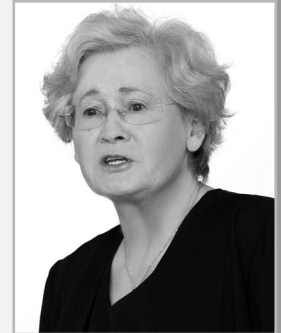


Eva Romancikova

Doc. Ing. CSc., Assoc. Prof., Department of Economy and Finance,  
School of Economics and Management in Public Administration in Bratislava, Slovakia  
eva.romancikova@vsemvs.sk



## GLOBALISATION, ENVIRONMENT AND ENVIRONMENTAL POLICY\*

**Abstract.** *The Author identifies economic and environmental aspects of the globalisation process, related to liberalisation of the international trade and inflow of foreign direct investments and capital. It causes positive and negative effects which extent can be influenced by effective state environmental policy. Drafting of an effective environmental policy presupposes an identification of relations between the economic system and the environmental system.*

**Key words:** *globalisation process; positive and negative effects of globalisation process; environmental policy; environmental policy tools.*

**JEL Classification:** F63, F64, H23

### Ева Романчікова

доктор економіки, професор кафедри економіки та фінансів,  
Вища школа економіки та державного управління, Братислава, Словаччина

### ГЛОБАЛІЗАЦІЯ, ДОВКІЛЛЯ ТА ЕКОЛОГІЧНА ПОЛІТИКА

**Анотація.** У статті визначено економічні та екологічні аспекти процесу глобалізації, пов'язані з лібералізацією міжнародної торгівлі й припливом іноземних прямих інвестицій та капіталу. Це стосується позитивних і негативних ефектів, на рівень яких можна впливати за допомогою ефективної державної політики у сфері навколишнього середовища. Формування ефективної екологічної політики передбачає ідентифікацію відносин між економічною та екологічною системами.

**Ключові слова:** глобалізаційний процес; позитивні та негативні ефекти глобалізації; екологічна політика; інструменти екологічної політики.

### Ева Романчикова

доктор економіки, професор кафедри економіки та фінансов,  
Высшая школа экономики и государственного управления, Братислава, Словакия

### ГЛОБАЛИЗАЦИЯ, ОКРУЖАЮЩАЯ СРЕДА И ЭКОЛОГИЧЕСКАЯ ПОЛИТИКА

**Аннотация.** В статье определены экономические и экологические аспекты процесса глобализации, которые связаны с либерализацией международной торговли, притоком прямых иностранных инвестиций и капитала. Это касается положительных и отрицательных эффектов, на уровень которых можно влиять с помощью эффективной государственной политики в сфере окружающей среды. Формирование эффективной экологической политики предполагает идентификацию взаимосвязи между экономической и экологической системами.

**Ключевые слова:** глобализационный процесс, положительные и отрицательные эффекты глобализации, экологическая политика, инструменты экологической политики.

**Introduction.** Globalisation in the broadest sense of the word is understood as a global process of qualitatively higher level of integration, which has a certain impact on each sphere of human activity. Acceleration of this process began in the 1970s as a result of the introduction of information technologies. Liberalisation of international trade, movement of capital and investments as well as establishment of multinational companies created room for its deepening. This process has several dimensions – economic, social, political, informational, and cultural as well as environmental. The contribution draws attention to its economic and environmental dimensions.

**1. Economic and Environmental Dimensions of the Globalisation Process.** Economic dimension of the globalisation process is predominantly perceived by society in relation to top macroeconomic indicators like economic growth and employment. However, among less discussed is environmental dimension, while international trade and the inflow of foreign direct investments and capital represent significant factors having an impact on the quality of environment in positive as well as negative sense.

It is due to the fact that on one hand, the globalisation process enables economies to carry out structural changes, increase employment and income of citizens and public budgets or implement environmental technologies, but also to open access to markets with preferred environmentally appropriate products (products, services). On the other hand, it can affect

the extent of usage of environmental resources and the level of their pollution.

Identification of problems related to endangering of the quality of environment, resulting from the globalisation process presupposes an analysis of the area able to affect deterioration of the quality of environment. Such threats include: economic growth and its material and energy demands, structural changes, growth of pensions, environmental legislation.

**1.1. Economic Growth as an Effect of the Globalisation Process and Its Environmental Aspects.** Approaches of economists to the relationship between economic growth and the quality of environment are unambiguous. On one hand, there are authors like *D. H. Meadows* and *J. Ringers* [1], who express doubts about possibilities of a long-term economic growth. On the other hand, there are authors who believe that economic growth is a tool of environmental burden reduction. *Th. Panayotou* [2] points out in this relation that the relationship between economic growth and the quality of environment does not have to be stable. However, he considers economic growth to be a fundamental precondition of solving of environmental problems not only because it generates an increased volume of financial resources, which can be used to fund environmental measures but also because technical progress enables to substitute environmentally inappropriate technologies.

In relation to examination of relationships between economic growth and the quality of environment, *S. Kuznets* [3] designed a curve demonstrating dependence between the degree of environmental pollution and the income level per citizen. The curve is inverted-U-shaped. The breakpoint within environmental Kuznets curve according to *Grosman* and *Krueger* [4] starts

\*The contribution has been elaborated within internal grant «Economy of Environment and Public Administration Mechanisms in Environmental Care».

at the income level of USD 8,000 per citizen of the country. However, such curve behaviour has not been confirmed for all polluting substances. It regards e.g. the production of greenhouse gases.

The curve behaviour implies that a significant deterioration of the quality of environment occurs at a lower level of economic growth, which is a result of implementation of outdated technologies, excessive depletion of natural resources as well as ineffective agriculture and forestry according to him. At a higher level of economic growth, he presupposes the occurrence of structural changes in economics, establishment of branches based on information and services and implementation of environmentally appropriate technologies.

In examination of the relationship between pollution and income level per citizen in a long-term horizon, *Arik Levinson* and *William Harbaugh* [5] expanded the original shape of Kuznets curve from the inverted U-shape to N-shape. The shape of N-curve reflects a condition when the degree of pollution in the country after reaching the income threshold value falls at first; however pollution increases again later with further increase of the income of citizens. Such curve behaviour in a longer term confirms development in economically developed countries. We can presuppose that globalisation processes in other developing countries will copy such development.

It is necessary to point out in this relation that decrease of pollution, due to increased income according to *Kuznets*, was besides other factors a result of the globalisation process itself, which opened room to developed countries to restructure their economies in the direction of transformation from environmentally demanding products to less demanding services. Such decrease of environmental burden is not a solution of global environmental problems, only local – territorial ones, as polluting productions can be moved to states with less strict environmental legislation. It is therefore important that environmental policies of «host countries» adequately reflect this process, closely related to the inflow of foreign direct investments.

**1.2. Structural Changes as an Effect of Globalisation Process.** The globalisation process opens room to countries to carry out structural changes through foreign direct investments. Economic activities related to the globalisation process should therefore focus on the branches where the given country has a comparative advantage. Effort of the host country should be transformation from heavy and manufacturing industries to services. In case a share of products in branches demanding environmental resources is lowering, or if their increase is slower than GDP growth, we can talk about the generation of «gratis environmental effects».

Key spheres in which carrying out of structural changes enables an increase of ecological effects can include: • innovation of production – it concerns lower environmental burden caused by the product itself. Change in production should result in the production of environmentally appropriate products; • changes of technological procedure – during which less polluting substances are emitted, or material consumption and their energy demand lower in relation to their production; • substitution of production inputs – environmentally inappropriate inputs are substituted by environmentally more appropriate inputs, etc.

Positive effects of structural changes can also be eliminated to a certain extent by an increased production volume, however only provided that the increased production volume rises the pressure on environment. It does not always have to be true with implemented top technologies.

Liberalisation of trade also has a great impact on carrying out of structural changes in a country, facilitating purchase and subsequent implementation of environmentally more appropriate technologies, but it also opens markets to trading with countries whose citizens prefer so called green products. Green public procurement can help this process [6].

Broader implementation of environmental technologies presupposes that business sphere is also stimulated by state so that it participates, to a certain extent, in effects resulting from lower environmental burden. It is important in this relation that environmental policy disposes of tools enabling the business sphere to compensate increased costs (tax reliefs, write-offs,

grants for purchase of environmentally appropriate technologies, etc.).

**1.3. Growth of Pensions as an Effect of Globalisation Process and the Quality of Environment.** Effects of the globalisation process can include an increase of employment and growth of income not only of citizens but also in private companies and the public sector. If demand of citizens at a low income level is mainly oriented on existential goods, demand for quality environment increases with the income growth.

Growth of the income of citizens was at first connected to the transformation from agriculture to industry and subsequent increase of the environmental pollution degree. Later, the growth of income is connected to the transformation from industry to services. The growth of income subsequently creates a pressure upon government to implement a more effective environmental policy by adopting of a stricter environmental legislation and checking of its observation. The growth of income of public budgets enables financing of environmental investments in a greater extent.

However, the pressure created by state through direct and indirect tools of environmental policy in order to protect environment has its limits, which are availability of financial resources in public and private sectors as well as a worry of the state about lowering of competitiveness in the business sphere, as regulatory instruments generate additional costs of companies.

**1.4. Environmental Legislation and the Globalisation Process.** Achievement of behavioural changes in decisions regarding production and consumption in business sphere and by citizens also presupposes, besides fulfilment of other attributes, implementation of a broad range of environmental policy tools, which create an important part of each state environmental policy.

In the ongoing globalisation process, environmental policy tools can be structured from various aspects. The way how tools affect the mechanism of economics functioning is considered to be the simplest structuring. Based on the acceptance of such approach, they can be distinguished as direct and indirect. Other structuring is possible in distinction to normative, financial and economic, and free.

Implementation of direct tools of environmental policy in managing practice can acquire various forms: orders, prohibitions, restrictions of permitted amount of pollution, or prohibition of certain productions. However, the most often form is the approach resulting from environmental norms – standards, while it can concern quality standards of a selected environmental component, emission standards, technological standards as well as production standards.

A positive feature of environmental quality regulation using norms – standards is the fact that their implementation can ensure observation of determined quality of environment quite fast. A negative feature of their implementation is that norms – standards are static and insufficiently stimulating, and it is thus common that implementation of technical progress is reflected in them with a time delay. Further disadvantage of standards is that their implementation does not cause a minimization of economic costs of emission unit decrease.

Contrary to direct tools, indirect tools of environmental policy do not specify environmental protection but stimulate polluters to adopt measures to decrease environmental burden. Indirect tools include payments acquiring the form of environmental taxes, charges, transfer payments, compensations, emission permits and deposit and refund systems, emission trading as well as implementation of voluntary agreements.

Indirect tools of environmental policy in their economic character are market-conformable.

The reason for expansion of tool instrumentarium of environmental protection towards the market was knowledge of the theory of the economy of well-being, according to which work, land and capital are effectively allocated when commodity prices are equal to their marginal social costs. According to this theory, those are prices managing resource allocation so that they are used as effectively as possible. One of conditions of the effectiveness of resource allocation is the existence of balance between private and social costs.

English economist A. C. Pigou [7] elaborated on the theory of the economy of well-being. He assumed that non-effectiveness in resource allocation originates in the existence of negative externalities, whose creation results from the fact that environment is a common good, which economic subjects use regardless of an impact of their decisions on further subjects, including impacts on future generations.

Negative externalities were understood as a burden, which one economic subject inflicts upon another one. If costs incurred as a result of environmental pollution are not reflected in prices, market non-effectiveness will reflect in their excessive production or consumption of products as well as in the creation of «social costs». He perceived an elimination of non-effectiveness in the implementation of an externalities tax, called Pigou's emission tax. A. C. Pigou's basic presumption was that if emission tax equalled external costs, private costs of producers would increase at the level of social costs. Production prices would thus reflect social costs of production and would become a tool of effective resource allocation.

The process of economic tools implementation is supported by the EU, which recommended a broader implementation of economic tools, including environmental taxes, to the member states already in the fifth environmental action plan (1992).

## 2. Environmental Tax as a Tool of Environmental Policy.

Environmental taxes include taxes with incorporated eco-control, implemented within tax systems of individual states as well emission taxes with a different structure and functional mechanism.

Taxes with incorporated eco-control mostly correspond to excise duties in their character. They restrict production and consumption, which is connected to a negative impact on environment.

Emissions generated as a side product of the manufacturing process, and emissions deteriorating the quality of air, water or land are taxed by the emission tax. From the viewpoint of economic basis, emission tax is a reflection of «preciousness» of environmental resources, expressing a substitutive relationship between the quality of environment as a public good and as a medium of transmission of harmful substances. It is significantly problematic to define the category of environmental tax for the mentioned reason of its two-dimensional perception.

We observe that in studies elaborated by the OECD and within the EU; also the category of charge is used besides environmental tax. Explanation of such state may be the fact that in countries applying environmental payments, the framework of their usage (tax, charge) is determined by respective national legislation.

We assume that usage of both financial categories can be accepted in the account of environmental objectives of payments, while the category of charge is to be understood as a payment connected to equivalence for environmental service provision (user charge) as well as payment whose earning represents a source of funding of environmental objectives.

If the earning from environmental charge is not used to finance environmental measures, it is justified to use the category of environmental tax, as its earning flows into public budgets.

Present state is characterised by the fact that various kinds of environmental payments are applied in individual countries, characterised by differences in tax rate structures, extents of charged emissions, as well as categories of burdening of environmentally harmful products. From the viewpoint of functions fulfilled by environmental payments, they can be divided as follows [8]: charges for costs payment, stimulating environmental taxes (charges), fiscal environmental taxes.

**Charges for Costs Payment.** The purpose of implementation of such payments is a creation of financial resources to pay costs incurred in environmental service provision. They can include: • user charges, which are paid by a user for a provided environmental service (charges for disposal of municipal waste, potable water supplies – water rate, and for waste water supplies – sewage charge); • product charges, whose collection is not connected to the provision of a specific environmental service to the charge payer, but their purpose is to stimulate the transfer of consumption to charge-free substitutes.

**Stimulating Environmental Taxes/Charges.** The given environmental taxes include those which primarily follow the objective of stimulating of a polluter to a change in behaviour aimed at environmental protection without a relation to earnings from applied tax.

Measures to decrease environmental pollution will be adopted in the application of stimulating environmental taxes mainly by those producers for whom this way is the most acceptable solution from the viewpoint of minimization of costs of a company.

Effectiveness of stimulating environmental taxes will only be reflected if their application decreases environmental pollution, which will reflect in a decrease in their profitability. Earnings from such structured tax are normally used to support changes in behaviour to environment through providing of allocations and tax incentives.

**Fiscal Environmental Taxes.** A primary objective of fiscal environmental taxes is the creation of financial resources which can flow into state budget, budgets of district units or earmarked funds oriented on environmental protection. The incentive to change behaviour of a polluter for the benefit of environmental protection is only secondarily reflected in the structure of such taxes.

Earning resulting from the collection of such taxes can be used to decrease tax burden of work (reduction of income tax, deductions to social funds), decrease capital taxation, finance budget deficit, to pay compensations to polluters, provide allocations for execution of environmental measures less deteriorating environment (lower energy consumption, recyclable packages).

There is a lot of available literature at present on the potential of environmental taxes as a tool to increase environmental policy effectiveness. Several authors agree on the fact that if environmental taxes are correctly proposed and implemented they can contribute positively to minimization of costs of environmental pollution decrease, and at the same time they can have a stimulating effect in carrying out of innovation processes, employment increase, and in the first place, in contributing to green economic growth.

From the viewpoint of fulfilment of environmental policy objectives – to decrease environmental pollution and financial demands of its securing, the impact of environmental taxes should be perceived in their impact on the effectiveness of exerted financial resources.

**Conclusion.** The fact that globalisation process theoretically opens room to the transfer of pollution from one country to another is a reason to analyse economic and environmental aspects of this process. State environmental policy, which has to be closely related to state economic and financial policies, has to become a tool of affecting of this process. Using an effective tool instrumentarium of environmental policy, mainly environmental standards and environmental taxes, it is possible to approach internalisation of negative externalities more thoroughly.

It cannot be considered to be correct if host countries refine tools of environmental policy in the globalisation process. If it is so the globalisation process carried out through foreign direct investments opens room to the transfer of pollution from one country to another.

## References

1. Meadows, D. H., Meadows, D. L., Randers, J., & Behrens, W. W. (1972). *The Limits to Growth*. Potomac Associates.
2. Panayotou, Th. (2003) Economic Growth and The Environment. *Economic Survey of Europe*, 2. Retrieved from [http://www.unecp.org/ead/pub/032/032\\_c2.pdf](http://www.unecp.org/ead/pub/032/032_c2.pdf)
3. Kuznets, S. (1966). *Modern Economic Growth: Rate, Structure and Spread*. NewHaven, Conn.: Yale University Press.
4. Grossman, G. M., & Krueger, A. B. (1994). Economic Growth and the Environment. *Quarterly Journal of Economics*, 110(2), 357-377.
5. Levinson, A., & Harbaugh, W., & Wilson, D. (2000). Re-examining the Empirical Evidence for an Environmental Kuznets Curve. *NBER Working Papers*, 7711.
6. *Website of the European Commission of GPP*. Retrieved from [http://ec.europa.eu/environment/gpp/index\\_en.htm](http://ec.europa.eu/environment/gpp/index_en.htm)
7. Pigou, A. C. (1928). *The Economics of Welfare* (4th ed.). Cambridge.
8. *According to OECD/EEA (European Environment Agency)*. Retrieved from <http://www2.oecd.org/econinst/queries/index.htm>

Received 27.04.2013