



PUBLIC ADMINISTRATION EFFECTIVENESS OF THE AGRO-TRADE BETWEEN UKRAINE AND THE SLOVAK REPUBLIC

Oksana Kiforenko¹

Abstract

Agricultural development fuels economic growth and is crucial to poverty alleviation and food security. Agricultural trade plays an important role in the sustainability of global and regional food systems. Trade between countries allows food to shift from surplus to deficit areas. The efficiency of the public administration for the agricultural products trade is vitally important for the sustainability and prosperity of any country. The aim of the article is to assess the effectiveness of the public administration of the agro-trade sphere through the analysis of the dynamics, general trend line building and forecasting of the agricultural products trade between Ukraine and the Slovak Republic. According to the trend line direction, the agricultural products trade amount between Ukraine and the Slovak Republic is to increase during two projected years. The projections for two years following the analysed time frame for all the components of the agro-trade between Ukraine and the Slovak Republic have an upward trend, except the agro imports one. The research presented in the article can be used by public administration bodies, politicians and decision-makers of Ukraine and the Slovak Republic, big and small companies involved in the agro-trade, the EU international trade bodies and beginners as well as experienced specialists in data analysis.

Keywords

Public Administration, Agro-Trade, Ukraine, the Slovak Republic

I. Introduction

Any economy, developing in a global environment, is characterized by the development of economic relations on a global scale, contributing to the growth of world trade, by increasing flows of direct/indirect investments as well as the growth of international production, etc. (Svitačová and Moravčíková, 2021). Therefore, a general improvement in world economic conditions, coupled with efforts by many nations to improve their people's diets, has resulted in a rapid expansion in world demand for agricultural products

¹ Institute of Agricultural and Food Economics – National Research Institute, Świętokrzyska Str. 20, 00-002 Warsaw, Poland. E-mail: ok.kiforenko@gmail.com.

(Hjort, 1978). Agricultural development fuels economic growth and is crucial to poverty alleviation and food security (Chang, 2009). Agricultural trade plays an important role in the sustainability of global and regional food systems. Trade between countries allows food to shift from surplus to deficit areas. It helps increase the variety of products on offer. Without trade, the pressure on local and national food systems to provide food security for citizens would be much greater and carry with it significant burdens on natural resources and government budgets (Ash and Greenville, 2015). Agriculture thrives best when there is continuity in policy and public-sector support (China, 2009). Agricultural policy and institutional frameworks are of particular relevance because they affect agricultural performance most directly and also are controllable to a certain extent by policy-makers. It is important for countries to actively import and adapt policy and institutional innovations and to create ones of their own. Throughout distant and more recent history, successful countries have learned from others' success stories and have experimented with new policies and institutions – there were international transfers of programmes and approaches in agricultural research, extension services, cooperatives, rural credit and agricultural insurance (Chang, 2009).

And this is when the effective public administration of agriculture in general and agricultural products trade in particular come into the game. Modern democracies understand public administration primarily as service to citizens and the public. Such understanding of the basic role of public administration is the foundation from which its principles (such as transparency, publicity, accountability, and public control of administration), forms and methods of activities, requirements for professional and impartial performance etc. are derived (National Training Fund, 1998). Market forces and market model principles have increasingly made public administration more like "business". Like business administration, public administration has been increasingly focusing on efficiency, effectiveness, productivity, performance, accountability, responsiveness, and flexibility by adopting techniques mainly used in corporations. National and local governments are expected to be more efficient, effective, responsive, and accountable through structural and behavioural adjustments or adaptations (Chon-Kyun Kim, 2008). That's why an effective public administration of any sphere of a country's functioning is a major issue for politicians and decision-makers and average citizens. It should be added here, that public administration comprises such notions as state, in terms of its governing bodies, local authorities and non-governmental institutions and organizations. As it would be too time and place-consuming to research the effectiveness of all the components of the public administration mentioned above, the stress will be made on one of the state institutions for the countries under research, because, though recent decades have seen a growing interest in advanced democracies' public service reforms that promote the devolution of responsibility from the state to market (Bruno, 2020), In all the countries that are now considered to be developed ones, governments played an important role in supporting agriculture at the early stages of economic development by participating in price stabilization and provision of inputs such as seeds and fertilizer. In the early stages of economic development, state subventions are often justifiable to ensure price stability, food availability and affordability and, ultimately, political stability which are required for long-term investment and development (China,

2009). There are obvious gaps in institutional structure and services delivery in areas such as trade, finance, certification, transport, cargo handling, trade promotion and branding. The country needs a coordinated network of institutions that remove trade barriers and provide effective and affordable services along the value chain, and the phases of the international trade transaction (ITC, 2016).

Vast new opportunities now exist to improve the quality and access to public service provision in developed and developing countries alike. Though, the twin challenge of improving the effectiveness of public administration while assuring that the poor do not carry the costs of adjustment and get left behind, calls for a perspective that is forward-looking but does not lose sight of the social fundamentals that are to be protected (Schiavo-Campo and Sundaram, 2000). And that is one of the tasks the governing bodies should cope with while trying to deliver services of the best quality to the citizens, that is to be aware of which or whose costs the improvement of the services is being achieved. More than that, the public administration bodies' services, even of the best quality, one by one, separately, won't drive to the overall improvement of the whole activity sphere being administered. They should be formed into a policy best of the kind driving to the achievement of the most ambitious goals possible. Open, transparent and predictable agricultural trade policies both domestically and across borders can improve the efficiency of resource allocation, thus facilitating scale economies, reducing transaction costs and boosting productivity and rates of return on investment. They can also help reduce price volatility and improve the stability of food markets, thereby fostering food security (OECD, 2015). Therefore, the aim of the article is to assess the effectiveness of the public administration of the agricultural products trade through the evaluation of the practical results effectiveness of the institutions and people in charge of the agro-trade in Ukraine and the Slovak Republic through the analysis of the agro-trade amount between the two countries mentioned above. The motivation for the research conduction was, on the one hand, the extreme importance of agriculture as a whole and agricultural products trade in particular and, on the other hand, the war in Ukraine and the way it influences the agricultural products trade of the country with its neighbours.

II. Literature Review

An effective public administration plays an important role in promoting sustained economic growth, and sustainable development, facilitating infrastructure development and protecting the environment, promoting public-private partnerships, managing development programmes and maintaining a legal framework for development. The need for strengthened public administrative and financial management capacities is being fully recognized to ensure a civil service that is responsive to the needs of the people (UNO, 1996). Political scientists, legislators, educators, business executives, lawyers, consumerists – practically everyone, it sometimes seems – are calling for better public management. For businessmen, the need is especially important because they feel surrounded by government institutions with which they are legally required to interact. In the public sector, purpose, organization, and people do not have the same meaning and significance that they have in business (Bower,

1977). Nevertheless, effective functioning is crucially important in all the society functioning sectors.

Ukrainian public administration has experienced drastic changes since independence, which is common for virtually all post-socialist nations. The internal drivers of these changes are present in the entire post-socialist world: unleashing market forces after decades of the command economy, which requires new approaches to state regulation of the economy, macroeconomic instability (or even economic decline), total mistrust of the population towards public institutions (Khadzhyradieva et al., 2020). Ukraine struggles for democratic reforms since the country's independence in 1991. Although formally the country has the legislation in place to implement most aspects of democratization, implementation of this legislation has long been very uneven due to corruption and informal power structures in the country (Vakulenko et al., 2016). In recent years many important developments have been observed in the Ukrainian public administration: reforms in the public administration system and civil service, improvements in the regulatory framework for their functioning, the extension of the rights and powers of local self-government, bringing their activities into compliance with the EU requirements as well as the transformation of civil service according to the European standards. However, reforming public administration in a post-socialist transition country is hampered by the lack of resources and by public mistrust (Khadzhyradieva et al., 2020). Public administration reform is key for Ukraine as all other transformations in the country hinge on it. Implementing any reform before civil service functions effectively seems unthinkable. All these accomplishments do not overshadow challenges in public administration reform. Moreover, criticism will get more prominent as Ukraine walks further into the political turbulence over the 2019 presidential and parliamentary elections. All transformations, especially in public service, are not yet stable enough, which remains the key challenge (Kupriy, 2019). Agriculture has traditionally been one of the most important sectors of the Ukrainian economy, given the high quality and availability of fertile land. Ukraine has tremendous agricultural potential given its natural conditions, but this potential has not been realized fully, partly due to inappropriate and inconsistent policies. The main challenge for Ukrainian agricultural policy is making support to agriculture stable, transparent and predictable, establishing clear goals and mechanisms, and ensuring that producers receive the necessary support in a minimally distorting way (FAO, 2013). The government of Ukraine aims to transform the country into an "agricultural superpower at the international level" with the hope that the sector will gain high foreign currency earnings and become "the engine of national economic development". The use of the Ukrainian agricultural potential as an economic growth engine requires a fundamental change in the interpretation of its purpose, which is currently focused on profit-making export-oriented commercial activity (Borodina and Krupin, 2017). The current agricultural products trade policy of Ukraine is being impacted, on the one hand, by the war and its consequences, and, on the other hand, by the preparation period for the country's EU membership.

Slovakia is one of the EU Member States with middle to lower levels of public expenditure as a percentage of GDP (and a low level of public expenditure per capita). Taking into

account the relatively low absolute level of GDP and the relatively small percentage of public expenditure in GDP, Slovakia has limited resources for public sector roles per capita. Despite this, basic public-sector roles are performed and European social rights are very well guaranteed (at least formally) (Nemec, 2018). After the EU membership has begun the process of a broad reform of the public administration. The changes concerned both the increase of effectiveness and modernisation including electronization and the adoption of European rules (Horbulák and Klierová, 2017). Based on changes delivered by the recent ESO public administration reforms, most state administration tasks at lower levels have been performed since October 2013 by 72 district offices, responsible for general and specialised state administration (specialised state administration offices for the environment, road transport and communications, forestry and cadastre (land registry) were abolished and their functions transferred to district offices in 2013). District Offices fall under the authority of the Ministry of Interior (Nemec, 2018). The public administration reform was carried out in four phases:

- 1) under the “transition period”, e.g. in the first post-revolutionary years, only the most urgent changes were made. However, in many cases these can be classified as non-systemic;
- 2) activities related to the transformation of the public administration were officially launched in 1995. They intended to establish a functional organizational structure of the public administration. Consideration was given to the stabilization, integration and restitution model of local government;
- 3) trends in the development of public administration systems are built on the principles of good governance within the third stage;
- 4) modernization of state administration, reduction and efficiency of public administration, raising the standard of transparency and openness are characteristic features of the epochal reform of the state administration of the Slovak Republic – Reform ESO (Effective Reliable Open) (Horbulák and Klierová, 2017).

The main features of the agricultural economy sector of Slovakia are:

- 1) low production per ha and low employment in agriculture per ha;
- 2) yields lower but converging to EU levels;
- 3) structure of production: declining animal, fruits and vegetables production;
- 4) food processing industry: low value-added;
- 5) international trade with agricultural commodities deficits;
- 6) low self-sufficiency ratios (Ministry of Finance of the Slovak Republic, 2017).

The farming sector is characterised by large farm holdings – the average farm size in Slovakia is 77.5 hectares, relative to the EU average of 14.4 ha. Over 40% of the land in Slovakia is cultivated. The main challenge for the country’s agriculture is the lack of interest among young people in going into farming. Furthermore, the R&D sector lacks investments. Slovakia’s agri-food sector needs fundamental support and incentives for farmers to remain in the market through enhancing ecosystems related to agriculture (EIT Food, 2021). The main objectives of the Slovak agricultural policy are to support rural

development, improve the living conditions of the rural population and sustainability of agriculture. The priority of the Slovak agricultural policy should be to increase productivity, which lags the most among the declared objectives (Ministry of Finance of the Slovak Republic, 2019). So, taking into consideration everything stated above, the importance of the effective public administration of the agricultural economy sector as a whole and the agro-trade one, in particular, can't be overestimated as it influences the economic development level and the rural territories as well as their inhabitants one both directly and indirectly. The materials for the literature review were taken mostly from the official web pages of the state institutions of the countries under research, because of the research gap, which consists of the lack of literature sources on the researched subject, except the earlier publications of the article's author. The available literature sources are either on the public administration as it is and the effectiveness of its institutions/administrators, or on different areas for the functioning of agriculture as an economic sector as a whole and the agricultural products trade in particular. Therefore the novelty of the research presented in the article lies in the uniting of two notions mentioned above, trying to assess the effectiveness of the functioning of one by the dynamics analysis and projections making for the other. Thereby the research presented in the article fills the research gap mentioned above well enough to enrich the scientific research base for the functioning improvement of the humanity functioning areas under research as well as those connected with them directly and indirectly.

III. Material and Methods

Agriculture is often the economic driving force in developing countries. WTO statistics show that agriculture accounts for over one-third of export earnings for almost 50 developing countries, and for about 40 of them, this sector accounts for over half of the export earnings (eFolio, 2020). For centuries countries have relied on trade in agricultural and food commodities to supplement and complement their domestic production. The uneven distribution of land resources and the influence of climatic zones on the ability to raise plants and animals have led to trade between and within continents (FAO, 2003). Agricultural trade is often the subject of polemical debates in civil society because of its particular role in food security. This is partly because agricultural trade can have very diverse impacts, helping to address food shortages, but also potentially leading to unwanted dependency (European Economic and Social Committee, 2015). Since government touches on almost all aspects of life in the contemporary world, how the government is organised and how it operates in practice should naturally attract our attention (The Nature of Public Administration, 2017). Though, public administration doesn't include only governmental institutions, the main power is concentrated in the hands of the state authorities. That's why, in the article, the stress is generally made on the previously mentioned institutions of the public administration and their influence on the agro-trade amount. The data analysis included the dynamics and the general trend lines building. The dynamics of the total agro-trade turnover between Ukraine and the Slovak Republic as well as such components of it as exports, imports, trade balance and exports-to-imports ratio were analysed in terms of their changeability and differences if compared to the previous periods. The trend

lines were built using the appropriate functions, by choosing from the exponential, linear, logarithmic, polynomial, and power functions. The following formula of a linear function was used for the research:

$$y = mx + b \quad (1)$$

where ‘ y ’ is the response (dependent) variable, ‘ x ’ is the predictor (independent) variable, ‘ m ’ is the estimated slope, and ‘ b ’ is the estimated intercept (GraphPad, n.d.). The formula of the exponential function is as follows:

$$f(x) = b^x \quad (2)$$

where ‘ b ’ is the base and ‘ x ’ is the exponent (Nroc, n.d.). The logarithmic function has the following formula:

$$y = a \times \ln(x) + b \quad (3)$$

where ‘ y ’ is the dependent variable, ‘ x ’ is the independent variable, while ‘ a ’ and ‘ b ’ are constants (StackExchange, 2023). The polynomial trend line of order 2 was built according to the following formula:

$$y = mx^2 + bx + c \quad (4)$$

where ‘ y ’ is the dependent variable, ‘ m ’ is the slope of the line, ‘ x ’ – the independent variable, ‘ b ’ is the y -intercept, and ‘ c ’ is the constant (Causal, 2023). The formula given below was used to build the power trend line of the data under analysis:

$$y = ax^b \quad (5)$$

where ‘ y ’ is the dependent variable, ‘ x ’ – the independent variable, and ‘ a ’ and ‘ b ’ are the parameters of the function found by the least squares method (also named function coefficients or constants) (Officetooltips, 2023). The criterion for the choice of the appropriate function was the values of the R^2 coefficient. As the purpose of the article was neither to make stress on the univariate analysis of the agro-trade amount variable nor on the diagnostics to identify the best-fit model for the data dynamics under research, only the R^2 coefficient values were taken under consideration to choose the best function for the trend line building and projection making. With the help of the functions mentioned above, the projections for the said components of the agro-trade between Ukraine and the Slovak Republic for the following two periods were made. Only two years were taken for the projection making because of the challenges and uncertainty of the nowadays general situation, in which the projection made for a longer period of time would be less precise and, therefore, less reliable. For better data analysis presentation such visualization tools as bar charts with trend lines, functions formulas and R^2 coefficient values depicted on them were used in the article. The data analysed in the paper were taken from the official publications of the State Statistics Service of Ukraine. The time frame under research is 9 years – from the year 2011 to 2019 included.

IV. Results and Discussion

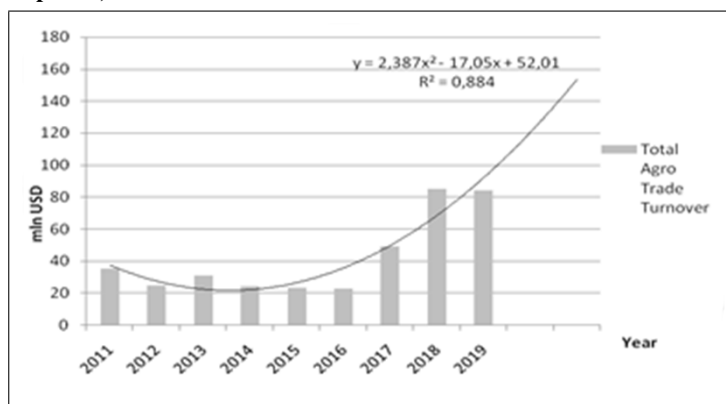
The agricultural sector plays a major role in the Ukrainian economy. Ukraine has approximately 43 million hectares (ha) of agricultural land, including 32 million ha of arable land, an area equivalent to one-third of the arable land in the European Union (EU). Half of it is black soil, the highest productive soil type in the world... (OECD, 2015). Though, the vital importance of agriculture for the Ukrainian economy goes without saying, the turbulences in the political life of the country have a powerful impact on it, unfortunately often a negative one. With the change of political power, there came changes in the institutional framework for the public administration of the agricultural sphere of economy. In September 2019 the government decided to reorganize the Ministry of Agrarian Policy and Food by joining it with the Ministry of Economic Development, Trade and Agriculture of Ukraine. With this decision, all the issues connected with the functioning of the agricultural economy sector, among them the ones for exports-imports of agricultural products, came under the jurisdiction of the multidisciplinary ministry. Among the others, Ukraine's foreign economic activity in general and all the issues of international activities in the field of agriculture in particular. The reorganization is a complicated process in itself, but, in this case, it appeared to be more than disputable for all the subjects of the agricultural sphere, and not only of Ukraine. After a series of petitions and appeals from the agrarian associations, on December 2, 2020, Prime Minister Denis Shmygal announced, that the Cabinet of Ministers would return to the issue of removing the Ministry of Agrarian Policy from the Ministry of Economy at the beginning of 2021 (Ukrinform, 2021a). Next, on the 28th of December, the Cabinet of Ministers of Ukraine adopted Resolution #1344, according to which the restoration of the Ministry of Agrarian Policy and Food of Ukraine must be completed by February 1, 2021 (Ukrinform, 2021b). As the reorganization process is still going on, the agrarian associations of Ukraine addressed a corresponding letter to the President of Ukraine with a demand not to allow the reduction of the powers and competition of the restored Ministry of Agrarian Policy and Food in favour of the non-core Ministry of Economic Development, Trade and Agriculture. According to the said agricultural associations, the dispersion of powers in the field of agricultural policy to various non-core ministries will deprive the restored Ministry of Agrarian Policy of the lion's share of powers needed to work effectively and promote the agricultural sector as well as create the deconcentration of powers and chaos in the agro-industrial complex of Ukraine (Ukrinform, 2021a). As up till now, the matters with the reorganization, powers, etc. of the restored Ministry of Agrarian Policy and Food are not settled yet, one cannot make any definite statements about under the jurisdiction of what Ministry, Department, etc. the issues of agro-trade lie. Such uncertainty makes no good to the agricultural economy sector in general and agro-trade in particular.

All the issues of the agricultural economy sphere functioning of the Slovak Republic are under the competencies of the Ministry of Agriculture and Rural Development of the Slovak Republic. The Ministry, as a central state administration body acting in cooperation with other ministries and central state administration bodies, performs the following functions (among the others): participating in the preparation of the overall strategy for the long-term development of society and the development of foreign policy, nutrition policy,

state economic policy, in particular policy on finance, budgets, raw materials, pay and social conditions, privatisation, tariffs and foreign trade and policy on regional and structural development, rural development and environmental policy as it affects agriculture and rural development; providing centralised marketing and promotional support for agricultural products and foodstuffs and promotion of agriculture at foreign and domestic exhibitions; cooperating in the implementation of economic policy and social policy instruments under the competence of other central state administration bodies where such instruments have impact in the Ministry's area of responsibility (for example, foreign trade instruments, tariff and non-tariff measures, healthy diet programmes, collective bargaining, social security) (Ministry of Agriculture and Rural Development of the Slovak Republic, 2021).

Nowadays life is moving faster and faster in all spheres of activity, demanding that all its subjects function more and more effectively. Though there are such spheres of activity whose effectiveness is rather difficult to be evaluated. Public administration is among the ones mentioned above. The best way to assess the effectiveness of the administration of any activity sphere in general and agricultural products trade, in particular, is to evaluate the practical results of the institutions and people in charge of decisions, deeds etc. effectiveness. In our case, the evaluation of the agro-trade public administration in Ukraine and the Slovak Republic will start with the analysis of the total trade turnover of agricultural products between the countries under research (Figure 1).

Figure 1: Total Trade Turnover of Agricultural Products between Ukraine and the Slovak Republic, mln USD

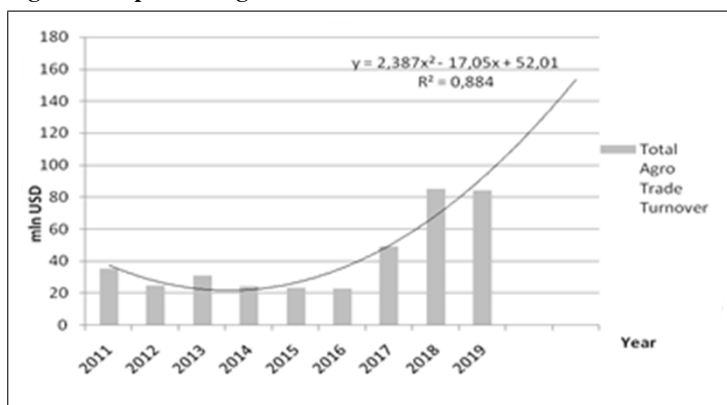


Source: author's elaboration based on the data from the State Statistics Service of Ukraine (2020)

As we see from the visual presentation of the total trade turnover of agricultural products between Ukraine and the Slovak Republic, given in Figure 1, the said turnover amount dynamics can be roughly divided into two periods – the first one – from the year 2011 to 2016 included and the second one includes the data from the year 2017 to 2019 included. During the first period, the data under research dynamics is relatively flat showing no big differences if compared to the previous periods (the biggest positive difference can be observed in 2013 – 5.99 mln USD, which is also the only positive difference during the

first period, and the biggest negative difference is in the year 2012 – 10.51 mln USD). Then, in 2017 we can observe the sharp rise of the total agro-trade turnover of 26.16 mln USD, followed by another one of 35.88 mln USD continued by a small drop of 0.76 mln USD, but the overall level of the said turnover during the second period is approximately twice as high the one during the first period. Another indicator, which can be an interesting point of the data under research characteristics, is the positivity/negativity of changes during the time frame under analysis. According to the indicator mentioned in the previous sentence, the total agro-trade turnover can be divided into two groups – the first one comprises the years, in which the data had a positive change if compared to the previous one, the years, in which the data had a negative change, “go” into the second group. So, we observe the positive changes in the total agro-trade turnover in 2013, 2017 and 2018. The biggest one, amounting to 35.88 mln USD, was in 2018. The biggest value of the total agro-trade turnover between Ukraine and the Slovak Republic is observed in 2018, as well. The negative changes in the said turnover can be observed in 2012, 2014 through 2016 and 2019. The biggest negative change was in 2012 which amounted to 10.51 mln USD. The smallest value of the total agro-trade turnover can be observed in 2016, namely 22.97 mln USD. The trend line built for the data under research dynamics during the time frame under analysis is downward from 2011 to 2013 included, changing its direction to the upward one starting from 2014. The said upward trend continued till the final year under analysis, continuing being of the kind also during two following periods, in this case – years, taken for the projection. According to the trend line, the agricultural products trade amount between Ukraine and the Slovak Republic is to increase during two projected years. The trend line was built using the polynomial function, choosing from the exponential, linear, logarithmic, polynomial, and power functions, by taking into account the values of the R^2 coefficient.

Figure 2: Exports of Agricultural Products from Ukraine into the Slovak Republic, mln USD

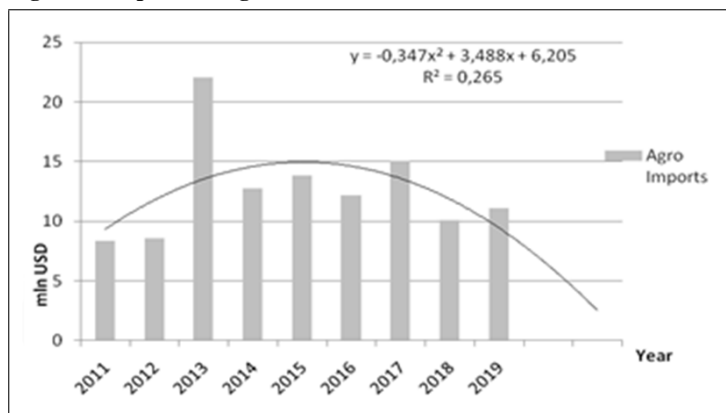


Source: author's elaboration based on the data from the State Statistics Service of Ukraine (2020)

Agricultural exports remain a key engine of the Ukrainian economy... By lowering trade barriers, the recent conclusion of several bilateral trade agreements offers additional opportunities for export growth (OECD, 2015). The dynamics, trend line and projection for the exports of agricultural products from Ukraine into the Slovak Republic can be followed in Figure 2.

Having cast a look at Figure 2, we notice, that the data dynamics resemble the one from the data depicted in Figure 1, meaning – the general overview of the exports of agricultural products from Ukraine into the Slovak Republic is similar to that of the total agro-trade turnover between the said countries. But, let's take a closer look at the data visualized with the help of Figure 2. Similar to the data of the total agro-trade turnover, the data of the agricultural products exports through the time frame under analysis can also be divided into two periods judging on the level of their amount. The first period is from 2011 to 2016 included with the amount level of more than two times lower than in the second one. The general dynamics of the data in the years from the first period are rather flat but not as flat as in the case with the same period of the total agro-trade turnover. The second period comprises the data from the years 2017 through 2019. The level of the agro exports amount in the said period is more than two times higher than in the first one and the data are more changeable. If we talk about the positivity/negativity of the data values changes if compared to the previous periods, the agro-exports amount during the time frame under analysis can also be divided into two groups. The first group includes the years, in which we observe positive changes in the said amount compared to the previous ones. These are 2014 and 2016 through 2018. The biggest positive change is noticed in 2018 – 40.89 mln USD. The biggest value for the exports of agricultural products from Ukraine into the Slovak Republic can also be seen in 2018 and amounts to 74.95 mln USD. The second group comprises the years, containing the negative changes of the said values, and they are 2012, 2013, 2015 and 2019. The biggest negative change of the said amount is observed in 2012 and it is 10.75 mln USD. The smallest value of the agro-exports from Ukraine into the Slovak Republic can be seen in 2013 – 9.01 mln USD. The trend line for the exports of the agricultural products dynamics was built using the polynomial function, after having applied the exponential, linear, logarithmic, polynomial and power functions. The shape of the trend line is very much like the one from the total agro-trade turnover, having a downward direction from the beginning of the time frame under analysis to 2014 included (in the case of the total agro-trade turnover it was the year 2013), changing it to the opposite one after 2014. The said upward trend continued till the end of the time frame under analysis through the following two more periods taken for projection.

Trade is also a major source of import competition and market instability for some producers, leading to declining market prices and lower returns (Benson et al., 1998). The dynamics, trend line and projections for the imports of agricultural products into Ukraine from the Slovak Republic can be followed in Figure 3.

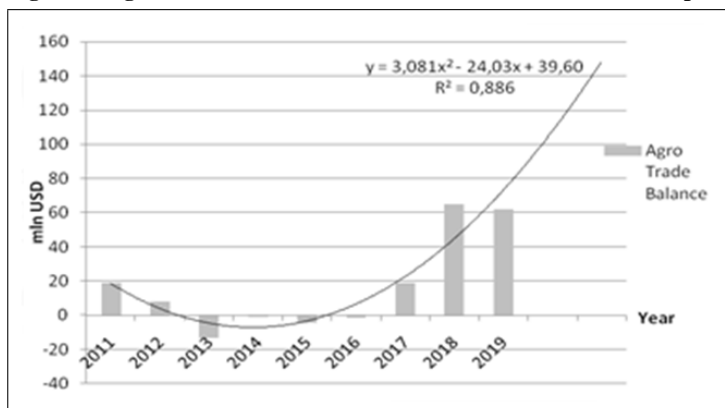
Figure 3: Imports of Agricultural Products into Ukraine from the Slovak Republic, mln USD

Source: author's elaboration based on the data from the State Statistics Service of Ukraine (2020)

Having compared the dynamics for the imports of agricultural products into Ukraine from the Slovak Republic with those of the total agro-trade turnover and the exports of the agricultural products, presented in Figures 1 and 2, we see, that they differ a lot from each other. But, let's analyse the one visualized with the help of Figure 3 in a more detailed way. Contrary to the total agro-trade turnover and agro-exports dynamics, analysed above, the imports of agricultural products can't be divided into some groups according to the amount level, as it can be seen from the figure given above, the imports data are approximately on the same amount level except for the one in 2013. But here we can speak of some kind of seasonality starting after 2012, that is after 2012 we see, that the agro imports increase every odd and decrease every even year. If we talk about the positivity/negativity of the number of changes if compared to the previous periods, the said imports can also be divided into two groups. The first one includes the data from the years 2012, 2013, 2015, 2017 and 2019, that is when we observe the positive changes in the amount of agro-imports. The biggest positive change can be observed in 2013 – 13.56 mln USD. The biggest value of the agricultural products imported into Ukraine from the Slovak Republic can also be seen in 2013 – 22.04 mln USD. The second group comprises the data from the years when we observe the negative changes in the mentioned imports, and these are 2014, 2016 and 2018. The biggest negative change was in 2014 – 9.32 mln USD. The smallest agro-imports value can be found in 2011 – 8.34 mln USD. The trend line for the data of the agricultural products imported into Ukraine from the Slovak Republic was built using the polynomial function, just like in the cases with the total agro-trade turnover and agro-exports. The shape of the trend line is not like the ones of the total agro-trade turnover and agro-exports. It has an upward direction to the year 2015 included, having changed it to the opposite one after the said year. The trend line continues its downward direction to the final year of the time frame under analysis keeping it during two more years taken for projection.

The trade balance is the net sum of a country's exports and imports of goods without taking into account all financial transfers, investments and other financial components. A country's trade balance is positive (meaning that it registers a surplus) if the value of exports exceeds the value of imports. Conversely, a country's trade balance is negative, or registers a deficit, if the value of imports exceeds that of exports (FocusEconomics, 2021). The agro-trade balance between Ukraine and the Slovak Republic, its dynamics, trend and projection can be followed in Figure 4.

Figure 4: Agro-Trade Balance between Ukraine and the Slovak Republic, mln USD



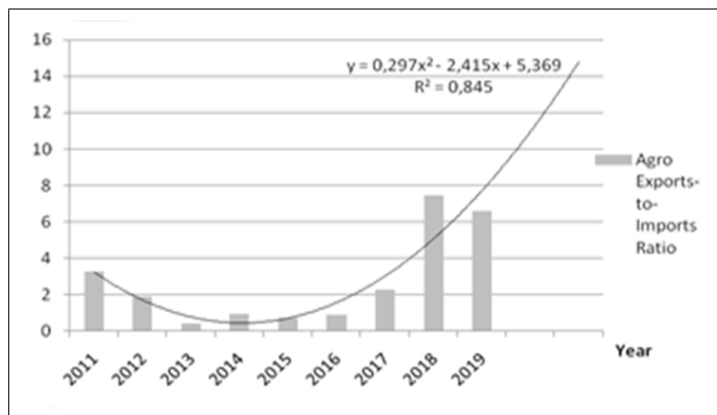
Source: author's elaboration based on the data from the State Statistics Service of Ukraine (2020)

As we see from the data depicted in Figure 4, the general pattern of agro-trade balance between Ukraine and the Slovak Republic is very similar to that of total agro-trade turnover. Surely, there are no negative figures for the total trade turnover (it would be non-sense), but the flat dynamics and a lower level of the data from 2011 to 2016 included plus a sharp rise of the data value in 2017 and a higher overall level of the data values from 2017 through 2019 are the similar features worth drawing attention at. So, the data values of the agro-trade balance can also be divided into two periods – the first one is from 2011 to 2016 included and the second one – from 2017 through 2019. According to the positivity/negativity of the data changes, if compared to the previous periods, they can be divided into two groups. The first one includes the data from the years 2014 and 2016 through 2018, in which we observe positive data changes. The biggest data change is seen in 2018 – 45.9 mln USD. The biggest data value is also observed in 2018 – 64.89 mln USD. The second group comprises the data from the years 2012, 2013, 2015 and 2019, that is the ones with the negative data changes. The biggest negative change can be noticed in 2013 – 20.93 mln USD. The smallest data value is seen in 2014 (here an absolute number value is meant). The trend line for the agro-trade balance data was built using the polynomial function. Here one should make the following remark – only linear, logarithmic and polynomial functions were to choose from in this case as we have negative values here. The trend line has a downward direction from the beginning of the time frame under research to the year 2014 included. But, afterwards, it changed its direction to the upward

one, continuing it through the last year under research and two more periods are taken for projection.

Export-import ratio refers to the ratio of the value of exported goods and services to imported goods and services of the countries involved in international trade (IGI Global, 2018). To proceed with the research, the dynamics, changeability as well as the trend and projection for the exports-to-imports ratio in agro-trade between Ukraine and the Slovak Republic will be analysed with the help of Figure 5.

Figure 5: Exports-to-Imports Ratio in Agro-Trade between Ukraine and the Slovak Republic



Source: author's elaboration based on the data from the State Statistics Service of Ukraine (2020)

The general pattern of the exports-to-imports ratio in agro-trade between the countries mentioned above resembles the ones of the agro-exports and agro-trade balance analysed earlier in the article. We can also divide the said dynamics into two periods according to the data level, but the borders are, in this case, a little bit different from those with the agro-exports and agro-trade balance. The first period is from 2011 to 2017 included – the data level is more than two times lower than that from the second period. The second period would include the years 2018 through 2019 as the data level is much higher than that from the first period. The division of the data depicted in Figure 5 in terms of the positive/negative changes, if compared to the previous periods, has two groups. The years with the positive changes in the exports-to-imports ratio will be included in the first group, and these are 2014 and 2016 through 2018. The biggest positive change was in 2018. The biggest exports-to-imports ratio value is also observed in 2018. The years with the negative changes in the exports-to-imports ratio would go into the second group. They are 2012, 2013, 2015 and 2019. The biggest negative change was in 2013. The smallest exports-to-imports ratio can also be seen in 2013. The trend line for the exports-to-imports ratio was built using the polynomial function, having been chosen from the exponential, linear, logarithmic, polynomial and power functions, taking into consideration the value of the R^2 coefficient. The trend line is downward to the year 2014 included, changing its direction to the opposite one afterwards, continuing being of the kind through the final year under research and two more periods, taken for projection.

V. Conclusion

Public administration is of practical significance to every citizen in contemporary society. Since the government has to respond to diverse public needs, public administration's first and foremost objective should be to efficiently "discharge" the public's business (The Nature of Public Administration, 2017). Public administration in Ukraine faces many challenges, among which a slowing-down of the reforms and their incompleteness, even the possibility to reverse the positive developments due to the political vulnerability of the process (Khadzhyradieva et al., 2020) as well as the necessity to throw all the available forces to the fight against aggressor country. If the public administration doesn't fulfil its tasks, it should be reformed and the next steps in the crucial public administration reform should be more decisive. Hopefully, Ukraine will fulfil the started administrative reform in the nearest future with the public administration to serve its citizens to the fullest possible. In the case of the Slovak Republic, the key factors limiting the progress of the public administration services are politicization, the very marginal capacity to control corruption; and the lack of accountability of politicians and civil servants. The main positive aspect is the already very comprehensive access to public information (Nemec, 2018). But, among the other measures, by using contemporary personnel management methods, the state can turn into a competitive and reputable employer. Public service should be focused on the result rather than the process and have clear performance indicators (Reforms Delivery Office, 2020).

As, currently, there is no single list of indicators for the effectiveness of public administration, an attempt was made in the article to evaluate the public administration of the agro-trade between Ukraine and the Slovak Republic by analysing and forecasting the practical results of the activities, including decision making, of the institutions and people in charge of the agro-trade in Ukraine and the Slovak Republic. The dynamics of the total agro-trade turnover between Ukraine and the Slovak Republic as well as such components of it as exports, imports, trade balance and exports-to-imports ratio were analysed in terms of their changeability and differences if compared to the previous periods. According to the research, the total trade turnover of agricultural products between Ukraine and the Slovak Republic can be roughly divided into two periods – the first one – from 2011 to 2016 included and the second – from 2017 to 2019 included. In addition, we observe the positive changes in the total agro-trade turnover in 2013, 2017 and 2018 and the negative ones – in 2012, 2014 through 2016 and 2019. The trend line built by using the polynomial function is downward from 2011 to 2013 included, changing its direction to the upward one starting from 2014, continuing being of the kind during two more years taken for the projection. The general overview of the exports of agricultural products from Ukraine to the Slovak Republic is similar to that of the total agro-trade turnover between the said countries. We observe the positive changes in the agricultural exports from Ukraine into the Slovak Republic amount in 2014 and 2016 through 2018 and the negative ones – in 2012, 2013, 2015 and 2019. The trend line for the exports of the agricultural products dynamics was built using the polynomial function, having a downward direction from the beginning of the time frame under analysis to 2014 included, changing it to the opposite one after 2014, continuing its upward direction also through two years taken for the projection. The

imports of the agricultural products dynamics can't be divided into any amount dynamics groups as the imports data are approximately on the same amount level except for the one in 2013. In the case of agro imports, we can speak of some kind of seasonality starting after 2012, that is after 2012 we see, that the agro imports increase every odd and decrease every even year. We observe the positive changes in the amount of agro-imports in 2012, 2013, 2015, 2017 and 2019 and negative ones – in 2014, 2016 and 2018. The trend line for the data of the agricultural products imported into Ukraine from the Slovak Republic was built using the polynomial function. The shape of the trend line has an upward direction to the year 2015 included, having changed it to the opposite one after the said year, continuing its downward direction to the final year of the time frame under analysis, keeping it during two more years taken for projection. The general pattern of agro-trade balance between Ukraine and the Slovak Republic is very similar to that of the total agro-trade turnover. The data values of the agro-trade balance can also be divided into two periods – the first one is from 2011 to 2016 included and the second one – from 2017 through 2019. We observe the positive changes in the agro-trade balance from the years 2014 and 2016 through 2018 and negative ones – in 2012, 2013, 2015 and 2019. The trend line for the agro-trade balance data was built using the polynomial function. The trend line has a downward direction from the beginning of the time frame under research to the year 2014 included. But, afterwards, it changed its direction to the upward one, continuing it through the last year under research and two more periods are taken for projection. The general pattern of the exports-to-imports ratio in agro-trade between the countries mentioned above resembles the ones of the agro-exports and agro-trade balance. We can also divide the said dynamics into two periods according to the data level, that is the first period is from 2011 to 2017 included and the second one would include the years 2018 through 2019. We observe the positive changes in the exports-to-imports ratio in 2014 and 2016 through 2018 and negative ones – in 2012, 2013, 2015 and 2019. The trend line for the exports-to-imports ratio was built using the polynomial function. The trend line is downward to the year 2014 included, changing its direction to the opposite one afterwards, continuing being of the kind through the final year under research and two more periods, taken for projection.

As you can see from the research, the projections for two years following the analysed time frame for all the components of the agro-trade between Ukraine and the Slovak Republic have an upward trend, except the agro imports one. That is, there is much to be done to expand the agro-trade cooperation between the countries under research. However, much is being done in this direction, meaning Ukraine and Slovakia plan to expand trade, economic and investment cooperation in the field of agriculture and intensify bilateral dialogue between the agricultural agencies of the countries. In particular, it is about the increase of the volume of bilateral trade in agricultural and food products as well as joint work in such areas as breeding, seed production, breeding and fattening of highly productive farm animals, the introduction of IT technologies, development of processing and production of organic products. In addition, the two sides are working on draft cooperation agreements. The first document is on the main areas of cooperation in the field of consumer protection and market surveillance between the State Service of Ukraine for Food Safety and Consumer Protection and the Slovak Trade Inspectorate. The

second document is a draft Memorandum of Understanding and Technical and Economic Cooperation between the State Service of Ukraine for Geodesy, Cartography and Cadastre and the Slovak Land Fund (Ukrinform, 2019).

The research presented in the article can be expanded in the direction of the analysis of how the war in Ukraine influences the agricultural products trade between Ukraine and the Slovak Republic, meaning – how politics impacts economics. In addition, it would be interesting to research the inverse impact of economics on politics, that is – how the agricultural products trade functioning impacts the political relations either between the countries under research or the other countries neighbouring Ukraine and the EU as a whole. The limitations to future research conduction can appear as a consequences of the war in Ukraine in the form of the unavailability of the data to be analysed due to the bombardments of the infrastructure, the inability to collect the necessary data on time due to the mentioned situation in the country, the blackouts, causing the absence of the electricity, internet and mobile phone connections, etc. Nevertheless, the research which was started in the paper is of great importance for the economic and political relations either between the analysed countries or all the global players of the agricultural products trade market involved. The research presented in the article can be used by public administration bodies, politicians and decision-makers of Ukraine and the Slovak Republic, big and small companies involved in the agro-trade, the EU international trade bodies and beginners as well as experienced specialists in data analysis.

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