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CATTLE AND BEEF EXTERNAL TRADE OF POLAND AND HUNGARY OUTSIDE TO THE EUROPEAN UNION

*RYNEK ZAGRANICZNY BYDŁA I WOŁOWINY POLSKI I WĘGIER POZA UNIĘ
EUROPEJSKĄ*

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Abstract. Both for Hungarian and Polish cattle and beef production important to utilize non-EU markets because both countries are net exporter and cannot sell all products on inner and EU markets. In this paper we aimed to examine trends of Hungarian and Polish cattle and beef export to non-EU markets between 2002 and 2015. Primary we established that both studied countries have the same non-EU target markets with the highest importance of Turkey and Russia. During the examined period several changes were resulted for example the decrease of Turkish market and the Russian embargo. The Russian market for Hungary and the Turkish market for Poland afford a higher export price and higher purchasing power than all other non-EU trade-partners accordingly the trade to these countries was the highest between 2002 and 2015. Additionally also important Hungarian and Polish target markets are Belarus, Ukraine and Croatia (EU member only since 2013) but price level for these countries were varying in the studied period in case of both origin countries. By these reasons both Hungary and Poland have difficulties to maintain cattle and beef markets in partner countries according to Herfindahl Hirschmann index.

Introduction

Both Hungary and Poland are members of Visegrad Countries (V4) accompanied by Czech Republic and Slovakia since 1991. This cooperation aims to promote collective economic interest and to improve international trade-ability emphasis on eastern markets. In 1992 these countries made easier their inner trade for industrial and agricultural products by the foundation of Central European Free Trade Agreement (CEFTA) [Réti 2000]. Beside this Visegrad Group also proposed to improve regional economic power and regional cooperation, to consolidate the financial stability, to offset negative trade-effect of EU-conventions and to prepare convention process for member countries [Kiss 2000].

The Hungarian and Polish agricultural area are different resulted by different country-sizes. Despite the share of agricultural production gives 3.7% of total GDP in Hungary and 3.4% in Poland. On the other hand 12% of population is employed in the agricultural in Poland while this value is only 4.6% in Hungary.

There are also differences in the structures of agricultural holdings which is issued by the country-specificities [Osztragonác-Vásáry 2007]. The Hungarian average agricultural area used by private holdings increased from 2.5 hectares in 2000 to 4.6 hectares in 2010, while the average agricultural area managed by legal entities dropped, as a result of the splitting of holdings, from 532.9 hectares in 2000 to 322.4 hectares in 2010. Agricultural land use is rather fragmented in Poland. In 2010, there were around 2.28 million farms, of which 0.9 thousand belonged to the public sector. The number of farms with UAA exceeded 2.26 million, of which 1.56 million used over 1 hectare, 349.1 thousand over 10 hectares and only 27.2 thousand over 50 hectares [Potori et al. 2014].

Poland has the largest territory within V4 countries and additionally also has the largest pasture-area [Takács-György et al. 2008], which amounts more than 3 million hectares. This

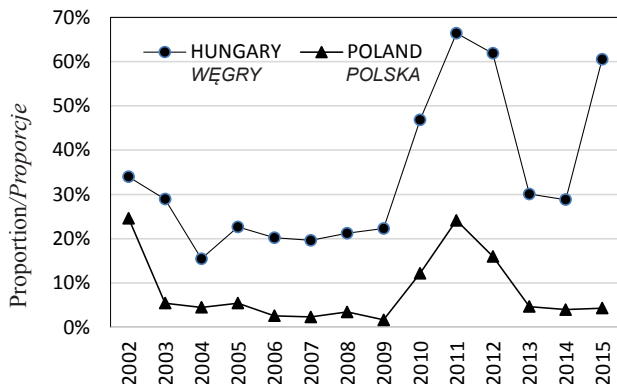


Figure 1. Hungarian and Polish non-EU cattle and beef export in proportion to total cattle and beef export between 2002 and 2015

Rysunek 1. Węgierski i polski eksport bydła i wołowiny poza UE w porównaniu do całkowitego eksportu w latach 2002 i 2015

Source/Źródło: [EUROSTAT 2016]

area is approximately 10% of Poland and 50% of total Polish agricultural areas. The number of agro enterprises were decreased significantly in the examined period. Weak points of the Polish agro-economy are the excessive resource consumption and the failure of modernization [Wigier 2014]. In Hungary pasture land amounted 761 thousand hectares and were continuously decreased during examined period. This value gives only 8% of country area and 14% of total agricultural area. The professional use of these grassland could serve as a basis of rentable cattle production and additionally helps rural development by inducing of new employments [Dohy 1999]. Both the total agricultural and grassland area had been decreased continuously during examined period. The rate of decreasing was 20% for total agricultural area in both countries but 34% and 23% for grasslands in Hungary and in Poland between 2002 and 2014.

The weight of animal husbandry was 35.4% (Hungary) and 43.5% (Poland) in gross agricultural output in 2011 [Potori et al. 2014]. In Poland after the EU accession the cattle livestock decreased from more than 6 million (1999) to 5.66 million (2014). Within this process the decreasing of dairy livestock was high and beef cattle livestock could increase because of the higher profitability [Potori et al. 2014]. In Hungary a decreasing trend was perceptible from 2002 to 2011 by livestock there, and it turned to increase from 2012 to 2014. The livestock unit was about 800 thousand both at the begin and at the end of demonstrated period [EUROSTAT 2016].

Resulted by EU accession and the termination of customs and trade barriers the quality and the quantity of agro external trade were increased from the V4 countries [Vásáry et al. 2013]. Figure 1 shows Hungarian and Polish non-EU cattle and beef export in proportion to total cattle and beef export. Figure indicates that Hungary sold cattle and beef on non-EU markets in a higher degree than Poland. The external trade out of the EU were most dominant between 2010 and 2012 for both countries and in 2015 for Hungary. In case of Hungary mainly Turkish markets shown an increasing interest in these years which may be caused by the excellent Hungarian animal health status [Szabó 2012].

Material and methods

The database of the Eurostat takes the SITC (5-digit) categories (used by the UNO) for the basis of investigation of foreign trade. The main focus of our research is on cattle trade within the category of live animal trade, in addition, on the trade of beef within the category of refrigerated and frozen goods trade. Data contain trade of cattle and beef only which were sold for slaughter crossing borders, irrespective of whether it was beef cattle or the by-product of dairy industry. In the database, import is on cif parity, export is on fob parity¹.

Upon the expansion of the European Union in 2004, the interpretation of certain aspects of foreign trade changed for the V4 countries. Markets of the member states can be divided not only

¹ CIF: the market value of imported goods on the customs border of the importing country, including all incurred freight costs to the customs border, and the insurance costs during transportation. Fob: the market value of exported goods on the customs border of the exporting country including incurred costs of transportation and insurance of goods to the customs border

into domestic and external (third country) markets but also internal EU markets can be put into a distinct group. International literature calls this “intra EU trade”, and it also appears as a distinctly handled data queue in the database of Eurostat. The reliability of the data queue falls short of that of data before 2004, since firms engaged in foreign trade declare the exported and imported quantities on a voluntary basis. In contrast, sales turnover crossing borders was registered by customs authorities before 2004 [König 2007].

There is a low number of practicable indexes to examine non-EU target markets because neither Hungary nor Poland import any cattle or beef from these countries. By this reason the trade balance and average price were studied primary to determine main export partners. Secondary we identified the intensity of the concentration of Hungarian and Polish cattle and beef export. For this, we used the Herfindahl-Hirschmann index [Fertő 2006, Nyárs 2005].

$$H = \sum_{i=1}^n Z_i^2$$

Z – the market share of country i in the market (%), n – number of examined countries.

The maximum value of the index is 1, which suggests total concentration. In fact, the index is none other than the arithmetic mean of shares of the sum of values weighted by themselves. This index is meaningful to identify target market. Beside this the measure of the term change of the index indicate the trade stability. High variety means target market keeping problems for examined counties.

Results

In Hungarian cattle and beef trade large changes can be explored during the examined period. (Fig. 2) Croatia was a permanent target country with a high market capacity in the whole period oppositely Turkey was the main non-EU export partner between 2010 and 2012 and in 2015. Cattle export to Russia and Belarus could increase between 2010 and 2012, while also increased between 2013 and 2014 to Azerbaijan. Both cattle and beef export were permanent to Ukraine. The Polish beef export could be founded permanently on Russian and Croatian market in whole

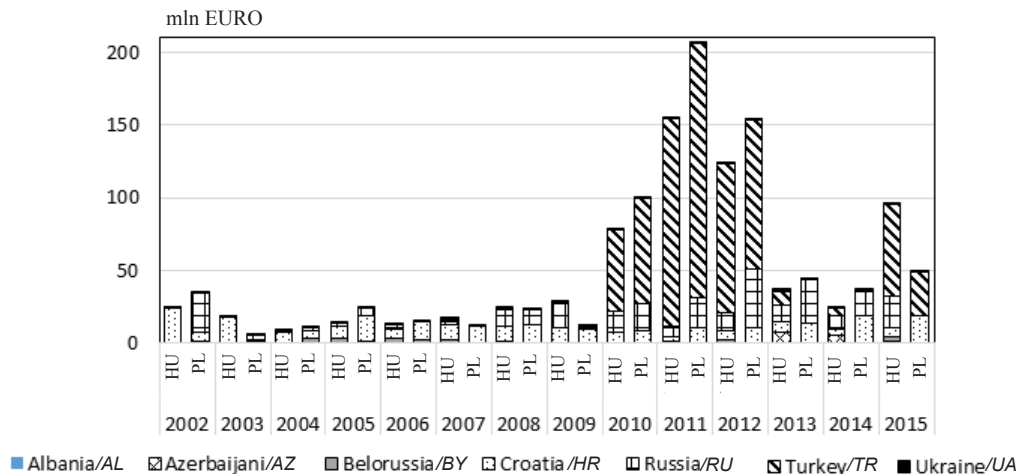


Figure 2. Dominant non-EU target markets of Hungary and Poland in period 2002-2015 in cattle and beef of trade balance

Rysunek 2. Dominujące nie europejskie docelowe rynki bydła i wołowiny dla Węgier i Polski w latach 2002-2015

Source: own calculation

Źródło: opracowanie własne

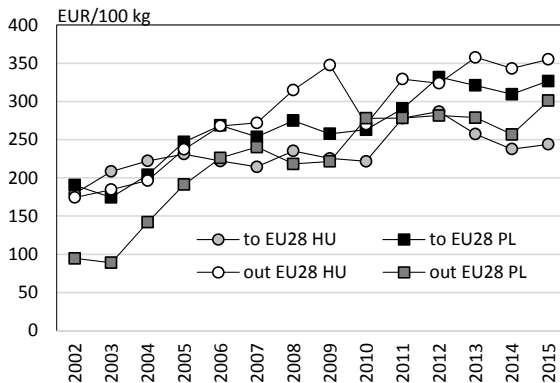


Figure 3. Hungarian and Polish export prices in beef cattle sector on EU and non-EU markets between 2002 and 2015
Rysunek 3. Średnie ceny w UE i poza UE dla produktów z Węgier i Polski w handlu zagranicznym

Source: own calculation

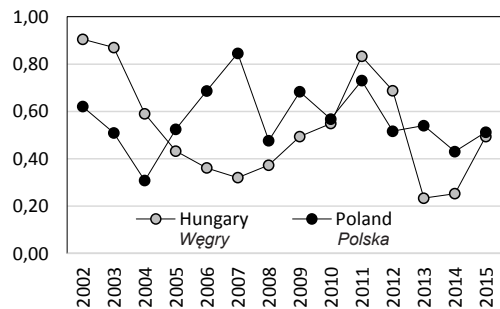
Źródło: opracowanie własne

Figure 4. Herfindahl-Hirschmann index in case of Hungary and Poland

Rysunek 4. Wartości indeksu Herfindala-Hirschmanna dla Węgier i Polski

Source: own calculation

Źródło: opracowanie własne



period. Additionally large volume of beef was exported to Belarus and Ukraine until 2010 and large volume of cattle was sold in Ukraine after 2011 and in Turkey between 2010 and 2012 and in 2015. The demand on Polish beef was low but periodic in Azerbaijan and Albania.

Export prices on non-EU markets could exceed prices on EU markets in most years in the examined period in Hungarian trade (Fig. 3). Highest price could be realized in export to Russia and Belarus and lowest to Albania. Export prices to Croatia had been increased till 2011 but this trend changed and price level get lower in following years. In cattle and beef trade, Poland could rich higher prices on EU markets than on non-EU markets – expect in 2010. Among non-EU export partners Turkish and Ukrainian markets paid the higher and – similarly to Hungarian results – Albania paid the lowest prices.

Conclusions

Hungary and Poland have the same non-EU target countries for their cattle and beef export. In the examined period the unpredictably change of turkey market and the Russian embargo effected mainly trade balance of both origin countries.

Generally Poland could rich higher export price on EU markets and Hungary on non-EU markets. Expectations are 2010 with higher non-EU prices in case of Poland and 2002-2004 with higher EU prices in case of Hungary.

A different degree of concentration was exhibited in the non-EU export activity of studied countries by Herfindahl-Hirschmann index. Hungarian export volume was the highest to Croatia between 2002 and 2003 and to Turkey between 2011 and 2012. Oppositely Polish large-scale export partners were Russia in 2002, Croatia in 2006, 2007 and 2009 and Turkey in 2011. Export was deconcentrated in all other years according to distribution of target non-EU markets. The

various level of concentration indicate the hectic change of target markets by the reason of inability to keep markets. This situation should be managed by building up strategic partnership with target countries. An additionally importance of keeping cattle and beef markets is that production process takes up a long time.

Profitability could be improved by expansion of export to non-EU countries were higher cattle and beef price could be realized. Possible target countries are Turkey and Russia for Hungary and Turkey and Ukraine for Poland.

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Streszczenie

Podjęto próbę oceny handlu zagranicznego Polski i Węgier poza 28 krajów Unii Europejskiej w 2015 roku. Posłużono się wskaźnikami koncentracji. Stwierdzono, że oba te kraje miały podobne rynki docelowe w odniesieniu do eksportu bydła i wołowiny – obejmowały one takie kraje, jak: Białoruś, Ukraina i Chorwacja. Wskazano także na znaczenie przewag konkurencyjnych w długookresowym utrzymaniu pozycji konkurencyjnej na tych rynkach.

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