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BARRIERS TO SUSTAINABLE DEVELOPMENT OF AGRIBUSINESS IN POLAND

The objective of this paper is to identify main barriers to sustainable development of efficient agribusiness in Poland. We analyze both internal and external factors affecting agricultural and rural development in Poland. Forecasting of employment in agriculture uses the method based on neural networks. The challenges facing the Polish and European agriculture in the context of the new Common Agricultural Policy are assessed, alongside with pointing out the need to implement knowledge-based agribusiness.

Keywords: Common Agricultural Policy reform; barriers to sustainable development; efficient agribusiness; structure of Polish farms; rural employment forecasting.

Тадеуш Гжещик

БАР'ЄРИ НА ШЛЯХУ СТІЙКОГО РОЗВИТКУ АГРОБІЗНЕСУ У ПОЛЬЩІ

У статті проаналізовано внутрішні та зовнішні чинники, що впливають на розвиток сільського господарства та сільських територій у Польщі. Прогноз щодо працевлаштування у сільському господарстві розроблено за допомогою методу нейронних мереж. Визначено основні проблеми, що постають перед польським та в цілому європейським сільським господарством в контексті нової Єдиної сільськогосподарської політики. Підкреслено необхідність розвитку агробізнесу на основі економіки знань.

Ключові слова: Єдина сільськогосподарська політика; бар'єри на шляху стійкого розвитку; ефективний агробізнес; структура польських ферм; прогноз щодо працевлаштування на селі.

Рис. 1. Табл. 2. Літ. 18.

Тадеуш Гжещик

БАРЬЕРЫ НА ПУТИ УСТОЙЧИВОГО РАЗВИТИЯ АГРОБИЗНЕСА В ПОЛЬШЕ

В статье проанализированы внутренние и внешние факторы, влияющие на развитие сельского хозяйства и сельских территорий в Польше. Прогноз по трудоустройству в сельском хозяйстве сделан при помощи метода нейронных сетей. Определены основные проблемы, стоящие перед польским и в целом европейским сельским хозяйством в контексте новой Единой сельскохозяйственной политики. Подчеркнута необходимость развития агробизнеса на основе экономики знаний.

Ключевые слова: Единая сельскохозяйственная политика; барьеры на пути устойчивого развития; эффективный агробизнес; структура польских ферм; прогноз трудоустройства в селах.

Determination of the problem. Deepening the process of integration within the European Union (EU), related to the entry to the Economic and Monetary Union is one of the social, economic and political challenges for Poland at the beginning of this century. Agriculture is both specific and one of the most important areas affecting

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the country's position in Community. Common Agricultural Policy (CAP) creates conditions for better socioeconomic potential use of rural areas and improves agriculture's competitiveness. Improvements in these areas mark the competitiveness increase of the country in general.

The number of farms in Poland is decreasing. Those that exist become better equipped, thanks to European funds. Recent years show that the number of different types of professional equipment and agricultural machinery has increased on Polish countryside. Agriculture in Poland, however, should be considered as less developed compared to many other countries of the Community. Employment in it is now established at over 16% of the total employment. This is too much in relation to 4% of GDP it produces. Services and industry produce 64% and 32% respectively [4].

Changes in agriculture and rural areas are necessary. EU policies should also be a subject to adaptations according to the challenges facing European agriculture. New CAP has to be developed for reducing barriers to sustainable development of efficient agribusiness in various European countries. The implementation of these processes is possible with effective identification of these barriers. Therefore, we can specify the research problem related to the main issue. This will enable the formulation of conclusions related both to scientific and practical aspects. The basic question within this research is: what are the barriers to sustainable development of efficient agribusiness in Poland?

Background. Agricultural and rural development in Poland is affected by external and internal factors. The first ones result from globalization of the world's economy, financial crisis and the EU membership. Being a member of the Community has a significant impact because it reduces the negative effects of the crisis and the impact of global, turbulent and difficult to predict changes associated with fluctuations in prices and farmers' incomes, changing demand for agricultural commodities and foods in the world, climate change, constantly morphing consumer tastes and others. The EU membership on one hand forces the need to adapt to the Community legislation, and not always favorable recommendations of European Commission. On the other, creates conditions for a modern model of agricultural production. Polish agriculture is one of the biggest beneficiaries of the integration in the financial perspective of 2007-2013. Community's financial flows increase the added value of Polish agriculture. There are chances for this particular type of significant financial transfers in the next perspective (2014-2020).

Internal factors affecting the agribusiness development in Poland are the national agricultural policy, actions of local and central authorities and structural parameters. These parameters are under considerable changes during the last years. Undoubtedly this is due to strong impact of CAP and its evolution. Place of the simple-sector funding agricultural support appears to be replaced with sustainable rural and multifunctional development. Institutional, socioeconomic and technical infrastructure should promote sustainable development for possible creation of attractive jobs and keeping the environment in good condition. Implementation of policies for sustainable development in rural areas is the subject of the research funded by the EU within several European projects such as the Framework Programme [1]. Other studies supported by the Community aim to improve agriculture in terms of regional competitiveness [18].

The development of European agriculture in the perspective till 2020 will be shaped according to the following objectives: viable food production, sustainable management of natural resources and climate action, balanced territorial development [16]. It is necessary to develop modern technologies, which will improve agricultural productivity. Efforts should be made to stabilize markets towards the implementation of the concept of sustainable development and guaranteeing food supplies to consumers at reasonable prices [3]. Political economy of the EU [2] plays a significant role in achieving these goals. The agricultural policy is characterized by multi-level process and complexity. Multilevel governance requires both horizontal and vertical coordination [6]. Perspectives on the agricultural policy process are shaped on the basic principles [17]:

- constant pursuance to adjust regional policies to the Principles of the EU;
- continuous improvement of 3 instruments: direct payments, market measures, rural development;
- functioning with use of free market mechanisms and competition, analogically to other sectors of the economy, reducing or completely eliminating subsidies to production and consumption (eg, price support, export subsidies, etc.);
- agricultural policy should be aimed towards clear and synthetically defined objectives that are compatible with the whole system of the prospective documents of the Community;
- it is necessary to ensure compliance with the principles of regional policy, including the principle of concentration; to focus on areas considered most important, eg. sustainable rural development and environmental protection;
- lowering the customs to the level present in other sectors of the economy.

In the process of striving to achieve compliance with these rules, the considerable diversity of agriculture in various European countries should be considered. Attempts to decrease the structural diversity, characteristic for the current structural policy understanding, should be replaced with the approach in which diversity is being reconsidered, and can be used as a foundation to develop a long-term competitive position and efficient agribusiness in Poland. These foundations are the skills of long-term investment financing, maintaining constant and high income from agricultural activities to enable farmers to improve their quality of life.

Empirical studies conducted in different countries show that transfers arising from the EU's CAP reduce both farmers differences in revenues across regions and income inequality across the entire society [9]. The discussion is based on the new CAP which will be valid till 2020 (since 2010), as a result of the European Commission Communication [16] statement. On May 2011 the Committee on Agriculture and Rural Development of the European Parliament approved the draft resolution (Dess CAP Report) to that document. The adopted resolution did not include uniform flat-rate direct payment for the whole of the EU (the rate of surface per hectare). Unfair disparities favoring higher amounts of subsidies for farmers are maintained in countries which belong to the Community for a longer period of time. Furthermore, in accordance to the resolution, direct payment is to become more complex and therefore less readable and understandable. The resignation over the current system of the Single Area Payment Scheme (SAPS) is postulated. Instead, the single payment scheme (SPS) would be implemented - based on the payment entitle-

ments. The system of direct payments should ensure the economic stability of agribusiness in EU member states, with food security and care for the environment [11]. Solutions proposed are not reducing disparities in rural and agricultural development between individual EU countries. The final debates on these issues and main objectives of the future reforms of the CAP and the development of solutions can be expected in 2012-2013.

The target problem for the analysis. Polish agribusiness is inefficient and does not provide appropriate farm-household incomes, sufficient to ensure the quality of life at the appropriate level. Certain positive changes have taken place in the Polish countryside since the accession to the EU and are visible, but without solid grounds for achieving long-term competitive positions and there are no conditions for sustainable development of agribusiness.

Economic potential of farms results from their ability to compete and viability under conditions of turbulent environment [10]. Effective farming should not only allow survival at the market, but also flexible adjustment to constantly changing economic conditions, increasing a company's value and easing its further development. Determination of economic potential of a farm and its effectiveness are not clearly defined. These are multiaspect problems. Therefore, they are not easy to analyze. Local conditions management and the scale of operations should be taken into account, alongside with production, costs parameters etc.

It is necessary to make changes in order to improve the efficiency of Polish agribusiness and create conditions for its development and competitiveness improvement within the EU. For this purpose, it is necessary to identify major barriers to sustainable development of efficient agribusiness in Poland.

The research material. The research problem has theoretical and cognitive aspects, as well as practical. Appropriate research methods have been used within the study, namely:

- literature research, the available literature analysis (Polish, European and the world);
- the use of monographs, surveys, evaluations and test results from various research centers that carry out in-depth, theoretical and empirical studies on similar issues;
- analysis of documents and regulations of the European Union;
- the use of Polish and the world statistical information systems, enabling the detailed development of case studies and more general conclusions;
- processes observation (without interference from the researcher);
- computer simulations and experiments based on classical statistical tools and software compatible with the selected artificial intelligence methods (neural networks).

The size of farms is determined in hectares (ha). Additionally, in order to objectify the studies, the economic farm size and the economic potential of Polish farms (family farms, peasant farms, agricultural holdings etc.) was used. In this article (as well as in some other European works of this type) SGM factor was used (Standard Gross Margin). It allows classification of farms in terms of type of activity and estimating the relative contribution to overall profit of the EU. This is a common factor used in the statistical analysis, e.g. by Eurostat [4]. It allows determining the economic size of farms expressed in units, ESU (European Size Unit). Potential gross value added per year equal to EUR 1200 corresponds to 1 ESU. In Poland, small

farms play the fundamental role. Table 1 presents the summary of Polish farms in 2010. It is the starting point for comparative analysis of economic size of Polish and European farms (Table 2). Farms characterized by low value (less than 2 ESU) of the SGM dominate (66%) in Poland. Average economic size of the EU-27 farms is about 11 ESU.

In Poland after the EU accession there are 4 statistical regions. The regions are usually identified with the voivodeships (provinces), but this time it was found that 16 provinces are too many thus complicating the statistical analysis. It arises from the quite unsuccessful administrative reform in Poland, which is in force since January 1999. Then the number of provinces was reduced from 49 to 16. There were plans for a greater reduction, but the political conflicts led to reduction of such radical changes. According to the author, territorial division should assume approximately 5-6 regions. Carrying out such an administrative reform is now unlikely.

Table 1. Area structure of Polish farms in 2010

Specification	Area group (ha of UAA)							Total
	Less than 1	1-5	5-10	10-15	15-20	20-50	50 or more	
In tsd	715	863	352	152	72	97	27	2278
% share	31,39	37,88	15,45	6,67	3,16	4,26	1,19	100,00

Source: Own calculations and the statistical data from "Preliminary results of Agricultural Census 2010 in Poland", 06/2011 (in Polish).

Rural employment estimations in Poland and the EU for the next two financial perspectives are also determined. It is assumed that the length of these perspectives will be the same as under the current perspective. 2027 is the end of the forecast horizon. Forecasting is conducted using software based on mathematical models compatible with neural networks. Earlier the author has used neural networks for different purposes such as sales forecasting, evaluation of European projects etc. Detailed descriptions of neural models and their use in predicting time series is presented in author's other works, e. g. [7, 8].

Table 2. Size of Polish and EU farms in 2007

Country	Average farm size in ha	Average farm size in ESU	% share of farms with economic size in ESU		
			less than 2	2-100	100 or more
Netherlands	25,0	111,3	0	64,8	35,2
Denmark	59,7	80,2	3,4	73,8	22,9
Belgium	28,6	70,3	7,8	66,4	25,8
France	52,1	53,6	13	71,2	15,8
Luxembourg	56,8	51,7	7	79,1	13,9
Germany	45,7	49,5	14,4	73,6	12
Czech Republic	89,3	41,2	50,5	43	6,5
United Kingdom	53,8	31,4	47,6	43,9	8,5
Sweden	42,9	24,7	33,6	61,7	4,7
Finland	33,6	24,2	8,8	88,2	3
Spain	23,9	20,6	21,1	75,6	3,3
Ireland	32,3	19,4	16,2	81,7	2,1
Austria	19,3	16,7	29,4	68,7	1,9
Italy	7,6	14,9	33,8	63,8	2,4
Cyprus	3,6	8	49,9	49	1,1
Estonia	38,9	7,6	68,7	29,9	1,4

The End of Table 2

Country	Average farm size in ha	Average farm size in ESU	% share of farms with economic size in ESU		
			less than 2	2-100	100 or more
Greece	4,7	7,2	34	65,8	0,2
Slovakia	28,1	7,2	88,7	9,9	1,4
Portugal	12,6	6,6	57,5	41,7	0,8
Slovenia	6,5	5,9	43	56,7	0,3
Malta	0,9	4,9	56,4	43,3	0,2
Poland	6,5	3,6	67,9	31,9	0,2
Hungary	6,8	3,2	86	13,7	0,4
Latvia	16,5	3,1	78,8	20,9	0,3
Lithuania	11,5	2,5	82,8	17	0,2
Bulgaria	6,2	2,2	89,1	10,6	0,3
Romania	3,5	1	94	6	0
EU27	12,6	11,3	60,8	36,9	2,2
EU15	22,0	23,8	28,4	66,4	5,2
EU12	6,0	2,4	83,7	16,1	0,2

Source: [4, 15].

From the analysis carried out on rural employment in Poland and in EU one can conclude that the currently recorded population growth associated with village population is not a permanent trend. However, in the future this number will decrease and there is no reason for optimism. Forecasts using a variety of tools (classical statistical methods and neural networks) have shown that despite this decline, the process of rural employment growth share in the total employment in Poland will not be inhibited in the absence of changes in agriculture, environment factors, such as the economic crisis, unemployment, high costs of life in cities and the present shape CAP policy. It is different in the case of share in EU employment. Number of people working in agriculture in relation to persons employed throughout the Community will fall (Figure 1). Studies on forecasting the farm employment in other countries of Central and Eastern Europe (e. g., Hungary) also show that possible impacts of CAP reform (in its current form) may be highly uncertain [5].

The presented dependences show that rural employment is too big. Agrarian overpopulation occurs. Instead of reducing employment and improving such indicators as labor inputs further increase in the number employed in agriculture has been noted. In 2012, the projected value of this ratio is close to 17% of all employees in the country. In other EU countries after enlargement (average for 27 countries), this share is less than 6%. In 2010, the number of people employed in the Polish agricultural sector was at the high level of about 2,3 mln., in relation to the approximately 14,1 mln. employed in the whole national economy. This represents an increase of approximately 250 thousand within 8 years, largely due to unemployment and difficulties at the labor market outside agriculture.

The increase in number of young people employed in agriculture may also result from financial incentives on the part of European programs. Older farmers in order to obtain early retirement formally move the ownerships of their farms to children. Actions of this type are often fictitious. In fact, young people becoming new owners of farms work in the so-called unregistered "gray" area, and their parents continue to

run farms. Unemployment and high costs of legal employment also affect such decisions. The so-called start bonuses to be paid to young farmers, in fact, encourage to register in the form of farmers and others to find the sources of additional income outside agriculture. Searching for many various sources of income is rooted in the minds of many Poles (including non-farm).

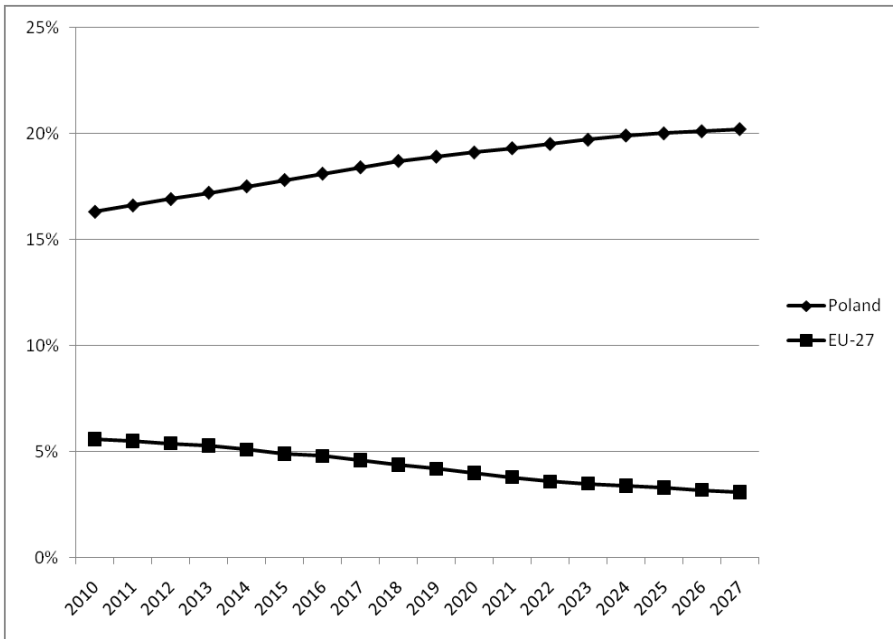


Figure 1. Predictions for 2010-2027 for rural employment as a share of total employment in Poland and the EU

Source: Own calculations based on the statistical data from [13, 15].

Common practice is to combine unemployment benefits from illegal work in the informal economy. Studies show that illegal seasonal work in agriculture is one of the most popular forms of activity in the informal economy [12].

Conviction of impossibility of maintaining a single source of income is not easy to eradicate within few years. Since Polish accession to the EU Agency for Restructuring and Modernisation of Agriculture has paid roughly the equivalent of a four-year income of all Polish farmers for investments and payments for the land. Lower costs of living in rural areas are encouraging to remain there, not only for those who want to tie their future only to agriculture. In the Agricultural Census 2010 in Poland, (compared with the previous census conducted in 2002) one can see there is an approximately 400% increase in the number of people declaring a country job as the main occupation and having additional sources of income.

Housing conditions of rural population are not the best. This is evidenced by only slightly (1,4 m2) more living space per capita compared to cities. Compared to European standards, 60% of Polish families live in overcrowded conditions. This indi-

cator puts Poland on the 28th place in 30 European countries. Additionally, in villages people have separate rooms less than in cities. Number of rooms per capita in rural areas is 1,2 compared to 1,34 in the cities, respectively.

In spite of observing a decline in the number of farms (about 0,6 mln. in 2002-2010), still there are too many small farms and relatively few spatially operating units on a relatively large area. Areas under cultivation are usually small. Compared to 2002, average farm size has increased by 18,4% and amounts to almost 7 ha.

Despite the media popularizing financing from European funds to improve the state of stocks of fixed assets of agricultural units, still many farms are retarded and poorly prepared technically to work. The levels of productive resources and investment subsidies are typically small. Structural changes in agriculture are needed leading to a strong increase in area of farms allowing easier implementation of new technologies that increase productivity and introduction of modern labor-saving methods of production. It is also necessary to overcome difficulties and barriers resulting from the outdated transportation infrastructure. Problems with roads and railways are characteristic for the entire Polish territory, not just rural areas.

The income situation of agricultural households is variable. It depends on the situation at various agricultural markets. Considerable spatial variation in this area remains and there are differences between levels of income in different regions. CAP instruments contribute to a certain reduction of these differences, which is manifested in the form of various types of support, such as subsidies for investment and operations. However, these payments, as perceived by farmers, are often a form of social assistance. They are not compatible with the concept of sustainable development. They do not in fact contribute to a sustainable, non-inflationary growth and to improvement of the situation at the labor market such as reduction of unnecessary employment. Only slightly they improve the conditions and quality of life and social well-being. CAP instruments provide very little support for the environment. The results of the CAP implementation in Poland are small in relation to the size of public funds involved.

Conclusions. The study allows for identification of main barriers to sustainable development of efficient agribusiness in Poland. First of all, employment in the agricultural sector is too large. Polish village is characterized by overpopulation. In 2000-2010, in other countries of Central and Eastern Europe, agriculture has been left by many employees. For example, in Slovakia about 43% "disappeared", about 49% in Bulgaria and about 55% in Estonia. Poland, however, has even experienced a relative increase in the number of employees in agriculture. For the EU-27 the number of employed in agriculture in 2010 represents approximately 5% of all employees, and in Poland this number is more than 16%.

Living conditions in rural areas are not the best, but the outflow from cities is inhibited by the growth of unemployment and living costs. Modern means and equipment resources in agriculture are scarce. Often outdated equipment is used. There are also many farms where there are no adequate facilities or agricultural machinery. Unfavorable relationship between area and economic size of Polish farms also remains. There are few households with a relatively large area. Poland is dominated by farms characterized by small SGM value (less than 2 ESU). Farm size parameter does not always decide on the cost efficiency results. In the efficient agribusiness analysis one

should take into account also other variables, such as area status, financial situation, tenure, production diversification, farmers' personal characteristics. Studies on the efficiency of Scottish farms have shown that sometimes, under certain circumstances, small farms are characterized by greater efficiency than medium or large ones [14].

On relatively small and often ill-equipped farms, people work more and more. Effects of CAP instruments to date should be regarded as insufficient. They usually do not lead to solutions consistent with the concept of sustainable development. EU assistance attracts young people into agriculture. They do not always take real actions on the acquired farms. Often they are interested in collecting the benefits and then work outside agriculture.

Computer simulation carried out by various methods shows that it is difficult to determine real prospects for improving the situation in Polish agriculture, improving the competitiveness of enterprises related to agriculture and the consequent increase of the competitive position of the country. Some hope can be associated with the implementation of new CAP rules. Attention of the member states in negotiations on the next financial perspective focuses mainly on direct subsidies to agriculture. In particular, much controversy arises due to the unjust differentiation, which deteriorates competitive positions of the countries later adopted by the Community. The largest payments (500 euros/hectare) go to the farms in Greece, Belgium and the Netherlands. The least go to the Baltic States (Latvia: 83 euros) [4]. The new (2014-2020) financial perspective proposed in June 2011 promises changes in this.

Agribusiness in Poland and the EU has to face major challenges. This is not easy since available financial and knowledge resources are limited. It is necessary to propose effective solutions for implementation of knowledge-based agribusiness. Tools and systems based on artificial intelligence may be helpful. To achieve the ambitious strategic objectives of the Community CAP should be thoroughly reformed in the coming years. Instead of simply financing the agricultural sector new instruments of financial support for multifunctional and sustainable rural development should be introduced.

Future author's research will involve determining the objective and practically useful, intelligent multi-criteria methods aimed to assess the effectiveness of various European projects consistent with the ideas of sustainable development (also related to agribusiness and rural areas). The processes of identifying and implementing these methods will consider principles of the concept of sustainable development and knowledge-based business models. The basis of sustainable and effective development of knowledge-based agribusiness and rural areas is to provide farmers' ties with the appropriate environment in the course pursued by their socio-economic activities. Compared with other forms of activity, conducting agribusiness is associated with the closest relationship to the environment. Evaluation of the implementation of the concept of sustainability in agribusiness and identifying barriers to developing this business should be made through the implementation of the measurement process in all aspects of life in rural areas: biophysical/environmental sustainability, socio-political challenges and economic sustainability.

References:

1. Aakkula J., Kroger L., Kuokkanen K., Vihinen H. Implementation of policies for sustainable development in the context of CAP. New challenges for research, Sixth Framework Programme Priority 8.1. Specific Support To Policies, Background 2005.

2. *Bergs R.* The Political Economy of the European Union – By D. McCann, *Journal of Common Market Studies*, May 2011, Vol. 49, p. 684-685.
3. *Cunha A., Swinbank A.* An Inside View of the CAP Reform Process: Explaining the MacSharry, Agenda 2000, and Fischler Reforms, Oxford University Press, New York 2011.
4. ec.europa.eu/eurostat (08/2011).
5. *Elek S., Ferto I., Forgacs C.* The possible effects of the CAP Reform on farm employment in Hungary, *Agricultural Economics Review*, Thessaloniki: 2010, Vol. 11, Iss. 2, p. 29.
6. *Greer A.* Agricultural policy in Europe, Manchester University Press, New York 2005.
7. *Grzeszczyk T.A.* Application of Neural Networks for Prior Appraisal of Structural Funds Project Proposals, In: *Enterprise Information Systems*, Vol. 2, Edited by: Isabel Seruca, Joaquim Filipe, Slimane Hammoudi, Jose Cordeiro, Portugalense University, Porto, Portugal 2004, pg. 501-504.
8. *Grzeszczyk T.A.* Artificial Intelligence Applied for Forecasting in Enterprise Decision Support, Publishing House of Institute of Production Systems Organization Warsaw University of Technology, Warsaw 2005.
9. *Heiko H., Teuber R.* Assessing the impacts of EU's common agricultural policy on regional convergence: sub-national evidence from Germany, *Applied Economics*; 10/10/2011, Vol. 43 Issue 26.
10. *Kotler P., Caslione J.A.* Chaotics: The Business of Managing and Marketing in the Age of Turbulence, New York, USA 2009.
11. *Kowalski A.* The position of Polish agriculture in the global food market, In: Kowalski A. (Ed.), *Economic and social conditions of the Polish food economy following Poland's accession to the European Union (Synthesis)*, Institute of Agricultural and Food Economics, National Research Institute, Warsaw 2010.
12. PAED – Polish Agency for Enterprise Development, *Study of Human Capital in Poland*, Warsaw 2011.
13. Preliminary results of Agricultural Census 2010 in Poland, 02/07/2011.
14. *Revoredo-Giha C., Milne C. E., Leat P. M., Cho W. J.* Efficiency of Scottish Farms: A Stochastic Cost Frontier Analysis I, *Agricultural Economics Review*, Thessaloniki 2009, Vol. 10, Iss. 2, pg. 17-36.
15. *Rural Development in the European Union – Statistical and Economic Information – Report 2010*, EU – Directorate-General for Agriculture and Rural Development, December 2010.
16. *The CAP towards 2020: Meeting the food, natural resources and territorial challenges of the future*, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, European Commission, Brussels, 18 November 2010.
17. *The Common Agricultural Policy after 2013*, Fifth Report of Session 2010-11, Environment, Food and Rural Affairs Committee, House of Commons, UK 2011.
18. *Thompson N., Ward N.* Rural Areas and Regional Competitiveness, Centre for Rural Economy Research Report, University of Newcastle Upon Tyne, Newcastle 2005.

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