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Introduction

It is our great pleasure to deliver another volume of Research Papers on Asia-Pacific economic issues. Each year we present you multiple points of view on that topic, trying to show how much the processes in Asia & Pacific affect the world economy. After nine years of hosting international scientific conference dealing with that region's affairs, we are still confident that these issues are important not only for the countries of the region, but also for economies worldwide.

This year we have chosen for you 15 articles. All of them were submitted for this year's conference entitled "Asian Economies in the Context of Globalization". Seeing that some authors describe the issues of countrywide importance and others of those having regional or global meaning, we have decided to group them according to the criterion of impact range.

The first chapter – Asian Economies in the Global Context – is a collection of papers on general regionalization or globalization issues. T. Sporek is trying to refresh the view of the globalization processes occurring at the crossroads of economy and politics. M. Bartosik-Purgat is analyzing sources of information about products and services in the light of cross-cultural research. E. Majchrowska is using Regional Comprehensive Economic Partnership case to show the importance of mega-regional blocks in global trade. In addition, we decided to add to this part the articles the subject of which is not so general, but it applies to trade relationships of a global nature. This will be the EU-India trade and investment agreement (G. Mazur), Poland-ASEAN agri-food products trade (K. Kita) or anti-dumping procedures against China under WTO rules (J. Skrzypczyńska).

Articles in the second chapter are – as the title implies – embedded in a regional context. P. Pasierbiak deals with trade regionalization in East Asia. S. Bobowski offers an insight into ASEAN-Japan Economic Partnership. A. Kuropka and A.H. Jankowiak analyse the impact of natural disasters on production networks in the region. As the last in this section we have placed the article about Singaporean Competitiveness Model applied in European economies (M. Żmuda). It may be not strictly connected with Asia & Pacific, but its concept is to transfer Asian experience to Europe at the regional level.

The last chapter – Asian Economies in the Local Context – is mostly about domestic matters of Asian countries. You will find there three articles about China (J. Bogołębska writing about Chinese monetary policy, A. Klimek describing cross-border mergers and acquisitions by Chinese state-controlled enterprises, S. Stępień and A. Sapa showing Chinese pork sector), one about Indonesia (*Development of Islamic banking in Indonesia* by I. Sobol) and one about North Korea (M. Kightley applying game theory in prediction of political changes in that state).

We think it is an interesting set of papers you will find valuable in your studies. We also hope that your scientific interests will continue to be associated with Asia and that is why we invite you to the 10th anniversary conference which will be held at the Wrocław University of Economics in November 2017.

We appreciate your time and consideration, as also time and effort of our peer reviewers. We look forward to the further submissions of interesting papers on Asia & Pacific. Thank you!

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**POLISH AGRI-FOOD PRODUCTS
AND THEIR INTERNATIONAL COMPETITIVENESS
IN TRADE WITH ASEAN – THE CONTEXT
OF THE TRADE-LIBERALIZATION PROCESS**

**POLSKI HANDEL ZAGRANICZNY
ARTYKUŁAMI ROLNO-SPOŻYWCZYMI Z ASEAN
I ICH POZYCJA KONKURENCYJNA W WARUNKACH
LIBERALIZACJI ŚWIATOWEGO HANDLU ROLNEGO**

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Summary: The aim of the article was to define the importance of ASEAN countries in the Poland's agri-food trade and to analyse the effects of a potential liberalization of global agricultural trade for the competitive position of selected Polish agri-food products on the ASEAN market. An *ex post* analysis was carried out with a selected set of quantitative measures of international competitive position while forecasts were calculated with mathematical model of general equilibrium GTAP. Animal products were the most competitive on ASEAN market. GTAP projections for these products suggest that in terms of implementation of the agricultural agreement negotiated under the auspices of the WTO and of full multilateral liberalization of agri-trade these competitive advantages can be maintained and even strengthened. On the other hand, in most of Polish plant origin products market liberalization may reduce competitiveness on ASEAN market compared to *status quo*.

Keywords: competitiveness, foreign trade, agri-food products, simulation analysis, ASEAN, the Global Trade Analysis Project.

Streszczenie: Celem artykułu jest określenie znaczenia krajów ASEAN w polskim handlu artykułami rolno-spożywczymi oraz zbadanie skutków potencjalnej liberalizacji handlu rolnego dla pozycji konkurencyjnej wybranych produktów rolno-spożywczych wytwarzanych w Polsce na rynku tego ugrupowania. Analizę konkurencyjności artykułów rolno-spożywczych przeprowadzono w ujęciu *ex post* oraz *ex ante*, przy założeniu dwóch wariantów symulacyjnych. W analizie *ex post* wykorzystano celowo dobrany zestaw wskaźników międzynarodowej pozycji konkurencyjnej. Stosunkowo najbardziej konkurencyjne na rynku ASEAN były produkowane w Polsce produkty pochodzenia zwierzęcego. Z kolei na podstawie symulacji GTAP można stwierdzić, że zarówno w warunkach implementacji nowego porozumienia rolnego wynegocjowanego pod auspicjami WTO, jak i przy pełnej multilateralnej liberalizacji

handlu rolnego te przewagi konkurencyjne mogą zostać utrzymane, a nawet wzmocnione. Ponadto w odniesieniu do produktów pochodzenia roślinnego liberalizacja może doprowadzić do pogorszenia pozycji konkurencyjnej na rynku ASEAN większości z nich, w porównaniu z sytuacją utrzymania *status quo*.

Słowa kluczowe: konkurencyjność, handel zagraniczny, produkty rolno-spożywcze, analiza symulacyjna, ASEAN, Global Trade Analysis Project.

1. Introduction

Usually the international competitive position of particular economies or sectors is assessed in relation to international markets through the prism of their participation in the world (or regional) trade flows. International and foreign economic policy, including commercial policy of analysed countries and their competitors, has a significant influence on this position as well [Pawlak, Kita 2013]. From the point of view of the European Union ASEAN as a whole is a strategic trade partner¹ and for such a partner this trade bloc has been also recognized by Poland on 1 May 2004. Then Poland became a part of all negotiations conducted by the EU with ASEAN member countries.² Admittedly the accession made Polish goods begin to be treated as products of high quality by Asian consumers, sometimes more competitive than goods from Western Europe or from the United States, but in terms of agri-food trade the provisions and obligations arising from the adoption of the Agreement on Agriculture set at GATT/WTO forum are applied. As a result a MFN is used while some of ASEAN's members' products can access the European market under the General System of Preferences regulations.³ However, exports of particular agri-food products from the EU, including Poland, still encounter a relatively high average tariffs⁴ and trade barriers (i.e. tariff quotas, appropriate certificates or licences). The latter generates additional costs which make EU/Polish exports of various food

¹ In 2013 the ASEAN was third, after the US and China, the most important trade partner. While in ASEAN, since 2011 China has emerged as ASEAN's biggest trade partner while the trade shares EU-28 have been reduced [ASEAN Secretariat 2014].

² Originally the EU plan was to create a free trade area with ASEAN as a whole trade bloc. Nowadays, contracts are negotiated with each of ASEAN member states. Negotiations with Singapore were completed on October 2014, with Malaysia are still ongoing, with Vietnam a formal conclusion of the negotiations for a FTA was announced on December 2015 [European Commission 2016b].

³ Vietnam, Indonesia and Myanmar fully benefit from the system. Philippines were granted GSP+ status from 25 December 2014, while Thailand ceased to receive the GSP preferences from January 2015. Singapore and Malaysia were excluded from the GSP program. Cambodia and Laos, as least developed countries, benefit from duty-free access to the European market (with the exception of arms – Everything But Arms) [European Commission 2016c; European Commission 2015b].

⁴ Except for Malaysia and Singapore, where a relatively liberal trade regime for agricultural products is applied.

products cease to be cost-effective [WTO 2013a, b, 2014a, b, 2015] and make the competitive position of these products be jeopardized.

ASEAN, as a whole, plays a relatively important role on the global agricultural market. The favourable economic domestic situation, and urbanization process mean that this populous region on the one hand represents a large demand for agri-food products, while on the other – despite the decreasing share of agriculture in GDP, is still one of top world's exporters of agri-food products (especially in plant origin products⁵) [FAOSTAT 2014].

In this context, the article attempts to determine the importance of ASEAN countries in the Polish trade in agri-food products and to analyse the effects of a potential liberalization of agricultural trade for the competitive position of selected agricultural and food products produced in Poland on the ASEAN market.

2. Material and research method

In the *ex post* analysis statistical data from the United Nations Conference on Trade and Development (UNCTAD) were used. The study included Polish foreign trade in agri-food products classified in Chapters 0, 1, 22, and 4 of the Standard International Trade Classification (SITC)⁶ with ASEAN countries in the years 2004–2014. In order to assess the competitive advantages of selected groups of Polish agri-food products on ASEAN market relative comparative advantages indexes (XRCA, MRCA, RTA) were used in the paper as well as the coverage ratio (CR) showing the degree of coverage of import by export, a specialization indicator (SI) informing about the rate of export specialization and Grubel-Lloyd index (IIT) indicating the intensity and structure of intra-industry trade of a particular product.⁷

Ex ante analysis consisting in the projection of the competitive position of Polish agri-food products on the ASEAN market in the short term was carried out with the use of general equilibrium model Global Trade Analysis Project (GTAP)⁸. Two variants of projections were implemented. In the first scenario a total elimination of

⁵ The region of Southeast Asia is considered as the “world center of rice”. It has been a net exporter of this commodity for the most of the last 110 years (with the exception of a few years between 1967 and 1978). This region includes also two of the world's three largest exporters of rice and two countries that, from time to time, have become major importers of this commodity on the global scale (Indonesia and the Philippines) [Dawe 2013].

⁶ 0 – Food and live animals, 1 – Beverages and tobacco, 22 – Oil-seeds and oleaginous fruits, 4 – Animal and vegetable oils, fats and waxes.

⁷ For the criteria of selection of indicators, a calculation formulas and rules for the interpretation of results see: [Kita 2014].

⁸ The model was created in 1992 in the Global Trade Analysis centre, functioning in the Department of Agricultural Economics at Purdue University. General equilibrium models are the most widely used tools to measure the medium- and long-term effects of the integration of markets and the elimination of trade barriers. On the one hand, GTAP is based on the adequately adapted Leontief's input-output matrix, on the other – on the assumption of Walras equilibrium. See: [Hertel, Tsigas 1997].

all subsidies in agri-food sector as well as reduction of tariff rates according with proposals contained in the *draft modalities* negotiated at the WTO in December 2008 was assumed [WTO 2008]. In this scenario a band formula of custom tariff reductions was applied. This means all tariffs are divided into four reduction bands depending on their historical level. For each of these a different coefficient of reduction is used – the higher the level of tariffs, the higher is that coefficient (Table 1). The second scenario assumed a full multilateral liberalization of global agricultural trade, namely a total elimination of custom tariffs and export subsidies. The results are compared to the current level of protection on agricultural markets.

Table 1. Range of tariffs cuts according to *Revised Draft Modalities for Agriculture* of 6 December 2008

Tiers (%)	Cuts (%)	Tiers (%)	Cuts (%)
Developed countries		Developing countries	
(0; 20)	50	(0; 30)	2/3 of the cut for developed countries
(20; 50)	57	(30; 80)	
(50; 75)	64	(80; 130)	
Over 130	70	Over 130	

Source: own elaboration based on [WTO 2008].

The GTAP base includes 129 countries/regions of the world characterized by an open economy, and 57 sectors (product groups or products). Based on the author's aggregation of the model database, Poland and the Association of Southeast Asian Nations (ASEAN as a unit) were distinguished as well as 11 group of products (cereals, fruits, vegetables and nuts, oilseeds, oils and fats, sugar, meat, offal and meat products, milk and dairy products, other plant raw materials, other non-processed animal products, other food products, other products and services).

The extrapolation of changes in trade of the major agri-food products was made by means of Gragg's nonlinear estimation.⁹

3. Trade in agri-food products made in Poland with ASEAN

From 2004 to 2014 Poland had a negative trade balance in agri-food products with third countries. A similar situation was observed with ASEAN countries, but only with Singapore (except for 2004) Poland remained a net exporter (Table 2). Also in trade with Singapore the most dynamic increase in the income gained on export of

⁹ Nonlinear estimation is a general adjustment procedure which is used for the estimation of any type of dependence between the dependent variable (being discussed) and independent variables. Estimation errors in this method are smaller than in the case of linear estimation.

agri-food was noted, i.e. nearly 10 times. Such a situation may be due to both the marginal role of the agricultural sector in the Singapore's economy (0.1%)¹⁰ and the free trade agreement (FTA's) negotiations conducted by the EU with this country. The former means that in terms of food security Singapore almost entirely depends on the supply of food from outside the country and is now focused on diversification of food suppliers.¹¹ The latter means a duty-free access to this Asian market.¹² The export volume to Vietnam increased from 2004 to 2014 more than eight times. Among the member states of ASEAN this country has provided nearly 40% of revenues gained on sale of agri-food products in the region (Table 2).¹³ A relative marketability of Vietnam (from the Poland's point of view) is determined mainly by its dynamic economic growth and consequently by increasing purchasing power of residents more and more willing to buy a healthier food and of higher quality (and as such are considered products from the EU).

As a trade bloc, ASEAN assured from 2 to almost 4% of revenues gained from export to third countries. The relatively higher growth in exports (than in import) made the importance of ASEAN in the structure of Polish exports of agri-food products to the non-EU countries showed an increasing trend (Table 2). In 2014 revenues from food exports in this direction reached \$215 million, five times more compared to the year of Poland's accession to the EU. On a global scale the importance of ASEAN in total Poland's exports of agri-food products remained small and did not exceed 3%.

As for the import of agri-food products from ASEAN Polish expenditures exceeded the revenues gained in this area from two (in 2014) to nearly seven times (in 2008) and in the years 2004–2014 increased by 140% to \$430 million USD. Thus, the share of trade bloc in the structure of Polish imports from group of third countries stood at 7.4% (Table 2). The most important suppliers of agricultural and food products from ASEAN were Vietnam and Indonesia. Together, these countries have provided approximately 2/3 of the value of Polish agri-food import from Asian

¹⁰ See: [The World Bank 2016].

¹¹ The Economist Intelligence Unit's Global Food Security Index ranked Singapore as 2nd in the world for food security, behind only the United States and making it the most food secure nation in Asia [*Global Food...* 2016]. Singapore produces only about 10% of its own food (and only for a few selected items), while it imports the other 90% from many parts of the world.

¹² Singapore guarantees tariffs at zero level at entry into force of FTA while the EU agrees on full liberalization of all tariffs for agriculture (with a phasing out period from 0 to 5 years). The agreement includes also the elimination of most non-tariff barriers [Council of the European Union 2013]. For now, however, all goods imported into Singapore require a licence.

¹³ The dynamic export growth to Vietnam was a result of increased sales of fillets of fish, milk and whey powder. Vietnam is one of the largest recipients of Polish feeding stuff (see Table 3). In terms of export to Vietnam some obstacles are observed: underdeveloped system of distribution of goods, lack of wholesalers, discrepancies in certificates for export of beef products from Poland to the Vietnamese market [Główny Inspektorat Weterynarii 2016; European Commission 2016a]. These inconsistencies are to be eliminated after the entry into force of the FTA between the EU and Vietnam (force beginning of 2018) [European Commission 2015a].

Table 2. Agri-food trade between Poland and selected ASEAN countries, the EU and third countries in 2014–2014 (million USD)

Countries	2004	2006	2008	2010	2012	2014	2004 = 100
Export							
ASEAN*, including:	45.8	70.4	64.4	96.2	164.8	215.6	470.8
Indonesia	8.8	23.2	2.4	2.6	22.6	36.3	410.7
Malaysia	4.1	5.2	3.5	10.0	17.9	30.2	731.0
Philippines	2.8	1.1	3.6	3.1	14.7	23.2	834.4
Singapore	1.5	3.5	3.1	5.6	10.1	14.1	932.0
Thailand	8.9	1.6	14.1	18.1	19.1	25.6	287.4
Viet Nam	9.6	24.3	37.1	55.3	77.0	82.3	854.2
third countries	1 720.5	2 360.4	3 071.9	3 524.2	5 134.2	5 823.3	338.5
the EU	4 472.1	7 811.2	13 220.7	13 441.9	16 396.8	21 543.5	481.7
World	6 192.6	10 171.5	16 292.6	16 966.1	21 531.0	27 366.8	441.9
Import							
ASEAN*, including:	179.0	244.2	435.4	334.9	391.0	431.1	240.8
Indonesia	43.3	35.8	39.2	38.6	71.4	110.0	254.3
Malaysia	11.2	15.1	51.7	51.1	85.7	30.9	275.0
Philippines	9.4	9.2	17.9	13.0	16.2	9.8	104.2
Singapore	2.2	1.6	2.0	1.5	1.4	1.3	56.9
Thailand	39.7	36.9	76.2	57.4	47.7	56.8	142.8
Vietnam	67.0	138.5	235.0	166.4	149.0	193.7	289.3
third countries	1 868.0	2 826.2	4 254.0	4 368.4	5 269.8	5 825.5	311.9
the EU	3 150.6	4 580.5	9 678.0	8 945.3	10 634.9	12 345.5	391.8
World	5 018.6	7 406.7	13 932.0	13 313.7	15 904.7	18 171.0	362.1
Trade balance							
ASEAN*, including:	-133.2	-173.8	-371.0	-238.8	-226.2	-215.4	
Indonesia	-34.4	-12.6	-36.8	-36.0	-48.8	-73.7	
Malaysia	-7.1	-10.0	-48.2	-41.1	-67.8	-0.7	
Philippines	-6.6	-8.0	-14.3	-9.9	-1.5	13.4	
Singapore	-0.7	1.9	1.1	4.2	8.7	12.9	
Thailand	-30.8	-35.4	-62.1	-39.3	-28.6	-31.2	
Vietnam	-57.3	-114.1	-197.9	-111.1	-72.0	-111.5	
third countries	-147.5	-465.9	-1 182.1	-844.2	-135.7	-2.2	
the EU	1 321.5	3 230.7	3 542.7	4 496.6	5 761.9	9 197.9	
World	1 174.0	2 764.8	2 360.6	3 652.4	5 626.2	9 195.8	

* Brunei Darussalam, Cambodia, Lao People's Dem. Rep., Myanmar – no complete data available.

Source: [Kita 2014; UNCTADStat], own calculations.

region over the years (Table 2). ASEAN countries may therefore appear rather as a source of supply than sales market. This is even more important as ASEAN is a major world's food exporter. In 2012 the value of exported agri-food products from this Asian region accounted for 9.5% of agri-food exports of the world, and only 6.4% of world's import [Pawlak, Kita 2014].

Table 3. Commodity structure of Poland's agri-food trade with ASEAN in 2004–2014

Group of products	Export				Import			
	2004		2014		2004		2014	
	mln \$	%						
Food and live animals, including:	35.7	78.1	215.1	99.7	144.0	80.5	387.3	89.9
Live animals	0.7	1.6	0.0	0.0	0.0	0.0	0.0	0.0
Meat and meat preparations	0.6	1.3	4.1	1.9	0.0	0.0	0.3	0.1
Dairy products and birds' eggs	29.3	63.9	116.6	54.1	0.0	0.0	0.0	0.0
Fish, crustaceans, molluscs and preparations thereof	0.9	1.9	40.2	18.7	24.2	13.5	55.7	12.9
Cereals and cereal preparations	1.1	2.3	7.6	3.5	14.1	7.9	29.8	6.9
Vegetables and fruits	0.6	1.3	3.4	1.6	19.7	11.0	45.8	10.6
Sugar, sugar preparations and honey	0.0	0.0	0.3	0.1	1.5	0.9	2.8	0.7
Coffee, tea, cocoa, spices	0.4	0.9	6.8	3.1	75.2	42.0	156.6	36.3
Feedstuff for animals (excluding unmilled cereals)	0.3	0.6	23.6	11.0	0.6	0.3	72.5	16.8
Miscellaneous edible products and preparations	1.9	4.3	12.5	5.8	8.7	4.8	23.8	5.5
Beverages and tobacco, including:	10.0	21.9	0.5	0.2	2.5	1.4	11.0	2.5
Beverages	0.1	0.2	0.4	0.2	0.0	0.0	0.6	0.1
Tobacco and tobacco manufactures	10.0	21.8	0.1	0.0	2.5	1.4	10.3	2.4
Oil seeds and oleaginous fruits	0.0	0.0	0.1	0.0
Animal and vegetable oils, fats and waxes	.	.	0.1	0.0	32.5	18.1	32.7	7.6
Total agri-food products	45.8	100.0	215.6	100.0	179.0	100.0	431.1	100.0
Share of agri-food trade in total trade	13.3	x	12.9	x	10.1	x	8.1	x

Source: [Kita 2014; UNCTADStat], own calculations.

In 2004–2014 the most important group of commodity in the structure of Polish agricultural exports with ASEAN were dairy products, providing from 54 to 64% of

revenues obtained in the region.¹⁴ Compared to 2004, in 2014 the value of milk and dairy products exported to Asian markets increased four times, from \$23 million to more than \$116 million (Table 3). Such a dynamic export growth of dairy products to Southeast Asia is a result of its low self-sufficiency in food (especially in dairy products). Admittedly, milk production in the region has moderately increased lately, but it is a region with dairy products shortage – in 2009 a self-sufficiency index in these goods was only 42%. Forecasts show that in 2020 ASEAN-6 will show the second fastest annual rate in dairy consumption, following China [Song 2013]. The following factors have also contributed to the increase in the demand for dairy products in Southeast Asia: growing population, growing number of middle-income consumers who are more and more aware of the importance of a healthy lifestyle, the development of retail chains, the implementation of programmes promoting milk consumptions in schools [Lisby 2014]. In 2004–2014 a dynamic increase in the income gained on export was also observed in meat and meat preparations, i.e. almost seven times, from \$0.6 mln to \$4.1 mln. Asian countries are of growing importance for the Polish exporters. This happens due to the shortage of poultry meat in this region of growing population as well as due to the fact that Asian partners have become important recipients of Polish pork. However, it should be remembered that Polish suppliers face there the growing competition from Brazilian and American exporters [FAMMU/FAPA 2014a].

Fish and fish products had also a relatively significant share in the structure of Poland's agri-food trade with ASEAN – both on import and export. In 2004–2014 trade within this commodity group was characterized by permanent, but decreasing deficit. While in 2004 the expenditures on import of fish and fish preparations exceeded revenues from the sale 24 times, in 2014 they were only 1.5 times higher and amounted to \$55.7 million. Southeast Asia is the region where global fish market is concentrated and the leading world's exporters and importers of this product group are from. The dynamic growth of import of fish to Poland was mainly determined by the domestic demand, especially from fish processing companies producing for export. They sale on the ASEAN market fish or fish preparations not available in Asia [Kita 2014].

As far as import of agri-food products is concerned, in 2004–2014 coffee, tea and spices had the largest share. It is largely determined by environmental situation. For geographical reasons – that limit own production – Poland faces the necessity of bringing some of these goods from abroad. Thus, in this case import is an import of essential nature. In 2014 the value of goods from the Association of Southeast Asia amounted to \$156.6 million, accounting for almost 40% of all spendings on Asian agri-food products (Table 3).

On the other hand, in the years 2004–2014 a very dynamic growth of imports of animal feedstuff (Table 3) was the result of the European Union's ban for the use

¹⁴ ASEAN imports from Poland mainly whey, yogurts and milk drinks.

of processed animal proteins in feedstuff for animals intended for food production¹⁵ [Kita 2014]. In terms of export, a dynamic growth was possible due to the increase in the consumption of pellets and meals for feed in the countries of Southeast Asia brought on by changes in dietary habits.

4. The competitive position of Polish agri-food products – current status and projections

The *ex post* analysis of the international competitive position proved that the animal products made in Poland were the most competitive in 2014 on the ASEAN market. The trade of these goods was characterized by favourable comparative advantages ($XRCA > 1$, $RTA > 1$) as well as by a relatively high degree of export specialization ($SI > 1$) and a significant positive trade balance ($CR > 100\%$). With regard to the projected competitiveness of Polish meat and dairy product, conducted simulations prove that in the case of progressive liberalization (I scenario), as well as in the case of full multilateral liberalization of agricultural trade (II scenario), a favourable competitive position can be maintained. Relatively larger positive changes in this area can be expected in relation to Polish dairy products exported to ASEAN. This is confirmed by, *inter alia*, the positive values of indicators of revealed comparative advantage evaluated generally ($RTA > 0$, $XRCA > 1$) (Table 4). Also simulated values of coverage ratio (CR) can be treated as an obvious sign of Poland's advantages in both dairy and meat products. The greater the degree of world trade liberalization, the higher are expected the values of this index. For both groups of goods, whatever the liberalization scenario is implemented, Poland will also generate a favourable level of export specialization ($SI > 1$) in this area (Table 4). Relatively higher values of SI may be observed in Polish dairy sector, which in turn results from dynamic export growth of this commodity group in this direction (Table 3). For Polish dairy sector the export opportunities to Southeast Asia can be enhanced by changing consumption patterns in this region which are characterized by a growing trend of consumption of dairy products. In turn, as far as meat and meat preparations are concerned, future opportunities for Polish exporters may be undermined by the growing competition from countries that are top world's producers and exporters of these goods¹⁶ and by ASEAN's members themselves.¹⁷

¹⁵ The ban was introduced by the European Commission in 2001. Its scope was expanded in 2003. Nowadays, Commission Regulation (EU) No. 56/2013 is in force.

¹⁶ I.e. China (a highly dynamic growth of pork and poultry production), Oceania and South America (growing beef production). In the US, the former largest producer of beef in the world, a decline has been noted [FAMMU/FAPA 2012, 2013].

¹⁷ They hinder access of agri-food products to their markets, mainly by numerous non-tariff barriers (halal certification, veterinary procedures, import licences). The whole system of bureaucratic requirements means that many importers are not interested in changing suppliers for those whose brand is not well known in the region [Polskie mleko... 2016].

Oils and fats were product group with unfavourable level of comparative advantages in trade with ASEAN in 2014. This was confirmed by both, CR index smaller than 100%, indicating the scale of trade deficit (Table 4), and SI index smaller than unity, informing about the lack of export specialization ($SI < 1$). Such a situation is due to the fact that export of this group of goods to ASEAN basically did not exist in 2014 (and earlier, Table 3) and almost 100% of rapeseed oil was sold to the EU [UNCTADStat 2016]. With regard to Polish oils and fats industry it should be noted that Poland has a negative balance of trade and is more interested in import, especially in import of oils and fats from other climates. This is reflected in the structure of agri-food import from ASEAN (Table 3) – in 2014 oils and fats accounted for almost 8% of total Poland's expenditures on agri-food products from Southeast Asia. ASEAN is also the main supplier of these goods from the non-EU countries. According to the results of simulations, the reduction of the share of intra-industry trade (IIT) within sector of oils and fats – in comparison to the *status quo* – may appear (Table 4). The larger the scope of liberalization of world agri-food trade, the higher reduction of values of IIT index can be expected. A high competitive position of Polish oils and fats on ASEAN market may be difficult to achieve because global trade within this sector is dominated by palm oil and countries of Southeast Asia¹⁸ are the largest world's exporters of it.

For oilseeds, the competitive position is favourable. The results of *ex post* and *ex ante* analysis (regardless of the scope of the liberalization of agri-food trade) proved that, in view of general evaluation, this group of goods could benefit from relative comparative advantages on ASEAN market ($XRCA > 1$, $RTA > 0$). A significant improvement can be expected in terms of both, positive balance of oilseeds trade ($CR > 100\%$, Poland may become a net exporter), and the degree of export specialization ($SI > 1$). However, as with regard to Polish oils and fats, also in this sector, most of goods are sold on the EU market¹⁹ and ASEAN is not interested in oilseeds import because is far more than self-sufficient (mainly Indonesia and Malaysia) in this sector²⁰ [Pawlak, Kita 2014].

As far as competitive position of Polish sugar on the ASEAN market is considered, the results of the simulation are not definite. However, due to the fact that projections carried out for this sector exclude sugar preparations and confectionery, these results should be treated with a certain distance.²¹ But, it is worth mentioning that the implementation of more advanced variant of the liberalization of agri-food trade may cause the risk of the trade deficit (Table 4) and may lead to the decrease in

¹⁸ Malaysia and Indonesia.

¹⁹ Over 95% of the value of export of oilseeds has been directed to the markets of the EU [Kita 2014].

²⁰ In 2012, the index of self-sufficiency in oilseeds was 500%.

²¹ The EU is a net importer of sugar, and the export from Poland is hindered by the competition from other member states. At the same time, there are arbitrarily set by the WTO export limits which are to be lifted in 2017.

Table 4. The competitive position of agri-food products produced in Poland on ASEAN market – 2014 and projections

Index	2014	I	II	2014	I	II
	Milk and dairy products			Meat, offal and meat products		
SI	9.79	↓	↓	7.29	↑	↑
CR (%)	272.89	↑	↑	270.06	↓	↓
XCRA	10.81	↓	↓	8.77	↑	↑
MRCA	0.71	↓	↓	2.38	↓	↓
RTA	10.10	↓	↓	6.39	↑	↑
General evaluation	+	+	+	+	+	+
ITT (%)	53.64	↓	↓	54.04	↑	↑
	Sugar			Fruits and vegetables		
SI	0.79	↓	↓	1.36	↑	↑
CR (%)	130.63	↓	↓	124.08	↓	↓
XCRA	0.78	↓	↓	1.42	↓	↑
MRCA	0.65	↓	↓	2.01	↑	↑
RTA	0.14	↓	↓	-0.60	↓	↓
General evaluation	+/-	+/-	+/-	-	-	-
ITT (%)	86.72	↑	↓	89.25	↓	↓
	Oils and fats			Oilseeds		
SI	0.07	↓	↓	3.00	↑	↑
CR (%)	67.99	↓	↓	122.81	↑	↑
XCRA	0.05	↓	↓	3.03	↑	↑
MRCA	0.75	↓	↓	0.37	↓	↓
RTA	-0.70	↑	↑	2.66	↑	↑
General evaluation	+/-	+/-	+/-	+	+	+
ITT (%)	80.95	↓	↓	89.76	↓	↓

I scenario – the liberalization of world agricultural trade according to *modalities* from 12/06/2008.

II scenario – full multilateral liberalization of agricultural trade.

Dark grey box: unfavourable value of the index in terms of competitive position.

Light grey box: favourable value of index from the point of view of the competitive position.

Source: [UNCTADStat].

the intensity of intra-industry trade in sugar sector between Poland and ASEAN. In addition, a lack of export specialization (SI) may appear. It should be remembered that Asia (and Oceania) is the largest centre of production and consumption of

sugar in the world.²² And this is certainly not without consequences for the current and future competitive situation of the Polish sugar on the market of this region [FAMMU/FAPA 2014b].

A competitive position of fruit and vegetables on ASEAN market is different. In 2014 Poland gained a relatively high degree of export specialization ($SI > 1$) as well as small positive balance of trade ($CR > 100\%$), but the results of the general evaluation ($RTA < 0$, $XRCA > 1$) showed a lack of comparative advantage in this area. The index IIT stood at 90% and indicated a considerable degree of competition in the sector. With regard to the results of simulations, both scenarios may better values of SI index and strengthen the scale of export specialization – compared to *status quo* – in the field of trade in fruit and vegetables between Poland and Southeast Asia. On the contrary, predicted values of comparative advantages indexes ($XRCA$, RTA) in both variants of liberalization may indicate a deterioration of the competitive situation of fruits and vegetables in this region (Table 4). On the basis of values of CR index it may be assumed that Poland can record a negative balance of trade in fruit and vegetables with ASEAN. Even though Asian countries have opened their markets for Polish companies from fruit and vegetable sector, still small value of this goods have been sold in this region (Table 3). ASEAN countries are characterized by relatively moderate food self-sufficiency in this field [Pawlak, Kita 2014], and probably that is why they import only this kind of items which complement the domestic supply.²³

5. Conclusions

On the basis of analysis it can be stated that in the years 2004–2014 – in the group of third countries – the role of ASEAN in Poland's trade in agri-food products remained low. Trade was characterized by negative balance which suggests that these countries may be considered by Poland rather as a source of supply than sales market.

The greatest comparative advantages and also the greatest degree of export specialization Poland gained in meat and dairy sectors. It means in those ones which in 2014 had a relatively largest share in the structure of agri-food export to ASEAN and were characterized by the highest dynamics. Fats and oils as well as fruit and vegetables – those of the smallest significance in Poland's agri-food export to ASEAN – were the groups with the lowest comparative advantages on ASEAN market.

²² Thailand has a 6% share in world production (after India and China). On the other hand, Indonesia is one of the largest importers of sugar [FAMMU/FAPA 2014b].

²³ For example: Polish vegetables and apples can be exported to Malaysia, but exporters need to consider additional costs relating to the market access, such as: transport and packaging (labeling and other climatic conditions) costs, costs of marketing campaigns. Apple is a fruit with an increasing popularity, but its price in Asian market is significantly higher than the price of local fruits [Rynek jablek... 2015].

The results of model simulation suggest that liberalization processes may help to maintain or even to strengthen the competitive position of Polish products of animal origin on the market of Southeast Asia. This may take place as in case of full multilateral liberalization as well as in implementation of provisions of *modalities* from 2008. However, it should be pointed out that these Polish sectors (dairy and meat) face strong competitive pressure from lower-cost producers of agri-food products from other regions of the world. They usually have the advantages resulting from lower labour costs and/or location rent.

In this context, the future possibilities of export growth and comparative advantages possible to gain by Poland in Southeast Asia will be not so much a result of price and cost advantages, but rather of factors of non-economic nature, related to the quality and appropriate marketing campaigns, dedicated for specific needs of Asian customers.

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