

**Development trends
in agricultural sector
and policies
– challenges for the future
(Synthesis)**



**INSTITUTE OF AGRICULTURAL
AND FOOD ECONOMICS
NATIONAL RESEARCH INSTITUTE**

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– challenges for the future
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**COMPETITIVENESS OF THE POLISH FOOD
ECONOMY UNDER THE CONDITIONS OF
GLOBALIZATION AND EUROPEAN INTEGRATION**

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development*

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and policies at the European Union and global levels, and moreover to outline directions
for future development and consequent implications for food industry in Poland.

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Introduction

Five years after the economic crisis, the global economy is still growing very slowly. This is most frequently explained by the erosion of trust, apart from such other factors as public debt, lack of fiscal consolidation, poor demand and trade across the world, and poor employment rate. Certain signs of improvement may be seen in economically developed countries (such as the United States), while in many developing countries economic growth is no longer as dynamic as it used to be (e.g. in China). The most worrying are growth forecasts for the Eurozone, especially due to the slower than expected pace of recovery in countries such as Germany, France and Italy¹.

The economic crisis also affects food economy, which is manifested first and foremost in political decisions concerning the implementation of agricultural strategies and policies (e.g. greater protectionism). For the first time in history, negotiations on the financing for the European Union in the 2014-2020 perspective led to a reduction of funds allocated in the EU budget to the Common Agricultural Policy. On the other hand, the prices of agricultural products in global markets remain high. The price indicator for basic agricultural products is down 2% as compared to 2011, yet in comparison to 2005 it is still high². Thus, the situation in agriculture is shaped by prices in global markets rather than by agricultural policies.

The purpose of this report is to investigate a wide range of factors that influence the development strategies of agriculture – their current shape, directions of change and challenges faced in the future. This attempt to combine a diagnosis of the present with a vision of the future follows from the need for an approach to supporting the agricultural sector that would be broader than the one adopted so far; thus it should take into account the changes that occur worldwide, also in respect of values, methods of communication, and the threat of terrorism. These areas, seemingly distant from agriculture, currently play a decisive role with respect to the priorities faced by societies, and they point to the need for a holistic treatment of various aspects of life and sectors of the economy. Research shows that the wealthiest 10% of the population of OECD countries receive income that is 9.5 times greater than that of the poorest 10%³.

¹ *Moderate global growth is set to continue, but weak demand in the euro area remains a concern*, Interim Economic Assessment, OECD, 15 September 2014.

² *Commodity Market Monthly*, International Monetary Fund, 11 July 2014.

³ F. Cingano, *Trends in Income Inequality and its Impact on Economic Growth*, OECD Social, Employment and Migration Working Papers No. 163, OECD Publishing, 2014.

The growing income polarisation may be more significant for the further economic development of the EU and long-term transformation in agriculture than we realise today.

It appears that these challenges were not understood during the negotiations on the next financial perspective for the years 2014-2020 in the EU. The years of the economic crisis were a unique opportunity to introduce structural changes in the Union, which has been developing at an ever slower pace and losing competitiveness in the global arena. Instead, attempts were made to save the *status quo*, also in agriculture, by satisfying the short-term priorities of the individual Member States. The lack of a common vision for growth that would be adequate to the challenges faced by the EU is the greatest drag chain for the changes in the Union as it is now.

This report concludes research carried out between 2011 and 2014 on identifying development strategies for the global agri-food sector and assessing the opportunities for adapting them to the Polish context. In the synthesis presented, the authors deliberately extended their field of interest to include new research areas that are meant to show a wider scope of factors that influence the directions of development of agriculture and agricultural policies than originally intended.

The report is divided into two thematic blocks, with the first one devoted to discussing the role of macroeconomic and institutional factors in shaping the development strategies of the food economy, and the second one to presenting the challenges faced by the agri-food sector on a global, regional and national scale. The first chapter presents an assessment of the changes in the support system for agriculture and its macroeconomic environment in highly developed countries. The second chapter presents changes in priorities and paradigms that affect the development strategies of the European agricultural sector as compared to the rest of the world. The third chapter shows the impact of institutional factors on the directions of development of agriculture, with particular focus on the implications of introducing the new principles for developing European legislation into the Union's agricultural policy. The next chapter assesses the growth opportunities for the global and European economy in the long-term perspective, with emphasis on the agricultural sector. The last chapter focuses on issues relevant to Poland and presents the challenges faced by the Polish food economy in the coming years in respect of the development of global value chains, as well as recommendations for the future.

1. Changes in the system of support for agriculture and its macroeconomic environment in highly developed OECD countries in the long term (1990-2012)⁴

1.1. Introduction

Weaknesses of the market mechanism determine the outflow of gross economic surplus from agriculture and weaken its adaptability in an increasingly turbulent environment. The effects of primary factors, implying inefficient allocation in line with the Pareto criterion, intensify due to self-advancement resulting from the limited mobility of resources in this segment of the economy and the presence of a structural barrier. A dilemma, known and discussed in economic trends and numerous studies, arises whether any problems encountered should be solved through active state policy or optimisation should be left for the “invisible hand of the market”. In accordance with the first of these concepts, a targeted income transfer, which at least partially offsets the earlier outflow of funds, allows agricultural holdings to maintain their structural transformation capacity. Inflowing funds are also a charge for using positive externalities and public goods associated with agricultural activities by the public. Based on experience to date, taking advantage of the solutions of highly developed countries, it can be clearly concluded that correcting the market mechanism is an integral part of economic policy. This observation helped formulate the developmental paradox, whereby socio-economic development is accompanied by an increase in the level of financial support for agriculture⁵. However, the problem is much more complex. The level and structure of transfers, as well as the instruments applied are diverse and these differences cannot be explained by only development disparities. The prevalence of measures carried out within the framework of agricultural interventionism does not imply their full acceptance on both economic and social assessment grounds. The motivation and effectiveness of agricultural policy raises multiple concerns. Its results are often hard to estimate,

⁴ In the current study data for the period of 1990-2002 presented in the following article were used from: A. Czyżewski, P. Kułyk, *Mechanizmy wsparcia rolnictwa w wybranych krajach wysokorozwiniętych i ich makroekonomiczne uwarunkowania (Agricultural support mechanisms in selected highly developed countries and their macroeconomic conditions)*, [in:] *Regulacyjna rola państwa we współczesnej gospodarce (Regulatory role of the state in the modern economy)*, D. Kopycińska (ed.), Katedra Mikroekonomii Uniwersytetu Szczecińskiego, Szczecin 2006. Moreover, data for the period 2002-2012 originated from our subsequent research were included in the work.

⁵ C.B. Barrett, *The microeconomics of the developmental paradox: on the political economy of food price policy*, “Agricultural Economics” 1999, Vol. 20, No. 2.

as opposed to side effects proving the weakness of allocation by the state. Apart from the benefit-cost balance of the solutions adopted, we would like to consider changes in financial support for agriculture and their determinants. Research conducted in this field refers to a very broad group of economic, social, political or cultural factors. Our study gives prominence to macroeconomic conditions. We hypothesise that these factors, taking into account the ongoing delays, determine agricultural support mechanisms, while the role of the other ones in this case is secondary and comes down to selecting specific solutions. At the same time, this allows for determining an optimal path to transform the agricultural sector, given the environment concerned and the structure of available resources.

1.2. Research methodology

Research on the system of financial support for agriculture in highly developed countries is based on the methodology used by the OECD to estimate and analyse the level and structure of intervention in the agricultural sector. The Producer Support Estimate (PSE), which represents an increase in income of an agricultural holding at producer prices (I_s) due to appropriate solutions compared to income with no support system (I_o), is of utmost importance. Therefore, the ratio may change as a result of both increased income generated by holdings themselves (including due to launching development processes) and budget transfer adjustments. In percentage terms, the PSE is expressed as $\left(\frac{I_s}{I_o}\right)$.

This measure included: price support (MPS), production payments, acreage and livestock subsidies, input subsidies, payments limiting the involvement of current means of production, supporting income and other transfers. The PSE is often considered as one of the most excellent measures to assess the support of the agricultural sector⁶.

The Market Price Support (MPS) determines the impact of any type of adjustments on the level of transfers to an agricultural holding and is expressed as⁷:

$$MPS = Q(Pp_p - Pw_p) \quad (1)$$

⁶ A.J. Oskam, G. Meester, *How useful is the PSE in determining agricultural support?*, "Food Policy" 2006, Vol. 31, p. 123.

⁷ *OECD's Producer Support Estimate and Related Indicators of Agricultural Support: Concepts, Calculations, Interpretation and Use*, OECD, Paris 2008.

The level of price support is determined by the ratio of the internal market price (Pp – in the country concerned p) to the world market price (Pw – reference price typical of the country concerned p , since it takes into account, among others, transport and insurance costs which can be assigned to a specific location) and the level of production covered by state protectionism (Q)⁸. The Nominal Protection Coefficient (NPC) complements the analysis. It serves to estimate the share of the MPS covered by the price effect in the level of market support. It presents the ratio of the domestic market price, including payments for the level or value of production, to the world market price with no support system. Disparities in income between highly developed countries and the rest of the world will generate a natural positive difference between Pp and Pw . At the same time, it should be born in mind that the share of these countries in world production is generally high. Hence, any change in supply (Q) will affect Pw . When the price elasticity of agricultural products is low, the role of this factor not only becomes significant for the internal market and support system costs, but also affects the profitability of agricultural production globally by feedback between Q and Pw .

The Consumer Support Estimate (CSE) characterises costs incurred by consumers as a result of the support system used. It covers transfers from consumers to agricultural producers and from taxpayers to consumers. The former are a degressive tax. The higher transfers from consumers, the higher costs borne by low-income households, i.e. those with a higher share of food expenditure in total consumption. They can be represented as the product of the level of consumption (Q_d) in the internal market and the difference in domestic (Pp_c) and world market prices (Pw_c) paid by consumers.

$$CSE = Q_d(Pp_c - Pw_c) \quad (2)$$

The costs borne by consumers are determined by the level of consumption per capita, including its share in the structure of consumption, consumption taxes, as well as domestic (Pp) and world market prices (Pw). Due to the large share of the analysed countries in world production and consumption, domestic and world market prices are directly linked, in line with the large open economy theory

⁸ Agricultural production structure that indicates the share of supply covered by price support also has a major bearing. Imputing that the specific level of production is covered by interventionism is contractual in nature. It results only from the discrepancy observed between the price in a given market and the reference price. However, disparities may have different sources, as different are utility functions of consumers of agricultural products and do not necessarily arise from the use of even hidden forms of protectionism.

(which is, however, not included in the presented methodology). Nevertheless, the level of production is of key importance due to the low price elasticity of demand. Moreover, factors keeping domestic prices high include price discrimination, the growing importance of production quality and the monopolisation of individual markets (e.g. entering the market with regional products, whose name is protected by law). The consumer NPC presenting the ratio of domestic (Pp) to world market prices with no support system (Pw) and paid by the consumer, constitutes a complement.

$$NPC_c = \frac{Pp}{Pw} \quad (3)$$

The Total Subside Estimate (TSE) represents the total level of financial support for agriculture. It estimates the level of transfers from consumers and taxpayers adjusted for transfers from producers to the budget (including from taxes paid). In percentage terms, it can be expressed as the ratio of their net flows to the GDP. Discussing the OECD methodology, one cannot forget about constraints in determining the level of the measures specified affecting the interpretation of the results obtained. The presented approach related to the concept of economic surplus attracts criticism for its incompleteness and too restrictive assumptions, and in particular for⁹: assuming the prevalence of perfect competition conditions, ignoring transaction costs due to changes in other markets of products or production factors under conditions for considering transformations in a given market. Moreover, one can point to: excessive attachment to the analysis of price effects, yet omitting income elasticities, ignoring transaction costs, complete information and perfect market allocation¹⁰. It is a partial analysis and therefore the prices and levels of production from other markets are taken as given (exogenous variables)¹¹. However, a change in financial support for agriculture in a large domestic market will affect the balance in other markets

⁹ J.M. Alston, G.W. Norton, P.G. Pardey, *Science Under Scarcity: Principles and Practice for Agricultural Research Evaluation and Priority Setting*, Cornell University Press, Ithaca, New York 1995. A detailed analysis of constraints associated with the assessment of transformations in agricultural policy using the economic surplus model and transformation curves can be found in: S. Scatasta, J. Wesseler, M. Demont, *A Critical Assessment of Methods for Analysis of Social Welfare Impacts of Genetically Modified Crops: a Literature Survey*, "Mansholt Working Paper" 2006, No. 27, Wageningen.

¹⁰ In this case, changes are assumed to be homothetic. However, the elasticity of shifts is not the same, thereby making the reactions differ in the size of the amplitude. Then, players in specific markets are assumed to be homogeneous.

¹¹ Change in the level of production and the level of transfers as regards large markets, such as the U.S., the EU-27, will affect other markets, including the reference price assumed (Pw).

(including the level of at least price support, as the reference price will change). Positive and negative externalities and public goods are also ignored. As a result of globalisation, this phenomenon considerably intensified in terms of both imperfect market allocation and state intervention. Perfect competition conditions require a further assumption on: existence of homogeneous products, perfect information, full mobility of resources, lack of specific constraints and a large number of buyers and sellers. Such assumptions are increasingly harder to sustain as a result of ongoing transformations, and in particular, the higher degree of monopolisation of processing and trade structures and the supply of agriculture with production factors. Oligopolisation and oligopsonisation (i.e. a small number of customers in relation to suppliers of agricultural products due to the concentration of distribution channels) of intermediaries in multiple agricultural markets make the analysis of financial support for agriculture based on the market models of perfect competition lead to erroneous conclusions, indicating a sustained flow of economic surplus to agriculture¹².

Under perfect competition conditions, economic surplus does not occur at the level of a single entity, but is shared by the owners of rare production factors¹³. An assumption on producer risk neutrality was made for the classical model of producer economic surplus. However, producers facing the problem of price uncertainty and policy changes can alter the entire distribution of the market mechanism. Unfortunately, in this case, the classical producer surplus measure does not provide a meaningful estimate of the welfare resulting from agricultural interventionism or price changes¹⁴. It is worth pointing out that, e.g. in South Africa, significant fluctuations in harvests exceeding 25% were reported, causing hard-to-predict price changes of high amplitude¹⁵. This is due to the generally low price elasticity of supply. This effect is intensified, because the elasticity of demand for agricultural products has a generally higher level in relation to supply, causing considerable instability in domestic markets. Consumers bear the costs of such policy in the form of a transfer of economic surplus, thus

¹² R.J. Myers, R.J. Sexton, W.G. Tomek, *A Century of Research on Agricultural Markets*, "American Journal of Agricultural Economics" 2010, Vol. 92, pp. 377-378; R.J. Sexton, *Market Power, Misconceptions, and Modern Agricultural Markets*, "American Journal of Agricultural Economics" 2013, Vol. 95, pp. 209-210.

¹³ However, disparities in the structure of agricultural holdings cause different effects in each of their groups.

¹⁴ D.S. Bullock, Ph. Garcia, K.-Y. Shin, *Measuring producer welfare under output price uncertainty and risk non-neutrality*, "The Australian Journal of Agricultural and Resource Economics" 2005, Vol. 49, p. 1.

¹⁵ C. Poulton, J. Kydd, S. Wiggins, A. Dorward, *State intervention for food price stabilization in Africa: Can it work?*, "Food Policy" 2006, Vol. 31, p. 343.

paying for their risk aversion. Obviously, external constraints arise with respect to the relationship of agriculture with the environment and are related to¹⁶: processing capacity, imperfect competition in the processing industry and trade, administrative costs, as well as implementation of the measures taken. The underlying assumptions are characteristic of a small open economy, characterised also by perfect competition conditions, both in individual countries and in the world market (not only in agriculture, but also in industries stocking up on agricultural products and intermediating in their flow and sale). In this perspective, agriculture produces homogeneous products that are subject to international trade at the same time. When assessing direct support, it is important whether these products are related to agricultural production, or rather support the production of public goods. In the latter case, the transfer should be considered quite differently and their impact on product prices is at best indirect¹⁷. Seeking to increase the supply of public goods to society leads to a decline in employment and agricultural production, but most land inputs remain in agriculture. Further land-intensive agricultural production techniques will decrease the PSE, but in relative (percentage) terms, it significantly increases¹⁸. However, it is estimated that the value of such support is relatively low in the current environment and can therefore be omitted. In total, such transfers are estimated at less than 5% of the PSE as regards OECD countries¹⁹. In subsequent years, their importance gradually increases²⁰.

¹⁶ P. Kułyk, *Finansowe wsparcie rolnictwa w krajach o różnym poziomie rozwoju gospodarczego (Financial support for agriculture in countries with different levels of economic development)*, Wydawnictwo Uniwersytetu Ekonomicznego w Poznaniu, Poznań 2013.

¹⁷ Undervaluation of resources and lack of proper valuation of agricultural goods by the market mechanism leads to an underestimation of agricultural labour input. Consequently, agricultural labour prices are undercut. As a matter of fact, there is a large group of factors that prevent the outflow of the labour force to non-agricultural uses (Z. Lerman, P. Schreinemachers, *Individual farming as a labour sink: evidence from Poland and Russia*, "Comparative Economic Studies" 2005, Vol. 47, No. 4, pp. 675-695).

¹⁸ D. Blandford, R.J. Brunstad, I. Gaasland, E. Vårdal, *Optimal agricultural policy and PSE measurement: an assessment and application to Norway*, 82nd Annual Conference, March 31 – April 2, 2008, Royal Agricultural College, Cirencester, p. 10. In fact, the intensity of using production factors in agriculture decreases.

¹⁹ S. Tangermann, *Is the Concept of the Producer Support Estimate in Need of Revision?*, OECD "Agriculture and Fisheries Working Paper" 2005, No. 1, p. 11.

²⁰ A. Czyżewski, P. Kułyk, *Public goods in multifunctional agricultural development. The attempt on problem conceptualization*, [in:] *Selected problems of market economy in the crisis era*, D. Kopycińska (ed.), Scientific Publishing House of the Szczecin University, 2011, pp. 156-157.

It is extremely difficult to determine the reference price. If we take into account the achievements of institutional and post-Keynesian economics, the resulting difference between world and internal market prices cannot be explained solely by the applicable agricultural support policy, which distorts their values. An assumption on the existence of the law of one price across the world market seems to be wrong²¹, so does an assumption on perfect competition. This simplifies calculations and clarifies considerations, but ignores numerous adjustments characteristic of imperfect competition. In such circumstances, transfers are expected to flow directly to agricultural producers²². In fact, as demonstrated, domestic agricultural markets are often dominated by a small number of large customers at the level of either processing or trade²³. In such markets, prices of agricultural products are undercut and increase in the area of processing or trade²⁴.

Therefore, OECD indicators cannot be considered as clearly showing the impact of agricultural interventionism. In the structure of agricultural support, agricultural interventionism is best represented by payments flowing directly to agricultural holdings. However, the costs of this transfer, becoming income of intermediaries, should also be taken into account when considering these payments. Flows related to payments for the provision of public goods should also be offset²⁵. Price support is most difficult to interpret and the proposed solutions (e.g. involving the use of average prices) also raise multiple doubts. They combine many factors: state intervention, degree of market organisation, competition level, information asymmetry, market infrastructure, income level and importance of agricultural products, as well as their heterogenisation. Therefore, it should be assumed that they are a transfer from consumers, rooted in both state intervention and the weakness of market mechanism allocation, stimulated by private businesses operating in the market.

The research covered 1990-2012. Highly developed countries, i.e. Australia, Japan, Canada, New Zealand, Switzerland, the U.S., the EU-27, and overall

²¹ P.G. Ardeni, *Does the Law of One Price Really Hold for Commodity Prices?*, "American Journal of Agricultural Economics" 1989, Vol. 71, pp. 661-669.

²² Having ignored the administrative costs of such retransfers.

²³ T.A. Wise, *The Paradox of Agricultural Subsidies: Measurement Issues, Agricultural Dumping, and Policy Reform*, "Global Development and Environment Institute Working Paper" 2004, No. 2, p. 8.

²⁴ Also, a fall in prices of agricultural products in selected markets under globalisation conditions does not necessarily imply positive liberalisation effects. The explanation should also be sought in increased bargaining power of processing and trade.

²⁵ Although also in their case, one should remember about difficulties in separating public goods from private goods produced in agriculture and a proper estimation of the value of these payments.

changes in OECD countries were analysed²⁶. Thus, as will be demonstrated, these countries have different agricultural interventionism models, although their level of development is similar. Their selection was driven by three criteria:

- relatively low share of food expenditure in household expenditure,
- low share of the labour force engaged in agriculture in relation to the total input of labour in the economy as a whole,
- low direct share of agriculture in the GDP²⁷.

An account was taken of highly developed countries with different role and position of agriculture in the world system and various instruments of its support. Differentiating values were macroeconomic conditions, implemented support mechanisms, both in terms of the level of transfers and the solutions used. Disparities also affected the size of domestic markets. Following the resource abundance theory, countries with much smaller internal markets, such as Australia, Canada, Switzerland and New Zealand, have less capacity to benefit from specialisation effects and hence are less probable to gain a comparative advantage in international trade²⁸. They all, however, enjoy a significant share in world exports, paying attention to the specific nature of the EU market, which combines heterogeneous domestic markets (with different structure of production and consumption, as well as resource allocation) and poorly coordinated fiscal policies. The research was based on countries covered by the Common Agricultural Policy throughout the period concerned. Their uniform support and coordination system, as well as the subsequent interconnection of many of their monetary systems suggest considering them as a whole.

1.3. Transformations of the support system for agriculture

While considering the system of support for agriculture, changes in the level of production and consumption of agricultural products should be analysed first and regarded as being a result of CAP measures. In 1990-2012, agricultural

²⁶ As regards EU Member States, their number increased in the period concerned, i.e. from 12 to 27. Support was not calculated for countries, which at the time were not EU Member States, as they applied completely different support mechanisms. At the same time, taking into account the impact of further integration on the level and structure of financial (P. Kułyk, *Finansowe wsparcie...*, op. cit.) support for agriculture, no attempt was made to single out new members. Nevertheless, this affects the interpretation of results, which was made explicit.

²⁷ The term “direct” refers to the share of agricultural gross value in the GDP. One can also consider an indirect share taking into account the importance of positive externalities, public goods and agriculture-related processing and trade structures based on agricultural products, generally treated more broadly as a food economy.

²⁸ W. Corden, *Trade policy and economic welfare*, Oxford University Press, 1997, pp. 36-39.

production in OECD countries increased by 2.58% per year on average (USD)²⁹, while real prices of food increased by 3.18% at the same time, raising income in terms of value³⁰. Agricultural production in these countries grew slower by 2.84 pp in relation to changes in world agricultural production. Thus, the share of OECD countries in global supply was increasingly lower compared to past periods. An increase in production followed an uneven trend. A particularly strong growth was observed in New Zealand (by 6.38% per year on average, which was 0.96 pp faster than changes in agricultural production in the world market), Australia (5.12%), Canada (5.06%) and the U.S. (3.92%). Among the countries concerned, a decrease was recorded only in Switzerland (0.2%)³¹. Production increased only slightly slower than consumption (0.06 pp per year on average).

Table 1.1. Changes in the support system and income transfers in OECD countries in 1990-2012

Country	PSE in %		CSE in %		NPCp		NPCc		TSE in %	
	1990-1992	2010-2012	1990-1992	2010-2012	1990-1992	2010-2012	1990-1992	2010-2012	1990-1992	2010-2012
Australia	8.84	2.67	-7.92	0.00	1.07	1.00	1.08	1.00	0.50	0.16
Japan	53.36	53.74	-51.39	-45.69	2.07	1.98	2.06	1.85	1.67	1.24
Canada	31.75	15.29	-18.47	-15.08	1.32	1.11	1.27	1.18	1.38	0.59
New Zealand	1.61	0.78	-3.05	-3.55	1.01	1.01	1.03	1.04	0.34	0.30
Switzerland	70.89	54.05	-66.14	-30.05	3.53	1.46	3.68	1.44	2.87	1.01
EU-27	35.20	19.38	-28.56	-3.79	1.52	1.04	1.49	1.04	2.04	0.74
USA	16.88	7.77	-0.05	11.97	1.10	1.01	1.11	1.02	0.83	0.50
OECD	33.29	18.87	-25.62	-8.66	1.42	1.10	1.42	1.13	2.20	0.79

Note: Negative values are transfers from consumers to agricultural producers due to higher prices of agricultural products in relation to the world market price used. Positive values indicate that funds flow in a different direction.

Source: Own elaboration on the basis Producer and Consumer Support Estimates Database, OECD, 2012, <http://www.oecd.org/agriculture/agriculturalpoliciesandsupport>; *Agricultural Policy Monitoring and Evaluation 2012: OECD Countries*, OECD Publishing, 2012.

Agricultural policy changes, which were initially thought to increase the degree of spread of production and consumption of agricultural products in

²⁹ At the same time, there was a clear change in pace. While in 1990-2000, the level of agricultural production in OECD countries decreased by 1.01% per year on average, 2002-2012 brought an increase by as much as 6.09% (own calculations based on: <http://www.oecd.org/agriculture/agriculturalpoliciesandsupport>, downloaded: 10 September 2014).

³⁰ This increase occurred in 2003-2012 and reached 9.06% per year on average. The previous period (1990-2002) brought a continuous downward trend of 1.48%.

³¹ Own calculations based on: <http://www.oecd.org/agriculture/agriculturalpoliciesandsupport>, downloaded: 10 September 2014.

highly developed countries³², followed no such a trend in subsequent periods. Periodically, these values remained close to each other³³. This should involve targeted measures under agricultural policy³⁴, but having a more short-term effect, allowing for the better balance of internal markets (from 105.62% in 1990-1992 to 100.32% as for all OECD countries in 2000-2002, before rising again to 106.32% in 2010-2012³⁵) and a decrease in the surplus of agricultural products produced in highly developed countries, thus limiting a growth in the operational costs of the support system. This trend occurred particularly in large markets of producers (the U.S., the EU) that enjoyed a significant share in global supply and thus a supply growth in these areas resulted in a strong downward pressure on prices of agricultural products in the world market (due to low price elasticity). This period was followed by a further increase in surplus production over consumption, boosted by the indicated increase in real prices of agricultural products.

In 2010-2012, the surplus reached 106.32% in OECD countries. Thus, the significant drop in production in highly developed countries could not be maintained, since this led to a growth in real world market prices, which is not socially acceptable. This applies in particular to developing countries, in which agricultural products play a relatively significant role in consumption. Most highly developed countries reported the above-average level of transfers to agriculture. In absolute terms, their volume did not change much in 1990-2012³⁶. The results are quite different if we take into account relative measures, converting financial support into the value of agricultural production. Then we note that the level of transfers to agriculture decreased from 33.29% to 18.87% (Table 1.1 – PSE). Thus, a rapid increase in the agricultural production of this group of countries

³² This assessment of the initial transition period associated with the deterioration of the relationship between agricultural production and the level of financial support especially in the EU, but also in other countries as a result of GATT agreements and then WTO ministerial conferences can be found, among others, in: F. Tomczak, *Od rolnictwa do agrobiznesu: transformacja gospodarki rolniczo-żywnościowej Stanów Zjednoczonych Ameryki Północnej (From agriculture to agribusiness: transformation of the agri-food economy of the United States of America)*, SGH, Warszawa 2004, pp. 248-250, A. Czyżewski, P. Kułyk, *Model rolnictwa industrialnego i społecznie zrównoważonego w warunkach polityki fiskalnej (Model of industrial and socially sustainable agriculture in terms of fiscal policy)*, [in:] *Gospodarka w obliczu eurotransformacji (Economy in the face of eurotransformation)*, J. Stankiewicz (ed.), Oficyna Wydawnicza Uniwersytetu Zielonogórskiego, Zielona Góra 2004, pp. 231-232.

³³ In 1990-2003, the deviation between an increase in production and consumption of agricultural products was 1.94 pp per year on average.

³⁴ In 1990-2012, there were significant changes in the agricultural policy of the main agricultural producers in the OECD. This applied, first and foremost, to Canada, the EU and the U.S.

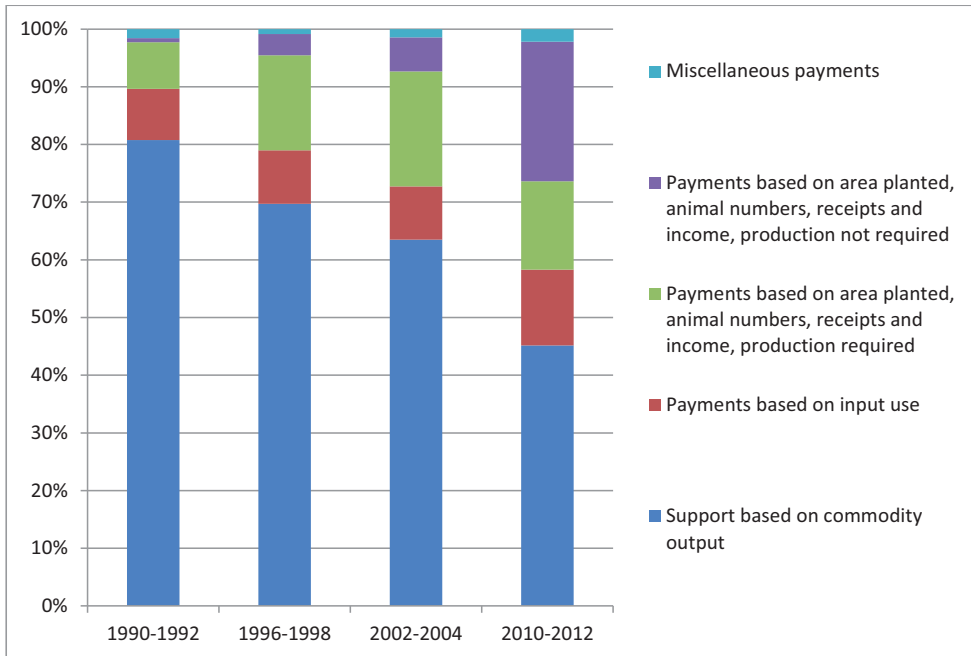
³⁵ Own calculations based on: <http://www.oecd.org/agriculture/agriculturalpoliciesandsupport>, downloaded: 10 September 2014.

³⁶ Over these 22 years, the PSE decreased by only 2.26%.

was the main reason for the transformations observed, rather than – as often assumed – a significant reduction in the scale of interventionism in agriculture (value of transfers to agriculture changed not much). Furthermore, this effect was due to the support itself and an opportunity to implement modern technology, as well as ensuring investment processes at the level of extended accumulation. The fastest decline was observed as for European and U.S. models; in Switzerland by 16.84 pp, Canada – 16.46 pp, and the EU-27 – 15.82 pp (Table 1.1). The greatest reduction in support occurred in 2000-2012 (by 13.5 pp) and was accompanied by a growth in real prices of food in the world market and a 91.6% increase in agricultural production in OECD countries. The former reduced the level of transfers from consumers (regarded as the difference between the reference world market price and the domestic market driven price). Thus, the production of agricultural products gained importance in the market system. This does not mean that consumers incurred increasingly lower costs (both the NPCc and the share of price support decreased – Table 1.1). However, the market coordination mechanism changed. Transfers did not result from institutional adjustments, but rather from higher prices and, consequently, the alignment of domestic and world market prices. In the case of countries in which financial support was high, this effect was mainly due to the reconstruction of the support system and higher world market prices. The fastest reduction in the NPCp was observed in countries with the highest NPCp, i.e. Switzerland, Japan, Canada and the EU-27, in 1990-1992 (Table 1.1). In 1990-1992, the average sales price of products received by an agricultural producer in OECD countries was on average 42% higher than the reference price; in 2010-2012, the difference fell to 10% (Table 1.1). Significant disparities in the reduction in the NPCp in specific countries mean that they should be attributed to agricultural policy transformations, rather than to higher real prices themselves³⁷. This latter effect affected mainly countries, whose level of financial support for agriculture was relatively low.

³⁷ The period concerned brought significant changes in the structure of financial support for agriculture in certain countries (including the EU, the U.S., Switzerland). A different reduction scale in individual countries indicates that the alignment of price relations could not be a single-source process, as occasionally happens (e.g. *Agricultural Policy Monitoring and Evaluation 2014: OECD Countries*, OECD Publishing, 2014). Moreover, as already mentioned, the assumption of a small open economy does not allow the effect of agricultural policy changes on the development of the world market balance to be taken into account. Nevertheless, this effect was apparent due to demand-supply adjustments. A slower growth in agricultural production in relation to consumption changes in the markets in question preceded price adjustments (A. Czyżewski, P. Kułyk, *Mechanizmy wsparcia rolnictwa...*, op. cit.), which were apparent after 2004. Then we assume that the agricultural product price in the world market will not be an exogenous variable. Such an assumption can better explain an increase in world agricultural market prices.

Figure 1.1. The structure of PSE in OECD's countries in years 1990-2012



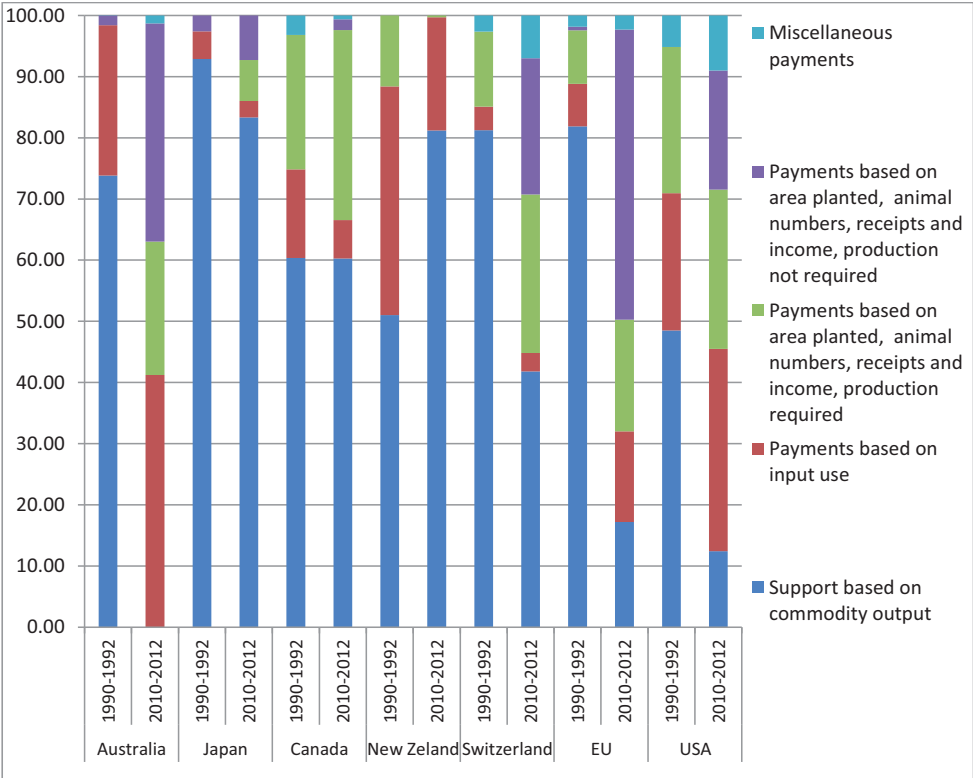
Source: Own elaboration on the basis: *Producer and Consumer Support Estimates Database, OECD, 2012*, <http://www.oecd.org/agriculture/agriculturalpoliciesandsupport>, one received: 10 September 2014.

The share of total transfers (TSE) in the GDP fell on average from 2.2% in 1990-1992 to 0.79% in 2010-2012. The largest decrease was reported in Switzerland (1.86 pp) and the EU-27 (1.30 pp). The lowest drop took place in New Zealand (0.04 pp) and Australia (0.34 pp), i.e. countries with a low level of financial support for agriculture. In New Zealand, the large share of agricultural production in the GDP (reaching 6.58% in 2008-2010³⁸) represented a barrier. In the period concerned, a slow growth in the GDP of the countries at issue limited compression. The relative share of transfers increased when crises affected OECD countries (e.g. BSE crisis in the EU, but also regional or global crises in 1990-1993, 2001-2003, 2008-2010). Consequently, food products were purchased by consumers at higher prices, undermining the international competitiveness of the product group concerned in the countries at issue. What is more, this situation entailed additional costs for the economic system due to the need for export refunds at first (e.g. in the EU in 1990-1992, their value amounted

³⁸ Own calculations based on: <http://www.oecd.org/agriculture/agriculturalpoliciesandsupport>, downloaded: 10 September 2014.

to 28.6% of total transfers to agriculture³⁹); and thereafter – for differentiated direct payments to agriculture. Domestic price subsidies are more beneficial for increasing the income of agricultural holdings and agricultural production due to better efficiency, rather than export promotion⁴⁰. At the same time, this situation made markets very attractive for importers, as a result of above-average profits to be achieved. Agricultural price support policy was used to boost supply in the domestic market. This resulted in significant differences in price levels in the domestic markets of agricultural products in OECD countries in relation to the world market. Among the economies considered, relatively high prices remained in Japan and Switzerland (Table 1.1). Especially in Japan, changes in the system of financial support had no significant impact on price relations.

Figure 1.2. The structure of PSE in chosen OECD’s countries in years 1990-2012



Source: Own elaboration on the basis data as in table 1.1.

³⁹ European agriculture entering the 21th century, European Commission, Brussels 2002, p. 62.
⁴⁰ B.L. Gardner, *Efficient redistribution through commodity markets*, “American Journal of Agricultural Economics” 1983, Vol. 65, No. 2.

If agricultural policy transformations are considered more widely, it can be noted that – under conditions of growing budget transfers – the support system became increasingly hidden, at the same time less and less undermining the international competitiveness of agri-food products in OECD countries, which also corresponded to the better balance of their internal markets, as already indicated. The fastest reduction occurred in Canada and the EU, and allowed for an increase in exports of resulting surpluses. It also meant allowing “price scissors” to expand faster. In the U.S., the level of prices received by producers came close to world prices, while consumers paid even lower prices than in the world market. Thus, transfers flew from taxpayers to consumers, allowing for restraining agri-food imports and boosting domestic demand.

A drop in the PSE, including in particular price support, was observed in the EU and Canada. Its level remained unchanged in the U.S. and New Zealand, but it was much lower and followed significant structural transformations in the support system. The PSE increased in Japan when production was on a downward trend, i.e. the MPS was much higher. Nevertheless, structural transformation was so advanced that it did not deteriorate external competitiveness. In 1990-2012, agricultural exports in these countries further increased, so did the aforementioned surplus production over consumption. The share of transfers to agriculture in the GDP decreased (TSE – Table 1.1). As a result, the impact of the economic situation on the level of financial flows weakened. Diverse changes occurred in the structure of influence.

A reduction in price support was especially evident in the U.S. (9 pp) and the EU (29 pp – Table 1.2). As a consequence, additional costs for the economic system were reduced. Its share remained unchanged in Canada and Japan, while in New Zealand – in relative terms – it even increased (Figure 1.2)⁴¹. The generated rate of economic growth, allowing for shifting a demand barrier, was decisive in boosting demand⁴². Favourable supply adjustments were observed in countries, which achieved the highest GDP growth. The high GDP per capita, which weakened (due to low income elasticity)⁴³ the impact of income changes

⁴¹ In absolute terms, it decreased. Its increase was possible due to a fall in total support, but above all, a decline in the importance of other agricultural support instruments.

⁴² A. Czyżewski, P. Kułyk, *Wzrost gospodarczy jako czynnik przekształceń w gospodarce żywnościowej w Polsce okresu transformacji (Economic growth as conversion factor in food economy in Poland during transition period)*, “Roczniki Naukowe Stowarzyszenia Ekonomistów Rolnictwa i Agrobiznesu” 2004, Vol. VI, No. 3, pp. 53-58.

⁴³ This effect was particularly evident in the U.S., whose GDP per capita in 2003 was about 48.37% above the average in OECD countries. As regards New Zealand, the level of support was relatively low, and therefore its structure plays no significant role in the analysis.

on a growth in demand for agricultural products, was a constraint. As a result, the rate of reduction in the share of agriculture in the GDP decreased to 0.32 pp on average in 1990-2012.

Production-based support, and in particular price support, gradually lost its importance (down from 80.75% in 1990-1992 to 45.15% in 2010-2012). Nevertheless, its role was still significant compared to other groups of instruments. This means that disparities in price levels between different markets remained the same, despite liberalisation. However, targeted direct payments, in particular those related to resources, gained importance (Figure 1.1). This reconstruction allowed for decreasing production costs and improving price competitiveness, at the same time, however, encouraging to invest more and thus boosting production, which was observed in these countries in 2004-2012. Since 2004, especially support instruments not directly related to production gained importance. In particular, this may be due to the increased importance of resources and application of charges for the provision of public goods. Consequently, the intensity of using resources could be reduced under certain environmental and quality conditions. This did not suggest that these payments had no impact on the level of production; however, their impact was much more limited and was often associated with meeting certain requirements. Their share increased from 0.71% in 1990-1992 to 24.17% in 2010-2012 (Table 1.2).

The processes presented followed an uneven trend in the countries concerned, despite global trends in place, including e.g.: an increase in prices of food products, liberalisation as a result of GATT agreements and then ministerial conferences, the establishment and development of integration groups which, as expected, should approximate the systems of financial support for agriculture in various countries, especially those with a similar level of economic development. The smallest changes in the structure of financial support occurred in Japan, which maintained the relatively high share of production support, although also in this case, targeted payments gained importance (Figure 1.2). The greatest transformations took place in the EU⁴⁴. The reconstruction of the support system resulted in a very steep fall in price support (from 81.87% to 17.18%), in contrast to direct payments which increased at the same time; especially those not related to production (from 0.56% to 47.43% – Table 1.2). This meant an increase in the importance of public goods in agricultural policy.

⁴⁴ In 1990-2012, the EU made further significant reforms and agreements affecting the level and structure of financial support for agriculture: the MacSharry reform (1992), the Uruguay Round of the GATT (1995), Agenda 2000 (2000), Luxembourg Reform (2003), Health Check (2008).

Table 1.2. Changes in the structure of PSE in OECD's countries in years 1990-2012 in %

Structure of PSE	OECD		Australia		Japan		Canada		New Zealand		Switzerland		EU-27		USA	
	1990-1992	2010-2012	1990-1992	2010-2012	1990-1992	2010-2012	1990-1992	2010-2012	1990-1992	2010-2012	1990-1992	2010-2012	1990-1992	2010-2012	1990-1992	2010-2012
Support based on commodity output	80.75	45.15	73.82	0.00	92.89	83.32	60.35	60.27	51.02	81.19	81.25	41.80	81.87	17.18	48.52	12.43
Payments based on input use	8.87	13.13	24.59	41.21	4.53	2.71	14.51	6.27	37.36	18.52	3.83	3.01	6.94	14.81	22.43	33.05
Payments based on area planted, animal numbers, receipts and income, production required	8.11	15.34	0.00	21.81	0.00	6.67	21.97	31.07	11.62	0.29	12.27	25.92	8.76	18.26	23.91	26.05
Payments based on area planted, animal numbers, receipts and income, production not required	0.71	24.17	1.58	35.69	2.58	7.30	0.00	1.78	0.00	0.00	0.00	22.27	0.56	47.43	0.00	19.48
Miscellaneous payments	1.56	2.20	0.01	1.29	0.00	0.00	3.17	0.60	0.00	0.00	2.64	7.01	1.86	2.32	5.14	8.99

Source: As in the table 1.1.

It can be noted that the ongoing changes included the abundance of resources in particular countries and the possibilities of orienting agricultural production globally. Countries exporting agricultural products faced a rapid decrease in price support (Australia, New Zealand, the U.S. – Figure 1.1). Slightly different processes were observed in Canada, in which the share of production support remained at a high level (about 60%), but the share of subsidies on resources related to agricultural production increased (as in Switzerland), allowing for lower costs and thus better competitiveness of such production. As a result, production grew very rapidly, whereas total support decreased. The high share of input payments was also characteristic of countries exporting agricultural products (Australia, the U.S.). However, the key importance of payments on resources not directly related to production was characteristic of the economies of the EU and Australia (although at a slightly lower level). Explanation related only to the level and structure of resources is not enough to explain disparities observed in the ongoing changes, therefore it will be complemented by the importance of macroeconomic conditions.

1.4. Transformations in the macroeconomic environment

Changes in the macroeconomic environment have a significant impact on transformations in the agricultural sector. The impact occurs at two interrelated levels. The first one relates to the direct shaping of conditions for the development of the area concerned. However, the specific nature of individual production factors makes it impossible to respect Pareto's sustainability criteria under the conditions of existing barriers⁴⁵. Demand-supply-price relations are an adjustment mechanism. In the absence of rapid supply adjustments in agriculture, "price scissors" expand, thereby deepening the disparity between the incomes of agricultural holdings⁴⁶. This means that the product produced is higher than the product achieved, which should be understood as a transfer of a part of the income of farmers and weakening of development opportunities in the long term. The second level concerns a correction mechanism and the impact of macroeconomic conditions thereon, being an external framework for agricultural support policy. To a large extent, macroeconomic conditions started to be concerned in

⁴⁵ A. Czyżewski, A. Henisz-Matuszczak, *Rolnictwo Unii Europejskiej i Polski. Studium struktur wytwórczych i regulatorów rynków rolnych (Agriculture in the European Union and Poland. Study of production structures and agricultural market regulators)*, Wydawnictwo AE, Poznań 2004.

⁴⁶ J.St. Zegar, *Przesłanki i uwarunkowania realizowania polityki dochodów w rolnictwie (Rationale and conditions of the implementation of agricultural income policy)*, IERiGŻ, Warszawa 2001, pp. 17-19.

papers by Schultz and Schuh⁴⁷, which emphasised the vulnerability of agricultural producers to fluctuations in macroeconomic factors resulting from market relations. Agricultural producers have to bear most of the costs associated with unexpected changes in these factors, due to the low elasticity of production (at least its part) and the long agricultural production cycle, and also take into account the level of prices imposed by the market. They cannot so easily pass them on to other segments of the food chain and consumers. Furthermore, the aforesaid specific nature of agricultural resources limits the flexibility to react to changes in the environment. The growing importance of relations with the environment should be associated with rapid transformations in the world economy. Macroeconomic factors were often included in the models of financial support for agriculture and foreign trade as exogenous support variables⁴⁸. Having examined 85 countries in 1960-2001, Gardner indicates that increasing the incomes of agricultural holdings takes five factors⁴⁹: economic and political stability, the guarantee of property rights, access to modern technology, access to the competitive market of inputs and means of production and a real income growth in non-agricultural sectors of the economy. At the same time, the abovementioned phenomena mean that financial support for agriculture is under pressure of macroeconomic conditions. Simultaneously, this support is to some extent a mechanism to eliminate weaknesses of macroeconomic conditions. This approach is reflected in a reduction in the share of agriculture in the economic system, when macroeconomic conditions are increasingly determined by transformations in non-agricultural sectors of the economy. The publications presented include factors, such as: economic growth rate, inflation rate, fiscal policy (deficit and public debt) and monetary policy (interest rate and money supply), exchange

⁴⁷ T.W. Schultz, *Transforming Traditional Agriculture*, Yale University Press, New Haven 1964; G.E. Schuh, *The New Macroeconomics of Agriculture*, "American Journal of Agricultural Economics" 1974, Vol. 58(5).

⁴⁸ Macroeconomic environment factors were addressed in papers, among others, by: B.L. Gardner, *On the Power of Macroeconomic Linkages to Explain Events in U.S. Agriculture*, "American Journal of Agricultural Economics" 1981, Vol. 63(5), pp. 871-878; A. Woś, *Konkurencyjność wewnętrzna rolnictwa (Internal competitiveness of agriculture)*, IERiGŻ, Warszawa 2001; Y. Mundlak, *Economic Growth: Lessons from American Agriculture*, "Journal of Economic Literature" 2005, Vol. XLIII, No. 4; D.-H. Kwon, W.W. Koo, *Interdependence of Macro and Agricultural Economics: How Sensitive is The Relationship?*, "American Journal of Agricultural Economics" 2009, Vol. 91(5), pp. 1194-1200; A. Czyżewski, P. Kułyk, *Relacje między otoczeniem makroekonomicznym a rolnictwem w krajach wysoko rozwiniętych i w Polsce w latach 1991-2008 (The relationship of macroeconomic environment and economic policy to agriculture in developed countries and Poland in the years 1991-2008)*, "Ekonomista" 2010, No. 2, pp. 189-214; R.J. Sexton, *Market Power...*, op. cit.

⁴⁹ B.L. Gardner, *Causes of Rural Economic Development*, "Agricultural Economics" 2005, Vol. 32, No. 1, pp. 21-41.

rate, unemployment rate. The transition from an economy based on agriculture to a non-agricultural economy, in which the direct share of agriculture is low, caused a change in approach to the relation between agriculture and the level of economic activity⁵⁰. In this case, agriculture is primarily a recipient of impulses from the national and world environment.

In the early nineties of XX century, the stabilisation option gained importance in all the countries concerned. As a result of the economic policy applied in the second half of this decade, inflation rate decreased globally in OECD countries and the countries in question from 7.9% per year on average in the eighties to 2.69% in 2002-2004 and maintained in subsequent periods (Table 1.3). Maintaining the constant disinflationary path increased the expansion of “price scissors” between the prices of products sold by agricultural holdings and the prices of goods and services purchased for production purposes in the initial period. The fastest reduction in inflation rate was observed in 1990-1996. At the same time, this period brought the fastest expansion of “price scissors” in most of the countries concerned. As indicated, it was related to the modification of the support system which, at the same time, maintained the disinflationary path. The transition of many countries from price support to direct payments, which do not contribute to higher prices of agricultural products, played an important role. Therefore, these transformations were correlated with macroeconomic policy and served to lower inflation rate. As for Japan, the process led to deflation in 1999-2003. As a consequence, there were periodic increases in real prices of agricultural products. Despite the diminished role of price support, however, no sudden expansion of “price scissors” was observed, but rather its pace accelerated periodically. Low inflation allowed countries with eased monetary policy to slow down the entire process significantly.

Table 1.3. Changes of the macroeconomic terms in OECD’s countries in years 1990-2012

The specification	1990- -1992	1993- -1995	1996- -1998	1999- -2001	2002- -2004	2005- -2007	2008- -2010	2011- -2012
Real GDP growth	1.44	3.91	4.46	3.22	3.48	3.48	1.98	3.11
Inflation rate (CPI)	3.84	2.78	1.23	3.45	2.69	2.86	3.01	2.53
Long-term interest rate	11.03	8.51	6.89	5.98	5.60	5.64	5.41	4.13
Real effective exchange rate ^a	81.28	71.05	75.50	68.55	77.86	89.36	93.10	107.67
Unemployment rate	9.08	9.69	8.18	6.63	5.90	4.73	5.00	5.15
General budget deficit (% GDP)	-5.25	-4.09	-0.24	0.11	0.70	1.04	-5.07	-3.28

^a 2010 = 100

Source: Own elaboration on the basis: OECD-FAO Agricultural Outlook 2012-2021, OECD 2014, <http://www.oecd.org/index.aspx>, one received: 10 September 2014.

⁵⁰ Y. Mundlak, *Economic Growth...*, op. cit., p. 990.

Economic growth results in changes not only in the level of consumption, but also in the structure of consumption of agricultural products⁵¹. Consequently, a shift towards products with higher income elasticity, including luxury goods, can be observed. Necessary changes in the structure of agricultural production are therefore expected. By adding value to income to be distributed, economic growth identifies new opportunities for retransfers to the agricultural sector. We can consider it using the value of the marginal transfer of national income, which indicates the share of income transferred to the agricultural sector. It has a direct impact on capacity to shape the level of financial retransfers pursued both by taxpayers and consumers of agricultural products. At the same time, however, better economic conditions result in higher prices of agricultural products, given low elasticity of these products⁵². In consequence, transfers from consumers grow, as opposed to retransfers covering relatively low prices obtained by farmers, which fall. Thus, a change in the level of national income causes transformations in the structure of retransfers to agricultural holdings and should result in the increased flow of economic surplus⁵³. In 1990-2012, GDP growth rate in OECD countries was lower by 0.54 pp per year on average, compared to 1980-1989. This was due to a downturn in the world economic climate. What is more, it should be associated with the aforesaid maintenance of the disinflationary path. The economic slowdown limited the demand factors of inflation growth, but also constituted an important barrier to increase demand for agricultural products (although to a lesser extent, due to the low income elasticity of this product group). The lowest GDP growth rate was observed in Japan (in 1990-2012, it was 1.13% per year on average, while in Switzerland – 1.52%); the fastest – in Australia (3.14%) and New Zealand (2.79%). This meant that the growth in domestic demand for agri-food products, characterised by low income elasticity due to GDP changes, was marginalised. The impaired income adjustment was offset by price adjustments (reduction in administrative prices) enforced by economic policy. This phenomenon was particularly evident in the policies of the EU and Canada.

In considering the relation of the role of labour market with transformations in the support system and agriculture itself, the specific nature of highly developed countries should be taken into account. The impact of the situation in

⁵¹ J. von Braun, *The World Food Situation. New Driving Forces and Required Actions*, International Food Policy Research Institute, Washington 2007.

⁵² J.B. Penson, B.L. Gardner, *Implications of the Macroeconomic Outlook for Agriculture*, "American Journal of Agricultural Economics" 1988, Vol. 70(5), s. 1013-1022.

⁵³ If we ignore agricultural policy changes, which may lead to an intentional increase in the flow of economic surplus from agricultural producers to non-agricultural sectors to maintain or increase economic growth rate.

this market on the absorption of labour from agriculture significantly decreases due to the low share of the employed in agriculture in relation to other segments of the economy⁵⁴. However, its impact on the level of financial support increases (due to growing wages and pressure to avoid excessive disparity, as well as the relations between different budget expenditure groups⁵⁵). Despite numerous supply shocks, the unemployment rate of OECD countries in the period concerned decreased from 9.69% in 1993-1995 to 5.15% in 2011-2012. Importantly, this decrease occurred when GDP growth rate was low, as already indicated. It grew and reached a relatively high level in the EU (8.8% per year on average) and Canada (8.2%). At the same time, these countries prevented this phenomenon from escalating. Nevertheless, its level remained relatively high. Since 1998, the unemployment rate of these countries has been subject to a sustained reduction, but its rate was low (0.61% per year on average in the EU). The unemployment rate increase throughout the period concerned was observed in Japan (however, in 2011-2012, it hit a low level and stood at 4.66%) and the U.S. (8.87%). Furthermore, this situation resulted in curbing a growth in demand for food products by deepening disparities in the distribution of national income. Consequently, the mobility of production factors (especially labour force) limited. Capacity to absorb labour from agriculture to other uses decreased. The highest absorption capacity of the economy for labour force was observed in Japan (despite higher unemployment rate, it was the lowest among the countries concerned) and Switzerland. This resulted in favourable conditions to boost structural transformations. Qualitative factors, resulting in an increase in real wages and implying a further reduction in the absorption of labour and deepening disparities in income between agriculture and other sectors of the economy, were of utmost importance to economic growth, because of its low rate (65.2% per year on average). Growing unemployment also led to an increase in social transfers in the economy as a whole, thus reducing funds dedicated to active state policy⁵⁶.

While comparing the situation in financial markets, considerable disparities in long-term real interest rate should be noted. Its level was higher than in 1980-1989, indicating tighter monetary policy. As a result, the disinflationary path was maintained. At the same time, it had no direct impact on the rate of falling inflation. The average inflation rate of OECD countries fell from 3.84%

⁵⁴ This is also due to the high share of workers from external (from other countries) labour markets, generally with lower incomes. Thus, there is a higher degree of elasticity in employment regulation.

⁵⁵ P. Kułyk, *Finansowe wsparcie...*, op. cit.

⁵⁶ The impact of growing unemployment rate on the level of social transfers was particularly evident in the U.S., in which food stamp expenditures rose in 2008-2012. These expenditures are treated as part of agricultural policy, although they are social in nature to a large extent.

(1990-1992) to 2.53% (2011-2012) (Table 1.2). This allowed for interest rate cuts and, at the same time, limited the expansion of “price scissors” of sold agricultural products in relation to industrial products purchased for agricultural production purposes. On the one hand, maintaining the disinflationary path poses a danger of expanding “price scissors” due to a downward pressure on prices of agricultural products and more generally – food products. On the other hand, favourable transformations and lower inflation rate should, in the long term, slow down the expansion of “price scissors”. All the countries considered experienced a decline in inflation rates. The fastest fall was observed in Japan, Switzerland and the EU. The first two countries experienced deflation, which is a factor increasing the flow of transfers through consumers (price support) to agriculture. This is due to the effect of the low price elasticity of agricultural products. In 1995-2012, long-term real interest rate further decreased. The fastest fall was observed in Canada (6.8 pp) and Australia (6.49 pp). Despite major fluctuations and disparities in most countries, real interest rate remained unchanged throughout the period considered, which proves the Fisher’s rule on adjusting nominal rather than real changes. This resulted in a considerable variation in the level of selection of investment processes and caused the movement of capital between countries. As a result of the ongoing changes, interest rates hit very low (Switzerland – 0.647% in 2012, Japan – 0.836%, or the U.S. – 1.803%) levels, providing opportunities for increasing funding of economic processes in agriculture through loans or combining market sources with budget transfers. Greater constraints in this regard occurred in Australia and New Zealand. This helped reconstruct the support system and reduce its relations with the level of production and pursuing investments directly increasing generation capacity. However, such support was more related to meeting certain requirements, e.g. environmental requirements, which justified co-financing through budget payments. The observed decrease in nominal interest rates meant a reduction in the costs of raising funds to finance budget transfers under budget deficit conditions. Relatively high interest rates in Australia and New Zealand resulted in capital inflows and higher exchange rate weakening the competitiveness of agri-food products in international trade. This is particularly important when these goods are highly homogenous. Higher interest rates did not boost labour inputs.

Table 1.4. Coefficients of correlation among indicators of agriculture support and macroeconomic conditions in years 1990-2012

The specification	Real GDP growth	Inflation rate (CPI)	Long-term interest rate	Real effective exchange rate	Unemployment rate	General budget deficit
Market support (MPS)	-0.005	-0.052	0.763	-0.572	0.852	-0.181
PSE	0.105	-0.031	0.589	-0.844	0.747	0.106
NPCp	0.013	-0.007	0.686	-0.756	0.803	-0.024
CSE (%)	-0.149	0.067	-0.629	0.814	-0.808	-0.066
TSE (% of GDP)	-0.200	0.124	0.909	-0.428	0.849	-0.437

Source: Own elaboration on the basis data as in table 1.1.

In highly developed countries, an increase in the current budget deficit may lead to reduced investments in private entities, including agricultural holdings⁵⁷. By contrast, in countries with low levels of economic development, it primarily affects the productivity of the production factors used⁵⁸. In this group of countries, lack of developed financial markets limits the possibility of transmission through investments. The poor infrastructure of state institutions, leading to reduced productivity and efficiency of state expenditures, is an additional barrier⁵⁹. The budget deficit decreased in the examined group of countries from -5.25% in relation to the GDP in 1990-1992 to -3.87% in 2011-2012. This indicates that inflationary pressures eased off, thereby bringing down interest rates in many countries. Nevertheless, this was not a general trend (deficit increased in Japan, New Zealand and the U.S.), adjustments were multidirectional across countries. At the end of the period considered, the highest deficit was observed in the economies of the U.S. (5.01%) and Japan (4.86%). During this period, fiscal policy became increasingly restrictive at low GDP growth rate. This forced a reduction in agricultural expenditures and an increase in their transparency and social support. Hence, a frequent shift towards targeted payments subject to numerous environmental and social conditions.

⁵⁷ E. Baldacci, A.L. Hillman, N.C. Kojo, *Growth, governance, and fiscal policy transmission channels in low-income countries*, "European Journal of Political Economy" 2004, Vol. 20, pp. 517-518.

⁵⁸ Ibidem, p. 545; S. Gupta, B. Clements, E. Baldacci, C. Mulas-Granados, *Fiscal policy, expenditure composition, and growth in low-income countries*, "Journal of International Money and Finance" 2004, Vol. 24(3).

⁵⁹ M. Bengoa, B. Sanchez-Robles, *Foreign direct investment, economic freedom, and growth: new evidence from Latin America*, "European Journal of Political Economy" 2003, Vol. 19(3), pp. 529-545.

Macroeconomic factors shaped external conditions for economic policy targeting the agricultural sector. The examined group of highly developed countries managed to make the level of transfers significantly independent from the current macroeconomic situation (Table 1.4). No relation was evident with regard to the budget deficit, economic growth, inflation. As for other factors, the relation identified was found “supportive” in nature. In accordance with the foregoing finding, if the rest of the macroeconomic conditions considered deteriorate, financial support increases as a sort of compensation. Results were driven by both the stability of the financing system and changes in the structure of inflows, allowing for adaptation to the environment. This implied conducting structural transformations, because agriculture adapts well to long-term stimuli, as opposed to current fluctuations⁶⁰. The highest neutrality was recorded with regard to the U.S., the EU and Japan. Slightly higher dependence was observed in respect of Canada and New Zealand (as for the latter, the total level of re-transfers to agriculture was, however, relatively small, due to budget constraints and the relatively high share of agriculture in the GDP). At the same time, these countries were characterised by smaller domestic markets (and therefore lower capacity to compensate for changes) and a weaker international standing. Relations in respect of real effective exchange rates, long-term interest rate and unemployment rate were clear. A relation with unemployment rate was particularly characteristic. Its increase was associated with higher financial support for agriculture. A downturn in the labour market launched additional transfers. This was not directly related to economic climate changes (GDP), since they had no such relation. Thus, only their deeper nature, leading to changes in the labour market, launched such a transfer. A similar relation was observed in terms of interest rates. Their higher level, indicating poorer access to market funding, e.g. in the form of loans, increased financial support. It was a kind of substitute for limiting access to external market funding through budget funds, as well as from consumers by applicable regulations.

Lack of a significant relation between the CSE and inflation indicates that the level of agricultural prices was not so closely associated with anti-inflationary policy. In the initial years, domestic conditions in some countries became less competitive due to an increase in exchange rate, which involved a contraction in the form of export subsidies⁶¹. In the longer term, this instrument was eliminated to a significant extent and internal market changes played a dominant role. The correlation coefficient was low. Higher dependence was recorded

⁶⁰ A. Woś, *Konkurencyjność wewnętrzna...*, op. cit., p. 30.

⁶¹ A. Czyżewski, P. Kułyk, *Mechanizmy wsparcia...*, op. cit.

in 1990-1996, when rising domestic prices necessitated the use of sufficiently high refunds. A gradual reduction in price support weakened the role of export refunds, as reflected by their decreasing share in the PSE.

1.5. Conclusions

In 1990-2012, highly developed countries maintained the status quo in the level of and disparities in support for the agricultural sector. Simultaneously, however, the structure of budget transfers, economic policy and macroeconomic conditions underwent very significant changes. It may be noted that there were many indications that changes in financial support for agriculture synchronised, so as to adapt to the economic policy pursued (in terms of structure and tools). The implementation of the stabilisation option and the resulting pressure to reduce inflation rate in the longer term of the budget deficit caused a faster drop in prices of agricultural products and the expansion of “price scissors”, especially in 1990-1996, through the transition from price support to direct payments (particularly in the EU, the U.S.). This provided an opportunity to better balance internal markets and relatively reduce support policy costs, as a result of a decrease in such expenditures in the GDP.

The level of support for agriculture in the countries concerned was largely isolated from transformations in the macroeconomic environment, and in particular from the impact of cyclical changes on the budget deficit, changes in the GDP and inflation rate. As a result, long-term measures could be taken and sustainable resource reallocation trends could be maintained. The high degree of neutralisation of externalities was characteristic of solutions found in the EU, the U.S. and Japan. This was encouraged by the declining share of agriculture in the GDP. Stronger fluctuations were observed in terms of externalities in relation to the national economic system, associated with shaping international exchange conditions (exchange rate). This meant that the support system responded flexibly to changes in price conditions in trade.

The concept of financial support for agriculture in 1990-2012 was based on an assumption that external macroeconomic conditions need to be stabilised for its proper implementation. This was partly due to the rules of the Washington Consensus and lessons learned from previous periods. The stabilisation option remained dominant in most of the countries. Consequently, inflation rate decreased, so did budget deficits. Achieving favourable effects in this area, in particular inflation rate, shaped favourable transformations in agricultural relations. However, numerous side effects, including slower economic growth, and persistently high unemployment were observed, although the latter slightly decreased.

There was a move away from the model of a single-stream flow of economic surplus to agriculture through a price channel to multi-stream flows of increasingly targeted transfers from taxpayers to agricultural producers. However, taking a closer look at this process, it is evident that the levels of this surplus became relatively similar due to the higher transportation costs of agricultural products between individual domestic markets. Globalisation, by increasing international trade, made this process more expensive, while consumer economic surplus started to be captured by intermediaries forwarding agricultural products and farmers in specific geographic areas due to higher prices of agricultural products. It also indicates that benefits received by agricultural producers are increasingly dependent on the efficiency of the institutional system, redistributing income from taxpayers to agricultural producers.

Although the structure, and most of all instruments of influence, underwent major transformations, generally this element gained no importance in the period concerned. It can even be noticed that such measures became increasingly common in the age of globalisation. Also, the market mechanism became an important factor to transfer surplus to agriculture, changing price relations between agricultural products and other goods. Undoubtedly, globalisation changed conditions for transferring economic surplus to the agricultural sector, but it did not challenge the necessity of the process itself. Also, it is noticeable that the role of nation-states in terms of sectoral policies and their impact on macroeconomic conditions did not weaken.

While assessing a flow of gross economic surplus to the agricultural sector, one can face multiple constraints. Many of the existing measures degraded due to globalisation and liberalisation. It is worth emphasising that the assessment used for surplus flowing between sectors and its sources need to be correctly interpreted. The existing disparities in both price relations and direct retransfers from taxpayers to farmers are excessively attributed to market interventionism. Many of these constraints are objective in nature, since it is impossible to clearly separate interventionism effects from changes resulting from weaknesses of market allocation.

Unemployment changes were of similar importance in time. However, the relations presented indicate that internal factors related to the economic area still played an important role. Despite the increased impact of externalities, they shaped the level and structure of transfers. Decreasing capacity to absorb labour from agriculture changed the situation. Furthermore, it is important to point out the crucial importance of real exchange rate. Countries maintaining exchange rate at a high level reported a reduction in the level of retransfers to the agricultural sector. As a result, however, it should be noted that their international level

was relatively higher due to overvalued exchange rate. On the other hand, there was a drop in the price competitiveness of agricultural products and an increase in the risk of reducing their production and, consequently, the level of retransfers to the agricultural sector.

Transformations in the structure of financial support and an emphasis on different agricultural development paradigms did not affect changes in disparities between the levels of financial retransfers in highly developed countries. The mechanism of retransferring economic surplus to agriculture was maintained. Despite the changes taking place and a paradigm change in agricultural policy, the key deficiencies of the market mechanism still need to be addressed through agricultural policy. Fundamental contradictions arising from the natural conditions of agricultural production and the specific nature of its production factors persist. It can even be noted that the negative effects of market allocation became more evident as a result of globalisation. However, a compulsion to consume food is common. Thus, the higher instability of externalities associated with the presence of global threats and violent fluctuations in price relations in world markets, as well as the scale of these threats constitute a clear expectation in relation to measures aimed at counteracting these phenomena or mitigating their effects. However, paradigms in agricultural development and agricultural policy, as well as instruments of influence are subject to change.

2. Changes in the priorities and paradigms as part of development strategies of the agricultural sector in the European Union based on the global context

2.1. Introduction

The global food crisis in the years 2007-2008 led to a clear revival of discussion on desired development strategies of agriculture in the world. The international community wonders how to satisfy the nutritional needs of the world in a situation of the growing demographic pressure, climate change and progressive environmental degradation. It is pointed out that in 2050 feeding the global population will require an increase in the agricultural production by 70%⁶². Also, experts stress that guaranteeing food security in the long term will not be possible without the development of sustainable agriculture, i.e. such one which rationally uses available natural resources.

The European Union (EU) tries to implement within the ideas of competitive and multifunctional agriculture, guaranteeing also food security, environmental protection and a number of other socially desired goods. For almost two decades, the paradigm of the multifunctionality of agriculture and rural areas has been an ideological basis for the EU Common Agricultural Policy (CAP). Recently, new challenges related to adaptation to climate change and protection of biodiversity have brought the CAP environmental objectives into prominence again. In the debate on the future of the policy, new arguments emerged, indicating the relevance and need to promote environmental public goods within the framework of the agricultural policy⁶³. Some even started talking about the need to shift formally to the paradigm of public goods⁶⁴.

The ideas of sustainable and multifunctional agriculture, supported by the EU, are becoming a basic point of reference in the broader discourse on the role of agriculture in the 21st century. The Food and Agriculture Organization of the United Nations calls for building development strategies of agricultural sectors

⁶² *Global Agriculture Towards 2050. How to Feed the World 2050*, Food and Agriculture Organization, Rome 2009.

⁶³ *A Common Agricultural Policy for European Public Goods: Declaration by a Group of Leading Agricultural Economists*, 18 November 2009, Brussels, <http://www.reformthecap.eu/posts/declaration-on-cap-reform-overview>.

⁶⁴ V. Zahrnt, *The Public Goods Paradigm and the EU's Common Agricultural Policy*, Global Subsidies Initiative – International Institute for Sustainable Development, 17 May 2010.

on agro-ecology programmes and climate-smart agriculture programmes⁶⁵. This is a particularly difficult challenge for developing countries. For most of them, the primary objective is still to increase the productivity in agriculture while the environmental and climate issues are receded into the background. Also, for some developed countries, the shift towards the agri-environmental policy is not obvious. On this background, the EU approach could seem to be very progressive, however, the policy actually implemented by the EU raises doubts as to whether we are dealing with the strengthening of multifunctional agriculture in Europe. It is stressed that the changes for the years 2014-2020 are not revolutionary, just the opposite, some of them are considered to be a backward step⁶⁶.

The objective of the study is to discuss the evolution of the priorities and paradigms of the EU agricultural policy on the global background. The recent changes in the CAP may have a potentially large impact on trends in the development of both European and global agriculture. So, it is worth taking a closer look at the determinants of the choice of specific priorities and thinking to what extent and how the prepared EU development strategy responds to new challenges faced currently by the agricultural sector. The chapter opens with the theoretical deliberations dedicated to the dynamics of changes in the paradigms in public policies. This part of the study is an introduction into a discussion on the essential determinants of the evolution in the conceptual framework of the CAP and its priorities. Another section is dedicated to a discussion on the major paradigms in agricultural policies of the modern states. It presents the framework, conceptual assumptions and programmes implemented as part of each separate paradigm. The other, fundamental part of the study throws light on the evolution of the paradigms and priorities under the CAP. Special attention is devoted to the latest CAP reform for 2014-2020. The study is summarised with the conclusions.

2.2. Changes in paradigms in public policies

As the paradigm, we usually mean the cognitive and conceptual framework which determines the way of understanding the world, the approach to defining problems as well as ideas on how the world should function. When referring this definition to public policies, it should be pointed out that the ideas

⁶⁵ *FAO calls for “paradigm shift” towards sustainable agriculture and family farming*, 29 September 2014, Rome, <http://www.fao.org/news/story/en/item/250148/icode/>.

⁶⁶ *The new EU agricultural policy – continuation or revolution?*, A. Kowalski, M. Wigier, M. Dudek (eds), series “Multi-annual Programme 2011-2014”, no 99.1, IAFE-NRI, Warsaw 2014, p. 9.

and normative assumptions resulting from the paradigm determine not only the choice of policy objectives, but also the instruments for their implementation. The values, norms and beliefs affecting the interpretation of specific situations and problems as well as trends of actions taken are sometimes also referred to as the reference framework in public policies (*référentiel d'action publique*)⁶⁷. The paradigms or reference framework make it easy for actors to function in the area of a given policy and as such are not easy to change. Policy reforms and changes in the instruments of the policy are often mistakenly identified with a change in the paradigm. However, not every reform and not every change in the policy instruments mean a change in ways of thinking about the basic policy assumptions and objectives.

The types of changes as part of public policies have been described more extensively by Hall⁶⁸. He distinguished three types of changes:

- a) first-order change, which means minor modifications and adjustments within a given policy;
- b) second-order change, during which one instrument applied within a given policy is replaced by the other instrument;
- c) third-order change, during which there is a fundamental change in the policy assumptions and objectives or, in other words, the adoption of a new paradigm.

Only in the event of the third-order change, we may talk about the change in the policy paradigm. According to Hall, a key role in this change is played by the social learning process. The change in the paradigm starts with an anomaly: an event which is not compliant with the adopted assumptions and which illustrates the policy's failure to solve specific problems. As part of the social learning process, actors collect information about policy's failures in dealing with emerging anomalies. However, accumulated anomalies lead to a crisis and replacing one paradigm by the other⁶⁹.

We may distinguish two models of changes in the paradigms. The first model adopts the Kuhn's logic according to which the change in the paradigm takes place rapidly, as a sudden break with the past. The other model, preferred by most social researchers, describes changes in the paradigms as an evolutionary process⁷⁰. Within the framework of evolutionary changes, new ideas and

⁶⁷ G. Skogstad, V.A. Schmidt, *Introduction: Policy Paradigms, Transnationalism, and Domestic Politics*, [in:] *Policy Paradigms, Transnationalism, and Domestic Politics*, G. Skogstad, V.A. Schmidt (eds), University of Toronto Press, 2011, p. 8.

⁶⁸ P.A. Hall, *Policy paradigms, social learning, and the state: the case of economic policy-making in Britain*, "Comparative Politics" 1993, pp. 275-296.

⁶⁹ Ibidem.

⁷⁰ G. Skogstad, V.A. Schmidt, *Introduction...*, op. cit.

solutions are included into the dominant paradigm. Therefore, what takes place is a transformation of the existing paradigm rather than its rejection and the adoption of a completely new ideological policy framework. In other words, the evolution of the paradigm is, in these terms, the constant reconfiguration of previous cognitive and normative structures. It is worth mentioning here that some policies more than others develop in the visible dependency on the path of previous choices (*path dependency*). This applies, in particular, to redistribution policies which privilege specific socio-occupational groups. When creating economic privileges (pensions) and assigning them to a specific group of beneficiaries, decision makers contribute to the emergence of the path dependency phenomenon. Beneficiaries of redistribution policies are not only unwilling to give up previously granted privileges, but also actively – and most often successfully – seek new economic benefits (*rent-seeking*)⁷¹. Thus, in case of such policies, it is very difficult to depart completely from the previously adopted methods for solving specific problems.

Both in the revolutionary and evolutionary model, changes in the paradigms are dependent on meeting certain conditions. New ideas and concepts must appear in a public discourse. Also, policy networks are required to open up. The networks, as certain systems of formal and informal institutional links between governmental and social actors, determine the political results⁷². Their closure, i.e. exclusion of specific groups of actors from the area of a given policy, makes it more difficult to introduce changes. Changes are then reduced to minor modifications, mainly changes in the applied instruments and their components, i.e. to first- or second-order changes. The third-order change requires introducing new actors with new ideas into cooperation networks, which is most often determined by changes in the institutional policy framework. Generally, opportunities for changes are greater if the power is dispersed – in this case, it is easier to shift the equilibrium in favour of a coalition of actors, who call into question the relevance of maintaining *the status quo*. However, if the power is concentrated, contesters lack adequate measures to break the monopoly in the area of a given policy⁷³.

⁷¹ A. Krueger, *The political economy of the rent-seeking society*, “The American Economic Review” 1974, Vol. 64(3), pp. 291-303.

⁷² R.A. Rhodes, *Policy network analysis*, “The Oxford Handbook of Public Policy”, R.E. Goodin, M. Moran, M. Rein (eds), Oxford University Press, 2006.

⁷³ A. Silke, H. Kriesi, *The Network Approach*, [in:] *Theories of the Policy Process*, P. Sabatier (ed.), Second Edition, Westview Press, Boulder 2007, p. 145.

2.3. Main paradigms in agricultural policies of modern states

Agricultural policies of modern states are based on various paradigms. Some states implement development strategies using approaches and concepts of several various paradigms at once. Usually, we distinguish four paradigms of the agricultural policy in industrialised states: a) dependent agriculture paradigm, also called state-dependent paradigm, b) competitive agriculture paradigm, c) multifunctional agriculture paradigm, d) global agriculture paradigm⁷⁴. Their characteristics is presented in the table below.

Table 2.1. Agricultural policy paradigms

Paradigms	Characteristics of agriculture	Policy priorities
Dependent agriculture (state-dependent)	Chronically low incomes in the sector, imperfect and unstable agricultural markets, yield volatility, difficulties in achieving market equilibrium, the lack of ability to compete without state aid	Direct and indirect support of agricultural incomes, market price support, protectionist trade policy, supply control measures, ensuring an adequate level of agricultural production
Competitive agriculture	Agriculture is not fundamentally different from other sectors of the economy, thus, it does not require special treatment, farming can provide average or above-average incomes without state intervention	Liberalization of agricultural and trade policies, intervention limited to safety net measures to be applied in crisis situations, market and free trade considered as a means for ensuring food security
Multifunctional agriculture	Agriculture provides not only food, but also a range of other goods and services of social importance (protection of the environment, management of natural resources, the preservation of the vitality of rural areas/rural cultural heritage, maintaining rural landscapes), but are not rewarded by the market. Farm incomes are too low to ensure sustainable development of rural areas	Support for all relevant functions of agriculture, measures directed towards sustainable rural development, in particular remuneration of farmers and rural areas inhabitants for the delivery of public goods; investments in technical and social infrastructure in rural areas
Global agriculture	Consumer-oriented agriculture, agricultural sector is only one element (among many others) in global food chain, state intervention in agricultural markets is not desirable	Market-based approach to agricultural policy, definition of food quality and food safety standards, providing an appropriate legal framework for contractual relations between actors of the food chain

Source: T. Josling, *Competing paradigms in the OECD and their impact on the WTO agricultural talks*, [in:] *Agricultural policy for the 21st century*, L.G. Tweeten, S.R. Thompson (eds), Iowa State University Press, 2002, pp. 253-259.

⁷⁴ T. Josling, *Competing paradigms in the OECD and their impact on the WTO agricultural talks*, [in:] *Agricultural policy for the 21st century*, L.G. Tweeten, S.R. Thompson (eds), Iowa State University Press, 2002, pp. 245-264; in the Polish literature, the paradigms of agricultural policies were analysed by, *inter alia*, A. Zawajska, *Paradygmaty dla współczesnego rolnictwa – protekcjonizm kontra liberalizm (Paradigms for a contemporary agriculture – protectionism contra liberalism)*, “Roczniki Nauk Rolniczych. Seria G: Ekonomia Rolnictwa” 2006, Vol. 92(2), pp. 62-72.

In fact, there is a situation in which the paradigms overlap. The multifunctional agriculture paradigm, pointing to the need for state interventionism, is based on the rationality of arguments of the dependency paradigm. In turn, the implementation of the basic assumptions of the competitive agriculture paradigm determines the transition to the global agriculture paradigm.

The indicated paradigms have been extracted mainly based on references to the role of the state in the economy. However, the implemented development strategies may also be divided by referring to methods of perceiving the role of agriculture in the economy and society. Taking this criterion into account, we may distinguish two paradigms – the productivism paradigm and the post-productivism paradigm. They are not, however, the paradigms functioning independently of the conceptual and ideological framework of the paradigms extracted based on an assessment of the desired scope and trends of state interventionism in the economy.

Productivism was the dominant paradigm in the first decades after the end of World War II. It emphasised an increase in the productivity of agriculture and the level of the agricultural production on a basis of intensive production methods. Due to the stressed need for a wide range of state interventionism, it was often linked and even identified with the dependency paradigm. State support was directly linked to the volume of production and with a farmer's produce. The implementation of the paradigm has led to the industrialisation of agriculture and a high degree of specialisation and concentration of agricultural production. At the same time, the effect of such a policy was the growing environmental degradation⁷⁵.

Productivism was most often justified by a need to achieve a high level of food security. In turn, the dependency paradigm, going hand in hand with it (and also referred to as the state aid paradigm), was based on an assumption about the uniqueness of the agricultural sector. Special treatment of agriculture has been institutionalised at the international level by having excluded this sector of the economy from the negotiations on the trade liberalisation as part of the GATT⁷⁶. Not before the second half of the 1980 was agriculture included into the negotia-

⁷⁵ T. Marsden, A. Morley, *Current food questions and their scholarly challenges: creating and framing a sustainable food paradigm*, [in:] *Sustainable Food Systems: Building a New Paradigm*, T. Marsden, A. Morley (eds), Routledge, New York 2014.

⁷⁶ C. Daugbjerg, A. Swinbank, *Explaining the health check: the budget, WTO, and multifunctional policy paradigm revisited*, Paper presented at the 109th Seminar of the EAAE in Viterbo, Italy, 20-21 November 2008.

tions on freeing trade⁷⁷. In the same period, agricultural practices based on the intensive production methods were also openly called into question. Nevertheless, some countries of the world still implement strategies based on the logic of industrial agriculture. At the same time, most industrialised countries develop agricultural policies around the paradigm assuming the need for state intervention in agriculture, despite the declining role of agriculture in creating the gross national product and in employment.

Negative experiences resulting from the implementation of policies based on the industrial model of agriculture resulted in the appearance of an idea of postproductivism in a public discourse. Postproductivism, as the opposite of productivism, puts an emphasis on limiting state intervention in agricultural markets and on developing environmentally-friendly agricultural practices⁷⁸. As such, postproductivism is equivalent to the paradigm of multifunctionality of agriculture and rural areas. State intervention, in accordance with the idea of postproductivism, should be geared towards promoting the sustainable agriculture system, environmental protection and delivery of public goods. As indicated, for the positive externalities generated by agriculture and combined with such public goods as nature conservation or protection of habitats, rural landscapes or climate protection, the market is not properly reflected in prices. Therefore, without state support, the level of public goods produced by agriculture will be lower than resulting from the social demand⁷⁹. Therefore, the presented range of values assigned to agriculture suggests a will to maintain the unique role of the sector, however, we may see a change in the way of justifying state intervention measures.

However, the emergence of the postproductivism paradigm does not mean the end of the productivism paradigm. Currently, the productivism paradigm occurs in new versions and does very well. Some even talk about rejuvenated

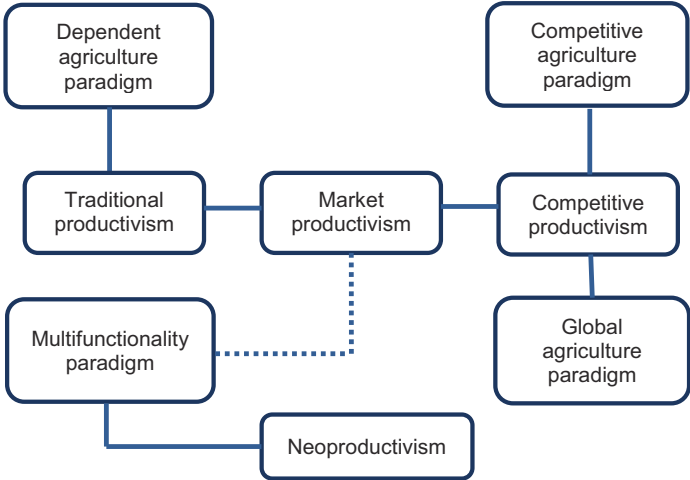
⁷⁷ What is interesting, the recent studies show that – despite the assumption about uniqueness – the agricultural sector was not treated in a special way when compared to other sectors of the economy. As indicated by Thies, the industrial sector was subsidised in a similar way and to an equally high extent as the agricultural sector. C.G. Thies, *The declining exceptionalism of agriculture: identifying the domestic politics and foreign policy of agricultural trade protectionism*, “Review of International Political Economy” 2014, in press, pp.1-21.

⁷⁸ R.J. Burton, G.A. Wilson, *The rejuvenation of productivist agriculture: the case for ‘cooperative neo-productivism’*, [in:] *Rethinking Agricultural Policy Regimes: Food Security, Climate Change and the Future Resilience of Global Agriculture*, R. Almås, H. Campbell (eds), “Research in Rural Sociology and Development” 2012, Vol. 18, Emerald Group Publishing, pp. 51-72.

⁷⁹ R. Baum, J. Śleszyński, *Nowe funkcje rolnictwa – dostarczanie dóbr publicznych (New functions of agriculture – delivery of public goods)*, “Roczniki Naukowe Stowarzyszenia Ekonomistów Rolnictwa i Agrobiznesu” 2009, Vol. XI, No. 2, pp. 19-23.

productivism⁸⁰. Also, support for protectionist agricultural and trade policies is increasing. Not only industrialised countries implement extensive programmes of intervention in agriculture. The shift towards such policies may also be observed in many developing countries, which over the years have pursued the policy of discrimination against agricultural producers. Undoubtedly, this shift was affected by the global food crisis in the years 2007-2008. Only few states pursue liberal agricultural policies based on the competitiveness paradigm and the assumption that food security may be achieved through the liberalisation of international agricultural trade (mainly Australia, New Zealand and the USA). However, new forms of productivism appear both within the framework of protectionist policies and liberal policies. Researchers distinguish between “competitive productivism” and “neoproductivism”⁸¹. Relationships and dependencies between productivism in various versions and paradigms extracted on a basis of the role of the state in the economy are presented in the diagram below.

Diagram 2.1. Agricultural policy paradigms and productivism in agriculture



Source: Own elaboration.

Competitive productivism is based on the neo-liberal ideology. Its objective is to achieve the high productivity of agriculture using advanced technologies and consolidation of agricultural holdings. The states implementing such

⁸⁰ R.J. Burton, G.A. Wilson, *The rejuvenation...*, op. cit., pp. 51-72.

⁸¹ *Ibidem*, p. 55.

a strategy focus on deregulation and free competition which is to remove weak, unprofitable agricultural holdings from the market for the benefit of the most productive ones. The government takes active measures to provide an appropriate framework for competition and consolidation in the agricultural sector.

Market productivism also refers to the neo-liberal ideology. It is reduced to the implementation of the development strategy of agriculture based on revenue-generating intensification and specialisation and concentration of the agricultural production. However, as opposed to the case of competitive productivism, market productivism does not constitute a formal government strategy. It is promoted mainly by agricultural producers themselves and large agro-food sector companies, which disagree with the environmental constraints imposed on the production. The state does not take measures to block the implementation of such development strategies, in addition, at the same time, it may promote post-productivism or concepts of multifunctional agriculture, while officially distancing itself from actions leading to the intensification of the production in the sector.

On the other hand, neoproductivism assumes a possibility of reconciling productivism with the ideas of multifunctional agriculture⁸². Sometimes, it is described as the more moderate or more sustainable form of productivism⁸³. In this concept, an emphasis is put on such agricultural production systems as integrated agriculture, precision agriculture, i.e. those applying plant protection products and fertilisers using computer and satellite technologies, or on organic farming. Nevertheless, some researchers have doubts whether neoproductivism is an actual attempt to integrate environmental objectives with production objectives. Existing practices indicate that it is rather only a minor modification in the practices which were based on the industrial model of agriculture⁸⁴.

Everything indicates that the agricultural sector will be under increasing pressure to raise the level of the agricultural production based on the most efficient production methods. So it seems that policies based on various versions of productivism will dominate in the nearest decades. In some regions of the world, the implementation of such policies does not require any modifications or re-

⁸² K. Rønningen, A. Renwick, R. Burton, *Western European approaches to and interpretations of multifunctional agriculture and some implications of a possible neo-productivist turn*, [in:] *Rethinking Agricultural Policy Regimes: Food Security, Climate Change and the Future Resilience of Global Agriculture*, R. Almås, H. Campbell (eds), "Research in Rural Sociology and Development" 2012, Vol. 18, Emerald Group Publishing, pp. 73-97.

⁸³ R.J. Burton, G.A. Wilson, *The rejuvenation...*, op. cit., p. 55.

⁸⁴ D. Anderson, *Productivism and ecologism: changing dis/courses in TVET*, [in:] *Work, learning and sustainable development*, Springer Netherlands, 2009, pp. 35-57. Similar opinions are also expressed by environmental non-governmental organisations.

formulation in the dominant paradigms. In other countries, more attached to the idea of sustainable agriculture, productivist policies will co-occur with the programmes of implementing specific environmental and social objectives.

2.4. Evolution of the paradigms and priorities as part of the CAP

The ideological fundamentals of the CAP were developed in the period between 1955 and 1962. Back then, the Member States, together with the Community institutions, determined the objectives of the policy and the rules for its functioning⁸⁵. The basic reference point was the need stressed after WWII and concerning increasing the productivity of agriculture and thus guaranteeing safe food supplies for the societies of the Member States. An equally important objective was to increase agricultural income. It was decided that the achievement of those objectives is not possible without the active role of the state. In the first period of its functioning, the CAP was thus based on the protectionist trade policy and developed intervention activities in agricultural markets.

The productivism paradigm was an ideological basis for the CAP until at least 1992, pending the adoption of the first in-depth policy reform⁸⁶. Back then, the Community made a crucial decision on reductions in the intervention prices in agricultural markets and on the introduction of direct payments to compensate farmers for income foregone due to reduced price support. Direct support for agricultural income was perceived as an instrument distorting the market to a lesser extent than the intervention prices. At the turn of the eighties and nineties of XX century, also the problem of structural food surpluses and alarming environmental consequences of intensification of agriculture in Europe was addressed. As a result of those actions, the first agri-environmental programmes and production restriction measures were adopted (*inter alia*, through the set-aside of agricultural land). But, there was still no clear evidence that the EU pursued a new agricultural policy integrated with more wide-ranging social and environmental objectives. For example, an area left in the production still could be more intensively cultivated, so that the farmer could get compensation for losses resulting from the set-aside⁸⁷.

⁸⁵ A. Fearn, *The History and Development of the CAP 1945-1990*, [in:] *The Common Agricultural Policy*, Ch. Ritson, D. Harvey (eds), Second Edition, CAB International, Wallingford 1997.

⁸⁶ P.H. Feindt, *Policy-learning and Environmental Policy Integration in the Common Agricultural Policy, 1973-2003*, "Public Administration" 2010, Vol. 88(2), p. 300.

⁸⁷ *Ibidem*.

The turning point on the way to adopt the multifunctionality paradigm was the Cork Declaration, accepted by the EU Member States in 1996⁸⁸. The Declaration specified a 10-point rural development programme and indicated to new functions of agriculture. Multifunctionality has been combined with the sustainable rural development. At the same time, areas in need of public support were indicated – management of natural resources, protection of biodiversity as well as maintaining and protecting the cultural landscape of rural areas. The new paradigm was institutionalised in 1999, with the adoption of Agenda 2000. Back then, the second pillar of the CAP was created, entirely dedicated to the rural development policy. The financial resources allocated for the implementation of the measures for rural areas were relatively small when compared to the expenses for the first pillar (price support and direct payments). However, further reforms were, in accordance with the assumptions, to lead to a gradual increase in inputs for the rural development through modulation (shifting resources from the first pillar to the second pillar).

The objective of further reforms of the CAP, carried out from the beginning of 2000, was not only to increase the importance of rural development but also to increase the market and environmental policy orientation. In 2003, the EU made a decision on separating direct payments from production (*decoupling*). Gradually, the role of market intervention instruments was also decreased. At the same time, farmers were obliged to meet specific requirements, including environmental ones, in order to receive direct payments (*cross-compliance*). The deeper integration of the environmental objectives with the CAP was additionally justified by new challenges related to counteracting climate change. Previously, the need to integrate the environmental objectives into the CAP was justified by mainly negative environmental effects of agricultural activities (negative externalities)⁸⁹. After becoming aware of the possibility of providing environmental public goods by agriculture (positive externalities), justifications in support of agriculture have been strengthened.

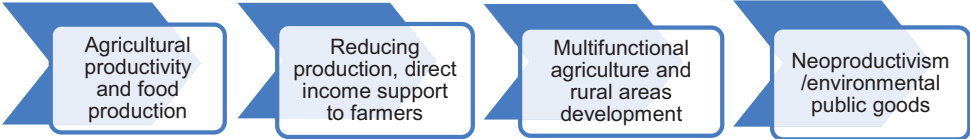
The CAP reform of 2013, discussed more extensively in the penultimate chapters, makes us, however, doubt whether the applied rhetoric of public goods is something more than just a convenient source of legitimising significant agricultural expenses in the EU. The solutions adopted seem to guide the EU agri-

⁸⁸ T. Mölders, *Multifunctional Agricultural Policies: Pathways towards Sustainable Rural Development?*, “International Journal of Sociology of Agriculture and Food” 2014, Vol. 21(1), pp. 97-114.

⁸⁹ P.H. Feindt, *Policy-learning...*, op. cit., p. 297.

cultural policy towards neoproductivism, rather than towards multifunctionality of agriculture and rural development. The evolution of priorities and paradigms is summarised in the diagram below.

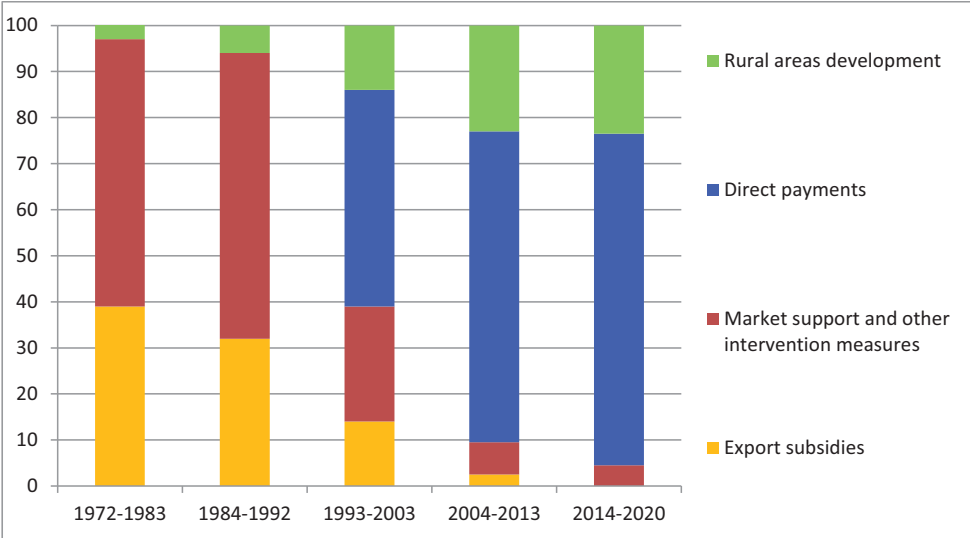
Diagram 2.2. The evolution of priorities and paradigms in the CAP



Source: Own elaboration.

The evolution of the CAP priorities is also confirmed by the budgetary structure (Figure 2.1).

Figure 2.1. Comparison of CAP expenditures in individual periods, broken down by economic categories (in %)



Source: Data drawn from the European Commission Financial Reports (1972-2013) and from the EU documents on multiannual financial framework for 2014-2020, http://ec.europa.eu/budget/biblio/documents/fin_fw1420/fin_fw1420_en.cfm.

For the first three decades of the functioning, the agricultural policy of the community was based mainly on price support, export subsidies and other means of market intervention. Support for rural areas was minimal, for those purposes the funds from the Guidance Section of the agricultural budget and some funds

of the Guarantee Section were allocated. However, this was only an additional source of support for agricultural producers. In the period 1993-2003, the funds of price support and support allocated for export refunds were shifted to direct payments. Rural development inputs also significantly increased, although they still accounted only for 14% of the CAP expenses. The downward trend in price support and export support persisted in the next analysed period (from 2004 to 2013). At the same time, the importance of direct payments in the structure of expenses significantly increased. Rural development inputs also increased, although to a significantly smaller extent (from 14% to 23% of the CAP budget).

On this background, the CAP budget adopted for the period 2014-2020 seems to be unique in this meaning that it abandons the previously observed trend to increase rural development expenses. For the first time for the entire programming period the EU assumes, more or less, the same pool of funds for the second pillar of the CAP as in the previous period. On the other hand, the share of direct payments in the structure of expenses definitely increases (in connection with the further reduction of market intervention instruments and complete withdrawal from the application of export refunds).

2.5. Determinants of changes within the CAP

The shift from the dependency paradigm to the multifunctionality paradigm within the CAP, which was observed in the mid-1990s, was not any revolutionary change. This was a change consisting in redefining the old ideological basics of the policy and adapting the instruments to new socio-economic and political conditions⁹⁰. The literature of the subject, however, contains many opinions that those reforms did not go beyond the first- and second-order changes, i.e., minor modifications in the policy by changing its instruments. Some suggest directly that there was no change in the paradigm. In their opinion, the agriculture dependency paradigm is still implemented within the CAP, but under a different name⁹¹.

The Common Agricultural Policy is, in fact, a policy extremely difficult to reform. There is even talk about the CAP-specific status quo bias⁹². Even if new

⁹⁰ I. Garzon, *Reforming the Common Agricultural Policy: History of a Paradigm Change*, Palgrave Macmillan, Houndmills 2006.

⁹¹ E. Rieger, *Agricultural Policy: Constrained Reforms*, [in:] *Policy-Making in the European Union*, H. Wallace, W. Wallace (eds), Oxford University Press, 2005; C. Daugbjerg, A. Swinbank, *Explaining the health check...*, op. cit.

⁹² J. Pokrivcak, Ch. Crombez, J.F.M. Swinnen, *The Status Quo Bias and Reform of the Common Agricultural Policy: Impact of Voting Rules, the European Commission and External Changes*, "European Review of Agricultural Economics" 2006, Vol. 33(4), pp. 562-590.

proposals and solutions are adopted, their form and directions are determined basically by previous decisions and choices. It is very difficult to adopt solutions which would completely alter the logic of the policy (*path dependency*)⁹³. The status quo bias of the CAP is fostered by specific institutional solutions and the privileged position of the agricultural lobby in the EU political system. These conditions led some researchers to accepting the thesis about the necessity of substantial external pressure if any changes and reforms of the CAP are to be possible at all⁹⁴.

Recently, however, the nature and importance of the factors affecting the CAP development trends have changed. Within the EU, pressure is growing to reform policy. We may observe gradual changes in the relationships between the institutions and actors involved in the process of creating, implementing and evaluating the policy. In policy networks, apart from actors related to traditional agricultural interests, new actors appeared who promote an alternative vision of the policy development. At the same time, the external conditionalities of the functioning of the CAP are changing. The external pressure, linked first with the requirements of GATT⁹⁵, and then with those of the World Trade Organization (WTO), was of fundamental importance in adopting the CAP reforms in the 1990s and in the first half of the 2000s. However, the failure of the Doha Development Round led to a decline in the importance of the WTO in the policy reforming process. Currently, the more important role is played by other external factors. Below, we will present the main internal and external factors, which affected the discussed evolution of the CAP paradigms and priorities.

New actors in the policy networks of the CAP

For a long time, cooperation networks within the CAP have included the limited group of actors. Cooperation was based on a corporate model which assumed the sectoral segmentation of links between the government and organised groups of interest, both at the level of the European Community and of the individual Member States. Key elements in the adopted model were institutionalised dialogue with the representatives of a given sector and making decisions by consensus. The government granted a selected trade union organisation, most often the strongest and with the most homogeneous preferences, a monopoly for representing the interests of the sector, while expecting, in return, assistance in pro-

⁹³ A. Kay, *Path dependency and the CAP*, "Journal of European Public Policy" 2003, Vol. 10(3), pp. 405-420.

⁹⁴ J. Pokrivcak, Ch. Crombez, J.F.M. Swinnen, *The Status Quo...*, op. cit.

⁹⁵ GATT – *General Agreement on Tariffs and Trade*.

gramming and implementing policies⁹⁶. Within the CAP, this role has been taken over by the two largest agricultural unions – COPA-COGECA⁹⁷. Both unions started close cooperation with the European Commission, which was responsible for preparing draft legislative acts, as well as with the Council of Ministers for Agriculture, which made final decisions. The COPA-COGECA committees also cooperated with the European Parliament, however, to a lesser extent due to the exclusively consultative role of this institution in legislative processes in the first decades of the functioning of the policy.

The essence and mechanisms of corporate cooperation of the European institutions with COPA-COGECA consisted in joint, without any participation of third parties, determining and negotiating agricultural policy objectives and instruments. The privileged position of the committees was institutionalised by agricultural advisory groups – bodies established by formal decision of 1962 and supporting the works of the European Commission. In the first decades of the functioning of the CAP, the COPA-COGECA were the only agricultural organisations invited by the Commission at the meetings of the advisory groups. As late as at the end of the 1980s, in connection with the financial crisis in the Community and the alarming social and environmental effects of agricultural protectionism, the COPA-COGECA monopoly collapsed⁹⁸. The Commission established cooperation with smaller agricultural organisations which competed with the COPA-COGECA and strengthened contacts with groups from outside the agricultural sector. After all, agricultural interests still were very strongly represented in the Council, which restricted the possibilities of introducing radical changes into the policy. Also, the commission for agriculture of the European Parliament has proved to be a place where the voice of farmers was listened to very carefully. In connection with covering the CAP with the procedure of co-deciding under the Lisbon Treaty, we could expect the further strengthening of the farmers' voice in the decision-making process.

Scandals with contaminated food, continuous degradation of the environment, negative consequences of trade protectionism and persistent income problems in agriculture (despite growing budgetary expenses on the CAP) led, however, to delegitimation of corporate models of cooperation. The indicated effects of the functioning of the CAP also made interest in participating in the process

⁹⁶ P.C. Schmitter, G. Lehmbruch, *Trends Toward Corporatist Intermediation*, Sage, London 1979.

⁹⁷ COPA – *Committee of Professional Agricultural Organisations*, COGECA – *General Committee for Agricultural Cooperation in the European Union*.

⁹⁸ A. Jones, J. Clark, *The Modalities of European Union Governance. New Institutional Explanations of Agri-Environmental Policy*, Oxford University Press, 2001, pp. 79-99.

of shaping the EU agricultural policy clearly increase in the 1990s. Groups openly criticising the CAP started regular cooperation with the European institutions (mainly with the European Commission, but also with parliamentary committees dealing with environmental protection and food safety), which, in turn, led to the rejection of productivism and the acceptance of the idea of multifunctionality of agriculture and rural areas⁹⁹.

Currently, public consultations under the CAP go beyond the issues related only to farmers' income and the functioning of the agricultural markets. The importance of actors and interests not related directly to the agricultural sector has noticeably increased. In the CAP policy networks, an important role started being played by both national and transnational environmental organisations and groups working for rural development, as well as academic groups, research institutes and think-tanks¹⁰⁰. Proposals and concepts formulated by scientists many times were a point of reference for the Commission in the process of preparing proposals of reforms for the CAP¹⁰¹. Networks of experts and scientific institutes started indirectly supporting the Commission also in its tasks related to the policy evaluation process. The introduction of obligatory impact assessments to the legislative process at the beginning of the 2000s clearly strengthened the tendencies to pluralise the CAP policy networks.

In 2000s, due to the adoption by the EU of the policy of counteracting the effects of climate change, the importance of environmental interests in the area of the CAP additionally increased. We may distinguish two types of environmental organisations involved in the CAP issues. The organisations of the first type support policies based on the paradigm of multifunctionality of agriculture and sustainable development. They also indicate that it is necessary to provide an adequate level of support for the entire agricultural production produced in the environmentally-friendly manner, thus supporting the continuation of the

⁹⁹ The formal confirmation of the process of modernising the outdated CAP policy networks was the Commission decision of 1998 on extending the composition of the advisory groups dealing with the CAP. In addition, the Commission indicated in its decision that, if necessary, the groups may also invite to their works the entities not mentioned explicitly in the decision. As a result, as early as in 1998, the advisory groups were joined by environmental organisations and associations acting on behalf of inhabitants of rural areas. The general advisory group for the CAP, group for health and safety of agricultural products, group for rural development and group for the environment and agriculture have been established.

¹⁰⁰ K. Kosior, *Environmentalists, Researchers and Bloggers in the CAP-Policy Networks*, "Copernicus Journal of Political Studies" 2014, No. 1 (in press).

¹⁰¹ K. Kosior, *Koncepcje reform Wspólnej Polityki Rolnej Unii Europejskiej po 2013 roku (Ideas for reforming the European Union's common agricultural policy after 2013)*, "Gospodarka Narodowa" 2011, Vol. 5-6, pp. 85-104.

policy of dependency of agriculture on public support¹⁰². Activists of these organisations work together within the framework of the European Initiative for Sustainable Development in the Agriculture. This transnational cooperation network was established in 2004 under the patronage of the then Commissioner for Agriculture, Mariann Fischer Boel and Joseph Daul, the then President of the European Parliament Committee on Agriculture and Rural Development. It covered the national agri-environmental organisations such as the French association FARRE (*Forum de l'Agriculture Raisonnée Respectueuse de l'Environnement*), FILL organisation from Luxembourg (*Fördergemeinschaft Integrierte Landbewirtschaftung*), FLN from Germany (*Fördergemeinschaft Nachhaltige Landwirtschaft*), British organisation LEAF (*Linking Environment and Farming*), Swedish union of *Odling i Balans* and the Austrian OAFIP association (*Österreichische Arbeitsgemeinschaft für Integrierten Pflanzenschutz*)¹⁰³.

The second type of environmental organisations active in the area of the CAP function outside the agricultural sector and present the more progressive position. These organisations stress that farmers should be remunerated for providing environmental public goods, not for the production of food. Like the organisations of the first type, the organisations of the second type postulate departing from the intensive model of agriculture for the policy of the sustainable use of natural resources, however, they reject the concept of supporting the whole of the integrated production. Only those practices related to the integrated production, which contribute to protecting biological diversity, counteracting the effects of climate change and preserving rural landscapes in the EU should be supported from the public funds. The non-governmental environmental organisations of this type include:

- BirdLife International,
- WWF-World Wide Fund for Nature,
- European Environmental Bureau,
- European Centre for Nature Conservation,
- European Water Partnership,
- European Forum on Nature Conservation and Pastoralism,
- International Federation of Organic Agriculture Movements-EU Group, and
- European Landowners Organisation¹⁰⁴.

¹⁰² K. Kosior, *Environmentalists...*, op. cit.

¹⁰³ Ibidem.

¹⁰⁴ Ibidem.

Progressive environmental organisations have involved very actively in the debate on the future of the CAP after 2013. Possibilities of the influence of these organisations on shaping the agenda of reforms of the EU agricultural policy have increased due to those changes in the composition of the Commission agricultural advisory groups. Since 2004, the Chairman of the agricultural group for environment has been the President of the International Council for Bird Preservation. In 2009, this organisation, along with other environmental associations and groups of researchers, presented an extensive programme of reforms of the EU agricultural policy, taking account of the new challenges related to climate change and protection of biodiversity¹⁰⁵. Those challenges were and still are the basic point of reference in determining the priorities of the future CAP. Though the environmental organisations also stress the importance of food security, they indicate at the same time that this security should be guaranteed over a long period of time and, thus, on a basis of the sustainable use of natural resources (water, soil). Following scientific research, they indicate that limited biodiversity of ecosystems leads to the deterioration of conditions to produce food¹⁰⁶.

As a result of the intensified activities of the environmental organisations, the European Commission adopted the concept of supporting environmental public goods under the CAP. So, we may say that the actors from outside the agricultural sector acquired the real influence on shaping the agenda of reforms of the EU agricultural policy. At further stages of the policy creation cycle, the influence of new actors was, however, definitely smaller. Progressive environmental organisations have failed to strengthen contacts and relations with the Council of Ministers for Agriculture. These organisations have not also participated in public hearings organised by the European Parliament Committee on Agriculture and Rural Development. It is worth mentioning that the vast majority of members of this Committee in the previous EP's term of office were directly related to agriculture (they were farmers, agricultural union activists, former ministers of agriculture)¹⁰⁷. In connection with that, at the appropriate stage of decision-making by the Council and the Parliament, the impact of environmental interests was definitely smaller than at the stage of determining the agenda by

¹⁰⁵ *Proposal for a new EU Common Agricultural Policy*, BirdLife International, European Environmental Bureau, European Forum on Nature Conservation and Pastoralism, International Federation of Organic Agriculture Movements – EU Group, WWF – World Wide Fund for Nature, December 2009, <http://cap2020.ieep.eu/vision/NGO-CAP-proposal.pdf>.

¹⁰⁶ K. Prandecki, *Agriculture and climate change*, [in:] *The new EU agricultural policy – continuation or revolution?*, A. Kowalski, M. Wigier, M. Dudek (eds), series “Multi-annual Programme 2011-2014”, no 99.1, IAFE-NRI, Warsaw 2014, p. 133.

¹⁰⁷ A. Greer, T. Hind, *Inter-institutional Decision-making: The Case of the Common Agricultural Policy*, “Politics and Society” 2012, No. 31(4).

the European Commission¹⁰⁸. Thus, the ultimate shape of the adopted pro-environmental regulations has been substantially defined by sector-oriented and conservative preferences of the Council and preferences of MEPs sitting on the Parliament Committee on agriculture.

WTO, agricultural trade and global food crisis

As mentioned above, the previous rounds of the CAP reforms were basically determined by the WTO requirements. International obligations made by the EU have led to limitation of interventionism in agricultural markets, reduction in the amount of applied customs duties as well as limitation and then withdrawal of export refunds for agricultural producers in the EU¹⁰⁹. In accordance with the WTO requirements, the CAP instruments are currently based almost completely on the measures, which do not directly affect trade and prices in agricultural markets¹¹⁰. Changes within the CAP, introduced in the 1990s and 2000s implemented the provisions and obligations contained in the Agreement on Agriculture negotiated under the GATT Uruguay Round in 1994. The assessment of the last two decades of the functioning of the CAP allows to conclude that this agreement has clearly increased the market orientation of the policy. It also had a considerable impact on the adoption of the multifunctionality paradigm by the EU. Apart from decoupled direct payments, the instruments not distorting the production and international trade also included the measures for rural development and environmental protection. For this reason, at the end of the 1990s, within the CAP a separate pillar was created devoted entirely to the rural development policy and in the following years the funds allocated for that purpose were progressively increased. Then in 2003, the principle of decoupling was introduced, leaving a limited possibility of coupling payments in the most sensitive sectors.

The WTO negotiations on further agricultural trade reforms and support schemes for agriculture are currently carried out as part of the Doha Development Round. However, the Doha round, launched in 2001, has so far failed to bring any new agreement on agriculture. The main reason is the lack of agreement between developed and developing countries on the speed and extent of

¹⁰⁸ K. Kosior, *Environmentalists...*, op. cit.

¹⁰⁹ As mentioned in the previous section, in the current financial perspective (2014-2020) no funds for export subsidies have been allocated in the EU agricultural budget.

¹¹⁰ In 1992, the EU introduced direct payments, which compensated farmers for reductions in intervention prices. At the beginning, payments were coupled to production and, as such, were admitted by the WTO for temporary use only. However, the 2003 CAP reform led to decoupling required by the WTO, thus excluding payments from the obligation of reduction.

liberalisation as well as on the possibility of applying safeguard clauses in agricultural trade. Developing countries expect from the OECD countries significant reductions in customs tariffs and agricultural subsidies, also those which are not linked with production decisions of farmers. At the same time, they reject the proposed reductions of related customs tariffs, by pointing out the need to maintain the adequate level of protection of their own agricultural sectors, *inter alia*, using special safeguard clauses or restrictions on agricultural import. The latter was a direct reason for the collapse of talks in 2008¹¹¹. An attempt to save multi-lateral negotiations has been taken repeatedly, most recently in December 2013 in Bali. Back then, all WTO members adopted the declaration in which they undertook, *inter alia*, to simplify trade procedures. However, so far, there has been no success in adopting documents allowing to implement the agreement¹¹².

The lack of agreement deepens the impasse within the WTO and weakens the importance of this organisation in shaping agricultural policies of the Member States. Currently, international cooperation on agricultural matters develops much more intensely at the regional level¹¹³. The number of regional trade agreements as well as of bilateral agreements, which assume the liberalisation of agricultural trade and cooperation on issues related to food security is constantly growing. In connection with that, recent pressure on the CAP resulted more from the dynamics of regional processes taking place in various parts of the world rather than from the arrangements taken under the WTO. In the document indicating the challenges faced by the CAP, the Commission stressed that EU agriculture is currently in the much more competitive environment¹¹⁴. Everything indicates that in the following years competition for European agriculture will also increase and an important role in this process will be played by cooperation developed under bilateral and regional agreements.

¹¹¹ The negotiations under the Doha Round collapsed several times, for the first time in 2003, then in 2008 and in 2011.

¹¹² Due the opposition on the part of India, which fought to keep the possibility to maintain price support in agriculture in the context of public food stocks for the poorest.

¹¹³ K. Kosior, *Rolnictwo w regionalnych porozumieniach handlowych w kontekście wyzwań związanych z zapewnianiem bezpieczeństwa żywnościowego na świecie (Agriculture in regional trade agreements in the context of the challenges related to ensuring food security in the world)*, [in:] *Terytorializacja lub funkcjonalizacja: dylematy ugrupowań integracyjnych (Territorialisation or functionalisation: dilemmas of integration groupings)*, A. Surdej, J. Brzozowski (eds), Wydawnictwo Adam Marszałek, Toruń 2013.

¹¹⁴ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, *The CAP towards 2020: Meeting the food, natural resources and territorial challenges of the future*, COM/2010/0672 final, 18 November 2011.

The observed shift of focus of liberalisation processes from the global to the regional level has increased the level of uncertainty regarding the trends of development and dynamics of international agricultural trade. In particular, it is not clear to what extent concluded regional agreements will be in practice compliant with the overarching WTO principles with regard to liberalising agricultural trade. Some are afraid that the regionalisation of trade may lead to an increase in protectionisms in the agricultural sector as well as to the loss of certain markets. Although the EU's position, as one of the major food exporters, in the medium term is not threatened, especially in connection with the growing demand for food in the world, it is envisaged that there will be a change in the share of the individual countries and regions in the global agricultural export and import. As expected by the FAO/OECD, the share of the OECD countries, including the EU, in the export and import of certain agricultural products will decrease (Table 2.2).

Table 2.2. OECD countries decline in world exports and imports of agricultural products (per cent share of world exports and imports, 2003-2012, 2013-2022)

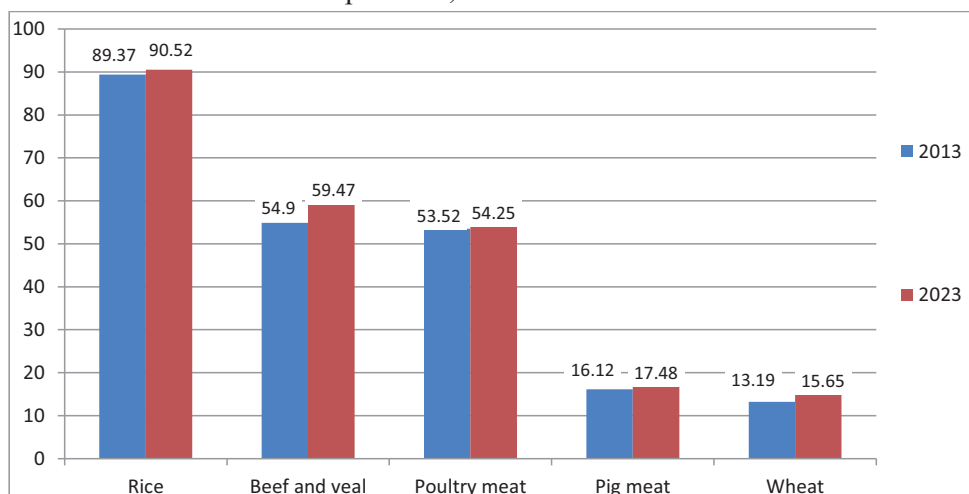
Commodity	Export		Import	
	2003-2012	2013-2022	2003-2012	2013-2022
Wheat	66.07	58.59	23.61	21.73
Rice	12.98	10.33	14.46	13.82
Coarse grains	62.01	48.78	47.79	38.15
Oilseeds	50.30	46.27	38.79	26.75
Protein meals	16.54	16.99	62.84	53.19
Beef	49.75	47.44	53.21	46.81
Pig meat	78.65	83.89	55.08	45.32
Poultry meat	9.86	6.92	24.35	19.59
Sheep meat	77.49	80.58	41.71	32.92
Fish	35.99	32.85	59.30	52.56
Fish meal	38.14	35.91	41.84	39.72
Fish oil	49.52	57.71	90.63	79.85
Butter	83.35	81.00	19.20	15.15
Cheese	69.60	64.15	41.51	31.51
Skim milk powder	82.03	89.32	20.20	17.17
Whole milk powder	69.91	74.56	5.59	2.41
Vegetable oils	7.74	8.08	29.10	25.26
Sugar	18.72	12.84	26.10	22.29
Cotton	48.63	50.23	23.91	23.23

Source: OECD-FAO Agricultural Outlook 2013-2022, OECD-FAO 2013, <http://www.oecd.org/site/oecd-faoagriculturaloutlook/highlights-2013-EN.pdf>, p. 39.

At the same time, it is expected that the share of developing countries in global agricultural trade, both the export and import, will increase. It is indicated that developing countries will export most of cereals, rice, oilseeds, vegetable

oils, animal proteins, sugar, poultry, and fish (Figure 2.2). Even now, Latin America, particularly Brazil, becomes a major centre of agricultural production and one of the most important suppliers of agricultural products to the world markets¹¹⁵. The competition will clearly increase, especially in the meat market. Countries such as Argentina, Brazil, India and Thailand successively strengthen their position in international trade in these products.

Figure 2.2. The growing importance of developing countries in world agricultural trade – the share of developing countries in exports of selected agricultural products, 2013 and 2023



Source: OECD-FAO Agricultural Outlook Database, <http://www.oecd.org/site/oecd-faoagriculturaloutlook/database.htm>.

In connection with the expected increase in the number of population, the vast majority of developing countries is focused on the expansion of the agricultural production. Recently, these countries have also been increasing the level of subsidising agriculture. Although the rate of support for producers is still generally lower here than in the majority of developed countries and in the EU, the differences gradually disappear¹¹⁶. In addition, support granted to farmers is directly related to agricultural production. After all, it is expected that the pro-

¹¹⁵ <http://www.oecd.org/site/oecd-faoagriculturaloutlook/highlights-2013-EN.pdf>.

¹¹⁶ For example, in 1995-1997 the average support estimate for agricultural producers in Brazil was negative and amounted to -12%. In the years 2010-2012, the same estimate amounted to 5%. In China, PSE increased from 2% to 15%, in Indonesia from 3% to 19%. For comparison, PSE in the EU declined in the discussed periods from 34% to 19%. Cf. *Agricultural Policy Monitoring and Evaluation 2013, OECD Countries and Emerging Economies*, OECD, Paris 2013.

duction in these countries will grow much slower than consumption. The particularly high growth in the demand for food import is expected in such regions as Asia and Africa.

Food needs and the scale of the problems related to providing appropriate and affordable food supplies were underlined by the global food crisis in the years 2007-2008. At that time, dramatic price rises in the international agricultural markets directly threatened the world food security. This situation most severely affected the communities of the poorest countries. Price surges were mostly contributed to by rising fuel prices, increased demand for biofuels and trade decisions of some countries¹¹⁷. Fluctuations in international agricultural markets, as well as the following price rises were also reported in the years 2010-2011. Since then, agricultural prices have remained at the permanently high level and nothing suggests that the level of prices will return to the pre-crisis level. The limited production capacity of global agriculture, combined with the growing demand for food, particularly for high-protein products in the increasingly richer communities of developing countries negatively affect the level of food security in the world. In addition, climate change has a negative impact on the stability of agricultural markets and the productivity of agriculture. In some countries and regions, an increase in temperatures may lead to a temporary increase in yields, however, in the long term, climate change will lead to a significant deterioration in conditions of running agricultural activities in the world¹¹⁸.

The EU agricultural strategy is determined by these global changes. It takes into account both the dynamics of changes in the international trading system as well as forecasts regarding the increasing demand for food. Thus, the debate on the CAP priorities after 2013 relatively often emphasised the importance of further enhancing the competitiveness and productivity of the EU agricultural sector. At the same time, problems with guaranteeing food security led to strengthening in Europe the argumentation for the full use of the potential of European agriculture¹¹⁹. What is important, the document from 2010, which opened the debate

¹¹⁷ D. Headey, S. Fan, *Reflections on the Global Food Crisis. How Did It Happen? How Has It Hurt? And How Can We Prevent the Next One?*, "Research Monograph" 2011, Vol. 165, International Food Policy Research Institute.

¹¹⁸ Some even suggest that it will result in the state of permanent crisis in this sector of the economy in the 21st century. Cf. J.D. Van der Ploeg, *Agricultural production in crisis*, [in:] *Handbook of rural studies*, P. Cloke, T. Marsden, P. Mooney (eds), SAGE Publications Ltd, 2006.

¹¹⁹ J. Candel, G.E. Breeman, S.J. Stiller, C. Termeer, *Disentangling the consensus frame of food security: The case of the EU Common Agricultural Policy reform debate*, "Food Policy" 2014, Vol. 44, pp. 47-58.

on the future of the CAP, emphasised the importance of keeping the potential with regard to the food production throughout the EU, not only due to the need to guarantee long-term food security to the Europeans, but also due to the need to meet the increasing demand for food in other countries of the world¹²⁰. Consequently, the increased emphasis on objectives related to guaranteeing food security led to shifting the CAP priorities towards the new variety of productivism.

2.6. 2013 CAP reform – environmental protection and neoproductivism

The debate devoted to the CAP after 2013 initially focused on the environmental protection issues. A great contribution to this has been brought by numerous non-governmental organisations calling for the integration of the EU agricultural policy with the objectives of the climate and environmental policy. However, as mentioned above, the global food crisis, the escalation of trade protectionisms and growing demand for food in various parts of the world led to shifting attention from the environmental issues to the issues related to the agricultural production and food security. A political agreement between the Commission, the Council and Parliament on the CAP was reached in June 2013. Finally, four main regulation on the new CAP (direct payments regulation, rural development regulation, market measures regulation, horizontal regulation) were adopted in December 2013.

The 2013 reform confirms that the CAP is being changed by adding new instruments to it, without departing from the old framework and conceptual and ideological assumptions. Particularly recently, two processes have been visible – the willingness to strengthen the idea of multifunctionality of agriculture by stressing the concept of environmental public goods provided by this sector of the economy and the return to the idea of agriculture productivism. However, the idea of productivism was not combined with the state aid paradigm any longer, just as it happened in the first decades of the functioning of the CAP. Productivism implemented under the multifunctionality paradigm was supposed to be compliant with the principle of sustainable development of agriculture and with the idea of competitive agriculture, where support for markets, although envisaged, is limited to a minimum. The specific exemplification of implementing these ideas is the European Innovation Partnerships (EIP) instrument, which has been incorporated into the second pillar of the CAP. Pursuant to the assumptions adopted during the last reform, EIPs – thanks to cooperation between the agricultural sector and science – are to lead to an increase in the agricultural production based on sustainable production systems. Thereby, the last reform

¹²⁰ Communication from the Commission..., op. cit.

confirmed formally that the EU was heading for neoproductivism. The most important elements of the CAP reform for the years 2014-2020 are presented below in comparison to the objectives and priorities of the major paradigms occurring currently within agricultural policies.

Table 2.3. Priorities of the reformed EU agricultural policy

Priorities	Elements of the reform
Environmental public goods – multifunctionality paradigm	<ul style="list-style-type: none"> ▪ greening of direct payments: rewarding farmers for practices beneficial to the environment and climate (30% of direct payments) ▪ 30% of the second pillar funds to be devoted to agri-environmental measures aimed at more ambitious environmental objectives than those under the greening of direct payments
Food production and agricultural productivity – neoproductivism	<ul style="list-style-type: none"> ▪ small farms exempted from greening requirements ▪ obligation to grow two or three different crops to receive direct payments ▪ increased scope of production-linked payments (<i>recoupling</i>): up to 8%, or in some cases up to 13%, of the national envelope; flexibility for the Commission to approve higher level of coupled support ▪ support for restructuring in regions with a predominance of small farms ▪ introduction of the European Innovation Partnerships for agricultural productivity and sustainability
Farm income support – dependent agriculture paradigm	<ul style="list-style-type: none"> ▪ increased importance of direct payments in farm incomes ▪ support for small farmers, redistributive payment for the first hectares ▪ increasing the availability of public aid – simplified system for aid redistribution under small farmers scheme ▪ increased support for areas with natural constraints/less favoured areas
Agricultural markets liberalization – competitive agriculture paradigm	<ul style="list-style-type: none"> ▪ elimination of production quotas (milk, sugar, wine) ▪ new measures for risk management, also in the second pillar (insurance and mutual funds)

Source: Own elaboration.

As a result of the 2013 reform, not only was the concept of neoproductivism adopted, but also stresses were distributed anew within the framework of the implemented multifunctionality paradigm. The first pillar for the first time included the instruments which were to implement the environmental objectives directly. So far, the agri-environmental measures have been generally carried out by programmes under the second pillar of the CAP. Therefore, it might seem

that the multifunctionality paradigm was confirmed and strengthened in the EU. In order to receive 30% of direct payments, farmers must either meet the requirement with regard to crop diversification, maintenance of permanent pasture, maintenance of ecological focus areas or carry out the agri-environmental activities equivalent to those requirements. However, pursuant to the decisions of the Council and Parliament, a number of agricultural holdings have been exempted from those requirements. Holdings smaller than 10 ha are not required to diversify crops, in turn, holdings smaller than 15 ha do not have to create ecological focus areas. The decision on exempting small agricultural holdings from the greening requirement makes us doubt whether the introduced instrument will actually serve the achievement of the objectives of sustainable agriculture, including the objectives related to the protection of biodiversity and climate. As it is estimated, 88% of farmers and as much as 48% of agricultural land in the EU will be exempted from the greening requirement¹²¹.

The introduction of green payments into the first pillar took place, *de facto*, at the expense of the second pillar, which, in opinion of many scientific groups, is more effective in implementing the objectives of sustainable and competitive agriculture. Greening of direct payments reduced the justifications for shifting the funds from the first to the second pillar, which consequently led to maintaining the expenses for the second pillar, by 2020, at the unchanged level. Although the Member States were given the opportunity to shift the funds between the pillars, transfers are possible in both ways – not only from the first to the second pillar but also from the second to the first, which in the past was not possible at all. Thus, these decisions extend the possibilities of concentrating support on agricultural producers.

The EU has decided not to only increase the importance of direct payments in the agriculture support system, but also to expand the possibilities of coupling. This is a clear deviation from the previously adopted and fully compatible with the WTO requirements policy of separating support systems from production decisions of farmers. We may also talk about the “back door” deviation from the previous general rule according to which carrying out the agricultural production was not required at all for receiving direct payments. Currently, agricultural holdings covered by the greening requirements, are obliged to cultivate two or three different crops. Thus, the above-mentioned reform elements allow us to speak about shifting the priorities in the agriculture development strategy carried out by the EU. The EU has adopted a bimodal strategy, in which

¹²¹ G. Pe'er et al., *EU agricultural reform fails on biodiversity*, “Science” 2014, Vol. 344(6188), pp. 1090-1092.

an emphasis is put on both the original functions of agriculture associated with the food production, as well as on providing environmental public goods by this sector of the economy.

2.7. Conclusions

The results of the last CAP reform indicate that in the nearest decades the EU will be heading for neoproductivism. This is the concept combining the ideas of multifunctional agriculture with the ideas of efficient agriculture. The shift towards neoproductivism is evidenced by the concentration of support on agricultural producers who are expected to produce both food and environmental public goods. Another premise indicating the modification of the agriculture development strategy in the EU is the departure from the policy of increasing the importance of the second pillar of the CAP.

However, we may doubt whether the adopted development strategy could be implemented. We may observe clear tensions within the accepted paradigm. On one hand, the need to develop efficient and competitive agriculture is indicated. On the other, the need to implement the idea of sustainable agriculture and – in addition – to implement the objectives of other policies (environmental, climate) by the CAP is stressed. The analysis of CAP regulations adopted by the EU argues that these objectives are not treated as compatible. In the way of presenting the priorities, we can see the hidden assumption that environmentally-friendly agriculture cannot also be competitive because it is contrary to the fundamental economic objectives of achieving greater efficiency¹²². The horizontal regulation indicates that in assessing the effectiveness of the CAP measures, in the first place, the profitability of the food production will be considered, with a focus on income from agricultural activities, agricultural productivity and price stability. Only the second assessment criterion is sustainable management of natural resources and climate action with a focus on greenhouse gas emissions and biodiversity. Rural development is only the third assessment criterion.

Referring to the last CAP reform, it is worth repeating that the adopted greening instruments will not cover many agricultural holdings and will contribute to implementing the key objectives related to the protection of biodiversity and climate to a small extent only. The new system of direct payments has been designed in such a way so as to restrict the implementation of tasks related to guaranteeing food security in Europe and in the world to the smallest possible extent. Further strengthening of the neoproductivism paradigm may be expected

¹²² T. Mölders, *Multifunctional...*, op. cit.

in the near future. External factors, particularly high and unstable prices in the international agricultural markets, will strengthen the arguments of those supporting the concentration of the CAP on traditional agricultural tasks. In his very first interview, the newly designated Commissioner for Agriculture, Phil Hogan from Ireland, did not hide that he supported the implementation of the policy in support of the agricultural production under the CAP. In an interview for the Irish Farmers Union, he said: *I will continue to emphasise the importance of food production in my new role. Europe has a massive responsibility to feed itself, and to produce food for those starving populations unable to meet their demand for food production*¹²³. In connection with that, we may suspect that the greening instruments and the rhetoric of public goods will be rather used to legitimise considerable budgetary expenses on the CAP. Spending the public funds for supporting public goods is commonly accepted by the Europeans. So, most likely the EU will continue to refer to environmental public goods and to multifunctionality of agriculture and rural areas as a desired state, which should be aimed at. However, the main priority will be to increase the productivity of agriculture in connection with the frequently stressed responsibility of Europe for global food security.

¹²³ As cited in: A. Matthews, *Prospects for the next CAP reform*, 24 September 2014, <http://capreform.eu/prospects-for-the-next-cap-reform/>.

3. Implications of introducing new rules in the EU legislation for the agricultural policy

The development of the European Union (EU) does not proceed in accordance with the chosen theoretical model. They are rather institutional measures implemented on an ad hoc basis by politicians, who then attempt to arrive at their explanation *ex-post*, and assign them to the adopted theoretical assumptions¹²⁴. The present EU institutions and regulations have been developed and modified gradually, as a response to the current needs and expectations.

The last reform of the Common Agricultural Policy (CAP), which is to shape the policy in the years 2014-2020, should be treated as compromises made by EU institutions and Member States. As a result, it does not bring any actual changes to this policy, but rather legitimises the disbursement of significant funds from the EU budget on the agricultural sector and solutions which are profitable for its beneficiaries. Efficient functioning of CAP in the forthcoming years may only be possible by abandoning actions based on trial and error and focusing on precise priorities for that policy and the adjustment of financial instruments and means.

Is it possible? CAP functions on the basis of constant attempts at correcting errors resulting from earlier political decisions, which in turn contributes to further errors and needs for another correction. We can observe a significant dependence on the path of earlier decisions (path dependency), which determines further CAP reforms.

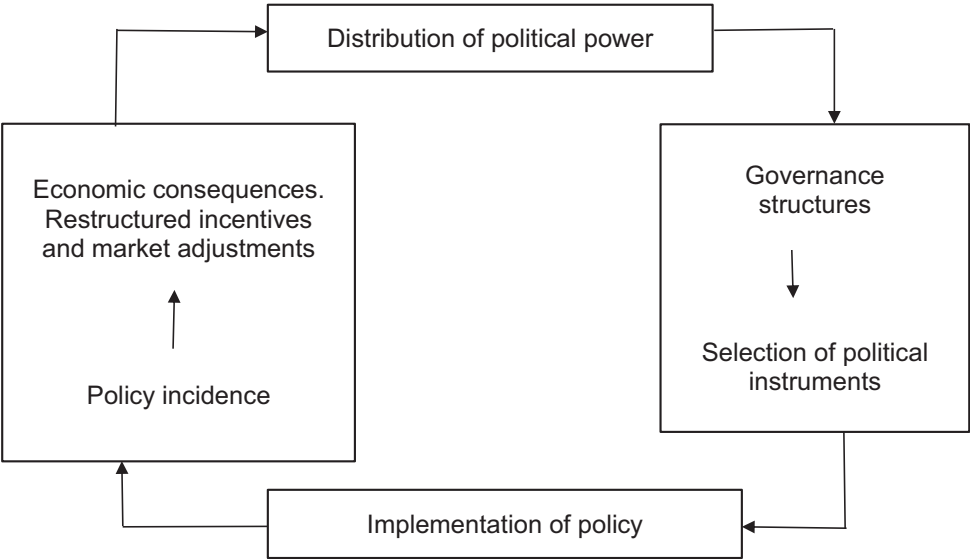
One of the main factors that condition this situation are institutional and political determinants in the EU, influencing the course of the decision-making process. The paper focuses on rules for creating EU law within the agricultural sector after 2009 and their influence on the shape of the CAP reform between 2014-2020.

The lack of understanding of a correlation between the rules of decision-making and the result of final political decisions is fairly common, even among policy makers. Often, the choice of an EU law-making procedure influences the result of voting, making an impact on the priorities and instruments preferred within CAP, and the financial means which will be allocated to the EU agricultural budget.

¹²⁴ G. Majone, *Dilemmas of European Integration: The Ambiguities and Pitfalls of Integration by Stealth*, Oxford University Press, 2009.

According to the social choice theory, the process of collective decision-making is a trial of economic and political forces and the interactions between them that take place in specific conditions. The schematic system of the mentioned process is presented in Figure 3.1. It consists of several basic elements. The management structure determines a constitutional framework, within which legal, regulatory and institutional rules are created, and where political, civil and economic freedom is expressed. This framework allows us to distinguish a series of instruments constituting a function of government bureaucracy and the measures taken by the stakeholders. At this stage, interest groups try to influence the shape and manner of implementing public policies in different ways.

Figure 3.1. The policy-making process and economic consequences



Source: Own elaboration based on G.C. Rausser, J. Swinnen, P. Zusman, *Political Power and Economic Policy. Theory, Analysis and Empirical Applications*, Cambridge University Press, 2011.

On the other hand, implementation of policies may lead to certain consequences, both desired and unwanted. At this stage, the strategic actions taken by both public and economic actors are critical. The market failure, as Pareto describes it, justifies state’s interventions, especially in the case of fallibility which results from insufficient information¹²⁵.

¹²⁵ J.E. Stiglitz, *Economics of the Public Sector (3rd ed.)*, W.W. Norton & Company, New York 2000.

The forming and/or implementation of public policies begins the stage of their assessment, with the indication of the winners and losers. The real scope of applied policies depends on individual motivation and the market structure. The economic consequences resulting from policies are generally measured by the amount of economic growth and its distribution between given players¹²⁶.

Member States are the dominant actors in the EU decision-making process, striving for shaping the EU according to their best interest, and at the same time maintaining their sovereignty (intergovernmentalism). If so, why do they decide to delegate their competences to common institutions? Assumingly, it favours the growth of the effectiveness of the EU's actions and credibility. Transnational organisations may lead to the reduction of transaction costs, accelerate negotiation processes and help work out a compromise. On the other hand, at the stage of law implementation they should ensure compatibility of law and actions of Member States with the law and actions of the EU¹²⁷.

The Lisbon Treaty, which entered into force on 1st December 2009, introduced two significant changes to the decision-making process within the scope of agriculture, thus changing the balance of power between Member States and European institutions. Firstly, it increased the influence of the European Parliament on the process of establishing the European budget, including the part allocated for agriculture, through the abolition of the division into obligatory and non-obligatory expenses. Secondly, it modified the CAP legislative procedures, replacing the consultation procedure with the co-decision procedure, currently known as an ordinary legislative procedure opposed to the special legislative procedure, i.e. consultation and consent procedure. The only instruments referring to the stabilisation of market prices, customs, support programmes and quantitative limits are still managed by the European Council, shaped on the basis of the European Commission's proposals¹²⁸.

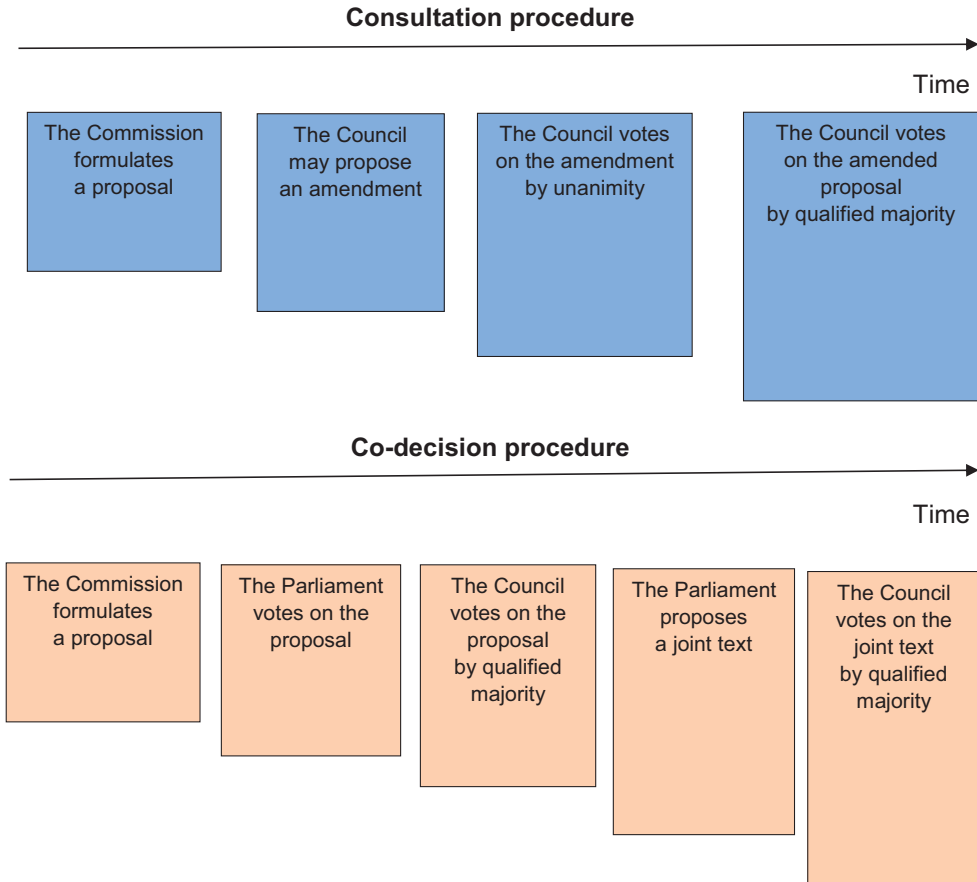
It must be emphasised that the co-decision procedure has been used in the EU decision-making process since 1992, albeit in areas other than agriculture. According to this procedure, both the European Council and the European Parliament are equal legislative bodies, giving the latter the possibility to get involved in the legislative process. It was a significant modification, as previously the Parliament only had had the right to express its opinion, which was not binding for the Council in the process of establishing the EU law (Figure 3.2).

¹²⁶ G.C. Rausser, J. Swinnen, P. Zusman, *Political Power and Economic Policy. Theory, Analysis and Empirical Applications*, Cambridge University Press, 2011.

¹²⁷ O. Williamson, *The Economic Institutions of Capitalism*, Free Press, New York 1985.

¹²⁸ Treaty on the Functioning of the European Union, 2012/C 326/01.

Figure 3.2. The sequence of events under consultation and co-decision procedures



Source: Ch. Crombez, L. Knops, J. Swinnen, *Reform of the Common Agricultural Policy Under the Co-decision Procedure*, "Intereconomics" 2012, Vol. 6, [in:] K. Kosior, *Wpływ procedury współdecydowania na wyniki reformy Wspólnej Polityki Rolnej Unii Europejskiej na lata 2014-2020 (The Impact of Co-decision on the 2014-2020 Reform of the Common Agricultural Policy)*, "Politeja" 2015 (in press), Uniwersytet Jagielloński.

In the light of introducing new solutions in the process of establishing the EU law in the area of agriculture, it is puzzling how a change of procedural rules influences the distribution of legislative power among EU institutions and how the Parliament uses these changes to increase its significance in the decision-making process. Crombez defines legislative power¹²⁹ as the ability to obtain solutions which are as close to the assumed political goals as possible.

¹²⁹ Ch. Crombez, *The Co-decision Procedure in the European Union*, "Legislative Studies Quarterly" 1997, Vol. 22, No. 1, pp. 97-119.

Within the consultation procedure, the European Commission formulates legislative proposals, which need the support of the qualified majority of the EU Council in order to be enforced. The Council may introduce amendments to the Commission's proposal, but in order for them to be accepted, unanimous support is required from the members of the Council. The European Parliament and the Economic and Social Committee can only express their opinions, which are not binding for the Council.

The role of specific European institutions is different in the co-decision procedure. The Commission sends a proposal to the Council and the Parliament as part of the so-called first reading. They both vote on the proposal. If they accept a different version of a draft legislation, it leads to the so-called second reading. In the event that there is a difference of opinion between the Council and the Parliament at this stage, a Conciliation Committee is appointed, which negotiates a compromise. Thus, the new procedure gives the Parliament the possibility to veto the Commission's proposals. Moreover, the Parliament and the Council may together change the Commission's proposal, which indicates a weaker role of the Commission in the decision-making process.

Significantly, regardless of the application of the procedure, the lack of qualified majority in the Council hinders the adoption of a given draft legislation, which is particularly visible in the case of the European Commission's attempts at modifying CAP. The introduction of the co-decision procedure has not changed much in this respect. However, the institutional power of certain bodies is different. During the consultation procedure, the legislative process is hindered if the Commission does not agree with the Council's decision. In the event of co-deciding, this situation may arise when the Parliament does not agree with the decision of the Council. Therefore, we can suppose that regardless of the application of this procedure, blocking the decision-making process is dependent on the position of the Commission (consultation procedure) or the Parliament with regard to the European Council, i.e. Member States (co-decision procedure)¹³⁰.

These musings on the legislative power of specific EU institutions are especially significant in the case of CAP reforms. It is clear that significant changes in the EU agricultural policy depend on the preference of certain actors and on their bargaining power in the decision-making process (first and second reading), mainly in the Conciliation Committee.

¹³⁰ Ch. Crombez, J. Swinnen, *Political Institutions and Public Policy: The Co-decision procedure in the European Union and the Reform of the Common Agricultural Policy*, Discussion paper No. 286, LICOS Centre for Institutions and Economic Performance, Leuven 2011.

The theoretical basis for an analysis that would allow us to obtain a better understanding of the process of creating European law and to predict the results of the decision-making process is rational choice institutionalism, which assumes that actors use institutions in order to maximise their benefits. However, their actions are limited by official rules, created by the mentioned institutions. It is assumed that actors have fixed political preferences, which they realise through carrying out regular prognoses and calculations of costs and benefits¹³¹. This approach is based on game theory, which allows us to analyse and predict actions taken by the participants of a game, assuming that they make rational decisions, aim at maximising their benefits, and are familiar with the rules of the game. Thus, the results concerning certain political issues may be different depending on the adopted decision-making procedure¹³².

In the analysis of the decision-making process procedural models of a spatial nature are often applied. They assume that the actors of this process act rationally. In turn, the decision-making process is portrayed as a sequential game that provides full and complete information. The actors have specific preferences (they strive for adopting specific political solutions) and participate in bargaining process in order to achieve their preferred outcome (i.e. an outcome which is as close to their ideal points as possible). Therefore, it is essential to determine a sequence of actions in the procedural models, indicate a reference point (status quo) and ideal points of the participants, and the decisive players as well. The distribution of preferences is presented with the use of points in a one- or multidimensional policy space¹³³.

The usefulness of procedural models for the analysis of the decision-making process is questioned by some scientists. As an explanation, they often quote excessively varied results. This diversity is most often conditioned by a different perception of the proper sequence of the game, qualifications and power of players within specific procedures and their stages¹³⁴. Others treat procedural models as a valuable method of predicting the outcomes of the decision-making process¹³⁵.

¹³¹ K. Shepsle, *Rational Choice Institutionalism*, Harvard University Press, 2005.

¹³² Ch. Crombez, P. Vangerven, *The Political Economy of Institutional Reform in the European Union. The Introduction and Extension of Co-decision*, EPSA Annual General Conference 2013.

¹³³ K. Kosior, *Wpływ procedury współdecydowania na wyniki reformy Wspólnej Polityki Rolnej Unii Europejskiej na lata 2014-2020 (The Impact of Co-decision on the 2014-2020 Reform of the Common Agricultural Policy)*, "Politeja" 2015 (in press), Uniwersytet Jagielloński.

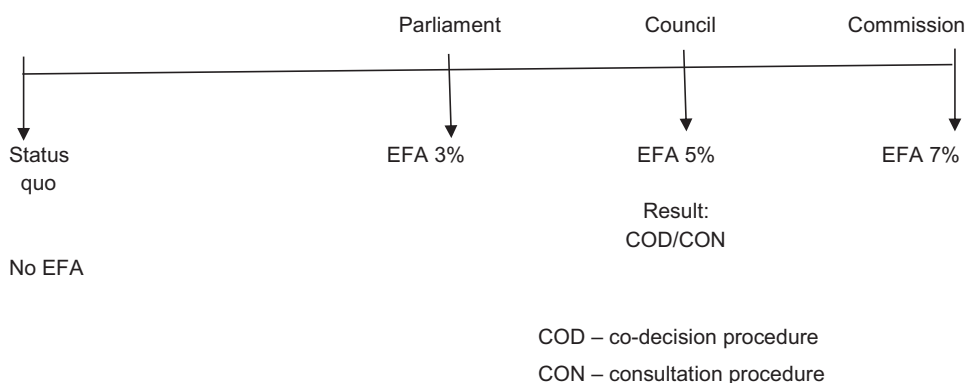
¹³⁴ J. Leinaweaver, R. Thomson, *Testing models of legislative decision-making with measurement error: the robust predictive power of bargaining models over procedural models*, "European Union Politics" 2014, Vol. 15, pp. 43-58.

¹³⁵ Ch. Crombez, P. Vangerven, *The Political Economy...*, op. cit.

Taking into consideration negotiations conducted as part of the CAP reform for the years 2014-2020, it may be claimed that the outcomes preferred by the Parliament and the Council coincided or were very close to one another in many of the analysed aspects. The ideal points of the Commission, however, were located furthest to the right of reference points, which would indicate a pro-reform position of the Commission compared to the Parliament and the Council.

Figures 3.3 and 3.4 depict an order of players' preferences depending on the applied decision-making procedure (consultation vs. co-decision) in the case of two negotiated issues, i.e. Ecological Focus Areas as part of direct payments greening and the upper limit of payment for farms (capping).

Figure 3.3. Greening of direct payments – ecological focus areas (EFA)

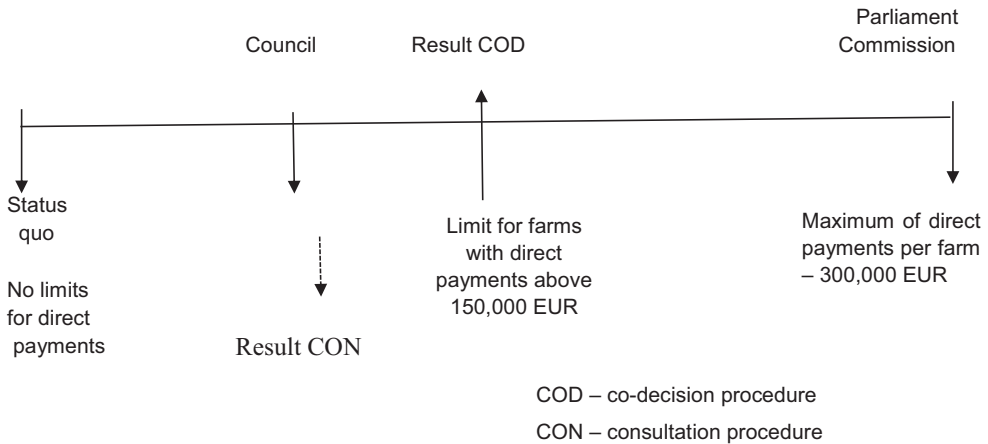


Source: K. Kosior, *Wpływ procedury współdecydowania na wyniki reformy Wspólnej Polityki Rolnej Unii Europejskiej na lata 2014-2020 (The Impact of Co-decision on the 2014-2020 Reform of the Common Agricultural Policy)*, "Politeja" 2015 (in press), Uniwersytet Jagielloński.

The position of the Commission was the most distant from the status quo (requirement of 7% of Ecological Focus Area on a farm), whereas that of the Parliament was the closest (3%). The Council's preferences were located between those of the mentioned institutions (5%). The procedural models predicted an outcome positioned in the middle of the distance between the position of the Council and the Parliament for the co-decision procedure, however eventually the Parliament confirmed the threshold preferred by the Council. This threshold may also be indicated as the most probable outcome within the consultation procedure. It is therefore clear that when it comes to the size of an Ecological Focus Area on a farm, the outcome obtained in the co-decision procedure coincides

with the outcome predicted for the consultation procedure. This indicates that the introduction of the new procedure in the area of agriculture did not lead to a significant change within CAP¹³⁶.

Figure 3.4. Limit of direct payments per farm (*capping*)



Source: K. Kosior, *Wpływ procedury współdecydowania...*, op. cit.

The example concerning capping shows that despite the preference of the Commission and the Parliament for the introduction of EUR 300,000 payment threshold for a farm per annum, the final outcome of negotiations is the closest to the preference of the Council (which proposed the smallest threshold and voluntary introduction of a payment limit per farm). However, the clear position of the Parliament regarding the need to introduce capping led to the adoption of obligatory reduction of payment in the amount of EUR 150,000. According to the predictions of procedural models, the application of the consultation procedure would result in an outcome similar to the position of the Council, whereas the use of the co-decision procedure somewhat changed the final outcome of negotiations among the three EU institutions.

The above analyses carried out with the use of procedural models indicate redistribution of the formal legislative power between the Commission and the Parliament. The Parliament's significance clearly increases. However, in the end the consequences of introducing the co-decision procedure depend on the preference of all three EU institutions, the positioning of reference points and their negotiating power.

¹³⁶ K. Kosior, *Wpływ procedury współdecydowania...*, op. cit.

The increase in the significance of the European Parliament is visible in its efficiency in pushing through preferences in the form of amendments to draft legislations. Table 3.1 shows a success rates with reference to this matter in two subsequent financial perspectives, i.e. in the years 2007-2013 and 2014-2020. It is clearly seen that the effectiveness of the Parliament decidedly increased (from 29.1 to 59.2% in total). Interestingly, this effectiveness is the highest when it comes to legislation concerning the development of rural areas (second pillar of CAP), and at the same time the lowest with reference to such important matters as financing, control or EU agricultural policy monitoring.

Table 3.1. Success rates for the European Parliament when it comes to introducing its amendments to draft legislations concerning CAP in the years 2007-2013 and 2014-2020 (in %)

CAP Regulations	2007-2013	2014-2020
Direct payments	30.5	60.2
Rural development	31.4	73.0
Common Market Organisations	10.0	57.1
Horizontal Regulation	57.1	41.4
Total	29.1	59.2

Source: I. Ferto, A. Kovacs, *Analysis of the European Parliamentary Amendments to the legislative proposals of the CAP reform*, CEPS, Budapest, July 2014.

High effectiveness is also conditioned by the type of coalitions during negotiations between EU institutions. An analysis of these coalitions indicates that the agreement between the Parliament and the Council turned out to be the most effective (95.2%), whereas the least effective was the one reached between the Parliament and the Commission (26.3%) (Table 3.2). The reason for this phenomenon may be found in the political influences of interest groups which have privileged access to the authorities. The created political community is limited to a small number of institutions and interest groups. Its members regularly consult the scope and financing of the areas of their interest. Each of the participants views their power in terms of a game with a positive result¹³⁷.

One may be interested in the reasons for introducing the co-decision procedure to the decision-making process in the area of agriculture. It is all the more interesting considering that the EU agricultural policy belongs to the ones which are most prone to lobbying with participation of different actors of the

¹³⁷ A. Zawojcka, *Rolnicze grupy interesu w Unii Europejskiej (Agricultural interest groups in the European Union)*, "Prace Komisji Nauk Rolniczych i Biologicznych", BTN 2005, series B, No. 57, pp. 887-893.

decision-making process (the aforementioned interest groups). Moreover, it is strongly protected through the institutionalisation of the separate EU Agriculture Council and the separate Special Committee Council – SCA as well as the guarantee of strictly specified expenditures on agriculture through the creation the obligatory expenditure category in the European budget. According to some experts¹³⁸, the application of this procedure simply complicates the decision-making process due to the introduction of a new player with the possibility to use veto and slows down the process even further (first and second reading, Conciliatory Committee). At the same time, it does not provide any new instruments for obtaining compliance between Member States.

Table 3.2. Success rates for coalitions created among EU institutions during negotiations concerning the shape of CAP in the years 2014-2020

Coalition of the EU institutions	Total	Winning	%
Parliament – – Council	21	20	95.2
Parliament – – Commission	19	5	26.3
Council – – Commission	40	13	32.5

Source: I. Ferto, A. Kovacs, *Analysis of the European...*, *op. cit.*

There are several hypotheses that explain this phenomenon based on public policies theory. One of them is the belief that the increase in the legislative power of the European Parliament has its roots in the lack of satisfaction with the process and the results of the sectoral policies both in the instrumental (policy seeking), and normative (policy legitimacy) scope.

Policy seeking¹³⁹ – this hypothesis assumes that the objective of Member States is to achieve the assumed political solution. Thus, especially in Treaty negotiations, they support institutions and regulations which are the most similar to their proposals. In the condition of unanimity in Treaty negotiations, changes in status quo may take place only when all Member States expect to obtain spe-

¹³⁸ J. Golub, *In the shadow of the vote? Decision making in the European Community*, “International Organization” 1999, Vol. 53(4), pp. 737-768; H. Schulz, T. König, *Institutional reform and decision-making efficiency in the European Union*, “American Journal of Political Science” 2000, Vol. 44(4), pp. 653-666.

¹³⁹ T. Brauning et al., *The dynamics of European integration: a constitutional analysis of the Amsterdam treaty*, [in:] *The rules of Integration, Institutional Approaches and the Study of Europe*, G. Schneider, M. Aspinwall (eds), Manchester University Press, 2001.

cific benefits. Therefore, it is hard to get the optimum in Pareto's sense within the applying rules for decision-making. This explains the exclusion of the Parliament, which might help Member States achieve their goals.

Second hypothesis – legitimacy seeking¹⁴⁰ assumes that all actors in the decision-making process believe in the same basic values concerning democracy and a parliamentary system. This approach had a special justification with unanimous voting. However, with the introduction of the Single Market and qualified majority voting, this democratic legitimacy was not that obvious any more. The process of deepening democracy deficit in the EU is more and more criticised, hence the solution which allows the increase in the influence of the Parliament as an institution that represents all citizens of the EU.

In this context, one may doubt the effectiveness of the decision-making process in the EU. On the one hand, Member States do not want to resign from increasing the efficiency of European integration thanks to the application of the qualified majority, but on the other – we are facing a democracy deficit, for the decisions we arrive at do not reflect the expectations of EU citizens, but are the result of a compromise between the key actors of the decision-making process. As opposed to the previous hypothesis, this one does not assume that a parliamentary system leads to Pareto's optimum, but instead tries to justify democratic legitimacy of a more effective voting system in the Council.

It is also worth mentioning another hypothesis, which explains the introduction of the co-decision procedure in the scope of agriculture through inter-institutional bargaining¹⁴¹. It assumes that treaties are not quite precise, which leads to controversial interpretations, and the actors of the decision-making process are unable to reach a consensus. The European Parliament is thus treated as an unfortunate institution, representing preferences of actors with the greatest bargaining power. This is why the formal straightening of the Parliament needs to be perceived as a product of an indirect result of informal inter-institutional agreements.

According to Roederer-Rynning and Schimmelfennig¹⁴², the presented hypotheses do not entirely explain the causes of introducing the co-decision procedure in agriculture. They rather need to be explained as a part of a more

¹⁴⁰ F. Schimmelfennig, *The normative origins of democracy in the European Union: towards a transformationalist theory of democratization*, "European Political Science Review" 2010, Vol. 2(2), pp. 211-233.

¹⁴¹ H. Farrell, A. Heritier, *Codecision and institutional change*, "West European Politics" 2007, Vol. 30(2), pp. 285-300.

¹⁴² Ch. Roederer-Rynning, F. Schimmelfennig, *Bringing co-decision to agriculture: a hard case of parliamentarization*, "Journal of European Public Policy" 2012, Vol. 19(7), pp. 951-968.

general process of EU constitutionalisation, promoted by the Convention¹⁴³, which strived to rationalise EU legislation and increase democracy. The result was the introduction of the co-decision procedure to the process of creating legislation in agriculture, however non-legislative acts still remained at the discretion of the EU Council. Another example of that process and actions of the Convention is the simplification of financial procedures and abolition of the EU budget division into obligatory and non-obligatory.

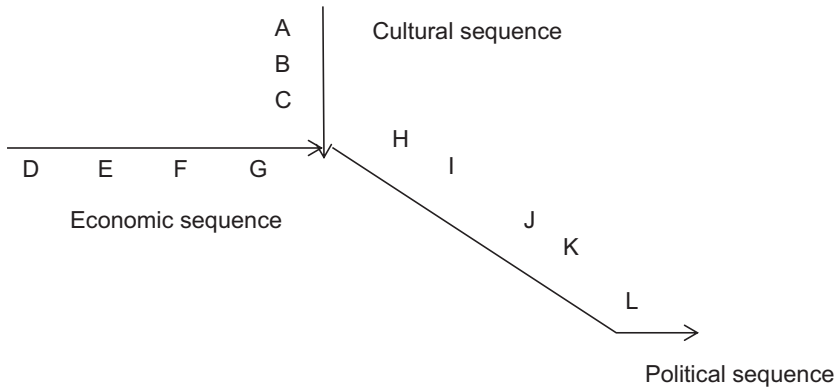
To sum up the above deliberation, it can be claimed that the consequences of introducing the co-decision procedure in agriculture depend on the preferences of the European Commission, the EU Council (i.e. Member States) and the European Parliament, their reference points (status quo), as well as the legislative power of specific institutions. There is a clear redistribution of legislative power between the Commission and the Parliament. As a legislative body, the Parliament obtains a similar significance to that of the EU Council, and the position of the European Commission weakens in the decision-making process.

The introduction of the co-decision procedure entailed an assumption of an increase in the legitimisation made in the decision-making process of election through the European Parliament as the institution chosen by all EU citizens in a direct election. It assumed a higher tendency to carry out EU policy reforms. However, the majority of the “conservative” Committee on Agriculture (COMAGRI) in the Parliament, i.e. a group which represents agricultural interests, so far has not supported significant changes in the scope of the Common Agricultural Policy. The decisions are still made in the circle of the existing formal and informal connections.

An explanation for this situation may be found in path dependency theory, according to which events from the past have greater potency than later events. The Figure presents a schematic dependence of CAP on the path of previous choices, showing how the choices made in the past determine the current choices with regard to the shape of this policy.

¹⁴³ European Convention – also known as Convention on the Future of Europe was a body established by the European Council in December 2001. Its purpose was to produce a draft constitution for the European Union for the Council to finalise and adopt. The Convention finished its work in July 2003.

Figure 3.5. Path dependence in the Common Agricultural Policy



- A – system of values and ideologies around which industrial Europe of 19th and 20th century revolved
- B – promotion of interest groups, beyond social divisions
- C – cooperation between large and small farm workers
- D – nature of agriculture as risk market
- E – unstable supply, especially severe during and just after World War 2
- F – agricultural prices more subject to fluctuation than in other economy sectors
- G – unemployment and low social welfare on the countryside
- H – political organisation into strong agricultural lobby
- I – adoption of Common Agricultural Policy (guaranteed purchase of surplus)
- J – overproduction without control
- K – high support for farmers
- L – increasing budgetary, environmental and economic problems

Source: Own elaboration based on J. Mahoney, *Path Dependence in Historical Sociology, "Theory and Society" 2000, Vol. 29, No. 4, pp. 537-548.*

CAP's dependence on earlier choices is part of four specific characteristics of this phenomenon¹⁴⁴: a) they are unpredictable because previous events play an important role in the order of events and take place randomly; b) they are not flexible because it is difficult to change the path of choice in the later sequence of events; c) random events are not eliminated with time because, as has already been mentioned, they have significant influence on the order of events; d) they are often potentially ineffective, which results from the fact that in the long perspective other more effective choice paths are avoided because of potential costs of changes. The conclusion of the presented dependence on the path of past choices is that they introduce strictly specified rules which are difficult to change in time.

¹⁴⁴ J. Mahoney, *Path Dependence in Historical Sociology, "Theory and Society" 2000, Vol. 29, No. 4, pp. 537-548.*

4. Long-term growth of world and EU economy. The role of the agricultural sector

4.1. Introduction

The aim of prospective forecasts and scenarios is to identify risks, but also sources of development and emerging opportunities. They are seldom optimistic, as by definition they are supposed to serve as warnings and they are developed mostly to prevent them from becoming real. Today, perhaps more than ever before, there is a strong tendency to question their purposefulness. This might result from the pace and dynamics of developments in the modern world, from the belief that we have no material impact on such changes, perhaps from a settled conviction (in particular in the Western capitalist countries) that the role of the market is crucial, or from the knowledge of the great complexity of the systems and their complicated relationships. However, we should also keep in mind that forecasts serve as an inspiration. Debates based on well-known futurist studies make us focus on the future, possible and impossible goals, strategies, projects and ideas. They enforce a different view of the world today and, stimulating the imagination, perhaps actually contribute to future changes.

4.2. Global forecasts

Over 40 years ago, *The Limits to Growth*¹⁴⁵, a well-known report by the Club of Rome, was published. Its authors discussed the possible scenarios assuming three options of the future global economic growth: standard, stable and based on a full use of new technologies. Their conclusions could be summarised in the following statement: *If the present growth trends in world population, industrialization, pollution, food production, and resource depletion continue unchallenged, the limits to growth on this planet will be reached sometime within the next one hundred years. The most probable result will be a rather sudden and uncontrollable decline in both population and industrial capacity*¹⁴⁶. The authors used the term *overshoot* to describe the effects of uncontrollable, spontaneous use of resources. This term may refer both to the system as a whole and to selected parts of it, and describes the moment in which the problem of limited resources is belatedly perceived. Return from the overshoot path towards sustainability implies either a managed decline through the introduction of new

¹⁴⁵ D.H. Meadows, D.L. Meadows, J. Randers, W.W. Behrens, *The Limits to Growth*, Universe Books, New York 1972.

¹⁴⁶ *Ibidem*.

solutions, or a collapse. Both options are equally unattractive. Hence the main message of the publication: we have to act in advance, before the harmful effects of the growth of civilization lead to a global overshoot. A warning formulated in reasonable advance should accelerate the negligent response of humanity to the potential risks generated mostly by the humanity itself. According to Randers, one of the authors of *The Limits to Growth*, such hope was rather too optimistic; nevertheless, the past forty years have brought a slow rise in awareness and certain attempts to modify human behaviour.

4.3. The world and food production in the mid-21st century

The new book by Randers¹⁴⁷ is as famous and widely discussed as *The Limits to Growth*. According to what we read in the introduction, this is the forecast of the most likely global developments in the world by the year 2052. Like any forecast, it is not to be considered infallible or referred to as scientific truth, but, in the author's opinion, it is *an educated guess, a well-informed judgment*. Randers coined the term *educated guess* to denote the type of reasoning which is not true in the scientific sense, as there is no *scientific truth* in the deliberations on the future. However, it is not possible to determine with certainty that the author is wrong in his predictions.

Randers developed his forecast on the basis of a mathematical formula – non-linear dynamic simulation models of socio-economic systems – which took many variables into account, including population, mortality rate, potential workforce, labour productivity, GDP, investments, consumption, energy use, size and intensity of CO₂ emissions, average temperatures, sea level, food production, yields, and unused biocapacity. These variables, both in historical and future terms, the latter derived from the projections of many experts, form the core of the forecast. In addition to the author's views, the publication includes 35 statements by other scientists, whose task was to answer the question of what, in their opinion, would definitely happen by 2052. Thus, the forecast was developed both as a result of the author's thoughts and of the many quoted opinions of experts in various fields.

For the reader, a rather important information is the fact that the author of the forecast is a recognised Norwegian climatologist, which according to some reviewers had to affect the nature of the whole study. In Randers's opinion, the key threat is the climate change, which will inevitably occur, as it is the result of

¹⁴⁷ J. Randers, 2052. *A Global Forecast for the Next Forty Years*, Chelsea Green Publishing, Vermont 2012.

human activity. And, despite warnings, human beings do not intend to abandon the path of rapid growth and enrichment at the expense of limited natural resources of our planet.

The author lists the main conclusions derived from his detailed analysis of the most important areas of social and economic life, i.e.:

- Growing urbanization will lead to a serious decline in fertility rates, which will decelerate the growth of the global population. The peak value (8.1 billion) is to be achieved in the early forties of the 21st century and then it should begin to drop;
- Lower population growth combined with a drop in gross labour productivity will slow down global GDP growth, which in the mid-century will reach the level 2.2 times higher than the current one;
- Depletion of natural resources, the problems caused by climate change, pollution, loss of biodiversity, and maintained social injustice will increase the share of investments in GDP, which will trigger a slowdown in consumption. The highest level of consumption will be reached around 2045;
- The abovementioned phenomenon (slow consumption growth) will lead to an escalation of social tensions that hamper productivity growth;
- Due to our short-sighted approach, in global terms, there are still no decisive measures and commitment in the fight against the harmful effects of human activity; therefore, we must assume that the world will be on its way to a self-reinforcing global warming that will mark the dramatic situation of humanity already in the second half of the 21st century;
- Wise decisions that would lead to future welfare are prevented by an increasing degree of urbanization of the population, which is reluctant to protect the environment for its own sake;
- The most industrialised world countries (including the United States of America, the EU, Japan, and Canada) will lose in competition with China, Brazil, Russia, India and South Africa, and the remaining 10 emerging economies (Indonesia, Mexico, Vietnam, Turkey, Iran, Thailand, Ukraine, Argentina, Venezuela and Saudi Arabia). The rest of the global population, according to the authors of the report, will remain poor. This means, *inter alia*, that the great gap between respective regions of the world, also in terms of public sentiment, will not be bridged.

The main message of the study focuses on the critical point, which is the progressive climate change. Regardless of the ongoing discussion on the causes of such changes, the author considers the need to reduce greenhouse gas emis-

sions resulting from human activity to be our fundamental task. Short-sighted focusing on our own business, which is typical for the majority of people, plus the specific nature of democracy and capitalism, translating into short-term efforts to satisfy the needs, are the main reasons for the author's concern. In the opinion of Randers, insufficient efforts in this respect would rather lead to an uncontrollable and self-reinforcing global warming in the second half of the 21st century. According to the author, the decisions necessary to stop the harmful processes and to boost long-term welfare will not be made early enough. Although great efforts are made to counteract greenhouse gas emissions and to convert energy production to renewable energy sources in certain countries (e.g. Germany) and groups of countries (e.g. the EU), it cannot be naively assumed that they are and will be sufficient to counter the emerging threat.

In order to keep the increase in global average temperature at less than 2°C, i.e. at the level agreed in the international agreements, we would have to keep the concentration of CO₂ in the atmosphere below 450 ppm (the concentration was 280 ppm in the pre-industrial period and reached 390 ppm in 2010). At present, the annual growth rate of this ratio is estimated at 2 ppm, which means that we have only 30 years to reach the critical level (450 ppm) determined by the scientists. In such case, regardless of the fulfilment, or lack thereof, of the rather pessimistic assumptions of the author as to the responsible and serious self-limitations imposed by the humanity on itself, the timeframe to which the book refers – 2052 – may be misleadingly favourable. Such a conclusion can be drawn from the fact that the effects of negligence in the field of climate protection and biodiversity will become painfully noticeable for the humanity later, i.e. in the second half of this century.

The implications of changes in temperature are supposed to be very serious. They include the inability to adapt to excessively rapid changes in whole ecosystems, both land and marine, which in turn will lead to the extinction of thousands of species. The melting of glaciers will lead to the sea level rise, with the build-up of violent weather events such as hurricanes, storms, heavy rainfall, periods of extreme heat, including droughts and/or floods. Such situation may, however, be only a prelude to the actual crisis: if the temperature rises high enough for the tundra to melt, large quantities of methane, previously bound up in the frozen soil (permafrost), will be released into the atmosphere. Its emissions will in turn accelerate the pace of global warming in line with the positive feedback principle. Such a sequence of events will lead to the extinction of many species, including our own. However, the author of *2052* does not predict as much in his deliberations. Nevertheless, even a rise in the average surface temperature by 2°C would cause serious problems, and the need to eliminate

their effects and the attempts to prevent them (much limited in terms of actual capacity) imply a substantial burden on state budgets. The unavoidable costs that would arise or grow in the next four decades include: development and implementation of substitutes of the existing natural resources and new systems preventing the emission of harmful effects of human activity, protection against the effects of rising sea levels and fresh water shortage (e.g. flood walls, new irrigation systems), modernisation and reconstruction of infrastructure damaged by extreme weather events, as well as reinforcement of the security forces, including the army, to defend against the inevitable unrest, conflicts, or rapid influx of immigrants.

This should result in an increase in the share of investments in the national, and therefore, in the global, GDP. According to Randers, if the share of voluntary and forced investments rises gradually, it may double by 2052 to reach 36% of GDP. Therefore, the author assumes that the consumption growth will slow down by 2040, i.e. to the point of stagnation, after which, around mid-century, it will decline. However, consumption *per capita* will continue to rise slowly, because – according to the author – population will decrease faster than consumption.

Obviously, this would bring different effects depending on the region of the world, the country, or the specific social situation. In developed countries (e.g. the United States and Europe), it will result in a decrease in consumption *per capita*, while in the rapidly developing parts of the world (e.g. India or Nigeria), it would mean growth. Poor countries will retain low consumption levels and they will remain poor.

If we extract one, yet a very important segment of human activity, which is the production of food, from this compact set of predictions, we will get a surprisingly optimistic picture. If we accept the author's assumption of the downward trend in global population growth, combined with the continuing increase in food production, we might expect that humanity will not only retain the current level of available food, but also it will have considerable reserves with regard to food production growth. Such a misleading optimism consists in the adoption of the perspective of the future 40 years: the author emphasises that if we lean a little further into the future, the scenario would be much more ominous. We should keep in mind that a threat of intensifying climate change will remain in the picture.

The past 40 years (1970-2010) brought an impressive, more than double, global increase in food production, achieved through the use of capital and new technologies. Higher consumption of fertilisers and plant protection products,

new plant varieties, improved irrigation systems, implementation of previously unavailable solutions resulting from scientific progress (such as computer-aided precision farming¹⁴⁸) led to an increase in average production from 2.4 tonnes of food per hectare in 1970 to 4.6 tonnes in 2010, while arable land grew by 15%. Large reserves of arable land are still on the area of the former Soviet Union, Brazil, and Sub-Saharan Africa. In line with the predicted shift towards the poles of the temperate climate zone, the *release* should cover in the future vast areas of previously inaccessible agricultural lands of Siberia and Alaska. The problem of obtaining fresh water may be solved, at least in the part of the world that are able to cover the related high costs, by the use of sea water desalination systems. At the same time, expanding urban areas, desertification and rising sea levels will result in the loss of the part of agricultural land. However, as the process will only intensify after 2052, i.e. beyond the timeframe of the forecast, the author only estimates that in 2052 the surface of land fit for cultivation will be about 6% lower than in the peak year of 2030, and thus it will generally not diverge substantially from the present figures.

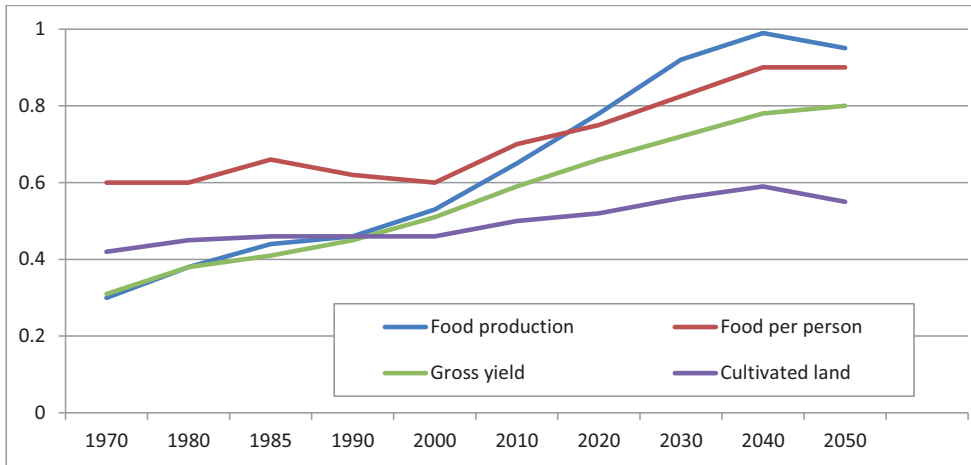
According to the author, genetically modified organisms will play an increasingly important role in agriculture in the future decades. Despite many objections regarding their potential future environmental costs, they will be used in agriculture to a greater extent. This results from the fact that GMOs may significantly increase agricultural production in regions with high production risk – too wet, too dry, or exposed to other risks.

Apart from the obvious threats, higher CO₂ content in the atmosphere brings a certain positive economic effect, as it accelerates plant growth. On the other hand, excessive temperature growth may have the opposite effect. The effects of the collision of the opposite vectors in the 40 years covered by the forecast are not easy to estimate, but it is expected that the final results for the agricultural production will not exceed approximately 5%. The author would have estimated the effect much higher if he had assumed the invariability of the crop structure. However, this does not seem possible, as farmers most probably will be forced to gradually adjust their production to the new type of local climate.

Therefore, according to the author, the situation in 2052 should be as follows: the area of arable land will not increase significantly, but the intensity of its use will be much higher. According to the author, annual food production in 2052 (Figure 4.1) will be 10 billion tonnes of grain equivalents (50% increase compared to 2012).

¹⁴⁸ A farming system using highly developed navigation and information technologies: GPS – *Global Positioning System*, and GIS – *Geographic Information System*.

Figure 4.1. World food production, 1970-2050



Scales: Food production (0-10.5 billion tonnes per year); cultivated land (0-3 billion hectares); gross yield (0-8 tonnes per hectare-year); food per person (0-1.4 tonnes per person-year).

Source: J. Randers, 2052. *A Global Forecast for the Next Forty Years*. Chelsea Green Publishing, Vermont 2012.

This means that the amount of food will be sufficient to meet the needs of the global population. It is expected that the basic agricultural products will be relatively cheap, and their consumption will increase.

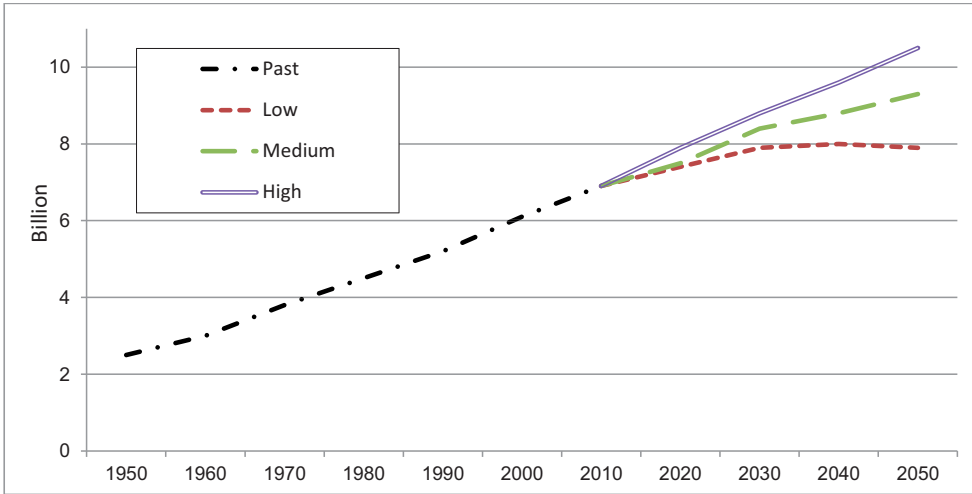
Again, it would sound rather optimistic, if it were not for the author's reminder that we cannot expect to solve the problem of the starving masses. And it is not because of concerns about the development of the agricultural sector, but rather as a result of the realistic assessment of the human tendency to neglect balance; in other words, the problem is and will be related to the distribution of food produced and delays in the economic progress of the poorest regions.

At this point, we might take a closer look at the key element in the model created by Randers. On the basis of the publications of the United Nations¹⁴⁹, Randers expects world population to reach its maximum value (around 8.1 billion) around 2040, and then to decline. This is not only a very important assumption, which implies the results for the whole forecast, but also a conclusion contrary to the most common estimates of the future changes in the global population. Another UN publication, *World Agriculture Towards 2030/2050. The 2012 Revision*¹⁵⁰, presents demographic projections. They form three alternative scenarios (Figure 4.2).

¹⁴⁹ *World Population Prospects: The 2010 Revision*, UN, Department of Economic and Social Affairs, Population Division, 2011, <http://esa.un.org/unpd/wpp/Excel-Data/population.htm>.

¹⁵⁰ <http://www.fao.org/docrep/009/a0607e/a0607e00.HTM>.

Figure 4.2. World population: 1950-2010 and three scenerios until 2050



Source: N. Alexandratos, J. Bruinsma, *World Agriculture Towards 2030/2050. The 2012 Revision, "ESA Working Paper" No. 12, 03 June 2012.*

World population is expected to grow from 6.6 billion in the reference year (2010) to 8.0 billion, 9.15, or 10.5 billion in 2050 respectively, based on the low, medium or high forecast. According to the medium option, world population growth will reach its peak around 2075 (9.4 billion), and then it will begin to decline gradually to 9.2 billion in 2100. The highest option does not assume any slowdown or decline in global population growth. For calculation purposes, Randers adopted the low option, which has obvious implications for further consideration and interpretation. The title of one of the subsections is: *Food Production Will Satisfy Reduced Demand*. In contrast, the authors of the abovementioned FAO publication¹⁵¹ point out that in certain countries, mainly in Africa, demographic projections suggest that population in 2050 would rather be a multiple of the current figure. Such a perspective raises serious concerns as to whether *per capita* food consumption could be significantly improved in the near future, in particular in poor countries. Instead, it would be more the matter of maintained food insecurity at the local level, regardless of the fact that the world as a whole may have a surplus in food production.

On the basis of the already existing trends in the lifestyle of the richest countries' elites, Randers predicts certain interesting developments. He believes that, under the influence of fashion and pro-health propaganda, wealthy citizens of the world will consider eating much smaller amounts of food to be most de-

¹⁵¹ Ibidem, p. 31.

sirable and sophisticated, choosing poultry and fish over large beef steaks. Such a solution would be indeed desirable, considering that in order to produce 1 kg of red meat approximately 7 kg of grains is used, compared to 2 kg used for the production of 1 kg of poultry meat.

The authors of the brief expert opinions mentioned above focused on selected specific problems. For instance, Moxnes¹⁵², one of the experts cited in 2052, analysed the impact of biofuel production on food market, in particular its prices. The decline in the availability of fossil fuels that has been predicted for many years now encourages the use of other energy sources, including plants (such as corn, sugarcane, sugar beet, wheat) produced in order to convert their biomass into ethanol. After over twenty years of research, their production efficiency rose and the related costs were reduced. At present, the cost of production of 1 barrel of biofuels ranges (depending on the material) between USD 45 (Brazilian sugar cane) and USD 120 (European wheat). Particular hopes relate to so-called third-generation biofuels, produced from algae and other microorganisms, and therefore not burdening agricultural production. However, since the price of 1 barrel of oil is USD 70, and the price of shale gas is USD 13, in the opinion of Randers, most probably we will avoid the future focus on biofuel production in the fuel sector. Otherwise, there would be the concern that the increasing biofuel production will cause a rise in food prices, as the growth of a cost-effective production of biomass would definitely affect food consumption. The starving poor would lose the race with the cars belonging to their wealthy and well-fed compatriots.

As it had been the case with *The Limits to Growth*, also the recent study by Randers met a wave of criticism and polemics concerning both its methodology and the accuracy of the proposed predictions. Let us focus on two allegations. Not all scientists are equally deeply convinced of the reality and irreversibility of the threat of climate change. According to some, climatic fluctuations had already occurred many times in the millions of years of history of the Earth; they were very clear and, more importantly, the warmer periods always caused life and biodiversity to bloom. It was the cooling of the climate that implied death to species, limited biodiversity, and inhibited life. In addition to the suggestion that predicting a global catastrophe is a far-fetched interpretation of the observed facts, they draw the conclusion that the belief in the key role of human impact on the fate of the Earth is not justified. We should not underestimate the importance of homeostasis: life on Earth has been subjected to serious tests for

¹⁵² J. Randers, 2052. *A Global Forecast...*, op. cit.

a few billion years, since its inception. It has always come out unscathed, though obviously not without sacrifices in the form of extinct species¹⁵³.

We assume that such a perception of flexibility guarantees the success of the system as a whole. The question of our fate, of the fate of mankind, is nonetheless interesting. And at this point we hear the comments of critics who, while understanding the principles of model construction, i.e. the need to adopt certain assumptions (e.g. excluding the most dramatic situations: global catastrophes and wars), question the rejection of all the *wild cards*¹⁵⁴, i.e. the unexpected events that may become an additional opportunity for the humanity. The most important breakthroughs in history occur without warning and are unpredictable, switching the tracks of history once and for all and radically changing economic relations, customs, and social structures. The examples are many, but it is enough to mention the invention of electricity, internal combustion engine, microprocessors, the Internet... so why should anyone exclude the possible invention of a completely new source of energy? Let us add: source of *clean* energy.

According to Randers, we could save the world if people managed to effectively communicate. However, his hopes on the matter were not high, as he ended his study with a recommendation to *Learn to live with impending disaster without losing hope*, followed by the appeal, *Help make my forecast wrong*. The main advantage of futurists seems to be opening a debate and encouraging others to think in general terms, instead of in terms of individual lives. Although Randers obviously presents the point of view of the Western man, who perceives the world differently than a resident of Africa or Asia, undoubtedly a great advantage of his study is popularization of synthetic thinking about the world, falling beyond the timeframe of the next few years.

4.4. The prospects for the European Union and Poland

The European Union is united by the idea of permanent development and further integration, as well as the theory and practice of medium-term programming as an operating instrument¹⁵⁵. The EU succeeded in solving the problem of

¹⁵³ Quotation of L. Kuźnicki from the debate: “*A Global Forecast for the Next Forty Years – 2052*” – *A Report to the Club of Rome. Commemorating the 40th anniversary of the Limits to growth – Jorgen Randers – analysis*. The debate was held on 10 December 2012 at the Polish Economic Society and presided by Professor E. Miączyńska. Professor Kuźnicki is an expert in the field of protozoology and cell biology as well as evolutionism.

¹⁵⁴ Ibidem, Prof. dr hab. Józef Niżnik, Institute of Philosophy and Sociology of the Polish Academy of Sciences.

¹⁵⁵ *Paradoksy futurologii roku 2050 (Paradoxes of futurology for 2050)*, E. Miączyńska, A. Kukliński (eds), “Biuletyn PTE” 2013, Vol. 2(61).

food security and in increasing competitiveness through free movement of persons and capital across the borders and the freedom of establishment. The process of bridging the gap between Member States in terms of the quality of life is in progress. Measures mitigating adverse impact of human activity on the environment, and thus on the climate, are implemented. Acceptance and the level of compliance with the Community Directives and Regulations and the rules of monitoring and evaluation are growing. Nevertheless, the EU also faces serious problems, such as slow economic growth, lack of resistance to crisis, which we have experienced in the last few years, or the lack of effective solutions to the problem of the mass influx of immigrants. Therefore, the works on designing effective solutions for the future are still in progress.

Forecasts for the whole world and the warnings contained therein became the starting point for many studies prepared by academic institutions and research groups associated with the European Union. The document of particular relevance is entitled *Global Europe 2050*¹⁵⁶, and it complements the global visions with the European integration context. The report was commissioned by the Directorate-General for Research and Innovation of the European Commission; however, it is not an official document and it presents the views of the authors, not the EU institutions. It contains nine scenarios for the future of the European Union, describing different ways the situation could possibly develop, with three of them, considered the most likely and at the same time clearly divergent, being presented in detail. The first scenario describes the standstill in European integration, lack of desire and will to contribute to common development and the leadership capacity, which would cause a gradual shift of Europe from the position of a key player to the periphery of the world, unable to deal with new challenges. The second scenario is even more pessimistic: from the inflow of clearly decentralising tendencies, through the rivalry between the Member States, to the local armed conflicts, unrest and destabilization. The third scenario describes the renaissance of the European Union, based on deepened integration and expansion of the EU to the countries to the east and south of its present borders. It assumes a fiscal, political and military consolidation. Such a reinforced EU would be able to face any emerging challenges and to maintain the position of an important participant in global competition. There is even a hope that such an EU would set the standards of lifestyle and preservation of cultural identity that would fall beyond short-term political and economic benefits. Fulfilment of this scenario should also have positive effects in the following areas:

¹⁵⁶ <http://www.servito.net/go/global-europe-2050-european-commission>.

- ensuring a high standard of living through increased innovation and productivity, which, however, requires measures mitigating the effects of the ageing population and the emphasis on openness, as it would be necessary to continue to import labour force according to the plan;
- increasing energy efficiency, reducing greenhouse gas emissions, producing green energy;
- creating new economic and financial governance at the global level through a better coordination, which might even lead to a possible introduction of a single currency for the whole world;
- continuing the development of new technologies, in particular energy-related, but also eco-, nano-, bio-, infotechnologies, emphasis on the development of railways that would be competitive against road traffic;
- creating and using new forms of employment and work, as well as expanding industry;
- preserving the polycentric nature of space on the continent, with sustainable development of medium-sized cities, joined by an efficient communication network;
- effectively developing the science sector: modernisation of operations on the basis of the common rules and processes should effectively solve the main local and global problems.

It is difficult to say whether this positive scenario is realistic enough. The EU today faces many serious challenges, the particularly dangerous ones including: lower competitiveness, slower innovation, scarcity of energy resources, ageing of European population, growing migration pressure from the south (mainly from North Africa, but also from Asia), growing separatist trends in the EU-15 countries, as well as lower spirit and morale of the societies where hedonism and insensitivity to the fate of the world replaces the previously dominant and demanding Protestant culture. In the context of those and other serious threats it is difficult to believe in a European Union that is strong and capable of decisive action. In particular, the EU is not perceived by members of its own societies as a common value for which any selfish interests should be sacrificed for the greater good, and its politics is governed by terms of office, i.e. by the short-sighted interests of individuals and groups. There is no general belief that, given the current economic and social problems affecting all Member States, they have an additional duty to focus on the well-being of a supranational organisation, and in the distant future at that.

In order for such report as *Global Europe 2050* to be effectively used, the condition to reinforce the authority of the European institutions and the changes in their interactions, which now can be described as a collaboration, as well as competition, must be fulfilled. Both the separation of powers and the cooperation, and often the lack of it, make it difficult to rely on the creative execution of any ambitious visions of the future. Perhaps the remedy for this situation is the promotion of strategic thinking, publication and dissemination of such reports/warnings? The Europeans, who live their lives in comfort and peace, do not seem to appreciate the possibility of losing their elitist position in the near future. However, perhaps a new impulse will emerge that would revive the idea of creating a new value, a new political entity which the European Union was supposed to be according to its originators? Unfortunately, history shows that this kind of impulse is often the most serious threat. We must not forget the belief that such breath of fresh air could flow from the new Member States – that is, also from Poland.

What are then the projections of the future of our country? With great energy and determination, we have been building the new order for 25 years now, not without impressive success, but also with disturbing cases of negligence based on everyday observations. In the opinion of Professor Kukliński¹⁵⁷, *We must have the intellectual and moral courage to see not only the glory, but also the misery of Polish transformation; in other words, the extent to which this transformation was only a process of passive adaptation to the changed conditions of the European and global scene, or the process of laying down new foundations for the development of Poland in the 21st century. We also need to answer the question to what extent Polish transformation was an innovative process, and to what extent it was merely an imitative process.* The answer that comes to mind is quite obvious: our society aspires to achieve the standard of living of the richest and the most developed countries, while believing that we should not change the essence of *Polishness* too much. Therefore, growing prosperity and individual freedom (in particular considering the massive inflow of funds), cooperation based on mutual trust and openness, actual measures to ensure good organisation and functioning of state and local government institutions, real concern for the common good, serious approach to the challenges of modern times, are, unfortunately, only empty declarations. It seems that the dreams of Poles end with achieving the abovementioned hedonistic way of life of Western Europeans. This seems to be an infantile response to a completely

¹⁵⁷ A. Kukliński, *Polonia Quo Vadis? Siedem problemów (Polonia Quo Vadis? Seven problems)*, “Biuletyn PTE” 2013, Vol. 2(61), Warszawa, p. 146.

unique opportunity that history offered us. Moreover, the conditions for growth will soon be much less favourable, as the opportunities stemming from the accession to the European Union become exhausted.

Thus, we can talk about the misery of strategic thinking of Poles and the real problem is not the lack of reports and projects: quality studies have been developed, the content of which would be worth implementing. The question is whether their role would not be limited to creating the impression of actually doing something, while the mere existence of those documents would be enough for us.

As it has been the case with the previous part of this article, we must look at the forecasts until 2050¹⁵⁸. According to the authors¹⁵⁹, analyses indicate lack of conformity of development processes in our country: while convergence processes in Polish economy in relation to the EU Member States are progressing rapidly, the same cannot be said about the growth of civilization. The hypothesis concerning the reasons for the civilisation delays with regard to economic growth is based on the cultural system of the Polish society. The system consists¹⁶⁰ of the remains of agrarian civilization, gentry legacy, post-socialist claims, conservative mainstream Catholic thought, the tendency to care only about their own interests, without taking into account the common good, lack of confidence in the state institutions, but also *vice versa* – lack of confidence of these institutions in citizens, and in fact, a distrust of each other, and imperfect system of education and scientific research.

Hence the concept of the Report, whose vision was formulated as *Bridging the civilisation gap between Poland and the developed European countries*. The model describing the implementation of this task consists of four segments: institutional system, integrated management, system laying down the foundations for the civilization of knowledge, and open society.

Within each segment, the most important tasks with regard to efficiency have been highlighted. In order for the country to achieve the necessary efficiency, it is necessary to find the consensus at least in the most general matters, which appears to be a particularly difficult task given the known arrangement of political forces. Nevertheless, it is of particular importance. Achieving institutional and legal internal consistency is easier and possible to carry out. Polish legal system is complicated, and sometimes contradictory, which results from

¹⁵⁸ *Raport "Polska 2050" (Report "Poland 2050")*, Komitet Prognoz "Polska 2000 Plus", Polska Akademia Nauk (Polish Academy of Sciences), Warszawa 2011.

¹⁵⁹ J. Kleer, *Wizja przyszłości Polski: Raport "Polska 2050" (Future vision for Poland: Report "Poland 2050")*, "Biuletyn PTE" 2013, Vol. 2(61).

¹⁶⁰ *Raport "Polska 2050"*, op. cit., p. 30.

both internal factors and connections with the varying environment, above all, with the European and global conditions. The need to change the relationship between citizens and representatives of state institutions and to improve operations in crisis situations, i.e. fast and efficient state aid and preventive measures, is also emphasised. The fulfilment of these conditions should improve the citizens' trust in the state, which in turn is one of the key tasks included in the *Open society and economy* segment. This sub-programme also highlights the need to mitigate ideological tensions in the society, the transformation of the cultural model, changes in relation to the *others*, or a shift towards forward-thinking. Societies wallowing in contemplation of the past are not interested in what would happen next. The opening to otherness in all its manifestations, as well as cultural diversity, are the source of creativity through seeking new experiences, ideas, methods, new and better solutions. Income differences in the society should be mitigated and the level of income *per capita* should come closer to the EU average. Facilitated access to public goods should not be ignored, either.

System components forming the basis for the so-called knowledge civilization include a modern educational system, increase in the number of well-educated university graduates, intensive development of the R+D sector and saturation of the national market with modern means of communication. All these elements would cause the necessary increase in innovation, which is the foundation for the future success of the economy and the society.

The tasks relating to the construction of a modern economy include modernization of infrastructure, reduction of interregional disparities, developing stabilization systems (avoiding excessive indebtedness of the state, counteracting speculative measures of the capital, in particular foreign capital, on the economy) and innovative system management.

In order for this scenario to be put into practice, a number of conditions must be fulfilled, including the main one: no external threats to growth. Yet no less important is the assumed effective redefinition of the mentality and social relations towards greater ability to reach compromise and ideological tolerance, without which participation in a globalised world is difficult, if not impossible. In this regard, the key factor is the time that history would give us to ensure peaceful and undisturbed growth. This time will not be too long: according to the experts on the matter, it will be 25 years at most.

4.5. Agricultural sector

The balance of food in the world and the fate of the European Union, including the fate of Poland, are two matters that are important for our future. But what about agriculture? After all, it is in this sector where raw materials for food production originate.

Agriculture varies not only depending on the latitude and the related climate, but also in terms of the applied production technology. It is estimated that about 2% of farms in the world are fully mechanised, and about 30% use draught animals or other live labour and the appropriate machinery, which also means that slightly more than two thirds of farms are managed using exclusively or primarily manual work. The important factor is that the labour productivity of mechanised farms is almost one hundred times better than the one of farms using human labour¹⁶¹, which results in the differentiation of the quality of life of people managing both types of farms. Globalization of world economy changed this pattern, as the low level of life of people earning a living from agriculture coexists with a low level of wages in the country, which attracts foreign capital.

Globalization is not only a change in the structure of consumption, which has been discussed before; it also the growing urbanization of the countries. The possibility of finding a job in the city means that the areas where agriculture is the prevailing sector of the economy become depopulated, which in turn leads to the concentration of land in the decreasing number of farms. It can be expected that the processes of transformation of the agrarian structure in developing countries would dominate other important processes, as it had been the case until recently in the countries that are considered developed today. They would improve the standard of living for the agricultural population, but at the same time negative aspects would emerge: higher greenhouse gas emissions, reduced biodiversity of agricultural areas, etc.

Urbanization in developing countries also implies the need to develop the domestic food industry. The effect of its absence or underdevelopment would be that such countries would become the provider of agricultural raw materials, to the obvious detriment of the labour market and budgetary proceeds of those countries.

¹⁶¹ Lecture by J.M. Sourisseau, *Rolnictwo rodzinne: wyzwania i stawki. Perspektywa światowa (Family farming in the World: Challenges and Stakes)*, at the international conference “Rolnictwo rodzinne w XXI wieku: różnorodna rzeczywistość” (“*Family Farming in the 21st Century: Various realities*”), Institute of Rural and Agricultural Development of the Polish Academy of Sciences and the Jagiellonian University, Warsaw, 26 September 2014.

The outflow of free capital is a significant cause of slowdown in gross domestic product growth in developed countries, and thus offering high wages. This phenomenon is aggravated by the ageing of population, but it can be countered by using human creativity to develop innovative economy. At present, only a few countries can boast such economy, but the efforts to develop it are gaining momentum. Farms in such countries, well equipped with technical means of production, with high concentration of land and high labour productivity, reduce production costs in such situation by adopting e.g. energy efficient technologies and production technologies. Moreover, relevant measures allow reducing greenhouse gas emissions from agricultural production through their appropriate storage in the soil. Nevertheless, dissemination of these measures will only be possible after the introduction of budgetary subsidies.

In Poland, the level of wages is close to the global average and it is increasing, which means that the transformation of the agrarian structure is in progress and will continue. The process has accelerated due to the accession to the European Union. The pressure from businesses and companies from the rapidly growing domestic food industry is another important factor in this respect. Although the degree of vertical integration of agricultural holdings with the processing industry was small, albeit steadily growing, this pressure has forced changes in the agricultural production structure and improvement of the quality of the manufactured goods. As a result, the share of farms with distinctive competitive capacity has increased. It is estimated that, including farms having the potential to achieve such capacity, they provide about two thirds of the national agricultural production to the market. At the same time, however, the number of small farms that are not related to the market (so-called subsistence farms) or related to a limited extent is several times higher.

If the European Union continues to improve its operational mechanisms, and Poland does not merely rely on the economic achievements reported to date, but it would rather strive to become an innovative economy, land concentration in the decreasing number of farms, the ones capable of competing with farms in other countries, will accelerate. It is therefore possible that, in the mid-21st century, farms with medium and high concentration of production will prevail in the sector. Another important feature of such agriculture will be its environmental friendliness and the application of measures that reduce greenhouse gas emissions.

4.6. Conclusions

On the basis of current knowledge, futurists do not develop their predictions to determine what awaits the world, or the European Union, including Poland, in the near or distant future, but rather to identify potential risks to further

growth. Such an approach to the problem of feeding the world population and to the possible directions of development of agriculture in the mid-21st century has been presented in this chapter. Despite the usual shocking catastrophic images of the future, the picture presented in the cited studies is quite different: in global terms, there would be enough food for everyone. The matter of access to those goods is, however, another question, as not every potential consumer will have sufficient funds to buy them. In this respect, the future world will not necessarily be better than today.

At present, approximately two thirds of farm owners in the world cultivate the land using only manual tools, therefore, due to the very low labour productivity, their income might not be sufficient to provide even the minimum standard of living. However, this picture is changing. Globalization intensifies the process of urbanization, which results in the concentration of land in the decreasing number of farms and in the higher income of agricultural population. This process begins to dominate over other processes occurring in rural areas in developing countries, as it had been the case before in the countries that are now considered developed. Most probably, this would be also the case in the next few decades.

On the other hand, the processes of land concentration in developed countries, including the European Union, become overshadowed by the matters of environmental protection and measures aimed at reducing greenhouse gas emissions. The growing use of technology in agriculture has in fact negative impact on both the environment and the climate.

Polish agriculture sees the land concentration processes, environmental protection measures, and works on the methods of sequestration (storage) of carbon dioxide in the cultivated soil. These processes will probably accelerate if the Polish society begins to consider innovation its priority.

The state of the world in the second half of the 21st century will depend on the emergence and dissemination of innovations in emission-free energy production and methods of greenhouse gas sequestration. It is difficult for us to imagine its future today, if the creativity of the world community fails to meet this challenge.

5. Global value chains – a challenge for the agricultural sector in Poland¹⁶²

5.1. Introduction

Globalisation processes facilitate the fast development of mutual interactions between enterprises. Vertical structures of integration lose on significance, while the networks of mutual links become more important. Increasingly often, the concept of the global supply chain that dominated in the 1990s, based on the network-based methodology for the analysis of the global economy¹⁶³, is being replaced by the concept of the global value chain, GVC. Within that approach, the analysis of the processes of international expansion and the fragmentation of modern supply chains focuses mainly on creating value in supply chains, on the implications of the organisational structure of the industry, the system of coordination (governance), and on the bargaining power of network participants. Knowledge of those processes facilitates introducing new companies to the GVC and supporting those already within it, with the aim of maintaining and improving their position in global markets. In addition, this is extremely important for creating the development strategy for agriculture and the food industry at the global, regional and national level.

The concept of global value chains allows for including not only production, but also an entire range of activities, from product design to marketing, and shows how the benefits of globalisation are distributed, who gains and who loses, and how to increase the number of winners¹⁶⁴. According to the authors of an OECD report¹⁶⁵, it is possible to benefit from the dynamic growth of the GVC, yet the process also comes with numerous risks.

Research on global value chains in the agri-food sector is still in its infancy. It was only the food crisis of 2007-2008 that sparked a much greater interest of

¹⁶² This chapter is based on the article by R. Grochowska, *Zarządzanie globalnymi łańcuchami wartości – implikacje dla polityki żywnościowej w Polsce (Management of global value chains – implications for food policy in Poland)*, [in:] *Przemysł spożywczy – otoczenie rynkowe, inwestycje, ekspansja zagraniczna (Food industry – business environment, investments, foreign expansion)*, I. Szczepaniak, K. Firlej (eds), collective monograph prepared by the IAFE-NRI and the Cracow University of Economics (in press).

¹⁶³ P. Dicken, *Global Shift: Mapping the Changing Contours of the World Economy*, 6th ed., Guilford Press, New York 2011.

¹⁶⁴ J. Góra, *Globalne łańcuchy wartości jako narzędzie badania globalizacji (Global Value Chains as a Tool for Globalization Studies)*, “Organizacja i Kierowanie” 2013, No. 2, pp. 43-64.

¹⁶⁵ *Implications of Global Value Chains for Trade, Investment, Development and Jobs*, OECD, WTO, UNCTAD, prepared for the G-20 Leaders Summit, Saint Petersburg, Russian Federation, September 2013.

researchers in that concept, in the context of ensuring global food security. Most studies presented so far focus on cases of countries and regions where value chains do not function well or where the network of relationships between the actors in the chain has been abruptly broken. A considerably smaller number of studies have been devoted to stable regions and countries, where the chains operate relatively well and where food security is guaranteed¹⁶⁶.

The aim of this chapter is to explore the directions of development in the governance of global value chains (GVC) in the agri-food sector and in other sectors of the economy. The discussion will serve to indicate the challenges faced by Polish food policy in the future and to present recommendations for further action to enhance the benefits and limit the risks that follow from the course of those processes. The analysis was performed based on strategic documents of global organisations, institutions within the EU and the government, and the literature on the subject.

5.2. Global value chains in the agri-food sector and in other sectors of the economy

Global value chains are a relatively new concept, as opposed to the global supply chains, known in the literature for decades. The notion of the “supply chain” was first introduced in world literature in 1977 by Hopkins and Wallerstein¹⁶⁷, who studied the sociology of global systems.

Over the years, various approaches to the notion of the supply chain have evolved. From the perspective of governance, it usually refers to the effective and timely distribution of products that go through the particular nodes of the supply chain. For the economy, it shows how that economy is organised in terms of the size and ownership of the main producers, processors and suppliers, as well as the location of companies. From a national perspective, individual countries are interested in how to maximise the benefits and maintain production, sales and research capabilities necessary for developing and producing high quality products at the smallest possible cost. On the other hand, the supply chain on a global scale mainly refers to the context of international growth, including the capacity of countries to grow depending on their participation in the global economy, i.e. their role in the global supply chain.

¹⁶⁶ R. Grochowska, K. Kosior, K. Nessel, *Governance of food global value chains in Poland – a food and nutrition security perspective*, Workshop “Global value chains for food and nutrition security”, Roma Tre University, Italy, 25-26 September 2014.

¹⁶⁷ T. Hopkins, I. Wallerstein, *Patterns of development of the modern world-system*, “Review” 1977, No. 1(2), pp. 11-145.

The changes that occur in the global economy clearly show that supply chains evolve. This is mainly driven by globalisation, which transforms the nature of global production and trade, and changes the organisation of the economy. Since the 1960s, a process of limiting the supply chains has been underway – companies search abroad for low-cost suppliers able to meet their expectations. More and more companies are established in regions that ensure workers that accept low wages. This accelerates the pace of foreign production, which takes on new organisational forms. In the 1970s and 1980s, a similar process began also in U.S. commercial networks and companies with well-known brands, which started to look on a large scale for foreign suppliers in most categories of consumer goods. This led to a fundamental change in the global commodity chains, from producer-driven to buyer-driven ones. Regional processes initiated in this way began to propagate, giving rise to the global value chain.

Global producer-driven commodity chains arise when an important international producer plays a crucial role in coordinating the internal and external production networks. This is characteristic of capital-intensive industries and those that make an intensive use of technologies, such as the computer, car or aviation industries (e.g. IBM, General Motors). On the other hand, buyer-driven commodity chains apply to industries where a large retail or brand-name seller sends components abroad and re-exports the finished product to the domestic market (e.g. Wal-Mart, Nike, Levi Strauss & Co). In this way, it plays a leading role in building multi-level production in various countries, most often less developed economically¹⁶⁸.

At the beginning of the 1990s, global supply chains began to involve, apart from the final products, also components and semi-finished products, which influenced not only the industry, but also the energy sector, food production and a range of services, from call centres and accounting centres to medical procedures and research and development. The concept of global supply chains as formulated so far reflected the actual reality to a lesser and lesser extent. Since the beginning of this century, the concept of global value chains (GVC) started to gain popularity as a tool for analysing the international expansion and geographic fragmentation of modern supply chains¹⁶⁹. The methodology of global value chains was built on the economic theory of transaction costs, the concept of economic activity being “immersed” in social relationships in terms of organisational sociology, the theory of the replacement of vertical integration

¹⁶⁸ G. Gereffi, J. Humphrey, T. Sturgeon, *The Governance of Global Value Chains*, “Review of International Political Economy” 2005, Vol. 12, No. 1, pp. 78-104.

¹⁶⁹ G. Gereffi, J. Lee, *Why the world suddenly cares about global supply chains*, “Journal of Supply Chain Management” 2012, Vol. 48, No. 3, pp. 24-32.

with social and spatial proximity, which fall within the scope of regional economics, economic geography and strategic management, as well as the theory of the competence of the enterprise in the area of strategic management¹⁷⁰.

Poland is one of those countries that may be cited as a good example that shows the evolution of value chains – from the centrally planned economy to the market economy – through the integration with the more advanced economies of the EU Member States. The process of “climbing up” to higher levels in global value chains also applied to the Polish agri-food sector.

The latter remains one of those divisions of the national economy that are steered, strongly regulated, and subject to significant interventionism, as well as to the social control of trade and industry unions. In a socialist command-and-quota economy, average farmers did not show pro-market initiative, and they expected support from the State. The situation only changed after the social and political transformations and the collapse of communism in Poland in 1989. Replacing the centrally planned economy with the market economy limited economic support of the State for business entities. Owing to the deregulation of food prices, farmers and food producers were the first to experience the operation of the market mechanism¹⁷¹.

The end of the XX century is a period marked by adaptation to the requirements of the European Union and changes in the structures in the functioning of the Polish agri-food sector, related to Poland’s accession to the EU in 2004 and the inclusion of that sector in the Common Agricultural Policy. Those changes transformed Poland from a country that imported food in the period of transformation, to a major food exporter, mostly to European markets. Included, as an EU Member State, under the principles of the free movement of goods, without barriers, quotas or tariffs, Poland was able to boost its export of food to EU countries in the first years of its membership at the rate of 23% per annum¹⁷². Also economic growth after Poland’s accession was favourable for the development of enterprises in that sector. There were many mergers and acquisitions between companies in the food sector, yet the food industry and the distribution networks still show less consolidation than across Europe. However, the number of wholesalers is increasing, and Polish companies begin to invest outside the EU (mostly in Eastern European markets), where they build factories and sell

¹⁷⁰ J. Góra, *Globalne łańcuchy...*, op. cit., pp. 43-64.

¹⁷¹ A. Woś, *W poszukiwaniu modelu rozwoju polskiego rolnictwa (Searching for agricultural development model in Poland)*, IERiGŻ-PIB, Warszawa 2004.

¹⁷² R. Urban, I. Szczepaniak, R. Mroczek, *The Polish food sector in the first years of membership (Synthesis)*, series “Multi-annual Programme 2005-2009”, no 177.1, IAFE-NRI, Warsaw 2010.

products manufactured there. Thus, the Polish agri-food sector entered both the sphere of principles that govern the functioning of the European market, and also the world of global interdependencies, determined by the rules of the game that apply in the global economy¹⁷³.

Observing the evolution of changes in the global economy one may state that globalisation has led to a new era in international competition. The change in the nature of global production and trade is attested by the data of the World Trade Organization¹⁷⁴, according to which trade between countries is increasingly dominated by semi-processed products. In 2009, the value of global export of those products became equal to the value of the export of final products, and accounted for 51% of total export. Thus, we are seeing a change in the global trade pattern from trade in goods to trade in value added and trade in tasks.

The contribution of the particular regions as well as political and economic organisations to the GVC varies greatly (Figure 5.1). One may clearly see the dominant contribution of the European Union and developed economies (66% and 59%, respectively). Also East and South Asia are in the lead (56%), which reflects their export orientation to industry and processing. On the other hand, the annual increase in the contribution to GVC is one of the lowest for developed countries, as opposed to the developing countries (e.g. 3.9% for the European Union versus 9.5% for South Asia)¹⁷⁵.

One should note that the concept of global value chains focuses mainly on the global value chains as they spread across the world, and analyses the way they create or capture value added. By looking at the entire spectrum of activities performed by companies and their workers for a given product – from the initial idea to the final use – the concept of the GVC ensures a holistic approach to the global economy from two opposite viewpoints, i.e. top-down and bottom-up. The first of those viewpoints concerns governance, which mainly applies to leading companies and organisations of global economies. The other one involves upgrading, which allows for analysing the strategies used by countries, regions or other economic actors in order to maintain or improve their standing in the international arena¹⁷⁶.

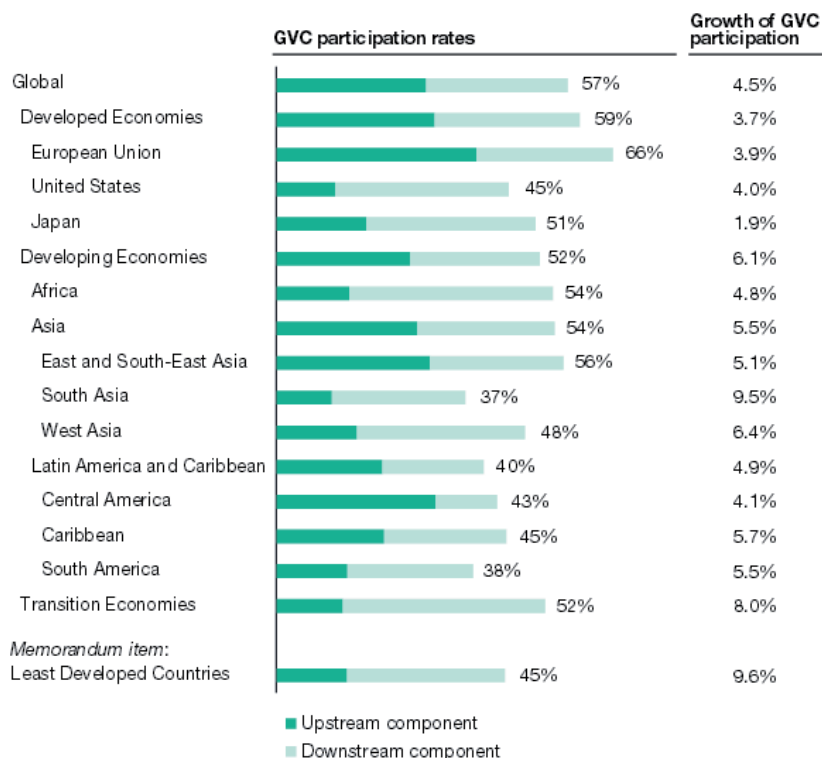
¹⁷³ K. Firlej, *Rozwój przemysłu rolno-spożywczego w sektorze agrobiznesu i jego determinanty* (*The Development of the Food Industry in the Agribusiness Sector and its Determinants*), Wydawnictwo Uniwersytetu Ekonomicznego w Krakowie, Kraków 2008.

¹⁷⁴ *Trade Patterns and Global Value Chains in East Asia: From Trade in Goods to Trade in Tasks*, World Trade Organization, IDE-JETRO, Geneva–Tokyo 2011.

¹⁷⁵ *Global Value Chains and Development. Investment and Value Added Trade in the Global Economy*, United Nations Conference on Trade and Development, UNCTAD, 2013.

¹⁷⁶ G. Gereffi, *Global Value Chains and International Competition*, “Antitrust Bulletin” 2011, Vol. 56, No. 1, pp. 37-64.

Figure 5.1. Participation of regions and countries in Global Value Chains – GVC (data for 2010) and their GVC participation rate (data for 2005-2010), in %



Note: GVC participation indicates the share of a country's exports that is part of a multi-stage trade process; it is the foreign value added used in a country's exports (upstream perspective) plus the value added supplied to other countries' exports (downstream perspective), divided by total exports. GVC participation growth here is the annual growth of the sum of the upstream and downstream component values (CAGR).

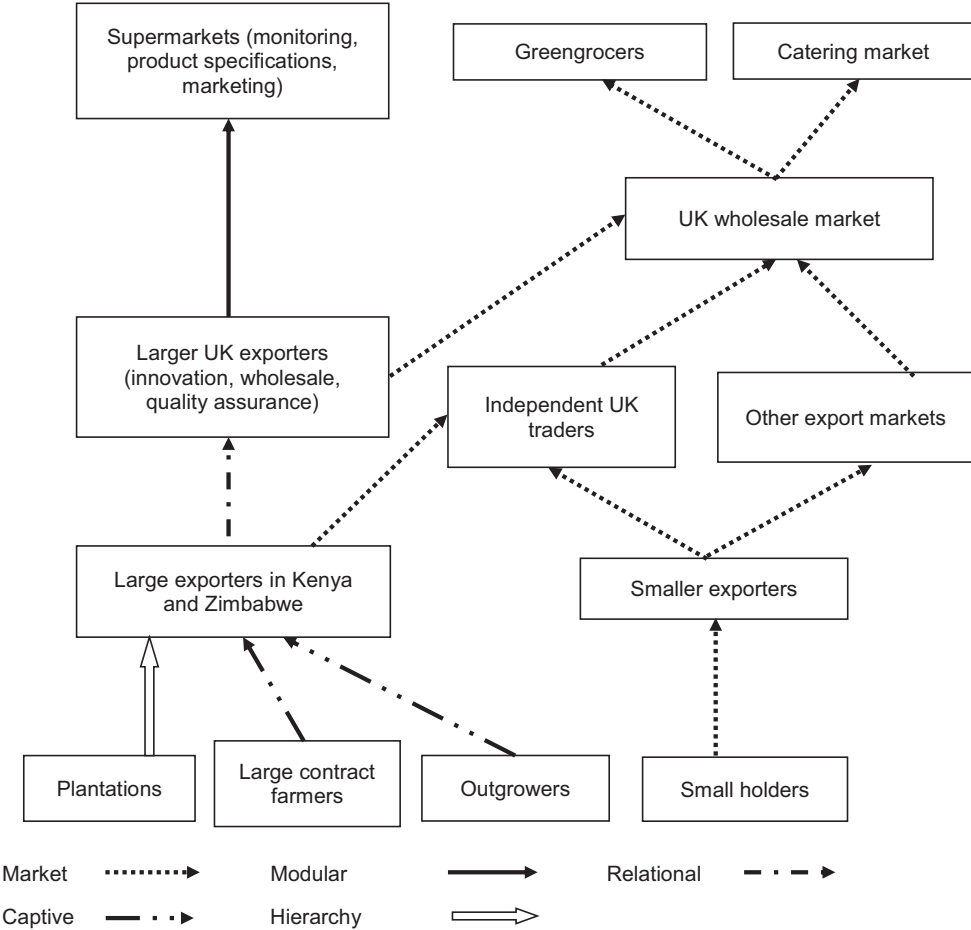
Source: *Global Value Chains and Development. Investment and Value Added Trade in the Global Economy*, United Nations Conference on Trade and Development, UNCTAD, 2013.

Governance is the main element in the concept of the GVC. It shows how the collective “force” may actively shape the distribution of benefits and risks in the economy, and actors that experience those impacts as a result of their activity. Within a chain, the leading companies are crucial. The producer-driven chain is dominated by the producers of final products. On the other hand, in a buyer-driven chain the major role is played by distributors of final products, who dictate their terms through their ability to shape mass consumption through strong and recognized brands.

The role played by leaders is reflected in the various forms of GVC governance. Usually, three intermediate forms of governance – modular, relational and captive – are listed between two extremes – market and hierarchical govern-

ance¹⁷⁷. That division is based on the possible combinations of three independent variables that derive from case studies, i.e. (a) the complexity of transactions, (b) codifiability of those transactions, and (c) the capability of suppliers. One must note that the particular forms may change over time, just as the value chain changes in different circumstances. Diagram 5.1 presents the forms of governance listed above on the example of the market of fresh vegetables traded between Africa and the United Kingdom.

Diagram 5.1. Governance forms of global value chains based on fresh vegetable market in exchange between Africa and Great Britain

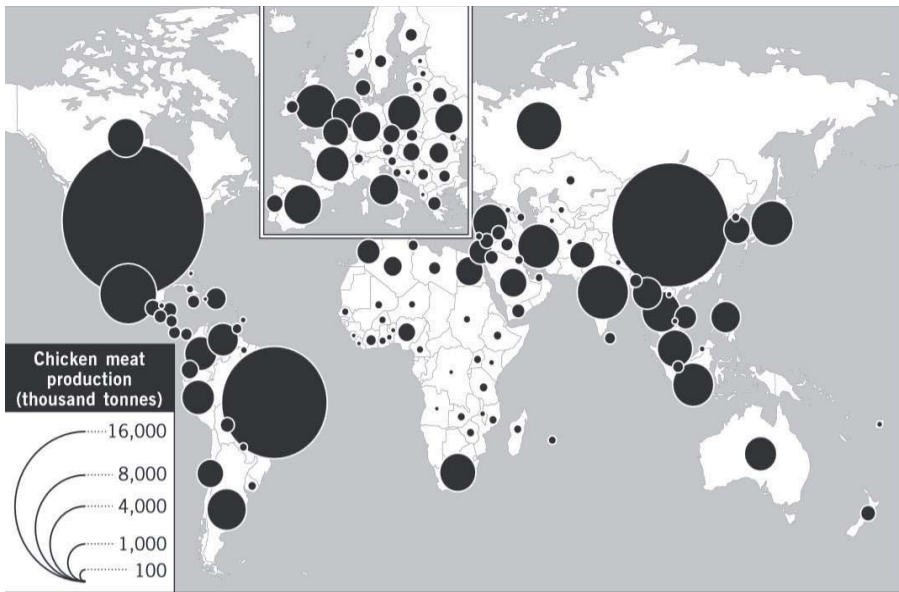


Source: C. Dolan, J. Humphrey, *Changing Governance Patterns in the Trade in Fresh Vegetables between Africa and the United Kingdom*, "Environment and Planning" A, 2004, Vol. 36, No. 3.

¹⁷⁷ G. Gereffi, J. Humphrey, T. Sturgeon, *The Governance...*, op. cit., pp. 78-104.

This is one of the simpler systems of governance, which mainly focuses on distribution and marketing, and is mostly driven by large commercial networks rather than producers. An opposite example is that of the market of broiler production, dominated by large, well-integrated producers and other related actors on that market (the U.S., Brazil, and China). It requires an efficient coordination of the entire process of obtaining the raw material, i.e. the farming of broiler chicken. Observations show that most production of food has been dominated in recent years by cooperation networks of large producers, which are strictly controlled, highly integrated and industrialised (Diagram 5.2).

Diagram 5.2. Example of the broiler production industry, dominated by the U.S., Brazil and China (in thousand tonnes)

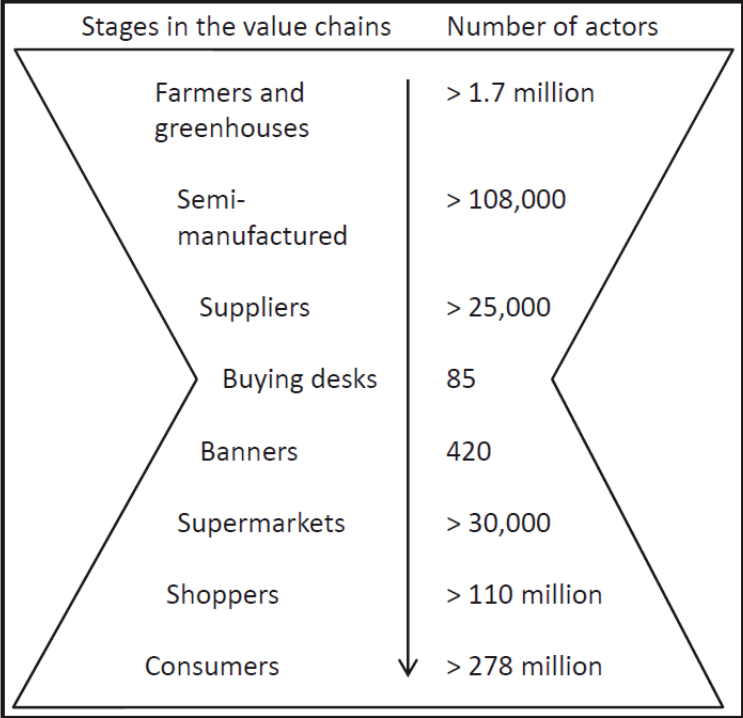


Source: P. Dicken, *Global Shift: Mapping the Changing Contours of the World Economy*, 6th ed., Guilford Press, New York 2011.

In the food economy and in other sectors one may see the growing significance of global purchasing companies as key players in shaping the distributed production and trade on an international scale. The analysis of buyer-driven chains clearly shows the significant role of large retail networks such as Wal-Mart and Tesco, or well-known brands such as Nike and Reebok, in shaping the way how those chains operate by forcing suppliers to comply with strictly defined standards.

The role of global purchasing companies follows mainly from their considerable concentration (Diagram 5.3). For example, Wal-Mart has 8,100 stores in 15 countries, and its proceeds amount to USD 401 billion a year. With such extremely large income, it has become the seventh trade partner of China in a ranking of the largest global retail networks¹⁷⁸.

Diagram 5.3. The supply chain funnel in the agrifood sector based on data from seven West European countries



Source: G. Gereffi, J. Lee, *Why the world suddenly cares about global supply chains*, “*Journal of Supply Chain Management*” 2012, Vol. 48, No. 3.

Quality standards are becoming one of the major mechanisms for buyers to govern value chains. Along with the increasing variety of products, ensuring their quality becomes critical to achieving market success. In addition, the growing social and environmental awareness of consumers forces retail networks to

¹⁷⁸ A. Clark, *Wal-Mart, the US Retailer Taking Over the World by Stealth*, “*The Guardian*” 2010, January 13, p. 26.

closely interact with suppliers. That fairly new phenomenon of private quality standards introduced by large retail networks determines what products are to be delivered, as well as how, where and when they are produced¹⁷⁹. Consumers' expectations to have products on the shelves throughout the year, irrespective of the season (the permanent global summertime, PBST) requires huge investments and gives an advantage to large international producers and suppliers. This gives rise to limitations on the one hand, while on the other it creates more opportunities through participation in international networks of agri-food production.

The private standards have important implications in terms of upgrading, which go beyond business issues. In the food economy, in order to ensure food security and the high quality of products from farm to fork, important food producers and retail networks cooperate with preferred few suppliers who ensure a large scale of production and compliance with specific and costly expectations. This marginalises small farms, which are not able to join in that value chain owing to the high costs and the lack of capacity to meet the specific requirements. On the other hand, this should facilitate the mobilisation of small farms to seek out niches, e.g. in organic farming or fair trade¹⁸⁰.

The modern pattern of production and trade of highly processed products brings together three levels: the global, regional and local one. The global level – thanks to appearance of producers from the South, who use their advantage in seasonal complementarity with the moderate markets of the North, which generates commodity flows in long-distance trade on an unprecedented scale. The most frequently cited indicator of globalization is the distance covered by food that ends up on our tables. For example, a basket of 20 fresh products bought by the largest commercial networks in the United Kingdom travel 100,943 miles. The regional level – as the presence of areas with more specific production within the markets of North America, Europe and East Asia leads to a broad exchange between the regions. And the local one – due to increased interest in alternative cooperation networks focused on local – often organic – production, which create considerably shorter systems of the flow of agri-food products¹⁸¹. The circumstances presented above affect the Polish agri-food sector, enforcing great flexibility in adapting quickly to the incoming changes.

¹⁷⁹ J. Lee, G. Gereffi, J. Beauvais, *Global Value Chains and Agrifood Standards: Challenges and Possibilities for Smallholders in Developing Countries*, Proceedings of the National Academy of Sciences of the United States of America, 2010 (<http://www.pnas.org/content/early/2010/12/08/0913714108>).

¹⁸⁰ J. Humphrey, *Private Standards, Small Farmers and Donor Policy: EUREPGAP in Kenya*, Institute of Development Studies Working Paper, No. 308, Sussex, Brighton, UK, 2008 (<http://www.ids.ac.uk/files/Wp308.pdf>).

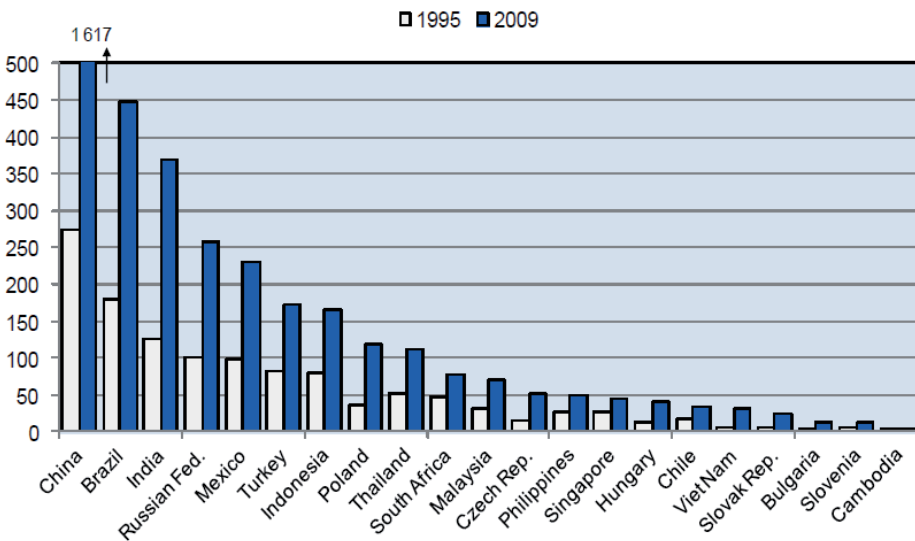
¹⁸¹ P. Dicken, *Global Shift...*, op. cit.

5.3. Implications for food policy in Poland

The growing expansion and fragmentation of production, which goes beyond the boundaries of individual countries, has an ever growing impact on the shape of economic policy. Increasingly often, participation in GVC is seen as an important element of the strategy for economic development, as global value chains function as a way to reach markets for the exported goods and services. Producing for export directly generates value added and contributes to GDP growth, job creation, higher incomes, etc. In the long-term, it encourages the upgrading of the economy.

Experiences of numerous developing countries or countries in transformation show that entering a GVC allows for fast development and industrialisation (Figure 5.2). It is clear that developing countries are the main source of growth for the global economy, especially after the economic crisis of 2008-2009. While growth in economies of the global North has been slowing down, countries of the South experience dynamic growth. Between 2005 and 2010, the import of goods of the European Union and the United States increased by 27% and 14%, respectively, while for Brazil it was 147%, for India – 129%, China – 111%, South Africa – 51%¹⁸².

Figure 5.2. Income derived from Global Value Chains in selected countries (data for 1995 and 2009)



Source: *Implications of Global Value Chains for Trade, Investment, Development and Jobs*, OECD, WTO, UNCTAD, prepared for the G-20 Leaders Summit, Saint Petersburg, Russian Federation, September 2013.

¹⁸² *Trade Patterns...*, op. cit.

From the perspective of the GVC, that change highlights the growing importance of companies from the developing countries. In Sub-Saharan Africa, for example, the entry of South African fashion companies to the neighbouring markets entailed the growth of regional value chains. Unlike American chains, they focus on a shorter production cycle and a faster response to the current fashion trends. Similarly, food supermarkets expand their operations through regional value chains¹⁸³.

The need for less complex products in terms of quality and variety in lower income countries may have implications for upgrading. Lower standards favour the participation of those countries in the GVC, by joining the activities with greater value added, such as product design. A good knowledge of local and regional markets makes it easier to generate cost-effective “innovations” which match the financial resources of a given community. There is a risk, however, that focus on that kind of markets leads to marginalisation and loss of competitiveness. Their knowledge of local markets is soon captured by large international companies¹⁸⁴.

Considering the above solutions one may conclude that participation in a GVC brings with it numerous benefits. According to UNCTAD¹⁸⁵, the most important ones include:

- access to global markets and the opportunity to integrate with the global economy; economically weaker countries may specialise in selected operations and thereby actively participate in global value chains;
- growth of the GDP and social wealth;
- long-term upgrading due to production capacity building, popularisation of new technologies, and development of the social capital.

It is worth emphasising that the dynamic development of global value chains is made possible by technologies that lower the costs of coordination and trade. ICTs such as the Internet and communication infrastructure play a significant role in this respect.

One should note, however, that participation in a GVC brings with it certain risks, and not all potential benefits materialise automatically. Economic

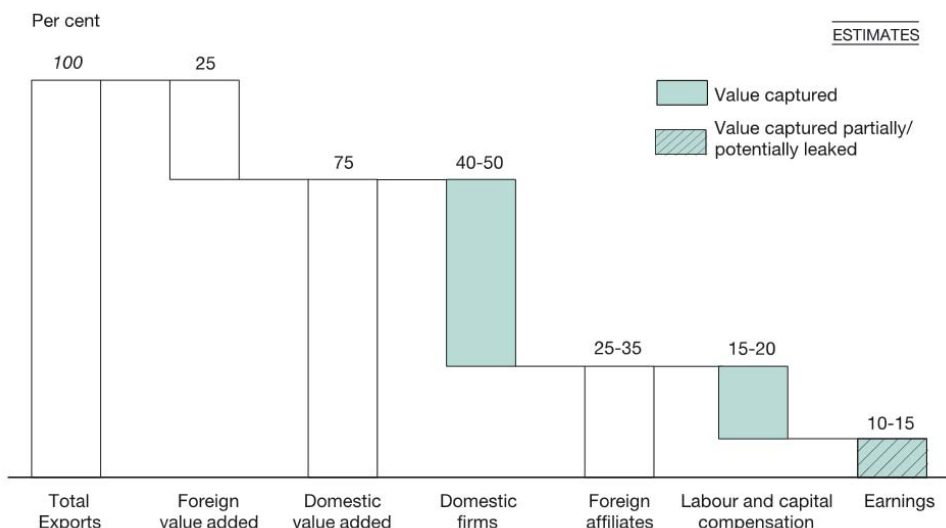
¹⁸³ M. Morris, C. Staritz, J. Barnes, *Value Chain Dynamics, Local Embeddedness, and Upgrading in the Clothing Sectors of Lesotho and Swaziland*, “International Journal of Technological Learning, Innovation and Development” 2011, Vol. 4(1-3), pp. 96-119.

¹⁸⁴ N. Clark, J. Chataway, R. Hanlin, D. Kale, R. Kaplinsky, L. Muraguri, T. Papaioannou, P. Robbins, W. Wamae, *Below the Radar: What Does Innovation in the Asian Driver Economies Have to Offer Other Low Income Economies?*, INNOGEN Working Paper, No. 69, Milton Keynes, UK, 2009 (<http://oro.open.ac.uk/15241/>).

¹⁸⁵ *Global Value Chains and Development...*, op. cit.

upgrading is not always tantamount to social upgrading, as the GVCs contribute to the re-allocation of resources from the less productive to more productive types of activity. This improves the average standards of living, yet on an individual basis this may involve lower income or even loss of employment. The experiences of countries are very diverse in this respect. The benefits of joining global value chains may be relatively small when participation in a GVC is limited to the less demanding skills or parts of the chain. A significant portion of the GVC value added is most often generated by subsidiaries of international corporations, which leads to a situation where a small portion of the generated value added stays in the developing countries, where those subsidiaries are most often located (Figure 5.3). According to the UNCTAD¹⁸⁶, however, even in such a situation the benefits of the local companies may be significant owing to the re-investment of profits from the GVC made by the subsidiaries of foreign corporations in the local market.

Figure 5.3. Value captured and value added trade shares by component in developing country average (data for 2010)



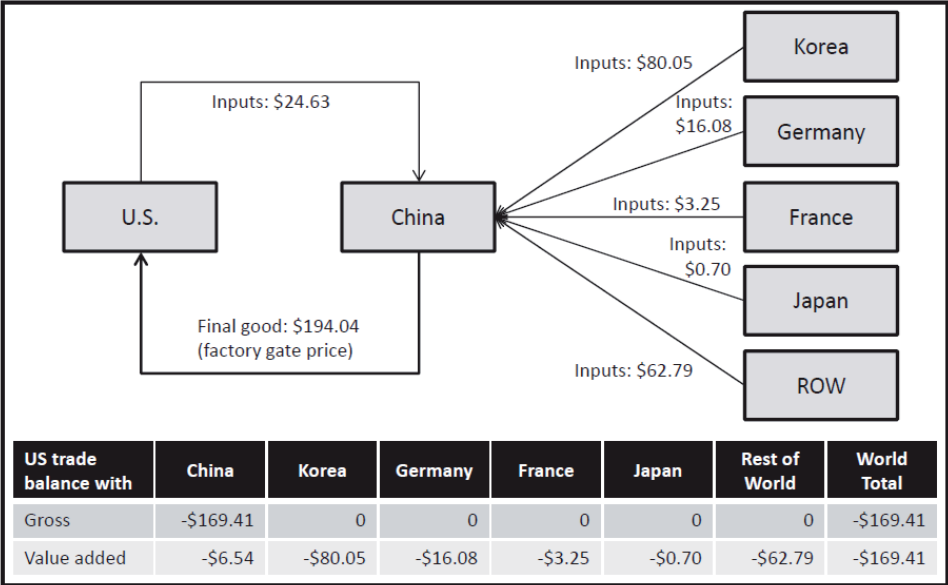
Source: *Global Value Chains and Development. Investment and Value Added Trade in the Global Economy*, United Nations Conference on Trade and Development, UNCTAD, 2013.

An interesting example is the production of the iPhone and the distribution of the actual benefits obtained by the individual countries that participate in that global value chain (Diagram 5.4). The greatest value added of a single

¹⁸⁶ *Global Value Chains and Development...*, op. cit.

iPhone unit arises in Korea (USD 80.15), which supplies the most expensive components, i.e. graphics cards and memory cards. China, on the other hand, where the product is assembled, only contributes USD 6.5 to the value added of that product. This is why the largest trade deficit of the U.S. due to the import of the iPhone arises in the exchange with Korea and other suppliers of high quality components, rather than China. One may see that China does not create or capture the value generated through considerable export. This follows from the fact that the more types of intermediate products are exchanged within a GVC, the larger the discrepancy between the locations where the final products are produced and exported, and their value – who creates it and who captures it.

Diagram 5.4. U.S. Bilateral Trade Balance with China for One Unit of the iPhone4 (US\$)



Source: *Global Value Chains: Preliminary Evidence and Policy Issues*, Organisation for Economic Co-operation and Development, DSTI/IND(2011)3, Paris 2011 (<http://www.oecd.org/dataoecd/18/43/47945400.pdf>).

Thus, the risks that follow from participation in the GVC include the following:

- the possible reduction of activity to products/services that generate low value added: that risk applies especially to less developed countries;
- the risk of change and loss of the benefits obtained so far: the location of tasks and activities within a GVC depends on specific factors that change dynamically, such as costs and labour productivity; therefore, they may move within

the international production networks of international companies without restrictions; this may be conducive e.g. to decreases in employment or income in locations hitherto included in the GVC.

The risks listed above show that participation in global value chains does not always translate to high employment and social wealth. In the worst case, economic upgrading even entails the deterioration of labour conditions or to social degradation. For example, moving the production of Apple's electronic products outside the U.S. entailed a drop in the number of jobs which ensured middle income in that country, while it contributed to breaches of law and exploitation of workers in China, where the product was manufactured¹⁸⁷. This is why it is so important for social policy to be well adapted to the changes that occur, and for the labour market to function well.

Considering both the benefits and the risks that follow from participation in global value chains, economic policy should strictly match the specificity of a given country. This pertains especially to the food economy, which should be treated holistically, with consideration given to other economic areas. The starting point for including global value chains in development strategies for the country is the determination of how a given country and its economic structure are situated vis a vis the GVC. This allows for devising realistic solutions that ensure both an efficient participation in the GVC, and economic upgrading in the long-term.

According to the OECD¹⁸⁸, countries that want to take advantage of the GVC should first and foremost have an open, predictable and transparent commercial and investment policy. Therefore, it is necessary to restrict tariffs and other non-tariff restrictive instruments that affect foreign suppliers, investors and domestic manufacturers. Furthermore, considering the fact that commodities, semi-products and products cross borders many times, fast and effective customs procedures seem to play a significant role in streamlining the operation of value chains. Countries where intermediate products may be imported and exported in reasonable time are an attractive location for foreign companies in search of outsourced production.

An appropriate environment for trade and investment does not involve trade and investment policy only, but also fiscal and competition policy, labour

¹⁸⁷ S. Barrientos, G. Gereffi, A. Rossi, *Economic and Social Upgrading in Global Production Networks: A New Paradigm for a Changing World*, "International Labour Review" 2011, Vol. 150 (3-4), pp. 319-340.

¹⁸⁸ *Global Value Chains: Preliminary Evidence and Policy Issues*, Organisation for Economic Co-operation and Development, DSTI/IND(2011)3, Paris 2011 (<http://www.oecd.org/dataoecd/18/43/47945400.pdf>).

market regulations, ownership laws, access to land, etc. Infrastructure is also needed, such as transportation or telecommunications. The development of the agri-business environment, especially the policy of support for small and medium-sized enterprises, facilitates their participation in the domestic value chain.

It is worth noting that especially important from the point of view of the GVC are regional value chains and commercial and investment agreements concluded in that context. Many value chains are more regional rather than global in nature, and they are strictly connected with regional suppliers. Such chains operate mainly in Europe and North America, as well as East and South Asia, as opposed to Latin America or Africa. This is especially important for shaping the food policy in Poland in the context of its participation in GVC.

5.4. Conclusions

The progressing globalisation gives rise to new processes in international competition, which may be analysed by looking at the global organisation of the sectors of the economy and how the particular actors (companies, countries) function in those sectors. In this context, the concept of global value chains (GVC) proves particularly useful, as it highlights new patterns in international trade, production and employment and how they currently shape economic development.

The change in the nature of global production and trade is attested by the data of the World Trade Organization¹⁸⁹, according to which approximately 60% of global trade involves intermediate products and services at various stages of the production of goods and services for final consumption. Note that 25-30% of the value of global trade is counted twice¹⁹⁰. Currently existing statistics are not sufficiently sensitive to the changing patterns in global production and trade. Thus, this is an area for such new research as the analysis of governance in global value chains.

The growing fragmentation of production and trade across borders has important implications for food policy. Therefore, its shape is strictly related to other economic policies, and conditioned by activities taken up in the entire economy. The creation of GVC is a consequence of liberalisation and open markets, and thus there is a need for policies that adapt the countries and enterprises to those changes while ensuring a greater potential of production and society.

Participation in global value chains has a positive effect on economic and social wealth. At the level of the enterprise, it creates opportunities for greater

¹⁸⁹ *Trade Patterns...*, op. cit.

¹⁹⁰ *Global Value Chains and Development...*, op. cit.

productivity and initiating activities characterised by greater value added, depending on the nature of the GVC within which a given company operates. Furthermore, this facilitates governance and taking advantage of the business and institutional potential of a given value chain in a given economic environment. At the level of the country, it may be an effective way to upgrade the national economy. Countries willing to continue that process should liberalise foreign trade and the investment market, strengthen infrastructure and instruments that facilitate trade, as well as reform the business environment. The above-mentioned elements are deemed crucial for the strategy of effective participation in a GVC.

However, the benefits from entering a GVC are not automatic. Global value chains facilitate the re-allocation of resources from the less productive to more productive types of activity. This requires complementary policies to counteract those phenomena.

Since research on global value chains in the food sector is in its initial stages, it appears desirable to analyse the structures of governance in the regional value chain, focusing on the Polish food economy. The example of the iPhone presented above shows that considerable export is not always beneficial for the economy, as value added may arise in different places and then be captured at different stages and in different segments of the GVC. Another interesting research area may be the reasons for and effects of the operation of the GVC in the food economy and for companies in Poland, as well as the opportunities for their upgrading and effective inclusion in global value chains.

Summary and conclusions

The aim of this report was to assess the changes that occur in the strategies and policies of the agricultural sector across the world and in the European Union, and to outline the directions of their development in the future along with their implications for the food economy in Poland. That subject was addressed in an attempt at discussing the current problems of the agri-food sector on a global, regional and national scale, and to look for optimum solutions for Poland.

The research carried out gains on particular significance in the light of the five years' struggle of the EU with the economic crisis, and the decade of Poland's experience as an EU Member State. Poland has turned out to be the only Member State not to record GDP fall over the recent years. The institutional system of Polish economy proved to be efficient enough to neutralise the impact of crisis.

The crisis of 2008-2010 reinvigorated the debates on the desirable role of the State and the imperfections of the market, also in the agricultural sector. The reality has shown that perfect markets do not exist; this follows from the unequal access of participants to the exchange of information, which makes its flow asymmetric and gives rise to structural disproportions in the economy. Even the market mechanism that is the most favourable in terms of economic rationality – that of the distribution of income, which assumes the preference for accumulation in the form of production investments – is not applicable due to the income barrier of farmers. This explains the necessity for greater activity on the part of the State, which consists in supporting institutions that ensure access to information, stabilise agricultural markets and income, protect land ownership and promote technological advances¹⁹¹.

However, certain doubts arise as to whether the State is an effective response to modern global challenges. According to Bauman, *the State becomes powerless in the face of economic processes that take place worldwide*¹⁹². The existing global order results from the activity of individual countries, large transnational corporations, several important international organisations, and of

¹⁹¹ A. Czyżewski, *Makroekonomiczne uwarunkowania rozwoju sektora rolnego (Macroeconomic determinants of agricultural development)*, [in]: *Uniwersalia polityki rolnej w gospodarce rynkowej (Universals of agricultural policy in market economy)*, A. Czyżewski (ed.), Wydawnictwo Akademii Ekonomicznej w Poznaniu, 2007.

¹⁹² Z. Bauman, *Nowy nieład światowy (New world disorder)*, Interview by J. Żakowski, "Polityka", No. 51, 18.12.2010.

a complex global market, which is becoming ever stronger owing to the liberalisation of trade and capital flows and the revolution in telecommunications¹⁹³.

The solutions adopted show clearly that there are drawbacks and inadequacies in the allocation of resources in the context of political choices. The benefits of selected groups of interest are maximised, while social wealth is permanently lost. As a consequence, the allocation of goods and services as intermediated by the State is permanently inefficient as compared to the market mechanism. That inefficiency is manifested in activities that encourage lobbying, party politics, political interests of individual groups that are detached from economic principles, or the phenomenon of rent-seeking¹⁹⁴.

In this report, the authors tried to present the dilemma of how much there should be of the State and how much of the market, by showing the macroeconomic factors that influence the transitions in the system of support for the agricultural sector on the one hand, and the institutional factors that operate in the decision-making within the EU and translate into the choice of EU priorities and the development strategies implemented, including food economy, on the other.

According to the authors of one of the chapters in the report, it is the macroeconomic factors that are crucial for the mechanisms of support for agriculture, while the role of other factors is secondary in this respect and comes down to the choice of specific solutions. This allows for setting out an optimum path for the transformation of the agricultural sector, given the certain premises concerning the environment and the structure of the resources available. The analyses carried out have shown that between 1990 and 2012, highly developed countries maintained their *status quo* in terms of the level and disproportions of support for the agricultural sector. In parallel, however, very important changes occurred in the structure of budgetary transfers as well as in economic policy and macroeconomic conditions. It was noted that many premises existed that pointed to a synchronisation of changes in the financial support for agriculture in adaptation to the economic policy pursued (in terms of structure and tools). The model

¹⁹³ J. Wilkin, *W poszukiwaniu odpowiedniej roli państwa w gospodarce. Doświadczenia globalizacji, transformacji postsocjalistycznej i kryzysów gospodarczych* (Searching for adequate role of state in economy. Experience from globalisation, post socialism transformation and economic crises). Presentation at the 21st Academic Conference of the Joint Commission of Economists of the Polish Academy of Sciences and the Russian Academy of Sciences, titled "Wyzwania dla Polski i Rosji wobec światowych zmian modelu gospodarki rynkowej" ("Challenges for Poland and Russia toward world changes in market economy model"), Warsaw, 27-28 June 2011.

¹⁹⁴ A. Czyżewski, P. Kułyk, *Kwestia rolna w teorii wyboru publicznego* (The Agrarian Issue in the Public Choice Theory), "Roczniki Naukowe Ekonomii Rolnictwa i Rozwoju Obszarów Wiejskich" 2013, Vol. 100, No. 3, pp. 7-18.

of the single-stream flow of the economic surplus into agriculture through the price channel was abandoned in favour of multi-stream flows of the increasingly targeted transfers from the taxpayer to the agricultural producer.

Another chapter of the report emphasised the role of institutional factors and groups of interest with a privileged access to the ruling powers. In line with Olson's idea, well-organised and integrated groups of interest may enhance their impact on the decisions made by government departments. In this way, they achieve additional political rent, at the expense of other groups. This goes against the fundamental assumption of the market economy related to the power of competition and the pursuit of profit maximisation in the market system. This case also involves competition, but on the political arena¹⁹⁵.

The imperfection of the functioning of the Union as a "super-State" is also manifested in decision-making within the Community. The Common Agricultural Policy is strongly defended through the institutionalisation of a separate Agriculture and Fisheries Council, supported by the Special Committee on Agriculture. The weaker role of the European Commission, which has lost some of its power in favour of the European Parliament owing to the introduction of the codecision procedure in the area of agriculture, encourages the conservation of the previous formal and informal dependencies. The specificity of agricultural negotiations in the EU, and especially the frequent modifications of Commission proposals made by the Council, combined with the consensus-based style of negotiations within the Council and the processes of exchange between the Member States, limit the possibilities in respect of introducing radical changes within the EU agricultural policy. They favour incremental changes and making decisions based on the path of previous choices.

The authors of the report believe, however, that the transformations in the structure of financial support and emphasis on the different development paradigms of agriculture have had no effect on the changes in the disproportions between the levels of financial re-transfers in highly developed countries. The mechanism of re-transferring the economic surplus to agriculture has been upheld. Despite the transformations and paradigm shifts that take place in agricultural policy, the crucial shortcomings of the market mechanism continue to be solved via agricultural policy. The increased instability of external factors related to the existence of global threats and rapid fluctuations in price relationships in global markets, as well as the scale of those threats, create clear expectations as to counteracting such phenomena or at least mitigating their impact.

¹⁹⁵ Ibidem.

The paradigms of the development of agriculture mainly change on the declarative plane. The “fairness” advocated previously, with emphasis on economic and social consequences of the decreasing agricultural income, is gradually being replaced by “sustainable development”, where emphasis is placed on the common interests of farmers and citizens in respect of the public goods supplied by agriculture and rural areas to modern society. However, the results of the last reform of the CAP indicate that in the nearest decades the Union will head towards neo-productivism. That concept combines the ideas of multi-functional agriculture with efficient agriculture. The EU will likely refer to environmental public goods and the multi-functionality of agriculture and rural areas as a desired situation to be sought. The main priority, however, will be to increase the productivity of agriculture, owing to the frequently stressed responsibility that Europe holds for the food security of the world.

Owing to the diminishing importance of nation-states in an era of globalization, the subsequent stages of integration within the Union involve the transfer of some of competences of the government from the national to EU level. Nevertheless, the role of the nation-state remains significant, as it arises from the need to institutionalise public order and from the transaction costs related to the various mechanisms of social and economic regulation. The significance of those costs and their contribution to the overall costs of economic activity have been increasing, as the complexity of management processes requires ever more complicated systems of regulation. A considerable part of those costs is borne by the State, whose obligation it is to ensure a stable and well-functioning legal and organisational framework for the activity of economic entities. The growing expenditures of the State related to that are reflected in Wagner’s law, which states that the share of public spending in the GDP increases with economic development¹⁹⁶.

It is also in this context that one should discuss the role of the State in levelling the income disproportions that follow from the outflow of the economic surplus from agriculture due to the development of global value chains (GVC). Value chains are a new phenomenon (as opposed to supply chains), which reveals that new patterns arise in international trade, production and employment. Their impact on global economic growth will constantly increase.

The increased fragmentation of production and cross-border trade, still analysed to a small extent in Poland, brings with it important implications for the food economy in Poland. The previous process of establishing domestic food chains was meant to stabilise the conditions for trade in agricultural products,

¹⁹⁶ J. Wilkin, *W poszukiwaniu odpowiedniej roli państwa...*, op. cit.

decrease the extent of informational asymmetry, ensure supplies for the processing industry and trade, and slow down the opening up of the price scissors for agricultural products. The progressing globalisation, however, has broken those ties by defragmenting national systems. International corporations, which seek the most effective locations to obtain resources from, have contributed greatly in this respect¹⁹⁷.

Therefore, development strategies for the agri-food sector in Poland should be closely related to other economic policies and activities in the entire economy. The creation of GVC is a consequence of liberalisation and open markets, and thus there is a need for policies that adapt our country and enterprises to those changes while ensuring a greater potential of production and society.

Participation in global value chains has a positive effect on economic and social wealth. At the level of the enterprise, it creates opportunities for greater productivity and initiating activities characterised by greater value added, depending on the nature of the GVC within which a given company operates. Furthermore, this facilitates governance and taking advantage of the business and institutional potential of a given value chain in a given economic environment. At the level of the country, it may be an effective way to upgrade the national economy. Countries willing to continue that process should liberalise foreign trade and the investment market, strengthen infrastructure and instruments that facilitate trade, as well as reform the business environment. The above-mentioned elements are deemed crucial for the strategy of effective participation in a GVC.

However, the benefits from entering a GVC are not automatic. Global value chains facilitate the re-allocation of resources from the less productive to more productive types of activity. This requires complementary policies to counteract those phenomena. This is worth mentioning especially in the context of the current boom in the export of Polish food products to EU markets. Considerable export is not always beneficial for the economy, as value added may arise in different places and then be captured at different stages and in different segments of the GVC.

Cited as a good example of an effective transformation of the market and institutions, within as little as 15 years Poland managed to adapt to the institutional framework of the EU, and take advantage of the opportunities offered by EU policies (the CAP, the cohesion policy) and the EU Single Market. Furthermore, it survived the recent economic crisis without greater social unrest or economic perturbation. However, Poland is seeing a depletion of the simple reserves

¹⁹⁷ A. Czyżewski, P. Kułyk, *Kwestia rolna...*, op. cit.

for growth (imported technological advances and disappearing rent from low labour costs). Avoiding the middle income trap requires the upgrading of our legal and institutional system, as well as of the economy. Unfortunately, public policy in our country does not address current growth trends and does not respect the new approach to development policy. The weakness of the State transpires in the following areas¹⁹⁸: the low quality of political leadership, the low significance of the public sphere and public discourse on the issues fundamental to the development of the country, flawed mechanisms for establishing the strategic goals for the country, and weak instruments for pursuing, monitoring and evaluating development policy. Creating a new model for the development of Poland requires considerable structural and institutional changes. These should be based on innovation-oriented policy that takes advantage of the potential of the private and public spheres as well as of the civil society.

This also applies to the Polish agri-food sector, which has been undergoing slow change. Agriculture has seen processes of land concentration, measures to protect the environment have been initiated, and work is underway on carbon sequestration (storage) in agricultural land. Those processes may accelerate if innovation gains priority in Polish society. One of the authors of this report believes that the creation and popularisation of innovations related to zero emission power generation and greenhouse gas sequestration methods will determine the condition of the world in the second half of this century. We can hardly imagine today what it may look like in the future if the creativity of the global community does not face up to that challenge.

¹⁹⁸ *Kurs na innowacje. Jak wyprowadzić Polskę z rozwojowego dryfu? (Direction to innovations. How to bring out Poland from development drift?)*, Fundacja Gospodarki i Administracji Publicznej (Foundation of Economy and Public Administration), Kraków, 25 July 2012.

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