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HOW DOES TRADE DISTORTION AFFECT AGRICULTURAL PRODUCTS MARKETS?

Summary. In this article the dynamics of Producer Support Indicators OECD are analyzed, the main supported commodities in the countries included in the OECD PSI database, as well as relative support by countries for products such as rice, corn, pork, beef, dairy products, wheat, sugar, cotton, are determined, contribution to global welfare changes from the elimination of subsidies to certain groups of agricultural products is defined.

Keywords: agricultural goods, PSI, ASI, OECD, WTO.

Problem. Nowadays, WTO trade negotiations participants are exploring options for addressing the issue of domestic support for agriculture in preparation for the 11th WTO Ministerial Conference, that is going to be held in Buenos Aires in December 2017. So, it is necessary to see how trade distortions caused by public policies affect the global markets for key agricultural products.

Analysis of the latest issues. Many researchers dealt with the problem of the influence of many factors on agricultural commodity markets, such as Anderson AV, Erokhin VL, Ivolga AG, Leshcheva MG, but the distortion of trade as a factor of influence on such markets was not studied by them.

The aim. The aim of the article is to analize how trade distortions caused by public policies affect the global markets for key agricultural products.

The main part. The analysis is based, in particular, on the Organization for Economic Cooperation and Development (OECD) Producer Support Indicators (PSI) database, which differs from the aggregated support indicator (ASI) used for evaluation of agricultural subsidies in the WTO.

The OECD PSI measures the total amount of subsidies provided to farmers in the form of taxpayer support (through direct or indirect payments from the government) or as consumer support (in the form of higher prices as a result of tariffs and other forms of protection at the border). PSI measures "gross-transfer", i.e. money transfer without taxes or other contributions. This is an indicator of the "current" amount of transfers from consumers and taxpayers, which is intended to monitor the reform of agricultural policy.

In the WTO, the ASI includes only domestic policy, which is supposed to have the greatest production and trade effects (classified as an "amber basket"). In comparison to PSI, it excludes: trade policy, which is governed by the WTO on markets access rules; rules limiting production (refer to the "blue basket"); political measures recognized as minimally trade-distorting (the "green box"); and certain measures that distort trade, provided that the level of internal support is below the established minimum level (deminimis). ASI also excludes some subsidies for capital investments and investments provided by developing countries. The WTO indicator is aimed at determination and monitoring of the reduction of obligations under the Agreement on Agriculture.

The general support measures identified in the OECD PSI indicate a reduction in the level of state support as a proportion of gross agricultural income in the covered countries. Figure 1 shows how the average levels of support for PSI in OECD countries have decreased from 32% of gross agricultural income in 2000 to 17% in 2015. Nevertheless, absolute support levels increase with the simultaneous use of producer policy instruments in developed OECD countries and some large agricultural developing countries. In particular, they are those countries that provide direct assistance to individual farmers through measures that support market prices or payments related to the purchase of raw materials and the release of products.

Effective transfers to individual farms in larger developing countries have increased in recent years, facilitated by the development and growth of income, and for some by the pursuit of self-sufficiency (for example, in China and Indonesia). In 1995, nine developing countries, for which the OECD collects data on the PSI, accounted for 5% of the total measurable support, and by 2015 – more than 51%. However, in developed countries, total nominal support remained relatively constant.

The composition of support provided to agricultural producers has also changed with the aggregated support level. In general, OECD countries, in particular Switzerland, Iceland, Norway, Korea and Japan, continue to dominate among countries with high levels of support. However, since 2000, in many OECD countries, the proportion of the PSI, consisting of the most distorting types of policy measures, has declined. This primarily applies to the countries of the European Union, where in 2015 68% of support was not related to production, compared to 35% in 2000. In some fast-growing countries, especially in Indonesia and China, the growth in the PSI was due to the increased use of policy instruments that have the most distorting effects on trade, including support for market prices, volume-of-production payments, and subsidies for capital investment. Other countries, such as Brazil, demonstrate both a reduction in the PSI and a shift to non-production support. The change in the composition of support was also due to a change in policy objectives.

Despite the changes that have taken place in the aggregate PSI, much less change has occurred in support for individual commodities. Where PSI is targeted at specific types of producers, it is measured by the OECD through the accounting of transfers to certain types of products, including all government support that may be associated with the production of specific commodities.

Overall, 75% of the total support for individual commodity producers are used in five sectors: rice, corn, beef, pork and dairy products. The absolute levels of support provided to individual commodity producers have been relatively flat all the time, and only since the mid-2000s they increased for rice, wheat and pork (Figure 2).

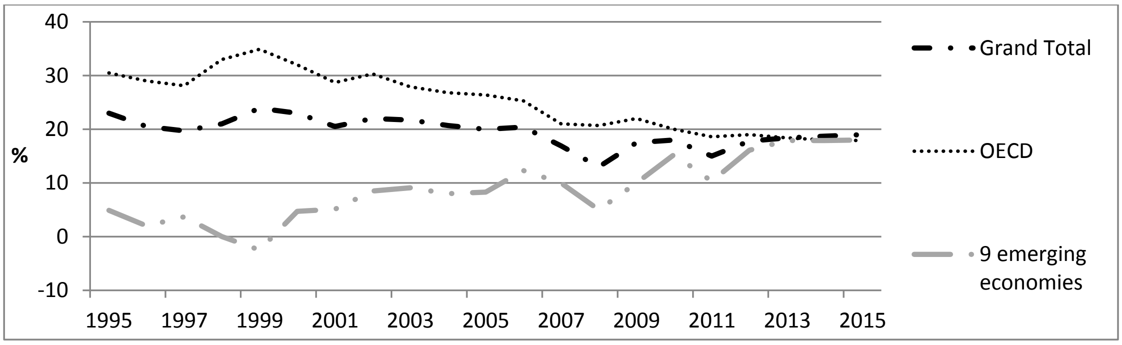

Figure 1. Evolution of PSI: OESD countries and 9 emerging economies, %, [1]

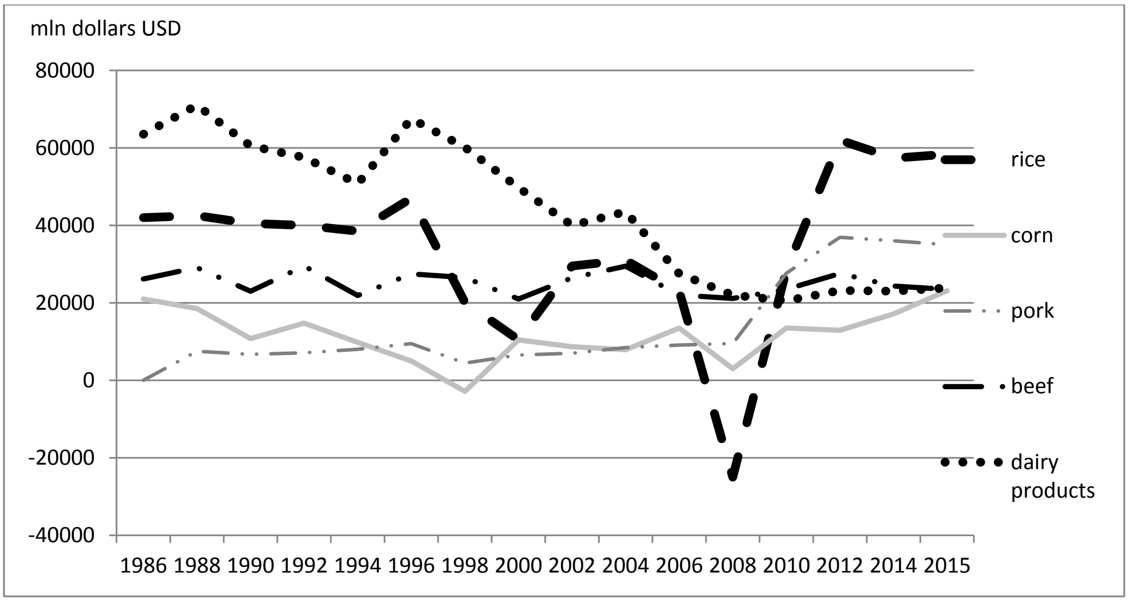

Figure 2. Top-5 supported raw goods in countries OESD PSI, 1986-2015, mln dollars USD, [2]

Support for wheat and poultry producers is also very significant, but it has fluctuated all the time, while support for rice producers is particularly high. However, the share of support for individual commodity producers in gross agricultural income fell from 39% in 1986 to 20% in 2015. Partly this was due to the growth in world prices and a decline in the level of support for market prices. Nevertheless, the level of support in these sectors remains high compared to the cost of manufactured products.

Other data on support for selected commodities indicate similar trends complementing data from the OECD PSI. The database of the World Bank's Nominal Assistance Rates (NBS) identifies those commodities for which government support is provided. It uses data on the extent to which public policy has increased gross margins to farmers compared to if government support did not exist. The same data also shows a decrease in the provision of subsidies in connection with the change in output, up to the jump in food prices in 2007-2008, after which the level of support began to grow.

For a number of commodities, a significant part of the absolute support is provided in the main countries that produce and trade agricultural products (Figure 3). A large number of OECD countries have a significant share of support: in particular, the US and EU support beef and dairy producers, and Japan and Korea are producers of rice. State aid in agriculture exceeds the average level in the top 20 trading countries, and since this group of countries accounts for about 70% of total exports and imports of agricultural products, the effect of distortions on trade can be very significant (Figure 4).

China plays a significant role in the overall level of support that is given to rice, corn and pork producers. This country is the world's largest producer of agricultural products, and even a low level of support for a large number of producers can be equated to a significant absolute amount of support. However, the choice of policy instruments also plays an important role: the relative levels of support for rice and maize producers account for about 30% of the gross income of farms in these sectors.

Figure 3 shows that the sugar industry also benefits from a relatively high level of relative support in a number of countries. For comparison: support for cotton producers is carried out mainly by China, the US and Turkey. These data help to link the numbers to absolute levels. In particular, even though China provides a high level of absolute support, it is not the highest when considering relative levels. The OECD countries provide the highest level of relative support to several commodities.

The support composition has changed over time for the five major supported commodities (rice, corn, pork, beef and dairy products), along with support for wheat and sugar. There are four main types of changes (in real terms):

1. The fall in support levels both at the market price and in other categories.

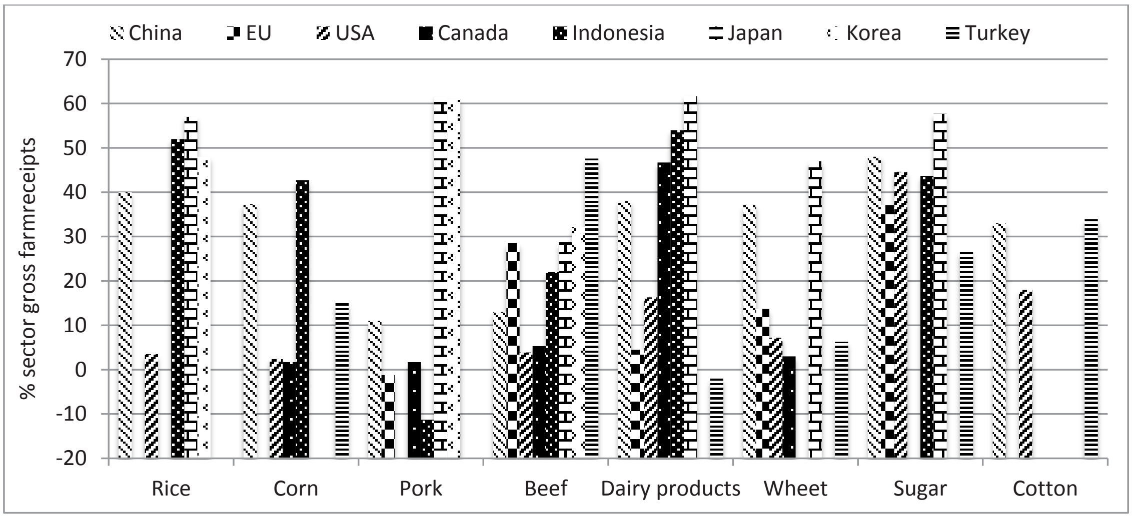

Figure 3. Percent of gross income of farm s in each country, 2015 [2]

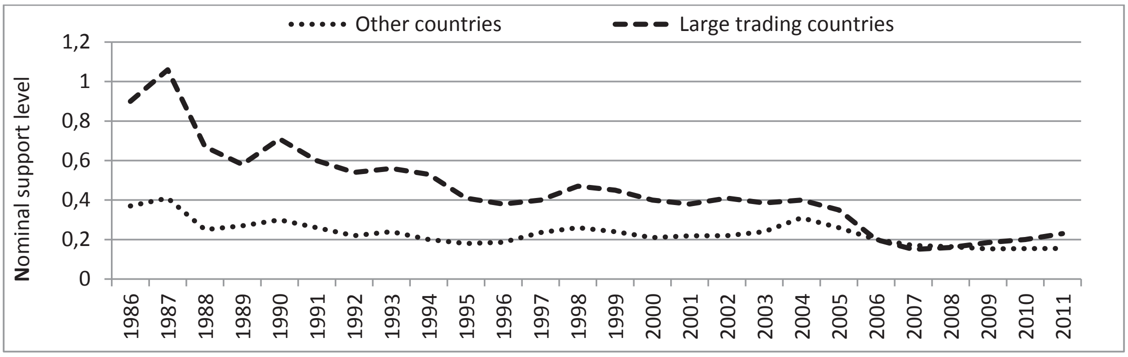

Figure 4. Support levels for large countries trading agri-food products, 1986-2011, [3]

2. Increase levels of support for market prices, but lower levels of other support.

3. Stable support both at the market price and in other categories.

4. The decline in support of market prices, but the increase in the levels of support provided in other categories.

All real support levels for beef, dairy and wheat producers have fallen over the past 20 years, mainly due to lower levels of support for market prices since the 1990s (although support for wheat producers has increased since 2010).

The maize and pork production sectors experienced a shift towards supporting market prices, which was facilitated by changes in the political positions of the main supporting countries, in particular China and the United States. The increased market price for pork is determined by the policies in China, Japan and Russia.

Rice received a relatively stable combination of support for market prices and other types of support. However, in the main countries using such subsidies, the level of support for market prices actually increased during this period.

Since 1986, the market price of sugar has declined, but support in other forms has increased. In particular, during this period, the use of payments for variable investments and regional payments increased. However, in relative terms, this form of support is insignificant compared to supporting market prices (as is the case with all commodities).

Although support levels targeting beef, dairy and wheat producers are falling, these reductions are not necessarily accompanied by a virtual drop in domestic support for the sector as a whole. Nevertheless, the forms of payments used for general support were generally less distorting than the forms of payments directed to specific raw materials.

The linkage of supported commodities to trade levels shows that many of these commodities are sold and bought well. The top 11 supported commodities also account for 50% of the total trade in agri-food products in monetary terms, and only the first five are 15% (Figure 5).

In general, the importance of supported commodities in the overall trade in agri-food products suggests that the domestic support policy used by a number of agricultural producer countries can have a significant impact on world trade and the economic potential created as a result of agricultural activities.

The mechanism of influence of internal support on trade flows is complex. Support for capital investments can reduce costs and make domestic production cheaper, that will allow it to supplant imports. However, interference in the market for factors of production (land, labor and capital) will potentially reduce production in other less protected types of agricultural activities.

In another situation, support can partly offset the effects of the market for factors of production created by barriers to market access in other sectors of agriculture. In addition, the impact on prices may affect other types of agricultural activities, since many types of agricultural products are used as resources for other agro-food products. This impact will have an ambiguous impact on trade, depending on the nature of the support provided, its purpose and how countries using domestic support interact with international markets.

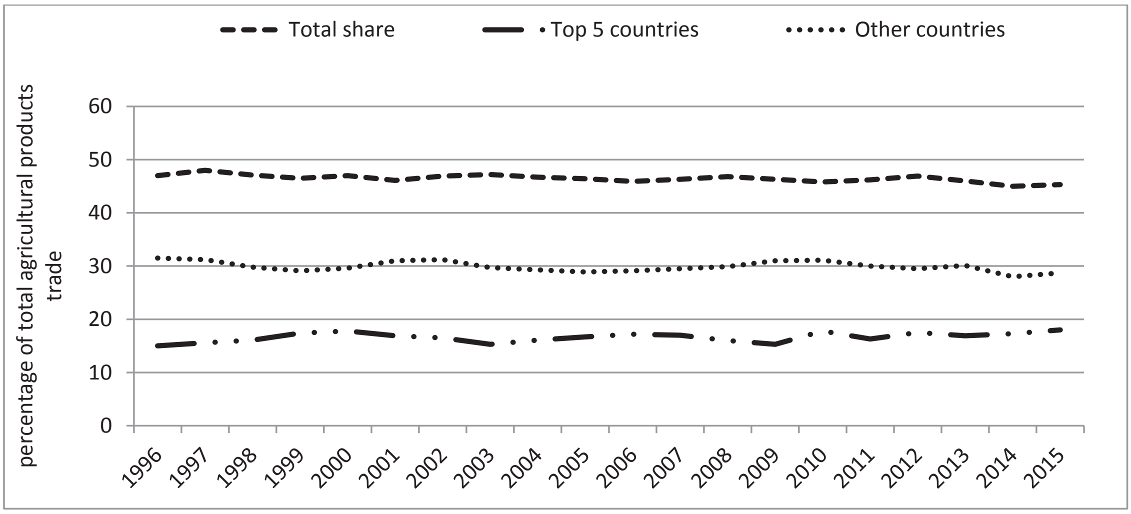

Figure 5. Share of supported commodity trade in general trade, 1996-2015, [4-5]

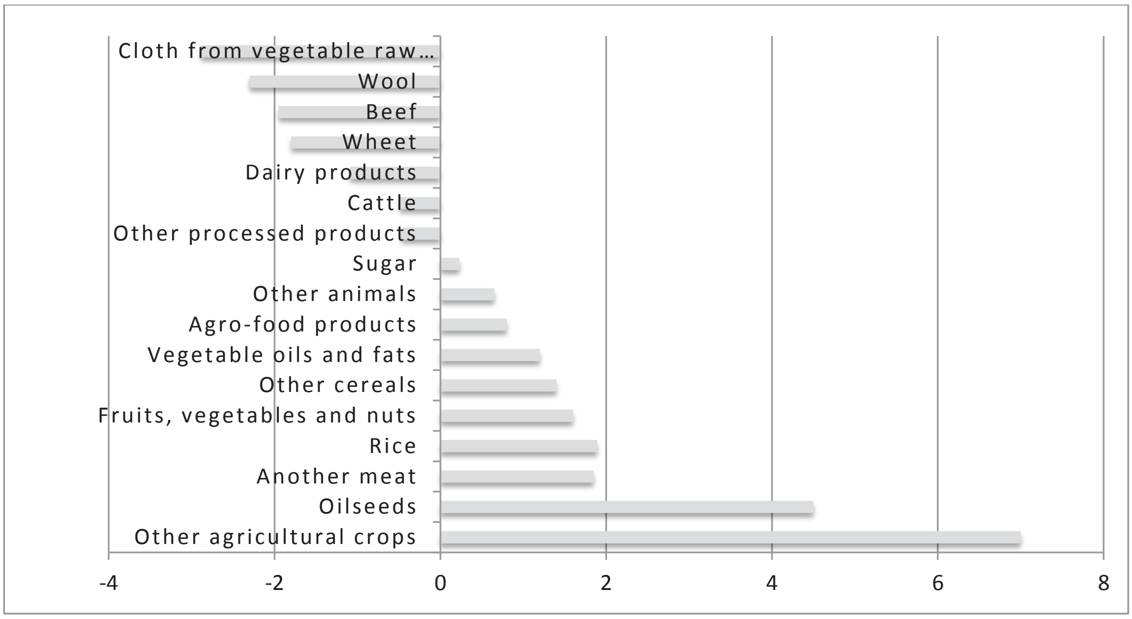

Figure 6. Percentage change in volumes of trade since 2011, %, 2015, [6]

Analysis of the elimination of domestic support indicates that the current domestic support policy negatively affects the trade in agri-food products (Figure 6). If the current domestic support policy were to be eliminated or restructured so as not to distort the market, the world trade in all agri-food products would grow.

But for the five most supported commodities, changes in trade volumes are mixed: while meat trade will grow as a whole, beef trade will fall, and pork and poultry trade will expand. Grain trade (cereals, rice and corn) will increase, and the volume of trade in dairy products will fall. Growth is due to the redistribution of production, because countries that have not provided support, increase the volume of output of commodities that were previously supported in other countries. The fall occurs, as changes in relative prices mean that production growth is directed at other commodities. The effect of eliminating support associated with the factors of production has the most complex impact on trade volumes. This is due to the interaction between the markets for factors of production and changes in relative returns to price changes when the support is eliminated.

Globally, a departure from distorting forms of domestic support improves well-being (Figure 7). This is due to the elimination of interim subsidies for capital investments and the subsequent elimination of subsidies for factor costs.

In addition to influencing trade and well-being, domestic support can also negatively influence on the development and benefits of global chains of value creation for agri-food products. Previous studies of value chains have shown that their development has increased the opportunities for economic activity through new market access and increased competitiveness from more efficiently produced raw materials, as well as from potential productivity gains arising from externalities in the value chain. With an increase in economic activity and a possible impact on productivity, participation in the value chain has increased the internal volume of the charge of value and the creation of jobs.

Eliminating support may have long-term advantages in the future growth of demand. The increase in demand for commodities such as meat and dairy products (and the imbalance between sup-

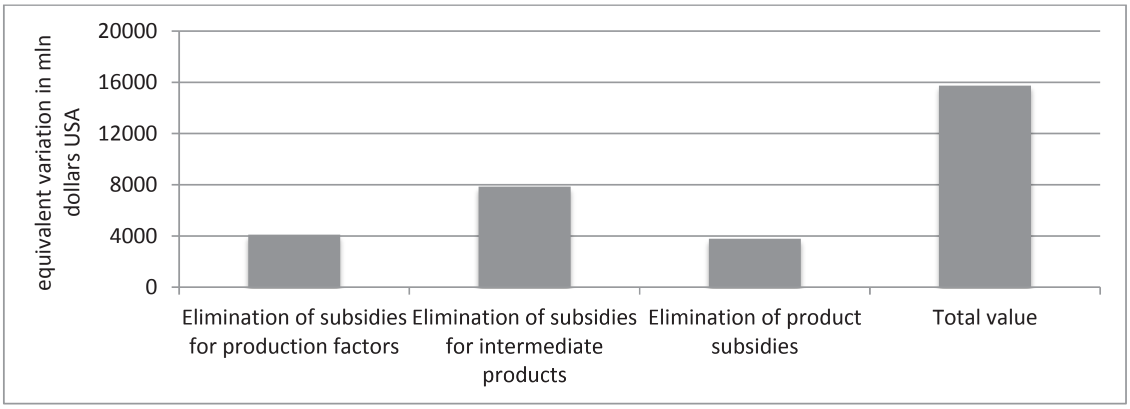

Figure 7. Contribution to global welfare changes from the elimination of subsidies: individual categories and total value, [6]

ply and demand) indicates that distortions in these markets, if they continue, will have an even greater negative impact on welfare in the future.

An analysis of domestic support shows that government subsidies in the production factor markets aimed at output have influenced world markets and global welfare. Past trends in some commodities show that a number of countries began to move away from such measures, in particular subsidies, directly related to changes in the volume of agricultural production. The decision to ban agricultural export subsidies achieved at the 10th WTO Ministerial Conference in 2015 should help reduce the impact of such subsidies on international markets, as it severely limits the use of subsidies in conjunction with changes in output. Therefore, the impact of such subsidies is limited to the displacement of imports.

Stably low levels of support in these categories indicate that tightening control over them is a priority for multilateral negotiations. Even a reduction in the current permissible limits of the use of distorting domestic support is likely to be conducive to reducing its possible growth in the future.

Internal support tools should be able to effectively reduce or limit the negative effects of market failures and at the same time should not turn into direct subsidies related to changes in output. In this case, it is desirable to maintain some flexibility in policy measures. In addition, policymakers need to take into account that eliminating distortions in this area can have a direct distributional effect on households – an issue that must also be addressed. In addition to internal support, the results show that policy instruments used in other sectors of the economy are also important. Efforts should also be focused on other aspects of the reform program, as moving resources to other distorted areas, with reduced domestic support, may limit or nullify some of the benefits.

It is important to note that non-breaking trade internal support aimed at providing public goods can improve well-being. In particular, both general support services for the sector and the costs of research activities have a positive impact. In addition, contributing to the sector in mitigating and adapting to climate change will be important for ensuring productivity growth and meeting the demand of the growing population.

A recent OECD analysis has shown that domestic support and restriction of market access continue to create significant distortions in world markets. The results of the study suggest that policies on domestic support and market access play a role in influencing agri-food trade and welfare. In particular, the removal of domestic support and trade barriers contributes to global prosperity, production and trade. More uniform measures significantly increase these benefits.

Conclusion. The importance of supported commodities in the overall trade in agri-food products suggests that the domestic support policy used by a number of agricultural producer countries can have a significant impact on world trade and the economic potential created as a result of agricultural activities. Support for capital investments can reduce costs and make domestic production cheaper, that will allow it to supplant imports. However, interference in the market for factors of production (land, labor and capital) will potentially reduce production in other less protected types of agricultural activities.

Otherwise, support can partly offset the effects of the market for factors of production created by barriers to market access in other sectors of agriculture. Analysis of the elimination of domestic support indicates that the current domestic support policy negatively affects the trade in agri-food products. If the current domestic support policy were to be eliminated or restructured so as not to distort the market, the world trade in all agri-food products would grow.

Multilateral trade negotiations on agriculture are complex. After the beginning of the Doha round of negotiations in 2001, mixed results were achieved. However, the recent agreement of 2015 on the abolition of subsidies for the export of agricultural products, as well as other measures related to special safeguards and the creation of food stocks for food security, give hope that in the nearest future a further agreement on internal support and access to markets will be adopted.

Negotiators and policy makers can effectively explore models of domestic support for agriculture and their impact on distortions in global markets in order to move to concerted policy decisions that are effective in correcting and preventing these distortions.

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Андрухів Є.В., Трифонова О.Д. Як спотворення торгівлі впливає на ринки сільськогосподарських товарів

Анотація. У статті проаналізовано динаміку показників підтримки виробників ОЕСР, розглянуто основні сировинні товари, які підтримуються, в країнах, що входять в базу даних ППП ОЕСР, а також відносна підтримка країнами таких продуктів, як: рис, кукурудза, свинина, яловичина, молочні продукти, пшениця, цукор, бавовна, визначено внесок в глобальні зміни добробуту від усунення субсидій на певні групи сільськогосподарських товарів.

Ключові слова: сільськогосподарські товари, ППП, АПП, ОЕСР, СОТ.

Андрухив Е.В., Трифонова О.Д. Как искажение торговли влияет на рынки сельскохозяйственной продукции

Анотация. В статье проанализовано динамику показателей поддержки производителей ОЭСР, рассмотрены основные поддерживаемые сырьевые товары в странах, входящих в базу данных ППП ОЭСР, а также относительная поддержка странами таких продуктов, как: рис, кукуруза, свинина, говядина, молочные продукты, пшеница, сахар, хлопок, определен вклад в глобальные изменения благосостояния от устранения субсидий на определенные группы сельскохозяйственных товаров.

Ключевые слова: сельскохозяйственные товары, ППП, АПП, ОЭСР, ВТО.