
ANNALES
UNIVERSITATIS MARIAE CURIE-SKŁODOWSKA
LUBLIN – POLONIA

VOL. XXVIII (2)

SECTIO EE

2010

Institute of Agricultural and Food Economics – National Research Institute (IAFE – NRI)
Świętokrzyska 20, 00-002 Warszawa,
e-mail: zawadzka@ierigz.waw.pl

DANUTA ZAWADZKA

Sheep market after Poland's EU accession

Sytuacja na rynku owiec po przystąpieniu Polski do Unii Europejskiej

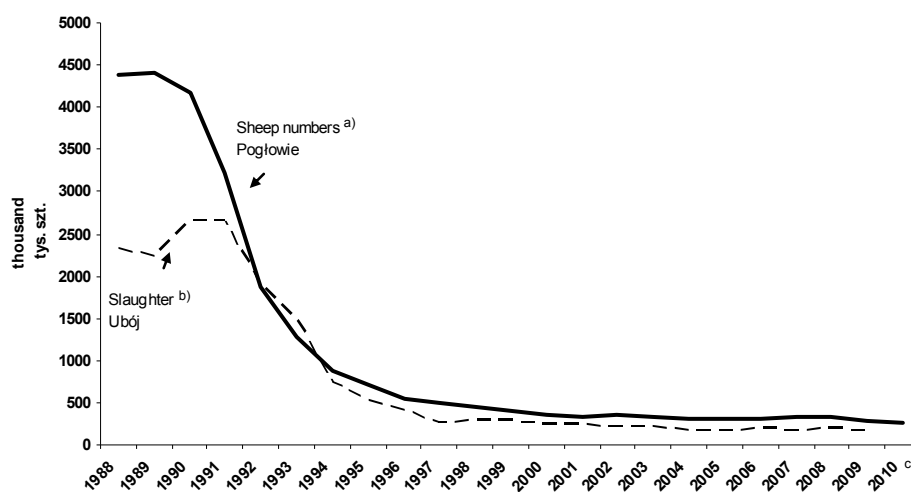
Summary. The sheep population in Poland has been decreasing for more than twenty years. Only the intensity of the process changes. Initially, after Poland's EU accession, this intensity was significantly weakened but now it once again starts to gain in force. Sheep farming development depends, *inter alia*, on the procurement price for live sheep. Due to the sheep export, which predominates production, these prices are not dependent on the demand and supply on the domestic market. The level of these prices is determined by several factors such as the exchange rate of PLN against euro, as well as the prices of sheep and lambs in the European Union. Strengthening PLN deteriorates the profitability of Polish export of sheep and sheep prices drop. In a reverse situation, i.e. when PLN weakens, the profitability of export increases and, in turn, the procurement prices of live sheep grow as well. Subsidies for farmers depend on the exchange rate of PLN against euro too. However, the influence of the subsidies is limited and it can be efficient in a specific market situation.

Key words: sheep market, prices, production, consumption, foreign trade

INTRODUCTION

The Polish sheep market has been suffering from a crisis for over 20 years. This crisis is noticeable in a successive reduction in sheep population and the intensity of the process changes only. In the nineties it was progressing on as an avalanche process. Finally the sheep population was decimated, i.e. from 4.4 million units in June 1989, in June 1999 there were only 392 thousand units left. The reasons of the phenomena are known and were described. Generally, these reasons come down to a collapse of the market of sheep-farming products, i.e. meat, wool and lather, following the system transformation [Zawadzka 1995].

In the next decade the reduction in the sheep population was occurring on a definitely smaller scale. Although in the 1999–2009 the sheep population decreased by further 27%. However within the first five years of the decade, hence before Polish accession to the EU the drop in the sheep population was greater and it amounted to 19%, while in the next five years, i.e. 2004–2009, it amounted to 10% only. It could have been treated as a positive phenomena if it was not the fact that in June 2009 the sheep population amounted to 286 thousand units only and it was smaller than a year before by as much as 11.5%. Hence, the annual rate of decrease in the sheep population was significantly higher than in the previous years [Zawadzka 2009b]. Therefore there arises a question what are the reasons for the phenomena and what are the perspectives of sheep farming development in Poland?



^{a)} as of June, ^{b)} annual slaughter, ^{c)} own forecast

^{a)} stan w czerwcu, ^{b)} ubój roczny, ^{c)} prognoza własna

Fig. 1. Sheep population and slaughter in Poland. Source: author's own compilation based on the data from the GUS (Central Statistical Office in Poland)

Rys. 1. Pogłowie i ubój owiec w Polsce. Źródło: opracowanie własne na podstawie danych GUS

MATERIAL AND METHODS

The research applied the method of economic analysis with the use of statistics. The assess of the sheep market in Poland is based on the official statistical data provided by the Central Statistical Office in Poland (GUS), Ministry of Agriculture and Rural Development, European Commission, *Eurostat* and Association of Polish Cities (ZMP).

RESULTS AND DISCUSSION

Procurement prices of live sheep in Poland

The procurement prices of live sheep in Poland are not determined by mutton supply and demand for it on the domestic market for several years. This is because almost entire sheep production is exported to the European Union countries. Under such circumstances the procurement prices are determined by factors such as exchange rate of PLN against euro and the prices of sheep and lambs on the EU market.

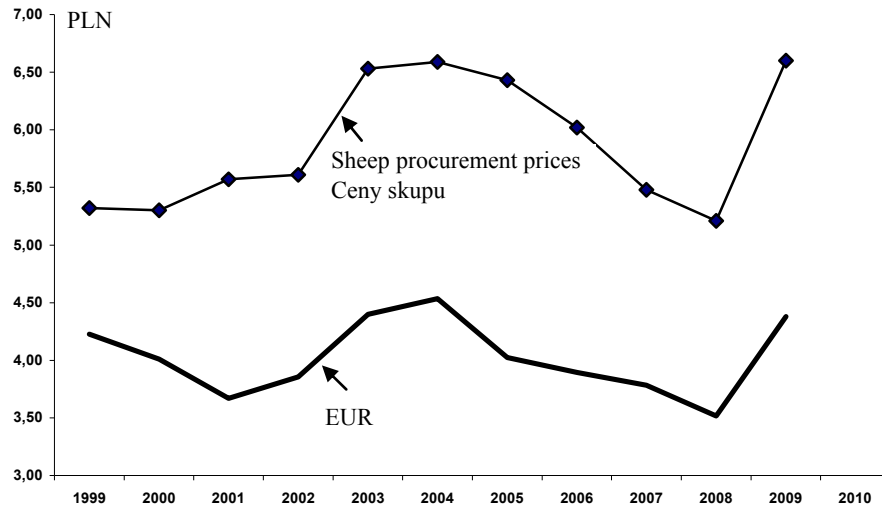


Fig. 2. Procurement prices of live sheep in Poland per 1 kg and the exchange rate of PLN against euro. Source: author's own compilation based on the data from the GUS (Central Statistical Office in Poland and the NBP (National Bank of Poland)

Rys. 2. Ceny skupu żywca baraniego w Polsce za 1 kg oraz kurs złotego względem euro.
Źródło: opracowanie własne na podstawie danych GUS i NBP

The exchange rate influences the procurement prices in the following manner. If the exchange rate of euro against PLN decreases, i.e. PLN strengthens, and then the profitability of Polish export of sheep deteriorates. As a result, exporters receive lower prices converted into PLN for sheep sold abroad. Thus, the producers receive lower prices also. In a reverse situation, i.e. when PLN is weakened, that is the euro exchange rate is increased, the profitability of export increases and, as a consequence, the prices of sheep on Polish market also grow.

From the moment of Poland's EU accession the impact of the exchange rate of PLN against euro on the procurement prices of live sheep started to be even stronger than before. The indicator of correlation between the procurement price and exchange rate provides it for. In 2004-2009 this indicator amounted to 0.92 while within the previous five years it was 0.70.

In 2004–2009 the changes in the procurement prices exhibited, basically, identical direction as the changes in the exchange rate and the only difference was the scale of both these changes (Fig. 2). In 2004–2008 the procurement prices of live sheep showed a decreasing trend because PLN strengthened. When at the end of the 2008 PLN started to grow weaker the prices began to grow. In the 1st quarter of 2009 the average price amounted to PLN 6.51 per kg in the 2nd quarter – PLN 6.83 per kg and in the 3rd quarter it was PLN 6.35 per kg. These prices were higher respectively by 14 and 44 and 35% than in similar quarters of the previous year. The increase in the exchange rate within the same quarters amounted to 26, 30 and 27% [Zawadzka 2009b].

Sheep and lamb market prices in the EU

The prices of both, light and heavy sheep, in the EU fluctuate because the production fluctuates also. Fluctuations in production are mitigated by import, but its profitability is changeable. Internal production amounts to approx. 80% of supply and the approx. 20% that are left, derive from import from third countries, mainly from New Zealand. Thus, import is dependent on the prices of lamb in New Zealand and the exchange rate of euro against the New Zealand dollar.

The sheep and lamb prices in the EU have been growing since the beginning of 2009 [Zawadzka 2009a, 2009b]. In the 1st quarter of 2009 the average price of lambs in the EU-27 amounted to EUR 611, in the 2nd quarter – EUR 559 and in the 3rd quarter it was EUR 658 per 100 kg of carcass weight. These prices were higher than in the previous year by 4% and 7% and 8% respectively. On the other hand, the average price for heavy sheep in the 1st quarter of 2009 was shaped at the level of EUR 448, in the 2nd quarter – EUR 481 and in the 3rd quarter it was EUR 421 per 100 kg of carcass weight. In the first two quarters the prices were higher than in similar quarters of 2008 by 8% and 5%, whereas in the 3rd quarter the price of heavy sheep was the same as in the previous year.

Table 1. Average annual market prices for light and heavy sheep in the (EU EUR/100 kg carcass weight). Source: The European Commission and the author's own calculations
Tabela 1. Przeciętne ceny roczne owiec lekkich i ciężkich w Unii Europejskiej (EUR/100 kg wagi poubojowej). Źródło: Komisja Europejska i obliczenia własne

Specification Wyszczególnienie	Year – Rok					
	2004	2005	2006	2007	2008	2009 ^{a)}
Light sheep EU-25-27 Owce lekkie EU-25/27	559	605	587	586	607	649
Heavy sheep EU-25 Owce ciężkie EU-25	404	398	419	399	427	440
Heavy sheep EU-27 Owce ciężkie EU-27	x	x	x	x	396	403

^{a)} Forecasts of the IAFE–NRI – Prognoza IERiGŻ – PIB

A quite significant drop in production caused the quite significant increase in the EU prices in 2009, which was impossible to be compensated by import. In the period from January to August 2009 the sheep slaughter in EU-27 were by almost 19 thousand tons, i.e. 3%, lower than in the previous year. Whereas, within the three quarters of 2009 import

amounted to 212 thousand tons of the carcass weight and was only slightly over 1 thousand tons greater than within the same period of 2008. The increase in import concerned only such countries as Uruguay, Chile and Iceland. On the other hand, import to the EU market from countries such as New Zealand and Australia, which are the greatest traditional suppliers of mutton and lamb, decreased. It resulted from the fact that within the first eight months of 2009 the prices of lambs in New Zealand were by approx. 50% higher than in the same period in 2008 and in Australia by 10% [Zawadzka 2009a, 2009b].

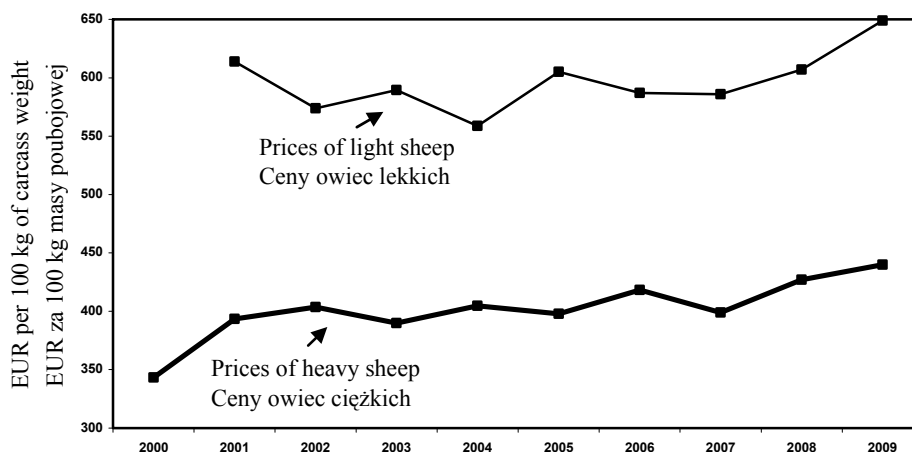


Fig. 3. Prices for light and heavy sheep in the EU. Source: author's own compilation based on the data from the European Commission

Rys. 3. Ceny owiec ciężkich i lekkich w Unii Europejskiej. Źródło: opracowanie własne na podstawie danych Komisji Europejskiej

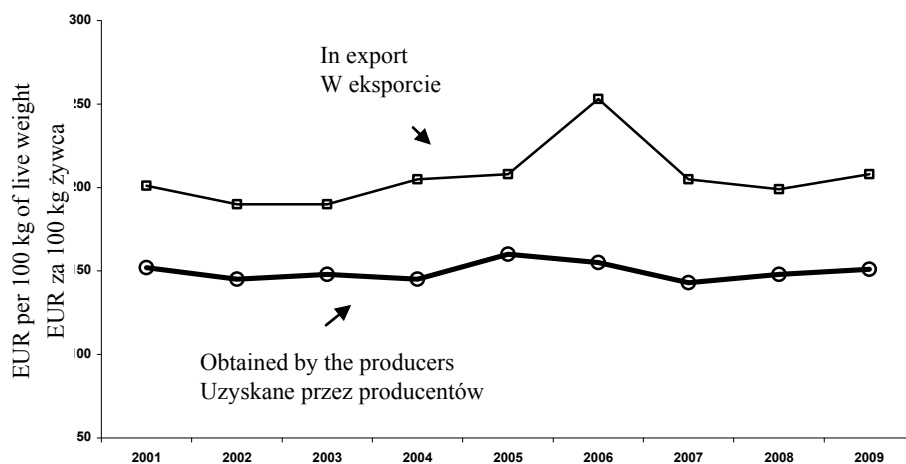


Fig. 4. Sheep prices in the Polish export. Source: author's own compilation based on the data from the CAAC (Analytical Centre of the Customs Administration)

Rys. 4. Ceny owiec w polskim eksporcie. Źródło: opracowanie własne na podstawie danych CAAC (Centrum Analityczne Administracji Celnej)

The prices of sheep and lamb in the EU do not have as strong impact on the procurement prices of live sheep in Poland, as the impact of the exchange rate of PLN against euro. Nevertheless, they are an important determinant of the level and direction of prices development in the Polish export and they also influence the procurement prices of sheep through the exchange rate.

Non-price factors and their impact on the development of the sheep population

After Polish accession to the EU subsidies became a significant element of the producers' income. In 2004–2009 their impact on the development of sheep farming was revealed on two occasions. In June 2007 the sheep population amounted to 332 thousand units and for the first time since many years it was by 10% higher than a year before. This took place at the moment when the procurement prices of live sheep were gradually decreasing. At that time, animal feed subsidy, also referred to as animal subsidy, provided an incentive to develop sheep farming. This subsidy is a supplement to the basic payment. It is awarded to area of plants designated for feeds cultivated on permanent pastures. In 2007 it was granted to farmers, which owned sheep, goats, cattle or horses within the period from 1 April 2005 to 31 March 2006. In 2007 the animal payment amounted to EUR 116.29 per ha, which under the exchange rate of EUR 3.773 per 1 PLN amounted to PLN 438.76 per ha. Unfortunately, the payment is also dependent on the exchange rate of PLN against euro. The higher the exchange rate the higher the payment and vice-versa, lower exchange rate results in a decrease in the subsidy. As the PLN grew in force the strength of this subsidy deteriorated. In 2008 the payment amounted only to PLN 379.55 per ha. Because the decrease in subsidies was accompanied by further decrease in the procurement prices the farmers reacted with another deep reduction in the sheep population, which occurred in June 2009.

In 2009 the animal payment amounted to PLN 502.63 per ha and it was higher than in the two previous years being by 32% and 5%, respectively. The procurement prices were higher than in the previous year also. Moreover, the situation of producers can be improved with the use of the agro-environmental payments available under the RDP 2007–2013. This Programme covers, *inter alia*, a package for support of local sheep breeds, which low numbers present a risk of extinction. By fulfilling the programme requirements, which cover farming of at least 5 sheep from breeds such as: Polish mountain sheep – coloured variety, Wrzosowka sheep, Swinairka sheep, Olkuska sheep or Podhalanska mountain sheep or 10 sheep of other domestic breed, a farmer may be awarded an additional payment amounting from PLN 310 to PLN 370 per unit depending on the breed.

However, in relation to the fact that in June 2009 the population of ewes amounted to only 180 thousand units and it was, just like the general sheep population, lower by 11.2% than in June 2008, at the end of 2009 the sheep population was still lower than in the previous year. Similar situation may also re-occur in June. It was estimated that in June 2010 the sheep population might amount to approx. 250 thousand tons [Zawadzka 2009b].

Live sheep production and foreign trade of live sheep and sheep meat

Usually when the population decreases, the live sheep production decreases as well, except for the years when the basic herd is being reduced. In 2004–2008 sheep production decreased by 5%. Supply decreased within the period to a greater degree, i.e. by

10%, because the self-supplying increased by 10%. In 2009 the production, supply and self-supplying were lower by further percents than in the previous year.

The sheep meat production is one of the branches of animal production, which export decreased after the Polish accession to the EU. The decrease in export is not a new phenomena, it lasts for years as a consequence of a drop in production and a decrease in the sheep population. While a typical feature of the foreign trade turnover after Poland's EU accession is an increase in import. The import of mutton and lamb was, until recently, rather slight whereas within the last few years it develops dynamically. In 2004–2008 it increased by over 40%. Within the period from January to August 2009 the import of mutton and lamb shaped at the highest level in history, i.e. 430 tons, and was almost three times as high as the level recorded at the same period in the previous year. Thus it was estimated that in the entire 2009 this import might amount to approx. 500 tons [Zawadzka 2009b]. In 2009 import increased despite a weak PLN and a significant increase in prices on the third country markets.

Table 2. Live sheep production and supply. Source: GUS data and forecasts of the IAFE – NRI
Tabela 2. Produkcja i podaż żywego baraniego. Źródło: GUS oraz prognoza IERiGŻ – PIB

Specification Wyszczególnienie	Years – Lata					
	2004	2005	2006	2007	2008	2009 ^a
Production in thousand tons Produkcja w tys. ton	5.8	5.1	5.1	5.1	5.5	5.3
Procurement price – Skup in thousand tons w tys. ton	2.0	2.1	2.1	2.3	1.8	2.2
in % of production w % produkcji	33	41	46	45	33	41
Other turnover – Inny obrót in thousand tons w tys. ton	1.8	1.0	1.0	0.8	1.5	1.0
in % of production w % produkcji	33	20	15	16	27	19
Supply – Podaż in thousand tons w tys. ton	3.8	3.1	3.1	3.1	3.3	3.2
in % of production w % produkcji	67	61	61	61	60	60
Self-supplying Samozaopatrzenie in thousand tons w tys. ton	2.0	2.0	2.0	2.0	2.2	2.1
in % of production w % produkcji	33	39	39	39	40	40

^aForecasts of the IAFE – NRI – Prognoza IERiGŻ – PIB

Table 3. Polish foreign trade of live sheep and sheep meat (in meat equivalent – tons). Source: data from CAAC, as well as from the forecasts of the IAFE – NRI

Tabela 3. Polski handel zagraniczny żywcem i mięsem baranin (w ekwiwalencji mięsa – tony). Źródło: dane CAAC oraz prognoza IERiGŻ – PIB

Years – Lata	Export – Eksport	Import – Import	Balance – Saldo
2004	1339	140	1199
2005	1240	72	1168
2006	1015	140	875
2007	1221	152	1069
2008	921	199	722
2009 ^a	900	500	400

^aForecasts of the IAFE–NRI – Prognoza IERiGŻ – PIB

The growth in import reflects a growth in demand for mutton on the Polish market, which is associated with an increase in the income of the population. As for now the consumption of mutton and lamb in Poland is the lowest in the entire EU and in 2007 it amounted to only 0.1 kg per capita, whereas the average consumption in the EU-27 was shaped at the level of almost 3 kg per capita [Agramaerkte... 2008]. However, if the increase in demand proves to be a durable phenomenon, then in the long run it may become a lever for development of sheep farming in Poland.

CONCLUSIONS

After Polish accession to the EU the procurement prices of sheep are primarily dependant on the exchange rate of PLN against euro. This is caused by the fact that a significant part of sheep production is exported to the EU, mainly to Italy. The prices in export, and indirectly also the procurement prices, are influenced by the prices of sheep and lambs in the European Union.

Moreover, different types of subsidies also influence the development of sheep population, inter alia. Subsidies function mainly as a tool of strengthening the role of prices. Under favourable circumstances they may also mitigate the negative effects of a drop in prices.

REFERENCES

- Agrarmaerkte in Zahlen – Europäische Union 2008, Tier- und Pflanzeproduktion, Bonn 03.2008.
 Data from the CAAC.
 Data from the European Commission, http://ec.europa.eu/agriculture/market/sheep/indeks_en.htm
 Data from the GUS.
 Information from the BGŻ – Bank, <http://www.portalspozywczy.pl>, 10.01.2009.
 Information from the NBP.
 Packages available under the agri – environmental Programme for 2007–2013.
 Zawadzka D., 1995. Rynek baraniny. [W:] Handel zagraniczny produktami rolno-spożywczymi w latach 1986–1994. Rynek światowy i polski, IAFE – NRI, Warszawa 1995, 187–206.

Zawadzka D., 2009a. Rynek baraniny. Rynek Rolny 1–10, 61–64.

Zawadzka D., 2009b. Stan i perspektywy rynku mięsa baraniego. Rynek Mięsa 37, 24–27.

Streszczenie. Redukcja pogłowia owiec w Polsce trwa już od ponad dwudziestu lat. Zmienia się jedynie jej natężenie. Po przystąpieniu Polski do Unii Europejskiej natężenie to początkowo uległo wyraźnemu osłabieniu, ale ponownie nasila się. O rozwoju chowu decydują m.in. ceny skupu żywca baraniego. Z uwagi na dominujący w produkcji eksport owiec ceny te nie zależą od popytu i podaży na rynku krajowym. O poziomie tych cen współdecydują takie czynniki, jak kurs złotego względem euro oraz ceny owiec i jagniąt w Unii Europejskiej. Umacnianie się złotego pogarsza opłacalność polskiego eksportu owiec i ceny owiec maleją. W sytuacji odwrotnej, gdy złoty słabnie, opłacalność eksportu rośnie, a w ślad za tym rosną ceny skupu żywca baraniego. Od kursu złotego względem euro zależą też dopłaty, które otrzymują producenci. Jednak tylko w sprzyjających okolicznościach dopłaty oddziałują na rozwój produkcji.

Słowa kluczowe: rynek owiec, ceny, produkcja, spożycie, handel zagraniczny