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SUSTAINABLE DEVELOPMENT AND EXTERNALITIES

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Abstract

Externalities appear due to the interdependence of production and utility functions of one or more economical agents. Externalities are external effects derived from the behavior of economic agents that changes the wealth of an economic system. Sustainable development requires consideration of externalities, positive or negative, generated by human activities. Sustainable economic development is characterized by maintaining a reasonable, long-term balance between economic development and environment integrity.

Keywords: *Externalities, sustainable development, economic growth, environmental protection*

1. The concept of externality and its effects

Externalities are external effects derived from the behavior of economic agents that changes the wealth of an economic system. They generate costs or benefits that do not directly affect the main participants of the transaction, the producer and consumer; the costs are supported by other members of society and the benefits are acquired by other companies.

Externalities appear due to the interdependence of production and utility functions of one or more economical agents. Thus, the actions of a producer generate effects which positively or negatively influence the utility of goods used by consumers. A beekeeper providing pollination services, generate positive effects on neighbors, increasing productivity of fruits or utility of tree garden. An economic agent which pollutes decreases production of a neighboring pisciculturist.

Externalities could be marginal or inframarginal[1]. Marginal externalities occurs when a change in the activity that generates the externality affect production or utility experienced by other companies.

Inframarginal externalities occur when a change in the activity that generates the

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externality does not affect production or utility experienced by other companies.

Externalities may occur in areas of production, consumption or both [2]. Externalities in production occur, for example, when a company establishes a school for programmers, which increases the supply of specialists of this type for another company that is not related to. In the area of consumption externalities occur, for example, when a citizen builds a high fence around the house, which prevents sunlight to reach the neighbor's windows.

Externalities from production and felt in consumption (or vice versa) are mixed. An example is the noise of jets that affects the sleep of people residing near the airport, reducing their working potential. In case of externalities in consumption, the consumption level of an economic good directly affects the welfare of another consumer. In case of externalities in production, productive activities of an economic agent directly affects productive activities of another agent. Externalities generate costs or benefits not reflected in market prices and the consumer or producer that generate its, do not feel obliged to consider it.

2. Consideration of externalities, a sustainable development requirement

Sustainable development is an evolution of social and economic activity characterized by ensuring a balance between socio-economic systems and the natural potential. It requires maintaining capacity of natural and man-made systems, to support the flowering of life, development of human civilization.

Sustainable development requires consideration of externalities, positive or negative, generated by human activities. By considering the effects that are not strictly mentioned in accounting results in the current system of national accounts, one can act to preserve the natural capacity of environment to self-regulate and provide raw materials and energy flows.

Externalities are costs or benefits from a transaction that main participants disregard and which are supported or benefiting from by others. They are negative when generate net costs and positive in case of net benefits. Externalities are generated from areas such as natural environment, scientific research, and technological development. When externalities occur, prices of market give wrong signals, false, resulting in under sizing or oversizing of market forces, the demand and supply. The activities in areas with negative externalities generate higher costs in relation to the effects obtained by firms and small in relation to global social effects. These activities are either government subsidized or funded directly by the economic agent.

Solving negative externalities requires their internalization, integration of external costs in market prices. Internalization contains certain dangers, such as inclusion in the price only the external costs of certain goods or only partially, not taking into account the positive externalities generated by the same activities or others who are not paid. For these reasons, price levels and effectiveness of different goods does not support sustainable development. Price differences caused by the incorrect internalization of externalities generate loss in using economic resources.

Externalities represent market failure situations, because, in the absence of corrective interventions, free competition led to production or consumption levels different than those corresponding to the efficient allocation of resources.

3. Market failures - a source of externalities

Externalities arise from market failure to respect property rights. These rights refer to the capacity of utilization of resources, goods and services. Ownership of an asset is characterized by attributes, such as the right to use the asset, the right to change the substance and form of property, the right to sell the property, which means disposal of all property attributes.

Producers and consumers of externalities aimed to a mutually beneficial exchange. They internalize externalities, regardless of who holds ownership of the resource.

Externalities reflect a gap between social costs and private costs or between social and private benefits, recorded on the company level or economic agent [3]. They occur when an economic agent actions influence the environment in which another economic agent acts, without affecting the price system.

Externalities, beneficial or harmful, are not taken into account when agents are deciding how much quantity to produce. Manufacturers who generate harmful externalities, produce over the optimal socially level of production.

Externalities, harmful or beneficial, cause market failures. They determine the removal of production from socially optimal level (Fig. 1) [4].

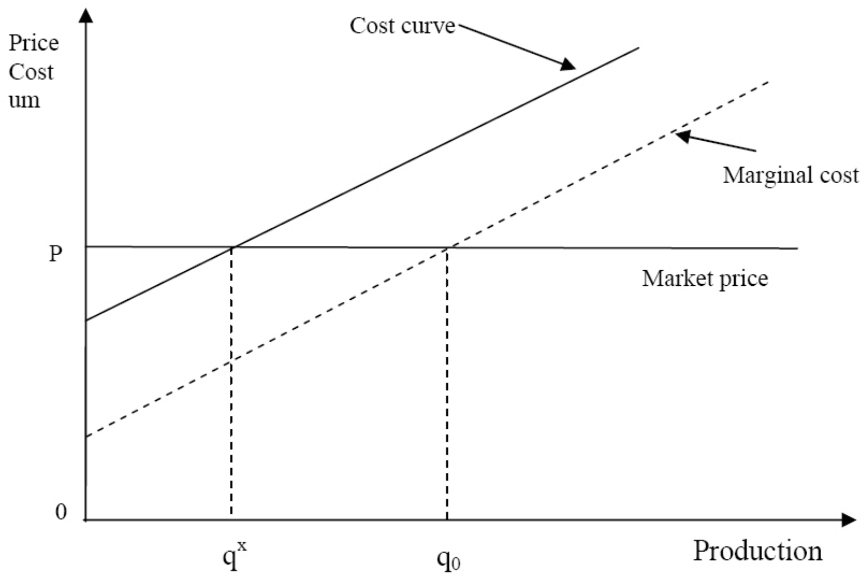

Fig.1. Private cost and social cost

Externalities are sources of competitive market failure. It leads to changes in market equilibrium (Fig. 2) [5].

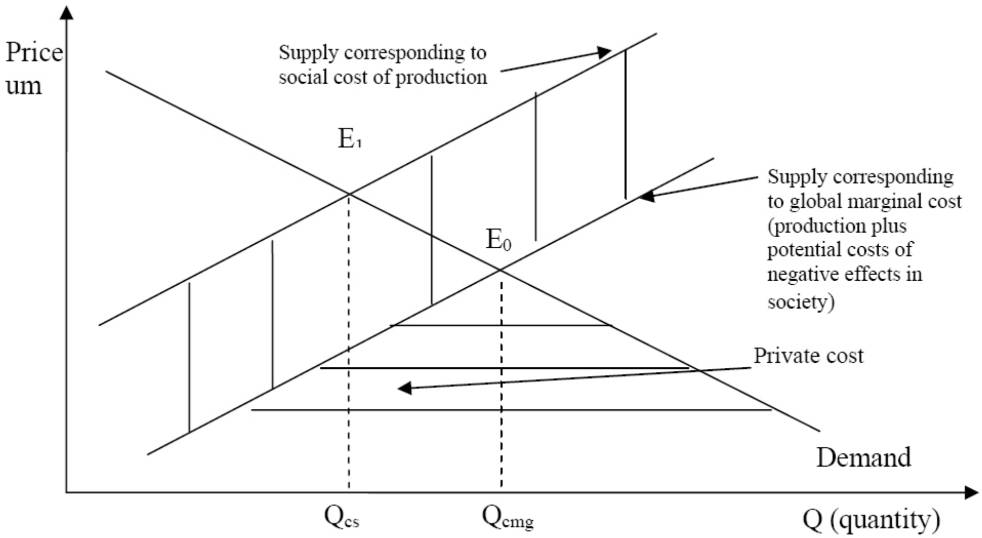

Fig.2. Equilibrium of a market with externalities

4. State intervention to reduce market inefficiencies

In a market economy state fulfills its social and economic role through economic policy. The government, as a component of the state, aims to achieve three main goals: economic efficiency, equity and growth. Economic efficiency requires achieving production of economic goods demanded by market with the lowest costs. It involves the optimal allocation of economic resources. Achieve full efficiency is a goal that cannot be reached, but government policy can help increase business efficiency. Equity concerns fair distribution of income according to criteria of justice and righteousness. Government policy aims to modify the distribution of income that would result from free market, to improve social justice.

Economic growth is another major goal of macroeconomic policy, which consists in stimulating economic activity by correcting the shortcomings of the market and by supporting various economic activities of agents. Government should intervene to reduce action of factors that generate inefficient market outcomes, such as externalities. Government interventions can be achieved by directives and supervision or production control [5].

Internalities control is based on criteria such as economic efficiency, the costs of public agencies, flexibility, ethics. Economic efficiency requires maximizing and minimizing the effects of economic and social costs of economic activity. Expenses of public agents include the running costs of public agencies managing the control actions of the police, justice etc. Flexibility means adapting of economic agents to changing market conditions and technological environment. Ethics aims to influence the distribution of income or wealth in society according to the benefits or costs generated by externality.

Government intervention policy by surveillance and control of production has advantages and disadvantages. It is expensive because it requires specific information about economic activity. Intervention consists is ordering agents to use production methods and materials less polluting. Motivate business agents to reduce pollution can be made through subventions (positive incentives) or charges and penalties (negative motivation). By practicing financial benefits in the form of subventions, the state diminish externalities without seeking practical information on how to reduce pollution, which are provided by recipients.

Taxing or penalties consist in submission to pay of pollutants business this way reflecting the social costs of business. Charges should not be too low for firms to not be tempted to continue pollution, but not too high, not be forced to reduce production or forced to change business profile.

5. Sustainable development - key objective of economic policies

Achieving sustainable development requires deliberate intervention of the state in achieving structural or conjectural objectives. Intervention of public authority results in a set of measures taken to influence economic life, and the objectives aims to long term development. Through economic policy the state aims to determine the firms to accept the guidelines subordinate to the public interest, putting under control the major economic and social variables.

A key objective of economic policy is to achieve a development that allows fulfillment of the needs of present generations without reducing the ability of future generations to meet their own needs.

Economic development means a general improvement in social status and economic activity in a country. It is a more complex process than economic growth, which means long-term expansion of economic activity in a territory.

Sustainability means maintaining functional capacity of interdependent systems of contemporary long-term business, taking into account environmental aspects, economic and social. Sustainable development assumes assuring balancing between economic growth and environmental protection to meet current and future needs of society. It requires long-term normal functioning of ecological and socioeconomic systems. Factors endanger normal operation of the two systems are: global warming favored by the operation of energy and transport systems, destruction of forest areas to create space for human settlement, draining of wetlands, the occurrence of acid rain, etc.

Degradation of natural resources, pollution, biodiversity loss, reduce the capacity of natural systems (ecological) to supply raw materials and energy and absorb pollutants and waste caused by the economic life.

Climate change is caused directly or indirectly by human activities that alter the composition of the atmosphere at global level. Main climate change cause is global warming.

A more obvious form is chemical pollution caused by various substances released into the atmosphere by burning fuels for industry, population, traffic. Human health has suffered as a result smoke and dust clouds formed in industrial areas and in large industrialized cities. The most common forms of pollution is soil pollution, water pollution and air pollution

Many soils are degraded due to the action of factors such as irrational exploitation, erosion, landslides, salinization, and soil impoverishment of nutritive elements. Reduce pollution can occur through internalization of negative externalities, which involves the payment of pollution taxes by polluter agents. Also, by allocating funds for environmental protection is encouraged sustainable development.

Economic activity should be *eco-efficient*, which means that the economic goods to satisfy various needs are produced with low environmental impact, compatible with sustainable development.

Since environmental pollution is a global, regional and national level process to maintain quality of the environment, should be applied collaboration programs between decision makers in different countries.

The social dimension of sustainability requires that economic activity to enable satisfying people's basic needs in terms of social justice Sustainable development is characterized by increasing individual and society as a whole welfare as a result of social capital increasing (human capital plus cultural capital) and labor productivity .

Social sustainability requires prioritization of generations, the eradication of poverty and economic and social disparities through sustainable economic development of disadvantaged areas. For this purpose it is necessary to strengthen social cohesion and relationships and reduce destructive conflicts. The ethical dimensions of sustainability takes into account the existence of equity within a generation and equity between generations. A sustainable society requires supporting people who want to go beyond personal interests to act to achieve the benefit of all humankind, to stop the decline of the entire ecosystem. The facts show that people who have a protectionist behavior towards the environment are those that have acceded to values as helping, social responsibility, transcendental values. Also, research shows that people who seek exaltation and priorities in life is to get power, position, authority, assets are less inclined to protect the environment. Economic policies aimed at: increasing per capita gross domestic product, an efficient implementation of various economic goods demanded by the market, price stability, increasing sales.

Sustainability means revenue growth, while maintaining a capital stock in the future to ensure income continuity. Also for efficient allocation of resources, their prices should reflect their actual abundance or scarcity (availability). Frequently, subsidies lead to irrational use of resources, creating the impression that it is abundant in society.

Sustainable economic development is characterized by maintaining a reasonable, long-term balance between economic development and environment integrity.

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