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#### Research Article

# Optimal Tax Theory: Its Contributions to the Brazilian Reality



Teoria da Tributação Ótima: Contribuições para a Realidade Brasileira

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#### ■ ABSTRACT

Objectives: this theoretical essay aims to present classic and contemporary fundamentals of the optimal tax theory (OTT) and to problematize its presence and possibilities in the scenario of tax policy in Brazil. Context: such objectives are located in the contemporary context that discusses tax reforms aimed at efficient and socially responsible public management. Methods: after surveying the state of knowledge of optimal taxation in Brazil, and from the perspective of economics and political law, we sought to identify secondary data on tax distribution in Organization for Economic Co-operation and Development (OECD) countries in relational analysis with data from Brazil. Results: the text draws attention to the fact that OTT is able to bring social issues to the discussion of public tax management policies in a structured way, with the perspective of inclusion and social responsibility, based on the importance of different treatment of economic agents, physical and legal, based on their needs and possibilities. Conclusion: it is concluded that, like in other countries, OTT is present in the Brazilian debate expressing as possible and necessary to advance in a tax policy that responds to the needs of public collection articulated and reconciled to social well-being through responsible management, modern and transparent.

Keywords: optimal taxation theory; public policy; tax reform; public administration.

#### ■ RESUMO

Objetivos: este ensaio teórico tem como objetivo apresentar fundamentos clássicos e contemporâneos da teoria da tributação ótima (TTO) e problematizar sobre sua presença e possibilidades no debate da política tributária no Brasil. Contexto: tais objetivos se situam no contexto contemporâneo que discute reformas tributárias voltadas para uma gestão pública eficiente e, ao mesmo tempo, socialmente responsável. Métodos: levantado o estado do conhecimento da tributação ótima no Brasil, e a partir da abordagem da economia e do direito político, buscouse identificar dados secundários sobre a distribuição tributária em países da Organization for Economic Co-operation and Development (OCDE) em análise relacional com dados do Brasil. Resultados: o texto chama atenção para o fato de que a TTO consegue trazer as questões sociais para discussão de políticas públicas de gestão tributária de forma estruturada, tendo como perspectiva a inclusão e a responsabilidade social, a partir da importância de um tratamento diferenciado dos agentes econômicos, físicos e jurídicos, suas necessidades e possibilidades. Conclusão: conclui-se que, a exemplo de outros países, a TTO está presente no debate brasileiro expressando como possível e necessário avançar em uma política tributária que responda às necessidades de arrecadação pública articuladas e conciliadas ao bemestar social por meio de uma gestão responsável, moderna e transparente.

Palavras-chave: teoria da tributação ótima; política pública; reforma tributária; gestão pública.

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#### INTRODUCTION

In Brazil, tax policy and its need for reform is a crucial issue in the context of an economic crisis and political hardening that cross the world in the second decade of the 21st century. Crisis and hardening that globally intensify in the beginning of 2020, due to the pandemic situation that spreads contagion, sickness, and lethality caused by Covid-19, Severe Acute Respiratory Syndrome caused by coronavirus (SARS Cov2). The importance intensifies as crisis justifications directly affect the conceptions, functions, and dimensions of the state, called to act politically regarding economic, socio-structural, and cyclical urgencies that the world is going through.

Tax policy in Brazil has been recurrently treated from the point of view of revenue collection for the management of public accounts and investments, under the argument that the revenue comes from the sacrifice of companies and citizens to support the state, often seen as superdimensioned, self-absorbed, and corrupt. This way of thinking, more widespread since the 1970s by neoliberalism, was recently brought back in a ultraliberal approach, which presupposes that the state should not provide social rights for its population, leaving its offer, in the form of merchandise, goods, and services, to the private initiative, physical and legal people, who have suffered the weight of the country's tax burden. The argument can be noted in the New Fiscal Regimen (Constitutional Amendment n. 95, December 15, 2016), which freezes, for twenty years, expenses with offering public services to society, called primary expenses (or non-financial) of the Brazilian state.

However, the implications of this perspective for Brazilian tax policies should consider the economic complexity and social organization, deeply marked by social inequalities and regional asymmetries. In this scenario, the present article questions the presence of the optimal taxation theory (OTT), theoretically and politically, in Brazil. Thus, it is possible to question theoretical alternatives that can contribute mainly to debates focused on tax reform needed in the country, which suggest that we not lose sight the context of deep social inequalities. Therefore, from the perspective of methodological resources and strategies, the present theoretical essay was carried out in three stages: presentation of the classic fundamentals of OTT, survey of the state of knowledge of OTT in Brazil, and the observation of polices and empiric data from the tax reality in Brazil and OECD between the years of 2006 and 2016.

The theoretical and bibliographical methodological strategies allowed classic and contemporaneous knowledge about OTT. We started with the precursors Ramsey, Diamond, and Mirrlees, in the perspective of Lageman (2004), besides Silveira, Passos and Guedes (2018), Villas-

Bôas (2015), Botelho and Abrantes (2018) and Appy (2015), also recovering classic fundamentals present in Smith (1983). We added the survey of Brazilian scientific production that deals with the recent history of the presence of OTT in Brazil, in dissertations, thesis, and scientific papers databanks in Brazilian journals (Capes, IBICT, and Scielo). The numbers of Brazilian production reveal that, in Brazil, from an academic point of view, these publications are relatively recent (the first in 2013). It was revealed that their volume and impact factor might be short of their importance; it is possible to perceive an increase in the last two years (2018 and 2019). On the other hand, OTT has intense presence in the international debate.

Lastly, as a way to enrich the study, the third stage of the investigation used relational and comparative analyses based on reports and statistical data from OECD, especially from 2006 to 2016, which allowed the observation of the reality of the Brazilian tax policy regarding other nations, besides articulating with the tax reform debate in the country. The more detailed data about the Brazilian collection scenario originated from the study performed by FGV/SP (Getúlio Vargas Foundation), commissioned by Ibracem, the Brazilian Institute of Certification and Monitoring (Instituto Brasileiro de Certificação e Monitoramento [Ibracem], 2019), besides the data survey carried out in the Department of Federal Revenue of Brazil (Brasil, 2017). Ultimately, the analysis was carried out by the tax origin, from two groups: the first, about income, profit, capital gain, and property; the second, about payroll, goods, and consumption. The hypothesis is that the developments and maturation of OTT, due to considering, in its framework, not only economic aspects, but also social well-being and factors related to equity, balance, and public management, might bring important contributions for the tax issue, as has been happening in other countries.

The present theoretical essay initially presents a relational analysis among the state reforms, well-being guarantee, and the impacts of tax contribution on the life of citizens and the more popular sectors of economy. Therefore, the fundamentals of classic economy, from 1776 with Smith (1983) to post-World War II, to the state of knowledge of the Brazilian production on the theme. Then, to strengthen the discussion and considering basic principles of tax policy management, data are presented that allow comparative analysis of the historic series from 2006 to 2016, highlighting the dynamic of Brazilian politics, especially in the tax reform debate in Brazil. In this moment, we evidence the fragility of the national tax matrix that goes against modern tax theories, once they act with collection based less on property and income, and more on consumer goods.

The fragility of the current national model resides in the fact that taxation on consumer goods, as well as payroll, impacts negatively on consumption, job creation, and income and, consequently, the development of cities, states, and the country. We conclude that the reform policy, whose debate is limited to collection as a source of more resources for the state (focus of efficiency in collection), might be flawed if the approach is not magnified to social development issues (focus on equity). However, if the tax reform is inefficient, it can aggravate the problem of the state to beyond its fiscal health and compromise the development of the country. Therefore, we should consider the ambiguous roles of the agents involved, since taxpayers and the state are, at the same time, benefactors and beneficiaries through tax policies.

# EVOLUTION OF THE OPTIMAL TAXATION THEORY, THE DYNAMIC OF THE STATE AND OTHER AGENTS INVOLVED

Driven by the post-World War I crisis, especially with the New York stock market crash in 1929, theoretical studies related to tax policies started to emerge, from initiatives adopted in that moment, in the political and social spheres. Fiscal politics began to be not only an object of economic theories, but also of social issues aiming to mitigate the impacts of economic depression, becoming the foundation for interventionist actions aiming to generate jobs and redistribute income. In this scenario, the interest on economic studies related to ideal taxation increased, especially since Ramsey, in a publication from 1927, entitled "A contribution to the theory of taxation" (Lageman, 2004).

Ramsey was a pioneer in this debate and directed his focus on production efficiency and the reduction of distortions by taxation on consumption, based on the elasticity of offer and demand. Thus, the rule described by this author for the taxation issue is grounded on optimal system situation, in the perspective of efficiency, in economic modeling that presents one type of consume or with consumers with the same expenses and habits (Lageman, 2004). "In this rule, the important is to recognize that a taxation system is evaluated, basically, by the alteration of relative amounts. The alterations in amounts caused by effect-substitution are in focus" (Ramsey apud Lageman, 2004, p. 409).

However, since 1971, the debates about optimal taxation theory (OTT) were magnified with the publishing of two papers by Diamond and Mirrlees, "Optimal taxation and public production" I and II (Lageman, 2004). In these papers, the authors started with Ramsey's rules and aggregated free time as a non-taxed good, thus, the goods complementary to leisure should have more taxation than

goods that are less complementary to free time. According to Lageman (2004), Diamond and Mirrlees, influenced by Keynes and Vickrey, aggregated analysis on equity to the traditional concerns about efficiency, working on the paradox that still stands to this day in optimal taxation theory, called trade-off between efficiency and equity.

Together, Diamond and Mirrlees caused a revolution in tax policy studies and taxation in general (Lageman, 2004). They demonstrated how complex the tax system is and how uncertain the effects of taxes can be. In this direction, we present the need for multidisciplinary knowledge to enrich the discussion, amplifying perspectives focused on efficiency as well as equity. For Silveira, Passos and Guedes (2018), in practical terms, the model by Diamond and Mirrlees "is an extension of the result found by Ramsey in considering an economy with several agents. With the modeling of these authors, optimal taxation started to incorporate the conflict between efficiency and equity" (Silveira, Passos, & Guedes, 2018, p. 218).

This (r)evolution of the theory started from a linear analysis (Ramsey) to a non-linear analysis (Diamond and Mirrlees), leaving behind the focus exclusively on efficiency, a notion applied to the production and reproduction of current economic logic, for a perspective of maximizing social well-being, related to equity. In this aspect, according to Villas-Bôas (2015), we can affirm that it is a paradox, since tax policies should seek a balance between equity and efficiency. "This was precisely Diamond and Mirrlees' objective. Ramsey's work focused exclusively on production efficiency, on the reduction of distortions by taxation on consumption based on the offer and demand elasticity" (Villas-Bôas, 2015, p. 2).

With this more systematic and integrated analysis, we observe the advances of the studies that problematized tax policies, from aspects regarding the mitigation of social inequalities. This considering that:

If everyone needs to financially contribute so that the state can spend this money for quality public services and social programs, as a way to provide the bare minimum to the citizen in need, those with higher income can contribute more than those in need, who already have great limitations. From this, the notion of consumer tax selectivity can be constituted, that is, basic goods, which are consumed by any citizen, especially those consumed by the poorer, should have less taxation than more superfluous goods, especially those consumed by the richer (Villas-Bôas, 2015, p. 2).

In the articles from 1971, Diamond and Mirrles brought other important reflections, supporting that conferring equity through optimal taxation must, then,

discriminate individuals for their income in a certain period (Lageman, 2004). This model has been practiced in some countries for some time, but the debate has magnified to the understanding of variables such as aliquots and category of individuals. Thus, the need to study the balance between capital and social well-being persists.

A larger application of resources might be related to a search for equity and social development, in this scope, also fits the optimal taxation theory, which seeks social justice, since taxation is also related to social well-being from bigger action from the state, generating the need for larger amounts of public resources (Botelho & Abrantes, 2018, p. 128).

The search for this balance needs the hand of the state, through tax policies, that can (and should) intervene, in the economy as well as in other sciences, such as social sciences. Still in the unfolding and development of the role of the state in OTT, we observe that

At the time, studies were, and many still are, focused almost exclusively on the idea of generating more capital and on the premise of a market that functions as an 'invisible hand' that would lead to balance. The work of Diamond and Mirrlees seems to demonstrate that economy is designed not only by the economic relations established among people, but requires an active state agent, who seeks optimal economic policies for the social well-being (Villas-Bôas, 2015, p. 4).

For this debate, Piketty (2014) proposes measures based on liberalism, but with social justice and individual liberty pacts as a way to guarantee that democracy does not succumbs to the vertiginous growth of inequalities. "Inequality expresses a fundamental logic contradiction. The entrepreneur tends to, inevitably, become rentier and increasingly dominate those that only have their work strength" (Piketty, 2014, p. 555). For this author, "once constituted, the capital reproduces by itself, faster than the production grows. The past devours the future" (Piketty, 2014, p. 555).

On the other hand, the state always counted with different collection means as the main source for financing its functioning structures and as a way to make its projects and investments feasible. Smith affirms that

The subjects of each state should contribute as much as possible to government maintenance, in proportion of their respective capabilities, that is, in proportion to their income, under the protection of the state. The government expenses, in relation to the individuals of a large nation, are like the administration expenses in relation to the associated tenants of a large property, who are obliged to contribute in proportion to the

respective interests they have on the property (Smith, 1983, pp. 247-248).

Thus, the tax system becomes a fundamental piece for the maintenance of the state and its actions with populations and territories, be it to minimize inequalities, restricting and limiting the growth of prejudicial sectors, or, especially, seeking the growth and development of specific sectors and/ or territories.

In this sense, structuring tax policies becomes increasingly more important, having the harmony between equity and efficiency as the main challenge. Another challenge is that the premise of the contribution from everyone does not justify the sacrifices of the less wealthy and that the premise of isonomy does not justify lower contributions from the wealthy. It is considered that "the state should treat the unequal unequally in the measure of their inequality" (Nery, 1999, p. 42). In this context, OTT could offer subsidies to think applied solutions for this problem.

The analytical framework of this theory is based on optimality criteria, on the preference specification of the economic agent and well-being, and on the modeling of the efficiency and equity effects. The use of these instruments, present in modern taxation theory, reflects the need for an explicit treatment of the government objectives, on one hand, and the restrictions in relation to its activities, on the other (Barbosa & Siqueira, 2001, p. 1).

Among the concepts in the search for a mature tax system, we see the need to strengthen it, without discarding the questions inherent to the taxpayers, the management instruments, the impacts on the perspective of riches distribution, and the possible distortions between the economy and society. Therefore, we move to the application of management theories that lead to a systemic view, from data and previous information, as well as the analysis of scenarios and different understandings, until a structured analysis of the real current and future needs. An important initial step is the reduction of 'deadweight' on the state, as described by Paes:

The interest of optimal taxation is to reduce the deadweight loss in the economy, that is, an increase in economic efficiency. The deadweight loss appears because of the agents' change in behavior, induced by the taxation system. The agents make different economic decisions than if there was no taxation, which reduces their well-being (Paes, 2018, p. 50).

According to Stiglitz quoting Paes, the taxation case "points out that the well-being loss is proportional to the tax aliquot squared, and also depends on the elasticity involved" (Stiglitz apud Paes, 2018, p. 50), evidencing how much

social, political, and economic questions are completely imbricated. This means that these should not be treated separately.

With this said, it is important to consider the economic principles postulated by Smith (1983) on the ideal taxation. The postulate of contributive capacity, considering the specificities of each taxpayer, is important for the citizen to not feel immolated when contributing. On the other hand, in the postulate of the certainty principle, it is imperative that every criterion that defines the taxes to be charged from each citizen be clear, as well as date, how, calculation, not leaving any doubt to the taxpayer or whoever it may be. In the postulate of taxation convenience, the convenience of the tax payment is considered, from the perspective of those who contribute. On the other hand, the postulate of collection economy principle is related to the efficiency and care of the public entity in the tax collection with the contributing population.

Thus, the fiscal redistribution might be a possibility of correcting inequality. Diamond and Mirrlees' model present in publications from 1971 is followed to this day in several countries, including Brazil, to a certain extent. This is the model applied in the taxation of income taxes as a way to mathematically allow the rich to pay proportionally more taxes than the poor, considering the variables of income, aliquot, and paid taxes. Some policies are elaborated with this goal; however, what we see are conception problems, considering long-term impact and management, as well as deviations from the goal. However, the more inequality in a country, the better the aliquot structure must be, in order to avoid that the weight of taxes be lighter for the rich and heavier for the poor.

Even faced with criticism, it is possible to affirm that, from OTT studies and the application examples, public policies for tax incentives can and should be structured, aiming to exempt the capital, the incentive for the capitalization of companies and investments. The same policy can consider the reduction of distortions caused by the classic taxation model, not being exempt from the distributive perspective that would be presented as disparate from the economic point of view. The fiscal authority should be concerned with amplifying the neutrality of the taxation system, guaranteeing the conditions upon which the economy would provide the maximum of collections to achieve the government's allocative and distributive goals, in the sense of maximizing social well-being, that is, taxation measures that are economically efficient, politically feasible, and socially responsible.

# OPTIMAL TAXATION THEORY IN BRAZIL: THE PRESENCE OF THEORETICAL PRODUCTION AND POLITICAL IMPLICATIONS

In the state of knowledge of optimal taxation in Brazil, through Thesis and Dissertation Databank of the National Council for the Improvement of Higher Education Personnel (Capes), we evidenced 20 productions under 'optimal taxation,' being 7 dissertations, 10 thesis, and 3 other productions in professionalizing master's. The productions date back to 2013, four of them from 2019, the year with the highest number of studies on the theme. Most studies are in the economy field, with 13 entries, besides law, with 5, and administration, with 2; most of them produced in graduate programs in federal public institutions. The same search in the Digital Databank of Thesis and Dissertations (BDTD) of the Brazilian Institute of Science and Technology Information (IBICT) resulted in only four entries, two of which were thesis, one from UFMG and the other from USP (Lima, 2014; Rossi, 2019) and two dissertations, both from the Law School Graduate Program in UFPE (Melo, 2018; Seixas, 2017).

Among these studies, there were themes such as the relation between induced taxation and efficiency and the trade-off between efficiency and equity in the context of a proposal of optimal induced taxation (Seixas, 2017). Melo (2018) studies the applicability of OTT in Tax Law, especially in the design of the Brazilian taxation system, with fundamental contributions as an analytical tool, despite the limitations and difficulties involved in its application. Rossi (2019) presents three essays in different scenarios and analyzes the possibility of the government choosing an optimal allocation to maximize the social well-being. This work also addresses trade off in cases where there is no possibility of compromising future policies leading the government to admit the issuance of public debt instead of the optimal taxation on labor income (Rossi, 2019). Lima (2014) suggests the design of an ideal taxation system, with the least cost to society, having the challenge of the compatibility between the efficiency and the contributive capacity criteria.

In journals from the Capes Portal, the same search for 'optimal taxation' led to only four articles. One (Orair & Gobetti, 2018) located only in the Scielo Digital Library, where the other texts were repeated. Silveira, Passos and Guedes (2018) debate the need for correcting the main distortions (direct and indirect) originated from the current national taxation arrangement, under the international influence of OTT. Cintra (2010) argues that Brazil has high taxation on the paid work income in

relation to the great global economies, which stimulates precarious work relations, even affecting INSS deficits.

Pohlmann and De Iudicibus (2010) confirm that there is a positive relationship between the level of taxation of profit and the degree of indebtedness, with the influence of taxation of profit on the capital structure of large companies in Brazil. This relation was also verified for companies with high indebtedness and low profit taxation level (Pohlmann & De Iudicibus, 2010). Orair and Gobetti (2018) debate about tax reform in Brazil, through a diagnostic update of its taxation structure and correction reform proposal through the taxation of the normal savings return grounded on the neoclassic theory of optimal taxation. Gobetti (2019) evidences the expressive review of the taxation debate in consequence of the increase in inequality and maturation of the optimal taxation theory.

> This review indicates that progressivity as well as capital income taxation can be compatibilized in a neoclassic framework that seeks to balance the search for equity and economic efficiency ... concludes that the complete exemption of distributed profits and dividends, as occurs in Brazil, does not guarantee the neutrality desired by neoclassic models (Gobetti, 2019, p. 762) (Gobetti, 2019, p. 762).

From the perspective of the political discussion in Brazil about the taxation issue, this remains based on the arguments of its elevated load, the induced distortions, and the impact of tax policies on the development (or not) of territories and sectors. The debate about tax reform should also consider the minimal effort and the cost invested in this process, besides the discredit of the public power, discouragement of the taxpayer and, consequently, the risk of tax evasion. The proposed change in focus is from work income, henceforth based on payroll, to a capital income from policies that encourage outsourcing. Furthermore, it also deals with the low taxation on great fortunes. Another important point is the more intense demand for governance and transparency in light of the fragility of the current laws and loopholes that unbalance the public accounts.

All points are relevant and cannot be treated separately. The systemic, integrated, and multidisciplinary debate about the Brazilian taxation system, considering the history and international examples, is fundamental for a necessary advance to be possible. It is possible to state that, for Piketty (2015) fiscal redistribution, through taxation and transferences, "allow[s] us to correct the income inequality produced by inequalities of the initial allocations and by the market forces, while preserving the maximum of the price system allocative function" (Piketty, 2015, p. 85). For the author, this is "the privileged instrument of pure redistribution" (Piketty, 2015, p. 85).

In this sense, OTT studies should be considered not only when dealing with income tax, but also as foundation for the discussion of other public tax policies, such as payroll, consumption, and production. The Brazilian policy of payroll exemption was conceived in 2004, clearly based on a sole, simplified, and precise tax model. Since its implementation by the Federal Government, in 2011, through Law no 12.546, from 2011, the objective was more on the reduction of payroll costs for entrepreneurs than on a wider issue of the state's necessity. Thus, what was thought of as a specific policy succumbed, along the process, to the pressure from different sectors of the economy. What was meant to be a punctual issue started to encompass activities that did not need to be contemplated at that moment.

The validity deadline of the referred law, initially set to December 2014, became indefinite. What was meant to be a structural measure of the taxes relative to payroll began to focus on alleviating companies' cash flow, not necessarily with the highest potential for job creation. The fiscal incentives policy, through ICMS, is an example. On one hand, it is a way to equalize the regional asymmetries due to inequality of states collection, considering the bad revenue division and the paradox in the need for public investment. On the other hand, it encouraged a fiscal war among the Federation Units. Thus, the policy that initially aimed to potentialize regional development ended up compromising the development of a neighboring region, since it compromises public finances in favor of fiscal exemption.

The stratified view of the analyses led Brazil, through the years, to promote punctual public adjustment policies that, in the long-term, became prejudicial even to the sectors and territories that it initially sought to benefit. These distortions occurred by the absence of deeper studies on the impact of these policies on the long-term, as well as by political issues and interest of specific groups. This phenomenon of distorting public policies occurs because of different factors. Under the perspective of the Brazilian reality, it is possible to see critics about the OTT as being utopian, since the premise of the economy of wellbeing would not be possible.

> The critic to the optimal taxation is directed also to its economic and theoretical arguments —

the economy of well-being —, to its presumed political order and the validity and applicability of its suggestions. The presumed political order is criticized by the followers of public choice, of the 'new economic policy' and of the constitutional taxation theory. To them, the optimal taxation value is limited to the elaboration of affirmatives with consistency. They also consider that it has little to suggest to the practice of tax policy, be it by the absence of an analysis of the political process of a tax reform, or by the implicit assumption of the unreal political model of the 'enlightened prince,' that knows all of his people's needs (Lagemann, 2004, p. 420).

As an intrinsic factor, we highlight how much was spent in studies, investigation, and reflections at the moment of conception of this policy, as well as the pondering about the current and future impacts on the several actors: taxpayer, territory, sectors, public power. The more fragile this stage is, the bigger the risk of inefficiency and even distortion, since the defense arguments became fickle. Thus, the policy can be unset regarding the initially elaborated objective, the intended coverage, and, mainly, the expected result.

Regarding the extrinsic factors, we highlight the market dynamic and technological questions, which become increasingly fast and with deep transformations, touching politics that do not adapt at the same speed that the innovation occurs. The promiscuous relations with the market and the negotiations to meet the interests of political groups and entrepreneurs affect public policies, especially focused on fiscal and tax issues, dissimulating the initial proposals. This reality is not exclusive to Brazil, although it is emphasized by the country's historical, cultural, and cyclical specificities.

## TAX BURDEN IN BRAZIL AND OECD: DATA AND FACTS

To continue with the analysis on the importance of an intelligent and adequate tax policy, it is needed to understand that a policy focused only in generating revenue for the state ends up disregarding other impacts that create problems in the production chain, frustrating the expected revenue.

In Brazil, more than 50% of tax collection focuses on goods and services, which directly affects consumption and, consequently, the companies responsible for production, distribution, and commercialization. In this sense, having a high tax burden on the productive sector impacts on the production chain and, consequently, job creation, consumption, and production, generating a chain reaction that will again compromise the revenue (or expenses) of the state.

Another important data is the non-payment, which frustrates the expected revenue. According to data from 2017, collected in a research carried out by FGV/SP (Getulio Vargas Foundation), commissioned by Ibracem (Brazilian Institute of Certification and Monitoring), it was revealed that 86% of active Brazilian companies have some pendency with municipal inspection bodies (Treasury secretariats), federal bodies (Federal Revenue), or with FGTS — Guarantee Fund for Time of Service.

These numbers might be higher if considering the different taxes that burden citizens and companies. For this research, we carried out a survey about the forms of taxation practiced in the country on the federal, state, and municipal spheres. We arrived at a total of 110 taxations among the three 'categories'.

Thus, understanding the historic Brazilian context since its founding myth, the paternalist, personal, and, why not, promiscuous relations that are established throughout the history between the productive sector and the public power, the scenario of high, disintegrated, and complex tax burden allowed possible policies of fiscal benefits to become an 'exchange currency,' which considers situations of power and influence by the interested agents. Furthermore, considering the complexity of the system, this scenario caused side effects, such as corruption, tax evasion, and fiscal wars.

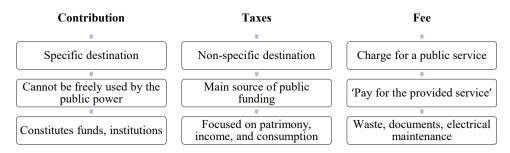


Figure 1. Types of taxes practiced in Brazil. Source: elaborated by the authors.

Despite considering that the gross tax burden in Brazil is one of the highest in the world, it is observed that it is more relevant to admit the inefficiency and low quality of the Brazilian tax system that allowed disconnected and incoherent tax policies throughout the years. For a better efficiency in defining incentive policies, it is important to consider what the ideal tax system would be, considering the application of horizontal and vertical equity.

The principles of horizontal and vertical equity can be translated when we analyze stratifications by income range, such as the need for average aliquots to be equal (or neutral) among taxpayers groups with the same income, and rising (or progressive) for strata with higher incomes (Gobetti & Orair, 2016, p. 23).

Thus, vertical equity seeks to promote progressiveness, in the sense of proportionally encumbering those with more contributive capacity, according to the government's distributive goals and social preferences. In turn, horizontal equity avoids arbitraries in non-isonomic taxation treatment among taxpayers, economic sectors and income sources.

Gobetti and Orair (2016) also highlight the need for a more efficient state in minimizing the economic and administrative distortions related to tax collection, besides maintaining the system as simple and transparent as possible. When the state is not clear on this concept of system as a set of several elements that are interrelated, what is called 'Tax System' becomes a pile of tax concepts, policies, and practices. The result is a great effort by the public power and the citizen to support a high national tax burden, reaching 32.3% of the Gross Internal Product in 2016, and still insufficient to state maintenance and inefficient regarding the intended objectives.

To better understand the Brazilian tax matrix, the data in Table 1 show that 47.4% of the Brazilian tax revenue in 2016 originated from taxes on goods and services, and 26.3% on payroll, leaving 20.0% on income and only 4.7% of property, according to data from the Organization for Economic Co-Operation and Development (OECD).

Table 1. Tax collection analysis: Brazil — 2016.

Base type	Collection [R\$ millions]	Collection [%]
Income	404,817.40	20.0%
Payroll	533,235.87	26.3%
Property	94,602.37	4.7%
Goods and services	960,556.63	47.4%
Financial transactions	33,644.91	1.7%
Others	157.30	0.0%
Total	2,027,014.48	100.0%

Note. Conversion scale in May 7, 2020, is R\$ 5.84 (BRL) to U\$ 1 (USD). Source: Elaborated by the authors based on data from Organization for Economic Co-operation and Development. (2020). Retrieved from <a href="https://stats.oecd.org/">https://stats.oecd.org/</a>

In the data presented in Table 1, the base referring to goods and services considers the taxes applied on alienation, transference, production of goods, and service provision. In the category that encompasses taxes directly on payroll, its subdivisions are: Social Security, Unemployment Security, and others. It does not include contributions to Social Security, calculated on the percentage of the gross revenue or other base for calculation replacing payroll. The taxes on the use, property, or transference of patrimony of goods and real state refer to physical and legal people. In the financial transactions category, taxes on capital gains from alienation of goods and real state are not included, which should be computed in the Income Taxes category. Regarding income, Table 1 refers to taxes calculated based on the income of physical or legal people. The subdivisions

of this category are: taxes owed by physical people, taxes and contributions owed by legal people, and non-allocable retentions.

This distribution allows us to evidence that the main collection source in Brazil is in the taxation on goods and services (47.4%), representing almost half of the Brazilian annual collection. In second place, we have the taxes on payroll (26.3%), directly affecting the productive sector and job creation. We observe that the Brazilian tax 'system' does not align with modern taxation practices, based on ideal taxation, since:

> The taxation on income and patrimony should be used more in seeking a tax system with more

equity and progressivity. The taxes on income and patrimony consist in a system capable of providing a reduction in social inequality, since it leads to only those with profits and patrimony to pay, not affecting the poorer population, in this sense, they are taxes that, in tax reform proposals based on the optimal taxation theory, are important to reduce the national social inequality (Botelho & Abrantes, 2018, p. 131).

Figure 2 shows how the incidence of taxes behaves on OECD countries and allows us to see how Brazil is presented in this scenario.

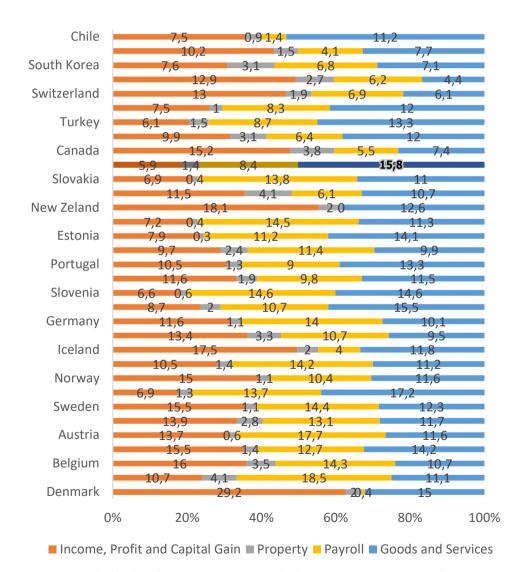


Figure 2. Tax burden based on incidence: Brazil and other OECD countries — 2016. Source: elaborated by the authors based on Organization for Economic Co-operation and Development. (2020). Retrieved from https://stats.oecd.org/

It is possible to confirm that Brazil is going in a different direction than other countries, since the highest incidence of taxes is on goods and services and not on property and income. This decision compromises equity

and potentializes the perception of inequality. Among the OECD countries, Brazil is the country with the second highest goods and services taxes in proportion to the tax system, only behind Chile.



Figure 3. Evolution of the bases that compose the tax burden — 2006/2015.

Source: Elaborated by the authors based on Organization for Economic Co-operation and Development. (2020). Retrieved from <a href="https://stats.oecd.org/">https://stats.oecd.org/</a>; and based on data from the Federal Revenue (Brasil. Receita Federal do Brasil. (2017). Carga tributária no Brasil: Análise dos tributos e base de incidência. Retrieved from: <a href="http://receita.economia.gov.br/dados/receitadata/estudos-e-tributarios-e-aduaneiros/estudos-e-estatisticas/carga-tributaria-no-brasil/carga-tributaria-2016.pdf">http://receita.economia.gov.br/dados/receitadata/estudos-e-tributarios-e-aduaneiros/estudos-e-estatisticas/carga-tributaria-no-brasil/carga-tributaria-2016.pdf</a>

Figure 3 shows that, from 2006 to 2015, the Brazilian tax burden reduced, while the total average tax burden of the OECD countries presented a slight increase. However, the reduction in Brazil occurred in the income, profit, and capital gain taxes (0.3) and 'other' (1.0). Thus, even with the reduction of the country's total tax burden, there was an increase in the incidence on payroll (0.2) and property (0.2). Although its taxation was proportionally higher than the goods and services taxes on the OECD, Brazil presented a reduction from 2006 to 2015, from 16.1% to 15.8% of its tax burden composition.

When the analysis occurs by the tax origin, we propose an evaluation from two groups: (1) on income, profit, capital gain, and property; (2) and on payroll, goods, and consumption. In the first group, we observe more alignment with the search for equity and balance, considering higher taxation on the richer. In the second group, it affects more strongly the productive system, the consumption market, and the generation of jobs and income, having a stronger impact on territory.

Considering the second group, Brazil is above the average of 11.5% regarding 'goods and services.' The Brazilian taxes on goods and services are 15.5%, the second highest index among the OECD countries, only behind Hungary. This model reflects directly on the consumer market and on the productive sector. Still on the second group, the average taxation on 'payroll' is 9.8% and, in Brazil, it is 8.4%, affecting especially companies and compromising job creation.

Observing Figure 3, we note that, among the OECD countries, the average tax burden is 35.1% and that Brazil is below the average. However, when analyzing with the first group, the Brazilian taxation on 'income, profit, and capital' is 5.9%, below the general average of 11.6%, and 'property' is 1.4%, also below the general average of 1.9%. It is imperative to consider the fact that it is not enough to have taxation that is more intensive on income for this decision to result in higher balance or equity. The definition of ranges and aliquots must be intelligent and adequate.

Observe that, in Brazil, there are four classification ranges with their own aliquots, as shown in Table 2.

Comparing with the United States, for example, the Brazilian tax structure is very restricted, considering aliquots and ranges. The United States consider seven income ranges, and three Brazilian ranges (7.5%, 15%, and 22.5%) are contemplated in the first, second, and third American ranges (10%, 12%, and 22%, respectively, according to Table 3). The highest incidence in Brazil is of 27.5% on annual income

above U\$ 40,432.54; with the same annual income, the taxes in the United States are 22% and compose a range that goes up to U\$ 82,500.00. Similarly to the United States, other countries that present the main taxation incidence on income also present more structured and well-distributed aliquots and ranges than in Brazil, besides considering other variables, such as marital status, dependents, education, real state, properties, mortgages, donation, among others.

Table 2. Annual income taxes structure in Brazil — 2018.

Annual income range	Tax burden	Income, profit, and capital gain	Property
Under R\$ 22,847.77	0%	0	-
R\$ 22,847.77 to R\$ 33,910.80	7.5%	R\$ 1,713.58	U\$ 6,641,32
R\$ 33,919.81 to R\$ 45,012.60	15%	R\$ 4,257.57	U\$ 16,501.06
R\$ 45,012.61 to R\$ 55,976.16	22.5%	R\$ 7,633.51	U\$ 29,585.19
Above R\$ 55,976.16	27.5%	R\$ 10,432.32	U\$ 40,432.54

Note. Conversion scale in May 7, 2020, is R\$ 5.84 (BRL) to U\$ 1 (USD).

Source: Brasil. Receita Federal do Brasil. (2019). Carga tributária no Brasil: Análise dos tributos e base de incidência 2018. Retrieved from: <a href="https://receita.economia.gov.br/dados/receitadata/estudos-e-tributarios-e-aduaneiros/estudos-e-estatisticas/carga-tributaria-no-brasil/ctb-2018-publicacao-v5.pdf">https://receita.economia.gov.br/dados/receitadata/estudos-e-tributarios-e-aduaneiros/estudos-e-estatisticas/carga-tributaria-no-brasil/ctb-2018-publicacao-v5.pdf</a>

**Table 3.** Annual income taxes structure in the USA — 2018.

Annual income range	Aliquot
US\$ 0 to US\$ 9,525	10%
US\$ 9,526 to US\$ 38,700	12%
US\$ 38,701 to US\$ 82,500	22%
US\$ 82,501 to US\$ 157,500	24%
US\$ 157,501 to US\$ 200,000	32%
US\$ 200,001 to US\$ 500,000	35%
Above US\$ 500,001	37%

Note. Source: Cavallini, M. (2019). Veja como é o Imposto de Renda no Brasil e em outros países. Retrieved from <a href="https://gl.globo.com/economia/imposto-de-renda/2019/noticia/2019/04/28/veja-como-e-o-imposto-de-renda-no-brasil-e-em-outros-paises.ghtml">https://gl.globo.com/economia/imposto-de-renda/2019/noticia/2019/04/28/veja-como-e-o-imposto-de-renda-no-brasil-e-em-outros-paises.ghtml</a>.

Analyzing the historic series from 2007 to 2016 (Figure 3), we observe that the OECD countries present an increase of 0.5% in the total tax burden. Brazil presented a reduction of 1.2%; however, this is not felt by the citizens or the companies.

Considering the total tax burden, Brazil appears in the 23rd place among the OECD countries, while considering the taxation on income, the country collects the least, only 5.9%. In the perspective of this study, it is more impactful to see that the country occupies the second position regarding collection on goods and services, that is, where it affects the most the productive sector.

Although no tax system is perfect, Brazil has one of the worst tax laws in the world. The flaws in the Brazilian tax system have several consequences. On one hand, they induce an extremely inefficient organization of the economy, weighing down the national economic productivity. On the other hand, they generate great distributive distortions, by providing loopholes that allow people with high income to pay little taxes (Appy, 2015, p. 1).

After analyzing the data, it is possible to perceive a clear deficiency in the Brazilian tax system, according to Appy (2015), capable of causing several consequences for the development of the country.

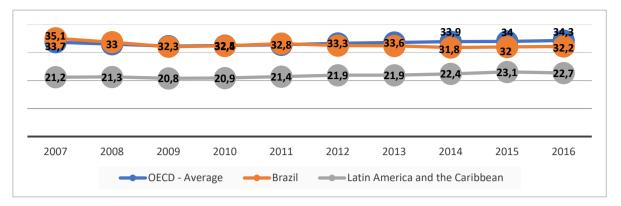


Figure 4. Tax burden evolution in relation to GIP — 2007/2016 (%).

Source: Elaborated by the authors based on Organization for Economic Co-operation and Development. (2020). Retrieved from https://stats.oecd.org/

#### **OPTIMAL TAXATION AND TAX REFORM**

In light of the concepts presented in this theoretical essay, it is not possible to discuss a tax reform in Brazil without considering the discussion on the optimal taxation theory and its experiences in the world. Among the challenges of this debate, we highlight that

the reform constitutes a dynamic process, which is performed in stages, through changes in the current tax system, therefore, there are some problems to its effectuation. The 'entanglement' to a certain historic allocation of resources symbolizes the first challenge: alterations to the rules with the objective of elevating efficiency and improving income distribution can drastically harm the horizontal equality (Lagemann, 2004, p. 418).

Piketty (2014) states that "Taxes are neither good nor evil by itself: it all depends on how it is collected and what is done with it" (Piketty, 2014, p. 469). In this perspective, we understand the importance of a wide debate that does not focus only on 'when to collect,' but that goes into the discussion of 'where and how to apply.' Regarding the discussion of the Brazilian tax reform, we observe how foreign it is to the discussion that occurs in other countries. This occurs because when the debate is

Not synchronized with the international movement, the ideas and interests present in the debate about the Brazilian tax reform do not keep up with the renovation movement of the dominant thinking in the same proportion. This tax review has happened in the OTT as well as in the propositions of multilateral organisms in relation to tax progressivity, focused on the taxations on physical people, especially on non-

work related income, work income and retirement pensions (Silveira et al., 2018, p. 216).

This debate passes through the understanding of the different groups of interest and their forces. The same author complements that:

In the Brazilian case, the resistances and dissent in relation to a tax reform cross several sectors and groups of interest that will have losses if the changes have international importance. Thus, there are obstacles, by the more and less conservative, in the direction of a tax reform that reduces the burden of indirect taxation as well as one that amplifies that taxation on income of physical people and wealth (Silveira et al., 2018, p. 216).

Another point is the technological advances and the impacts on the tax system, regarding ways of collecting, control, as well as new taxations. Considering the more modern factors:

The most surprising is that many analysts, by lack of knowledge or lazy attachment to conventional paradigms, do not recognize that the traditional tax systems are incapable of meeting the needs of the digital world and the new technologies of production, commercialization and moving goods and services in the digital world. And instead of adopting new taxation bases compatible with the digital era, they cling to successive bureaucratic demands of control, physical audits and obstruction of free transit of goods and services in order to preserve their government's collection capacity (Cintra, 2018, p. 18).

However, considering the tax matrix as a whole, the taxation on goods and services is important, but it should be more modern and should result in more efficiency, starting with reduction, as is defended here. For the sake of deepening

the optimal taxation studies as well as the tax reform itself, it is clear that this discussion cannot stay only among the economists. It is imperative that other fields come together in a multidisciplinary debate that allows for a systemic view in the conception and analysis of the impacts on the short, medium, and long term. The proximity of the law sciences brings important contributions, as it allows jurists to widen their perspectives in light of new theories and models and more contact with social, political, and economic issues.

When understood separately, that is, without eventual collaboration with economic theory, with tax policy or even with tax philosophy, and, in the law field, between Financial Law and Tax Law, there is no way to promote any advance on the perspective of optimal, fair, efficient, rational and favorably redistributive taxation (Teodorovicz, 2015, p. 21).

To overcome the challenges that are inherent to the tax reform process, OTT is important for the foundation of this discussion. A foundation that is grounded in model, methods, and concepts of the general balance of the neoclassical theory that aims at an improved and more efficient collection, with less unbalance. However, some rules need to be observed in the discussion of a tax reform.

It should be emphasized again that the optimal taxation theory establishes rules for an optimal composition of the tax system and for an optimal tax structure in the case of a tax design, of conception of a tax system. However, these same rules must serve as guidelines for a tax reform, which is often recognized as the only possibility of changing the current tax system, since only small corrections are possible to be politically approved (Lagemann, 2004, p. 418).

In the tax reform discussion in Brazil, it is possible to observe that it is more a discussion on politics and groups of interests than properly thinking about the construction of a coherent, efficient, and systemic tax system, ignoring the premises of a structures logic of public policies and the concepts of optimal taxation.

The global debate about taxation today seems more consensual in relation to the conclusion that progressive taxation on income does not implicate in obstacles to economic growth, and that its use is fundamental in order to reduce income inequality. However, this debate does not seem to obfuscate the central role of social public expenses to promote equity, only aligning with the search for fairer and more supportive society (Silveira et al., 2018, p. 216).

This shows that the Brazilian debate about tax reform must pay attention to countries that efficiently advance, and do so in the scope of optimal taxation, since the challenge is the reduction of the inequality logic through equity.

#### FINAL CONSIDERATIONS

In bringing the contributions of the OTT to the Brazilian context, the present theoretical essay supports that the balance between the economic and social issues needs to guide the debate about tax management and its reform, under the penalty that an anachronistic and obsolete tax structure focused exclusively on the maintenance of the state might result in an exacerbated increase in inequality and, consequently, stop development and jeopardize democracy. It was observed that, despite incipient, there are academic discussions in the economic, legal, political, and public management scope that are based on optimal taxation theory (OTT). This theory brings the complexity of the theme to the surface, by the multidisciplinarity that this concept involves or by the scope of discussions and applications in different countries.

Still considering its developments and implications, OTT can promote, in the different spheres of public management, the need to expand the perspective when thinking about a country's tax system. The reform proposals should not be limited to 'when' to tax, but start from a wider planning about 'what,' 'how' and 'who' to tax. Therefore, it is fundamental that debates about public tax policies consider the studies on the theme, as well as successful (or not) experiences, in Brazil and in the world. It was possible to observe that even with the reduction in the total tax burden in the observed period, the growth in tax incidence in Brazil is on the goods and services (15.8%), above the average for OECD countries (11.4%).

The scenario reinforces the need to expend the focus on optimality in the relation between efficiency and equity, reclaiming social well-being, finding theoretical foundation in the origins of optimal taxation theory, especially in the economists Diamond and Mirrlees, as well as its evolution and developments. It is possible to note that, to think a tax policy, it is necessary to include the social issue, not because of social well-being, exclusively, but also because of the sustainability of the capitalist system, as argued by Piketty (2014). We observe that the matrix that guides the Brazilian tax incidence is fragile and goes against modern and balanced models. Thus, it is imperative to consider a taxation matrix that seeks more equity and efficiency, acting more on goods and income and less on consumption and payroll, weighing the taxes on the richer (people and companies) and maintaining jobs and consuming capacity.

Another point of contribution suggests that the state becomes more efficient not only in collection, but also in the application of the taxes, with increasingly transparent processes, passive to monitoring and evaluation, in which it is possible to note that the result is not an option, but an obligation. Transparency, inspection, and responsible management are required attributes to avoid embezzlement and corruption and to increase trust in Brazil. Therefore, the taxpayer will not fell harmed, but in fact contributing.

If the search for economic and social balance in which optimal taxation theories are based seems utopic, it is observed that it is not only possible, but necessary. An intelligent matrix should act as stimulus for the market, driving companies to grow, promoting income distribution, encouraging consumption, moving the economy, and promoting territory development, and these arguments are not exclusively economic. It is up to public agents to perceive the advances that the world has gone through and continues to go through in increasingly shorter temporal cycles and how much the model is stagnated, grounded on old paradigms, with nearsighted vision and limited analyses. Examples of this are extraordinary episodes with global (or pandemic) proportions often imponderable by ultraliberal models, such as the case of Covid-19 (SARS Cov2), that demand reflections and interventions that should reconcile social and economic aspects.

This theoretical essay points to the need to deepen studies about public tax policies. The knowledge production must be interdisciplinary, with academic debates in permanent dialogue with public agents linked to tax systems, who consider the challenges and lobbies contrary to models that balance efficiency and equity, as possible in

OTT, considering the specificities of Brazil. In this sense, we need to continue to question if tax reform in discussion in the national congress considers the issue of economic and social balance. In this current political scenario, ruled by neoliberal and conservative politics, that is more focused on macroeconomic demands in detriment of social policies, is there an environment for implementing an optimal taxation, in what it presents of more develop and adequate for realities close to Brazil?

The understanding that everyone is performing their role, that it is possible to reconcile social well-being with taxations, that efficiency and equity are premises for tax policies, that the state must be intelligent in planning and management, allows the perception about tax policies to change. Therefore, it ceases to be an enemy to the citizen, a misfortune to companies, and an obstacle to development.

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#### **Authors' Contributions**

1st author: conceptualization (leader); data curation (leader); formal analysis (leader); investigation (leader); methodology (equal); project administration (equal); resources (leader); software (leader); supervision (equal); validation (equal); visualization (leader); writing - original draft (leader); writing - review and editing (leader).

2<sup>nd</sup> author: conceptualization (supporting); investigation (supporting); methodology (equal); project administration (equal); resources (supporting); software (supporting); supervision (equal); validation (equal); visualization (supporting); writing - original draft (supporting); writing - review and editing (supporting).

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