

## THE METHODOLOGICAL RESEARCH ISSUES RELATED TO THE WORLD AGRIFOOD MARKETS

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*The methodological issues of research of the world food and agricultural commodities markets were considered in the context of development of the integration and globalization processes.*

There is a high level of dynamism inherent to the global food market. The instability of the agricultural commodities supply for the world market and its deficiencies in some regions, price fluctuations and shocks, the development of foreign economic relations, changes in agricultural policies and mechanisms of state support, the development of logistic networks and the necessity of identification of demand parameters on the target marketing segments require the improvements in the market intelligence system for the global agrifood products market during its transformation process.

The issues of the world food market development were highlighted in the articles of V.I. Vlasov, S.L. Hannachenko, R.P. Mudrak, P.T. Sabluck, and I.G. Ushachev and others.

However there is a need for more comprehensive study of problems related to the methodology and research instruments of the global agricultural commodities and food markets.

***The research methodology.*** Synthesis and analysis (particularly the logical analysis) were used as the research methods.

The Food and Agriculture Organization of the United Nations (FAO) and the World Trade Organization (WTO) data were analyzed for the research purposes.

***The research results.*** The market of agrifood products is the integral part of the world market. The increase of consumer incomes in some regions, the strengthening of competitive pressure of developed countries, the price increase of energy and other strategic resources, currency exchange rates fluctuations, the rise of the world's population, strengthening of organic food positions (particularly produced within the sustainable agriculture and technologies), and technological changes in production and infrastructure were among the most important drivers, that influence the global agriculture and food industry.

Efficiency and the intensity of the foreign trade; productivity, and structural ratios should be mentioned among the main economic indicators related to the world market [5, p. 32-94].

As the data of the table 1 conforms, the United States of America (10,1 per cent of the world export), European Union (9,5%), Brazil (5,2%), China (3,9%), Canada (3,6%), Indonesia (2,9%), Thailand (2,9%), Argentina (2,7%), Malaysia (2,3%), India (2,1%), and Australia (2,1%) were among the most influential players in the world export market of agricultural products (table 1).

## 1. The percentage share of leading exporters in the world market of agricultural products in 2011\*

Economies	Export value, billion USD	Share in world exports, %
United States	168	10,1
European Union (extra EU exports)	158	9,5
Brazil	86	5,2
China	65	3,9
Canada	60	3,6
Indonesia	48	2,9
Thailand	48	2,9
Argentina	45	2,7
Malaysia	39	2,3
India	34	2,1
Australia	34	2,1
Russian Federation	30	1,8
New Zealand	24	1,5
Mexico	23	1,4
Vietnam	22	1,3
Chile	19	1,1
Turkey	15	0,9
<i>Ukraine</i>	<i>13</i>	<i>0,8</i>
Republic of Korea	13	0,8
Japan	11	0,7

\*Source: The World Trade Organization. *Merchandise Trade and Commercial Services*: retrieved from <http://www.wto.org> [4]

One of the features of the world agrifood market is the substantial influence of agrarian policies on the competitiveness of business enterprises. Price stability, the global food security, the high level of labor productivity in the main agriculture and food industries, the positive trade balance support, reflection of ecological entrepreneurship principles, and economic growth in agriculture should be mentioned among the targets of the global agricultural policy.

The aim of agricultural policy can be effectively targeted within the boundaries of integration blocs, such as European Union or NAFTA. The transnational companies have the main effect on the state of the global agrifood markets. Among the leaders of import of agricultural commodities should be considered European Union (extra-EU (27); 10,7% of the world import), China (8,3%), the United States of America (7,9%), Japan (7,9%), Russian Federation (2,3%), Canada (2,1%),

Republic of Korea (2,0%), Mexico (1,7%), Hong Kong, Peoples Republic of China (1,4%), India (1,3%), Saudi Arabia (1,3%), and Indonesia (1,3%) (Table 2).

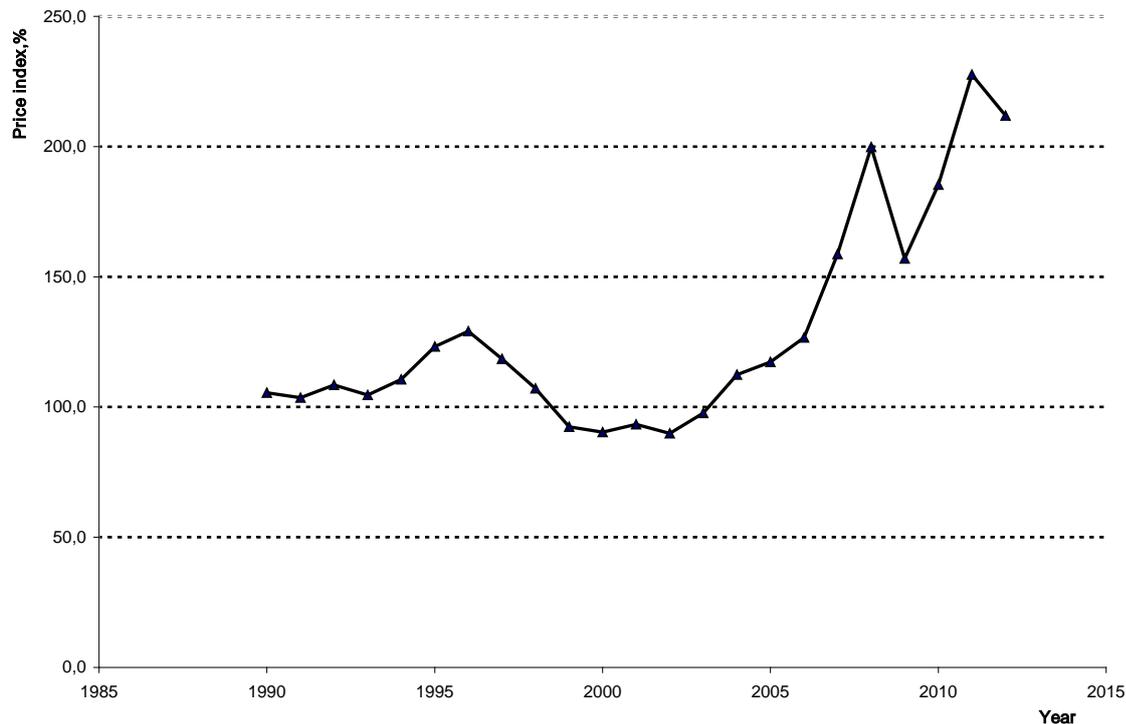
## 2. The percentage share of leading importers in the world market of agricultural products in 2011\*

Economies	Import value, billion USD	Share in world imports, %
European Union (extra EU exports)	186	10,7
China	145	8,3
United States	137	7,9
Japan	96	7,9
Russian Federation	41	2,3
Canada	36	2,1
Republic of Korea	35	2,0
Mexico	29	1,7
Hong Kong, China	24	1,4
India	23	1,3
Kingdom of Saudi Arabia	22	1,3
Indonesia	22	1,3
Malaysia	21	1,2
Turkey	18	1,0
Egypt	15	0,9
Chinese Taipei	15	0,9
Thailand	15	0,9
United Arab Emirates	14	0,8
Singapore	14	0,8
Brazil	14	0,8
...	...	...
<i>Ukraine</i>	7	0,4

\*Source: The World Trade Organization. *Merchandise Trade and Commercial Services*: retrieved from <http://www.wto.org> [4]

The global agrifood system must be stable enough in response to the financial and price shocks. As the results of the substantial rise in consumers income and the growth of the world's population, the disparity in agricultural state support among the developed and developing countries, the increasing usage of agricultural commodities for nonfood purposes, the rise of main resources price, the dramatic global climate changes, the weakening of the investment attractiveness of agricultural industries and imperfection of the global agricultural policy were recent tremendous rises in food

prices on the world market. The regulatory mechanisms were unable to support price stability (Table 1). That is indirect proof of inefficiency of world institutions that responsible for the stability of the global agrifood supply system.



**Figure 1. Annual food price indices for the world market (percentage change)\***

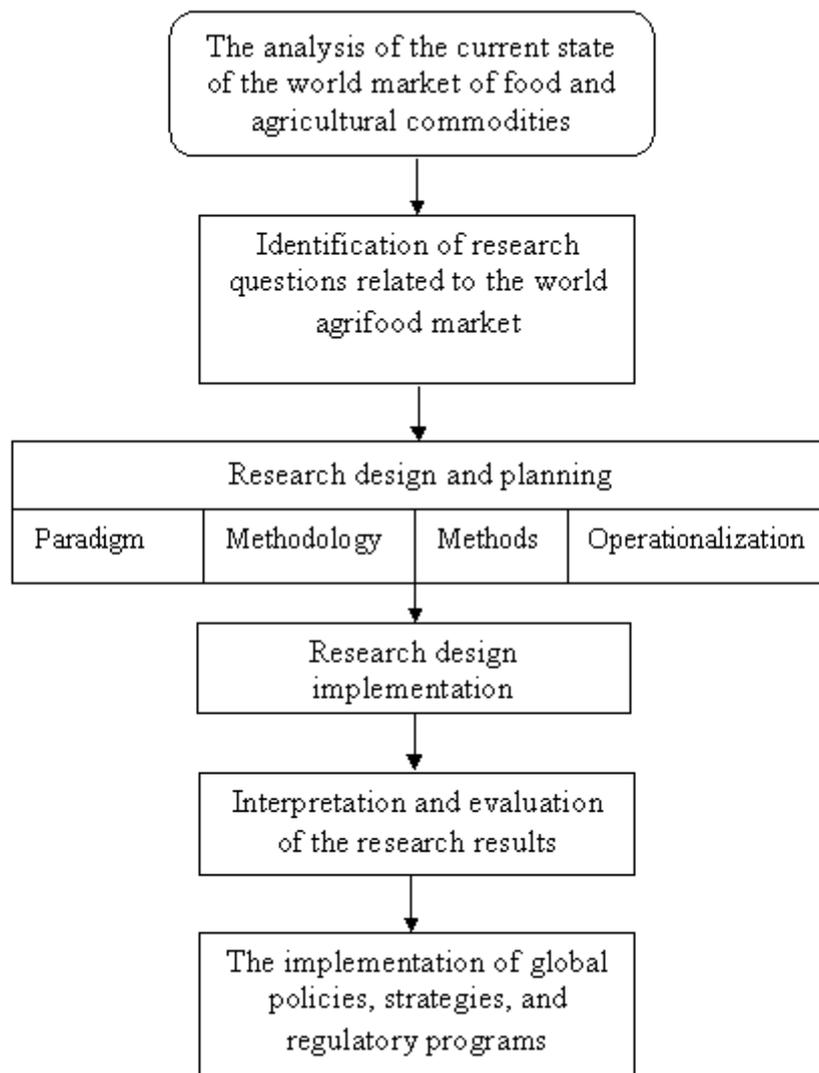
*\*Source: Food and Agriculture Organization of the United Nations. The State of Agricultural Commodity Markets: retrieved from <http://www.fao.org> [1]*

Reliable forecasts of the global food prices would be the basis for optimal and effective decision making by the entrepreneurs in the world food markets. However current research methodology and research methods do not correspond to the dynamics and trends of the global market. Remarkable trade developments in agricultural commodities require special methodological approaches to the study of the current state of the world agrifood market. The dynamic changes of the global markets demand the new methodological tools of research. Some questions appear problematic to the researchers; they require the direct and straightforward answers. Particularly, what is the nature of the research question? What kind of methodology should be used during the research process? What are the methods of data collection should be used? What type of theoretical and analytical models can describe economic events that take place in the global environment? How should be presented, positioned and published the research results?

At the stage of identifying the research question, the analysis of required information and the experts' evaluation was considered. At the same time, the researchers use the whole system of paradigms, concepts and models that could be used for investigation of some phenomena in the world market. The western epistemology is inherent with rationalism and empiricism [2, p. 283]. The rationalism as direction in the cognition theory goes out from the supposition that not only

rational experiences should be used for the ground knowledge. The latter could be obtained through hypotheses and deductions, using mental constructs (concepts, laws, axioms, theorems and theories). According to K. Popper, the nature of scientific method is not inductive, but rather hypothetic and deductive [3, p. 124], because even during the experiment the researchers expect some results in advance. Such expectations have hypothetical character and the scientific criteria should be used for hypotheses testing purposes.

The empiricism, from the other hand, is oriented on the results of sensor experiences, not on the main aspects of basic knowledge. That is why it is possible to obtain it, using the perceptible inductive method. According to such methodological epistemological approaches, in the process of consistent consideration of timeslot, the evaluation of current global market situation and forecasting are made on the basis of some retrospective period, not considering the possibility of influence of crises and financial shocks. The schematic sequence of the research process in respect to the world market of food and agricultural commodities is presented in Figure 2.



**Figure 2. The sequence of the research process in respect to the world market of food and agricultural commodities**

Taking into the account the multiplicative influence of agriculture on another industries and economic activities, and industrial organization, institutional, functional and system analysis approaches should be used during the world market research highlighting the integration and globalization processes. The results of the world agrifood market research can be used for the program implementation on the state and global levels. The results of investigations of world agrifood market can be used for implementation such as pilot programs on the state and global levels.

**Conclusion.** The current state of the agrifood markets can be evaluated on the basis of volume, value, and structural indices. Intensity of international trade and efficiency of foreign international transactions ratios can be used as well. However the global market dynamism requires the new research approaches and tools that necessitate some changes in epistemological principles of research methodologies.

The new methodological principles can support the higher level of efficiency for regulatory programs relative to the state and global levels. Industrial organization, institutional, functional, and system analysis approaches should be taken as the basis for research methodology in relation to the world market of food and agricultural products.

## REFERENCES

1. Food and Agriculture Organization of the United Nations. The State of Agricultural Commodity Markets. – Retrieved from: <http://www.fao.org>.
2. Ichijo K. and Nonaka I. (eds.) Knowledge Creation and Management: New Challenges for Managers. – New York, N.Y.: Oxford University Press, 2007. – 301 p.
3. The Evolutional Epistemology and Social Science logic: Karl Popper and his critiques. – Moscow: Editorial URSS, 2000. – 464 p.
4. The World Trade Organization. Merchandise Trade and Commercial Services. – Retrieved from: <http://www.wto.org>.
5. Zigankova T.M., Petrashko L.P., and Kaltchenko T.V. International Trade. – Kyiv: The Kyiv National Economic University, 2001. – 488 p.

*Одержано 11.03.13*

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***Методологические аспекты исследования мирового рынка агропродовольственной продукции***

*Нестабильность предложения сельскохозяйственной продукции на мировом рынке, существенный диапазон ценовых колебаний, изменения в аграрной политике и необходимость идентификации параметров спроса целевых маркетинговых сегментов требуют совершенствования системы рыночного мониторинга применительно к глобальному агропродовольственному рынку. В частности, существует необходимость в более глубоком изучении проблем, связанных с методологией и инструментами исследований. В данной статье использовались синтез и анализ в качестве исследовательских методов.*

Автором выделены наиболее существенные факторы, влияющие на глобальную агропродовольственную сферу. Существенные ценовые колебания вследствие финансовых шоковых явлений продемонстрировали, что регуляторные механизмы оказались несостоятельными поддержать ценовую стабильность. Существующая исследовательская методология и методы исследований не отвечают требованиям основательного и исчерпывающего анализа динамики глобального рынка.

Конъюнктура сельскохозяйственных рынков может быть оценена количественными, стоимостными и структурными показателями. Также в этих целях используются показатели интенсивности внешней торговли и эффективности внешнеэкономических связей. Однако динамизм глобального рынка обуславливает необходимость использования новых исследовательских подходов и инструментов, что предполагает изменения в эпистемологических принципах методологии исследований.

Новые методологические принципы могут содействовать поддержке высокого уровня эффективности регуляторных программ для отдельной страны или в мировом масштабе. Относительно мирового рынка продовольствия и сельскохозяйственной продукции в основу методологии исследований необходимо заложить функциональный, институциональный, системный подходы, а также принцип отраслевой организации.

**Ключевые слова:** рынок сельскохозяйственной продукции и продовольствия, эпистемология, методология и методы исследований.

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### ***The methodological research issues related to the world agrifood markets***

*The instability of the agricultural commodities supply in the world markets, price fluctuation, changes in agricultural policies and the necessity of identification of demand parameters on the target marketing segments require the improvements in the market intelligence system in respect to the global agrifood products market. Particularly there is a need for more comprehensive study of problems related to the methodology and research instruments. Synthesis and analysis were used as the research methods during the study.*

*The author identified the most important drivers, which influence the global agriculture and food industry. Price fluctuations as the result of financial shocks demonstrated that the regulatory mechanisms were unable to support price stability. The current research methodology and research methods do not correspond to the dynamics and trends of the global market.*

*The state of the agrifood markets can be evaluated on the basis of volume, value, and structural indices. Intensity of international trade and efficiency of foreign international transactions ratios can be used as well. However the global market dynamism requires the new research approaches and tools that necessitate some changes in epistemological principles of research methodologies.*

*The new methodological principles can support the higher level of efficiency for regulatory programs relative to the state and global levels. Industrial organization,*

*institutional, functional, and system analysis approaches should be taken as the basis for research methodology in relation to the world market of food and agricultural products.*

**Key words:** *global agrifood markets, epistemology, methodology and methodological principles.*