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Abstract. Integration of Polish agriculture is recognized as a success. Nevertheless some remarkable difficulties have emerged. Some of them are related to low production quotas in dairy, sugar and starch sectors.

Authors of this Poster argue that the level of starch quota inscribed for Poland is incompatible with the principle of fair competition on the inner EU market. The quota ceiling of mere 145 thousand tons is a heavy constraint to the processing plants – their total processing capacities are estimated for some 220-260 thousand tons. Therefore, they are utilized in c. 56-66 %, leading to the increase of unit costs of starch production of about 9,2 % and decrease of the competitiveness.

Another point is the ratio of the quota to the volume of harvests: 0,1121 for Denmark, 0,057 for Germany and (only) 0,0131 for Poland. Furthermore, the domestic consumption of starch products in Poland is two-fold bigger than the quota with resultant increase of importation. Paradoxically, such practices are pronounced in spite of unutilized natural resources of Polish agriculture – high proportion of light soils. The temporary solution is to increase the quota – the long-run one is to rethink the concept of quota system – under the new CAP reform.

Keywords: Market Competitiveness, Starch Quota, Polish Agriculture

1. Introduction

The 20-th century had been very turbulent one for Poland with three major political transformations and two concurrent transformations of the system of national economy. The first, political one, was introduced in Autumn 1918, when Poland recovered independence after 123 years of partitions. Two further transformations covered both, the political and economic systems. As a result of the 2-nd world war, since 1944, the system of “real socialism” had been overruled upon Poland with “socialized” national economy and the democracy of the “dictatorship of the proletariat”, having nothing in common with the real democracy.

In 1989, Poland rejected the oppression of the Soviet-styled socialist system as the first country of the region – the “bulk” of the national economy had been privatized and the system of democracy re-introduced.

Peaceful development of Poland cut the outbreak of the war at 1-st September 1939, just 70 years ago. And the country could come back on the track of normal development only 50 years later, when – in September 1989 the first non-Communist Prime Minister in Central and Eastern Europe countries announced departure from rules of the Centrally Planned Economy and a turn to a market oriented one.

Changes introduced 20 years ago made possible Poland’s membership in the NATO and the European Union.

2. System transformation and European integration

2.1. System transformation vs. pre-accession period

In the period preceding Poland’s accession to the European Union there were widely spread fears among the farmers¹ – they were in no way irrational since in those years the European Union was indeed a bad neighbor for farmers. In the early 1990s took place the liberalization of Polish foreign trade which contrasted with numerous support mechanisms for the Community agriculture and its protection against import from the third countries. It led to long-term negative balance trade in agricultural goods with the Union countries which was against the so-called asymmetry principle contained in the Association Treaty, signed in Brussels 16-th December 1991. What is more, the export subsidies, which were not available for Polish manufacturers, eliminated our products from other markets, even such as the Kaliningrad Oblast. It should be added that other exporters including the USA also experienced such difficulties. These matters of argument were the topic of the GATT Uruguay Round negotiations finished in 1994. Worth to note is the fact that in the so-called Cairns Group

of states opposing the European Union there was also Hungary, the country which stood as candidate for the Union since 1994.

The commenced in 1989 systemic transformation obtained support from the Communities in the form of PHARE program². In the first years of the program implementation, the means designed for rural areas and agriculture were quite modest. In the period preceding the accession a special pre-accession program for agriculture, referred as SAPARD, was introduced which, among other things, was supposed to prepare beneficiaries to make efficient use of structural funds in the period preceding the accession.

The accession negotiations were hard and lasted over four and a half years (terminated on 13th December 2002) and the area of 'agriculture' belonged to the hardest ones. What evoked the most controversies was the issue of direct subsidies as well as the access to the purchase of land by foreigners on the other hand. Still in July 1997 the European Commission prepared a multivolume report 'Agenda – 2000'³, in which it was agreed that direct subsidies should not be paid to the new member states at all. Such a standpoint was maintained for nearly five years until was reached a compromise on partial and gradually increased level of these measures of support: from 25% in the first year of membership to 100% in the year 2013.

The government of J. Buzek in turn insisted for the 18-year-long transition period regarding the opportunity to purchase land by foreigners as a trump card. Unfortunately, his followers were not able to make use of it. During his stay in Brussels W. Cimoszewicz, then a Minister of Foreign Affairs, made a considerable concession from this initial position and obtained nothing in exchange. An indirect result of this were among others low milk and potato starch quotas which were imposed on Polish negotiators who had no sufficient assets to reach more favorable solutions.

2.2. Experiences of the first years of the EU membership

One of the consequences of Poland's entering the European Union was the introduction of the principles of the Common Agricultural Policy. With one emerging paradox, that is following more than ten years of transformation Polish economy has undergone a thorough reconstruction. It also refers to agriculture, which at the moment of accession was much closer to the model of the market economy than the 'manually' in an administrative way steered Union agriculture. An example of that can be the implementation of the system of milk quoting which will be probably withdrawn in the next budget period.

In the initial years of membership in the Union some positive phenomena were disclosed. An increase of prices for a range of agricultural goods took place which unfortunately, as could have been expected, has turned out to be temporary. The negative balance of agricultural trade with the Community states, which lasted for a number of years turned out to be positive already in the year 2003 preceding our membership. From the very first months of membership in the Union till the end of the year 2004 Polish agricultural export was increasing at a very fast pace. In comparison with similar period of the previous year export to the 'old' member states increased by about 62.7% and by 52.6% to the 'new' member states. Poland soon gained the position of the biggest food exporter in the region of Central and Eastern European Countries whereas Hungary came as the second⁴.

Covering the agriculture with direct subsidies and with a number of support programs from the Community budget have brought in a noticeable growth of income. The parity of agricultural income increased from 65% in 2003 to 83% in 2006⁵. It was accompanied by the improvement of moods and growth of support for Poland's membership in the European Union in comparison with the pre-accession period.

In the Polish rural areas, it is possible to observe several variable trends of change:

- i) the share of farms in the group of rural households is decreasing. It is estimated that out of the overall number of 4.4 million of them the households connected with farming make up around 49% that is less than a half ;
- ii) a new phenomenon is the reversal of the negative migration balance, which stands for the fact that at present more people settle in the countryside than leave it;
- iii) even in the farming families the farm has ceased to be the largest source of income. Life requires that a multifunctional development should not only be a theoretical expression but a driving-force to search for additional income beyond agriculture;
- iv) the number of farms is decreasing (within the period of 2002-2007 there was a fall of 11.8%), whereas their average surface is increasing;
- v) the level of education in rural areas is improving but it is still considerably inferior to the city (in 2007 the percentage of people with higher education was over threefold higher in the city than in the countryside).

The change of political and economic system as well as the accompanying these changes European integration give the Polish agriculture and rural areas new opportunities of growth in comparison with the previous period. Unfortunately, they are neither given once and for all nor smoothly, which is painfully proved

by e.g. the present level of milk purchase prices. Although the Common Agricultural Policy has turned out to be positive in the first period of membership due to the inflow of means connected with that, it is still an imperfect mechanism which requires new solutions. Initial benefits started to run out, while more and more difficulties have emerged. The source of some of them are low production quotas that were fixed to Poland within the accession negotiations – it refers to dairy products, sugar and starch.

The aim of this study is to analyze the problem of productive capacities of the potato processing plants in Poland from the point of view of maintaining the conditions of fair competitiveness which constitutes one of the fundamental principles of functioning of inner EU market⁶.

3. The starch quota as a constraint to the potato economy

3.1. Influence of low starch quota on the starch production costs in Poland

Before the end of Poland's accession negotiations to the European Union, which took place in December 2002 in Copenhagen, the Polish Ministry of Agriculture and Rural Development took the stand to apply for the starch quota of 260 thousand tons whereas minimal quota to be accepted by our country was 185 thousand tons. It should be also noted that the domestic starch production quota in Poland set for the year 2004-2005 was 242 thousand tons⁷. The fact that we were finally granted the quota of 145 thousand tons, which made up only 56% of the applied one, came as an unpleasant shock. With the support of the Ministry of Agriculture and Rural Development as well as the representatives of the starch sector, Polish deputies to the European Parliament upon the initiative of J. Wojciechowski applied to increase the domestic ceiling for the next year (2005/2006) to 180 thousand tons. In spite of almost unanimous resolution in favor of the motion by the European Parliament, even such tiny changes were not allowed.

The processing potential of the Polish starch potato processing plants is assessed at 220-260 thousand tones. Imposing on the country a limit at the level of 145 thousand tones means that the existing productions capacities and the value of invested capital are utilized only within 56-66%. Assuming the net profitability of starch industry plants in 2008 at the level of 2%⁸ as well as 30% share of fixed costs in the total starch production costs, increasing the scale of starch production in the plants from 130 thousand tones (increase of 38.5%) causes a fall of starch production costs by 8.5% per unit. Changes of starch production cost structure are presented on the example of an X potato industry plant (anonymous due to the protection of trade data) in the table 1. Increasing the scale of starch production in the production season from 8 to 16 thousand tones caused a decrease of starch potato costs by nearly 10%.

Table 1. Structure of costs of potato starch production (%) in the potato processing plant „X” according to the yearly processing capacities (2003/04 vs. 2005/06)

Cost item	Yearly production capacities (tons)	
	16 000	8 000
1. Raw material (potatoes)	48,3	37,1
2. Processing	25,5	17,6
3. Total costs of production (1 + 2)	73,8	54,7
4. Starch marketing (selling)	5,2	8,3
5. Administration and office	2,3	1,9
6. General	18,8	35,2
7. Total costs of starch manufacturing	100,0	100,0
8. Total costs per 1 ton of starch (PLN)	1 590,6	1 757,4

Source: Own calculations based on the data from the processing plants.

High costs of potato starch production in Poland caused by low level of utilizing the production capacities of processing plants made it in turn impossible to increase the prices for purchase of potato as a resource to produce starch up to the level ensuring profitability. As the data in table 2 show, potato starch cultivation in Poland is characterized by negative profitability. In this situation, farmers especially the ones growing starch potatoes on a smaller scale, resign contracts with processing plants. And as a consequence, it is made difficult to utilize even such a low limit of starch production which has been assigned to our country.

As a result, the production of Polish starch industry is burdened with exceedingly high fixed costs in comparison with their competitors from other EU-member states, which hampers their competitiveness. In this case the principle of maintaining the conditions of fair competitiveness on the uniform European market should stand for setting equal relations between given member states and the starch production quota fixed to them.

Table 2. Calculation of costs and profitability of starch potato cultivation (PLN/ha), assumed yield of 30 tons/ha

Item of input	Year 2007/08	Year 2008/09
1. Potato seeds, purchased	830	625
2. Potato seeds, own cultivation	410	431
3. Pesticides	720	820
4. Fertilizers	785	1540
5. Machinery exploitation	1090	1520
6. Draught power	1320	2110
7. Credit costs of purchased inputs (yearly interest rate – 3%)	100	115
8. Labor	600	600
9. Total direct costs	5855	6241
10. Indirect costs (lump, 10% of the total direct costs)	585	624
11. Total costs (9 + 10)	6440	6865
12. Total costs per 1 tons of marketed potatoes	215	229
13. Total value of production	6300	6750
16. Assumed prices of marketed potatoes (PLN per 1 ton)	210	225
21. Calculated profit (PLN per 1ha)	-140	-115

Source: Own calculations based on the field survey of the IHAR Bonin.

3.2. The relation of the starch production quota to the volume of potato harvests and domestic demand for starch

The essential element of the comparative analysis of potato starch market is the relation of the quota to the cultivation area and to the volume of harvests. Decisively, Poland has the lowest relative starch production quota out of the biggest potato producers among the European Union members. For instance, starch production quota per 1000 tons of potatoes accounts for 112 tons for Denmark, 57 tons for Germany, and only 13.1 tons for Poland (table 3). Even more unfavorable for Poland is the relation of starch quota to the potato cultivation area.

Table 3. Major EU–15 potato starch producers/a

Country	Starch potato quotas (tons) 2004-2008	Acreage of potato cultivation (1000 hectares) in 2007	Average potato harvests (mln. tons) 2004-2007	Starch potato quota as calculated per:	
				1 ha of cultivated potatoes	1000 tons of harvested potatoes
Germany	656 300	273	11,5	2,4	57,0
The Netherlands	507 400	161	6,9	3,1	73,5
France	265 400	158	6,7	1,7	39,6
Denmark	168 200	38	1,5	4,4	112,1
Sweden	62 100	29	0,9	2,1	69,0
Finland	53 200	28	0,7	1,9	76,0
Austria	47 700	23	0,7	2,1	68,1
The Czech Republic	33 700	32	0,8	1,1	42,1
Poland	145 000	570	11,1	0,3	13,1

a/ Quota for remaining 5 EU member countries (Spain, Latvia, Lithuania, Slovakia and Estonia) fixed at the level of 9900 tons.

Source: Own calculations based on the data from: Hambloch Ch., Menth H., Stelzer M., Schaack D., Wilckens A., Graf G. 2007. ZMP – Marktbilanz. Kartoffeln 2007. Zentrale Markt- und Preisberichtsstelle GmbH, Bonn, p.127.

The volume of the starch production ceiling granted to Poland is also disproportionate to the requirements of the inner market. As the overall (potato and other) starch balance shows, until the year 2003-2004 the domestic demand for Poland was about 180 thousand tons of starch and starch products. For this reason, the net import was low (table 4). Following our accession to the European Union, the volume of domestic starch consumption increased to over 300 thousand tons, which means that the net import of 100-200 thousand tons is necessary. The deepening gap between production and consumption indicates that the quota granted to us is incompatible with the increased demand of the domestic market.

Table 4. Balance of export, import and production of starch and starch products in Poland during the period: 2001-2008, thousand tons.

Item	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009 a/
Total exports of starch products	68,5	89,8	108,4	120,4	141,4	117,6	107,5	91,4
- in these: potato flour and starch	40,9	57,5	72,9	54,4	64,0	28,5	34,7	436,6
- other starch products	27,6	32,3	35,5	66,0	77,4	89,1	72,8	54,8
Total imports of starch products	85,0	95,0	109,9	205,9	246,2	332,7	275,4	204,7
- in these: potato flour and starch	0,4	0,4	0,2	4,6	9,8	19,5	7,6	10,7
- other starch products	84,6	94,6	109,7	201,3	236,4	313,2	267,8	194,0
Balance: exports/imports	-16,5	-5,2	-1,5	-85,5	-104,8	- 215,1	-167,9	- 113,3
Production of potato starch	135	165	178	158	130	79	115	130
Domestic consumption (production minus exports plus imports)	151,5	170,2	179,5	243,5	234,8	294,1	282,9	243,3

a/ forecast.

Source: Own calculations based on: Dzwonkowski W., Szczepaniak I., Zalewski A., Chotkowski J., Rembeza J., Lewandowski R. Rynek ziemniaka. Stan i perspektywy. Analizy rynkowe, nr 35. IERiGŻ, ARR, MRiRW, Warszawa 2009.

3.3. Significance of starch potatoes in the structure of harvests

The next argument for increasing the potato starch production ceiling fixed to Poland results from differences in the structure of potato utilization as well as their role in the regions with less fertile soils that are threatened with marginalization⁹. In the majority of EU states consumption and processing into foodstuffs and in some of them also processing into starch dominate in the structure of potato utilization¹⁰. In Poland the overall utilization of the potato for feed is decisively higher. This entails numerous and unfavorable consequences since the potato production for feed is located mainly in the regions with less fertile soils which have much bigger share in Polish agriculture (about one third) than in other EU member states. In the recent years the level of feed consumption is decreasing fast which leads to the decrease of potato share in the structure of harvests. It leads to the extensive plant production which puts the balanced agriculture in the regions with less fertile soils at risk.

Increase of starch production quota would enable to enlarge potato production in the regions with less fertile soils and partially counterbalance the consequences resulting from the decrease of potato production for feed. Correspondingly, increase of the starch quota should be treated not only as a way of more in-depth utilization of the processing capacities of plants and better adaptation to the market demand, but also as a factor which prevents degradation of agricultural production in less favored areas.

4. Conclusion

The above analysis explicitly shows that the specific economic market factors of the country, such as the processing capacities of plants, volume of internal demand as well as the significance of potato in the structure of harvests were not taken into consideration in the process of setting the potato starch production quota for Poland. Since the fair competitiveness constitutes the overriding principle of functioning of the European Union, the urgent amendment of the starch quota set for our country seems to be grounded. Moreover, with respect to this regulation the exceptional mode of procedure should be applied due to the fact that the previous attempts to change this state of affairs were not successful. The paradoxes of the situation caused by low starch quota in Poland brings into question the point if in the long run the whole concept of quota as such is to be rethought and needs more decisive reforms.

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