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THE INFLUENCE OF PRODUCTION AND TRADE ON THE ENVIRONMENT

VPLYV PRODUKCIE A OBCHODU NA ŽIVOTNÉ PROSTREDIE

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In the world economy and similarly in the Slovak agriculture there are more and more discussions about sustainable development and the influence of agriculture on the environment. For definition of the optimal environmental policy as well as the effects of agriculture and of agritrade, Figure 1 was used illustrating the problems of setting up the environmental tax which expresses a difference between the marginal social cost and the marginal private cost. Figure 2 shows the influence of the state on a level of pollution through penalty P^* and simultaneously by quantification of the pollution maximum level f^* . Figure 3 shows the optimal environmental policy and the impact of agritrade liberalization. Based on a size of impacts, it is suggested that agritrade liberalization affects the production reduction, thus declining pollution level.

Key words: environmental policy, pollution, international trade, agriculture, environmental tax

An interest in the identification of production and non-production agriculture and discussions about the agricultural influence on the environmental assets and impacts in particular are increasing in the world economy. The methods and methodology of economic expression of the environmental assets and cost must be asserted more radically and comprehensively in the academic education, especially in the theories of a science-research approach. In the 1980s, environmental policy was already a component of the Common Agricultural Policy, which started reducing the production potential, thereby decreasing the environment loading intensity. Generally speaking, it was the market in particular that did not recognize the environmental problems and companies were made to make non-objective decisions. International trade increases a volume of commodity production and influences the pattern of production and consumption in different countries. The production and consumption of these commodities has the detrimental effects on the environment, which are not fully reflected in production cost, so more trade may impinge upon the environment quality. A presence of negative externalities in open trade reduces welfare, but this optimal policy is to directly target the source of externalities.

Material and Methods

The work analyses and graphically presents the impacts of agriculture trade and indirectly those of production on the environment. Only some of authors deal with more comprehensive economic evaluation of the environmental influence of agriculture. A majority of authors direct their economic evaluation of the environment to quantitative availability and subsistence parametrication of using natural resources.

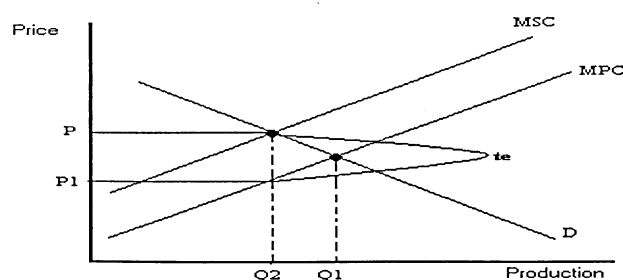
A comprehensive economic approach to evaluation was invoked by Stiglitz (1997), Brenton (1997), Scott (1997), Sinclair (1997) and Kubíčková (2000), Podolák (2000) using EOPM – Effect on Production Method, PEM – Preventive Expenditures Method and direct methods of the economic

evaluation such as CVM - Contingent Valuation Method and CRM – Contingent Ranking Method. The economic evaluation methods are generally applied to production, trade, travelling, quality water, etc. It is possible to use all methods for defining the principle, a methodical procedure, as well as, from the viewpoint of complexity and imperfection identification, different limitations. The said methods require theoretical innovation, technical acceptability, institutional utility and adapting to the current reality of an objective evaluation of manufacturing industries, trading companies and their influence on the environment.

Results and Discussion

The way in which market can remove externalities without state intervention is their internalization.

Figure 1
Obrázok 1



Source: Stiglitz, 1997

If such externalities come along, market subjects can always combine and arrange with each other about externality internalization to reach the effective use of sources.

The elimination of negative externalities cannot reckon on option and education. In addition to option and education,

the government interventions in a reduction of the influence of negative externalities still have some reasons:

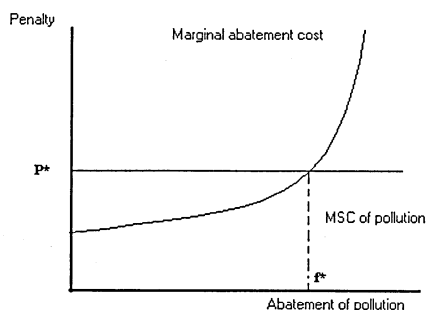
- problem of public good, imperfect information,
- transaction costs, ownership relations.

Governments can reduce externalities by means of regulation, subsidies and penalties.

Figure 1 shows the situation of market solution, where an excessive production perturbs the environment pollution. The producer ignores the marginal social cost (MSC) and only thinks of the marginal private cost (MPC).

The difference is equal to the marginal cost of pollution (penalty). The distances P and P1 are penalties for production unit and the area PP1te represents a total sum to pay. A condition of the efficiency is an equality between the marginal abatement benefit and the marginal social damage cost. Figure 2 shows the effective level of pollution we can reach, the collection penalty P^* or the quantification of pollution maximum level f^* .

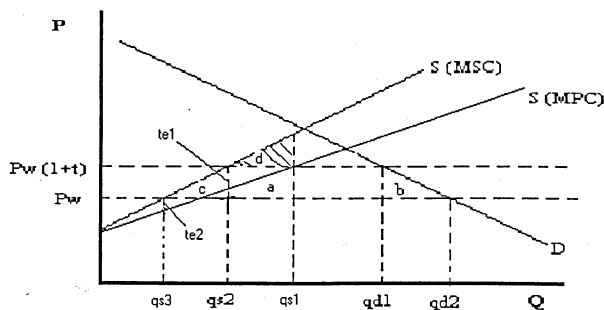
Figure 2
Obrázok 2



Source: Stiglitz, 1997

Figure 3 shows the influence of agriculture trade liberalization on the environment. Environmental policy will affect trade. A fear has been expressed that countries will intentionally reduce their environmental protection below the socially optimal level in order to give domestic companies a competitive advantage both in home and foreign markets. This ecological dumping will lead to a deterioration in the environment, as governments compete with each other in a downward spiral of standards.

Figure 3
Obrázok 3



Source: Brenton, P., Scott, H., Sinclair, P.: International Trade, 1997

The optimal environmental policy would be establishment of the environmental tax on the producers of te_1 , set at the point where the marginal social benefit (as reflected by the commodity price) equals the marginal social cost.

The welfare gain from an improvement in the environment following this policy is given by the area d. Agritrade liberalization will now generate gains of the areas c and b. Following agritrade liberalization, the optimal environmental policy would be a tax of te_2 .

The welfare gain of c is smaller than the area a, so a gain from trade liberalization is smaller once the optimal environmental policy is in place.

Conclusions

Discussions about the sustainable development are more and more frequent in the world economy. Theoretical and application expression methods and methodology of environmental assets and cost and the results of their optimal allocation are briefly analyzed. The criterion of defining optimal environmental policy is that the cost of preventing an additional unit of pollution (the marginal abatement cost) should be just equal to that of an additional unit of pollution (the marginal damage cost). It also means that an extent of the environment protection will differ from country to country, depending upon the endowment of environmental resources and the preferences of citizens towards the environment.

Súhrn

Vo svetovom hospodárstve, obdobne i v poľnohospodárstve SR gradujú diskusie o trvalo udržateľnom rozvoji a o vplyve poľnohospodárstva na životné prostredie. Definovala sa optimálna environmentálna politika, vplyv poľnohospodárstva a agroobchodu, problematika uplatnenia environmentálnej dane, vyjadrujúca rozdiel medzi hraničnými spoločenskými nákladmi a hraničnými súkromnými nákladmi. Poukázalo sa na vplyv štátu na úroveň znečistenia prostredníctvom vyberania poplatku a stanovenia maximálne možnej úrovne znečistenia. Definovala sa optimálna environmentálna politika štátu a poukázalo sa na dopad liberalizácie obchodu. Vychádzajúc z veľkosti dopadov sa konštatuje, že liberalizovaný agroobchod vplyva na znižovanie produkcie a tým i na znižovanie environmentálneho zaťaženia.

Kľúčové slová: environmentálna politika, znečistenie, medzinárodný obchod, poľnohospodárstvo, environmentálna daň

Literatúra

- BIELIK, P. 1999. Faktory výkonnosti a dôchodkovosti v poľnohospodárstve Slovenska. In: Zborník z medzinárodnej vedeckej konferencie Aktuálne ekonomicko-právne problémy poľnohospodárstva. Nitra : FEM SPU, 1999, s. 134-138.
- BRENTON, P. – SCOTT, H. – SINCLAIR, P. 1997. International trade (A European text). Oxford : University Press, 1997. 382 p. ISBN 0-19-877444-3
- KUBÍČKOVÁ, S. 1998. Vývoj agroenvironmentálnej politiky EÚ. Medzinárodná konferencia, PEF – MZLU. Brno : MZLU, 1998.
- PODOLÁK, A. 2000. Mimoprodukčné aktivity poľnohospodárstva a ich konkurenčná schopnosť. In: Medzinárodné vedecké dni 2000: Zbor. Ref. Nitra : 2000, s. 28-31. ISBN 80-7137-716-3
- PODOLÁK, A. 2000. Ekonomické hodnotenie vplyvu poľnohospodárstva na životné prostredie. Nitra : Agrofilm, 2000, s. 39-42. ISBN 80-968274-5-6

STIGLITZ, E. J. 1997. *Ekonomie veřejného sektoru*. Praha : Grada, 1997. 664 s. ISBN 80-7169-454-1

ZENTKOVÁ, I. 2000. Vplyv trhového prostredia vybranej komodity na správanie sa trhových subjektov. Medzinárodné vedecké dni 2000. Nitra : 2000, s. 460-465. ISBN 80-7137-716-3

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ADMINISTRATIVE SITUATIONS: CLASSIFICATION AND STRATEGIES OF SOLVING

RIADIACA SITUÁCIA: KLASIFIKÁCIA A STRATÉGIA RIEŠENIA

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The work presents the model notions for description and classification of the administrative situations developed and specified according to the market conditions. Their sources and contents, as well as the elementary cycles of control and strategies used when deciding the administrative problems are analyzed too.

Key words: situational method, administrative decision, productive situation

The problems arising when controlling an enterprise are often situational ones by their nature, i.e. they are a consequence of some branches in the mechanism, structure and control processes under the influence of various factors. It is conditional on quite difficult modern objects of control and constant changes in the external and internal environment conditions. As a result, there is the necessity of varying the forms, methods and systems of control, depending on objective conditions of the enterprise and using the situational method (Ekaterinoslavskiy, U. U., 1988; Pospelov, D. A., 1986; Tamm, B. G. - Puucen, M. E. - Tavast, R. R., 1987).

Material and Methods

When solving the administrative situations, it is necessary, firstly, to investigate the reasons for and sources of an arising situation; secondly, to find the object which could be affected by administrative influences in order to solve the situation; thirdly, to elaborate the control procedures which must be adequate to the purposes for solving the situation. Here, the different methods are being used. Thus, Pospelov, D. A. (1986) proposes to divide all the situations into the current ones corresponding to the structure of an object of control and its function at the present moment and into the complete ones, when all the aggregate of arising situations and the state of control system are taken into consideration. Any type of administrative situations is generalized by a number of signs. However, this method is immaculate only theoretically and does not permit to research completely organizational and economic problems which are arising. Among the other methods, it is worth underlining the description of the characteristics of administrative situations, which is based on analyzing the processes of making decisions (Vendelin, A. G.,

1977). The whole scheme of solving the administrative situations process is as follows: determining the sections of activity where the difficulties have built up; describing the situation; regulating the difficulties according to their complication; formulating and following a solution to them. Here, one picks up the source of an arising problematical situation and its development prognostication, but the characteristics of the situation are not being opened up.

The model (Ekaterinoslavskiy, U. U., 1988) based on a number of administrative situations stems from the external and internal environment of the enterprise. Examining their substantial characteristics and using several strategies of solving the situations may be used as the basic one.

One of the main drawbacks of this model is an unsatisfied interest of the consumers the enterprises under market conditions must aim at. The limited set of strategies to use when solving the administrative situations does not allow describing adequately the activity of enterprises at the modern level of output development.

The given work is intended to develop models of the situational control, taking into consideration the market conditions. The classification of the administrative situations and their solving strategies are examined.

Results and Discussing

The necessity for classifying the administrative situations is caused by their differences, which is the first stage of the process to solve the situational problems of control. When classifying the administrative situations, it is worth taking into consideration the stage of actual cycle of an enterprise. Then, the sources of an arising administrative situation must be defined and characterized.