish-German trade in the clothing industry. The issues discussed in the paper relate to the broader context of a discussion about the economic security of Poland, in particular, the threat of sustaining a developmental gap in the form of the middle-income trap. The results of the research revealed that the competitive advantages of most R+L categories in Polish exports, including the most important ones, have deteriorated. It is thus a contribution to the debate on measures aimed at strengthening the economic development of Poland and addressing structural burdens.

Keywords: international trade, competitive advantage, competitiveness, economic security, technological change, Poland, Germany, the European Union, the clothing industry.

JEL Codes: F13, F14, F52, O14, O33.

KONKURENCYJNOŚĆ POLSKIEGO SUROWCO- ORAZ PRACOCHŁONNEGO EKSPORTU W WARUNKACH CZŁONKOSTWA W UNII EUROPEJSKIEJ

Streszczenie: Artykuł koncentruje się na określeniu i ocenie zmian w zaawansowaniu technologicznym polskiego eksportu. Szczególną uwagę poświęcono ewolucji przewagi konkurencyjnej towarów zaliczanych do kategorii surowco- oraz pracochłonnych (S+P). Analizy uzupełniono studium przypadku poświęconym polsko-niemieckim relacjom handlowym w sektorze odzieżowym. Podjęta problematyka wpisuje się w szerszy kontekst dyskusji nad bezpieczeństwem ekonomicznym Polski, w tym zwłaszcza utrwalaniem luki rozwojowej, określanej mianem pułapki średniego dochodu. Wyniki badania wskazują na osłabienie przewagi konkurencyjnej większości kategorii S+P w polskim eksporcie, zwłaszcza tych najważniejszych. Jest to zarazem głos w debacie nad rozwiązaniami wzmacniającymi rozwój polskiej gospodarki i ukierunkowanymi na eliminację strukturalnych barier.

Słowa kluczowe: handel zagraniczny, przewaga konkurencyjna, konkurencyjność, bezpieczeństwo ekonomiczne, zmiana technologiczna, Polska, Niemcy, Unia Europejska, branża odzieżowa.

Introduction

A contemporary discussion about competitiveness in the context of an open economy and membership in the European Union focuses primarily on the functioning of the national innovation system, financing research and development activities as well as on generating advanced knowledge (cf. Kondratiuk-Nierodzińska, 2016). However, one has to keep in mind that an economy also consists of sectors which make use of old technologies, create low added value and thus face the challenge of modernisation. These cases are sectors/goods known as resource- and labour-intensive (R+L), which still have an essential share within the Polish economy. Moreover, the progress in trade liberalisation and low-cost competition from Asian producers have brought about new structural threats. Many of them have a lot in common with characteristics of the middle-income trap (MIT) (Gill & Kharas, 2007, 2015; Im & Rosenblatt, 2013; Ohno, 2009). This means, in particular, a tendency to preserve specialisation areas which do not stimulate technological change and sustain the dependency on the inflow of foreign technologies. This, in turn, poses new challenges which need to be addressed and discussed from the perspective of economic security.

The primary purpose of the paper is to identify developments of the technological intensity of Polish exports, especially R+L commodities, between 2001-2015. Another emphasis is placed on a diagnosis of the evolution of competitive advantages of essential R+L product clusters in Polish trade together with potential opportunities and threats. Finally, the impact of Poland's largest trading partner – Germany – is discussed taking the clothing industry as a case study. The study itself also remains a part of a long-term research project covering the competitiveness and technological intensity of Polish exports in the paradigm of MIT.

1. Research method

Issues of competitiveness undertaken in this paper relate to the discursive approach within the international political economy (political economy of international relations) (cf. Księżopolski, 2011, p. 30). This means that the analysis and discussion of results are anchored in the structuralist and constructivist frame of reference[1] (Smith, El-Anis, & Farrands, 2013, pp. 33-45; Cohn, 2016, pp. 114-116). What needs to be emphasised is also the perspective of economic security, which is, as Raczkowski (2012, p. 81) puts it, as the relatively steady state of endo- and exogenous factors affecting the national economy, while the risk of destabilisation remains under control within socially defined and accepted organisational and legal norms as well as principles of social conduct. Last, but not least, competitiveness is understood here as the ability to sell on international markets which emerges indirectly from good governance and an appropriate institutional framework.

Having said that, the technical dimension of the research is based on trade data from the UN Comtrade and Eurostat compiled and provided by the International Trade Centre (Trade Map, 2016) at the 2-, 4- and 6-digit disaggregation level of the Harmonised System (HS). The identification of technological intensity (high-tech, mid-tech, low-tech, resource- and labour-intensive, non-classified and others[2]) of product clusters (HS 4-digit disaggregation) is founded on the classification of the United Nations Conference on Trade and Development (UNCTAD, 2012), whereas the 3-digit

[1] The above mentioned concept of MIT may be seen as a typical constructivist approach addressing and interpreting selected developmental issues which determine the position of a given country within the international world order/global economy.

[2] This last group consists of agricultural goods and primary resources.

codes of the Standard International Trade Classification were converted into 4-digit ones coherently with the Harmonised System.

Competitive advantage was diagnosed for product clusters (HS 4-digit disaggregation) making use of the relative trade advantage index (RTA) which is a quotient of the revealed comparative advantage index (RCA) (Balassa, 1965) and import penetration index (IMP)[3]. The case study focuses on Polish-German trade in the clothing industry (HS 62)[4], in particular on the intensity of intra-industry trade (IIT) measured by the Grubel-Lloyd index (GL-index) (Grubel & Lloyd, 1975) for trade data at the 6-digit disaggregation[5]. What is more, for the purpose of a more detailed insight into bilateral trade also sub-categories of IIT have been identified: horizontal IIT (HIIT; countries A and B trade with substitute goods of the same quality), vertical-high quality IIT (VIIT-HQ; country A exports substitute goods of higher quality, whereas country B does the opposite), and vertical-low quality IIT (VIIT-LQ; country A exports substitute goods of lower quality, whereas country B does the opposite). Horizontal IIT occurs, if the relation of average values of goods being the subject of exports and imports does not exceed ±15%. Vertical-low quality IIT and VIIT-HQ, in turn, take place if this relation remains respectively lower or higher than 15% (see more: Brodzicki & Śledziewska, 2016, p. 46, Czarny & Śledziewska, 2012, pp. 184-186; Molendowski, 2012, pp. 39-54). This analytical approach is based on the assumption that the average value of a given product approximates its quality. Therefore, it helps to evaluate transformations of the competitive position of domestic producers in comparison with substitute goods coming from other countries.

Results of the study may be used for strategic decision making in Polish companies operating in R+L sectors covered by this research, especially when identifying specific niches of their best competencies. These are proved if exported goods belong to the VIIT-HQ sub-category. What is

[3] RCA/IMP calculated for data covering exports/imports respectively, while RTA = = RCA/IMP. Competitive advantage exists, if RTA > 1. Siggel (2006, p. 138) claims that market prices may be distorted by subsidies or other incentives provided, for instance by exchange rate misalignment, therefore also the RCA index may be applied to measure competitiveness.

[4] This choice was made due to the following reasons: HS 62 consists entirely of R+L product clusters; in 2015 it was the 8th largest chapter of Polish exports to Germany having a share of 2.62% in the total Polish exports to this country. Finally, more than half (55.6%) of Polish exports in HS 62 was absorbed by Germany.

[5] The higher is the intensity, the more similar are the economies in their factor endowment.

more, the study is also intended to provide some insights into the political and economic discussion on how to address the challenge of the middle-income trap in Poland.

2. The technological intensity of Polish trade from 2001-2015

Analysing the evolution of the technological intensity of Polish exports one can easily spot some fundamental tendencies (see Fig. 1 and 2). On the whole, these transformations can be regarded as positive, for the structure gravitates towards commodities being more technologically intensive. The share of mid-tech product clusters grew from 28.0 to 31.3% in the period covered, while the high-tech ones did even better surging from 11.8 to 19.2% (see Fig. 1). However, those highly processed goods are assembled by companies owned by foreign capital (see more Mroczek, 2015, p. 3-6). This makes Polish exports more and more reliant on the activity of international business and the complex fragmentation of global value chains (GVCs). These factors have also affected the domestic value-added content in Polish exports, which according to Ulbrych (2017, pp. 164-165) was reduced primarily in more technologically advanced sectors[6]. From the standpoint

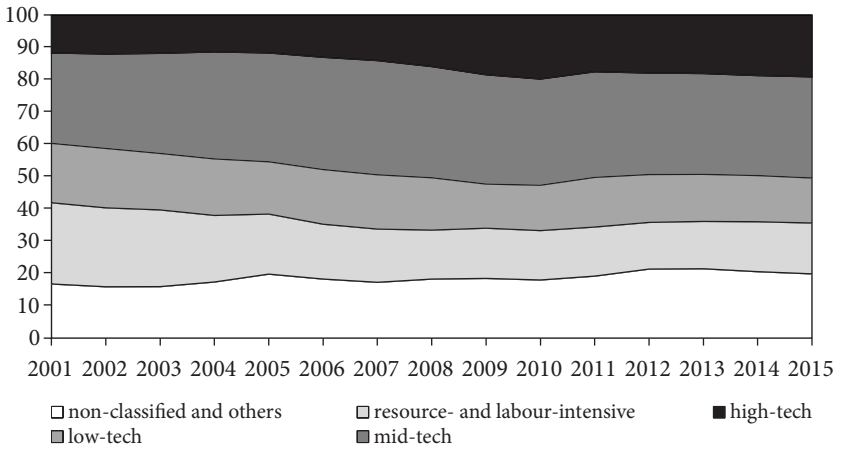

Figure 1. Evolution of the technological intensity of Polish exports, 2001-2015 (%)

Source: own elaboration based on (Trade Map, 2016; UNCTAD, 2012).

[6] For further reference see the concept of trade in value added and database compiled by the Organisation for Economic Cooperation and Development (OECD, 2017).

of economic security, this situation may pose a severe structural burden, if the roots of economic growth and development, above all those creating innovative, knowledge-intensive concepts, are primarily located outside. This situation may sustain the dependency on foreign technological guidance (Ohno, 2009, p. 28), which remains the essence of the middle-income trap.

As far as the shares of R+L product clusters are concerned, they were gradually dropping from 25.1% in 2001 to 15.7% in 2015. A similar trend was observed for low-tech categories, but its dynamics were slower: starting from the level of 18.4% in 2001 it reached 13.9% in 2015. The proportion of the last component – non-classified and others – was growing gradually (from 16.7 to 19.9%) which may have been caused by price tendencies on agricultural and raw commodity markets.

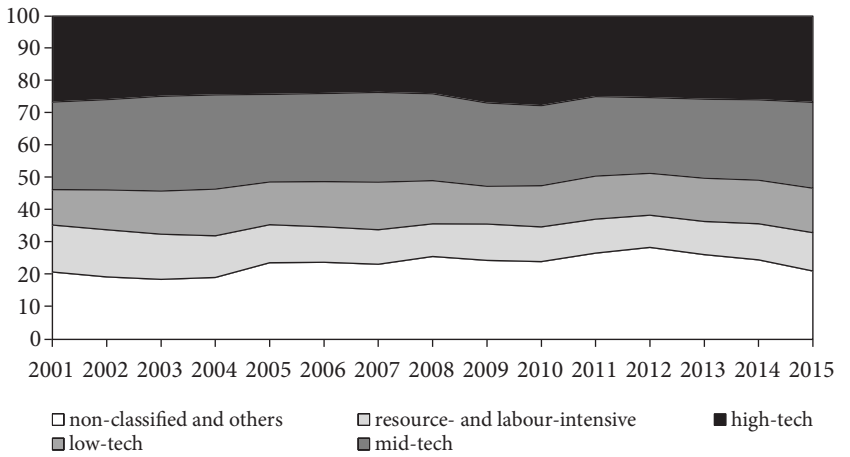

Figure 2. Evolution of the technological intensity of Polish imports, 2001-2015 (%)

Source: own elaboration based on (Trade Map, 2016; UNCTAD, 2012).

In the case of Polish imports, its technological intensity has been much more stable throughout the period covered (see Fig. 2), even if taking into account inevitable fluctuations. The shares of non-classified and others, as well as low-tech, grew slightly, (respectively from 20.9 to 21.2% and from 11 to 13.8%), while R+L product clusters and mid-tech dropped (respectively from 14.5 to 11.9% and from 27.1 to 26.5%). The high-tech share remained stable varying between 23.6 and 27.7%.

The analysis of the developments mentioned above has to be contrasted with the evolution of the Polish trade balance (see Table 1).

Table 1. Decomposition of the Polish trade balance, 2001-2015 (bn USD)

Type of goods	2001	2002	2003	2004	2005	2006	2007	2008
Non-classified and others	–4.4	–4.1	–4.1	–4.1	–6.4	–10.0	–14.2	–22.6
Resource- and labour-intensive	1.7	1.9	3.1	3.8	4.7	4.8	5.3	4.8
Low-tech	1.1	0.7	0.3	0.2	1.0	1.0	–0.8	–0.3
Mid-tech	–3.5	–3.4	–3.3	–1.2	2.6	3.8	3.5	2.6
High-tech	–9.0	–9.2	–10.4	–13.0	–14.1	–15.7	–19.1	–23.1
SUM	**–14.1**	**–14.0**	**–14.4**	**–14.4**	**–12.2**	**–16.1**	**–25.4**	**–38.6**
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	
Non-classified and others	–11.3	–13.7	–19.8	–16.1	–10.2	–9.3	–1.5	
Resource- and labour-intensive	4.4	5.3	6.6	6.9	8.8	8.9	8.1	
Low-tech	1.2	–0.2	1.0	1.8	2.2	1.4	1.0	
Mid-tech	7.7	8.5	10.1	11.6	13.3	12.6	10.5	
High-tech	–14.9	–17.1	–19.0	–16.0	–15.8	–15.9	–13.3	
SUM	**–12.9**	**–17.1**	**–21.1**	**–11.8**	**–1.8**	**–2.2**	**4.8**	

Source: own elaboration based on (Trade Map, 2016; UNCTAD 2012).

As shown above, the Polish economy first and foremost performed poorly in high-tech product clusters. Non-classified and other commodities were also used to generate a persistent deficit, which may have been caused by price tendencies on raw commodity markets. At the same time, the surplus in the groups of mid-tech and R+L goods became a permanent phenomenon. What is worth emphasising in the case of the latter, this tendency has shown resistance despite the fact that the shares of R+L in Polish exports and imports were continually shrinking. These developments may suggest the validity of the thesis of MIT.

3. Competitive advantages in Polish exports and imports of resource- and labour-intensive goods

In the period covered by the research, the Polish exports of R+L goods grew three-fold regarding its value from 8.89 to 30.59 bn USD (average growth rate 10% y/y), while the imports expanded from 7.19 to 22 bn USD (average growth rate 9.4% y/y).

Identifying the most relevant product clusters (HS 4-digit disaggregation), for a better clarity of our research, the selection sample was narrowed down only to the goods with their share in the total exports/imports being higher than 0.25% in every year covered. The technical reason was also to sort out a limited number of relatively relevant cases (industries and product clusters) for the analysis. Therefore, the key R+L products exported from Poland were:

- fiberboard of wood or other ligneous materials (HS 4411),
- builders' joinery and carpentry, of wood (HS 4418),
- uncoated paper and paperboard (HS 4802),
- cartons, boxes, cases, bags and other packing containers, of paper, paperboard, cellulose wadding or webs of cellulose fibres (HS 4819),
- women's or girls' suits, ensembles, jackets, blazers, dresses, skirts, etc. (HS 6204),
- seats, and parts thereof (HS 9401),
- other furniture and parts thereof (HS 9403),
- mattress supports and articles of bedding and similar furnishing (HS 9404).

In the Polish imports the following dominant product clusters were identified:

- other paper and paperboard, uncoated (HS 4805),
- paper and paperboard, coated on one or both sides with kaolin "China clay" or other inorganic substances (HS 4810),
- paper, paperboard, cellulose wadding and webs of cellulose fibres, coated, impregnated, covered, surface-coloured, surface-decorated or printed (HS 4811)
- as well as the HS 9401 and HS 9403 mentioned above.

All these categories, especially in the exports, are related to the forms of economic activity which rely primarily on the access to raw materials (wood, paper) and certain regional traditions (e.g. the clothing industry, furniture). What is also a specific issue, foreign capital operates successfully in these sectors[7], making use of pressures on lower costs (labour, resources, tax exemptions in special economic zones) and sustaining them. Hence, it would be advisable to verify, whether the product clusters mentioned above have been competitive (i.e. they have had higher RTA indices). Table 2

[7] If a company has internationalised its activities through foreign direct investments on international markets, the likelihood of being an exporter is over 30 times higher than for companies of similar size, type of business and productivity (Brodzicki & Ciołek, 2016, p. 1).

Table 2. RTA index for selected resource- and labour-intensive goods in the Polish exports, 2010–2015

Product cluster	2010	2011	2012	2013	2014	2015
Fibreboard made of wood	2.64	2.85	4.03	3.80	3.21	3.44
Builders' joinery and carpentry, of wood	6.00	6.53	8.76	10.00	9.64	9.63
Uncoated paper and paperboard	1.44	1.51	1.57	1.37	1.37	1.28
Paper, paperboard, cellulose wadding and webs of cellulose fibres	1.21	1.31	1.35	1.34	1.35	1.18
Toilet paper and similar paper, cellulose wadding or webs of cellulose fibres	3.65	3.54	2.07	1.73	1.79	1.68
Cartons, boxes, cases, bags and other packing containers	1.30	1.30	1.40	1.40	1.51	1.52
Women's or girls' suits, ensembles, jackets, blazers, dresses, skirts	1.24	1.23	1.21	1.19	0.95	0.87
Safety glass which is toughened, tempered, or laminated	2.07	2.36	2.84	3.86	4.23	4.48
Seats, and parts thereof	7.71	7.80	7.72	6.51	5.69	5.07
Other furniture and parts thereof	5.84	5.91	5.52	5.66	5.84	5.47
Mattress supports and articles of bedding	9.24	7.90	7.08	6.32	6.11	5.43

Source: own elaboration based on (Trade Map, 2016; UNCTAD 2012).

presents the results covering the period 2010-2015 and R+L goods with their average share of 0.25% in Polish exports as a boundary condition. Persistent competitive advantages are characteristic for furniture and its parts, and other industries which make use of wood. An interesting case that also remains is toughened safety glass, tempered, and laminated (HS 7007); with its RTA index growing steadily in recent years. On the other hand, the product cluster HS 6204 (women's or girls' suits, ensembles, jackets, blazers, dresses, skirts) has lost its advantage. This, in turn, justifies concerns about the further activity and performance of the clothing industry, taking into account import competition from China and Bangladesh (see also the subsequent section of the paper). Among 271 R+L product clusters (4-digit of disaggregation) covered by the research 130 experienced a decline of the RTA index between 2010-2015. They accounted for 10.5% of the total Polish exports in 2015. 137 products clusters improved, but their share in the total Polish exports in 2015 was only 5.2%.

As far as the geographical structure is concerned, the first destination market for all categories from Table 2 was Germany (Trade Map, 2016). This state of affairs is a reason to provide a thesis that the characteristics of

MIT in the Polish case (i.e. sustaining advantages in sectors of lower capital intensity) may be related the blight of the proximity of Germany. It has had a direct impact on the investment expansion of German capital in Poland in particular industries, which, in turn, is put down to the contemporary nature of GVCs. The geographical locations of affiliates in the corporate networks are usually aimed at lower cost and efficiency-seeking in the host countries, which can be detrimental to the development of potential alternatives in the form of innovative domestic projects. It is thus necessary to discuss, define and enforce measures lowering the importance of competition based on costs and locational incentives. By doing so, it would be better off to apply an approach of becoming gradually independent from foreign technological guidance through the selection of investment projects, preferences for domestic innovations and to level the playing field for Polish entrepreneurs, which has not been evident so far.

4. Trade relations with Germany in the clothing industry

The selection of the clothing industry for our case study results from the fact that the chapter HS 62 is the most significant group of all R+L product clusters regarding the value of trade relations between Poland and Germany. There are plenty of successful Polish companies which often hide behind English-sounding brands (*Polskie marki i firmy odzieżowe*, 2016) as well as production sites owned by foreign capital being sub-contractors for global brands. The rationale for their activity, within their operational business model, lies in the attractiveness of the German market. This generates both growing trade volumes and values in the chapter HS 62 as well as the intensity of intra-industry trade (see Table 3)[8]. Poland-based companies remain for Germany the tenth largest supplier (according to data from 2015), competing with Chinese, Bangladeshi, Turkish, Vietnamese, Italian, Indian, Dutch, Pakistani and Romanian firms.

Quite surprising is the discrepancy in trade data. The values of Polish and German exports and imports differ considerably. This cannot be explained only by the dubious quality of bilateral trade statistics (see Table 4). While speculating on this, the scale of this divergence may be twofold. First, it depicts the size and scope of sub-contracting phenomenon by the

[8] According to OECD (2017), Polish value added content in the exports of textiles, textile products, leather and footwear (C17T19) to Germany dropped from 73 to 70% between 2001-2011.

Table 3. Intensity of intra-industry trade with Germany in the clothing industry (GL-index), 2001-2015

GL-index	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
GL total	5.2	5.6	4.9	5.8	9.0	12.3	13.6	13.7	12.8	13.8	18.5	20.2	30.8	28.8	30.2
HIIT	1.5	2.1	2.4	2.3	1.2	2.3	0.9	1.4	1.9	1.4	2.4	0.7	3.7	4.1	3.0
VIIT-LQ	1.0	0.5	0.5	1.4	4.4	6.2	9.3	10.0	9.6	11.2	14.2	17.4	23.7	21.8	23.7
VIIT-HQ	2.7	3.0	2.0	2.1	3.5	3.9	3.4	2.3	1.3	1.1	1.8	2.1	3.4	2.9	3.6

HIIT: horizontal intra-industry trade, VIIT-LQ: vertical-low quality intra-industry trade, VIIT-HQ: vertical-high quality intra-industry trade.

Source: own elaboration based on (Trade Map, 2016).

Table 4. Polish-German bilateral exports and imports in the clothing industry [bn USD], 2001-2015

Direction of trade	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
PL-DE exports	0.78	0.67	0.73	0.77	0.69	0.66	0.68	0.83	0.80	0.85	1.02	0.90	1.08	1.36	1.37
PL-DE imports	0.02	0.02	0.02	0.03	0.04	0.05	0.06	0.07	0.06	0.07	0.12	0.11	0.21	0.23	0.25
DE-PL exports	0.08	0.08	0.10	0.12	0.14	0.18	0.28	0.53	0.65	0.76	0.97	0.59	0.44	0.45	0.41
DE-PL imports	0.79	0.67	0.69	0.63	0.57	0.51	0.48	0.47	0.50	0.46	0.43	0.37	0.37	0.39	0.43

Source: own elaboration based on (Trade Map, 2016).

Poland-based companies for the sake of their German partners re-exporting certain goods to further markets (see and also compare the identification of Polish main product clusters within HS 62). Second, as far as the Polish re-exports of goods made in Germany is concerned, this may be put down to the organisation of corporate sale channels, where Poland-based which might have been intended to act as distribution hubs for the region of Central and Eastern Europe.

The intra-industry trade within the chapter HS 62 is mainly dominated by the sub-category of vertical intra-industry trade-low quality (VIIT-LQ), which is to some extent counterintuitive, but typical for a less developed trading partner. Regarding shares in the Polish exports of chapter HS 62 to Germany, the most critical product clusters (HS 6-digit disaggregation) in the stream of the VIIT-LQ were:

- men's or boys' trousers, bib and brace overalls, breeches and shorts, made of cotton (HS 620342; average share in the exports of HS 62 between 2012-2015 12.6%[9]),
- women's or girls' dresses of synthetic fibres (HS 620443; average share 5.2%),
- women's or girls' trousers, bib and brace overalls, breeches and shorts made of cotton (HS 620462; average share 17.9%),
- women's or girls' blouses, shirts and shirt-blouses of man-made fibres (HS 620640; average share 4.4%),
- brassieres of all types of textile materials (HS 621210; average share 4.7%).

As far as the sub-category of VIIT-HQ is concerned, it fluctuated slowly in the period covered. However, one can spot an adverse impact of the global economic crisis: the GL sub-index dropped below 2.0% in the period 2009-2011. The most important product clusters and simultaneously areas of higher competencies were:

- men's or boys' overcoats, raincoats, car-coats, capes, cloaks and similar articles, of wool or fine animal hair (HS 620111; average share in the exports of HS 62 between 2012-2015 0.8%),
- men's or boys' suits made of wool or fine animal hair (HS 620311; average share 0,9%).
- men's or boys' jackets and blazers made of wool or fine animal hair (HS 620331; average share 1.8%).

These are primarily more expensive pieces of clothing offered to customers demanding higher quality. It does not mean, however, that Polish

[9] Author's calculations based on (Trade Map, 2016).

Table 5. German imports of men's or boys' jackets and blazers (HS 620331), 2001-2015 [mill. USD]

Supplying country	2001	2002	2003	2004	2005	2006	2007	2008
Turkey	24.1	18.3	18.6	18.4	15.2	14.1	17.9	24.6
Bulgaria	2.9	3.8	12.0	17.1	23.4	38.4	39.7	38.9
Romania	33.0	28.8	25.9	27.5	35.2	42.2	21.7	24.3
China	0.5	0.6	0.6	0.4	3.0	6.4	10.8	16.9
Poland	17.1	15.3	12.5	13.2	16.5	13.0	13.5	15.5
Croatia	24.8	19.4	17.7	15.7	12.4	10.5	11.3	13.8
Italy	11.5	9.6	6.4	6.0	9.1	10.2	9.3	12.3
Total	196	162	152	154	179	199	200	236
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	
Turkey	24.6	38.8	53.7	41.9	44.2	47.1	49.2	
Bulgaria	23.0	25.6	28.7	32.9	35.9	35.0	32.7	
Romania	21.7	23.3	28.3	33.7	26.4	25.8	22.0	
China	16.0	23.3	24.8	16.2	12.6	13.2	19.7	
Poland	15.8	17.3	18.1	17.4	18.6	23.4	19.3	
Croatia	10.5	10.0	14.8	12.8	16.1	15.7	14.6	
Italy	8.2	8.6	12.3	10.4	11.3	11.7	10.2	
Total	174	200	243	213	214	217	205	

Source: own elaboration based on (Trade Map, 2016).

companies do not face competition from other countries. Let us look at the case of men's or boys' jackets and blazers (HS 620331; see Table 5), where imports from Poland were growing steadily and had to face competition from Turkey, Bulgaria, Romania and China[10].

Concluding remarks

The results of our research prove unequivocally that the importance of R+L product clusters in Polish exports has been decreasing. This may be interpreted as a positive structural development as it means that Polish exports have gravitated towards more technologically intensive industries. At the same time, it cannot be forgotten that companies operating in R+L sec-

[10] Assuming that goods in a given category made in different countries are close substitutes for consumers (see more the love for variety concept) (Krugman, 1979).

tors have been under more and more intense competitive pressures aimed at cost and labour efficiency. The activity of foreign capital (the paper and timber industry) and traditional areas of specialisation of Polish entrepreneurs (furniture) are the factors which may strengthen existing competencies and thus their competitiveness, primarily because competitive advantages of dominant R+L product clusters in Polish exports tend to deteriorate. What seems particularly advisable is that Polish companies could be more efficient in several R+L niche specialisations (see once again the case of chapter HS 62) provided that economic policy measures would support their expansion by addressing their needs effectively. This could better serve strategic goals and the transformation of the Polish economy towards more innovative and more imitation-resistant businesses as well as enhance the employment security[11] in selected R+L sectors.

Acknowledgments

The author would like to acknowledge incisive comments and suggestions provided to the preliminary version of this paper by two anonymous referees. I am responsible for any remaining errors and deficiencies.

References

Balassa, B. (1965). Trade Liberalisation and "Revealed" Comparative Advantage. *The Manchester School*, *33*(2).

Brodzicki, T., Ciołek, D. (2016). Determinanty działalności eksportowej polskich firm produkcyjnych. *Gospodarka Narodowa*, 2.

Brodzicki, T., & Śledziewska, K. (2016). Determinanty wertykalnego i horyzontalnego handlu wewnątrzgałęziowego Polski. Analiza ekonometryczna. In S. Wydymus, & M. Maciejewski (Eds.). *Handel międzynarodowy w rozwoju społeczno-ekonomicznym państw*. Warszawa: CeDeWu.

Cohn, T.H. (2016). *Global political economy. Theory and practice*. New York: Routledge.

Czarny, E., & Śledziewska, K. (2012). *Międzynarodowa współpraca gospodarcza w warunkach kryzysu*: *wnioski dla Polski*. Warszawa: PWE.

[11] Employment security is about the protection of workers against fluctuations in earned income as a result of job loss (ILO, 2016).

Gill, I., & Kharas, H. (2007). *An East Asian renaissance*: *Ideas for economic growth*. Washington DC: The World Bank.

Gill, I., & Kharas, H. (2015). *The Middle-income trap turns te* (Policy Research Working Paper No. 7403). Washington DC: The World Bank, August.

Grubel, H., & Lloyd, P. (1975). *Intra-industry trade*. *The theory and measurement of international trade in differentiated products*. London: Macmillan.

ILO. (2016). *Employment security*, Retrieved from http://www.ilo.org/global/topics/employment-security/lang-en/index.htm

Im, F.G., & Rosenblatt, D. (2013). *Middle-income traps*. *A conceptual and empirical survey* (Policy Research Working Paper No. 6594. September). The World Bank.

Kondratiuk-Nierodzińska, M. (2016). Kreacja wiedzy technicznej a konkurencyjność gospodarek. *Ekonomista*, 1.

Krugman, P. (1979). Increasing returns, monopolistic competition, and international trade. *Journal of International Economics*, *9*(4).

Księżopolski, K., (2011). *Bezpieczeństwo ekonomiczne*. Warszawa: Dom Wydawniczy Elipsa.

Molendowski, E. (2012). *Integracja handlowa w nowych państwach członkowskich* (*UE-10*). *Doświadczenia i wnioski dla innych krajów Europy Środkowej i Wschodniej*. Warszawa: Difin.

Mroczek, W., (2015). Udział wyrobów wysokiej techniki w eksporcie Polski i pozostałych krajów Unii Europejskiej. *Unia Europejska.pl*, *5*(234).

OECD. (2017). *Trade in value added*. Retrieved from http://www.oecd.org/industry/ind/measuringtradeinvalue-addedanoecd-wtojointinitiative.htm

Ohno, K. (2009). Avoiding the middle-income trap renovating industrial policy formulation in Vietnam. *ASEAN Economic Bulletin*, *26*(1).

Polskie marki i firmy odzieżowe. (2016). Retrieved from http://www.kupujepolskieprodukty.pl/2013/03/polska-odziez-spis-firm-i-marek-i.html

Raczkowski, K. (2012). Percepcja bezpieczeństwa ekonomicznego i wyzwania dla zarządzania nim w XXI wieku. In K. Raczkowski (Ed.). *Bezpieczeństwo ekonomiczne*. *Wyzwania dla zarządzania państwem*. Warszawa: Oficyna a Wolters Kluwer business.

Siggel, E. (2006). International competitiveness and comparative advantage: A survey and a proposal for measurement. *Journal of Industry*, *Competition and Trade*, *6*.

Smith, R., El-Anis, I., & Farrands, C. (2013). *International political economy in the 21st century*. *Contemporary issues and analyses*. New York: Routledge.

Trade Map. (2016). Retrieved from http://www.trademap.org/SelectionMenu.aspx

Ulbrych, M. (2017). Główne tendencje w rozwoju handlu zagranicznego wyrobami polskiego przetwórstwa przemysłowego. *Horyzonty Polityki*, *8*(22).

UNCTAD. (2012). Retrieved from http://unctadstat.unctad.org/UnctadStatMetadata/Classifications/Metho-dology&Classifica-tions.html