

## **Taxation, Inequality and the Illusion of the Social Contract in Brazil**

### **José Ricardo Nogueira**

Universidade Federal de Pernambuco

Departamento de Economia; Microssimulação de Políticas Públicas.

Email: jrbnogueira@yahoo.com.br

### **Rozane Bezerra Siqueira**

Universidade Federal de Pernambuco

Departamento de Economia; Economia do Setor Público e Microssimulação de Tributos e Benefícios Sociais

Email: rozane\_siqueira@yahoo.com.br

### **Carlos Feitosa Luna**

Centro de Pesquisas Aggeu Magalhães

Departamento de Saúde Coletiva; Saúde Pública.

**Email:**

**JEL:** C81, H22, H23

**Keywords:** Taxation, Fiscal Illusion, Inequality

**Palavras-chave:** Tributação, Ilusão Fiscal, Desigualdade

### **Resumo**

O Brasil combina uma alta desigualdade e uma alta carga tributária. Esta situação contradiz as predições de duas teorias centrais da tributação e da política democrática. A primeira teoria prediz que, dentro de um contexto democrático, altos níveis de desigualdade de renda deveriam levar os governos a implementar significantes políticas de redistribuição. A segunda teoria considera a capacidade do governo em coletar tributos como dependente de um contrato social entre o estado e seus cidadãos e prediz um relacionamento negativo entre tributação e polarização social. Neste trabalho, propomos que a teoria de ilusão fiscal poder explicar este enigma duplo.

### **Abstract**

Brazil combines high inequality and high tax yield as percentage of the GDP. This situation contradicts the predictions of two central theories of taxation and democratic politics. The first theory predicts that, within a democratic context, high levels of income inequality should lead governments to carry out significant redistribution. The second theory sees the government's ability to raise tax revenue as dependent on a social contract between the state and its citizens, and predicts a negative relationship between

taxation and social polarization. In this paper, we propose that the theory of fiscal illusion can account for this double puzzle.

## 1. Introduction

Brazil is one of the most unequal countries in the world, both before and after taxes and government transfers. At the same time, Brazil stands out as having the highest tax yield as percentage of the GDP among less developed countries. In fact, Brazil's tax burden now exceeds the Organization for Economic Co-operation and Development (OECD) average. This situation seems to contradict the predictions of two political economy theories of the relationship between taxation, economic inequality and income redistribution by the state.

The first theory predicts that, within a democratic context, high levels of income inequality should lead governments to carry out significant redistribution, usually financed by progressive taxation (Meltzer and Richard, 1981; Alesina and Rodrik, 1994). This theory is based on the median voter theorem, which states that under majority rule it is the median voter who is decisive, and thus political competition will result in the selection of policies that represent the median voter's demands. Accordingly, it is expected that in highly unequal societies, where the income of the median voter is well below average income, majority voting will result in considerable redistribution. The contrast between this prediction and many real world democratic outcomes, particularly in the case of Latin American countries, is known in the literature as *the redistribution puzzle*.

The second theory of taxation and democratic politics sees the government's ability to raise tax revenue as dependent on a social contract between the state and its citizens, and suggests a negative relationship between the level of taxation and social polarization. The argument is that tax compliance depends on the taxpayer's perception of the capacity of the state to promote political and social inclusion. This view is resumed in the analysis of von Haldenweng (2008) about the situation in most Latin America countries: "[W]here high income inequality prevents increasing tax revenues, which in turn prevents the state to act as a provider of equality of opportunities, and which in the long run keeps inequalities high."<sup>1</sup> In the case of Brazil, however, that combines high socioeconomic inequality and high tax revenue mobilization, this theory leaves us with a second puzzle, which could be named "the Brazilian tax collection puzzle".

In this paper, we propose that the *theory of fiscal illusion* can account for the double puzzle Brazil presents us. This theory predicts that the lack of transparency in

---

<sup>1</sup> See also Breceda, Rigolini and Saavedra (2008).

state financing – such as complex and indirect tax structures – creates a fiscal illusion that will systematically produce higher levels of public spending than those that would be observed had voters correctly perceived the 'tax-price' of public outputs. Accordingly, our proposition is that, by heavily relying on the exploitation of fiscal illusions, the Brazilian state has been able to mobilize a huge amount of tax resources without the need of a broad social contract that could lead to more redistribution, effective public services, and growth-enhancing policies.

The paper is organized as follows. The next section provides evidence of the low redistributive performance of the Brazilian state. Section 3 outlines the central role taxation plays in the development of effective states. Section 4 summarizes the theory of fiscal illusion and provides evidence of illusion-creating mechanisms in Brazil. Finally, section 5 presents the final remarks.

## **2. Redistribution by the Brazilian State**

There has been a sharp increase in public spending and in tax revenue in Brazil since the country's political re-democratization in 1985. Between 1985 and 2013 the tax burden increased from 24% to 36% of GDP (Afonso, Soares and Castro, 2013; SRF, 2014). Inspired by the decrease in income inequality over the first decade of this millennium, some analysts have interpreted the process of expansion of the Brazilian state as a result of a redistributive social contract that would have emerged from the return to democracy. For instance, Pessoa (2011) rationalizes this interpretation using the median voter model, whereas Alston, Melo, Mueller and Pereira (2012) relies on a more complex model of social choice to base their view of a new social contract in Brazil.

In this section we present evidence that the net effect of the government budget on inequality in Brazil can hardly be said to be a reflection of an effective social contract for redistribution. On the contrary, the patterns of taxation and public spending in Brazil clearly express the failure of the state to redistribute towards the neediest in the society. We also show that the equalizing effect of the tax-transfer system improved only slightly between 2003 and 2012.

The results presented here are obtained by estimating the impact of the Brazilian tax and cash transfer systems on the incomes of households, using the tax-benefit microsimulation model described in Immervoll, Levy, Nogueira, O'Donoghue and Siqueira (2006, 2009). The use of microsimulation techniques is necessary since the surveys available do not provide direct information on taxes paid by households and on some relevant transfers, or provide unsatisfactory information.<sup>2</sup>

---

<sup>2</sup> For example, the total income tax reported by families in POF amounts to less than 60 percent of the personal income tax revenue effectively collected by the government. Besides, the data does not capture the effects of the deductions from taxable income permitted by the income tax legislation, as explained in Siqueira, Nogueira and Souza (2014).

In order to obtain the incidence of cash transfers and direct taxes, the microsimulation model uses the household survey *Pesquisa Nacional por Amostra de Domicílios* (PNAD). Since PNAD does not contain consumption data, the household budget survey *Pesquisa de Orçamentos Familiares* (POF) was used to estimate indirect taxes as a proportion of income by income group of the population, and these proportions were then applied to each individual in the corresponding income group in PNAD.<sup>3</sup>

Siqueira, Nogueira and Souza (2014) provides a detailed description of the procedures used to calculate the incidence of direct and of indirect taxes.<sup>4</sup> Information on pension benefits – which, in 2012, accounted for 88% of all cash transfers considered in this study – is taken directly from PNAD. The other (non-pension) cash benefits are simulated.<sup>5</sup> Essentially, the simulation technique consists in applying the rules of each transfer program or tax to each individual and household in the microdata.

To assess the effectiveness of taxes and transfers in reducing inequality, we use a set of income concepts. The starting point is *private income*, which is the total income before the addition of transfers from the government and the deduction of taxes. Cash transfers are added to private income to obtain *gross income*. Personal income tax and employees' social security contributions are deducted from gross income to give *disposable income*. Indirect taxes are then deducted from disposable income to compute *final income*.

Figure 1 shows the amount of transfers received and of taxes paid by households as a proportion of gross household income by quintile group.<sup>6</sup> The weak redistributive nature of the Brazilian tax-transfer system is evident. In particular, note that even the poorest 20% of the population lives in households that, on average, pay more taxes than they receive in government transfers. The same is true for the second quintile group. Only the households in the third quintile, where there is a concentration of pensioners (usually receiving the basic pension benefit) are net beneficiaries of the system.

Evidence that poor households in Brazil are often net contributors to the fiscal system (in monetary terms, that is, considering only cash transfers) is also found in two recent studies. Silveira (2012), using POF 2008-2009, estimates that total cash transfers received by the poorest 10% of the population amounts to about 27% of their monetary income and total taxes paid by this group takes about 53% of their monetary income, on average. By its turn, Higgins and Pereira (2013) makes the following comment about their results: “Our analysis finds a troublesome result when taking into account post-

---

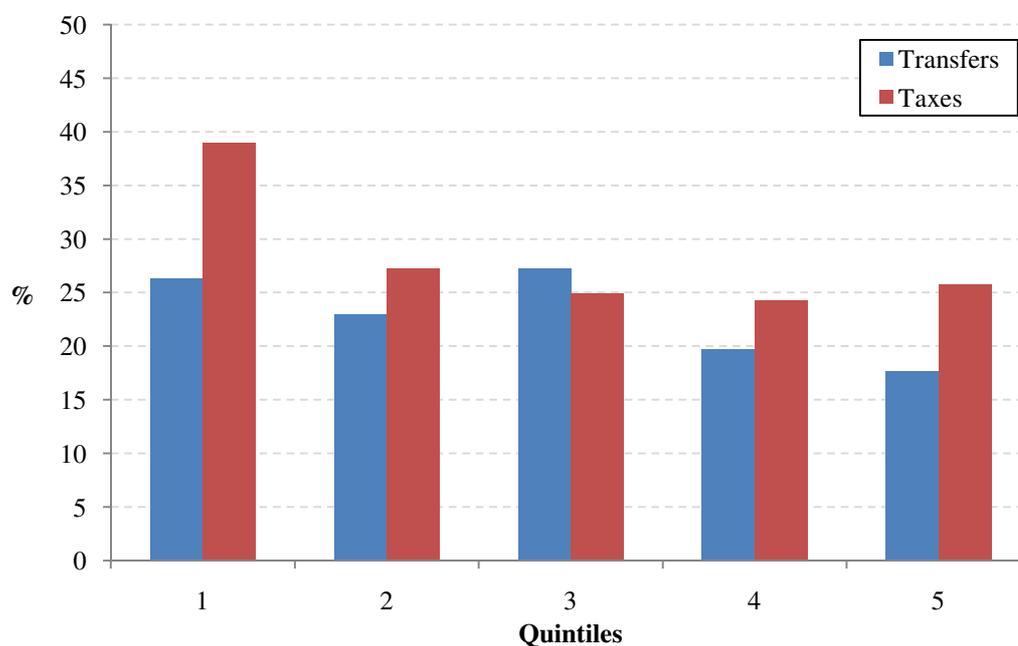
<sup>3</sup> Individuals in POF and PNAD were grouped in 20 percentiles of per capita monetary household income, and the estimation included all indirect taxes net of subsidies.

<sup>4</sup> On the estimation of indirect taxes, see also Siqueira, Nogueira and Souza (2012). The direct taxes simulated are the personal income tax and the employees' social security contribution.

<sup>5</sup> The benefits simulated are: the family wage (*salário família*), the unemployment benefit, the wage bonus (*bônus salarial PIS/PASEP*), the family grant (*Bolsa Família*), and the old age assistance benefit (*BPC/idoso*).

<sup>6</sup> Quintiles, or fifths, are created by ranking individuals by their per capita gross household income.

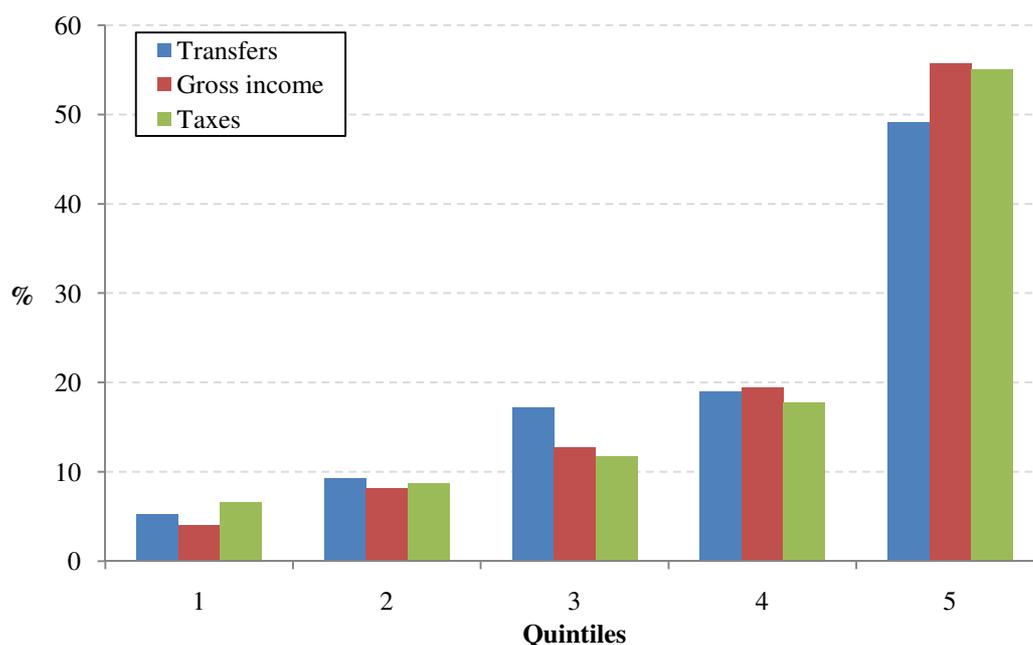
fiscal income: there is a substantial deleterious effect of indirect taxes on poverty. In many cases, the benefits of transfer programs are offset by indirect taxes.”



**Figure 1 – Cash transfers and taxes as a proportion of household gross income**

Source: Authors' calculations based on PNAD 2012 and POF 2008-2009.

Figure 2 shows the distribution of transfer payments by the government, gross household income and taxes collected from households by quintile group. It can be seen that, in absolute terms, the amount of transfers received as well as the amount of taxes paid by households increase drastically with income. For instance, we calculated that the shares of the poorest 40% of the population in total cash transfers, gross income and tax revenue collected are 15%, 12% and 15%, respectively; while the corresponding shares of the richest 20% are 49%, 56% and 55%. Thus, to a great extent, the tax transfer system reproduces income inequality.



**Figure 2 – Distribution of transfers, gross income and taxes**

Source: Authors' calculations based on PNAD 2012 and POF 2008-2009.

This can also be inferred from Table 1, which shows the distribution of income and the Gini coefficient of inequality for each of the income concepts described above.<sup>7</sup> We can observe that the income share of each quintile group suffers only minor changes after government transfers and taxes.

Nevertheless, in 2012, cash transfers reduced Brazil's Gini by 6.2 percentage points, and direct taxes led to a further decrease in inequality of 2.2 percentage points. However, when indirect taxes are deducted from disposable income, the Gini index increases by 3.7 percentage points.<sup>8</sup> Thus, the tax-transfer system taken as a whole reduces the Gini index by only 4.7 percentage points.<sup>9</sup>

**Table 1 - Distribution of income by quintiles and Gini coefficients**

	Distribution by quintile (%)					Gini coefficient
	Bottom	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	Top	

<sup>7</sup> For all distributions shown in Table 1, individuals are ranked by per capita *gross* household income. The calculation of the Gini index, however, involves ranking individuals according to the income indicated in the first column of the corresponding line of the table. Thus, only in the second line (gross income) the Gini corresponds to the distribution described.

<sup>8</sup> A qualification should be made here, however. As argued by Siqueira, Nogueira and Souza (2014), the regressivity of the indirect tax burden in Brazil is exaggerated when measured with respect to reported monetary incomes. The reason is that monetary incomes are severely underreported by households in the bottom of the income distribution, resulting in reported consumption being much higher than reported income. After adjusting incomes for underreporting, Siqueira, Nogueira and Souza (2014) concludes that indirect taxes essentially cancel out the progressive effect of direct taxes.

<sup>9</sup> Adopting an alternative approach, that includes (apart from transfers and direct taxes) public workers wage and pension differentials to private sector workers, Souza (2012) shows that the government in Brazil contributes to worsen income distribution.

<b>Private income</b>	3.7	7.7	11.3	19.2	58.0	0.583
<b>Gross income</b>	3.9	8.0	12.5	19.2	56.4	0.521
<b>Disposable income</b>	4.2	8.5	13.2	19.9	54.2	0.499
<b>Final income</b>	2.9	7.7	12.9	19.9	56.6	0.536

Source: Authors' calculations based on PNAD 2012 and POF 2008-2009.

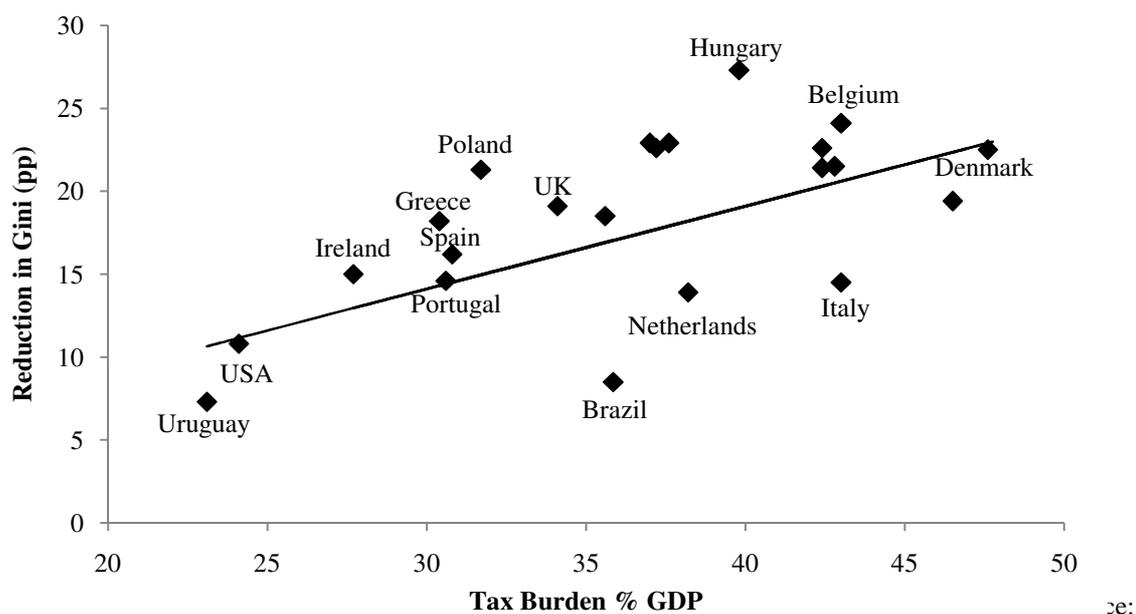
Even if we consider only cash transfers and direct taxes, their equalizing effects in Brazil is rather small when contrasted with that found in advanced countries. In the OECD countries, these instruments reduce the Gini index by 14.3 percentage points on average<sup>10</sup>, and in the seventeen European Union countries investigated by Paulus et al. (2009), the average decline in the Gini is 19.9 percentage points.<sup>11</sup>

Figure 3 compares the redistributive performance of Brazil with selected countries. The vertical axis measures the reduction between the Gini coefficients of private income (income before any tax or government transfer) and disposable income (income after cash transfers and direct taxes), in percentage points, and the horizontal axis measures tax revenue as a percentage of GDP.

It is evident that the low fiscal redistribution in Brazil, in comparison with other countries, cannot be attributed to a lower tax burden. Note in particular that the United States, with a much lower tax burden than Brazil, obtain a larger reduction in the Gini of disposable income, and Uruguay, also with a tax burden more than ten percentage points lower, has about the same redistributive performance as Brazil. If the effect of indirect taxes was taken into account, Brazil would be still worse in the picture, since Brazil relies more heavily on this type of tax than the other countries in Figure 3.

<sup>10</sup> See OECD distribution tables at <http://stats.oecd.org/>.

<sup>11</sup> Paulus et al. (2009) also estimates the redistributive impact of direct taxes and cash transfers including public pensions in the private income concept, showing that in this case the average reduction in the Gini index of European countries is of 12.4 percentage points. Adopting the same procedure for Brazil, we estimated that the impact of direct taxes and cash transfer (other than pensions) is to reduce the Gini by 4.2 percentage points. However, in the case of Brazil, this approach is less compelling, since the pension system is largely "subsidized" by general taxes.



Paulus et al. (2009), OECD, Bucheli, Lustig, Rossi and Amábile (2012), and authors' calculations for Brazil.

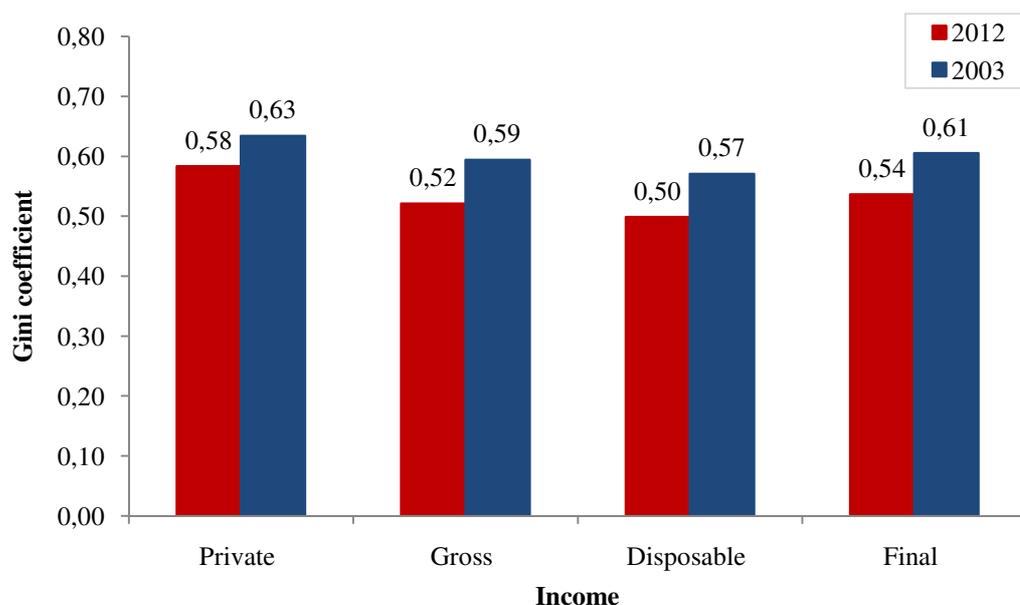
It should be remarked that, beyond cash transfers, taxation finances other social expenditures, like education and health, which may benefit the lower income groups disproportionately. However, it should also be said that the main channel through which investment in education and health affects inequality is by changing the distribution of human capital, which in turn changes the distribution of private (or market) income. Although inequality of market income in Brazil has been declining (as will be shown below), it is still extremely high, suggesting that social investment in human capital has not yet been sufficiently equalizing.

It is worth mentioning that investment in education in South Korea is known to play a major role in explaining the fact that the country has the lowest Gini of market income among all OECD countries, as pointed out by Luebker (2011). And despite the little effect of the tax and transfer system on the distribution of income, Korea's disposable income Gini (at 0.315) was virtually the same as the OECD average in the later 2000's. As mentioned above, income inequality in Brazil declined in this millennium.<sup>12</sup> Figure 4 compares inequality in Brazil in 2003 and 2012 for each income concept defined in this paper.<sup>13</sup> It shows that inequality after government transfers and

<sup>12</sup> According to Lustig, López-Calva and Ortiz-Juarez (2012), "Between 2000 and 2010, the Gini coefficient declined in 13 of 17 Latin American countries". In Brazil, inequality declined continuously between 2001 and 2011. However in 2012 and 2013 there was no significant change in inequality.

<sup>13</sup> A remark should be made that in 2003 the cash transfer program *Bolsa Família* was not yet implemented. But we simulated two cash transfer programs that later were replaced by *Bolsa Família*: the school grant *Bolsa Escola* and the food grant *Bolsa Alimentação*. In the case of the *Bolsa Alimentação*, as this program was very small, simulation of the benefit to all entitled families would greatly overstate its total value in comparison to administrative data. Instead, the benefit was simulated by randomly

direct and indirect taxes declined 7 percentage points between 2003 and 2012, as measured by the difference between the Ginis of final income. Of this, 5 percentage points are attributed to improvements in the distribution of private income (income before all taxes and transfers), and thus only less than one third of the fall in inequality in this period resulted from changes in the tax-transfer system. In fact there was no significant change in the redistributive impact of the tax system, whereas the system of cash transfers became more equalizing.<sup>14</sup>



**Figure 4 – Gini index for different income concepts in 2003 and 2012**

Source: Authors' calculations based on PNAD 2003 and 2012, and on POF 2002-2003 and 2008-2009.

Finally, it is worth noting that 28 years after democratization, in 2013, when the tax burden reached 36% of GDP, income inequality in Brazil was the same as in 1960 (Gini coefficients of 0.53 in both years), although in 1960 the tax burden was less than half that of 2013 (about 17% of GDP).<sup>15</sup>

These results seem to corroborate our view that the expansion of public expenditure and taxation in Brazil after the return to democracy, rather than reflecting a shifting to a redistributive social contract, is a reflection of the political necessity to

---

apportioning the total spending on the program in 2003, as officially reported, between a subset of all those families eligible to receiving the benefit.

<sup>14</sup> There is evidence that the recent fall of income inequality in Brazil is overestimated when measured using household surveys. Using personal income tax returns, Souza, Medeiros and Castro (2014) finds that the concentration of income at the top is higher than that estimated from survey data, and that inequality at the top is stable in the period between 2006 and 2012.

<sup>15</sup> See Afonso, Soares and Castro (2013) and SRF (2014) for the information on the tax burdens, and IPEADATA ([www.ipeadata.gov.br](http://www.ipeadata.gov.br)) for the Gini coefficients.

accommodate the demands of several competing social groups. We argue that, in this context, fiscal illusion has played a central role.

### 3. Taxation and the Effectiveness of the Social Contract

A fundamental characteristic of modern societies is the emergence of a political order that endows the state with legitimacy and regulate its interaction with the citizens. This political order is grounded on three basic institutions: the state itself, the rule of law, and accountability. Modern liberal democracies combine all these three institutions into a stable equilibrium (Fukuyama, 2011).

The set of rules and institutions that provides the basis for the establishment of a voluntary agreement between the people and the state is usually denominated the *social contract*. This agreement gives rise to the organized society, whose objective is the well-being and security of its members and the regulation of their relationships. To that extent, the social contract shapes the rights and duties that constrain the behavior of individuals, social groups and the state.

This consensual agreement depends fundamentally on the existence of social rules that regulate the collective interactions among the members of the society and are recognized as just and trustworthy. They legitimize the social order and are able to engender a cooperative behavior, even if self-interested, among the citizenry. Otherwise, the social contract would only give rise to an evasive and distrustful behavior in relation to the collective agreement, with the collective action becoming predatory and inefficient.

Stable societies require that the social and political order, and all its conventions and legal rules, be seen as legitimate in order to command an institutional authority obeyed and respected by its members. And institutions are obeyed and respected for the reason that they bring about a social environment conducive to private and public benefits. Thus, stability of the social and political order rests on the legitimacy, confidence and durability associated with the social contract. This collective agreement is destroyed, or seriously weakened, when the trust deposited in it is broken and its legitimacy contested.

What then gives rise to and strengthens trust in the social contract and in its institutions? It seems reasonable to argue that each individual's expectation concerning the social contract depends on how its effects on individual and social well-being are perceived and assessed. Social interactions entail individuals' appraisal of what is being offered to them and what they hope to obtain. It is upon this expectation of mutually advantageous exchanges based on rules and conventions universally accepted and held that a sense of trust in institutions is developed. This requires the development of institutions acting on behalf of all citizens and aiming at promoting their objectives.<sup>16</sup>

---

<sup>16</sup> For a discussion of this question, see Sen (1999).

In other words, the individuals carry out a cost-benefit analysis in order to identify the possible gains derived from social interaction and compliance with the social contract, assuming that other individuals will also behave accordingly. For this analysis to be correct, it is crucial to have access to an adequate informational base that unveils the true structure and consequences of the social contract. This transparency involves a clear depiction and universality of the social contract's rules. Clarity is fundamental for the individuals to have plain understanding of how the social game is to be played.

Among the institutions comprising the social contract, a central place is given to the tax system.<sup>17</sup> Historically, the imposition of taxes mirrors the emergence and consolidation of the state. To finance its operations the state raises revenue from its citizens.

A recent literature focused on the role of taxation in state-building (for a summary see Moore, 2007)<sup>18</sup> has emphasized that the way taxes are raised is crucial to the effectiveness of the state, as in Everest-Phillips (2011): “The political challenge for building an effective state is not only what and how much to tax, but how to tax, who pays, and why— that is, the balance between degrees of ‘quasi-voluntary’ compliance and coercion.”

Specifically, it is argued that: “Governments that finance themselves by persuasion rather than coercion are likely to be more democratic and provide more services.” (Everest-Phillips, 2011). The basic idea is that in this case a bargain between state and society develops that leads to the emergence of a *social fiscal contract*: the implicit agreement between the state and its citizens that taxes are paid in exchange for effective public services.

Thus, from this perspective, it is tempting to take the ability of a democratically elected government to mobilize large amounts of tax resources as an indication of its legitimacy and good governance. However, democracy by itself does not legitimate fiscal policy, as governments have the power to create *fiscal illusion*, and thus distort the democratic choices of voters-taxpayers. As claimed by Tanzi (2011): “Coercion need not necessarily be the main instrument for promoting the ruling class's interest; often, and especially in a more democratic setting, fiscal illusion is.” In this case, large and inefficient states are compatible with democracy, as argued also by Eusepi (2006).

#### **4. The Fiscal Illusion**

This section presents the concept of fiscal illusion and provides some evidence of its exploitation in Brazil.

##### **4.1. The nature of fiscal illusion**

---

<sup>17</sup>For instance, Schumpeter remarked that “The spirit of a people, its cultural level, its social structure, the deeds its policy may prepare, all this and more is written in its fiscal history, stripped of all phrases” (Schumpeter, 1918).

<sup>18</sup> See also OCDE (2008), Everest-Phillips (2010), and Prichard (2010).

The term “fiscal illusion” was first used by the Italian economist Amilcare Puviani, in 1903, in his book *Teoria della Illusione Finanziaria* (Puviani, 1903). According to Wagner (2001), Puviani sought to answer a simple question: “How can a politician best use his powers of the purse to promote his political projects”? In the 1960’s interest in this question was renewed with Buchanan (1960, 1967), who extended Puviani’s theory. There is now a vast literature around the notion of fiscal illusion.<sup>19</sup>

Broadly speaking, “Fiscal illusion occurs every time a taxpayer does not realize how much he pays to the state or how much he receives from the state” (Dell’Anno and Mourão, 2012). However, a definition that captures more accurately the nature of fiscal illusion is offered by Oates (1988, p. 65), who refers to it as “the notion that systematic misperception of key fiscal parameters may significantly distort fiscal choices by the electorate”. This definition embodies the basic hypothesis of the theory of fiscal illusion that governments are able to systematically produce a bias in the fiscal choices of the voter-taxpayer toward a specific direction.

The plausibility of this assumption is justified by the following argument. On the one hand, it is easy for the government to make it costly for the taxpayer the acquisition of full information about his contribution share to the financing of the state. On the other hand, the voter-taxpayer have little or no incentive to invest his time and money in acquiring the required information, since, being one among millions, his potential impact on public choice outcomes may be negligible. Thus, it may be fully rational to the individual taxpayer to remain misinformed and make his fiscal choices on the basis of his own subjective perceptions, as influenced by the institutions of taxation (Buchanan and Wagner, 1977).

The theory of fiscal illusions covers both sides of the budget: it considers government strategies for revenue mobilization that induce the taxpayers to underestimate their full tax burden, as well as strategies that lead the citizens to overestimate the benefits of public spending programs. In both cases, governments deliberately create optimistic illusions among taxpayers-voters that make it easier to get political support for higher spending. Besides influencing the size of the government, fiscal illusion also tends to affect the quality of public expenditures, since it facilitates bureaucratic spending and rent-seeking activities, as argued by Eusepi (2006).

Fiscal illusion theorists admit, however, that beyond a critical point illusion strategies may become dysfunctional as a way of promoting the interests of politicians or rent-seekers. Indeed, Mourão and Cabral (2010, p. 235) alerts that fiscal illusion can become *fiscal delusion* and threat social stability:<sup>20</sup>

“[O]ne of the most serious consequences of fiscal illusion is the abrupt change from a positive view of the State (in the perspective of taxpayers) toward a

<sup>19</sup> For a recent and exhaustive survey of this literature, see Mourão (2007).

<sup>20</sup> Mourão (2010) remarks that this had already been claimed by Puviani (1903) and Fasiani (1941).

negative view of the same State. This leads to the degradation of their confidence in public agents and to their growing hostility to the same State.”

On the other hand, the fiscal illusion literature recognizes that there are numerous ways in which governments can create illusions, and new stratagems appear when the old ones are negatively perceived by voters.

#### **4.2. Sources of fiscal illusion in Brazil**

Although fiscal illusions may arise from both sides of the fiscal equation, most of the literature has focused on illusions generated in the revenue side. In this section, we identify some main features of the financing of the Brazilian state which generate the perception that the cost of public services is lower than it actually is – whether or not this was the deliberate intent of the policy makers.<sup>21</sup> They are the following.

First, the system relies heavily on taxes that are hidden in the prices of the products. In fact, taxes on goods and services – often referred to as indirect taxes – account for 49.7% of Brazil total tax revenue (SRF, 2013). The proposition that taxpayers underestimate the tax burden from indirect taxes as compared to direct taxes goes back at least to John Stuart Mill, who observed:<sup>22</sup>

“Perhaps ... the money which [the taxpayer] is required to pay directly out of his pocket is the only taxation which he is quite sure that he pays at all. ... If all taxes were direct, taxation would be much more perceived than at present; and there would be a security which now there is not, for economy in the public expenditure.” (Mill, 1848, quoted in Sausgruber and Tyran, 2005, p.39).

Second, the tax system is extremely complex and embeds numerous taxes, several collection regimes (often for the same specific tax), and a myriad of rates and exemptions. Amaral, Olenike, Steinbruch, and Amaral (2010) estimates that in 2010 there were more than 18,000 tax norms in force in Brazil. No wonder Brazil ranked first in a sample of 183 countries in the number of hours a firm needs to comply with its tax obligations, which was estimated at 2,600 hours per year by PwC (2012). On the relationship between revenue complexity, or fragmentation, and fiscal illusion, Buchanan (1967) commented: “To the extent that the total tax load on an individual can

---

<sup>21</sup>Most of the mechanisms presented here were already identified by Puviani (1903) as source of illusion. See also Buchanan (1967) and Tanzi (2011) for a list of fiscal illusion strategies often used by governments to obtain revenue.

<sup>22</sup>Silva and Siqueira (2014) provides evidence that this proposition – known in the literature as the “Mill hypothesis” – may help to explain the drastic increase in the federal government expenditure in Brazil in the period 1990-2011.

be fragmented so that he confronts numerous small levies rather than a few significant ones, illusory effects may be created”.<sup>23</sup>

Third, the system relies heavily on cascading taxation. The illusionary effect here stems from the resulting discrepancy between statutory and effective tax rates. Siqueira, Nogueira and Souza (2001, 2012) estimates that about one third of all indirect taxes in Brazil falls on productive inputs; and Siqueira, Nogueira and Souza (2001) shows that, as a result of this, the final effective tax rates faced by consumers are often much higher than the statutory rates. It is worth noting that the cascading nature of the Brazilian tax system is not only due to the use of turnover taxes, but also because of significant failures in the payment of tax credits to firms under value added taxation (VAT).<sup>24</sup>

Fourth, the rates of the main taxes on goods and services are expressed as a percentage of the price of the taxed product with the tax itself included in the price. For example, the standard nominal rate of the main Brazilian indirect tax, the state VAT, is 18%, but the rate necessary to raise the same amount of revenue if it were applied to the price of the good before the tax is 21.95%. By its turn, the nominal rate of 30% on electricity, in some states, is equivalent to a rate of 42.86% on the net-of-tax price of electricity. Coelho (2014) points out that, among more than 150 countries with a VAT, this kind of calculation is adopted only in Brazil and Bolivia. Clearly, this is a device to induce the taxpayers to underestimate the true tax burden they face.<sup>25</sup>

Fifth, the system relies heavily on taxes for which the actual incidence is unknown. Most revenue from direct taxation in Brazil comes not from the personal income tax – which accounts for only 7.4% of total tax revenue (SRF, 2013) –, but from taxes imposed on income of corporations and from payroll taxes, which together account for about a quarter of total tax revenue. The illusion here is that taxes collected from corporations tend to be shifted backwards, through lower wages, or forwards, through higher prices, but workers and consumers may not realize that they are the ones paying for them.

Sixth, intergovernmental transfers are the main source of revenue for most Brazilian municipal governments. Transfers received from the state and federal spheres by Brazilian municipalities average 69% of their total revenue (Araújo and Siqueira, 2014).<sup>26</sup> Illusion can arise from this means of financing because it is more difficult to the taxpayer to perceive his share of contribution to public spending when this spending is financed by transfers than when it is financed by local taxes. This supposition would explain the so called “flypaper effect”, the observed phenomenon that the expenditures

<sup>23</sup> Accordingly, the theory of fiscal illusion predicts that the more complex the tax system the higher the demand for public provided goods.

<sup>24</sup> Afonso (2015) highlights some of the main features of the Brazilian tax system that give rise to cascade effects.

<sup>25</sup> See Coelho (2014) for a more detailed discussion of this feature of the Brazilian state VAT as a source of illusion.

<sup>26</sup> There are 5,422 municipalities in Brazil. Together with the states, which also receive sizable transfers from the federal government, they account for about half of the total public expenditure (see *Balanço do Setor Público Nacional*, <https://www.tesouro.fazenda.gov.br/pt/balanco-do-setor-publico-nacional>).

of local governments are more sensitive to increases in lump-sum transfers received from other spheres of government than to increases in local private incomes. Recent studies that provide empirical evidence of the “flypaper effect” in Brazil are Mattos, Rocha and Avarte, (2011), Sakurai (2013), and Araújo and Siqueira (2014).

Seventh, the present tax system is the result of numerous minor changes in the basic laws along the years, instead of reflecting fundamental reforms. Although reforming the Brazilian tax system has been on the agenda for political debate for the last two decades, and many projects for substantial simplifications and improvements have been discussed, no major reform has been carried out so far. On the other hand, according to Amaral, Olenike, Steinbruch, and Amaral (2010), from 1988 – when Brazil’s new Constitution was promulgated – to 2010, there were 249,124 minor changes in the tax legislation, an average of 31 changes per day.<sup>27</sup> The rationale for this institutional feature is that taxpayers become relatively insensitive to “old taxes”;<sup>28</sup> on the other hand, “minor amendments aimed at benefiting particular groups of taxpayers... will often go unnoticed and unreported.” (Tanzi, 2011, p. 156).

Eighth, for many years borrowing and currency creation provided major sources of public revenues.<sup>29</sup> Although in the last two decades these means of financing were relatively unimportant, public debt and inflation have become again a concern in Brazil over the last years, particularly after the external crises of 2008. According to Buchanan and Wagner (1977), high budget deficits induce the current generation of voters to underestimate the tax-price of publicly provided goods and services, and thus to support excess government spending. In fact, Buchanan and Wagner considered inflationary finance worse than ordinary taxation in terms of illusion-creating effects. In their words: “Individual citizens are likely to be less informed about the probable costs of an ‘inflation tax’ than they are about even the most indirect and complex explicit levy.” (Buchanan and Wagner, 1977, p. 138).

Ninth, the use of income from state enterprises (including state and federal banks) to finance public expenditures is a source of fiscal illusion that has a conspicuous presence in Brazil’s fiscal history. Buchanan (1967) alerts that reliance on what he calls “income from the public domain” (which also includes royalties from the exploration of natural resources) to expand public spending obscures the fact that “...were the income not so employed, it could be returned to them [the tax payers] in reduced levels of ordinary taxation.” (Buchanan, 1967, p. 131).

Finally, it is worth mentioning at least two more strategies, of those listed in Buchanan (1967), for which we can find examples of exploitation in Brazil: the introduction of an intended permanent tax as temporary, and the use of “scare tactics” to make the alternatives to proposed taxes appear worse than they are. The case of

<sup>27</sup> As *The Economist* (2005) predicts: “[T]he more complicated a country’s tax system becomes, the easier it is for governments to make it more complicated still, in an accelerating process of proliferating insanity.”

<sup>28</sup> As the adage says: “an old tax is a good tax.”

<sup>29</sup> Before stabilization in the nineties, it was often said that the large public debts and high inflation rates in Brazil reflected the inconsistency between the demands of the different sectors of society for public expenditures and the unwillingness of this same society to be taxed (Giambiagi and Além, 2011, p. 133).

CPMF(Provisional Contribution on Financial Transactions), a tax on bank transactions created in 1996 to finance health spending, illustrates well both these strategies. This tax was supposed to be in force for two years. However, by threatening Congress and the citizenry with disastrous consequences for the health service if the contribution was to be abolished, the government was able to make it last for ten years.<sup>30</sup>

In the light of the institutional features just described, it is not surprising that in a recent study that estimates the magnitude of fiscal illusion across forty-seven countries around the world, Dell’Anno and Mourão (2012), Brazil emerged as a country with one of the highest fiscal illusion index, occupying the 36th position in a ranking by ascending order of fiscal illusion.<sup>31</sup>

Actually, Dell’Anno and Mourão (2012) finds evidence that Latin American policy makers rely more heavily on fiscal illusion stratagems than do policy makers in other regions of the world. In contrast, European countries show the lowest indices of fiscal illusion in their analysis. It may be the case that democratic governments in societies characterized by high and pervasive inequalities face both more incentives and more opportunities to exploit mechanisms that distort the voters’ perception of their tax burdens. One reason for this is that high inequality is generally associated with low social cohesion, which in turn tends to be associated to low “tax morale” and rent-seeking behavior.

In Brazil, the high level of tax evasion – estimated at about 9% of GDP by IBPT (2009) – attests for strong tax aversion. Another symptom of low social cohesiveness in Brazil is the difficulty to gather the necessary support to implement a broad tax reform. Furthermore, rent-seeking activities historically characterize the interactions of the Brazilian society with government agencies, as argued by Lisboa and Latif (2013).<sup>32</sup> It should be noted that, in this context, the heavy reliance of the state on fiscal illusion is both a cause and a consequence of the lack of an effective social contract.

## 5. Final Comments

In the light of both theories of taxation mentioned in the introduction of this paper, namely, the median voter theory and the social contract approach, a high tax burden would predict progressive taxation and/or effective redistribution towards the most needed in the society. The latter theory would also predict effective public services and growth enhancing policies. In these theories, democracy provides the feedback

---

<sup>30</sup>Although the literature has identified several other ways in which governments can create or use fiscal illusion, and we could easily find examples of their exploitation in Brazil, it is out of the scope of this paper to provide a full accounting of fiscal illusion sources in Brazil. Lisboa and Latif (2013) describes other mechanisms of state financing in Brazil which also obscure the real costs of public expenditure from the taxpayer, like extrabudgetary accounts.

<sup>31</sup>As sources of fiscal illusion, Dell’Anno and Mourão (2012) includes: public debt, public budget deficits, the relative contribution of direct and indirect tax to revenue, and revenue complexity (or fragmentation).

<sup>32</sup>These authors assert that “The nature of tax-transfer schemes in Brazil is only a part of the rent-seeking model”.

mechanisms necessary to ensure that government actions will effectively represent citizens-voters preferences.

Contrary to these predictions, for three decades, Brazil has been in an equilibrium that combines: democratic elections, high inequality, high and increasing taxation, low redistribution, ineffective public services, and low investment. This paper proposes that the theory of fiscal illusion plays a key role in explaining Brazil equilibrium. By heavily relying in fiscal illusion strategies, the Brazilian state has managed to bypass the need of a broad bargain with society in raising its high level of tax revenue.

Brazil's experience may be seen as evidence that fiscal illusion has the power to distort choices in the political market and make dysfunctional the social contract. By weakening the connection taxation establishes between the state and its citizens, fiscal illusion may be a threat to democracy.<sup>33</sup> Furthermore, Brazil's experience suggests that, to the extent that social inequalities tend to favor the exploitation of fiscal illusion by governments, the relationship between inequality and state redistribution cannot be predicted without an understanding of the way inequality influences state financing<sup>34</sup>: the institutions of taxation matters!

## References

- Afonso, J. R. (2015) "O cúmulo da cumulatividade", Instituto de Estudos para o Desenvolvimento Industrial – IEDI, retrieved from <http://retaguarda.iedi.org.br/midias/artigos/54a7139a5d550ac4.pdf>
- Afonso, J. R., Soares, J. M. and Castro, K. P. (2013) 'Avaliação da estrutura e do desempenho do sistema tributário brasileiro: livro branco da tributação brasileira', *Documento para Discussão IDB-DP-265*, Washington, DC: Banco Interamericano de Desenvolvimento.
- Alesina, A. and Rodrik, D. (1994) 'Distributive politics and economic Growth', *The Quarterly Journal of Economics*, Vol. 92, No. 2.
- Alston, L., Melo, J. M., Muller, B. and Pereira, C. (2012) 'Changing Social Contracts: beliefs and dissipative inclusion in Brazil', NBER Working Paper No. 18588, Cambridge, MA: National Bureau of Economic Research.
- Amaral, G. L., Olenike, J. E., Amaral, L. M., and Steinbruch (2009) 'Estudo sobre sonegação fiscal das empresas brasileiras', Curitiba: Instituto Brasileiro de Planejamento Tributário – IBPT.
- Amaral, G. L., Olenike, J. E., Steinbruch, F., and Amaral, L. M. (2010) 'Quantidade de normas editadas no Brasil: 22 anos da constituição federal de 1988', Curitiba: Instituto Brasileiro de Planejamento Tributário – IBPT.
- Araújo, J. M. and Siqueira, R. B. (2014) 'Demanda por gastos públicos locais: evidências dos efeitos de ilusão fiscal no Brasil', 42º Encontro Nacional de Economia. Natal, dezembro.

<sup>33</sup> Disconnection and distrust between citizens and government were indeed expressed in many ways in the recent wave of social unrest in Brazil.

<sup>34</sup> For a discussion about how inequality in Latin America countries influenced the evolution of the region's tax systems, see Sokoloff and Zolt (2007).

- Breceda, K., Rigolini, J. and Saavedra, J. (2008), 'Latin America and the social contract: patterns of social spending and taxation', Discussion Paper WPS4604, Washington, DC: The World Bank.
- Buchanan, J. M. (1960) *Fiscal Theory and Political Economy*, Chapel Hill: The University of North Carolina Press,
- Buchanan, J. M. (1967) *Public Finance in Democratic Process: Fiscal Institutions and Individual Choice*, Chapel Hill: University of North Carolina Press.
- Buchanan, J. M. and Wagner, R. E. (1977) *Democracy in Deficit: The Political Legacy of Lord Keynes*, New York: The Academic Press.
- Bucheli, M., Lustig, N., Rossi, M. and Amábile, F. (2013) 'Social spending, taxes and income redistribution in Uruguay', *CEQ Working Paper* No. 10, Tulane University.
- Coelho, I. (2014) "Um novo ICMS – princípios para reforma da tributação do Consumo", *Revista Brasileira de Comércio Exterior*, No. 120.
- Dell'Anno, R. and Mourão, P. (2012) 'Fiscal illusion around the world: an analysis using the structural equation approach', *Public Finance Review*, Vol. 40, No. 2.
- Eusepi, G. (2006) 'Public finance and welfare: from the ignorance of the veil to the veil of ignorance', *Journal of Economic Behavior and Organization*, Vol. 59, No. 4.
- Everest-Phillips, M. (2010) 'State-building taxation for developing countries: principles for reform', *Development Policy Review*, Vol. 28, No. 1.
- Everest-Phillips, M. (2011) 'Tax, governance and development', *Commonwealth Secretariat Discussion Paper* No. 11, London: Commonwealth Secretariat.
- Fasiani, M. (1941) *Principii di Scienza delle Finanze*, Vol. I, Torino: Giappichelli.
- Fukuyama, F. (2011) *The Origins of Political Order: From Prehuman Times to the French Revolution*, New York: Farrar, Straus and Giroux.
- Giambiagi, F. and Além, C. (2008) *Finanças Públicas: Teoria e Prática no Brasil*. Rio de Janeiro: Campus.
- Higgins, S. and Pereira, C. (2013) 'The effects of Brazil's high taxation and social spending on the distribution of household spending', *CEQ Working Paper* No. 7, Tulane University.
- Immervoll, H., Levy, H., Nogueira, J. R. B., O'Donoghue, C., and Siqueira, R. B. (2006) 'Simulating Brazil's tax-benefit system using BRAHMS, the brazilian household microsimulation model', *Economia Aplicada*, Vol. 10, No. 2.
- Immervoll, H., Levy, H., Nogueira, J. R. B., O'Donoghue, C., and Siqueira, R. B. (2009) 'The impact of Brazil's tax-benefit system on inequality and poverty', in S. Klasen and Nowak-Lehmann (eds.), *Poverty, Inequality, and Policy in Latin America*, Cambridge: MIT Press.
- Lisboa, M. B. and Latif, Z. A (2013) 'Democracy and growth in Brazil', *Inspere Working Paper WPE: 311/2013*, São Paulo: Instituto de Ensino e Pesquisa - INSPER.
- Luebker, M. (2011) 'The impact of taxes and transfers on inequality', *Travail Policy Brief* No. 4, Geneva: International Labour Office.
- Lustig, N., López-Calva, L. and Ortiz-Juarez, E. (2012) 'Declining inequality in Latin America in the 2000s: the cases of Argentina, Brazil, and Mexico', *World Bank Policy Research Working Paper* No. 6248, Washington, DC: The World Bank.

Mattos, E., Rocha, F. and Avarte, P. (2011) 'Flypaper effect revisited: evidence for tax collection efficiency in Brazilian municipalities', *Estudos Econômicos*, Vol. 41, No. 2.

Meltzer, A. and Richard, S. (1981) 'A rational theory of the size of government', *Journal of Political Economy*, Vol. 89, No. 5.

Moore, M. (2004) 'Revenues, state formation, and the quality of governance in developing countries', *International Political Science Review*, Vol. 25, No. 3.

Mourão, P. (2007) 'The economics of illusion: a discussion based in fiscal illusion', *Journal of Public Finance and Public Choice*, Vol. 25, No. 1.

Mourão, P. (2010) 'Fiscal illusion causes fiscal delusion – please be careful', in S. T. Magalhães, H. Jahankhani, and A. G. Hessami (eds.), *Global Security, Safety, and Sustainability*, Vol. 92, Heidelberg: Springer.

Oates, W.E. (1988) 'On the nature and measurement of fiscal illusion: a survey', in G. Brennan, B. S. Grewel and P. Groenwegen (eds.), *Taxation and Fiscal Federalism: Essays in Honour of Russell Mathews*, Sydney: Australia University Press.

Organization for Economic Cooperation and Development - OECD (2008) *Governance, Taxation and Accountability: Issues and Practices, DAC Guidelines and Reference Series*, Paris: OECD DAC.

Paulus, A. et al. (2009) 'The effects of taxes and benefits on income distribution in the enlarged EU', EUROMOD Working Paper No. EM8/09, Institute for Social and Economic Research, Colchester: University of Essex.

Pessoa, S. (2011) 'O Contrato Social da Redemocratização', in E. L. Bacha and S. Schwartzman (org.), *Brasil: A Nova Agenda Social*, Rio de Janeiro: LTC.

Prichard, W. (2010) 'Taxation and state building: towards a governance focused tax reform agenda', *IDS Working Paper 341*, Brighton: Institute of Development Studies.

Puviani, A. (1903) *Teoria Dell'illusione Finanziaria*, Milan: Remo Sandon.

PwC (2012) *Paying taxes 2013: The Global Picture*, Washington, DC.: PricewaterhouseCoopers International Limited and The World Bank.

Sakurai, S. N. (2013) 'Efeitos assimétricos das transferências governamentais sobre os gastos públicos locais: evidências em painel para os municípios brasileiros', *Pesquisa e Planejamento Econômico*, Vol. 43, No. 2.

Sausgruber, R. and Tyran, J. (2005) 'Testing the Mill hypothesis of fiscal Illusion', *Public Choice*, Vol. 122, No. 1.

Schumpeter, J. A. (1918) 'The crisis of the tax state', in J. A. Schumpeter, *The Economics and Sociology of Capitalism*, R. Swedberg (ed.), 1954, New Jersey: Princeton University Press.

Secretaria da Receita Federal - SRF (2014) *Carga Tributária no Brasil 2013*, Brasília: Secretaria da Receita Federal.

Sen, A., 1999, *Development as Freedom*, New York: Alfred Knopf.

Silva, A. M. A. and Siqueira, R.B. (2014) 'Demanda por gasto público no Brasil no período pós-redemocratização: testes da lei de Wagner e da hipótese de Mill de ilusão fiscal', *Pesquisa e Planejamento Econômico*, No. 43, July-December.

Silveira, F. G. (2012) 'Equidade fiscal: impactos distributivos da tributação e do gasto social', XVII Prêmio Tesouro Nacional, Brasília: Secretaria do Tesouro Nacional.

- Siqueira, R. B., Nogueira, J. R. and Souza, E. S. (2001) 'A incidência final dos impostos Indiretos no Brasil: efeitos da tributação de insumos', *Revista Brasileira de Economia*, Vol. 55, No. 4.
- Siqueira, R. B., Nogueira, J. R. and Souza, E. S. (2012) 'Alíquotas efetivas e a distribuição da carga tributária indireta entre as famílias no Brasil', in *XV Prêmio Tesouro Nacional - 2010: Homenagem a Joaquim Nabuco*, Brasília: Secretaria do Tesouro Nacional
- Siqueira, R. B., Nogueira, J. R. and Souza, E. S. (2014) 'Is the Brazilian tax system regressive?', *Economia*, Associação Nacional dos Centros de Pós-Graduação em Economia – ANPEC, forthcoming.
- Sokoloff K. L. and Zolt, E. M. (2007) 'Inequality and the evolution of institutions of taxation', in S. Edwards, G. Esquivel and G. Márquez (eds), *The Decline of Latin American Economies: Growth, Institutions, and Crises*, Chicago: University of Chicago Press.
- Pedro Ferreira de Souza and Marcelo Medeiros and Fabio A. Castro (2015) 'Top incomes in Brazil: preliminary results', *Economics Bulletin*, Vol. 35, No. 2.
- Souza, M. M. (2012) 'Gasto público, tributos e desigualdade de renda no Brasil', XVII Prêmio Tesouro Nacional – 2012, Brasília: Secretaria do Tesouro Nacional.
- Tanzi, V. (2011) *Government versus Market: The Changing Economic Role of the State*, Cambridge: Cambridge University Press.
- The Economist (2005) 'Simpler taxes: the flat-tax revolution', April 16<sup>th</sup>, London.
- von Haldenweng, C. (2008) 'Taxation, social cohesion and fiscal decentralization in Latin America', Discussion Paper 1/2008, Bonn: German Development Institute.
- von Stein, L. (1885) 'On taxation', in R. A. Musgrave and A. Peacock (eds.), *Classics in the Theory of Public Finance*, 1958, London: Macmillan.
- Wagner, R. E. (2001) 'From the politics of illusion to the high cost of regulation', *Of Public Interest*, Vol. 3, No. 8.