

COMPARISON OF THE PROFITABILITY OF FRUIT PRODUCTION FOR FARMS – BELONGING AND NOT BELONGING TO PRODUCER ORGANIZATIONS

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ABSTRACT. In order to respond to modern market demands and stringent fiscal and labour rules, the nowadays farms are shifting more and more to small enterprises. At the present days the supermarkets chains are the main sales channel with still increasing rule, so only farms organized in bigger production and sales units gain the possibility to act as an equal partner for them. The research was carried out in Poland on thirty commercial fruit farms mostly with apple production in the years 2012-2013. Owners of sixteen farms were members of Producer Organizations (POs) and fourteen farms were owned by non-members. All data necessary for the calculation of the costs and profitability were obtained from producers who answered special questionnaires and participated in additional interviews. By calculating the profitability of the farms the subsidies belonged to POs were not directly taken into the account, because they go to the organization not to a single producer. Fruit growers in Poland, members of producer organizations have many economic benefits over their non-PO-members competitors. Accordingly to inquiry done during the investigation the most important advantage is to sale greater quantities of fruit at lower unit costs due to maintaining shared (mutually owned) storages, grading and packaging facilities. The others most important are reduced economical risk and lower transaction costs. The achieved unit price was on average 21.5% lower in the case of the members of PO's, and the unit costs were on average 29.5% lower than those ones for individual farms. Then the total income of farm was taken into account the POs were unquestioned winners, with bigger value of market output per farm and higher net income per farm. The average

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individual farm selling fruits on its own had lower total net income per farm and smaller market output. The owners of individual farms also spend much more time to sell their fruit. By joining the cooperative farmers could increase their sale of fruit and save the time they otherwise spend for selling them individually. The members of POs have more time for better production practices which are very important for the quality of produced fruit.

Key words: profitability, fruit, farms, PO's

JEL Classification: O13, Q15

1. Introduction and literature review

Poland was one of the very few communist countries with small individually owned farms. Although communist administration favoured state owned and collective farms, small peasant farms survived and at the time of transition in 1989, occupied 77 per cent of total agricultural land. Fruit farms were economical leaders among them due to higher farm income. Thanks to government support and assistance programmers provided by EU agencies they successfully fixed the most evident deficiencies in storage and packaging facilities. Despite those significant achievements some challenges and threats remained in respect to still growing supply and rising cost of production. To effectively sell their products farmers join the Producer Organizations (POs). This is also because the EU assistance is offered to farmers through POs mostly. The majority of buyers prefer products in big quantities as the supermarkets chains do, which recently became the main sales channel with still increasing rule. Only farmers organized in bigger production and sales bodies have the possibility to act as an equal partner for them. In addition to this POs create a broader market access for small growers also as an export operator (anon, 2004). This is why the number of POs in Poland was growing fast and in 2012 exceeded 300. Due to big number of small farms in Poland being a member of POs can be the only way for small producers to stay in the food business and become competitive (Zmarlicki, 2009). According to Cogeca (2010) cooperatives have a significant market share in the European food sector, controlling 60%

of the food product market, while in some countries this percentage is even higher, 80%. Confronted with market requirements and aware of own limitations they are evolving to more dynamic organization form with increasing role of investors (Cook et al., 2008) and even more of appointed by them managers (Rufio et al., 2001).

Many of fruit farmers in Poland object the POs membership due to the bad experiences with collective acting from communist time or simply due to the strong commitment to individual spirit. Some of the opponents claim the higher profitability of independent selling of own fruit.

The objective of this research was the evaluation of profitability of fruit production for both groups of farms – belonging and not belonging to POs. The results of the study are very important to the fruit farmers particularly to those who hesitate to join Producer Organization for fear their farms could become less profitable.

2. Material and method

The research was carried out in the years 2012-2013 on thirty commercial fruit farms with mostly apple production. Owners of sixteen farms were members of Producer Organization and fourteen farms were owned by non-members. All data necessary for the calculation of the costs and profitability were obtained from producers who answered special questionnaires and participated in additional interviews. By calculating the profitability of the farms, the subsidies belonged to POs were not directly taken into the account, because they go to the organization not to a single producer. All investigated farms were located in central part of Poland. The size of the apple orchards in research ranged from 2.5 hectare to 11.5 hectare for the non-PO-members group, and from 2.0 hectare to 20.5 hectare for the group of POs belonging farms. The density of planting was from 1000 trees per hectare to 2660 trees per hectare.

3. Results and discussions

Average apple yields in both groups of farms in the year 2012 were very similar. In the group of independent growers amounted 30.5 tons per hectare while in the POs members' 31.5 tons per hectare. The achieved average unit price in the former group was 1.33 PLN per kg of sold apples while in the latter was 21.5% lower respectively 1.04 PLN per kg. Among the most important advantages the POs have over

individual farms are lower production costs. With 21418 PLN per hectare the production cost of the PO members' farms were only 71.1 % of those of their individual counterparts (Tab. 1). This was due to mutually owned storages, grading and packaging facilities. Because all of investigated POs allowed their members to sell some parts of produced fruits on their own as formalized in cooperative's bylaws, so some individual storages and packages of POs members were still in use. Results of this work regarding the lower production cost of fruit farms belonging to POs, confirm those achieved for Poland by other authors (Bieniek-Majka 2011; Domagalska-Grędyś 2012). The reasons for cost advantages the POs have over their individual counterparts indicated in this paper are the same as pointed out by mentioned above authors. In addition they raise the issue of eliminating by POs the middlemen in the trade chain and sharing information about the best production practices among POs members.

Table 1.

Economic measures for apple farms belonging and not belonging to Pos

	Non-POs -members	POs -members	Non-POs = 100
Yields [t ha ⁻¹]	30.5	31.0	101.6
Average price [PLN kg ⁻¹]	1.33	1.04	78.2
Gross income in [PLN ha ⁻¹]	40565	32240	79.5
Direct cultivation cost [PLN ha ⁻¹]	12566	13267	105.6
Recapture of estab. cost [PLN ha ⁻¹]	3735	3735	100.0
Grading costs [PLN ha ⁻¹]	3168	732	23.1
Storage cost [PLN ha ⁻¹]	6072	1481	24.4
Overhead [PLN ha ⁻¹]	1624	1637	100.8
Sales costs [PLN ha ⁻¹]	2725	566	20.8
All costs (total) [PLN ha ⁻¹]	29890	21418	71.7
Net income [PLN ha ⁻¹]	10675	10822	101.4
Support payments [PLN ha ⁻¹]	732	732	100,0
Final economic result [PLN ha ⁻¹]	11407	11554	101.3
Average area of apple orchard on the farm [ha]	7.35	9.45	128.6
Market output of farm [PLN]	298152.75	305854.45	102.6
Net farm income [PLN]	78461.25	103455.29	131.8

Source: Authors own study; 1 EUR = 4.15PLN

Taking the total income of farm into account the POs were unquestioned winners, with the average value of 305854 PLN market output per farm and average net income of 103455 PLN per farm, what

means income about 30% higher per farm than individual farm selling on its own (Table 1) The average individual farm selling fruits on its own had smaller total net income per farm of 78461 PLN and market output of 298152 PLN due to smaller area of orchards.

Among the major incentives to join a cooperative, members point out no need to sell own fruit, what is particularly difficult in the case of dessert fruit during the years with good crops in Poland and possible oversupply. Then some producers are forced to sell a part of dessert apples for processing at much lower prices. In the years of economic decline much more farmers apply for a membership in POs than in periods of prosperity. Accordingly to other authors the biggest incentive for producers to establish a new group were the EU subsidies, with which up to 75% of investments made by preliminary recognized producer group was reimbursed (Bieniek-Majka 2011). The storage cost and grading cost for POs particular members are respectively 1481 PLN per hectare and 732 PLN per hectare, which are 24.4 % and 23.1 % of those compared with independent (unaffiliated) farmers (Figure 1). Much more evident is the advantage of POs at sales cost, which with 566 PLN per hectare is only 20.8 % of those of unaffiliated farmers. Direct cultivation cost (originated in orchard) for POs members accounted for 13267 PLN per hectare and were 5.6 % higher than those for independent farmers. The establishments cost (for new orchard) and the overhead cost for both groups of farms were almost on the same level, because those groups of farms are very similar, when total farm acreage and percentage of apples in total farm production are taken into account. Unaffiliated farmers have 50.9% higher costs of utilized materials and human labour (Figure 2). That is because they sale all their fruits by themselves and so they are storing and grading them. Material costs for unaffiliated farms with 9214 PLN per hectare were 49,5 % higher than for POs members. The costs of own and family labour with 6252 PLN per hectare were 50.9% higher for unaffiliated farmers and the cost of hired labour with 2160 PLN per hectare were 34.3% higher. The sale of apples on local retail markets is very time consuming for independent farmers. It takes about 8 hours on average to sale 1 tone of apples. In our investigation the independent farmers spend 320 hours per hectare for selling fruit, farmers affiliated in POs only 35 hours per ha (for the part of apples they were allowed to sale on their own). Generally the needs for human labour at unaffiliated

farms are as high as 1050 hours per hectare and at affiliated in POs as high as 730 hours per hectare. The POs members were more concentrated on production and they accomplished more orchard works on their own so the amount of hired hours per hectare was about 315, in the case of independent farms it was about 420 hours per hectare. The cost of machinery and buildings depreciation were higher in the case of independent producers, they accounted for 4299 PLN per ha while on farms of POs members only for 3200 PLN per hectare, that was mostly due to bigger storage capacity of independent producers.

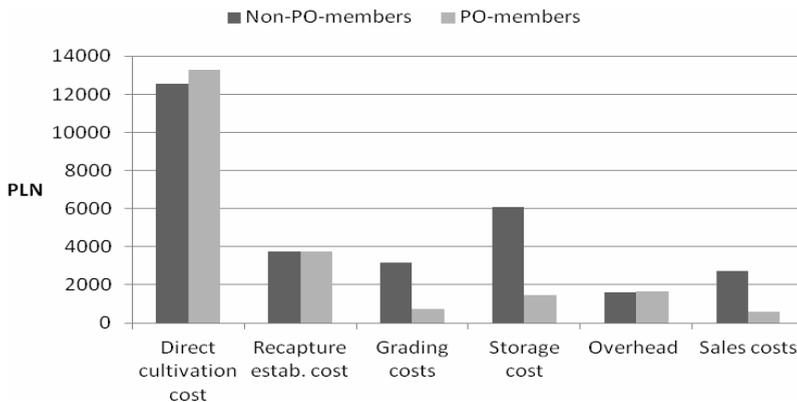


Figure 1. Structure of costs for both groups of apple producers by the kind of main activities.

Source: Authors own study; 1 EUR = 4.15PLN

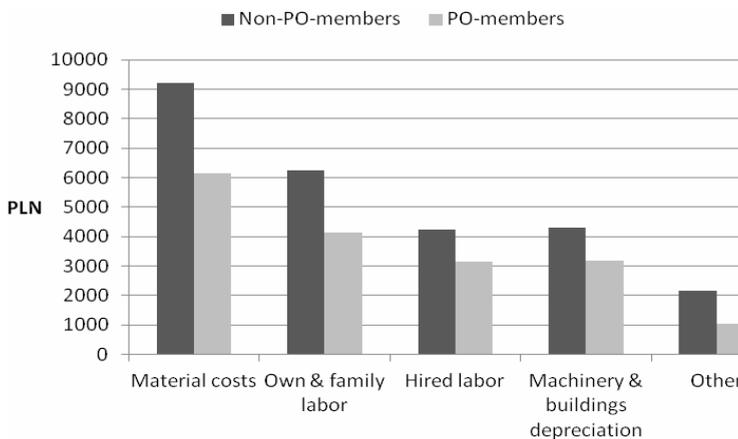


Figure 2. Structure of costs for both groups of apple producers by the kind of inputs.

Source: Authors own study; 1 EUR = 4.15PLN

With the total amount of 13267 PLN per hectare the POs members spend more for each particular activity in orchard like: plant protection, harvesting, fertilizer application and soil cultivation (Figure 3). They also spend more money per hectare for insecticides, fungicides and less for fuel and electricity (Figure 4) With 920 PLN per hectare the spending for fuel on farms of POs members are only 46.9 % of those of unaffiliated farmers and respectively with 750 PLN per hectare the spending for electricity are only 24.0 % of them.

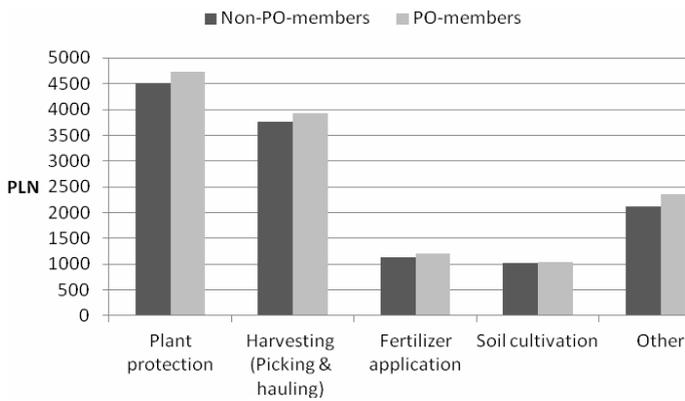


Figure 3. Structure of costs originating in orchard for both groups of apple producers.
 Source: Authors own study; 1 euro = 4.15PLN

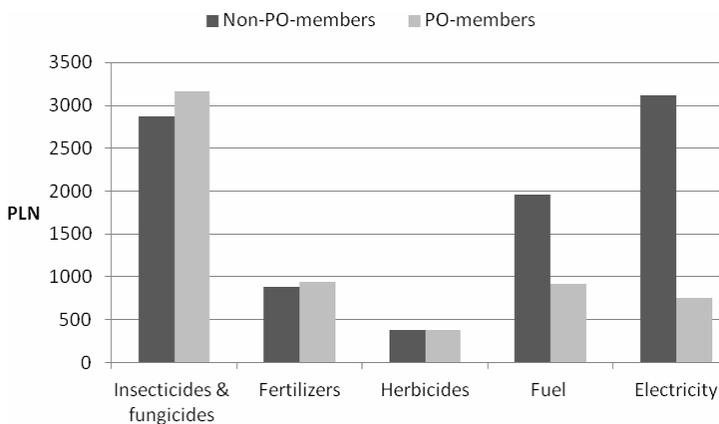


Figure 4. Structure of material costs for both groups of apple producers
 Source: Authors own study; 1 euro = 4.15PLN

4. Conclusions

To our knowledge, this study is one of the firsts conducted in Poland to evaluate the economical effectiveness of fruit farms owned by members of Producer Groups and to compare it with effectiveness of farms of unaffiliated producers. The aim of the research was reached. Fruit farms owned by members of Producers Groups turned out to be more profitable and better adopted to today's market shaped by supermarkets chains. The other most important advantage of fruit farm belonging to Producer Organization in Poland is to sale bigger quantities of fruit and to have the higher market output per farm than average fruit farm not belonging to PO. The other important assets the farms belonging to POs have over their unaffiliated counterparts are the units cost, which are about 30% lower due to maintaining shared storages and other facilities. The farms belonging to POs had about 30% higher net income per farm than farm selling fruits on its own. This study contributes to the fruit farmers particularly to those who hesitate to join Producers Organization for fear their farms will become less profitable. The continuous growth of the number of POs with fruit production in Poland is predicted if the EU support will remain on present level and even bigger growth is expected in the number of farms joining existing POs particularly if the economic conditions on the fruit market will worsen in the next years. Further research on the subject is needed due to changing economic and political conditions particularly apple producers' dependency on the Russian imports.

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