

Tomasz Rokicki*, Tomasz Maria Gruszecki, Anna Szymanowska****

**Warsaw University of Life Sciences – SGGW, **University of Life Sciences in Lublin, Poland*

ECONOMIC PERFORMANCE OF SHEEP FARMS BY EXAMPLE OF LUBLIN PROVINCE¹

WYNIKI EKONOMICZNE GOSPODARSTW ZAJMUJĄCYCH SIĘ PRODUKCJĄ OWCZARSKĄ NA PRZYKŁADZIE WOJEWÓDZTWA LUBELSKIEGO

Key words: gross margin, sheep production, farms

Słowa kluczowe: nadwyżka bezpośrednia, produkcja owczarska, gospodarstwa rolnicze

Abstract. The paper studies the economic performance of sheep enterprises, the data pertain to 11 farms of the Lublin Province in 2012. There are 3 farms presented: one with the best farm income, one with the worst and the other with a “standard” medium farm income. The aim of this study was to compare the productivity (per 1 ha AL), where AL denotes arable land, and (per PLN 1) of direct costs on farms. The area of the farm did not affect the generated incomes. The standard farm had 19.07 ha AL and the best farm only 15.66 ha AL. A detailed analysis of the data allowed us to confirm the belief that direct payments did not affect economic results. The greatest support in the form of direct payments was in the “standard” farm.

Introduction

Historical records highlighted the importance of sheep farming which provided meat, wool, milk and skins. Only in the 80s of the last century in Poland, the sheep population was 5 million [Niżnikowski 1994]. However, the economic reforms that took place in Poland influenced the sheep husbandry sector [Nowoczesny.. 2005]. The withdrawal of subsidies for wool and its price decrease made sheep production unprofitable [Hodowla.. 2003]. Moreover, the rules of the market economy introduced to the agricultural farm sector had negative effects on a market totally unprepared for competition [Goraj 2005]. At that time, a dominant trend for meat production was observed, while wool had lost its importance [Rokicki 2005]. Changes in people`s lifestyle and strong competition with other fibres marginalized sheep husbandry [Aleksander 1999]. Generally, Polish farmers responded by giving up sheep farming and switching resources to other more profitable agricultural activities. Consequently, only sheep farmers seriously engaged in sheep husbandry remained in this sector as well as those for whom sheep farming was a supplement to other farm income [Rokicki 2004a]. With the aim of maintaining and rebuilding sheep population, The Ministry of Agriculture and Rural Development worked out “The Programme for Fecundity Improvement” and “The Programme for Sheep Population Improvement until the year 2010” [Rokicki 2007]. A cause of the programme`s failure was undoubtedly a year-to-year reduction of budgetary means for the Fund of Biological Progress out of which subsidies for sheep producers were paid [Berdychowska et al. 2004]. At the beginning of the 21st century, sheep production in Poland is commonly considered a branch complementary to other agricultural activities and the production scale depends primarily on resources of bulky feeds [Rokicki 2008].

A business activity is profitable when the value of generated output exceeds the total cost, otherwise production is unprofitable. To make uneconomical production viable (or increase gains), the production value and scale should be increased or cost lowered. Another idea is to maximize production with concomitant cost cutting [Manteuffel 1979]. Production output is the measure of

¹ Research granted by Ministry of Science and Higher Education from the funds for science in years 2011-2013 as a development project no NR 12-0113-10/2011 *Production of lamb meat in the annual cycle and using it in the Polish market – “Lambs from the Lublin region”.*

productivity effects on a business [Gębska, Filipiak 2006], whereas the categories of production give a starting point for the estimation of economic benefits for an agricultural enterprise. [Ziętara 1998].

The studies on sheep farming profitability conducted at the beginning of the 21st century showed its dependence on lamb sale and the level of granted subsidies. The total cost was dominated by feed costs [Klepacki, Rokicki 2006]. Besides, it was found that to reach profitability in sheep farming one needed to maintain a breeding herd of larger size than those seen in the 80s and in the first half of the 90s. Economic effectiveness of keeping sheep relied on a number of factors [Klepacki 2005, Rokicki 2004b].

Material and methods

The objective of the study was to present the economic performance of farms engaged in sheep production. The research was carried out within the scope of development project No 12-0113-10/2011 *Production of lamb meat in the annual cycle and using it in the Polish market – Lambs from the Lublin region*. The project was realized in the years 2011-2013 in farms in the Lublin Province. The aim of this study was to compare productivity and direct costs on farms. The authors wanted to confirm the relationship between the area of the farm and its productivity. The owners of the farms were interviewed (using a structured interview) to obtain information on farm resources. The economic performance was established on the basis of the crop calendar. The owners of the sheep enterprises kept farm financial records relevant to their payments and payouts throughout the year 2012, i.e. from January 1st until December 31st. The data were presented, tabulated in the form of graphical representation, descriptive or in the form of economic calculation of these agricultural enterprises. The results calculated on account of the data refer to 2012. The studies involved 11 farms – sheep enterprises. There are 3 farms presented: one with the best farm income, one with the worst and one with a “standard” medium farm income. The farm with the best income had 15.66 ha AL, the “standard” farm 19.07 ha AL and the worst only 7.45 ha AL.

Results

The following P&L (profit and loss) categories were used in the studies: sales revenues, gross margin, gross value added, net value added, net farm income, family farm income, rural family income (personal income). In a standard medium sheep enterprise, positive economic effects were obtained (Tab. 1) and the net farm income reached ca. PLN 20 000. Besides, the farms earned their income from other off-farm sources as the personal income was PLN 25 400. The best sheep

Table 1. Economic performance of sheep enterprises studied
Tabela 1. Wyniki ekonomiczne w badanych gospodarstwach owczarskich

Economic category/ <i>Kategorie ekonomiczne</i>	Sheep enterprises/ <i>Gospodarstwo owczarskie</i>		
	top performance/ <i>o najlepszych wynikach</i>	„standard” medium/ <i>„typowe” średnie</i>	lowest performance/ <i>o najgorszych wynikach</i>
Sales revenues/ <i>Przychody ze sprzedaży</i>	119 564.00	54 018.00	11 595.00
Gross margin/ <i>Nadwyżka bezpośrednia</i>	102 964.00	42 641.91	8 552.00
Gross value added/ <i>Wartość dodana brutto</i>	69 660.00	26 010.27	1 843.00
Net value addend/ <i>Wartość dodana netto</i>	58 210.00	21 478.03	-2 279.67
Net farm income/ <i>Dochód rolniczy netto</i>	58 210.00	19 963.94	-2 279.67
Family farm income/ <i>Dochód rodziny z gospodarstwa rolniczego</i>	58 210.00	22 310.30	-2 279.67
Rural family income(personal income)/ <i>Dochód rodziny rolniczej (dochód osobisty)</i>	58 210.00	25 428.85	-2 279.67

Source: results of own research
Źródło: wyniki badań własnych

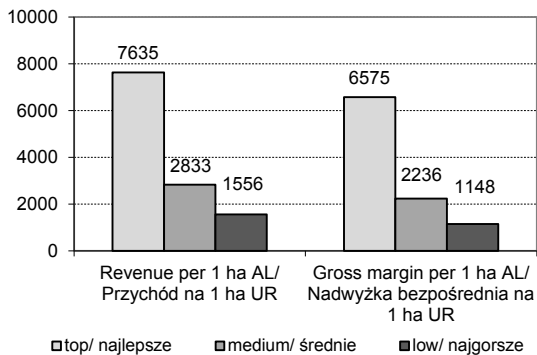


Figure 1. Revenues and gross margin per 1 ha AL in sheep farms

Rysunek 1. Przychody i nadwyżka bezpośrednia na 1 ha UR w gospodarstwach owczarskich

Source: own study

Źródło: opracowanie własne

farm was shown to earn nearly 3-fold higher revenue per 1 ha as compared to the medium one, similarly in the case of direct surplus per 1 ha AL. The lowest performance farm achieved PLN 1500 revenue per 1 ha AL and gross margin of PLN 1100 per 1 ha AL.

Average farm income per 1 ha AL was PLN 1047 (Fig. 2). In the best subject, the income per 1 ha AL was over 3 times higher than the average, whereas in the poor performing farm a loss was of minus PLN 306 per 1 ha AL was recorded.

The revenues and direct surplus related to the direct costs determine the productivity of the direct operational expenses incurred. On average, PLN 1 direct costs generated PLN 5.28 revenues and a PLN 4.24 gross margin (Fig. 3).

The most effective sheep farm obtained as much as PLN 7.20 revenue and 6.20 direct surplus from PLN 1 of direct operational expenses. While the most ineffective farm provided PLN 3.81 revenues and PLN 2.81 gross margin from PLN 1 of direct costs.

Return on assets (ROA) is a ratio between net farm income and farm assets and similarly, return on equity (ROE) between net farm income and equity capital. If a farm is with no credit or loan, ROA and ROE are equal as the whole assets are financed with equity capital. Such a situa-

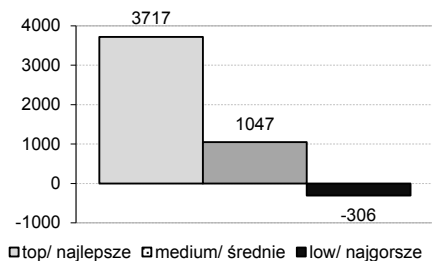


Figure 2. Net farm income per 1 ha AL in sheep enterprises

Rysunek 2. Dochód rolniczy netto na 1 ha UR w gospodarstwach owczarskich

Source: own study

Źródło: opracowanie własne

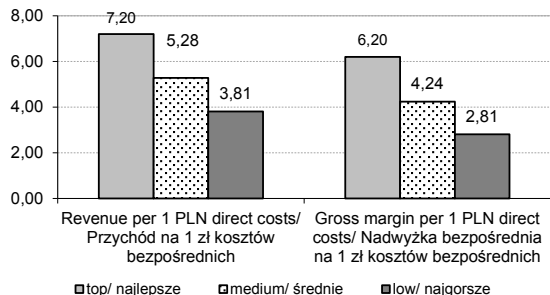


Figure 3. Revenues and gross margin per PLN 1 direct costs in sheep enterprises

Rysunek 3. Przychody i nadwyżka bezpośrednia na 1 zł kosztów bezpośrednich w gospodarstwach owczarskich

Source: own study

Źródło: opracowanie własne

farm obtained PLN 58 200 income and importantly, the sheep farm household was its sole source. The poor performance farm generated a loss of PLN 2300. Out of a total of 11 farms under investigation, as many as 2 farms made a loss. The negative effect resulted from a deduction of annual depreciation costs from the revenues obtained. The farm with the best income received PLN 16.9 thousand of direct payment, the "standard" farm PLN 20.3 thousand and the worst only PLN 3.7 thousand.

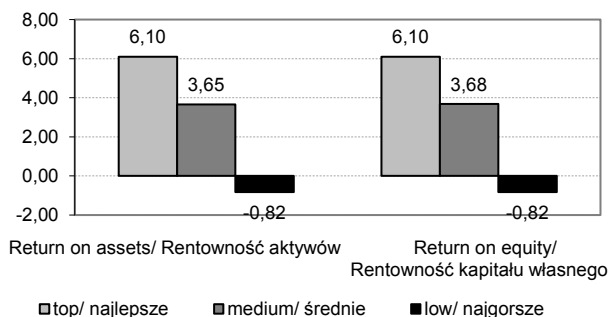
The farms were differentiated in terms of potential, land resources and cost level. One of the modes of comparison of such subjects is to find a common reference. Revenues and surplus were presented per 1 ha AL (arable land). On average, there were reported PLN 2800 revenue and PLN 2200 gross margin per 1 ha AL (Fig. 1). The best

Figure 4. Return on assets and equity capital in sheep farms

Rysunek 4. Rentowność aktywów i kapitału własnego w gospodarstwach owczarskich

Source: own study

Źródło: opracowanie własne



tion was reported in most estimated subjects. Average return on total fixed assets reached 3.65% which indicates that PLN 1 assets generated less than 4 pennies profit (Fig. 4). Hence, the rate of return was at a low level. While in the best subject, the return rate achieved 6.10%. As for the low performance sheep enterprise, a loss was made minus 0.82%.

Conclusions

The bigger the farm area, the better the results obtained per 1 ha AL or per PLN 1 of direct costs. This regularity was confirmed by results in the present study. The land area of the sheep farm with middle economic performance was 19.07 ha AL, while the best performing farm had 15.66 ha AL. The data presented in the form of graphical representation demonstrated the disproportion in productivity of the studied farms.

Farm income was negative in the low performing farm with a recorded loss of PLN 306 per 1 ha AL, whereas the top farm generated PLN 3717 of income. Similar relations were noted with reference to farm income and farm assets. The return on assets was at a low level. A bank deposit turned out to be a better solution than running a standard medium farming enterprise. Only the best performance sheep farms achieved levels of return which were higher than bank deposits.

A detailed data analysis displayed that direct payments made up a considerable part of the returns earned in a farm; area payments prevailed. Payments on soft fruits or animal production and others were complimentary ones. The farm with the best income received PLN 16.9 thousand in direct payments, the “standard” farm PLN 20.3 thousand and the worst only PLN 3.7 thousand. With no direct payments, the number of loss-generating farms would have been much higher and only a few subjects would have been able to make a profit.

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Streszczenie

Przedstawiono wyniki ekonomiczne gospodarstw zajmujących się produkcją owczarską. Przebadano 11 gospodarstw z województwa lubelskiego. Dane dotyczą 2012 roku. Przedstawiono wyniki 3 gospodarstw osiągających najwyższy dochód, najniższy dochód i typowe przeciętne gospodarstwo. Szczegółowym celem pracy było porównanie produktywności w odniesieniu do ziemi i kosztów bezpośrednich w gospodarstwach. Powierzchnia gospodarstwa nie wpływała na osiągnięte dochody. Szczegółowa analiza danych pozwoliła na potwierdzenie tezy, że płatności bezpośrednie nie wpływały na poziom osiągniętych wyników ekonomicznych. Największe wsparcie w postaci płatności bezpośrednich było w gospodarstwie typowym, średnie w najlepszym pod względem dochodów, a najniższe w najgorszym.

Correspondence address
PhD Tomasz Rokicki
Warsaw University of Life Sciences – SGGW
Nowoursynowska 166 St.
02-787 Warsaw
phone: +48 22 593 42 59
e-mail: tomaszrokicki@op.pl