Polish foreign trade in live geese and the goose’s meat in the years 2012-2016

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Abstract. The main aim of the article is to present the Polish goose market in 2012-2016 in the context of changes in foreign trade of selected goose products. During the considered period Poland was a net exporter of goose meat and offal, a net importer of live goose and the world's largest exporter of goose (meat). In 2016, livestock of geese felt by more than 29% as compared to 2012, slaughter and exports increased. Consumption of this kind of meat influenced favorable development of market, in Poland we can observed the fashion to consumption of goose meat. Although the production of geese in Poland is small, it is one of the largest producers of this species in the world. A significant portion of domestic goose production is exported, primarily to Germany. Both in the export and import of goose products dominated the goose meat and offal.

Keywords: polish market in goose, goose livestock, international trade, goose production

Introduction

In 2012 and 2013, the largest global producer of goose was China, followed by: Egypt, Hungary, Taiwan and Poland. Poland was the fifth largest goose producer in the world and the second in Europe. World production of goose was very concentrated as about 95% of goose was produced in China. Concentration of goose production in Europe was also high – approx. 80% of goose was produced by Hungary and Poland [1]. In 2016, Poland was the world's largest exporter of goose meat and offal. Further positions among the leaders of global export were held by Hungary, China, Germany and South Africa [2].
The main objective of the study is to present the Polish market in goose between 2012 and 2016 against the background of changes in foreign trade in selected goose products, i.e. live geese, meat and offal. The basic method for achieving the objective of the study is a comparative analysis (relative increments, and fixed and chain dynamics indices) of goose stock, total export and import (i.e. of meat, offal and live geese), individual product groups and the analysis of the export and import commodity structure. The research results obtained are important to producers of geese, processors, exporters, importers, wholesale and retail trade and to the economic policy of the state. The annual data from 2012-2016, supplied by the Ministry of Finance, was used in the study, which also made use of data of the Central Statistical Office and the Comtrade and FAO database. Deviations from the accepted time frame resulted mainly from the lack of access to data. Data on foreign trade for 2016 are preliminary data.
Trends in goose stock and production in Poland

The production of geese in Poland is an important part of animal production. It began to develop on a larger scale as early as the nineteenth century. In the 19th century, around 3 million goose were sold in the exchange in Warsaw (Russian Partition). World War I and II as well as the progressive intensification of agriculture have contributed to the reduction in goose stock not only in Poland but also in the countries of Eastern Europe [3]. Goose meat is not very popular among consumers, it is rather a niche product. In addition to meat, geese can also provide eggs, fatty liver as well as down and feathers. Goose meat contains a lot of protein and a relatively high amount of unsaturated fatty acids [4]. In Poland, as opposed to some Asian countries, goose eggs are eaten very rarely [5]. Significant part of domestic production of goose is exported. Therefore, Polish consumer of geese has limited possibilities to choose where to buy it, and it is rarely found in large supermarkets [6].

![Fig. 1. Changes in goose stock (previous year = 100) (in %) and share of goose stock in total poultry stock in Poland (state at the end of the second half of the year) (in %)](source: own work based on the: [7])

Compared to 2012, the poultry stock increased 18.7% to 148.9 million head, which was mainly caused by the increase in the number of chicken (excluding laying hens) of 27.9% to 87.5 million head, laying hens of 9.6% to 48.4 million head, ducks and others of 42.8% to 3.7 million head (see fig. 1). The stock of other species decreased (i.e. stock of turkeys 7% to 8.5 million head and of geese 29.5% to 0.9 million head). Between 2012 and 2016, chicken (excluding laying hens) had the highest share in poultry stock (with the share between 53.9% and 58.8%), and geese the lowest share (between 0.6% and 1.0%) [7]. Polish specialty is the so-called oats-fed goose. About 95% of the goose population in Poland is the White Kołuda goose [8]. According to J. Marciniec and K. Smędzik-Ambroży, due to the dominant position of one goose breed, this production in Poland is niche. The only supplier of White Kołuda gosling is the National Research Institute of Animal Production in Kołuda Wielka. Another determinant of the niche production, according to J. Marciniec and K. Smędzik-Ambroży, is the classification of producers of live goose to special sections of agricultural production, as well as the strong position of the poultry industry in the field of goose price formation [6].
Foreign trade in goose and goose meat

Between 2012 and 2016, the turnover of Polish foreign trade in goose and goose meat was characterised by an upward trend (see fig. 2). In relative terms, the average annual growth of export of goose products was about 7%. On the basis of the estimated linear function of the trend, in the case of export of goose products and goose meat and offal, it can be stated that period by period, export increased by about 1 thousand tonnes. By using the constructed equation, it was possible to explain almost 55% of the variance of the dependent variable, i.e. export. Total export (of live animals, goose meat and offal) increased over 30% from 17 thousand tonnes in 2012 to 22 thousand tonnes in 2016, with over sixfold increase in import of goose products to 2.1 thousand tonnes. Poland was the net exporter of the total goose products studied throughout the period considered. The increase in export volume was mainly due to an increase in the export of goose meat and offal, which was possible in 2015-2016 due to the significant increase in the production of live goose (see table 1). In spite of the dominant upward trend in the export of individual groups of goose products, there were also decreases in:

- live geese of 61% in 2014, and
- goose meat and offal of 12% in 2014.

**Fig 2.** Foreign trade in live geese and goose meat and offal in 2012-2016 (in thousand tons)

Source: own work based on data of the Ministry of Finance.

From 2012 to 2016, the share of export of selected goose product-types in the total export of individual poultry product-types was diverse, the largest was recorded for goose meat and offal (between 2.1% and 3.6%), and it was close to zero in the case of live geese. The share of import of live geese in total import of live poultry fluctuated from 0.5% to 2.3%, and of goose meat and offal in total poultry meat from 0.6% to 5.5%.
Table 1. Changes in the volume of exports and imports of geese and goose meat and offal (in %)

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<tr>
<td></td>
<td>Previous year =100</td>
<td>Year 2012=100</td>
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<td></td>
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<tr>
<td>Exports</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>127</td>
<td>88</td>
<td>114</td>
<td>102</td>
<td>130</td>
</tr>
<tr>
<td>Live geese</td>
<td>-</td>
<td>39</td>
<td>733</td>
<td>121</td>
<td>-</td>
</tr>
<tr>
<td>Meat and offal</td>
<td>127</td>
<td>88</td>
<td>114</td>
<td>102</td>
<td>130</td>
</tr>
<tr>
<td>Imports</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>324.6</td>
<td>210.8</td>
<td>89.4</td>
<td>98.3</td>
<td>601.1</td>
</tr>
<tr>
<td>Live geese</td>
<td>362.3</td>
<td>222.0</td>
<td>88.4</td>
<td>85.1</td>
<td>604.8</td>
</tr>
<tr>
<td>Meat and offal</td>
<td>216.6</td>
<td>157.1</td>
<td>96.1</td>
<td>180.5</td>
<td>590.5</td>
</tr>
</tbody>
</table>

Source: own work based on data of the Ministry of Finance.

In the analysed period, in quantitative terms, import of goose products in question increased over 6 times and in value terms nearly 4 times to almost PLN 21 million (see table 1). The increase in the volume of import was the result of more than sixfold growth of import of live geese and nearly sixfold growth of import of goose meat and offal. Even though the volume of import of the studied goose products increased in 2016 compared to 2012, import of live geese decreased in 2015 and 2016 (compared to the previous year). The decrease in the import of meat and offal and live goose in the last two years of the analysed period is most likely caused by the rich and constantly widened offer of domestic processors of goose products, hence the reduction in the need to supplement the domestic supply of these products by import. On the basis of the estimated linear function of the trend, it can be stated that import was increasing about 0.4 thousand tonnes period by period (see fig. 2). By using the constructed equation, it was possible to explain almost 69% of the variance of the dependent variable, i.e. import. This import was small, in particular compared to Polish export of goose products.

Table 2. Commodity structure of the exports and imports of goose's products in 2012-2016 years (in %)

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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports</td>
<td>Meat and offal</td>
<td>100.00</td>
<td>99.99</td>
<td>100.00</td>
<td>99.98</td>
<td>99.98</td>
</tr>
<tr>
<td></td>
<td>Live geese</td>
<td>0.00</td>
<td>0.01</td>
<td>0.00</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>Imports</td>
<td>Meat and offal</td>
<td>25.88</td>
<td>17.27</td>
<td>12.88</td>
<td>13.85</td>
<td>25.43</td>
</tr>
<tr>
<td></td>
<td>Live geese</td>
<td>74.12</td>
<td>82.73</td>
<td>87.12</td>
<td>86.15</td>
<td>74.57</td>
</tr>
</tbody>
</table>

Source: own work based on data of the Ministry of Finance.

In 2012-2016, the commodity structure of Polish export of selected goose products was similar (see table 2). The commodity structure was dominated by goose meat (with a share of over 99%). In the structure of goose meat export, the most popular elements were:

- frozen carcasses, known as “75% geese,” (i.e. domestic geese, not cut in pieces, plucked and drawn, without heads and feet, with or without hearts and gizzards),
- frozen legs and cuts thereof, with bone in,
- frozen breasts and cuts thereof, with bone in,
- frozen whole wings.

The geographic structure of export of goose meat and offal is very concentrated. Goose meat and offal exported from Poland were purchased mainly by EU countries, and Germany was the largest consumer (its share in export ran from 72.6% to 80.0%). Among third countries, the largest buyer
was Hong Kong (where from 8.3% to 13.1% of the export volume of goose meat and offal was sent). Live geese had a relatively low share in export (close to 0%).

The weight structure of the exported live geese included only gosling. The commodity structure of Polish import of goose products was diverse and changing (see table 2). The share of live geese in import ranged from 12.9% to 25.9%, and of poultry meat and offal from 74.1% to 87.1%. During the period considered, geese weighing more than 185 g had the largest share in live goose import and among the meat had the so-called 75% geese, frozen (i.e. domestic geese, not cut in pieces, plucked and drawn, without heads and feet, with or without hearts and gizzards). Goose meat and offal were imported exclusively from EU countries, with the largest quantity imported from Germany and France.

Between 2012 and 2016, Poland was the net exporter of goose meat and offal (see table 3). The highest balance in this product range occurred in 2016, whereas in the whole analysed period, the balance, both in terms of quantity (weight) and value, of live goose was negative. It had the lowest value in 2014.

### Table 3. Balance of foreign trade in goose products (in thousand tons and in million of PLN)

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<tr>
<td></td>
<td>thousand tons</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live geese</td>
<td>-0.3</td>
<td>-0.9</td>
<td>-2.1</td>
<td>-1.8</td>
<td>-1.6</td>
</tr>
<tr>
<td>Meat and offal</td>
<td>16.6</td>
<td>21.0</td>
<td>18.3</td>
<td>21.0</td>
<td>21.2</td>
</tr>
<tr>
<td></td>
<td>PLN million</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live geese</td>
<td>-2.9</td>
<td>-7.5</td>
<td>-16.0</td>
<td>-13.2</td>
<td>-12.1</td>
</tr>
<tr>
<td>Meat and offal</td>
<td>333.4</td>
<td>271.7</td>
<td>255.5</td>
<td>308.3</td>
<td>361.9</td>
</tr>
</tbody>
</table>

Source: own work based on data of the Ministry of Finance.

An opportunity for some producers may be organic production of this species of livestock. Producers of such geese generally receive higher buying-in prices [8]. They can find buyers of organic products both in the domestic and foreign markets. In addition, native breeds and varieties can be a branded product in developing agri-tourism, they can also be a component proving the tradition and culture of the region [9].

### Conclusion

Currently, Poland is self-sufficient in the production of goose meat. In 2016, compared to 2012, the turnover in foreign trade in goose products improved. The export structure was different from import. Significant quantities of meat and offal of geese were exported, and relatively small numbers of live geese were sold abroad. The import structure was dominated by goose meat and offal, however, their share was smaller than in export.

During the period considered, more live geese were imported than exported, and less goose meat and offal were imported than exported. Geographical diversification of export, price advantage of Polish goose products on the EU and world markets and, at the same time, their right quality may contribute to the increase of Polish export of goose products. Greater consumption in Poland may be achieved by increasing the availability of this species of meat as well as taking care of education on the culinary preparation of this type of meat by potential customers. In Poland, goose meat is eaten on the occasion of various holidays, such as St. Martin's Day, or family holidays, as well as in restaurants. Even though its accessibility has improved in recent years, it is still very limited.
It is estimated that in the next few years export of goose products will remain relatively high and Poland will continue to be one of the main European goose producers, provided that there are no serious market disruptions. A threat to the sector may be avian influenza, which may contribute to the decline in the goose stock in Poland or to the fall of their egg laying. Recently, information on the occurrence of animal disease outbreaks, animal welfare and ethical issues related to meat production (e.g. ritual slaughter) have become increasingly important [10]. China will remain the largest global producer of goose, which will be driven by relatively higher consumption of this species of meat in that country.

References