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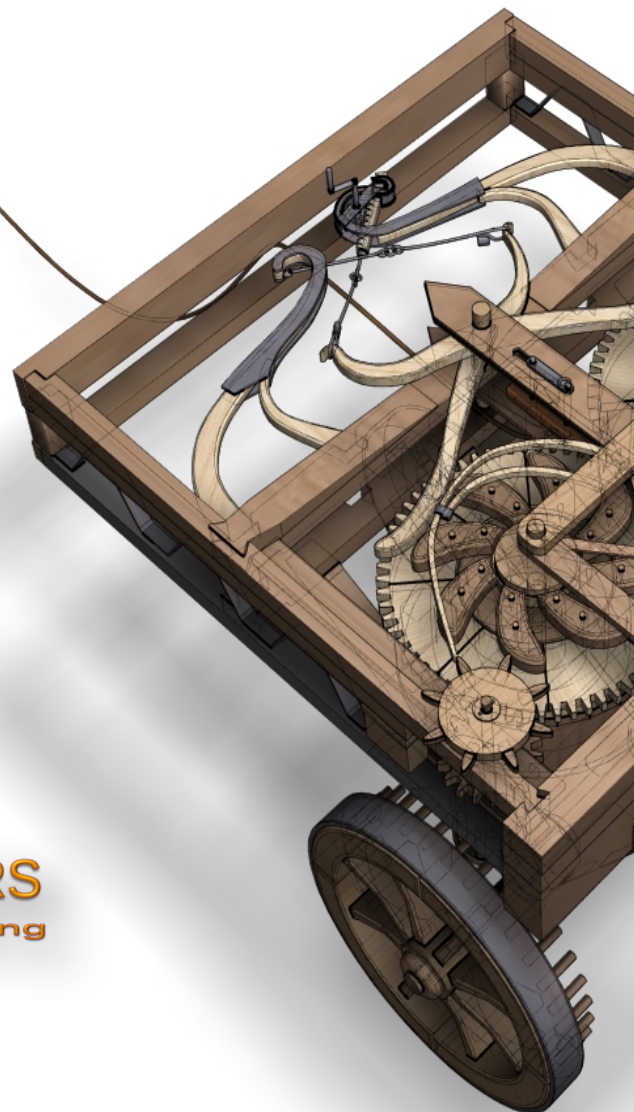
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Development of the Russian Economy's Agricultural Sector Under the Conditions of Food Sanctions (2015-2016)

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Abstract:

The Russian economy is in crisis. In 2014, the Russian government has introduced a food sanctions. This caused a certain economic processes in agriculture, post-Soviet Russia. Now the problem of food security of Russia practically solved. The main figures of the Russian agrarian economy are large agricultural holdings. The value of small farms is reduced. However, the agrarian economy of post-Soviet Russia is on the verge of a new economic crisis associated with the termination of public investment. We discuss a new strategy to overcome the agrarian crisis in modern Russian economy. The most promising strategy is an increase in food imports in Asia and Africa. A food import to the EU is not possible, since the EU has great demands on the quality and safety of food imports.

Keywords: post-Soviet economy; the agricultural sector; food sanctions; economic crisis; growth strategy

JEL Classification: L66; N54; Q11; Q13

Introduction

Russia's modern economy is undergoing an economic crisis induced by external and internal factors. The external factors include a number of political and economic sanctions imposed by the United States of America, Canada, the European Union, and Australia against Russia. The economic crisis in Russia is characterized by the following basic criteria: 1) negative GDP growth (gross domestic product); 2) significant devaluation of the national currency; 3) a high inflation level; and 4) a significant reduction in incomes. The real economy will be in a state of crisis for several years. A wide range of Russian experts are considering the import phase-out of a number of important goods (food products and agricultural-industrial goods primarily) as one of the methods to overcome the Russian economic crisis.

The real economy will be in a state of crisis for several years. A wide range of Russian experts are considering the import phase-out of a number of important goods (food products and agricultural-industrial goods primarily) as one of the methods to overcome the Russian economic crisis.

The study of the modern trends of the development of the Russian' economy's agricultural sector will provide a means to understand what problems may interfere with overcoming the economic crisis and what factors should be nourished for this crisis to be overcome in the agricultural sector.

1. Literature review

Many researchers have their eyes on the today's Russian agricultural economy. Loffe and Nefedova (1997) are of the opinion that the private agricultural economy will never get on its feet in Russia. The authors presume that the main form of agricultural production in Russia will be the evolutionary development of traditional kolkhozes (collective farms) and state agricultural companies. The largest factor is the significant reduction in rural population in Russia, which is an obstacle impeding the development of efficient farming. Atta (1993) analyzes the political economy of agriculture and food product manufacturing in the late Soviet period using as a reference analysis material on the economic problems of former Soviet republics. The author focuses on the deficit of grain in 1991 and the condition of Russian food stocks in 1993. In other sections of the study, Atta describes the Russian agricultural reforms of the 20th century in detail and makes predictions regarding the future development of agriculture in Russia. Harrison (1977) analyzes the relationship between social mobility processes and the development of the "Russian peasantry" social class. He investigates agricultural statistics data and states that approach to gathering statistical data were predetermined by prevailing economic theories. One can only to understand the specificity of the agricultural statistics after thoroughly enough studying the theoretical data.

Friedmann (1980) believes that agriculture experienced significant changes in the first half of the 20th century if compared to previous epochs: agriculture was transformed into modern market-oriented production, therefore the term "peasant" or "muzhik" (meaning the main actor of agriculture) called for a change for a more adequate term corresponding to the complicated market relations typical of the modern agricultural sector. The impact of globalization on the agricultural social classes is investigated in the book by Akram-Lodhi A. H., Kay C. (eds.) *Peasants and Globalization: Political Economy, Agrarian Transformation, and Development* (2012). Wegren, O'Brien, Patsiorkovski (2002a) take a look at the dynamics of Russian agricultural reform based on a study of 800 households in five regions of the Russian Federation. The authors state that the agricultural transformation was most successful for private farms, though large farms gained more profit than small farms. The success of the farmers resulted from their active participation in market processes. Swinnen (1997) analyzes the processes of agricultural privatization in 12 countries of Central and Eastern Europe. The author takes into account a set of factors (historical, economic, and political) and provides a detailed analysis of the reforms' progress. In the study, Swinnen provides a comparative analysis and explains why some processes of agricultural reforms are similar while others are radically different in these countries. Wegren (2002) investigates the changes in agricultural policy during the presidency of Vladimir Putin in Russia and compares the situation in the agricultural economy in the 2000-2002 period with the period when Russian president Boris Eltsyn was born. The researcher considers rules changes governing the import of food products, public debts in the agricultural sphere, unprofitable farms, and agricultural lending to be especially important.

Razavi (2009) studied a 30-year-long period of social relations, social institutes, and public movements associated with the agricultural economy. According to this author, gender relations had experienced particularly significant changes. In contemporary feminist theory, analysis of changes in the economy's agricultural sector reveals new aspects for the modern political economy. O'Brien, Patsiorkovski, and Dershem (2000) analyzed on the basis of a three-year field study of 463 Russian rural households over 1995-97 how these households adapt to rapid economic (market) changes. The authors identified institutional changes and emerging formal and informal land use patterns. The researchers explain the inequality of rural areas in Russia as relating to the inequality of human and social capital, as well as the level of stress and low subjective life quality.

The researchers pay special attention to the agricultural political economy concepts developed by Chaianov (1986), Harrison (1975, 1982) Lehmann *et al.* (1982). The agricultural reforms that were passed in Russia in 1990 are also actively discussed by Wegren (1994), Kitching (1998) Wegren *et al.* (2002b), Kalugina (2000) Leonard *et al.* (2000).

The researchers compare the Russian agricultural economy with similar economies of various regions of the world. Uzun (2015) examines in detail the concept of the "Total Agricultural Budget" and compares the formation of the agricultural budget in Russia with similar such processes in the USA, Canada, and European Union countries. Taranova, Gunko, Alekseeva, Bunchikov, Kurennaya (2015) believe that it is necessary to modernize political management in Russian agricultural regions.

The new situation in the Russian agricultural sector arose after 2014 when the Russian Federation introduced food sanctions against the European Union. Researchers analyze the new opportunities and risks that Russian agriculture faces relating to the introduction of food sanctions (Zinchuk *et al.* 2016, Smutka *et al.* 2016, Kuznetsov *et al.* 2016, *etc.*).

Most contemporary studies focus on forecasts and analyze possible risks associated with the development of the modern agricultural-industrial complex in Russia. The economic activity of certain companies operating on the agricultural market in Russia has not been fully investigated. Nevertheless, as a result of agricultural reforms and decollectivization, the main players of the modern Russian agricultural economy are not only farmers, but large companies as well.

The objective of this study is to analyze the agricultural products producers' activities in order to understand the methods recently used by Russia to overcome the economic crisis.

2. Methodology

The study applied critical review methods for scientific studies on the Russian agricultural market, statistical data analysis, monitoring of economic processes, as well as economic and mathematical modeling.

The research materials include economic parameters for the activities of agricultural companies operating on today's Russian market, statistical information on Russia's agricultural sector, the opinions of qualified experts, and other pertinent economic information.

3. Case studies

The Russian agricultural industry has been steadily developing into and emerging as the leading sector of the economy. A powerful impetus to the development of the agricultural sector have been the food sanctions that the Russian government has introduced against a number of countries – importers of food products into Russia, while the financial authorities devalued the ruble. As a result, a significant share of the food market in Russia became free from foreign competitors, food prices rose, agricultural products' domestic producers were able to rapidly increase both revenue and profit by the end of 2014.

The process of import phase-out under the conditions of reduced competition from external players became a major trend in 2015 as well. However, 2015 showed that this trend is in a descending position and is nearing its end. The Russian agricultural industry is at the beginning of a new stage of development; meanwhile the business will have to face a saturated market, high internal competition, a slowdown in business growth, and reduction in the industry's investment attractiveness. This stage is forecasted to begin in 2017-2018.

In 2015, Russian agricultural companies had been developing into a situation of a guaranteed market outlet and record level of prices for food products within the country. Nevertheless, there was not any significant production ramp-up. Grain yield remained approximately at the 2014 level, about 104 million ton. Pork production was 4%, poultry was 9%, and beef production dropped by 0.3% (the total growth rate of meat production was 4.8%). According to the Ministry of Economic Development of the Russian Federation, in 2014 the total growth of agricultural production was 13.7%, while in 2015 – only 3%.

Some growth is worth noting in specific market niches: the production of soybean, corn, and meat processing. Generally, agriculture in Russia is developing steadily, as planned, and under favourable conditions.

During 2014-2015, the process of the displacement of private farms and small farmers by large agricultural enterprises and holdings has continued on (Koptseva 2015). Thus, at the pork market's meat production volume by farmers and personal subsidiary households decreased by 17%, while the share of industrial production was 79% of total pork production. In 2010, the proportion share slightly exceeded 50%.

2015 was a fruitful year for Russian pig farming. The following factors contributed to the development of this market: 1) the food embargo; 2) ruble devaluation. As a result, the market was freed from competitive foreign suppliers. The growth factor in pig farming was the planned introduction of new production facilities in large agricultural companies: Miratorg, Cherkizovo, Rusagro, and certain others, though the Russian pork market is still unstable. Prices can rise over 6 months or fall by almost 50%. The market is characterized by the seasonal factor when there is overstocking or a sudden increase in demand for meat. The real trouble is the African swine fever virus, which destroys the population and threatens the preservation of the industry. Significant price fluctuations for pork stem from that. In 2015, prices for pork peaked and reached 180,000 (3,000 US dollars) rubles per 1 ton of meat in carcass weight equivalent. The business profitability of pig farmers reached 30-35% (averaging at 15-18%). Prices began to decline at the end of 2015 when world prices fell and the market was under pressure from imported pork (Brazilian frozen meat, which got significantly cheaper due to the substantial devaluation of the Brazilian Real to the Russian ruble). At the same time, pig farmers faced a decrease in consumer demand when purchasing power reached its highest point. In relation to the pig industry, experts express their greatest concerns and believe that it will not survive the price war with imported products if the food embargo is lifted by the Russian government.

The import phase-out scheme in the pig industry is performed at the fastest pace. The Russian food market is provided with its own pork in 90% of the consumption already (before the introduction of the food embargo in 2014, this figure was about 50-60%). The creation of new production in 2017-2018 will result in Russia's complete self-dependence for pork produced domestically.

Poultry farming has been developing more steadily than pig farming. Poultry meat is more affordable for customers in retail. In 2015, prices almost did not change – 100,000 rubles (1,600 US dollars) per 1 ton. Russia was able to provide its domestic market with poultry meat early before the introduction of the food embargo. Since the food embargo was imposed, Russian producers have strengthened their standings even more. There has been some overproduction observed of 200-300 thousand tons per year. Some experts consider poultry farming to be unprofitable and even close to a crisis. A slight increase in prices as a result of devaluation of the ruble was a positive factor. Currently this effect has been disappearing due to cost development and intense competition on the market.

Crop farming also has a number of unique features in today's Russian import phase-out. Russia has been long providing itself with its own wheat and coarse grain. Other positive trends have been noticed as well: extended production of a protein food supply for livestock production: corn and soy bean. In 2015, corn production increased by 16% to 13.1 million tons and in 2016 to 14 million tons. The production of soy beans in 2015-2016 increased by 65% and reached 2.7 million tons by 2015.

Companies dealing in oil and fat processing and sugar production have been steadily developing. There are several leading companies on the sugar and fat-and-oil market: Sodruzhestvo, the largest soy bean processing company in Russia; processing companies and exporters of oil-yielding crops Efko, Yug Rossii, and Aston; and leading sugar producers Prodimeks and Rusagro. These companies' strong market standings are due to a large amount of processing capacities, Russian customs regulation policy (there is an export duty for exporting sunflower seeds and as a result all sunflower seeds are processed within the country) and a stable consumption of the finished product: sunflower oil, mayonnaise, other oil, and sugar. Under the conditions of the economic crisis, Russian customers buy more sugar as a substitute for confectionery. The demand for soy beans from stock farmers is also significant.

Overall, the results of the food import phase-out in Russia are rather positive and food security is ensured. Though at the same time there are a number of agricultural areas, which still significantly depend on import: the production of vegetables, fruits, beef, and milk. In the Russian market, there are only a few companies that are able and willing to invest in beef production. There are only two companies involved in it on wholesale: Miratorg and Zarechye. The majority of investors refuse to invest in the agricultural sector for several reasons: 1) significant capital intensity; 2) high risks and the need to attract large investments with a long payback period. Miratorg and Zarechye companies develop elite production for expensive supermarkets and restaurants. They do not work for customers with medium and low income levels.

The production of fruits and vegetables in Russia has been showing constant and rapid growth. In 2017-2018 there will be new projects for the production of vegetables in the open field, thus ensuring a complete import phase-out.

According to the Russian Federation's Ministry of Agriculture, 170 greenhouse complexes are being built with about 24 billion rubles (400 million dollars) in investments. Therefore, the production of vegetables has increased by 100 thousand tons.

Currently, the Russia's agricultural economy is entering the final stage of the import phase-out. In 2 years, this sector will be radically different. The key factor will be the people's paying capacity. At the present moment, a significant drop in purchasing activity has been identified, including the food market and customers buy in the cheapest market niches. In 2015-2016, consumption of all types of meat has reduced by 5 kg –to 70 kg per capita. Over the previous 15 years, this figure had been steadily growing. Thus, two years later Russian agricultural companies will be developing in a situation of intensified competition and domestic food market saturation.

Plans are set to export Russian food in terms of growth strategy. In recent years, export is the factor of growth of crop farming in the southern regions of the Russian Federation, which are located near river and sea ports. For the last several years, Russia has been among the world's leaders in grain and sunflower oil export. In 2015, the grain export was 34 million tons. If the state does not regulate export too intensively, its scopes will grow in the future as well.

In the meat market, the export trend has just begun. In 2015, poultry meat was exported into 40 countries. For Russian poultry, the farming export has become the most important development trend. In 2016, raw materials the surplus is expected to be 300-500 thousand tons, accounting for 10% of total production. In 2014, the export of poultry meat in Russia grew by 11.6% compared to 2013 and in 2015 by 19.6% compared to 2014 (to 68.8 thousand tons). Some Russian agricultural companies have hugely increased in their export of poultry meat. Experts predict that by 2020 growth in the export of poultry meat will reach 300-500 thousand tons.

The big issue is that Russian exporters sell poultry meat in external markets either at a prime cost or even cheaper. This is due to the need for free overstocked warehouses and an increase the domestic market price to preserve break-even production as well as to strengthen the standings in foreign markets. It remains to be seen if the Russian poultry meat exporters can compete with poultry meat exporters from the USA, Canada, Brazil, and the UN without dumping.

Russian pork export is quite insignificant. The National Union of Pig Farmers provides the following data: in 2015, there were 20,000 tons of pork (production: 3.1 million tonnes) exported, which is 5 thousand tons more than in 2014. Supplies are mainly increasing due to the CIS countries (Ukraine: 62% of all meat export, Belarus: 26%, and Kazakhstan: 9.91%). To faraway countries, Russian pig farmers export pork by-products. These main customers are Hong Kong, Vietnam, Laos, and Thailand.

Over the last 10 years, in terms of a feed-grain relationship Russian pig farmers have caught up with the world's leading exporters (the USA, Brazil, and Canada), raising the rate from 6 kg of feed per 1 kg of body weight to 3 kg. For less efficient farms, this relationship can remain level with 4.5 kg, but the profitability of Russian pig farming remains high for foreign markets. 10 years ago 70% of the total pork market was comprised by farms and individual households. Currently, up to 80 % of pork is produced by vertical holding with their own fodder base and highly technological pig farming complexes. This share is expected increase up to 95% of total pork production by 2025. The prime cost among 20 leading Russian pork producers is 65-80 rubles (1-1.5 US dollars) per 1 kg of live weight, which can compare with similar figures among world exporters. The profitability of pork production is 25% providing a means to obtain competitive prices in foreign markets even in the case of the necessity for temporary dumping.

The main obstacle in exporting Russian pork is undeveloped legislation in the field of veterinary medicine. Up to now, there has been an internal Russian safety system of pork production. As a result, many prospective markets remain closed for Russia, including Japan, the Philippines, South Korea, and African countries, where there is rapid growth for the middle class. China and the UN countries are not considered as prospective market outlets for Russian pork sale, as these countries have the toughest sanitary legislation in the world. Expenses for ensure the safety system control for livestock management would be too large.

At the present time, export of the Russian products is only on the planning stage. The key trend for the Russian agricultural economy is the domestic market with a free market and geographical niches. For example, the development of the beef market, milk production, and the increase of protein feed for livestock farming: soy beans, corn, and the production of vegetables and fruits.

Agricultural companies can step up their presence in such regions as Primorsky Krai. Rusargo company extends its production of soy beans and corn in the Primorsky Krai and has initiated the construction of the largest pig farming complex in the Primorsky Krai region adjacent to Asian countries and Rusagro's strategy is to export agricultural products there. Miratorg company is expanding its presence in the Kaluga and Smolensk oblasts (Central Russia). In Kursk oblast, it is planning to build a modern pig farm.

Nevertheless, extensive growth has almost depleted its opportunities. Therefore, Russian players in the agricultural market try to change their strategy and move toward quality growth. This includes effective business planning, balanced investment assessment, taking into account external factors (government regulation or abolition of the food embargo), more accurate marketing strategies, and so on. There are two points that remain important for large manufacturers: 1) the development of vertically integrated production and full control over the processing chains; and 2) optimization of production costs. If this is implemented, then the companies will be able to avoid additional risks associated with fluctuations of the price for fodders and receive additional value in product sales.

Production cost optimization in the agricultural business has become extremely important since the devaluation of the ruble when companies' costs for imported production components have doubled. At the time of the devaluation of the ruble, the share of imported components in the prime cost of meat production was 70%. During 2015-2016 this figure decreased by 50% and more. Russian meat producers depend on imports mainly according to two parameters: 1) the purchase of genetic material – parent stock, hatching eggs, *etc.*; 2) the purchase of various fodder components, vaccines, and equipment for commercial production. None of these are currently produced in modern Russia.

Overcoming these two obstacles in Russia today is very challenging. Some companies (for example, Miratorg) want to have their own cattle breeding stock and sell it on the market. Then the company plans to arrange the production of its own seed grains and stop importing them. But it will still need to import the parental breed with pure genetics to create the parent stock.

The problem with importing fodders' is still troubling. Russia has its own industry for the production of mixed fodders. But the import component in the fodders still remains extremely high – up to 70% of the cost, which are premixes, soy bean, vitamins, *etc.* Optimization of fodders' formulas is the way to reduce the production cost of the Russian agricultural economy.

The issue of production cost in Russian agriculture will come to the fore in the near future. In 2015, most of Russian agricultural companies have reduced net profit compared to 2014, although proceeds have been growing. The Russian agricultural sector will face great challenges when the import phase-out process is completed and the food embargo is lifted. Dependence on imported materials is not the only problem though. There is a number of other factors as well: the non-transparent land market, expensive logistics, lack of infrastructure (roads and utilities), and inefficient institutions, ineffective government regulation, which lead to losses and imbalances. The development of the agricultural industry in Russia can be greatly deterred if the necessary conditions for the export of products and enhancement of its effectiveness aren't present.

Table 1. Largest Russian companies in the agricultural sector according to data as of December 31, 2015

Tranche					Spread - basis point (Gaussian copula)	Spread - basis point (Student copulas)
Agroholding Miratorg, OOO	Livestock production, corp farming, processing	96,346.0	74,058.0	30.1	21,085.000	16,396.000
Sodruzhestvo	Oil crop processing	84,215.6	60,913.0	38.3	- 2,524.000	-10,448.000
Efko, OAO	Vegetable refined oils and fats production	81,621.0	61,391	33.0	820.900	857.000

Tranche					Spread - basis point (Gaussian copula)	Spread - basis point (Student copulas)
Cherkizovo Group, OAO	Pigs and poultry breeding, processing	77,032.6	68,668.4	12.2	6,020.800	16,623.700
Kargil, OOO	Production of starch and starch products, sugar and sugar syrups, and mixed feed	75,038.0	47,292.8	58.7	2,793.800	539,400.000
Rusagro, OOO	Agriculture, food products production	72,439.2	59,112.2	22.5	23,690.000	20,177.000
Agro-Belogorye	Livestock farming and corp farming	63,571.3	57,812.9	10.0	5,983.000	no data
Belgrankorm	Livestock farming, corp farming, and meat production	48,000.0	34,000.0	41.2	6,000.000	no data
Prodimeks-holding, OOO	Production of sugar, corn, wheat, barley, sunflower, and sugar beet	46,599.3	35,201.2	32.4	300.700	4,600.000
Danone Russia, AO	Dairy products production	45,740.1	40,905.0	11.8	-1,428.600	66,000.000

Source: Expert-Analytical Center of agrarian business. Available at: <http://ab-centre.ru/>

The data on Table 1 display that agricultural business in Russia during the year 2015 demonstrated significant growth dynamics. All of the largest agricultural companies in Russia featured revenue growth in 10% up to as high as 58.7%. Considering the export of agricultural products as a promising growth strategy, representatives of major Russian agricultural companies have already begun to put this strategy into practice. Thus, Miratorg plans to export up to 25% of the products it produces. A promising market for this company is China. Damate company wants to increase its export of turkey meat up 8% from what it produces (more than 4,000 tons). Cherkizovo Company plans to increase export up to 20% from the total products produced.

The situation in the dairy products market remains quite complicated – the share of import is 19%. The main reasons they're lagging behind are: 1) production stagnation of raw milk; 2) a significant increase in production costs due to the devaluation of the Russian currency; 3) low investment attractiveness; and 4) a decrease in consumer demand.

State support for the agricultural business is extremely high: 5.4 billion rubles have been allocated for the purchase of modern agricultural machinery (more than 10,000 units have been acquired). The total scope of lending to the agricultural sector in Russia during 2015 increased by 9% over 2014 and reached 1.13 trillion rubles (19 billion US dollars). In 2015, the profitability of agricultural companies amounted to 22.3% and excluding government subsidies it was 10.9% (6.4% in 2014).

Conclusion

The Russian agricultural sector has overcome a deep systemic crisis. In 1990s, it entered into total decline. In 2015, all key indicators appear rather positive. The policy of the food embargo imposed in 2014 has yielded positive results for major Russian agricultural-industrial companies, which had significantly increased profits over 1 year.

However, there approaches a new period of development of the agricultural business in 2017 when state subsidies will be gradually reduced. There is also a risk in lifting the food embargo. The main growth strategy that the Russian agricultural holdings are focused on is a significant increase in the export of their products to the Asian and African markets. Compliance with Sanitary and Epidemiological Practice in the production, processing, and transportation of agricultural products still remains a great challenge impeding the implementation of their export strategy to other (European and Central American) countries.

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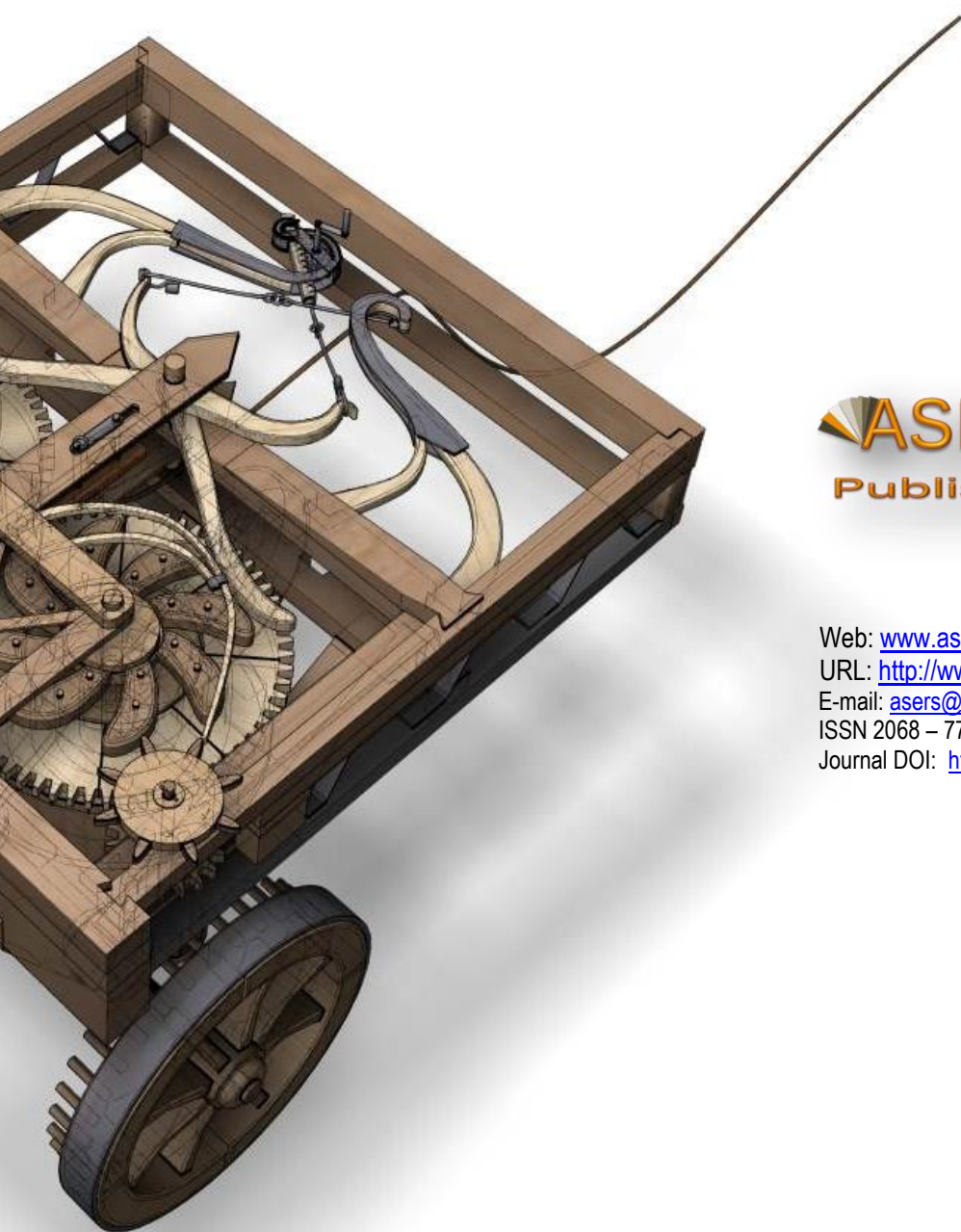
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