



## THE ROLE OF THE TAX SYSTEM IN CONTROLLING ENVIRONMENTAL POLLUTION LEVELS

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| <b>Received:</b> 26 <sup>th</sup> March 2024<br><b>Accepted:</b> 14 <sup>th</sup> April 2024 | Industrial expansion has led to an increase in the volume and quality of industrial pollutants resulting from the industrial sector. These pollutants are necessarily reflected in the destruction of the natural environment, and this has helped the emergence of the modern concept of sustainable development, which means the pattern of development that seeks to achieve the welfare of society without harming the environment and its resources, This modern concept of development has been reflected on many sciences, including accounting sciences, and this resulted in addressing the financial and accounting implications of the issue of environmental pollution by the branches of accounting and among these branches comes tax accounting. Therefore, specialized scientific studies have highlighted since the sixties of the twentieth century the seriousness of environmental pollution and the search for ways to address and protect the environment by adopting the environmental tax system as a means of confronting environmental pollution and reducing it economically, as environmental taxes are mandatory uncompensated payments, the proceeds of which are due to the general budget of the state. The imposition of environmental taxes contributes to tax reform processes. Therefore, they affect the tax structures resulting from their imposition, and they also contribute to the process of improving and protecting the environment. Therefore, the question arises regarding the role that the tax system, with its various tools, can play in terms of positively influencing the decisions of economic units from controlling pollution levels associated with productive activities in order to reduce pollution levels to acceptable limits. Therefore, this study revolves around four axes, namely, the first axis reviews the costs of environmental pollution and the problems of measuring it, the second axis is devoted to the tools of the tax system, the third axis deals with environmental pollution taxes and global experiences, and the fourth axis is devoted to application in Iraq. This study found the need to amend the existing tax system in Iraq after the introduction of environmental taxes within the tax structure to achieve tax balance by reducing some of the usual taxes, such as income tax on workers. |

**Keywords:** Tax System, Controlling, Environmental Pollution, Industrial Sector, and sustainable development.

### INTRODUCTION

The tax is one of the important resources to finance the state's general budget, and it is one of the tools of financial and economic policy through which intervention can be made to correct the imbalance in the national economy, through which income and wealth can be redistributed among the classes and groups of society. Taxation and the tax system are the instrument and mechanism through which theories of economics can materialize in practice.

Economic growth and development must not lead to the destruction of the natural harmony of the natural ecosystems, otherwise such development is a burden on society, not a method of its well-being and progress. Industrial expansion has led to an increase in the volume and quality of industrial pollutants resulting from this sector, which is necessarily reflected in the destruction of the natural environment. This has been helped by the emergence of the modern concept of sustainable development, a pattern of development that seeks to achieve the well-being of society without



harming the environment and its resources. This modern concept of development was reflected in many branches of science, including accounting in its various branches, and this resulted in the possibility of addressing the issue of environmental pollution by several accounting branches such as tax, financial, administrative, costs and auditing, meaning that there is an interaction between the environment and its issues, resources, and branches of accounting.

Due to the many dangers caused by environmental pollution, specialized scientific studies have tended to study this phenomenon since the end of the sixties and the beginning of the seventies of the twentieth century AD. Attention was mainly focused on pollution resulting from the industrial activities of industrialized countries, as those countries were considered primarily responsible for many problems of environmental pollution. Therefore, conferences, symposia and scientific seminars have been held at all local, regional, and global levels, which have alerted to the seriousness of environmental pollution in all economic, social and health aspects. Among them is the United Nations Conference on Environment and Development, held in Rio de Janeiro in 1992, which recommended the need to take the necessary measures to protect the environment from pollution, the most important of which is the environmental tax. In front of the dangers of environmental pollution, some economic studies have proposed the introduction of the environmental tax system as a means of confronting environmental pollution and reducing it in an economic manner, and it is one of the tools of environmental and economic policy to protect the environment, which affects the existing tax systems, as environmental taxes are mandatory uncompensated payments, the proceeds of which are due to the general budget, and may be allocated for purposes that are not related to the basis of the tax as it is an indirect tax, and that the imposition of environmental taxes contributes to tax reform processes, and therefore it affects in the tax structures resulting from its imposition as well as contributing to the process of improving and protecting the environment.

From this standpoint, this research will focus on the following axes:

First: The costs of environmental pollution and the problems of measuring it.

Second: Tools of the tax system (direct and indirect taxes).

Third: Environmental pollution taxes and global experiences.

Fourth: The practical side (Iraq).

### **Research Objective**

This study aims to highlight the role that the tax system with its various tools can play in positively influencing the decisions of the economic unit in order to control the levels of pollution associated with their production activities in order to reduce pollution levels to acceptable limits.

### **Research Hypotheses**

The induction hypotheses are as follows:

- 1- The adoption of the environmental tax leads to the reorganization of fiscal policy.
- 2- Lack of environmental awareness contributes to deepening environmental problems, which pushes the need to reform the tax system.
- 3- Environmental taxes lead to the prevention of environmental pollution.

### **I. Costs of environmental pollution and problems of its measurement**

The starting point in the application of environmental accounting is to measure environmental costs, and that the importance of environmental accounting lies in reducing or preventing environmental costs paid by industrial and service companies and works to improve environmental performance and achieve competitive advantage for companies. In this regard, Boyed (1998: 2) points out that Environmental accounting "is concerned with the determination and definition of environmental costs such as assets or costs of losses." Therefore, this accounting pays attention to cost accounting and the introduction of all costs to protect the environment within the cost accounting system in force.

Environmental costs are defined as "the value of investments and the value of expenditures for environmental protection and are also expressed as expenditures spent to reduce environmental damage resulting from corporate activities as well as related costs." (Kawano & other, 2000:11) Environmental costs are also defined as the costs related to the actual or potential degradation of natural resources as a result of corporate activities, i.e., the costs incurred by companies to maintain environmental services, such as the cost of environmental protection and expenses spent to reduce the damage to society resulting from the low quality of the environment.

### **Breakdown of environmental costs**

Environmental costs are divided from different perspectives, divided into the following types (USEPA 1996:11).

1. Causative costs: costs associated with economic units or likely to cause environmental degradation as a result of their activities.



2- Potential costs: They are the costs borne by economic units, regardless of whether they cause or cause environmental degradation and are described as an additional cost.

Depending on the uses of the natural environment, environmental costs are divided into:

1- Depletion costs: which refers to the quantitative depletion of natural assets as a result of the economic activities of companies.

2- Quality deterioration costs: which reflect the qualitative deterioration of the natural environment as a result of economic activities or as a result of the discharge of economic activities residues into the natural environment.

Kawanno & other (2000:15) classify environmental costs into five types:

1- Environmental costs to control the environmental impacts caused by production and service activities in the work environment, called (the cost of the field of work).

2- Environmental costs to control environmental impacts that caused towards or against the results of production and service activities and are called (cost against or direction).

3. Environmental costs of administrative activities.

4- Environmental costs of social activities.

5- Environmental costs of research and development activities.

6- Environmental costs that correspond to environmental damage (cost of environmental damage).

The above types were merged into three as follows: the cost of pollution protection, the cost of the overall environment, and the cost of resource turnover.

USEPA (1995:11) has offered another division of environmental costs as follows:

1- Special costs: The cost that occurs in the internal environment of the company and is called the internal cost, which is divided into different types as shown in Figure (1).

2- Social cost: It means the cost of the external environment Externalities, which are the costs caused by the company's activities on the general environment and society, which are outside the boundaries of the activity, and these costs are difficult to measure and are often expressed in physical units, as shown in Figure (1)

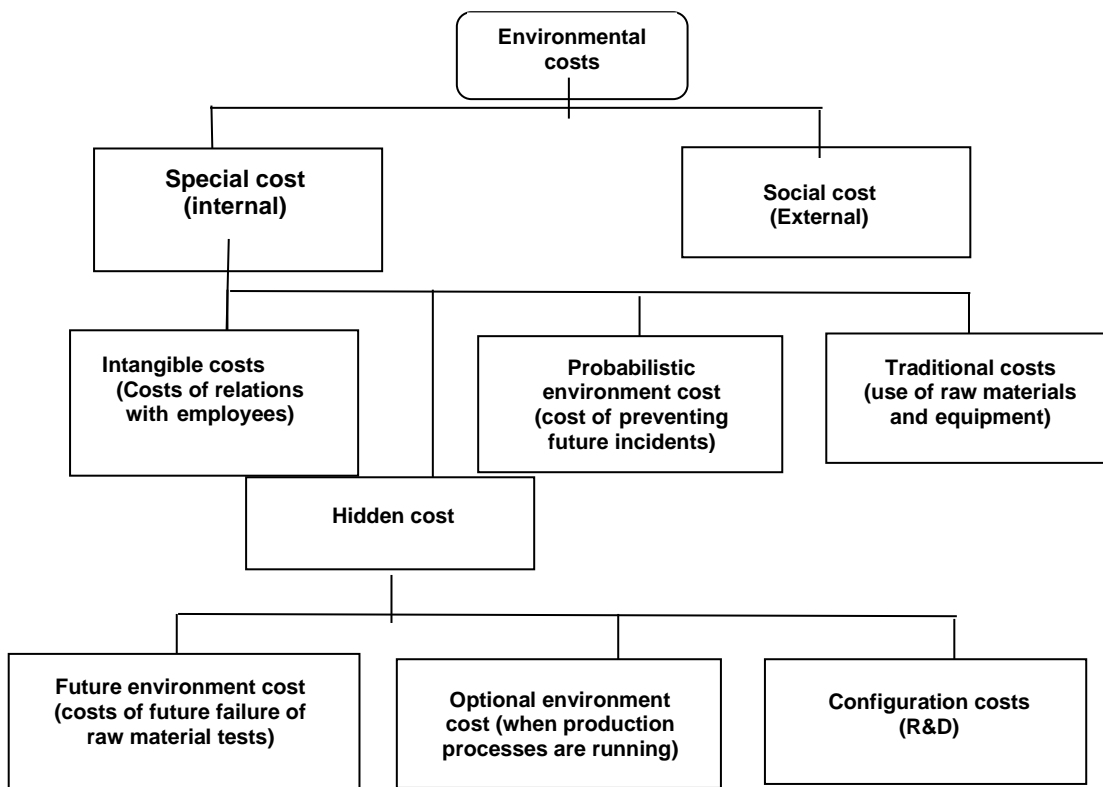


Figure (1): Classification of environmental costs, Source: Prepared by the authors.



It can be noted that the latter division is the most appropriate and easiest to apply by decision-makers, as indicated by the 1995 United Nations study. Although a company may find that accurately measuring social costs (external environment) will be expensive, most of the own costs (the cost of the internal environment) are often used in making various management decisions and in evaluating environmental performance. They are illustrated by Figure 2.

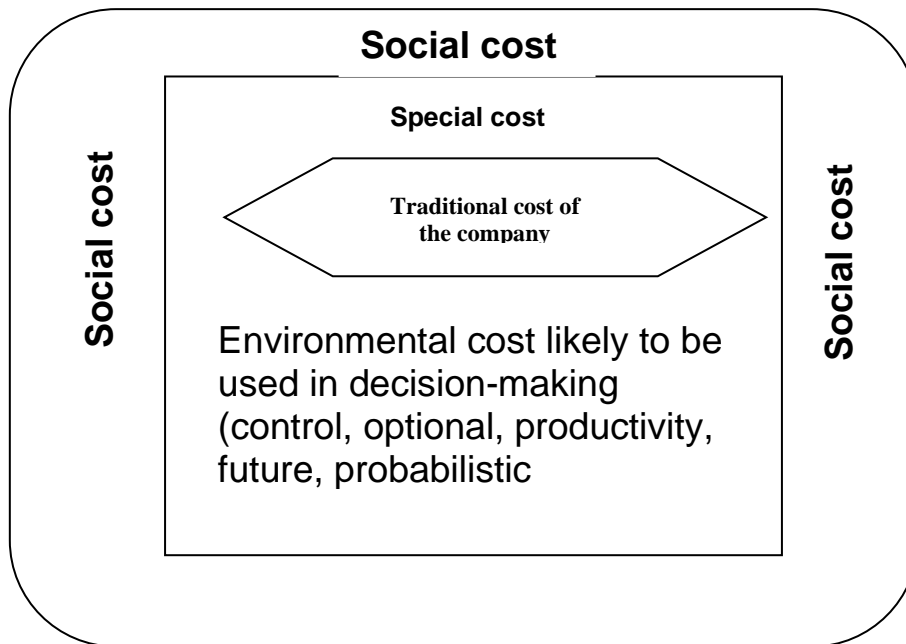


Figure 2 Private and social environmental costs used in decision-making.  
 Source: (USEPA,1995: 15).

It should also be noted that environmental costs not only represent the value of depleted factors of production in achieving a certain amount of production in the form of tangible goods and services, but also compensating society for the damage suffered as a result of the production of that product, and thus converting them from costs paid by society on behalf of the company to costs borne by the company as a result of practicing negative internal and external economic activities that reflected on society.

And that the latter division is the one that should be taken by the relevant parties, and the justification for this is that there are effects caused by the company's activities within the internal and external environment, and this helps it to measure the external cost. One of those measures is the enactment of a law to deter companies that exceed the permissible pollution limits by imposing an environmental fine or environmental tax that contributes to Internal improvements (in-house using fewer polluting materials and green technology), which can indirectly affect the external environment by reducing harm to society.

**INSTRUMENTS OF THE TAX SYSTEM**

The tax system is in fact part of the financial system of the state, it is one of its subsystems, and the tax accounting system is part of the tax system. Nowadays,

tax systems are more complex than before due to expansions and changes that have occurred in various aspects of life such as cultural, technological, and industrial development.

But it should be noted that the tax system varies from one country to another depending on the different financial, economic and social conditions and the degree of growth and development that prevails in that country, as well as that the tax system is pursued by modification, alteration and change of its provisions and tax structure, as the conditions experienced by society change, the tax system should adapt and must be commensurate with those conditions in order to achieve the desired goals.

It is obvious for the tax system in any country to be compatible with the legal and social relations prevailing in the country, and that the change in the development of economic and social relations and the change of economic conditions with the changes in the global economic system requires a radical reform of the existing tax system in proportion to internal and external changes so that the tax becomes an important tool in addressing many economic and social problems such as inflation, unemployment and poor distribution of national income, as well as becoming a catalyst to stimulate domestic and foreign investments in order to



increase the rate of Growth in national income and economic stability.

According to the above, the tax system is defined as "a set of ideological and technical elements, the first is the goal or goal of the system, the second is the technical forms of tax deduction, and that tax systems seek to impose the tax to achieve various goals (financial, social, economic) (Dr. Hashish, 2004: 28).

It is also noted that the success of the tax system depends on the possibility of its application in society, as the success of the State in choosing its tax system depends on full knowledge of the economic, social, and political conditions of society and the objectives it seeks to achieve with the scientific foundations and technical methods for designing tax systems.

Through the interests of countries in the problem of environmental pollution, they have to move towards a society of sustainable development and protect the environment from damage, and therefore they must enact environmental legislation to deter companies that do not adhere to appropriate and harmless environmental performance, and that one of these legislations is the imposition of environmental taxes, as it is one of the tools of environmental and economic policy to protect the environment and what affects the existing tax systems, Environmental taxes are mandatory uncompensated payments whose proceeds go to the general budget, and they may be allocated for purposes that are not related to the tax basis and are indirect taxes. Moreover, the imposition of environmental taxes contributes to tax reform processes, and thus affects the tax structures resulting from their imposition and contributes to the improvement and protection of the environment.

In terms of the development of the tax system according to the economic system and the degree of growth, the tax system of developing countries, for example, consists of the system of direct and indirect specific taxes, and then develops according to the stages of economic development and the improvement of the level of tax administration to the system of specific taxes with a supplementary tax on total income or general revenue, and then develops into a unified tax on income in addition to the value-added tax and some customs fees. In addition, environmental taxes are one of the modern concepts that the majority of countries, including developing countries, have gone to reduce harmful pollution to the environment, and therefore tax systems have evolved from income tax to value-added tax and environmental, and this would lead to an increase in the tax base and thus the total revenues of the state.

Through the above, it can be said that the tax system consists of the following elements:

1. Specific objectives are the same as those of tax policy.
- 2- A collection of integrated technical images of taxes.
3. A set of tax legislation and legal and the accompanying executive regulations and explanatory notes. (Dr. Hijazi, 2001:8).

It should also be noted that the methods and divisions of taxes have multiplied, and their artistic forms differed according to place and time, and each type has its advantages and disadvantages, so modern tax systems are not limited to one type of tax alone, but each country tries to choose an integrated mix of types of taxes and formulate it in the most appropriate forms of artistic organization to achieve the goals of society.

There are several tax divisions within the tax structure.

1- Sole tax and multiple taxes.

2- Taxes according to their container are divided into personal taxes and taxes on funds.

Taxes on funds are divided into two parts:

- Direct taxation, which is deducted directly from the income or money of the individual subject of the tax and cannot transfer its burden to another person in any way, and this type is characterized by fairness in assignment and stability in the proceeds and economy in collection and one of the most examples of this type of taxes are income taxes (individuals and companies), taxes on capital, property tax and others.

- Indirect taxes, which are taxes that are imposed on certain facts and behaviors or goods and therefore paid by the consumer in the event of his purchase of these goods or his behavior this or other behavior so that the beneficiary of them pays the tax prescribed on them, meaning that the taxpayer can transfer its burden to another person.

Indirect taxes have advantages so that they make them the most common and applied types in terms of being easy to collect as the individual pays them in a way that does not feel them, and the flexibility of assignment because they are not in line with the economic situation of depression or popularity, and their proceeds are abundant and this is due to the fact that they subject the largest part of the population, and despite these advantages, there are many disadvantages and effects of this tax, One of them is that it has a negative impact on production and this is the result of leaving production and working in another field and resorting to a reduction in production in line with the situation imposed on it.

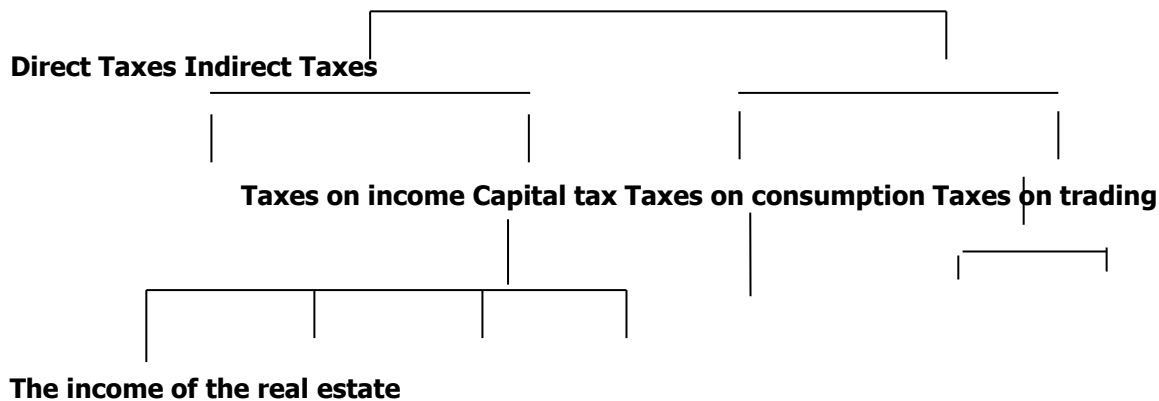
Among the most important indirect taxes are consumption taxes (unit sale tax), sales tax, customs taxes, and transportation taxes, as well as recent concepts of value-added tax and environmental taxes.



Many countries have sought to introduce the environmental tax in order to increase the tax base on the one hand and contribute to tax reform. In Iraq, the tax structure consists mainly of two groups of taxes represented by direct and indirect taxes, and it should be noted that the taxes in Iraq are taxes imposed on funds and there are no taxes on persons in Iraq, and that the tax system in Iraq relied on multiple taxes and not the only tax system. Indirect tax revenues predominate. The Iraqi tax system combined taxes on income and capital taxes with respect to direct taxes, as well as between taxes and excise and circulation taxes with regard to indirect taxes. Figure 3 illustrates the tax structure in Iraq.

In Iraq, the environmental tax, which is an indirect tax on consumption, should be applied, especially since it has many natural resources, which makes it a center for investment towards the establishment of many industries, which requires the activation of this type of taxes, to save financial resources on the one hand and to address the effects of environmental pollution due to the establishment of industries. While in developed and developing countries, this type of tax was imposed to achieve another goal that represents the most related goals to protect society from negative environmental effects, and its imposition affects the technical organization of taxes and then the tax policy of the state and the state's total revenues.

**Tax Structure in Iraq**



**Kemer Kia Production Sales Environmental Tax\***

Figure (3) Tax structure in Iraq. Source: (Dr. Ismail, 2002:86)

\*Environmental tax has been added to the form as one of the indirect taxes on consumption.

**Fourth: Pollution taxes and experiments globally**

The first to invent the environmental pollution tax was the English economist Arthur Cecil Picot (1877-1959) and was known for his work in several fields, especially in welfare economics, and this tax was named after him (the Picoist tax (Al-Sabah newspaper, 1: 2007). The environmental pollution tax is a tax used to correct negative external manifestations, and this tax can be imposed on companies whose activity causes environmental pollution for the purpose of encouraging them to reduce pollution, and to provide a return that may be used to stop the negative effects of pollution, and the taxes that correspond to these requirements are sometimes referred to as Pigouvian taxes.

Heady & other (2000: 2) defined environmental tax (environmental pollution tax) as "emission taxes whose proportions are determined according to the amount of emission and the extent of environmental destruction

they cause, and that they are called pegovia-taxes." Noorgard, Hill, 2002:2) defined it as "indirect taxes on production inputs or consumer goods whose use could expose the environment to destruction" or as "accelerated consumption provisions and lower tax rates for equipment and production methods that save energy and reduce pollution." The OECD defined it (OECD:2) as "mandatory uncompensated payments, the proceeds of which are to the general budget and may be allocated for purposes not related to the tax basis." This is also called ecological taxation, in other words, environmental taxes are the amount of money imposed on each unit of pollution (gas, liquid, solid). Environmental taxes are indirect taxes, and they are based on the fact that taxes are a cost borne by the company and affect the curve of its supply, and according to this procedure, the government must impose a tax equal to or close to the cost of the external environment Externalities on the unit of the product,



meaning that the prices of products are equal to the traditional cost plus the value of the external effects that the environment is exposed to due to the pollution caused by those products.

It is a type of environmental taxation.

1. Energy taxes.

2- Natural resource taxes.

3- Pollution taxes, which include taxes on measured emissions (gaseous, liquid), with the exception of CO<sub>2</sub>, which falls under energy taxes, solid waste management and noise.

One of the most important justifications relied upon by the proponents of imposing this environmental tax is that it is a measure aimed at protecting human life, by providing appropriate environmental conditions free from all manifestations of pollution, and this justification was even behind the call for a tax at high prices, in application of the rule on which the tax policy is based. It is a rule of proportionality to the tax rate, which means, on the one hand, that the tax should be levied at reasonable prices for goods of common use, which are, as a rule, not harmful effects, and on the other hand, that the tax is levied at high prices on the most damaged goods.

Environmental taxes are an effective "polluter pays" means and a good way to steer economic systems towards environmentally compatible production methods. Because of its unique appeal, and seems more popular than other taxes, this type of tax helps to address serious global problems and may also improve the performance of the economy and because it helps to achieve new goals in an efficient manner. Fines exceed the environment, in addition to the fact that the tax is a mandatory and not a punitive obligation, as the taxpayer may not evade paying it to the state regardless of his willingness or desire to pay unless he is exempt from it under the law, and in the case of evasion of its payment, he falls under the penalty of punishment, which is the executive seizure of his funds, because the tax debt has a privilege on all the taxpayer's funds.

Proponents of the environmental tax also justify its introduction as aimed at protecting the public health of citizens, and health itself is a form of development, and even a fundamental pillar of it, as it is part of human capital. In addition, the imposition of an environmental tax would help prevent or at least reduce the consumption of substances that cause damage to public health and efficiency at work. Both are essential requirements for raising productivity. The tax revenue can also be used to compensate those affected who prove to be damaged by environmental pollution. The imposition of an environmental tax also justifies the negative effects of factory exhaust and other negative

effects that require economically costly action to eliminate or mitigate them. For example, smoke from a factory causes the people next to the factory to incur medical and hygiene costs. Although they do not benefit from the products produced by this manufacturer. Therefore, an environmental tax can contribute to the production of many goods and products without side effects of the production process. It is known that the reason for the existence of exhaust and its abundance is that it is the cheapest way to make a lot of things or to consume them, dumping waste is cheaper for those who behave this behavior than buying a trash can, and dumping waste in the river is cheaper than cleaning it, but it is more expensive for society. If the waste of a factory is dumped into a nearby river, this process does not cost the factory owners any economic cost. But residents living next to this river will incur heavy financial expenses due to their use of contaminated river water.

Thus, the state has achieved two directions, namely the goal behind which it seeks to impose an environmental tax to improve and develop the external environment, and the other trend is the tax reform of the former system by increasing the tax base by working with the environmental tax, and then increasing the total revenues of the state for spending on public services and improving the Iraqi environment, but it must be noted here to achieve a balance for the tax system when imposing environmental tax by reducing, for example, income tax rates on workers in all departments.

And to apply the environmental tax on public sector companies because of the impact of these companies on the natural life resources of humans and living organisms. For environmental protection taxes (green taxes) to succeed as environmental measures, they must be high enough to change taxpayer behavior. However, the more successful the tax is in reducing pollution, the lower it will generate revenues. Green taxes (environmental tax) have a role in increasing revenues and addressing environmental problems.

Environmental taxes (pollution tax) motivate companies and investment projects to constantly search for environmentally friendly technology, and revenue from environmental taxes can be used to repair what has been corrupted by pollution. Accordingly, the basic justification for the imposition of environmental tax is that it is a means that forces individuals and companies to take one of the following three ways: Either completely stop polluting activity, or bear the costs of its activity harmful to the environment, So that the tax proceeds are used to address the damage caused by harmful environmental behavior, or to search for



technical and technical solutions to ensure that they carry out their activities without polluting the environment.

The size of the revenues resulting from the imposition of environmental taxes depends on the elasticity of supply and demand for the polluting commodity, the

Reduction in the National Insurance Margin for Employees Land fill tax.

more flexible the demand for it, the more effective and able to play its role in protecting the environment, as the producer here cannot transfer the burden of tax to the consumer by raising the final price, and is forced to reduce pollution through the use of environmentally friendly tools, so as not to be subject to that tax.

| <b>Reduction in the National Insurance Margin for Employees</b> | <b>Tax rate in dollars</b>  | <b>Year of application and implementation</b>             | <b>Revenue processing</b>  |
|---|---|---|--|
| Denmark   | \$20.54 per ton CO2 for households, \$10.27 per ton of CO2 for business | Tax on CO2 in the year 92-93                              | Returns to Active Industries and Lowers the Social Safety Margin |
| Germany   | The price of diesel rises \$ 0.04 per year in 4 years                   | Draft plan for the transition to environmental taxes 1999 | Reduction in insurance fees for corporate users                  |
| Britain   | \$16.48/ton in solid water pollution                                    | Land use tax in 1996 Land fill tax                        | Reduction in the National Insurance Margin for Employees         |

Figure 4 Some experiments with the transition to environmental taxation, source: Kristrom, 2003: p 41)

The study carried out by the Japanese Ministry of Environment (M.O.E, 2005:19) added that the environmental tax imposed on the use of fuels of all types on individuals and businesses at a rate of 2,400 yen/carbon ton, of which revenues amounted to 490 billion yen, adding that 20% of these revenues were transferred to the government and were used for maintenance and improvement of business, and it reduced the volume of carbon dioxide and penny by 5.2 million tons. A new tax is also applied in France it is in line with environmentalists and advocates, but it will spark the resentment of consumers suffering from multiple taxes. The new tax, which was adopted by France on the basis of a European directive, was called the "environmental tax" and includes about 30,000 electrical and electronic goods used in daily life, including mobile phones, refrigerators, television, hair dryers and children's toys powered by batteries. The rate of this tax ranges from one commodity to another, as it is about 10 centimes for small items such as phones, electrical appliances, and toys, but it amounts to 13 euros for a mid-spec refrigerator, 8 euros for a TV with a screen size of less than 16 centimeters, and 6 euros for a washing machine with a capacity of 6 kilograms. The tax aims to finance the rehabilitation of these devices after the end of their use in order to reduce their dumping on public streets or fields as they turn into environmental pollutants (Khoury, 2007: 3). Environmental taxation is an effective economic tool and a good way to steer economic systems towards

environmentally compatible modes of production, and by taxing products and activities that pollute or otherwise degrade natural systems, governments can ensure that environmental losses are taken into account by individuals and corporations (Arab Monetary Fund, 2004:5). The importance of taxes is evident when they are intended to force the polluter to pay, so that they can be used to reduce pollution from industrial investment projects that produce toxic emissions, by linking these taxes to the level of emissions.

Taxes on carbon emissions are among the applications of the polluter pays principle, as the Kyoto Protocol, which has been in force since February 2005, obliges industrialized countries to reduce their carbon emissions by five percent from 1990 levels between 2008 and 2012 (Beeati, 2006). Many European EU member states have taken several measures to reduce their greenhouse gases by imposing taxes and providing subsidies and financial inducements to their companies. industrial as well as by promoting the use of alternative energy. Some of the most active countries in this area are the Scandinavian countries, Britain, and Germany. The British government has imposed a special tax on the public sector and energy-intensive companies, exempting the renewable energy sector, called the Climate Change Levy (CCL). The government has expressed its willingness to refund 80% of the value of the climate change tax (CCL) to companies that achieve satisfactory results in improving their energy efficiency or reducing their emissions (E COAL, June 2002). In





the 2003 British Energy White Paper, the British government committed to reducing its carbon dioxide emissions in 2050 by about 60% from their 1990 level. Since 1991, Norway has implemented one of the highest carbon taxes in the world, amounting to \$51 per ton of carbon dioxide emitted from gasoline and \$24 per ton of carbon dioxide from coal. Norway managed in the ten-year period to 2000 of reducing carbon dioxide emissions by 14%.

#### **Fifth: Problems of implementing the environmental tax**

Despite the benefits of introducing an environmental tax to achieve environmental and financial goals, there are some criticisms and problems as a result of its application, which can be summarized as (Taylor& Jaccard), (Gordon & Brown), (Beck & other).

#### **A- Adjustment cost**

The imposition of environmental taxes means the adjustment in the cost of production and prices for companies with a negative impact due to taking into account the cost of foreign companies, which affects the consumption habits and production pattern of companies, because individuals have organized their lifestyle and living according to the applicable tax system, as well as the case for companies in the use of production equipment, while the imposition of environmental taxes leads to a significant change in the cost of inputs and prices of products, as it leads to a decrease in some and the rise of others. Also, the cost adjustment is not due to environmental taxes, but by using some old equipment that is considered uneconomical, which in turn is charged to the costs, causing the cost adjustment.

#### **B. Concentrated impacts and tax skepticism**

Due to changes in prices, which affect the process of calculating the long operating costs of production, especially in companies with high pollution (intensive), which makes the cost relatively huge and the direct economic return almost small, this causes the company to lose its sales and market shares, which is reflected on major companies and important and major industries, and leads to the emergence of strong opposition from the industries most affected by environmental taxes, and allows those companies to migrate to some regions that impose few environmental taxes. In other words, it can be said that the intense negative impact of the company's activities can be a strong motivation against environmental taxation, meaning that the legal obligation is expensive on the one hand and difficult to manage on the other.

In addition, environmental taxes are ineffective on high-income earners, and thus they work against the redistribution of social income and the achievement of

the objectives envisaged by imposing them (financial) and the reason is that they do not lead to a change in consumption habits, because the prices of these goods are high by the amount of tax imposed on them, which affects the consumption pattern and the trend towards lower-priced goods, and this in turn affects the ability of high-income earners to finance taxes and thus is reflected in reducing the number of taxpayers and thus on revenues State.

#### **c. Reluctance or skepticism towards tax revenues and environmental improvement.**

Uncertainty about tax revenue and environmental improvement

Implementing environmental taxation and processing its revenues needs to predict how consumers and businesses will respond to them, and then achieve their environmental goals. Since one of its objectives is to reduce the rates of some other taxes, especially if there is little response to environmental taxes, which makes it difficult to estimate and determine the appropriate level of reduction rates on other taxes such as income tax that makes the revenue generated from taxes naturally. Continuous adjustment is important for the state, At the same time, however, it is difficult because it is administratively mandated by the government.

Its impact on companies and families is also reflected in the planning of investments, production and consumption, and the reason is due to the difficulty of predicting the amount of reduction in pollution that has been imposed on environmental taxes, and this in turn is reflected in the difficulty of achieving environmental goals compared to other economic tools such as environmental legislation and negotiable licenses, as in the case of legislation, the fine is imposed on pollution in excess of the permissible level and therefore not exceeding it has no effects on the company's profits and is an economic incentive to encourage control over Loss This in turn contributes to the successful implementation of the environmental objectives behind the application of environmental legislation.

Therefore, the cost of applying and monitoring compliance with the required level of pollution, and then achieving environmental goals and environmental improvement, differs when using taxes than when using legislation, although the use of either tool requires control over production and the use of state authority for application, but environmental taxes require additional costs that are the costs of practical application of tools and other administrative costs. It will change due to its impact on taxes.

#### **D. Application Constrains**

The application or implementation of environmental taxes on polluting activities need a high cost to reach



environmental goals, for example, energy production contains a group of different gases that cause pollution, the most important of which is carbon dioxide, and to reach environmental goals when imposing the tax needs large investment and political costs to stimulate the use of technology that is harmless to the environment as well as the use of harmless inputs, and (Norgaard) pointed out that some developing countries saw that more ways Effective to achieve environmental goals is to tax the emission of carbon dioxide as the most polluting gas to the environment, and that the assumption or goal of environmental taxation is to prevent pollution and distortion caused by negative activities, and in the case of carbon tax, it is difficult to eliminate gases emitted from energy production, so the carbon tax mechanism is difficult to apply due to the difficulty of measuring carbon dioxide emissions and flow on a regular basis and that preventing it permanently is difficult, and therefore the difficulty of applying carbon tax, and that there are obstacles to the application of environmental taxes due to the legal authority of some regions.

Moreover, environmental taxation may lead to a loss of international competitiveness of firms in the case of countries that lack environmental legislation and policies or impose lower environmental taxes, and on this basis an environmental target must be weighed against the possibility of loss of competitiveness.

**Practicality (Iraq)**

Environmental taxes are an important type of economic tool and are attractive because they can help achieve many goals efficiently and each producer or consumer decides individually how to fit the cost or return of the resources used, for example, the tax on emissions in the air may lead some factories to install additional devices

to control pollution and lead others to change their production processes and redesign products so that they generate less damage. Environmental taxes also maintain market power or what According to economists, they are called corrective taxes that improve market performance by adjusting prices to show the true cost of activity for the better. (Saleh,39,2003).

Most governments raise the size of their revenues by imposing taxes on income, profits and value-added on goods and services, and these are convenient ways to raise funds and often perform an important function in redistributing income, but they neutralize the economic system by trying to discourage people from working, saving, and investing, and by replacing taxes on pollution and resource depletion with a large part of financial taxes. Improving both the environment and the economic system, and this can be done in a way that keeps the overall tax structure fair by reducing income tax or other taxes as compensation while keeping the overall tax play the same, as well as environmental tax laws that would change economic activity in many areas.

These benefits cannot be reached by imposing environmental fines, and a phased plan for the gradual implementation of the environmental tax may mitigate the economic impacts and allow for the gradual adjustment of the balance between economic growth and sustainable environmental development. Therefore, the researcher focuses on making amendments in environmental laws on the need to move to imposing environmental taxes on companies that cause serious pollution to the environment 95 and the following Figure (5) details of the distribution of the questionnaire.

| #            | Circle   | Distributed Forms | Recipient |
|--------------|--|-------------------|-----------|
| 1            | General Tax Authority in Basra   | 10                | 9         |
| 2            | Directorate of Environmental Protection and Improvement Affairs in Basra | 10                | 8         |
| 3            | Academics  | 15                | 14        |
| 4            | A group of private sector companies                                      | 65                | 64        |
| <b>Total</b> |  | 100               | 95        |

Figure (5) Details of the distribution of the questionnaire form

The method of analysis of variance was used according to the F test through the application of the SPSS system



in the electronic calculator and for each individual of the study sample and in a total manner for the community as a whole and the results were as follows.

**Hypothesis One: The adoption of an environmental tax leads to a reorganization of fiscal policy**

The null and alternative hypotheses are:

- \* The adoption of environmental tax does not affect the reorganization of fiscal policy Ho:
- \* The adoption of environmental tax affects the reorganization of fiscal policy. : H1

| sig   | t     | Standardized Coefficient s | Unstandardized coefficients |           | Model      |
|-------|-------|----------------------------|-----------------------------|-----------|------------|
|       |       | Beta                       | B                           | St. Error |            |
| 0.000 | 6.669 | 0.520                      | 1.187                       | 0.173     | (constant) |
| 0.000 | 5.872 |                            | 0.431                       | 0.073     |            |

Dependent Variable: VAR00013

| sig   | F      | Mean Square | df | Sum of Squares | R square |
|-------|--------|-------------|----|----------------|----------|
| 0.000 | 34.479 | 25.464      | 1  | 25.464         | 0.720    |
|       |        | 0.739       | 93 | 68.683         |          |
|       |        |             | 94 | 94.147         |          |

Predictor (constant), VAR12

Dependent Variable: VAR13

Figure (7) Results of ANOVA Regression Analysis

From observing the above results, we find that the calculated F value is greater than its tabular value at a significant level of 0.05 = 5.94 and a significant level of 0.01 = 6.90 and a degree of freedom (93.1), which indicates that there are significant differences on it that reject the null hypothesis and accept the alternative hypothesis, and the above results highlighted the agreement of the sample members on the importance of environmental taxes as it is one of the effective

economic tools to guide companies towards environmentally compatible production, i.e. changing their production processes and redesigning products so that they generate less damage, and make Companies are adopting projects to conserve natural resources and address the damage caused by their various activities, in addition to the fact that environmental taxes help reorganize the country's fiscal policy.

**Hypothesis Two: The lack of environmental awareness contributes to the deepening of environmental problems, which prompts the need to reform the tax system.**

| sig   | t      | Standardized Coefficient s | Unstandardized coefficients |           | Model      |
|-------|--------|----------------------------|-----------------------------|-----------|------------|
|       |        | Beta                       | B                           | St. Error |            |
| 0.000 | 9.377  | -0.178                     | 2.524                       | 0.269     | (constant) |
| 0.048 | -1.746 |                            | -0.162                      | 0.093     |            |

Dependent Variable: VAR00012

Figure (8) Regression line coefficients and coefficients



| sig   | F     | Mean Square | df | Sum of Squares | R square |
|-------|-------|-------------|----|----------------|----------|
| 0.048 | 6.048 | 4.345       | 1  | 4.345          | 0.578    |
|       |       | 1.426       | 93 | 132.602        |          |
|       |       |             | 94 | 136.947        |          |

Predictors(constant), VAR0004

Dependent Variable: VAR00012

Figure (9) Results of ANOVA Regression Analysis

The null and alternative hypotheses here are:

\* **Lack of environmental awareness does not deepen environmental problems and reform the tax system. H0:**

\* **Lack of environmental awareness deepens environmental problems and leads to the reform of the tax system. H1:**

From observing the above results, we find that the calculated F value is greater than its tabular value at a significant level of 0.05 = 5.94 and less at a significant level of 0.01 = 6.90 and the degree of freedom (93.1), which indicates the existence of large significant differences, so the null hypothesis is rejected and the

alternative hypothesis is accepted at the level of 0.05 and the null hypothesis is rejected at the level of 0.01, which indicates the impact of environmental awareness of the company's management and workers in the field of environmental protection and compliance with environmental laws and legislation, including environmental taxes, which are economic tools which contribute to increasing state revenues and thus reforming the tax structure and the existing tax system.

**Hypothesis three: environmental taxes lead to the prevention of environmental pollution.**

The following is a review of the test of the above.

Figure (10) shows the regression line coefficients and their testing.  
0.000

| sig   | t     | Standardized Coefficient | Unstandardized coefficients |           | Model      |
|-------|-------|--------------------------|-----------------------------|-----------|------------|
|       |       | Beta                     | B                           | St. Error |            |
| 0.000 | 6.027 |                          | 1.355                       | 0.225     | (constant) |
| 0.002 | 3.116 | 0.307                    | 0.312                       | 0.100     |            |

Dependent Variable: VARX5-X10

Figure (10) Regression line coefficients and their testing

The null and alternative hypotheses here are:

\* Environmental taxation does not affect the prevention of environmental pollution H0:

\* Environmental taxation affects the prevention of environmental pollution H1:

Figure (11) shows the results of the analysis of variance for regression.

0.002

| sig   | F     | Mean Square | df | Sum of Squares | R square |
|-------|-------|-------------|----|----------------|----------|
| 0.002 | 9.711 | 7.185       | 1  | 7.185          | 0.703    |
|       |       | 0.740       | 93 | 68.815         |          |
|       |       |             | 94 | 76.000         |          |

Predictor: (constant), VAR00011

Dependent Variable: VARX5-X10

Figure (11) Results of the analysis of variance for regression



From the observation of the table, we find that the calculated F value is greater than its tabular value at a significant level.

$0.05 = 5.94$  and the level of significance  $0.01 = 6.90$  and the degree of freedom (93.1), i.e. rejects the hypothesis of nothingness and accepts the alternative hypothesis, and the results indicate the extent to which the sample members agree on the idea of imposing environmental taxes for their awareness and awareness of the importance of this type of tax, whether for economic or environmental systems and considering it part of the process of reorganizing the state's financial policy, and would change the economic system in many areas, especially for industrial companies towards the use of cleaner technology less polluting, and continuous training for workers on how to protect The environment and rationalizing the use of resources and maintaining the safety and health of individuals, as well as paying companies to disclose everything related to their environmental responsibility towards society and the costs incurred to address the damage caused by the company's activities to the environment.

### **CONCLUSION AND RECOMMENDATION**

The current study reached a set of conclusions, which are as follows:

1. The concept of environmental tax (pollution tax) was reached, which is a tax used to correct negative external manifestations, and this tax can be imposed on producers who pollute the environment in order to encourage them to reduce pollution, and it is an effective means consistent with the principle of "polluter pays", and a good way to direct economic systems towards environmentally compatible production methods.
2. The theoretical literature indicated the success of environmental taxes effectively in reducing environmental pollution, and the study carried out by the Japanese Ministry of Environment indicated that the tax imposed on fuel led to a reduction in the volume of carbon dioxide by 5.2 million tons, and revenues from those taxes amounted to 490 billion and 20% of these revenues were transferred to the government to be used in the field of maintenance and improvement of business.
3. Environmental taxes have a unique attractiveness, and seem more popular than other taxes because they help to achieve new goals and in an efficient manner and within which each producer and consumer can reconcile his conditions, and its importance is

evident when the goal is to force the person responsible for pollution to pay, and thus it can be used to reduce pollution by linking this tax to the level of pollution, the tax on emissions in the air, for example, may lead some factories to install additional devices to control pollution, and lead to some of them The other is to change their production processes, and other factories also to redesign products so that they generate less waste. This means that environmental taxes have two dual objectives: the first is environmental, i.e. improving the environmental conditions surrounding companies, and the second is financial, i.e. generating additional revenues for the state in addition to other economic taxes.

4. The results of statistical tests led to the fact that the imposition of environmental tax as one of the tools of environmental policy contributes effectively to forcing companies with polluting activities to improve their environmental performance through processing units and the adoption of projects aimed at preserving the external environment, and the disclosure of environmental performance information within their financial statements, as well as compliance with environmental laws and legislation.
5. The members of the study sample agreed through statistical tests that the environmental tax is an economic tool to organize fiscal policy and reform the existing tax system, and by replacing taxes on pollution and depletion of resources with a large part of financial taxes, both the environment and the economic system can be improved, and this can be done in a way that maintains the fairness of the overall tax structure by reducing the income tax or other taxes as compensation while keeping the total tax burden the same.

### **Recommendations**

In light of the above conclusions, the following recommendations were formulated:

1. Establishing legislation that prevents non-existing companies from practicing activities that pollute the environment after their establishment, addressing the activities of companies that affect the environment and can be controlled, and preventing companies that have proven harmful and cannot be treated from continuing their activities.



2. Working to spread environmental awareness among companies and factories would confirm that industrial development and environmental protection are not conflicting goals, but rather that achieving a balance between them would contribute to achieving the interests of both society and companies together.
  3. The need to direct more effort and attention to the industrial sector by the authorities concerned with the environment and its issues and by banks by providing grants, aid, support, and perhaps even loans with soft interest as the main sector responsible for industrial development, and thus is responsible for environmental pollution and waste of its resources.
  4. The authorities concerned with environmental protection should conduct awareness and educational programs to explain the advantages of a clean environment and the effects of the polluted environment on the health and lives of living organisms, and this is not done through a tax program, but by educating people and starting with students first for all stages by conducting field visits to them, as well as the general community.
  5. Amending the existing tax system after the introduction of environmental taxes within the tax structure to achieve tax balance by reducing some ordinary taxes such as income tax on workers.
  6. It is necessary to develop environmental legislation to include penalties or deterrent penalties for companies violating it, whether deliberately or ignorantly, and in return there must be environmental incentives provided by the state to environmentally friendly companies.
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