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## FOREIGN TRADE IN AGRI-FOOD PRODUCTS AND THE DOMESTIC RESOURCE BASE<sup>®</sup>

### Handel zagraniczny produktami rolno-żywnościowymi a krajowa baza surowcowa<sup>®</sup>

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*The turnover in Polish foreign agri-food trade is constantly growing, and the sale balance is positive. The gradual yearly increase in the value of Polish agri-food exports not only comes from its price competitiveness, but also from its quality. The dynamics of the increase in the volume of agricultural production as well as agri-food imports is greater than the increase in national agricultural production. Moreover, growing exports stimulate import growth more than the domestic agricultural raw resources. Further excessive growth of agri-food imports and an increase of the share in value of export, i.e. an increase in the import intensity of exports, will result in reduced effectiveness of foreign trade of agri-food goods, which results in reduced export and domestic agriculture. Therefore, activities in the field of production activation of farms and reconstruction of the agricultural market are necessary, in order to support smooth and profitable sales of products. This would allow production to be rebuilt, especially in those branches of Polish agriculture that collapsed during the transformation period after 1989 and after Poland's accession to the EU in 2004.*

**Key words:** foreign trade, agri-food products, sustainable development, food processing, agricultural policy, European Union.

*Obroty w polskim handlu zagranicznym produktami rolno-żywnościowymi stale rosną, a saldo tego handlu jest dodatnie. Stopniowy od wielu lat wzrost wartości polskiego eksportu rolno-żywnościowego wynika nie tylko z jego konkurencyjności cenowej, ale też jakościowej. Dynamika wzrostu wartości zarówno eksportu, jak również importu rolno-żywnościowego jest większa niż wzrost krajowej produkcji rolniczej. Ponadto, rosnący eksport bardziej stymuluje wzrost importu niż krajowej bazy surowców rolniczych. Nadmierny dalszy wzrost importu rolno-żywnościowego oraz wzrost jego udziału w wartości eksportu, czyli wzrost importochłonności eksportu, będzie powodował zmniejszenie efektywności handlu zagranicznego towarami rolno-żywnościowymi, a w efekcie następować będzie kurczenie się eksportu i krajowego rolnictwa. Zatem, niezbędne są działania w zakresie aktywizacji produkcyjnej gospodarstw rolnych oraz odbudowa rynku rolnego, w celu zagwarantowania płynnego i opłacalnego zbytu produktów rolnych. Pozwoliłoby to na odbudowanie produkcji, zwłaszcza w tych gałęziach polskiego rolnictwa, które uległy załamaniu w okresie transformacji ustrojowej po 1989 roku oraz po akcesji Polski do UE w 2004 roku.*

**Słowa kluczowe:** handel zagraniczny, produkty rolno-żywnościowe, rozwój zrównoważony, przetwórstwo spożywcze, polityka rolna, Unia Europejska.

## INTRODUCTION

The aim of the article is a synthetic analysis of Polish foreign trade of agri-food products (products of agriculture and agri-food industry) over the last dozen or so years and to justify the need for the development of the domestic resource base in order to ensure further effective and relatively low import-intensive development of exports of these goods, and increasing the share of domestic production in the internal market [11].

Turnover in Polish-foreign agricultural goods and food products trade (products of agriculture and agri-food industry),

included in the CN (Combined Nomenclature) codes from 01 to 24, have a constant upward trend, with a positive foreign trade balance. This means that the export of agri-food products from Poland is greater than their import. In 2019, the export value of these goods amounted to 31,766 million EUR, which means that it was higher than in the previous year by 6.9%. At the same time, imports amounted to 21,270 million EUR and were higher than in the previous year by 6.2%, so import grows almost parallel to the increase in exports. The balance of foreign trade in these products was positive in 2019 and amounted to 10,496 million EUR. In 2019, agri-food exports accounted for 13.3% of the value of all Polish exports. The

total balance in Polish exports, although positive, amounted to only 1.2 billion EUR [14].

Thus, the constantly growing Polish agri-food exports affects significantly the effectiveness of all Polish exports. It would be beneficial if its constant upward trend would continue, while maintaining a positive foreign trade balance for agricultural products and the agri-food industry. It is possible with faster than before development of the domestic agricultural raw material base and thus limiting the growth of imports of products and semi-finished products for agri-food processing. This would limit a further increase in import intensity of exports.

Errors and omissions made in the development and growth of the domestic production of agri-food raw materials significantly limit the development of many areas of Polish agriculture, as well as the entire agri-food sector. The limitations of this development result both from the erroneous assumptions of the systemic transformation, which resulted, inter alia, in the sale of agri-food processing plants and the liquidation of cooperative market institutions, including purchasing institutions, as well as the conditions for the accession of the Polish agri-food sector to the European Union economy. [9, 17].

The condition and effect of Poland's accession to the EU was to limit the potential and production in the area of the Polish sugar industry and the starch industry, as well as to limit the number of livestock and to limit the production of many agricultural raw materials, including: milk, tobacco, hops and flax.

On the other hand, the reconstruction and further growth and development of the domestic agricultural resource base are possible through the full and egalitarian use of the production potential of Polish farms in accordance with the idea of the Green Deal, currently created in the Common Agricultural Policy of the EU.

## ANALYSIS OF THE BASE OF AGRICULTURAL RAW MATERIALS AND FOREIGN AGRI-FOOD GOODS TRADE

The increase in the value of agricultural production in Poland (the value of raw materials and agri-food products), between 2006 and 2018, in current prices (GUS data on agriculture) was as follows [2, 3, 4, 5, 6]:

- ◆ Global production increased by approx. 74% (from 65.08 billion PLN to 113.15 billion PLN);
- ◆ Final production (global production minus the so-called internal turnover, e.g. feed, seed from own production) increased by approx. 82% (from 51.56 billion PLN to 93.73 billion PLN), where:
  - ◇ plant production increased by approx. 71% (from 20.68 billion PLN to 35.37 billion PLN),
  - ◇ livestock production increased by approx. 89% (from 30.88 billion PLN to 58.36 billion PLN), which is favorable as it contains a greater percentage of added value than plant production.

Foreign trade in agri-food products manufactured in agriculture and then slightly processed (e.g. flour, meat – CN 01–14), between 2006 and 2018, was in current prices (GUS data on foreign trade) as follows [2, 3, 4, 5, 6]:

- ◆ The total value of exports (CN 01–14) increased by 226% (from 18.29 billion PLN to 59.72 billion PLN), and the value of imports (CN 01–14) increased by 251% (from 13.19 billion PLN to 46.27 billion PLN). At the same time, the trade balance was positive both in 2006, when it amounted to +5.10 billion PLN, and in 2018, when it amounted to +13.49 billion PLN;
- ◆ The value of exports of animal products (CN 01–05) increased by 231% (from 12.27 billion PLN to 40.68 billion PLN), and the value of imports (CN 01–05) increased by 339% (from 5.5 billion PLN up to 24.2 billion PLN);
- ◆ The value of exports of plant-based products (CN 06–14) increased by 216% (from 6.01 billion PLN to 19.04 billion PLN), and the value of imports (CN 06–14) increased by 187% (from 7.768 billion PLN to 22.08 billion PLN);
- ◆ The balance of trade in animal products was positive, both in 2006 (+6.77 billion PLN) and in 2018 (+16.52 billion PLN);
- ◆ The balance of trade in plant-based products was negative, both in 2006 (–1.66 billion PLN) and in 2018 (–3.03 billion PLN).

In the analyzed period, it was shown that Polish exports of processed food products, semi-finished products (e.g. fats and oils, sugar) and final food products (CN 15–24: fats and oils and food preparations) increased by **331%** between 2006 and 2018 year (from 15.25 billion PLN to 65.76 billion PLN) [2, 3, 4, 5, 6]. **This proves the high competitiveness of the Polish agri-food industry.**

Furthermore, during this period, the import of the above products to Poland increased by **58%** (from 24.56 billion PLN to 38.98 billion PLN). The balance of this trade was positive for processed food, both in 2006 (+3.11 billion PLN) and in 2018 (27.78 billion PLN). However, the balance for fats and oils (CN 15), both in 2006 (–0.71 billion PLN) and in 2018 (–2.16 billion PLN) was negative [2, 3, 4, 5, 6].

When analyzing the relations between the value of Polish exports and imports of agri-food products produced in agriculture (CN 01–14), in relation to the value of various categories of agricultural production in percentage terms (calculated on the basis of the Central Statistical Office data on foreign trade), it should be noted that they constituted :

- ◆ In 2006, the value of agri-food exports (CN 01–14) accounted for 27.9% of global production and 35.3% of final production. The value of exports of products falling within CN codes 06–14 accounted for 29.0% of final plant production, and products falling within CN codes 01–05 accounted for 39.5% of final animal production;
- ◆ In 2018, the value of total exports (CN 01–14) accounted for 52.8% of global production and 63.7% of final production. The value of exports of products of plant origin (CN 06–14) accounted for 53.7% of final plant production, and the value of exports of products of animal origin (CN 01 - 05) accounted for 65.4% of final livestock production.

**In the analyzed period, a significant increase in the value of exports to the value of all categories of agricultural production is visible.**

The analysis of Polish agri-food imports shows that:

- ◆ In 2006, the value of agri-food imports (CN 01–14) accounted for 20.2% of global production and 25.6% of final production. The value of import of products of plant origin (CN 06–14) accounted for 37.1% of final plant production, and the value of import of products of animal origin (CN 01–05) accounted for 17.8% of final livestock production;
- ◆ In 2018, the value of agri-food imports (CN 01–14) accounted for 40.9% of global production and 49.3% of final production. The value of import of products of plant origin (CN 06–14) amounted to 62.5% of final plant production, and the value of products of animal origin (CN 01–05) accounted for 41.4% of final livestock production. Relatively high rates of the share of the imports value in relation to the value of final production, both plant and livestock, in 2018 indicate the unused production capacity of Polish agriculture, which is desirable in view of the growing agri-food exports.

An interesting issue is also the analysis of the relationship between Polish imports and agri-food exports (CN 01 - 14), i.e. the assessment of the average import intensity of exports in the analyzed period as a percentage share of the value of imports in the value of exports.

Import intensity of agricultural products exports (CN 01–14) amounted to (calculated on the basis of GUS data on foreign trade) [2, 3, 4, 5, 6]:

- ◆ Overall: 72.1% in 2006 and 86.1% in 2018;
- ◆ Vegetable products (CN 06–14): 127.7% in 2006 and 116.0% in 2018;
- ◆ Animal products (CN 01–05): 44.8% in 2006 and 59.4% in 2018, including:
  - ✧ live animals (CN 01): 25.2% in 2006 and 440.0% in 2018;
  - ✧ meat and offal (CN 02): 30.5% in 2006 and 30.1% in 2018;
  - ✧ dairy products (CN 04): 17.4% in 2006 and 41.2% in 2018.

Additionally, the value of Polish agri-food imports (CN 01–14), expressed in current prices, although lower than exports, increased by 251% during the period considered (by 339% in the case of products of animal origin – CN 06–14), thus at a slightly higher pace than exports. If such a tendency intensifies, Polish agri-food exports may be stopped, and at the same time the balance of foreign trade in agri-food products will deteriorate.

Increase in the value of agricultural production (in current prices) in the analyzed period, was slower than agri-food exports and imports and amounted to: 74% for global production and 82% for final production (71% for plant production and 89% for livestock production). The low rate of growth dynamics for plant production proves a relatively low use of the production potential of agricultural land.

In the analyzed period, the increase in the total import intensity of agricultural products by 14 percentage points is noticeable. Particularly high is the import intensity of exports of live animals, mainly livestock. These data clearly prove the incomplete use of the production potential of Polish agriculture and the increase in disaggregation of agriculture and the Polish countryside.

## RESULTS OF ANALYSIS OF THE BASE OF AGRICULTURAL RAW MATERIALS AND OF FOREIGN TRADE IN AGRI-FOOD GOODS

The analysis presented in the preceding part of the article authorizes the formulation of the following conclusions.

The value of Polish agri-food exports (expressed in current prices) increased significantly in the analyzed period (2006–2018): by 226% for products of animal and vegetable origin (CN 01–14) and by 331% for products of the agri-food industry (CN 15–24), for which imports increased by 58%. The trade balance in the analyzed period was positive for both product groups (CN 01–24) [2, 3, 4, 5, 6].

Both the increase in the value of the entire Polish agri-food exports (CN 01–24), the relatively low growth dynamics of the import of agri-food products (CN 15–24), and the increase in the positive trade balance result from the high competitiveness of the agri-food industry.

However, it is worth noting that the trade balance for plant-based products was negative (both in 2006 and in 2018). This proves the weakness of the raw material base of plant products. It is disturbing that for several years a negative trade balance has been recorded in trade in live animals. In 2018, the value of exports of these animals was small and amounted to 549.2 million PLN, while the trade balance was – 2.41 billion PLN. This proves that there is an excessive import of livestock (mainly pigs) to our market. The reason for this is the restriction of pig farming in Poland due to African swine fever (ASF). The instability of profitability of breeding these animals and problems on the market, dominated by imports, are also important. Livestock imports come mainly from countries whose capital was taken over by Polish meat processing plants. It is therefore necessary to urgently reorganize the market and repolonize the meat industry.

Reorganization of the market and repolonization of the meat industry is important, not only because of the benefits of reducing the import intensity of Polish agri-food exports and the possibility of extending the scope of use of the domestic raw material base, but also because of the risk of a situation in which some of the markets would be lost. exports (due to the COVID-19 pandemic or other reasons), which would result in the need to locate these products on the internal market.

Repolonization of meat plants (as well as production units from other industries) is a costly and difficult task, because foreign capital bought these plants, not only in order to gain profits, but also as an outlet for its raw material (including livestock for slaughter) and other products. Hence, their repurchase is unlikely. It should be emphasized that a similar situation occurs in other sectors of agri-food production.

An example is one of the largest sugar producers in Germany – Südzucker AG. In this unit, the interests of sugar beet growers are closely related to the production of sugar as well as its processing. The growers bought all the shares of the sugar mill, agreeing to deduct 7 pfennigs from each ton of beet from the amounts received for the delivered sugar beet. The buyout of the shares took 40 years. Currently, the Südzucker AG concern, in addition to German sugar factories, includes sugar factories purchased in the privatization process, including from: Austria, France, Belgium, Czech Republic, Slovakia, Poland and Romania. In 2013, due to the surplus of sugar on the European market, the management of Südzucker AG decided to process 1 million tonnes of sugar into ethanol [7].

A method that could help to partially slow down the import of raw materials to agri-food processing plants currently owned by foreign capital could be market reorganization. One of the most effective solutions could be to organize a multi-industry conglomerate like the South Korean cheebola. Such a solution aimed at activating small and medium-sized farms was proposed in 2018 by the Minister of Agriculture and Rural Development – Jan Krzysztof Ardanowski [8, 10, 16].

Activation of small and medium-sized farms involved in crop and livestock production would be economically justified in the case of guaranteed sales at attractive prices [18].

At the same time, it would be necessary to present farmers activating in agricultural production with a long-term and permanent job offer, as well as a safe level of employment based on an indefinite employment contract. Additional employment for farmers activating their farms may refer not only to areas directly related to agriculture and food processing, but also to areas not related to agriculture and rural areas, but consistent with the interests and qualifications of farmers. This is especially important in view of the rapidly growing online work.

Adaptation to the modern market economy of small and medium-sized farms with the possibility of producing high-quality food, with the simultaneous creation of additional income opportunities for farmers and their families in enterprises belonging to the conglomerate, both in food processing and non-agricultural activities, may be the basic factor inhibiting the outflow of young power work to cities and economic emigration.

A multi-industry conglomerate covering the production and processing of agricultural products and the agri-food industry, enterprises supplying production means for the above-mentioned units and public sector units, eg. hospitals, universities or research institutes, has a strong market position [8].

The basic principle of a conglomerate should be to cover the largest possible number of producers and customers, however, these do not have to be entities belonging to the conglomerate, but only entities related to the conglomerate by civil law agreements. **The main task of the conglomerate is to maximize net exports of agricultural products and the agri-food industry.**

Moreover, an important argument in favor of the use of multi-industry conglomerates in international trade is the possibility of effective purchase of technologies used in the production of import substitute products.

Another advantage of the conglomerate is obtaining from the banking system and financial institutions, such as the National Development Fund or the National Fund for Environmental Protection and Water Management, much better offers than those which would be obtained if each entity negotiated the loan terms separately.

A strong economic entity, such as a conglomerate, can obtain much more favorable conditions in negotiations for the processing of agricultural products. An example of this may be the action where, in return for placing an order with a processing company owned by foreign capital, a condition is imposed that 50% of the raw material used will be of domestic origin. Moreover, when negotiating with supermarkets, there is considerable scope for negotiating better conditions for those within a conglomerate or working directly with it. However, the multi-industry conglomerate has not been launched so far.

In this situation, it remains to be implemented not only to launch traditional methods of purchasing agricultural products and apply minimum prices, but also to use the initiatives of establishments for purchases for their employees and the possible use of the food voucher system for families with incomes below the subsistence minimum, in order to increase the share of Polish food on the internal market.

In Polska Grupa Górnicza (Polish Mining Group), significant savings were achieved in the area of thorough modernization of the system, in which the company compensates many thousands of underground workers for the cost of regenerative meals due to their underground effort [15].

So far, the so-called the “flaps” were carried out traditionally: tens of thousands of employees were given vouchers with which miners would go to selected stores, buying food. Over two years ago, electronic cards were introduced in cooperation with PKO BP. The solution turned out to be very convenient for PGG and its employees.

From the point of view of modifying relations on the internal market by the Ministry of Agriculture and Rural Development, it is possible to apply minimum prices, higher than the equilibrium prices. At the same time, the difference would be compensated by coal, which would have the double effect of reducing both the import of agricultural raw materials and coal.

Another solution could be the introduction, similar to the solutions popular in the USA, of Food Stamps for people below the social minimum [7]. The purpose of using Food Stamps is to improve the conditions of the lowest earners (especially in terms of improving nutrition) while increasing the demand for food without spoiling the market and reducing the costs of subsidizing farms policy by applying minimum prices for agricultural products (reducing the costs of food storage). In Polish conditions, apart from all the above-mentioned function, food stamps could be used to increase the demand for Polish agricultural products and products of the agri-food industry [12, 13].

It should be noted that the US Food Stamp Act was adopted as early as 1964. Until 1979, households meeting certain conditions, including income, could be allocated in food stamps. For example, in January 1975, a family of four

could receive the maximum allocation in 153\$ vouchers. The price of these vouchers depended on household income. A family of four with a monthly income of 300\$ paid 83\$ for a full monthly allocation of vouchers. However, if the family had a monthly income of 100\$, the cost of a full monthly allowance was only 25\$ [1].

## SUMMARY

As shown by the analysis, the percentage relationships of the value of agri-food exports and imports in relation to various categories of agricultural production increased significantly between 2006 and 2018. This proves that the domestic resource base is increasingly linked with agri-food exports, and at the same time that it is less and less competitive in relation to growing imports.

Between 2006 and 2018, the import intensity of agri-food exports (CN 01–14) significantly increased, especially in the case of live animals (CN 01), to the level of 440%. Regarding products of plant origin (CN 06–14), the import intensity slightly decreased but remained at a very high level of 116%. This proves not only the relatively low use of the domestic agricultural potential, but also the increasing dependence of agri-food exports on the import of agricultural raw materials. This is particularly worrying in view of the need to further develop agri-food exports, and this is possible provided that their competitiveness is maintained.

Relatively high competitiveness (both in terms of price and quality) can only be guaranteed by the ecological national resource base, based to a greater extent than at present on the potential of small and medium-sized farms. It is also in line with the concept of the Green Deal in the EU.

According to the authors, the high ecological quality of Polish agri-food exports will worsen along with the increase in import intensity of exports. According to some opinions, the quality of agri-food products imported to Poland is much lower than that of domestic products. Perhaps it is conditioned by the lack of rigorous quality control of imported products, both raw materials of agricultural origin and processed food products, often overly schematic.

It would be advisable not only to increase the volumes and value of agricultural production with its current structure, but also to rebuild some of its industries before Poland's accession to the EU. Therefore, state intervention is necessary in the field of productive activation of farms, their revitalization, but above all in the field of reconstruction of the agricultural market, in order to enable a smooth and profitable sale of agricultural products. Otherwise, in view of the low and fluctuating profitability of agricultural production, Polish agriculture will begin to gradually die out, and both small-scale farms and those with a larger area will start to fall out of production. Moreover, further growth of agri-food imports will inhibit the development of both exports and many agricultural industries.

**Thus, there is an urgent need for market reorganization and re-Polonization of agri-food industry enterprises.**

## PODSUMOWANIE

Jak wynika z przeprowadzonej analizy, wyrażone procentowo relacje wartości eksportu i importu rolno-żywnościowego w odniesieniu do różnych kategorii produkcji rolniczej znacząco wzrosły pomiędzy 2006 a 2018 rokiem. Świadczy to o coraz większym powiązaniu krajowej bazy surowcowej z eksportem rolno-żywnościowym, a jednocześnie o jej coraz mniejszej konkurencyjności w stosunku do rosnącego importu.

Pomiędzy 2006 a 2018 rokiem znacząco wzrosła importochłonność eksportu rolno-żywnościowego (CN 01–14), zwłaszcza w przypadku zwierząt żywych (CN 01) do poziomu 440%. W odniesieniu do produktów pochodzenia roślinnego (CN 06–14) importochłonność nieco obniżyła się, ale pozostała na bardzo wysokim poziomie wynoszącym 116%. Świadczy to nie tylko o relatywnie niskim wykorzystaniu krajowego potencjału rolnictwa, ale również o coraz większym uzależnianiu się eksportu rolno-żywnościowego od importu surowców rolniczych. Jest to szczególnie niepokojące wobec potrzeby dalszego rozwijania eksportu rolno-żywnościowego, a to jest możliwe pod warunkiem utrzymania jego konkurencyjności.

Względnie wysoką konkurencyjność (zarówno cenową, jak i jakościową) może zagwarantować jedynie ekologiczna krajowa baza surowcowa, oparta w większym, niż obecnie, stopniu na potencjale małych i średnioobszarowych gospodarstw rolnych. Jest to też zgodne z koncepcją Zielonego Ładu w UE.

Zdaniem autorów, wysoka jakość ekologiczna polskiego eksportu rolno-żywnościowego będzie się pogarszała wraz ze wzrostem importochłonności eksportu. Według niektórych opinii, jakość produktów rolno-żywnościowych importowanych do Polski jest znacznie niższa niż produktów krajowych. Być może, jest to uwarunkowane brakiem rygorystycznej kontroli jakościowej importowanych produktów, zarówno surowców pochodzenia rolniczego, jak i produktów żywnościowych przetworzonych, często nadmiernie schematyzowanych.

Celowe byłoby nie tylko zwiększenie wolumenów i wartości produkcji rolniczej przy jej obecnej strukturze, ale również odbudowanie niektórych jej branż sprzed akcesji Polski do UE. Zatem, niezbędna jest interwencja państwa w zakresie aktywizacji produkcyjnej gospodarstw rolnych, ich rewitalizacji, ale przede wszystkim w zakresie odbudowy rynku rolnego, w celu umożliwienia płynnego i opłacalnego zbytu produktów rolnych. W przeciwnym razie, wobec niskiej i wahającej się opłacalności produkcji rolnej, polskie rolnictwo zacznie stopniowo zamierać, jak również zaczną wypadać z produkcji zarówno gospodarstwa małoobszarowe, jak również te o większym obszarze. Ponadto, dalszy wzrost importu rolno-żywnościowego będzie hamować rozwój, zarówno eksportu, jak i wielu branż rolnictwa.

**Zatem, występuje pilna potrzeba reorganizacji rynku oraz repolonizacji przedsiębiorstw sektora przemysłu rolno-spożywczego.**

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