
THE (IN) VIABILITY OF GREEN TAX REFORM IN BRAZIL

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ABSTRACT

The green tax reform would be a viable reform in Brazil? Faced with this question, this article discusses the elements on which it based environmental taxation, citing the ongoing experiences of other countries, and any criticism of such a reform model. From these parameters, the green tax reform is analyzed within the Brazilian context, considering essentially the considerable regressivity of the currently existing tax system. The results confirmed the importance of discussions about the green tax reform in Brazil, with care for taxation not compromise the minimum of material goods that every person must be guaranteed.

KEYWORDS: Green Tax Reform; Environmental taxation; National Tax System; Extrafiscality; Environment.

A (IN)VIABILIDADE DA REFORMA FISCAL VERDE NO BRASIL

RESUMO

A reforma fiscal verde seria uma reforma viável no Brasil? Diante desta questão, este artigo discute os elementos em que se funda a tributação ambiental, mencionando, em seguida, as experiências em curso em outros países, e as eventuais críticas a tal modelo de reforma. A partir destes parâmetros, a reforma fiscal verde é analisada dentro do contexto brasileiro, considerando, essencialmente, a considerável regressividade do sistema tributário atualmente existente. Conclui-se pela importância das discussões acerca da reforma fiscal verde no Brasil, com o cuidado para a tributação não comprometer o mínimo de bens materiais a que toda pessoa tem direito.

PALAVRAS-CHAVE: *Reforma Fiscal Verde; Tributação Ambiental; Sistema Tributário Nacional; Extrafiscalidade; Meio Ambiente.*

INTRODUCTION

Taxes have an influence on the economic and social environment. Thus, along with its primary function of raising funds for the achievement of state purposes - the typical fiscal purpose -, taxes can be used to direct the conduct of taxpayers, and are therefore endowed with extra-fiscal purposes.

In the Brazilian scenario we hear a lot about tax reform and, sometimes, green tax reform. The latter is part of the quest for the compatibility and joint realization of these two purposes of the tribute: collection and targeting of taxpayers' actions and of the economic environment in general, with social and environmental sustainability as the focus.

A green tax reform, however, does not amount to any tax reform. Corresponds to a significant tipping of the tax burden in general, making it fall on elements harmful to the environment. In general, a large part of the tax on labor and employment is replaced by a tax on pollution and the exploitation of natural resources, for example.

Some European countries - as will be seen below - have experienced very positive results through the implementation of green tax reforms.

This prospect of greening the tax system has been considered in Brazil, despite the fact that it does not find a place in the main constitutional amendment projects that deal with the Tax Reform in progress in our legislative houses.

However, considering the prospect of new agreements signed worldwide aimed at curbing climate change, as well as the expectation of effective voting of a short or medium term tax reform by the National Congress, it is important to analyze, in a somewhat more accurate way, the true possibility, compatibility and / or adequacy of the substitution of an "ordinary tax" for environmental (or green or ecological) taxation in the Brazilian economic and constitutional context.

This is because, although it has many advantages, the implementation of a green tax reform presents some political-economic and also legal fragilities that can hinder and even make it impossible to

materialize in the current Brazilian reality.

Therefore, this article intends to discuss, initially, the elements on which environmental taxation is based, the basis for a green tax reform, then mentioning the experiences in other countries, and the possible criticisms of such a reform model. Finally, the green tax reform will be analyzed within the Brazilian economic and fiscal context, considering, essentially, the considerable regressivity of the current tax system.

1 THE ORIGIN OF ENVIRONMENTAL TAXATION

For some time, the idea has been spreading that environmental problems can be mitigated through the use of economic and fiscal instruments, which would complement the control and control policies traditionally used in environmental regulation (BARDE, 1994, OECD, 1994).

Indeed, the use of tax instruments in environmental management has as one of its main foundations the idea that tax can and should be used to correct negative environmental externalities, understood as market failures.

This notion arises, initially, within the scope of the doctrine of corrective or *pigouvian* taxation . Arthur Cecil Pigou, in his book *The Economics of Welfare*, has conceived that the discrepancies between the private net product and the net social product can not be mitigated simply by a modification of the contractual relationship between the contracting parties because the divergences arise from a service or a disservice to third parties, outside the contract, hence known as externalities (PIGOU, 1924, p. 192).

An externality therefore occurs “when a person engages in an action that impacts on the welfare of a third party who does not participate in that action, without paying or receiving any compensation for that impact” (MANKIW, 2005, p. 204). If the impact is adverse, it is called a *negative externality*; if the impact is beneficial, it is called a *positive externality* .

As a rule, markets are able to allocate goods efficiently when the positive effects of a product are earned by the one who pays its price and

the negative effects are borne by the one who produces them. However, when there are externalities, whoever receives the beneficial impacts of the product is not only the one who acquires it, and who bears the costs of production is not only who produces. Therefore, externalities are considered, in theory, as market failures.

According to Pigou's theory, however, it is possible for the State, if it so decides, to remove such divergences by "extraordinary incentives" or "extraordinary restrictions". The most obvious forms that these incentives or restrictions may assume are subsidies and taxes, respectively. *Pigouvian* taxes consist, therefore, of the internalisation of externalities. This idea is very well- reflected in rates, for example, because they are tributary species that operate from the point of view of the principle of equivalence, that is, the fixing of their value is closely linked to the cost of public service rendered by the State to the individual, or to the benefit that was created to it by means of a state action.

What is sought to avoid is that the individual be benefited individually at the expense of public resources, because, intentionally or not, the action of the State directed to the individual causes a differentiation between this and the rest of the community, a difference that needs to be corrected to restore the isonomy.

In the context of negative environmental externalities, market failures resulting from the practice of polluting economic activities that affect the quality of water, air, and food, and thereby cause harm to the community, Pigou's response was State intervention by through imputation to the polluter's agent of environmental costs, force the internalisation of the harmful external effects, causing environmental damages to be borne as actual costs of production. Within this logic there is the emergence of environmental taxation¹.

And what can environmental taxation offer in terms of effective protection of the environment?

The process of industrialization represented a milestone in the world of the dichotomy between nature and society. Production and consumption began to reach a large scale, generating, consequently, high consumption of natural resources and generation of solid waste. "Since

¹ Molina and Vasco (2005: 158) argue that "*taxes and fiscal expenditures are part of the economic instruments in environmental policy . It is a question of using various mechanisms to fill market failures, so that economic agents and consumers perceive the real cost of polluting activities.*"

then, man has come to conceive development and environmental protection as opposing concepts” (BORGES et al., 2015, p. 587).

In the 1970s and 1980s, after catastrophes such as Bhopal (India), Chernobyl (Ukraine), which affected both the environment and man, the economy or politics, the introduction of the environmental issue in public affairs was perceived. According to Beck (2010, p. 99), when dealing with the “risk society”, there is no such man-nature dichotomy, because “environmental problems are not environmental problems, but problems completely - in origin and results - social, human problems “. Even the right to a balanced environment has become a fundamental right of man, expressly recognized in constitutions, such as the Brazilian Constitution of 1988².

The effective use of public policies of command and control or of economic and tax instruments for the measurement and internalization of negative environmental externalities results from this change of thinking, which came to understand the environmental problem not only in the physical aspect of the environment, but as a problem complex that impacts on the most varied human activities.

In this context, what economic instruments and environmental taxation can offer, besides valuing the natural resource, its pricing and the internalization of the costs of environmental externalities, is a stimulus to behavioral change, in the sense of favoring prevention and precaution. The logic of imputation of costs to polluters makes the activity harmful to the environment, from an economic point of view, less and less advantageous. (Borges, 2014, p. 35). It is to this logic that the so-called polluter pays principle (ARAGÃO, 1997; OECD, 1992; TUPIASSU, 2003).

When talking about stimulating behavioral change, one should make one more point here, with regard to environmental taxation. This is the extra - fiscal character of the tribute, which allows the state to intervene in the economic and social domain. The extrafiscality next to the tax character (or revenue collection character), is present to a greater or lesser extent in each tax type and can be found in each and every tax system. This is a natural and logical consequence of the act of taxing itself: when

2 Art. 29. Everyone has the right to an ecologically balanced environment, a common good used by the people and essential to a healthy quality of life, imposing on the Government and the community the duty to defend and preserve it for present and future generations.

an activity with a tax is affected, it tends to be more onerous and therefore less stimulated. The opposite occurs when the activity is subsidized or, at least, free of taxes.

In the case of environmental protection, in fact, this possibility of inducing behavior is a powerful tool in the hands of the tax entity to make a policy of environmental taxation efficient.

2 ADVANTAGES OF EMPLOYMENT OF ENVIRONMENTAL TAXATION IN A GREEN TAX REFORM

The configuration of a green tax reform is essentially through the introduction of environmental taxation instruments, accompanied by a major revision of the typical tax instruments already in place in the system (GAGO RODRIGUEZ; LABANDEIRA VILLOT, 1999; RODRIGUEZ MUÑOZ, 2004).

The instruments of environmental taxation are represented mainly by taxes, fees and contributions that incorporate ecological elements in their tax bases or vary their rates according to an ecological criterion, in order to assert the polluter pays principle, making possible the internalization of environmental costs (TUPIASSU, 2006a).

Green tax reforms clearly use taxes as instruments of environmental policy, taking advantage of the signals they give to the market and their power to intervene in the behavior of individuals (TUPIASSU, 2006b). But it is not only the isolated introduction of environmental taxes and charges. The true green tax reform uses the ecological elements as the basic parameters for the definition of the general tax burden of a country. Environmental taxation is seen not only as a punctual instrument of an extra-fiscal policy, but as the key element of the entire fiscal policy of the state.

Thus, in the definition formulated by the OECD, the Green Tax Reform represents a set of tax measures that allow budget revenue to be obtained, while contributing to the achievement of environmental objectives (OECD, 2005).

The basic principle of a green tax reform is thus to become aware of the fact that an environmental tax produces substantial tax revenue,

which can sustainably feed the public budget and be affected to the most diverse uses (TUPIASSU, 2009)³.

In this respect, the OECD mentions the possibility of using revenues obtained with environmental taxation to reduce taxes that cause distortions in the economic system, as well as reducing public deficits or affecting specific public policies (OECD, 1997, p. 9), and may even serve to finance the general expenses of the State. All depends on the configuration that will be given to environmental taxes (INSTITUT FRANÇAIS DE L'ENVIRONNEMENT, 2003; TUPIASSU-MERLIN, 2009).

Environmental taxation therefore forms part of the tax system as a compensation mechanism in view of the reduction of tax rates or the abolition of certain traditional taxes. This displacement of the tax burden for activities harmful to the environment brings, finally, a reduction of the distortions of the current fiscal system, without compromising the level of revenue available to the public entity. In other words, a true “greentax shift” (ORTIZ CALLE, 2009; THEIN DURNING; BAUMAN, 1998).

Thus, the adoption of a green tax reform allows the multiplication of sources of income, in view of the variation of environmental taxable facts that the tax authorities will be able to dispose of, which will always present, as an additional advantage, the environmental regulatory action.

Two main aspects of the implementation of a green tax reform are observed: (i) the displacement of the tax burden on income and on the payroll for hypotheses of incidences of environmental damage; (ii) the substitution of ordinary taxes for environmental taxes, whose revenues would serve both the purposes of environmental policies and the maintenance of tax revenues, guaranteeing the operation of state actions as a whole. From this perspective, the substitution of ordinary taxation for environmental taxation culminates in the achievement of a multiplicity of objectives, both fiscally and socially.

Indeed, as During and Bauman (1998, p. 5) explain, the current tax system does not take into account the basic principle of the economic system according to which taxing a thing tends to reduce its demand. Today, the economic elements we most need, such as wages (employment)

³ “[...] the recettes of environmental taxes are concerned with diversities: diminution des prélèvements fiscaux provoquant des distorsions; the reduction of public deficits, the augmentation of public expenditures and / or the affectation of the objectifs d’environnement spécifiques [...]”. OECD, *Écotaxes et réforme fiscale verte*, p. 9.

and capital (investments) are precisely those that are most taxed. We tax what we would like to have more and we leave free of taxes things that we would like to reduce, such as pollution or the destruction of natural resources.

The effect of high taxation on some goods, such as labor, makes firms, instead of increasing the supply of jobs, replace human labor with other factors of production with increased automation and use of energy (GEE 1994).

Labor and capital, essential to full employment and the development of a country, are becoming more and more expensive, precisely because of the tax burden on them. Paradoxically, the elements most harmful to people's quality of life - such as pollution and overexploitation of natural resources, for example - are not - or are very little - taxed⁴ and are even encouraged by the granting of tax incentives. In addition to distortions and difficulties in economic development, this context generates environmental and social distortions (BARDE, 1998). This means that the economy responds to the signals sent by fiscal policies, so that we see a reduction in the level of employment - much taxed labor - and an increase in the exploitation and deterioration of natural resources - that is not taxed at all.

This finding demonstrates the importance of the displacement of the tax burden to which we referred earlier. In fact, displacement should represent a reduction in the taxation of "goods" - such as labor - and an increase in the taxation of "evils" - such as pollution. Here is the main point of interest of green tax reforms.

When moving the tax burden on labor to pollution, there is an optimization of the incentive aspect of taxation, making exploitation of natural resources and/or pollution more expensive, job.

Thus, as Rodriguez Mendes (2005, p. 7) states, a green tax reform will serve several purposes:

⁴ In this regard, according to Gee (1997: 87), "Since 1960, the burden of taxation on employment has increased by 28 per cent of tax revenues, on average in Europe, to 50 per cent. Meanwhile, taxes on the environment (the use of energy resources and the creation of pollution and wastes) have been small and stable at around 7-9 per cent of revenues [...]".

The first objective of a green tax reform is the regulation of the environment, contributing to a reduction in emissions of pollutants or any other negative external effects. But in addition, a green tax reform also pursues economic-fiscal objectives when the revenues generated by the environmental tax are used to reduce other distorting taxes. Finally, the green tax reforms have also been proposed for the achievement of economic and labor objectives when the collection obtained by the environmental tax is used to reduce social security contributions or taxation on labor income in general, favoring this way job creation.

It is from these multiple purposes of the ecological tax reforms that the notion of “double dividend” is demonstrated. The double dividend or dual benefit is thus a notion developed by economists to indicate the multiplicity of objectives that can be pursued by introducing environmental taxation in the framework of a much more extensive reform of the tax system (BRECARD, 2005; CHIROLEU-ASSOULINE, 2001).

This new political-economic perspective, which includes the inclusion of environmental taxation in the context of a project to reduce unemployment, is gaining increasing importance nowadays. But in reality, the “social dividend” green tax reform are not limited to reducing unemployment. Environmental taxation, when included in a general tax reform bill, can actually serve to combat poor living conditions and poverty, with numerous benefits.

Contrary to what is happening in Europe - where unemployment represents one of the biggest and most important social problems - unemployment in the least developed countries is just another problem, among many others that deserve the attention of the public power.

And even from the perspective of the poorest countries, green tax reform remains interesting. This is because, the revenue obtained from the new tax system created with the green tax reform is not only intended to replace the income obtained with the contributions on wages. It serves to stimulate actions favorable to the environment and the reformulation of public environmental and economic policies in general, which can be set on goals of improving social welfare.

This is what the OECD explains (2005, p. 33; 53). According to this body:

Le développement durable consiste au fond à parvenir à trimes solutions avantageuses sur les environnemental plans, *économique* et social (. . .). The RFE peut directement contribuer à réduire la pauvreté en aidant à faire face aux problems environnement (tels that the pollution of l'eau et la pollution de l'air) dont sont victimes les pauvres. Elle peut *également* and contribuer indirectement, en générant ou libérant des ressources qui permettent de financier des programs de lutte contre la pauvreté dans des domaines comme the distribution d'eau et l'assainissement, or d'autres investissements utiles aux défavorisés dans des domaines tels that santé et l'éducation. The RFE is an important part of the panoplie d'instruments de la politique de développement. Les mesures de RFE complètent et renforcent les approches réglementaires et autres de la gestion du budget et de l'environnement. (. . .). The RFE peut donou jouer an important rôle of the réalisation des objectifs du millénaire pour le développement visant à *éradiquer* l'extrême pauvreté et la faim et à assurer durable environnement.

Environmental taxation brings extremely optimized social benefits when included in a larger framework of tax reform. The fiscal aspect of this type of taxation will be coupled with the extra-fiscal aspect, to reach environmental objectives, as well as socioeconomic objectives. Ecological tax reform can then become the key element of a whole tax and social policy aiming at sustainable development and the implementation of improvements in the quality of life of citizens. Not only revenues from the displacement of the cargo, but also the resources saved with such a system can be optimized and applied essentially in policies linked to social welfare.

In this sense, Alsem Görres (2001) comments not only on the double dividend of the green tax reform, but on its "ten dividends". A reform of the tax system based on the introduction of environmental taxes will thus bring multiple advantages and has therefore been widespread in several countries.

3 THE GREEN TAX REFORM IN PRACTICE

Green tax reform is not new in some European countries. Especially in countries in northern Europe, such as Denmark, Norway and Sweden, the green tax reform is seen as a success and an example for the rest of the world.

Since 1991, Sweden has realized a reduction in the tax incidence on high incomes, offset by a series of ecological taxes, mainly on energy and transport.

At the outset, the rates applied to traditional taxes (such as income tax) were reduced and offset by the introduction of taxes on CO₂ and SO₂, as well as other specific taxes on pollutants (batteries, pesticides, etc.). In total, about 6% of GDP was redistributed through environmental taxation. Sweden has more than 70 economic and fiscal environmental instruments, being the most advanced country in the world in this area. Revenue from environmental taxation is more than 7 billion euros per year (BARDE, 1998, GOUVERNMENT OFFICES OF SWEDEN, 2005, OECD, 2004).

Sweden then adopts an extremely successful model of green tax reform, which combines the extra-fiscal ecological function of taxes with their collection function, in a policy that integrates ecological taxes as one of the main elements of the tax system.

Shortly after the Swedish experience, Denmark, still in the 1990s, made the progressive transfer of the burden on income and labor for the exploitation of natural resources and pollution. With the energy pack, in the early 1990s, accompanied by complementary environmental taxation measures of 1994, Denmark made a progressive transfer of the tax burden on incomes and work for the exploitation of natural resources and emission of pollution⁵.

At the beginning of the 2000s, taxation in Denmark already encompassed approximately 29 environmental criteria (DANISH GOVERNMENT, 2000), which represented about 9% of the country's tax revenue (EUROPEAN ENVIRONMENT AGENCY, 2000, p. 33).

Norway and Finland followed the trend of the other two

⁵ According to Hoerner and Bosquet (2001: 12) "Over the period 1994-1998, labor taxes were to be reduced by 2.2% of GDP and the marginal tax rates on income were to be cut by 10%. As a counterpart, the capital base was broadened to provide additional revenue equal to 1% of GDP and a broad array of green taxes were raised to provide the extra 1.2%."

Scandinavian countries in implementing the green tax reform.

According to Soares (2002, p. 16), the increase in the use of environmental taxes is also due, to a great extent, to the fiscal crisis of the Scandinavian *welfare state*, when traditional income taxes began to 50%, and new and legitimate sources of taxation are needed. This fact reinforces the conclusion presented in the previous item and, contrary to weakening the environmental aspect, places it as one of the objectives and main source of legitimization of the green tax reform.

By way of illustration, it is worth mentioning that the green tax reform continues to be implemented in Europe and has been applied to a greater or lesser extent in the tax systems of countries such as England, the Netherlands and Germany.

In South America, in spite of the fact that there has not been a substantial green tax reform in any of the countries, some have been progressing in the verification of the tax system. Chile, in 2014, enacted Law No. 20,780, which introduced several changes in its tax system, among them the creation of an annual tax, which will focus on air emissions of particulate matter, nitrogen oxides (NO_x), dioxide sulfur (SO₂) and carbon dioxide (CO₂)⁶. This is the first tax on CO₂ emissions in the South American continent (VIALLI, 2014, p. 10).

Mexico and Costa Rica have also advanced in environmental taxation with the creation of taxes on fossil fuels (VIALLI, 2014, p. 11). Costa Rica, in particular, has a positive experience, with the allocation of fuel tax and other hydrocarbons tax revenues to the environmental services payment program (PSA) funding fund, which remunerates owners who maintain forests in (CHACON, 2013, page 134).

The trend towards the use of economic and tax instruments in environmental policies, it seems, is irreversible. Nevertheless, despite the victorious examples of the North European countries, the green tax reform introduces profound changes in the tax structure of the countries and is not free of weaknesses. This leads to the formulation of a certain amount of criticism against such a policy.

One problem to be faced is the instability of revenues from

⁶ Article 8 - Establishes an annual tax benefit tax that will tax emissions to the air of particulate matter (PM), nitrogen oxides (NO_x), sulfur dioxide (SO₂) and carbon dioxide (CO₂) produced by establishments whose fixed sources, formed by boilers or turbines, individually or as a whole, add up to a thermal power greater than or equal to 50 MWt (thermal megawatts), considering the upper limit of the energy value of the fuel. (LIBRARY OF THE NATIONAL CONGRESS OF CHILE, 2014)

environmental taxes. It is a fact that the tendency of environmental taxation is to reduce its collection, as the taxpayers begin to adopt ecologically correct conducts. Considering, therefore, the tendency to reduce tax revenues with the new taxpayers, the abolition of traditional taxes would bring serious problems for the public budget.

In this respect, by the way, the Scandinavian countries admit to having faced mishaps in the implementation of the green tax reform. Swedish authorities say, for example, that the country has been forced to deal with deep budgetary difficulties, but has maintained and continues to maintain, without regret, large-scale ecological taxation⁷.

Another polemic point is the possible creation of competitive distortions by the environmental tax itself, a hypothesis in which economic optimization is not possible. The competitiveness of companies would thus be jeopardized by counteracting the real improvement in the cost of living of the population (BRECARD, 2005: 56).

In many countries, the fear remains that, within the decision-making sphere, the green tax reform is only an “excuse” to increase the tax burden⁸ and/or to shift taxation from the rich to the poor. That is, we think of a socialization of the environmental costs created by the rich to fall on the whole society.

These criticisms are being presented against the green tax reform currently being implemented in Portugal. Among the main measures proposed are the creation of the CO₂ emission rate, the air ticket fee and the tax on plastic bags (GARCIA and CRISÓSTOMO, 2014, p. 1). According to Coelho (2014), this is a clear increase in the tax burden, which causes distortions and loss of competitiveness. The author also considers that an attempt is being made to substitute progressive taxes for regressive taxes, legitimized by environmental justification.

It should therefore be noted that the green tax reform, in practice, is

⁷ quite favorable information in this regard was supplied to us personally by Jens Henriksson, Swedish Finance Minister when the 3rd Université de printemps de Finances Publiques du GeRFiP, May 18, 2006, the Ministry of Economie, Finance eIndústria in Paris.

⁸ According to Blanchet and Oliveira (2014, p. 179), “by the analysis of national doctrine and the media, it must be noted that there is a great concern that a reformulation of the national tax system, with the insertion of new environmental elements, serves only as justification for the collection of more taxes. International experiences, however, could shape the Brazilian case, since such experiences point to the fact that green tax reforms do not mean a necessary increase in global tax revenues in relation to what is economically produced in the country. Normally, such reforms are accompanied by disbursements among other sectors, such as the labor, income or other taxes of companies, aiming at a neutral collection.”

subject to extremely divergent analyzes. However, it is extremely important to highlight the weight and the effect of the aforementioned positive and negative aspects, given the reality of the Brazilian constitutional and tax system.

4A GREEN FISCAL REFORM AND THE PROBLEM OF REGRESSIVITY

In Brazil, adopting a more lenient conception of the green tax reform, that is, that characterized by the simple creation of environmental taxes, without being part of a reform in the base of the national tax system, it can be said that the reform green tax has already begun to be implemented, as there are environmental licensing fees, environmental inspection fees, and even taxes with environmental characteristics, such as IPTU, ITR⁹ and the IPVA¹⁰.

The green tax reform, however, as dealt with in this article, matters in something more profound than the mere implementation of some isolated taxes with environmental characteristics, as has already been done in Brazil. It is possible to say that the country has already begun to use taxation in order to protect the environment, especially by extrafiscality. What can not be said is that the country meets the main objective of the green tax reform, which is the replacement of ordinary taxation by environmental taxation. After all, the green tax reform is not intended to affect development by merely increasing the tax burden, but rather stimulating development by failing to tax investment in goods favorable to the population.

The two main proposed amendments to the Constitution (PEC)

9 “This is the case with the IPTU and the Rural Territorial Tax - ITR. Territorial taxes are instruments to stimulate the proper and rational use of natural resources in view of environmental preservation, which, in the final analysis, generates welfare for the inhabitants, as stated in Articles 182 and 186 of the Federal Constitution of 1988. For the ITR, there is a constitutional determination that its rates be set “in order to discourage the maintenance of unproductive properties” (article 153, § 4, I, and article 186, II), resulting in the infraconstitutional election of the value of “- land without production - as the basis of calculation and the delimitation of increasing rates at the rate of unproductivity. For the IPTU, the use of its rates is used to influence the use and location of the urban property (article 156, § 1, II), making feasible the urban planning and the sustainable use of property” (FORTES, 2010, p. 18).

10 “With respect to the IPVA, a tax regulated by article 155, III of the Federal Constitution, it is also possible to verify its orientation to the defense and preservation of the environment, including being constitutionally possible to apply differentiated rates according to the type and use of the vehicle, as already happens in the case of automobiles with alcohol (article 155, § 6, II CF).” (GVCES, 2013, p. 141).

on tax reform are PEC 233/2008 and PEC 31/2007. The current proposals have, in summary, the creation of Value Added Tax (VAT), whose stated objectives are the tax exemption of investments and the mitigation of the tax jurisdiction of the States, with regard to ICMS, imposed to be joint responsibility of the entities. Some elements linked to the favoring of environmental taxation can be seen, as explained by Peralta (2015, p. 138), and are far from a real greening of the national tax system. It will be observed, however, evidence to suggest any political interest for a true green tax reform in Brazil today.

In spite of this, the academic discussion must continue, in order to subsidize the advancement of the issue, which tends to grow and be implemented in a more systematic and organized way, with the aim of promoting a green economy (PERALTA, 2015).

In advancing the discussion on green tax reform in Brazil, however, a problematic point deserves special attention: it is the regressivity of the system.

As we have seen, at the heart of the green tax reform is transporting the fiscal pressure of value-adding activities to those that subtract value using energy and natural resources, or generating waste and pollution (ROSEMBUJ, 2009: 60). Environmental taxation will therefore fall on polluters and natural resource operators, in proportion to the negative environmental externalities produced by each.

According to the assumptions of the polluter-pays principle established by Aragão (1997), the polluters who usually bear such tributary costs are exactly the suppliers of products and services. Obviously, however, the products and services of these suppliers will become more expensive because of the increase in the cost of production.

The green tax reform therefore operates essentially in the context of taxation on consumption, that is indirect taxation. This indirect taxation generally implies a separation between the de facto taxpayer and the legal taxpayer, so that the legal person (taxpayer in law) for the payment of the tax is not the one who actually realizes the expenditures related to it (taxpayer fact). This occurs in the taxation on consumption, since the supplier includes the value of the tax in the total value of the product or service¹¹.

11 “(. . .) this kind of tax burden has as one of its main characteristics its economic repercussion in the

And a strong characteristic of indirect taxation consists precisely in its great regressivity.

Regressive taxation is the one that affects the least favored in a costlier way. That is, when the tax is levied without observing the effective contribution power of the individual to bear the tax burden.

Thus, taxation on consumption, insofar as it does not take into account the personal characteristics of the taxpayer, but only the good involved in the operation, culminates in imposing a more significant burden on low-income taxpayers, leading to a high regressivity.

The problem of regressivity is evident when consumers, rich or poor, are equally affected by taxation. The issue worsens when the product being consumed is essential to life, such as electricity, food, water. Considering that the price of such goods is the same for all, because they are consumed universally, the proportion (price over income) of what is expended by the rich is less than that of the poor. Thus, the one that has the least is economically more affected.

In this context, the substitution of taxes and contributions on labor income, which consider the contributory capacity of the individual in his calculation, by taxes that affect all equally, regardless of the ability to contribute, can generate problems in the aspect of social justice, ie which reduces the redistribution function of the tax system. This, by the way, is one of the great criticisms formulated by Coelho (2014), when treating the green tax reform in Portugal as a “poisoned gift”.

The implementation of a green tax reform, increasing indirect taxation on polluting products and services, tends to conflict with the redistributive aspect of the tax system based on the capacity to pay, and presents itself as an additional challenge in view of the enormous inequality in Brazil.

consumption chain, so that the transfer of the tax burden to the final consumer is carried out through the incorporation of the tax in the price of the good or service as an additional cost. Thus, there is a division between the so-called taxpayer of law, foreseen in the order as the person responsible for the immovable fact and who occupies, consequently, the passive pole of the tax obligation, and the one who arches economically with the charge itself, known by the doctrine and jurisprudence by *de facto* taxpayers “(Gassen et al., 2013, p. 215) .

5 THE NEED FOR MITIGATION OF REGRESSIVITY IN A GREEN FISCAL REFORM IN BRAZIL

Regression is already a verifiable problem in the Brazilian tax system. The high tax burden (36. 3% of GDP)¹², largely composed of contributions and taxes levied on products and services (indirect taxes), is a relevant indication that the poorest consumer may be having a large part of his income committed by taxes¹³.

In Brazil, the tax system is composed of important indirect taxes, such as ICMS or IPI, in addition to relevant contributions, such as PIS and COFINS, which fall on consumption. These taxes are inserted in virtually all products or services, which are paid, without distinction, by rich or poor consumers. According to Zockun et al. (2004, p. 22), in 2004, families with incomes of up to 2 minimum wages allocated 48. 8% of the income to the payment of taxes, while families with incomes higher than 30 wages contributed with about 26. 3% of income. These data demonstrate that a beneficiary of the Bolsa-Família program may be paying, in proportion, much more taxes than a millionaire, which reflects the perversity of the Brazilian tax system (AFONSO, 2013, p. 11).

Hence arises the great difficulty in spreading in Brazil the idea of a green tax reform, which is essentially based on a taxation that will indirectly fall on all consumers of goods and services whose production and / or consumption will have adverse effects on the environment.

Some options, such as the reduction of direct taxes levied on the less well-off population groups, could compensate, to a certain extent, for an increase in indirect taxation on more heavily taxed essential products under the environmental criterion.

In reality, however, it will seem that the spirit of the green tax reform is to drastically change the order of values on which the tax system ¹² According to the Brazilian Institute of Planning and Taxation, the Brazilian tax burden in relation to GDP in 2013 was 36. 42% (AMARAL et al., 2013). The OECD published a study in January 2014 in which it states that Brazil, with 36. 3% (average tax revenue in relation to GDP) in Latin America, would only be behind Argentina, with 37. 3% (OECD, 2014).

¹³ The sum of the legal rates of indirect taxes (IPI, ICMS, ISS, PIS / Pásep and Cofins) should be, on average, around 68%. In 48 consumer products, 40 of them have a legal tax rate of more than 50%, as demonstrated by the “Feirão de Impostos” survey conducted by numerous commercial associations in many Brazilian cities. In 2004, indirect taxes totaled R \$ 266. 9 billion. It is estimated that the consumption of households at market prices in 2004 was R \$ 975. 2 billion. (ZOCKUN, 2007, p. 3)

is based, in order to alter the very notion of regressivity itself.

The operationalization of a green tax reform gives rise to a true paradigm shift as far as fiscal justice is concerned. This is because the principle of contributory capacity, which is the basic principle of a tax system that seeks to be equitable, yields to the polluter-pays principle, which seeks to achieve equality in other terms: intragenerational and intergenerational equality in access to the balanced environment.

Principle change is essential because of the fact that the polluter pays principle and the polluter pays principle are often partially colliding with each other, since the polluter-pays principle imposes a burden on the polluter regardless of his economic condition (TORRES, 2005, p. 29). The polluter pays only the internalisation of negative externalities, and the introduction of the taxpayer's economic situation is irrelevant and even harmful, if it is understood as essential to the tax system.

Peralta (2015, p. 5), when dealing with environmental taxation *stricto sensu*¹⁴ argues that the polluter pays principle will be the basis for taxation, not the principle of ability to pay. According to the author:

The PPP characterizes the environmental tax as a tribute of a selective character that should focus on economic facts that negatively impact the environment. The taxable event and the graduation of the tax should be delimited by the PPP, according to criteria of proportionality and equivalence, and not based on the principle of the ability to contribute, as occurs in typically fiscal taxes. So, the differentiating criterion will be the type of relation of the economic agent with the environment and not the index of wealth (PERALTA, 2015, p. 5) .

As discussed in item 1, when environmental taxation was mentioned, the polluter-pays principle is the principle of tax justice

¹⁴ Peralta (2015, p. 4) points out that the doctrine divides environmental taxation in the *broad sense* (quasi) and *strict sense* (proper sense). According to the author: “(a) *environmental taxes lato sensu - improper sense* . These are ordinary taxes, with a predominantly collecting purpose, but which, in some of its elements, shows an extra-fiscal effect, with an ecological character. This type of taxation includes both the use of tax incentives and benefits with the purpose of stimulating environmental protection, as well as fiscal taxes that, in a secondary or indirect way, contemplate environmental problems, such as the linking revenues for environmental purposes. (B). *Environmental taxes stricto sensu - proper sense* . Environmental taxes *stricto sensu* (TASs) have a predominantly extra-fiscal purpose. These types of instruments aim to guide the conduct of the various economic agents, so that their impact on the environment is carried out in a sustainable way. In this type of taxes there must be a link between the structure of the tax and the impact on the environment. In other words, the tax figure should produce a disincentive to meet the intended environmental purpose. “

par excellence, being the one that most identifies with the function of externalities internalization, idealized by Pigou, when dealing with corrective taxes¹⁵. With the adoption of a Green Tax Reform, it is from the polluter-pays principle, therefore, that the interpretations will be made in terms of tax justice, no longer from the taxpayer capacity.

Since the contributory capacity is replaced by the polluter-payer, the capacity to pay ceases to be the basis of the tax, the basis being the type of relationship that the taxpayer has with the environment. Pollution capacity replaces ability to pay.

In fact, a tax system based exclusively on the polluter pays principle would work perfectly in a context of uniform incomes among citizens, since the burden of the polluter brings justice when avoiding the socialization of environmental costs, ensuring a more costly treatment for those who impose costs external to society. What the polluter-payer principle does not consider is the fact that, in many places, the equality of incomes is very distant. There are contexts where some groups have a high income and others have an income that is closer to the strict minimum necessary to maintain the existential minimum.

Brazil is in the latter situation and with the aggravation of already having a taxation largely based on regressive taxation on consumption. Thus, the problem to be solved by the Green Tax reform proposal is not to ensure progressive taxation or to avoid regressive taxation. The problem is to reconcile environmental taxation with the contexts of serious social inequality. Although the progressivity of the system is not a requirement for the green tax reform, it can not deny the need to seek a more equitable distribution of the tax burden.

Certainly, given the current scenario of wide regressivity, a tax reform must necessarily bring, at least, greater transparency and simplicity to taxation, providing citizens with a better understanding of the tax to which it is subject. It is also necessary to think of the system in order to

¹⁵ “The polluter pays principle states that potential polluters should bear the responsibility for the payment of state expenditure related to the precaution and prevention of environmental risks. It is a principle of justice because it seeks to avoid having repercussions on society to bear the costs of sustaining the healthy environment. The polluter-pays principle is linked to the idea of internalization of possible environmental damage, without which the responsibility for the tax burden necessary to guarantee environmental risks would be passed on to third parties. The polluter, who appropriates the profit obtained from his polluting activities, can not negatively externalize the pollution he produces”(TORRES, 2005, p. 27).

effectively reduce the tax burden on the less favored.

D'Araújo (2015, p. 154) points out that criticisms are common in the sense that any change that aims to combat the regressivity of the Brazilian tax system (fruit of historically realized options) “will ultimately prove innocuous in view of the planning power of the agents economics as to the redistribution of the burden, leading one to believe that the bad distribution of the economic burden of the tax would be irremediable. “However, these arguments can not be used to reject any debate about the financing structures of the Brazilian State (D'ARAÚJO, 2015, p. 154).

The maturation of the reflections on the implementation of a tax reform in Brazil is therefore not only due to the tax base and the underlying principles underlying it, but mainly due to the valorization, in practice, of elements that enable an effective reduction of inequality with regard to the tax incidence on the poor.

FINAL CONSIDERATIONS

It is not intended to exhaust the theme, because countless other criticisms and considerations can be put in the discussion. The present considerations are only intended to shed light on the world-wide issue. It is also not a question of preventing green tax reform, since it has tangible benefits for both man and the environment. What is intended is to problematize the issue, so that eventual implementation is conducted in a responsible manner. That said, the conclusions reached by this research are as follows:

1. Economic instruments and environmental taxation can offer, in addition to valuing the natural resource, its pricing and the internalization of the costs of environmental externalities, a powerful stimulus to behavioral change, in order to favor prevention and precaution. The logic of cost allocation to polluters, on the one hand, discourages harmful activity to the environment and, on the other hand, stimulates sustainable development.

2. The green tax reform, in theory, has many advantages, ranging from the allocation of revenues from environmental taxes for ecological purposes, through the use of taxes with an extra-fiscal purpose, to the reduction of public deficits and economic growth. This ends up converting

the proposal to legitimize and correct the distortions of the tax system and an increase in environmental protection in an instrument with great potential for acceptance in the most diverse political, economic and social contexts, insofar as they can provide benefits, at the same time, in all said fields.

3. As regards the criticism of regressivity, it was concluded that the problem to be solved by the proposal for a green tax reform is not to guarantee progressive taxation or to avoid regressive taxation. The problem is to reconcile environmental taxation with the contexts of serious social inequality. Although the progressiveness of the system is not a requirement to be made to the green tax reform, it can not deny the need for an equitable distribution of the tax burden, it can not deny the right to the existential minimum.

4. In Brazil, especially because of the extremely unequal social reality, it is essential in the discussions about the green tax reform that care for taxation does not compromise the minimum of material goods to which every person is entitled.

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