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GOOSE MARKET FROM GLOBAL AND DOMESTIC PERSPECTIVE IN THE YEARS 2012-2017

Abstract:

The main objective of the article is to present changes in the Polish goose meat market in the years 2012-2017 in the context of changes in the global goose meat market. Poland is one of the largest producers and exporters of goose meat in the world. In the analysed period, the production and sale of goose meat in Poland was of seasonal change, which, most probably in the case of availability of goose meat in retail trade will change, since buyers' preferences are changing and the demand for niche types of poultry meat is growing. At the turn of 2016/2017, Poland was affected by avian influenza which had a negative impact on the production of and trade in goose meat. In 2013, Poland was the fifth largest global producer of goose meat. The structure of the global export of goose meat and offal (total) is very concentrated. In the analysed period, its largest global exporter was Hungary with the share ranging from 34% to 47% while Poland was ranked second with the share ranging from 31% to 37%.

Keywords:

goose market, international trade, goose production, Poland, world

JEL Classification: Q11, Q17, Q13

1 Introduction

Geese were domesticated about 5000 years ago. In Egypt, they can be found carved in reliefs of tombs, which also included goose mummies. In ancient Greece, goose eggs were eaten. Homer wrote about white geese and Aristotle noted the value of roast geese. The Romans knew the fattened goose liver (Szuman 1964).

Geese can provide not only meat, down, feathers (Rosiński 2003), fats (Wężyk 1999), offal, eggs (Wężyk 2004) but they can also be an attraction on agritourism farms (Kasprzykowska and other 2017). Polish feathers and down enjoy great recognition and the main buyer of down derived from White Kołuda Goose is Japan (Herbut 2018). Interest in goose feathers and down has been increasing – they are used instead of synthetic fibres in pillows, duvets and winter sportswear. In many countries, goose fat enjoys a lot of interest because it contains large amount of unsaturated fatty acids. In some regions of France and Germany, it is sold in the faience packaging as a luxury product (Wężyk 1999).

In some countries, fatty goose liver, which is one of the ingredients of foie gras, is highly popular. France is the world's largest producer of fatty liver (Łuczak 2012). In Poland, the protection of animals prohibits the fattening of geese for fatty liver [Dz.U. of 1997 No. Act of 21 August 1997 on the 111, item 724, as amended]. The prohibition of fattening geese for fatty liver may contribute to lowering the financial efficiency of production (Marciniak Smędzik-Ambroży 2013).

Goose meat contains all exogenous aminoacids and goose fat is characterised by the large share of mono- and polysaturated acids and is digestible. What is more, goose meat is a source of vitamins (A, E and B group) and mineral substances (i.e. sodium, potassium, magnesium, zinc, copper and sulfur) (Grochowska and other 2016).

Geese are highly capable of absorbing green fodder, “can feed on weeds and herbs harmful to other species, hence they can be used successfully for weeding out many cultivations, especially orchards, plantations of strawberry, sugar beet, maize and tree nurseries” (Wężyk 1999, p. 132).

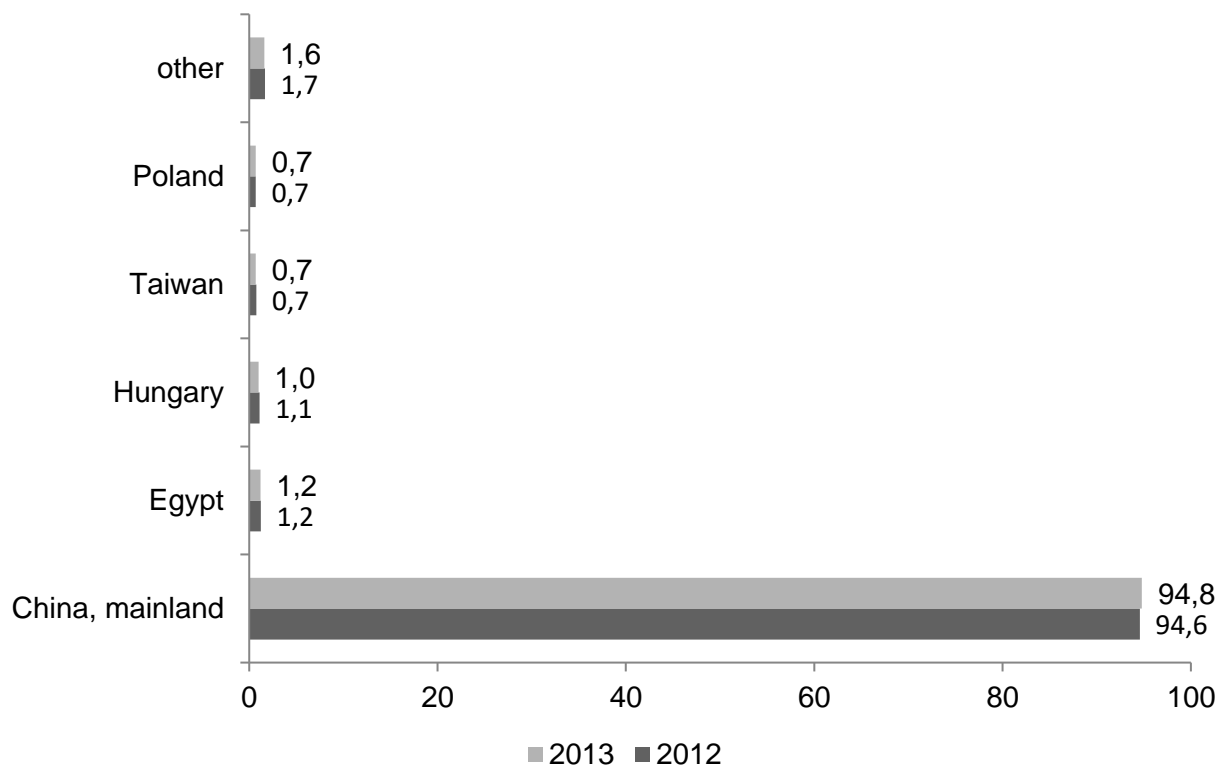
The main objective of the paper is to present changes in the Polish goose meat market in the years 2012-2017, against a background of changes in the global goose meat market. The basic method used to achieve the objective of the paper was comparative analysis over time (relative increments and fixed- and variable-based dynamics indices) of export goose meat and offal in total, individual product groups, and analysis of the global and Polish commercial structure of the export of selected goose products as well as slaughter and population of geese according to the scale of rearing in Poland. The obtained study results are important for agricultural producers of geese, processors, wholesale trade, retail trade, gastronomy and the economic policy of the state. The study uses annual data from the years 2012-2017, coming from the Central Statistical Office, FAO and the Comtrade

database. Deviations from the adopted time range were mainly due to the lack of access to data.

2 Trends in the goose stock and production in the world and in Poland

In 2012 and 2013, the largest producer of goose meat in the world was China (with the share in the global production of, respectively, 94.6% and 94.8%) and Poland was ranked fifth among the global largest producers with the share of 0.7% in the global production of goose meat (see figure 1). Egypt, Hungary and Taiwan occupied, respectively, the second, third and fourth position. In Europe, the largest producers of goose meat are Hungary and Poland, both of which have a centuries-old tradition in the production of goose meat and a significant part of their production is exported (Molnar 2016).

Figure 1: Share of major producers of goose in global goose production in 2012 and 2013 in %.



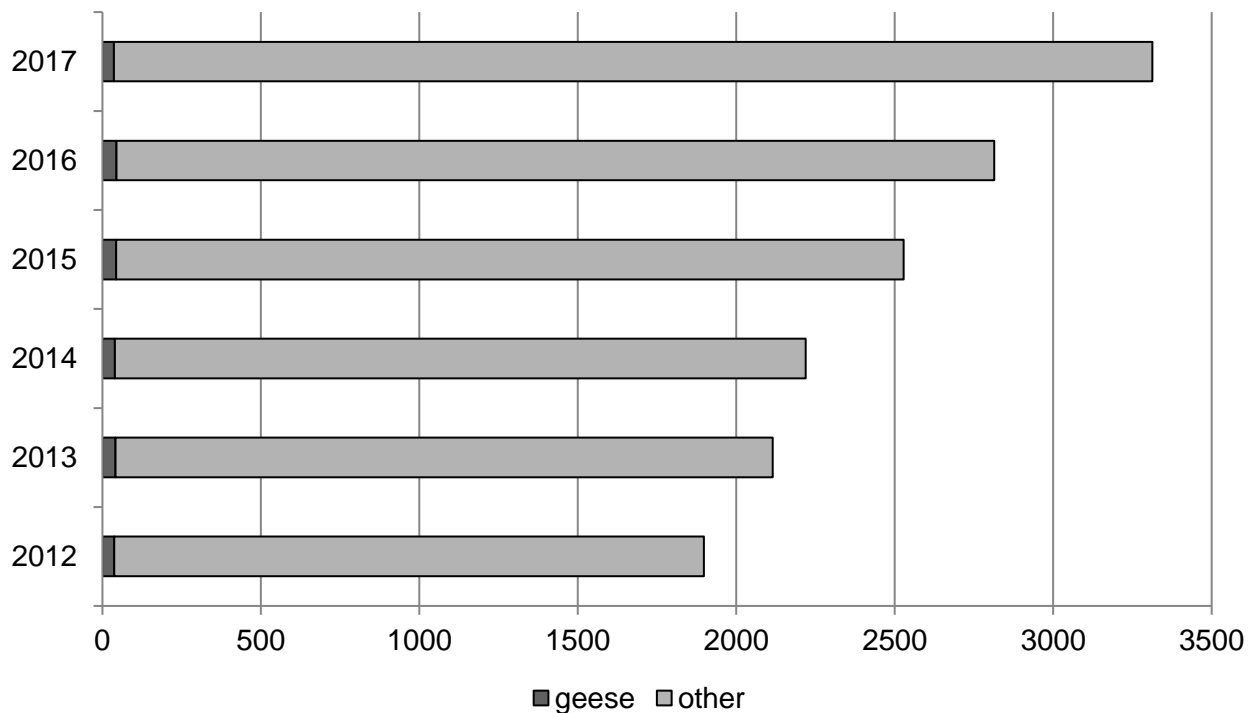
Source: own work based on FAO data: <http://www.fao.org/faostat/en/#data/QL>, download date 22.08.2018.

Goose White Kołudzka has the largest share in domestic production of geese (about 95%) (Kasprzykowska and other 2017). In 2017, compared to 2012, the slaughter of geese decreased from 37 thousand tonnes live weight to 36 thousand tonnes live weight (see figure 2), the reduction of slaughter was primarily determined by the occurrence of avian influenza in Poland in 2016 and 2017. In 2012-2017, the share of geese in the total

domestic poultry slaughter ran from 1.1% to 1.9%. At this time, chickens had the largest share in the structure of slaughter. In 2010, on average, there were 135 geese per farm in the country (GUS 2011).

The FAO data provide information on the stock of goose and guinea fowl together, therefore it is not possible to analyze it for geese only (FAO). In consequence, analysis of the global goose population has been abandoned.

Figure 2: Industrial slaughter of geese and other domestic poultry species in Poland (in thousands of tonnes in live weight)



Source: own work based on the GUS (2013-2018)

In the period under review, there were significant changes in the goose population by provinces (see table 1) in Poland. Even though the largest number of geese is still kept in Wielkopolska Province (in 2012, the share in domestic goose population was 27,6% and in 2017 – 25,7%), their stock in this province decreased by 27,1% (in 2017, compared to 2012). In 2012, the greatest number of geese were kept in Kujawsko-Pomorskie (11,0% of the population), Lubelskie (8,2%), Lubuskie (8,0%), Mazowieckie (8,1%) and Podlaskie (8,4%) Provinces, and in 2017, in Warmińsko-mazurskie (16,1%), Łódzkie (12,1%), Mazowieckie (10,7%), Kujawsko-Pomorskie (8,4%), Lubelskie (6,2%). In 2017, compared to 2016, the goose population in the Lubuskie Voivodeship decreased by 43,1%, which was mainly the result of the occurrence of highly pathogenic avian influenza in Poland in 2016 and in 2017 in this region. In 2017 the smallest number of geese comes from Zachodniopomorskie, Opolskie, Śląskie, Dolnośląskie and Małopolskie Voivodeships.

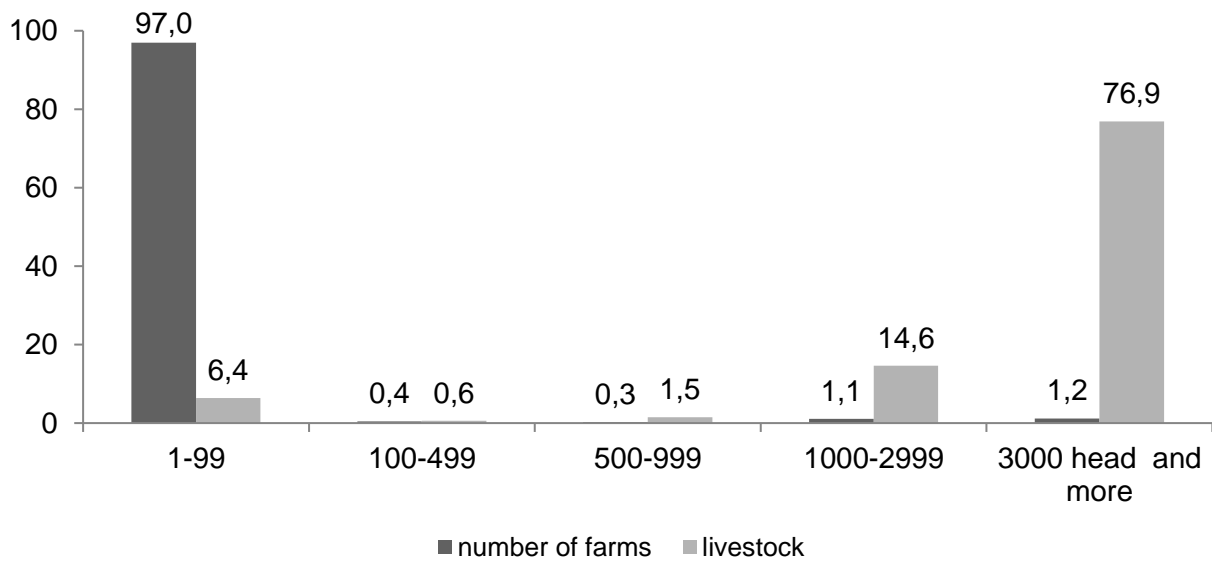
Table 1: Stock (in thousands of heads), changes in stock (in %) and geographical structure of goose population (in %) in Poland

Specification	Livestock		Dynamics						Share					
	2012	2017	2013	2014	2015	2016	2017	2017	2012	2013	2014	2015	2016	2017
			Previous year = 100											
Poland	1219	953	107,8	92,0	100,3	70,8	110,9	78,1	100,0	100,0	100,0	100,0	100,0	100,0
Voivodeship:														
Dolnośląskie	23	6	106,0	22,2	257,1	47,5	88,3	25,4	1,9	1,8	0,4	1,1	0,8	0,6
Kujawsko-pomorskie	135	80	95,7	67,3	88,7	136,9	75,7	59,2	11,0	9,8	7,2	6,3	12,3	8,4
Lubelskie	100	59	108,2	66,8	137,6	101,6	58,4	58,9	8,2	8,2	6,0	8,2	11,8	6,2
Lubuskie	97	15	97,4	72,2	23,7	162,8	56,9	15,4	8,0	7,2	5,7	1,3	3,1	1,6
Łódzkie	88	115	130,9	172,1	137,8	38,0	111,2	131,2	7,2	8,8	16,4	22,5	12,1	12,1
Małopolskie	31	8	95,4	45,8	156,7	73,2	51,3	25,8	2,6	2,3	1,1	1,8	1,8	0,8
Mazowieckie	99	102	117,5	76,2	66,8	189,4	90,9	102,9	8,1	8,8	7,3	4,9	13,0	10,7
Opolskie	9	4	99,0	45,1	65,2	69,3	215,0	43,4	0,7	0,7	0,3	0,2	0,2	0,4
Podkarpackie	8	14	129,6	196,5	92,0	94,9	83,2	185,0	0,6	0,7	1,6	1,4	1,9	1,5
Podlaskie	102	99	120,7	101,5	85,8	95,7	96,3	96,9	8,4	9,4	10,4	8,9	12,0	10,4
Pomorskie	36	28	96,0	51,4	286,7	24,5	221,5	76,6	3,0	2,6	1,5	4,2	1,4	2,9
Śląskie	16	6	95,3	30,1	143,8	89,5	100,2	37,0	1,3	1,2	0,4	0,6	0,7	0,6
Świętokrzyskie	82	17	98,9	54,3	102,4	34,5	108,1	20,5	6,7	6,1	3,6	3,7	1,8	1,8
Warmińsko-mazurskie	52	153	122,6	274,1	61,9	63,7	221,2	293,2	4,3	4,9	14,5	9,0	8,1	16,1
Wielkopolskie	336	245	105,1	80,2	109,5	52,2	151,2	72,9	27,6	26,9	23,4	25,6	18,9	25,7
Zachodniopomorskie	5	3	132,4	33,8	162,2	49,8	146,2	52,8	0,4	0,5	0,2	0,3	0,2	0,3

Source: own work based on the GUS (2013-2018)

The production of geese in Poland was concentrated; in 2010, 76.9% of the goose population was kept in flocks of 3000 thousand and more head by only 1.2% of farms rearing; 6.4% of the stock were in flocks of 1 to 99 head, kept by 97% of the farms goose (see figure 3). In 2010, the number of farms engaged in rearing geese was 37.8 thousand (GUS 2011).

Figure 3: Structure of goose stock according to the scale of farming in 2010 (in %) (from 1 to 3000 heads and more) in Poland

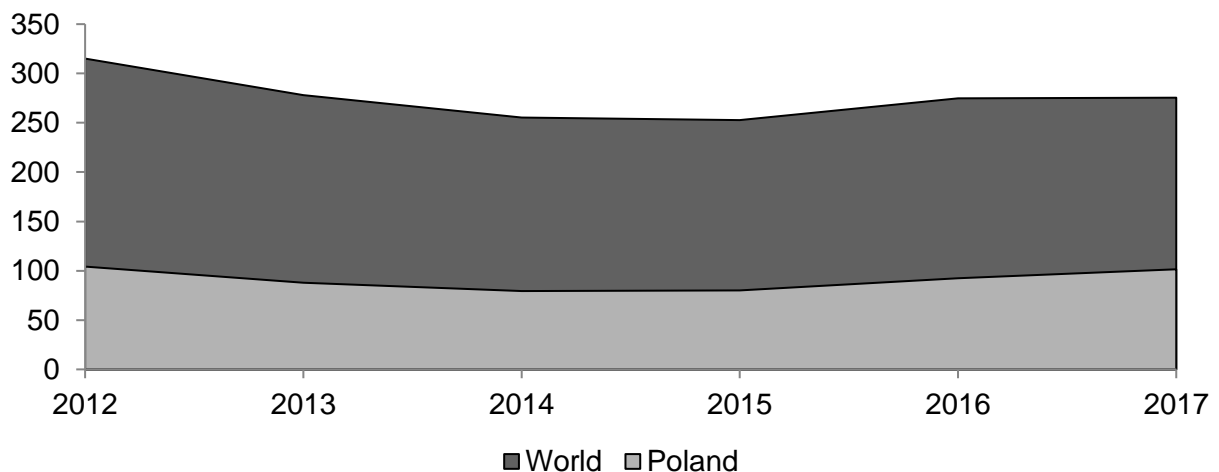


Source: own work based on the GUS: (GUS 2011)

3 Global and Polish export of goose meat and offal

In 2017, when compared to 2012, the global export of goose meat and offal decreased by 13% to USD 275 million dollars, which resulted from the reduced export of frozen carcasses by 6%, fresh or chilled fatty livers by 57%, other fresh or chilled meat by 18%, other frozen meat by 17% (see figure 4 and table 2). At that time, the export of this product from Poland decreased by 3% to USD 102 million. The polish export of all product groups decreased, except for other frozen meat and offal.

Figure 4: Global and Polish export of goose meat and offal in million USD



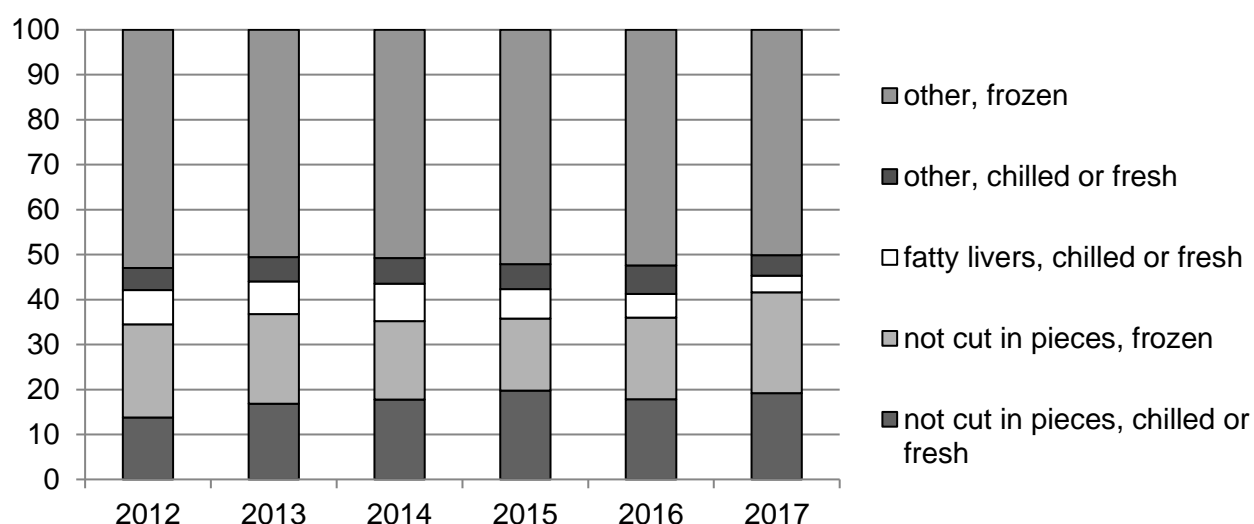
Source: own study based on: <https://comtrade.un.org/data/> (download date: 22/08/2018).

Table 2: Changes in the global and Polish export of goose meat and offal (in %)

Specification	201	201	201	201	201	2017
	3	4	5	6	7	
	Previous year = 100					Year 2012 = 100
World						
Meat and offal total	88	92	99	109	100	87
Not cut in pieces, fresh or chilled meat and offal	108	97	110	98	108	122
Not cut in pieces, frozen meat and offal	85	80	91	124	124	94
Fatty livers, fresh or chilled	84	105	78	88	70	43
Other, fresh or chilled meat and offal	97	97	97	122	73	82
Other frozen meat and offal	84	92	102	109	96	83
Poland						
Meat and offal total	84	91	101	115	110	97
Not cut in pieces, fresh or chilled meat and offal	109	85	62	71	97	40
Not cut in pieces, frozen meat and offal	78	89	100	124	114	98
Fatty livers, fresh or chilled	218	10	32	277	1	0
Other, fresh or chilled meat and offal	77	92	114	106	114	98
Other frozen meat and offal	86	92	104	115	108	102

Source: own study based on: <https://comtrade.un.org/data/> (download date: 22/08/2018).

In the analysed period, the structure of the global export of goose meat and offal has changed (see figure 5). Mainly frozen meat was exported. The largest share was that of other frozen meat and offal (from 50% to 53%). Significant shares in the export were also those of frozen carcasses (16% to 22%), uncut fresh or chilled cuts (14% to 20%). Fresh or chilled livers and other fresh or chilled meat had small shares ranging from 4 to 8% and from 5 to 6%, respectively.

Figure 5: Structure of global goose meat and offal export in%

Source: own study based on: <https://comtrade.un.org/data/> (download date: 22/08/2018).

In the years 2012-2017, the share of Poland in the global export of goose meat ranged from 31% to 37%, Poland was ranked second in the list of the largest global producers while the first position was occupied by Hungary, whose share in the global export ranged from 34% to 47%. Poland and Hungary are competing between themselves for the stable market of goose meat i.e. Germany (Molnar 2016).

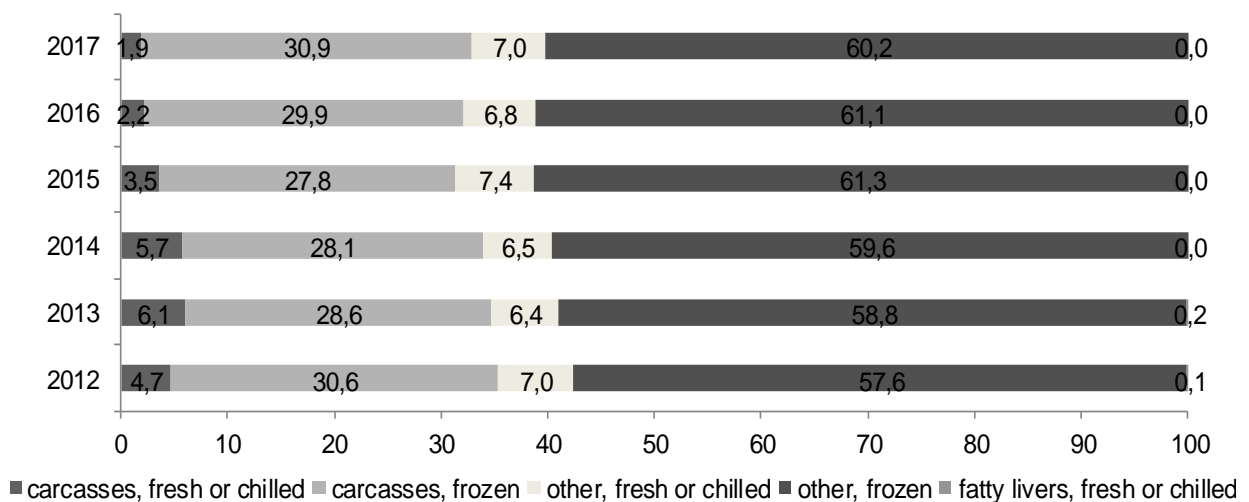
In the analysed period, the share of the individual product groups exported from Poland in the global export of these groups was diversified (see table 3). In the years 2012-2017, we could observe the high share of the Polish export of frozen goose carcasses (with or without offal) in the global export (from 45% to 55%). The share of the Polish export of fresh or chilled fatty livers in the global export of this product was marginal and ranged from 0% to 1%. In 2017, when compared to 2012, the share of uncut fresh or chilled goose meat exported from Poland to the global export of this group decreased by 7 percentage points to 4%, the share of other fresh or chilled goose meat and offal increased by 10 percentage points to 57% and of other frozen products by 8 percentage points to 44%.

Table 3: The share of Polish export of individual goose product groups in the global export of these groups in %

Specyfification	2012	2013	2014	2015	2016	2017
Not cut in pieces, fresh or chilled meat and offal	11	11	10	6	4	4
Not cut in pieces, frozen meat and offal	49	45	50	55	55	51
Fatty livers, fresh or chilled	0	1	0	0	0	0
Other, fresh or chilled meat and offal	47	37	35	42	36	57
Other frozen meat and offal	36	37	37	37	39	44
Meat and offal total	33	32	31	32	34	37

Source: own work based on the: <https://comtrade.un.org/data/> (download date 22.08.2018)

In the analysed period, the structure of the Polish export of goose meat and offal used to change, although it was dominated by other frozen cuts of goose meat and offal (their share ranged from 57.6% to 61.3%) (see figure 6). The second position in the structure was occupied by frozen carcasses (with the share from 27.8% to 30.9%). Much smaller shares in the export were those of fresh or chilled carcasses (with offal or without offal) (from 1.9 to 6.1%), other chilled or fresh meat and offal (from 6.4% to 7.4%) and fresh or chilled fatty livers (0% to 0.2%).

Figure 6. Structure of Polish export of goose meat and offal in %

Source: own work based on the: <https://comtrade.un.org/data/> (download date 22.08.2018)

4 Conclusions

Poland is expected to continue to be one of the main global exporters of goose meat and one of the largest producers in Europe, provided that there are no serious market disturbances e.g. avian influenza. For producers of this poultry species, the prevention of the negative effects of avian flu is often associated with additional costs and, consequently, lower profitability of production. Geese must be able to use the runs. The producer should consider additional costs associated with a fence, especially when there are many foxes around, or with a protection against contact with wild birds (which is especially important during periods of avian influenza). In fact, wild birds are carriers of avian influenza (Lis 2005). Poland is less competitive when compared to many countries due to the prohibition of rearing geese for fatty livers. The geographical structure of the Polish export is poorly diversified. Since a significant part of the Polish production is exported, the situation of the sector may also be affected by exchange rates. An opportunity for the Polish export may be to improve the knowledge of goose meat in countries (especially those with higher disposable income per capita) consuming even less goose meat than in Poland or not consuming it almost at all. In some Asian countries, it is possible to sell the elements of goose which are less popular in Europe. Polish goose meat, down and feathers can be products associated with Poland in many countries of the world.

In the analysed period, the production of goose meat was characterised by considerable seasonality, mainly related to the demand of its main buyer i.e. Germany. It is estimated that the growing demand for less known types of poultry meat in Poland, with the buyer preferring chilled (not frozen) meat, will make the sale of geese stop being so seasonal in Poland. The increased production of live geese in Poland may be supported by the increased demand for goose down and feathers.

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