

ENVIRONMENTAL REGULATION AND ECONOMIC GROWTH: LIBERAL APPROACH

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The role of state regulation has become more extensive and relatively complex in most countries than it was in previous periods as a result of globalization in the modern world since environmental protection, growing environmental problems, monopoly regulation, health care, social welfare and education etc. are under state regulation. In this context the problem of environmental regulation is especially relevant both in general and in terms of ensuring sustainable economic growth. The latter depends more on the degree of application of new scientific achievements and technologies. This means that the environmental factor of economic development cannot be ignored and therefore it has become very urgent to create a model of the economy that will satisfy two opposite requirements at first glance: to ensure economic growth without damaging the environment.

We should note that there is still no universal economic model that could subdue external influences in order to fully solve the environmental problems facing humanity and requiring urgent solutions. In addition to the political will which is required from international organizations and associations, a final theoretical solution to this problem has not yet been found. However, there are approaches the practical application of which can be an effective way to solve the problems under study. The paper gives clear proposals on the application of economic approaches to solve such problems.

Keywords: environment, external and negative factors, economic growth, marginal expenses, marginal benefits.

Introduction

Former economic development in the Republic of Armenia was unstable and created serious problems in the country among other issues such as high poverty and unemployment, monopoly and non-competitive economy and caused great damage to the environment. Due to imperfect institutional, administrative and constructive mechanisms over the years, the natural resources of the country including food products were not used effectively, air, water and soil were contaminated, waste disposal and removal issues were not solved properly. Environmental pollution, inefficient use of resources are among the key factors affecting the future sustainability of the economy of Armenia which has no sea access, limited resources and regional hard conditions.

It is not accidental that the new government of the Republic of Armenia pays special attention to environmental issues concerning all layers of the population from the very beginning. Regarding this, the section “Environment” of the Government Program states: “The environmental management policy is aimed at complex protection of the environment and natural resources, their improvement and reasonable utilization balancing with social justice and economic efficiency. The main task of environmental management is to minimize the harmful effects on the environment as air, climate, water, soil, flora and fauna, to prevent over-exploitation and illegal use of natural resources and to ensure the implementation of preventive measures” [1].

The program also foresees the introduction of flexible mechanisms of environmental management and lever systems, the development and implementation of innovative financing mechanisms (including a mechanism for offsetting environmental commitments) together with international organizations. By presenting these program provisions more completely, we can say that the government wants to solve the issue of environmental regulation by combining them with the requirements of creating favorable conditions for economic activity. It is a complicated issue that

needs the most urgent solutions not only for our country but for all humanity. Final resolution of the issue needs costs and time and demands principles, determination and consistency from Armenia and many other countries as well [2]. We offer a mechanism for environmental regulation that will practically help to meet the requirements of governmental program.

Mechanisms for reduction and compensation of environmental loss. The humanity has entered the third millennium with the burden of the most complex economic, political, social, ethnic and global environmental issues. Current environmental issues have not had their precedent in human history according to their importance. Only the recognition of these problems and the steps to overcome them can ensure the survival of mankind.

Overall, the last two millennia of development of civilization can be described as a gradual attack. If at the beginning of our era the population of the Earth was about 100-200 million, then it was already about 450 million by 1500. However, the growth of the population has not always been constant due to epidemics, various diseases and abnormal natural-climatic changes. The humanity has reached to a certain agrarian culture only since the 15th century, it has been able to increase food production and thus maintain a relatively steady growth in the amount of the production. It was after that the humanity slowly began to accelerate its development as a result of which GDP grew per capita sharply (Fig. 1).

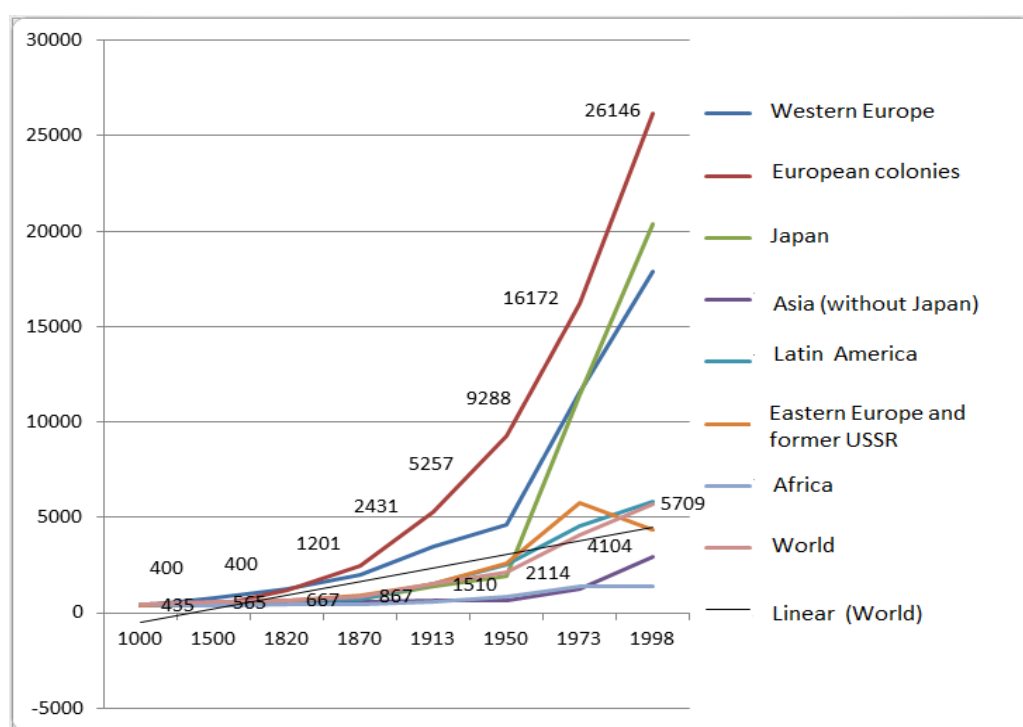


Fig. 1 The dynamics of GDP for enlarged regions of the world per capita in 1000-1998 (USD, 1990) [3]

It was also at that time that uncontrolled use of land started which caused environmental problems in its turn. And it was only in the early 20th century that the global character of human influence on the nature was evident. The beginning of the industrial revolution which is characterized by the invention of electricity, the invention of mechanical transport, the use of oil and gas gave humanity considerable energy and power. It should be noted that this period is known not only for the intense use of land, water, forest and minerals in the economic circulation that is typical of any period of societal development but also for the significant increase in anthropogenic impact on the environment. It was during this time that global environmental issues moved on to a different level which was more complex and dangerous. During the intensive development of the industry the use of resources increased for ten, one hundred and even a thousand times compared to physiological norms.

During only 100 years, the global use of energy has grown for 14 times. The total use of energy resources exceeded 400 billion tons of conventional fuel.

At the same time during the development of civilization the population growth has never reached to such a dangerous size. During the rise of one generation the population grew 2.5 times and the amount of resources needed to sustain it and the amount of waste which was returned to the environment increased with geometric progression (Fig. 2). The alert of the majority of modern scientists on the issue that humanity is endangered on earth is not accidental if the attitude towards nature is not fundamentally changed in the coming decades. Until the mid-20th century, the problem was not set so sharply as such. Some developed countries did not care about the environment for a long time during their development and prosperity. Countries with low and middle income cannot afford themselves such luxury today. It is pointless to repeat the experience of developed countries and not only justify as due to love for nature. The idea of “Now we grow, we get rich, then we will do” is simply no longer profitable.

According to the World Bank, annual losses from environmental degradation and loss of resources make up about 10% of world GDP. In China this rate is estimated at 9% of GDP and in countries like Armenia every year economic development causes environmental damage equal to 8-10% of GDP [4]. As time went on, there was a widespread misunderstanding that natural resources are unlimited and naturally it was concluded that the technical nature of economic development could not bother the humanity. Moreover, the viewpoint on economic growth has long been axiomatic by almost all economists that it is driven by three factors: labor, capital and natural resources. New environmental problems were explained according to this viewpoint.

However, the subsequent deterioration of the ecological situation and the perception of limited resources as well as new circumstances preventing economic development have led to a reviewing of previous approaches. The growth of the economy today is largely conditioned by the rate of using the achievements of science and the application of new technologies [5]. This means that this circumstance cannot be ignored as a factor of economic development and that is why it has become extremely urgent to create a model of economy that satisfies these two requirements contradicting each other at first glance: to ensure economic growth and at the same time not to harm the environment and the surrounding nature.

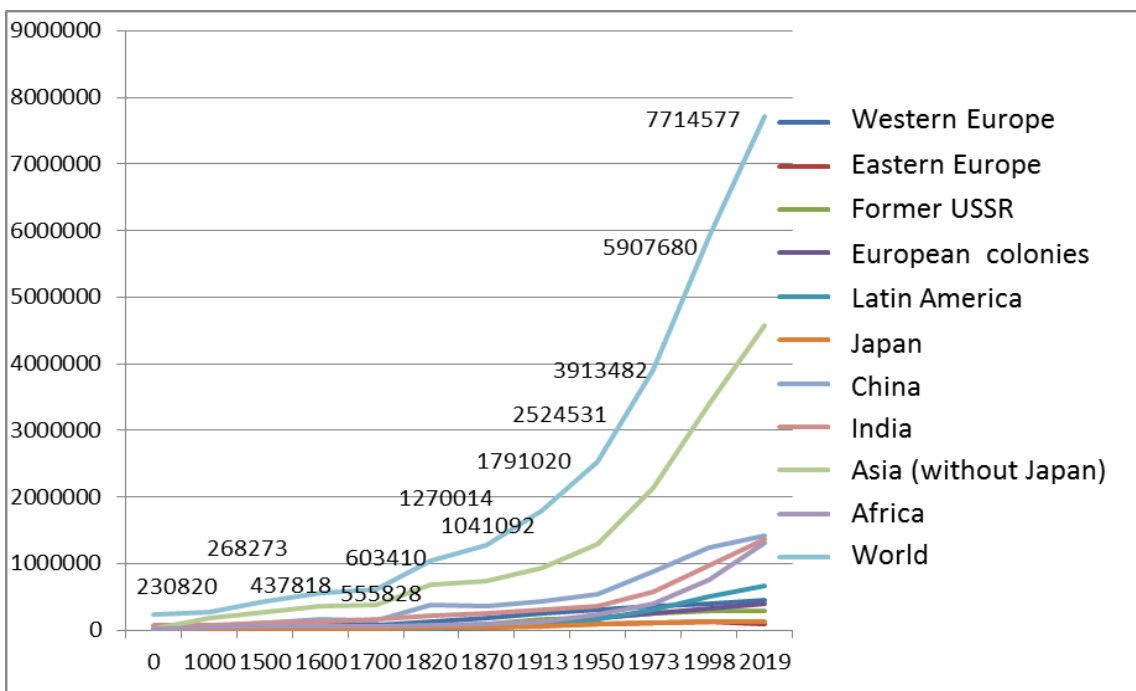


Fig. 2 World population in 0-2019 (mln. people) according to the enlarged regions of the world and separate countries [3]

The viewpoints round this issue are among the main and most important topics of theoretical and applied analyses of economics. It is natural that liberal economics could not stay aside without its own approaches. It would be ideal to find out “gold medium” but today it can be considered to be impossible. As it happens while searching for the answers to many issues, in this case the temptation is very great. i.d. the solution to save the state is to increase the regulatory role of the state.

According to Paul Heine, the individuals choose the direction of their activity thinking over the boundary revenue and boundary costs expected as a result of their activities. The costs and revenues will not affect this decision except for those costs and revenues which are significant for the business entity [6].

It is very important in understanding those numerous social issues including ecological as well. Each individual or legal entity does not take into account this cost and the economists call this external cost of activities or negative external. Its less modern nomination it is additional cost. Each person will be sad while knowing that he or she creates negative externals but will get great pleasure while knowing that he or she also creates positive externals. These are the revenues from those activities which are not taken into account by the decision maker.

You should simply accept that negative externals can not be completely disappeared. We would mainly focus on the negative externals as the issue which interests us is connected with this circumstance.

In the developed society where people are relating to thousands of people every day, the negative externals can sharply increase.

The urban population used to ignore most of the negative externals that others caused them and now they try to be careful about the unforeseen costs that they impose on others through their activities. The same refers to all sectors of the economy, i.e. negative externals arising from personal relationships also arise during the process of economic activity. It is here that the contradictions that can arise can cause frictions between citizens and different groups of society. If everyone insists on getting the right of absolutely everything they think they should have then there will always be frictions.

What must be done?

The difficult task of avoiding confrontation with society is to create laws that can avoid real injustice and minimize the costs of achieving the goal. Due to the character of the issue we deal with, we will focus on the second criterion not because it is more important but because the theory of economics can inform more about minimizing costs than about maximizing the justice.

It is a fact that many public issues which are called “pollution” can be viewed as the result of negative externals. People pollute the air or water not because they prefer to live in polluted air and water but because they are the unpredictable consequence of some of the activities they want to engage in, such as driving a car or selling goods. They don't mind the extra costs because these costs are not of great importance for them. They don't pay attention to the fact that air pollution affects thousands of other people and the pollution they create increases with the pollution created by others. However, each participant in this problem operates as if the use of driving a car outweighs the insignificant extra expense that he or she imposes on everyone in the community. The final result can be disastrous. The solution seems to be to adopt these externals through new legislation.

The definition of unanimous physical restrictions by law is a widespread approach to pollution. It is called “command and control”. After a certain date no one is allowed to emit particles of more than one specified amount into the air or water basin. This approach usually does not minimize the unit of the cost of pollution. It ignores the various measures with the help of which one can usually achieve that goal so it is a weak impact to look for and invest in cheaper alternatives. Without being in too much details we also share the viewpoint that using command and control for reducing the pollution is a wrong approach.

Is there any other approach? Certainly there is.

A more economically viable approach to reduce pollution is to establish a tax rate for pollution unit. After that each polluter should be allowed to respond in the way he or she thinks is right. If we

admit that pollution is an indirect cost that the polluter does not care for, then the taxation of the activity that is the source of the pollution is very reasonable. If in some way it would have been possible to set the unit tax on pollutants equal to the cost of the additional unit cost, the costs would be carried by the creator who is likely to profit from their creation. Moreover, if the continuation of the activity which causes pollution is too costly, it will be ceased and so it should be if the costs associated with it are more than the benefit. If the income still outweighs the cost after paying taxes, the pollution-generating activity will continue but to a lesser extent as it is now more costly. But in this case the tax revenue can be used to pay compensation to those who spend extra money to win their consent.

There is a need for state intervention here which means that the state or its authorized body should be able to compare the marginal costs of the reduction of emissions with the marginal benefits. The use of taxes will enable that body to obtain information on those costs and benefits by following what happens when the costs of pollution estimated in different ways are estimated by the source of pollution. This approach enables you to learn through experiments. And getting reliable information on the costs and benefits of any program of environmental protection relevant to well-being of people has significant meaning.

Some people are against taxes on polluters because they consider such taxes to be absolutely unfair. They entirely burden the reduction of pollution on the poor precociously while the rich are allowed to directly pollute the environment. The choice of people to reduce the pollution based on minimum costs is also considered as self willed and unfair. The answer to those who raise the issue of justice is that an effective solution can be achieved no matter how the issue of justice is resolved. In other words when choosing the most effective solution, it is not necessary to expect that costs can be transferred to certain groups [7].

The reduction of pollution is very similar to any other useful activity so that its certain types are more effective than others. We win when our food, toys and perfumes are produced by those who have relative advantages in their production. We benefit in the very way when extra fresh air is produced by those who have relatively the greatest advantage. But the relative advantages are realized through exchange. That is why the tax approach of reduction of pollution is generally preferred to the one that imposes physical restrictions on certain firms. The tax approach seeks to change relative cash expenditures so that they reflect new decisions about those who are authorized. Therefore it gives the freedom of exchange on the basis of their own relative advantages to all parts in order to achieve new social objectives more effectively.

The benefits of clearing air pollution are associated with the high cost of achieving it which makes it comparable to any system that delivers more than any other at less cost. The same applies to all environmental or ecological issues. Currently the whole complex of environmental issues has great public and political appeal as people have disagreements over rights. More people say: "You get your benefits by my (or our) cost but you have no moral right to do so, so it's not a legal right". Such disagreements are extremely difficult to resolve. In such cases, economics offers several principles to solve the problem.

The first is that the demand for any good, even clean air, is never completely elastic. People need to decide how much they want to have fresh air objectively recognizing that if they want too much, they should refuse the many other things they also want.

The second is that people need as much freedom as the way they can get their consent is chosen. For example, if the aim of the people is to reduce the burning fuel, they should be allowed to choose the measures that reduce their costs. You should avoid the "command and control" method which usually increases the cost of achieving any goal and increasing the cost also increases the resistance to achieving the goal. Price system should be used to reduce costs and allow the exchange of reduced costs.

In this respect it is worth mentioning the model of Nordhaus which had won the Nobel Prize which is widely used as it enables to model the interrelated development of economics and climate, for example, it is used to determine carbon emissions taxes [8].

Finally, the importance of sustainable property rights should always be remembered. When people know the rules of the game and can confidently rely on them and do not exchange them by chance they reduce transaction costs and increase effective collaboration.

Conclusion

Summarizing, let us point out once more that there is still no universal economic model that can completely solve urgent environmental issues set in front of the humanity by mitigating. Apart from the political will required by international organizations, states and international transnational corporations, there is still no final theoretical solution to the problem. However, there are approaches that if applied in practice, they will become the effective way of solving the problems above mentioned. Here are some of them:

- In order to solve the environmental issues, either the state must fully burden the solution of this problem or include external negative impulses in production costs, i.e. make them part of the indirect cost of the producer. The latest version of the theory of economics is known as “internationalization”.

- In order to create an effective economic mechanism for protecting the environment, external economic effects (externals) must be expressed in production costs based on a legally permissible normative basis. In addition, the emphasis should be put on the principle that “those must pay who pollute the environment”. The introduction of such a mechanism will make the environmental issue of the enterprise an internal problem that will force the producer to look for more efficient and economically viable methods to reduce external economic costs [9].

- It is necessary for the state to legislate the ecological boundaries of economic development. The fact that modern externals are not included in production costs shows the imperfection of such important macroeconomic indicators as GDP and GNP. These indicators do not include the loss of “biological capital”. And the costs of eliminating ecological pollution and ecological crises are not counted in these macroeconomic indicators which are considered to be universal indicators of public welfare and, on the contrary, are expressed as a component of economic growth.

References

1. Government Program of the Republic of Armenia, February, 2019
<http://www.gov.am/files/docs/3133.pdf>
2. UN, Sustainable Development Goals, January 2019,
<https://www.un.org/sustainabledevelopment/news/communications-material/>
3. The World Economy: A Millennial Perspective, by Angus Maddison, OECD 2001
4. Ministry of Ecology of the Republic of Armenia, «Report of the Ministry, 2007-2011», Yerevan, 2011.
5. The Prize in Economic Sciences, 2018, https://old.nobelprize.org/economy-press.pdf?_ga=2.251959305.1870737811.1538987393-524376562.1538987393
6. Paul Heyne, Peter Botke, David Prichitko, Economic school of thought, vol. 3, Yerevan, “Edit Print”, 2011, 308 p.
7. Sargsyan S., Tonoyan G., Some aspects of modeling economic-ecological processes, Chronical, 2011, Yerevan, YSU publishing house, 2011, 504 p.
8. What the Nobel Prize was awarded in Economics in 2018
<https://www.rbc.ru/politics/08/10/2018/5bbaffe99a79477a49648931>
9. Markosyan A., Basics of morals, Yerevan, 2011, “Edit Print”, 2011, 270 p.

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Ժամանակակից աշխարհում գլոբալացման արդյունքում տնտեսությունների մեծ մասում պետական կարգավորման դերն առավել ընդլայնված և համեմատաբար բարդ է, քան նախկին ժամանակահատվածներում, քանի որ պետական կարգավորման դաշտում ներգրավված են այնպիսի ոլորտներ, ինչպիսիք են շրջակա միջավայրի պահպանությունը, բնապահպանական օրեցօր ավելացող խնդիրները, մենաշնորհների կարգավորումը, առողջապահությունը, սոցիալական ապահովությունը, կրթությունը և այլն: Այս համատեքստում հատկապես արդիական է բնապահպանական կարգավորումների խնդիրը ընդհանրապես, և մասնավորապես կապված տնտեսության հարատև աճի ապահովման պահանջի հետ: Վերջինս այսօր ավելի շատ պայմանավորված է գիտության նվաճումների և նոր տեխնոլոգիաների կիրառման աստիճանից: Սա նշանակում է, որ այդ հանգամանքը, որպես տնտեսական զարգացման գործոն, չի կարող անտեսվել և դա է պատճառը, որ խիստ հրատապ է դարձել տնտեսության այնպիսի մոդելի ստեղծումը, որը բավարարի երկու՝ առաջին հայացքից իրար հակասող, պահանջներ. ապահովել տնտեսական աճ և միաժամանակ շրջակա միջավայրին ու բնությանը վնաս չպատճառել:

Նշենք, որ դեռևս չկա տնտեսական այն ունիվերսալ մոդելը, որը կարող է մեղմացնելով արտաքին ազդեցությունները՝ էքստերնալները, ամբողջապես լուծի մարդկության առջև կանգնած և հրատապություն պահանջող բնապահպանական հիմնախնդիրները: Բացի քաղաքական կամքից, որը պահանջվում է միջազգային կազմակերպություններից, պետություններից, միջազգային վերազգային կորպորացիաներից, դեռևս չկա նաև խնդրի տեսական լուծման վերջնական ձևակերպումը: Սակայն կան մոտեցումներ, որոնք պրակտիկայում կիրառելու դեպքում արդյունավետ միջոց կդառնան վերը նշված խնդիրների լուծման համար: Հենց այդպիսի մի քանի մոտեցումների վերաբերյալ աշխատանքում կան կոնկրետ առաջարկներ:

Բանալի բառեր. Շրջակա միջավայր, արտաքին և բացասական էքստերնալներ, տնտեսական աճ, սահմանային ծախսեր, սահմանային օգուտներ:

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ЭКОЛОГИЧЕСКОЕ РЕГУЛИРОВАНИЕ И ЭКОНОМИЧЕСКИЙ РОСТ: ЛИБЕРАЛЬНЫЙ ПОДХОД

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В результате глобализации в современном мире роль государственного регулирования в большинстве стран стала более обширной и относительно сложной, чем в предыдущие

периоды, поскольку государственному регулированию подлежат защита окружающей среды, растущие экологические проблемы, монопольное регулирование, здравоохранение, социальное обеспечение, образование и др. В этом контексте проблема экологического регулирования как в общем смысле, так и с точки зрения обеспечения устойчивого экономического роста, является особенно актуальной. Последняя задача больше зависит от степени применения новых научных достижений и технологий. Это означает, что экологический фактор экономического развития нельзя игнорировать, и поэтому крайне необходимо создать модель экономики, которая будет удовлетворять двум, на первый взгляд, противоположным требованиям: обеспечению экономического роста без нанесения вреда окружающей среде.

Отметим, что до сих пор не существует универсальной экономической модели, которая могла бы смягчить внешние воздействия, для полного решения экологических проблем, стоящих перед человечеством и требующих безотлагательного решения. Помимо политической воли, на которой настаивают международные организации и объединения, до сих пор не найдено окончательное теоретическое решение данной проблемы. Однако существуют подходы, применение которых на практике может стать эффективным способом решения исследуемых проблем. В работе даны конкретные предложения о применении экономических подходов к решению таких проблем.

Ключевые слова: Окружающая среда, внешние и отрицательные факторы, экономический рост, предельные расходы, предельные выгоды.

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Գրախոսման է ուղարկվել՝ 21.06.2019թ.

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