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DISCUSSION PAPER

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DISTRIBUTIVE ASPECTS OF REAL ESTATE PROPERTY AND ITS TAXATION AMONG BRAZILIAN FAMILIES

Pedro Humberto Bruno de Carvalho Jr.



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DISCUSSION PAPER

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SINOPSE

O trabalho visa analisar a distribuição do patrimônio imobiliário das famílias brasileiras e a sua principal forma de tributação, o Imposto Predial e Territorial Urbano (IPTU). Ele destaca que o usufruto do patrimônio imobiliário das famílias é mais concentrado que a própria renda familiar, não obstante o IPTU apresentar comportamento dúbio do ponto de vista distributivo. A carga tributária é maior sobre as famílias mais ricas, já que poucas famílias pobres de fato pagam o imposto. Porém, quando se analisa somente o universo de pagantes, a sua estrutura é altamente regressiva, com os contribuintes mais pobres sofrendo uma tributação maior. As principais causas apontadas pelo texto são a má gestão administrativa, a defasagem e a regressividade nas avaliações imobiliárias oficiais em relação aos valores de mercado e a falta de abrangência do cadastro imobiliário fiscal entre os domicílios mais pobres. A possibilidade de aplicação de alíquotas progressivas, permitidas a partir da Emenda Constitucional (EC) nº 29 de 2000, pouco alterou a distribuição do IPTU nos municípios que a adotaram, pois elas não foram devidamente calibradas de acordo com a distribuição dos valores venais dos imóveis a serem tributados. Também é mostrado que uma ampla política de isenção de IPTU aliada à má qualidade administrativa e avaliatória acabam isentando famílias de renda média e alta do pagamento desse imposto. Uma reforma tributária que pretenda aumentar a progressividade da tributação no Brasil, aumentando os tributos sobre a propriedade e diminuindo o peso dos impostos sobre o consumo tem de estar atenta aos aspectos distributivos do IPTU e não apenas ao mero aumento ou progressão das alíquotas.

ABSTRACT

The paper seeks to analyze the distribution of real estate assets among Brazilian families and Imposto Predial e Territorial Urbano (IPTU) – property tax – their main form of taxation. The text points out that real estate property usufruct is more concentrated than family income itself, despite the fact that IPTU boasts a dubious behavior, from a distributive standpoint. The tax burden is heavier on wealthier families, since only a few low-income families actually pay property tax. However, when only the universe of actual taxpayers is examined, it is observed that the tax structure is highly regressive, with poorer taxpayers more likely to undergo a heavier tax burden. The main causes pointed out in the text are poor administrative management, outdated and regressive official real estate assessment *versus* property market values and the lack of a comprehensive coverage of tax maps and inventories of poor dwelling units. The possibility of adoption of progressive tax rates, introduced by Constitutional Amendment nº 29 of 2000, did little to alter IPTU distribution in the municipalities that embraced it, for they were not duly calibrated in accordance with the distribution of the properties' market values to be taxed. Additionally, the paper demonstrates that a broad IPTU exemption policy, together with poor administrative and assessorial quality end up exempting middle and higher-income families from paying property tax. A Tax Reform devised to increase tax progressiveness in Brazil, increasing property tax bills and easing the tax weight on consumption, must be perceptive of the distributive aspects of IPTU, instead of merely focusing on an increase or progression of tax levy rates.

1 INTRODUCTION

The high-income inequality in Brazil has always been an important social problem, and it was intensified since the military dictatorship due to its economic growth model, which remained the issue relatively stable until the decade of 2000. During this period, the country experienced short cycles of economic growth/recession and the democratization process, which influenced the Federal Constitution of 1988 and its Welfare State characteristics. Since then, several governmental programs targeted in poor people, especially in federal initiative were adopted to reduce the problem since 2000 and resulted on a bit reduction of the indicators of income inequality recently (Paes e Barros et al., 2006). This fall was caused, mainly, due to the universal programs of income transfer that tended to reduce the income inequality in a short term. However this trend may end up being limited by the public budget in the medium and long term and others appropriates public politics should be conceived to reduce this high inequality. Without ignoring the importance of public spending as a factor to induce the redistribution of income, studies such as Silveira (2004) stress the role of regressive taxation in Brazil. In this context, only the Income Tax and Real Estate Tax may legally be progressive in Brazil,¹ what is allowed by the 1988 Federal Constitution and according to the judicial understanding of the Brazilian Supreme Federal Court – Supremo Tribunal Federal (STF).

The calculus of the property concentration degree among Brazilian families, represents on what concerns especially real estate, a measure much more complex than the income concentration. Besides the lack of data on real estate value, important factors are present in this specific market, such as subjectivity in the allocation of property values, changes in profitability and higher volatility of rental prices (due to the macroeconomic variables, the official financing policy and public goods provision). In Brazil, the available databases that can estimate in some way the properties values among households are presents in the Survey on Family Budget–Pesquisa de Orçamentos Familiares (POF) 2002-2003—made in the years 2002 and 2003 and in the National Survey of Sample Households–Pesquisa Nacional por Amostra de Domicílios (Pnad), in 2003. In POF 2002-2003, each household, in the case of rented real estate, declared the rent value effectively paid (15% of all cases) and in the case of real estate not rented (85% of all cases), the household declared the probably rental price of his own real estate. Already in the Pnad 2003, each household declared the interval of market values of his own real estate property and the rental price, in the case of rented real estate. Using the data from these two surveys it was estimated the profitability of these leases and others attributes in order to measure the market value of real property of the families, on which is inserted IPTU (Brazilian Real State Tax).

1. The Large Fortune Tax—Imposto sobre Grandes Fortunas (IGF) (Brazilian Wealth Tax)—was set out in article 153 of the 1988 Brazilian Federal Constitution, but has not been regulated yet. Have all kind property tax in Brazil (for automobiles and transmission of property) are legally questionable possibility of progressivity, as decisions on the issue of the Supreme Court. The court said that only a constitutional amendment would make any tax progressive (STF Súmula 668) that what happened only with IPTU (Real State Tax) in EC 29/2000. Before this amendment, only was accept that IPTU was progressive to encourage the use of urban property, with progressive shares applied in vacancy lands (wastelands, without constructions).

The distributive aspect of IPTU is very important in the tax system and it will be discussed in this work. Despite the fact that it is a direct and real tax, with a visible tax base (difficult to be denied), the IPTU is the tax that has the largest number of taxpayers in Brazil and together with the Income Tax, is legally admitted to have progressive rates. So, this work will examine the progressivity of the tax burden through ten or five extracts of real estate values. In the case of the most valued buildings to be taxed more highly than the least valued, in fact we have a progressive system, otherwise, it will be regressive and this paper could suggest an effort to improve the distribution. It is also important to consider not only the tax burden distribution among the bands of real estate values in the country or region, but also the distribution of tax burden among those who pay the tax, the taxpayers. This is important because of two aspects: firstly, analyzing only the universe of taxpayers' households, we have an idea of the progressivity degree inherent in that tax system, the effects of progressivity rates, official real estate assessments and the discounts/exemptions policies, which can affect the taxed value. Secondly, any public policy that tends to broaden the IPTU tax base keeping a regressive distribution between taxpayers further exacerbate this problem, even if the overall tax burden distribution among the population in general was previously progressive. Through the POF 2002-2003 data, it is also possible to analyze the distribution of IPTU by region and in the main Brazilian cities, which will be summarized in the annexes after the text.

This work is a sequel of a previous author's paper entitled *IPTU no Brasil: arrecadação, progressividade e aspectos extra-fiscais* published only in Portuguese, in December, 2006. This work came within a group of researches at the Department of Urban and Regional Studies—Diretoria de Estudos Regionais e Urbanos (Dirur)—and at the Department of Social Studies—Diretoria de Estudos Sociais (Disoc)—both in the Federal Brazilian Institute of Applied Economic Research—Instituto de Pesquisa Econômica Aplicada (Ipea). The group has discussed tax reform proposals, both with interest in aspects of urban and extra tax effects and with interest about the problem of income/wealth concentration. This broader view of tax reform is different from the tone of the discussions between 1990 and 2000, which restricted the Tax Reform analysis only in issues such as economic efficiency, harmonization and stimulating the production, focusing more attention in indirect taxes. In no way, this paper intends to diminish the role of those issues today, but is highly important to establish under the Tax Reform a research group linked to fairness, social and extra tax effects, in order to profit the historic moment for debate about those issues.

All property taxes have characteristics and economic effects that are specific and this can be viewed into a distributive perspective, like the Income Tax, requiring an appropriate this research on the theme, such as property evaluations and the correlation between wealth and income. Moreover, the various alternatives for urban policy through IPTU, allowed by the 1988 Brazilian Federal Constitution, subsequently regulated by the Cities Statute (Federal Law nº 10,257/2001) and the Constitutional Amendment nº 29 of 2000, provide a range of several lines of this theme researches. This paper will emphasize the distributive aspect of IPTU, as the residential tax burden and as their tax base, the real estate values.

The work is divided into 4 four sections, besides this introduction and the final conclusions. Section 1 provides a brief legal analysis of the IPTU Revenues in Brazil

and the structure of property taxes in other countries as well. It will also examine the recent legal changes and a short review of economic literature on this subject. Section 2 discusses the concentration level of households' real estate assets showing briefly the estimation methodology through the databases by Pnad 2003 and POF 2002-2003 (this methodology will after be published in another paper). Section 3 shows the IPTU payment participation in the households' real estate value and the section 4 presents this participation in households' income (expenditure), both indicators will be used to analyze the effective progressivity of the tax burden. Lastly, section 5 develops and analyzes generally the IPTU at a local level, in a sample of 12 main Brazilian states' capital cities, regarding the legal policy of exemptions and reductions, the tax coverage level and the distribution of tax burden.

2 STATE OF THE ART AND EVOLUTION OF REAL ESTATE TAXATION IN BRAZIL AND IN THE WORLD

The Real Estate Tax is present in Brazil since the Constitution of 1891 (art. 9), which gave jurisdiction to the States to establish rural and urban property tax. Even the Constitution of 1937 transferred to municipalities the power to establish real estate tax. Law nº 5,172/1966 of National Tax Code—Código Tributário Nacional (CTN) – which regulates the national tax system in it Art. 32 provides general guidelines to apply Real Estate Tax, officially called Tax of Buildings and Urban Land – IPTU. Among the regulated devices, the CTN establishes the criterion of “urban area” for taxation how being the real estate that have at least two of the five services or public improvements: paving with channeling of rainwater, water supply, sanitation, public lighting and primary school or health center for at least three kilometers of the property considered. This rule was conceived to differentiate the concept of rural real estate that is subject to another specific tax.²

The Constitution of 1988 besides to confirming the IPTU role as a potential tax to increase and improving municipalities revenues, such as the previous constitutions, innovates, worrying about the progressive and non-fiscal objectives. This fact is demonstrated in article 153, that states that the Income Tax and the Rural Land Tax must be progressive. Article 156 states that IPTU may be progressive in fact of the property value and/or social function or the tax may have selective rates according to localization, size or use of property.³ Already, the article 182 states that IPTU may be “Progressive in Time” to promote the appropriate use of property in accordance with established by each Municipal Urban Guide Plan.

Unfortunately, despite all the concern about the legislature amended the progressive and the use of IPTU as a non-fiscal tax, the conservatism of the legal

2. This fact also presents controversies since the STF until 1996 had consistently stated that urban property for tax purposes is that with the criteria contained in National Tax Code. But after 1996, the Supreme Court began to change perceptions, sometimes stating that land in urban areas to agricultural and extractive activities would not be considered taxed by IPTU (RE 100,427/DF and RE 738,628/SP), sometimes stating the opposite (RE 169,924/RS).

3. This article was amended by EC 29/2000 because the original text stated that the only IPTU could be progressive to ensure the social function of property, which was understood by the STF as a differentiation in taxation only of vacant land and built land.

interpretations have prevailed in Brazil and many municipal initiatives in order to implement these policies were embargoed in both Local Courts and the Supreme Court. On good example is the application of progressive rates of IPTU as an instrument of urban policy and fairer taxation, which was widely contested at the Supreme Court until 2000, with the council made to return to taxpayers all tax charged in this way. Therefore, the Supreme Court declared unconstitutional the application of progressive tax rates⁴ and various municipal laws were annulled. This situation lasted until 2000, when was enacted the Constitutional Amendment n^o 29 (which also addressed the increase in health resources), which modified article 156 of Constitution, now expressly and categorically permitting that the IPTU to have progressive tax rates or variable rates as size, localization or use of property.⁵ Therefore, the current tax structure in Brazil is composed with in fact two taxes effectively progressive, the Income Tax and the IPTU of some municipalities, witch choice in applied this criteria. Added to that fact, the article 7 of Federal Law n^o 10,257/2001 regulates the article 182 of the Federal Constitution of 1988, which allows the adoption of the instrument "Progressive IPTU in Time". That is, the annual increasing in IPTU rates (up to 15%) in the case of land that do not according the directions of the Municipal Urban Guide Plan.

As Brazil has 5,563 municipalities, with 96% of them actually have tax laws and collects IPTU (STN, 2006), obviously there are more than five thousand laws with different rates and variation criterions (gradual, progressive or selective). Carvalho Jr. (2008) examined theses rates structure in 365 municipalities (all above 50,000 inhabitants) for 2007 and according to the article this paper found that only 14% of these municipalities have IPTU with progressives rates (i.e., increased as the assessed value of property). Already in 6.8% of them, the rates varied according to localization of the property and in 5.5% as size of the property. Thus, we can say that about a quarter of Brazilian cities, over 50,000 inhabitants, use progressive or selective tax rates, according to article 156 of CF/1988. The study also found the median and modal of rates in these municipalities and modal, although there has been great variability among them. On those municipalities with single IPTU rate (no selectivity or progressive), the modal was 0.8% for buildings and 2% for wasteland and in the municipalities that have adopted selective or progressive rates, the rates usually varied in a range from 0.5% to 1.0% in the case of buildings and from 1% to 3% in the case vacant land. These IPTU rates of this sample of cities with population exceeding 50,000 inhabitants (data from 2000) are summarized in annex 4.⁶

4. The legal justification by the STF until 2000 to declare illegal the IPTU with progressive rates is a "real" (on property) tax, the principle of ability to pay by taxpayers would not be valid. That is, it cannot state that the high value real estate owners would have necessarily high income to pay the property taxes with a higher rate than the others. In this case, it would be necessary a Constitutional Amended to apply progressive property taxes.

5. Through the "Súmula 668", the STF still declared unconstitutional all local laws with IPTU progressive tax rates before the Constitutional Amended n^o 29/2000, but the controversial legal question was pacified.

6. Annex 4 classifies the IPTU as Residential, Non-Residential (which includes commerce and industry) and Territorial (vacant land, lots, etc.). In the seventh column is indicated the criterion of rates variation in the case of IPTU for Buildings (progressive rates or selective rates by location, size, kind of construction, etc.). In the case of Territorial IPTU, the ninth column also shows an interesting criterion of rates variation called "Annual Increase" which reflects the use of the instrument "Progressive IPTU in Time", as provided for in article 182 of the 1988 Federal Constitution and can be inserted in the local tax laws of the cities examined.

The property taxes have historically been important revenue sources for local governments throughout the world. The database of Government Finance Statistics annually published by the International Monetary Fund (IMF) indicates that in Argentina, Israel, South Africa, Spain, France, Canada, Switzerland, Belgium, Australia and United States, the taxes on property⁷ came to represent more than 2% of Gross Domestic Product (GDP) in these countries, between 2002 and 2004. Regarding the participation of tax revenue in local jurisdictions, they come to represent over 30% in New Zealand, France, Israel and Chile. In Brazil, for 2002 data, all property taxes (excluding the Tax on Financial Transactions—Contribuição Provisória sobre Movimentação Financeira (CPMF)—, a kind of financial tax) represented 1.2% of GDP or 7.4% of local revenues. As seen in annex 1, the rates applied in Brazil are not very different from those applied in most countries of the world (except U.S. and some European countries), even when compared with other Latin American countries. Thus, the low national tax revenues can not be held responsible for low rates, but probably for administrative inefficiencies and high level of tax exemptions and reductions.⁸

3 INEQUALITY AND TAXATION OF REAL ESTATE PROPERTIES IN BRAZIL

To estimate the inequality of Brazilian families' real estate assets of the, it is necessary to analyze the main features of the property market and the database available in national level. This paper will not examine the concentration of legal ownership of the property itself, but its usufruct. Due to the fact that the POF 2002-2003 and the Pnad 2003 are focused on the households and that the questions are limited (although there is a large demand to include questions concerning the ownership of households), it is not possible to estimate eventual others real estates (not used as residence) of the families involved. Furthermore, the "usufruct of real estate" is still a good measure of concentration, because it reflects the welfare and comfort level that the family is suffering, regardless of the property be leased, assigned by the employer, belonging to some relative or legally owned by familiar firm. If it was estimated only the inequality of legal property ownership, an executive who lives in a luxury building or hotel paid by his employer, for example, this fact would not have any impact on this index of concentration. Another indicator that is widely used in the estimation of concentration is the return on real estate rent. That is, the proportion that the rent value represents in the total real estate value. This finding is important because the POF 2002-2003 used in this work, only have the

7. This includes, in addition to taxes on real estate property, taxes on inheritance or gifts, taxes on automobiles, companies assets, large fortunes and transfer property.

8. It is important to note that some European countries have adopted the "Tax on Wealth", similar to "Brazilian Tax on Large Fortunes" (not implemented, but yet referred in Brazilian law). This tax also includes the real estate property and it is cumulative with local real estate taxes, making the property tax burden even more. This is the case of Norway, Denmark, Finland, Sweden, Germany, Switzerland, France, Spain, among others.

question about “cost of renting the property”.⁹ However, if it is known the pattern of profitability of rental, it is possible estimate the real estates values.¹⁰

A study of Varsano (1977) indicates that the rental values do not keep pace with the growth of property value and with it the return of rents tend to fall as well as the value of real estate property tend to increase in a process of economic growth. Even the author performed a study with the evolution of prices of real estate and the IPTU charged in the 70s and found a strong increase in vertical regressiveness in the real estate tax system. Due to the speed of prices increase in legal and equipped lands (even more so value) is higher than the assessed values established by municipal law for the recovery of IPTU, the most valued properties tend to have assessed values increasingly outdated and the effective tax rate would be low. Therefore, the return on rents would be higher in degraded areas in the suburbs of major cities or located in informal settlements, besides the fact that the guarantees of the lease are usually lower for poor people. All these facts confirm the hypothesis that the return of rented has a regressive bias with the value of the property.

All Pnads between 2001 and 2006 have also shown the proportion of households that pay rent growth until the third tenth of household income, where from then stabilizes among 15% and 18% of all households. The correct estimation of the rentals returns is very important, because it can varies significantly, distorting the estimation of market value of real estate property and consequently the impact analysis of the concentration and the distribution. Moreover, if we use data from POF 2002-2003 to measure the concentration of income, it was observed that 10% of the richest families in Brazil had 44.2% of total household income.¹¹ The methodology used in the estimation of households’ concentration of real estate assets will be shown on a next study, which will produce a detailed estimation of property values based on rental values reported in POF 2002-2003, with data such as the explicit or imputed property rent, number of rooms, localization and family income. The data shows that 46.4% of total residential estimated real estate assets¹² were enjoyed only by 10% of Brazilians families. These results can be better viewed in chart 1 and the cause of the discrepancy between the concentration of residential real estate and the concentration of income is expressed since the 95th percentile of households’ income. In fact, in this extract, the concentration of the usufruct

9. In the case of property that is not actually rented (the majority cases), the POF makes the question of the likely value that the property would be rented, called in the survey as “Cost of Rent Inserted”.

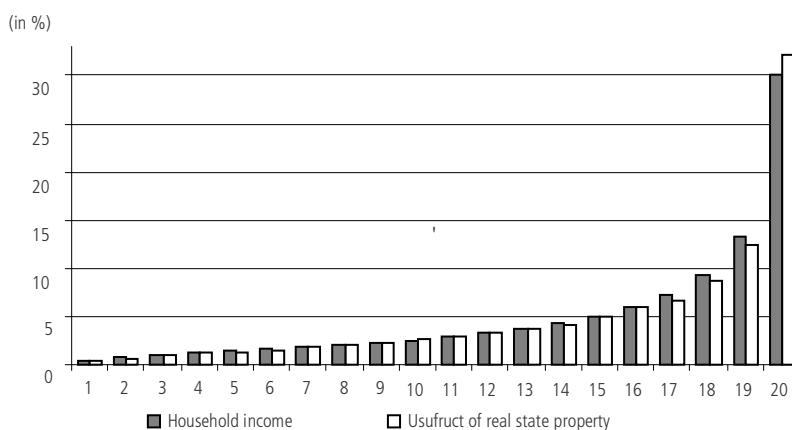
10. A study to be published later showing in detail the estimation of real estate values and the level of concentration in the property usufruct among Brazilian families.

11. The results of income concentration are measured in levels of households or families. Evidently, when it is used *per capita* data, the concentration becomes higher, because the poorest families, on average, have a greater number of people.

12. Due to the restriction of the data, this study used the usufruct of real estate and not the legal possession. This allows a better analysis of the IPTU distribution, as it is common the ownership pass to the tenant the tax cost. For this indicator, it was also estimates and added others families’ real estate properties (summer buildings, for example), in the cases of families’ spends in real estate taxes in other buildings, which was indicates in POF 2002-2003. Probably these buildings are empty or for vacation use and should be object of further study, together with the instrument of “Progressive IPTU in Time” provided in art. 182 of the 1988 Brazilian Federal Constitution and regulated by Federal Law n° 10,257/01. Through the POF 2002-2003 data, it was estimated the total value of these empty or summer real estates that effectively paid IPTU and they represented 7.3% of total residential housing stock in Brazil. Furthermore, 10% of the richest families had R\$ 58.5 billion in property stranded or for vacation use, which was 47.6% of all this kind of property. This indicator would be different if it was considered all properties, includes that do not pay IPTU, requiring a subsequent study of the issue.

property was 33.9% of all estimated assets and it was 30.1% of total estimated income. Moreover, there is the importance of a better property tax system in Brazil to have an effective way to reduce inequality through of taxation the richest population that is not affected by income tax, as demonstrated in a study of Gold (1979).

CHART 1
Level of household income concentration and the usufruct of real estate by twentieths of household income and value of property, respectively: Urban Brazil—households – 2003

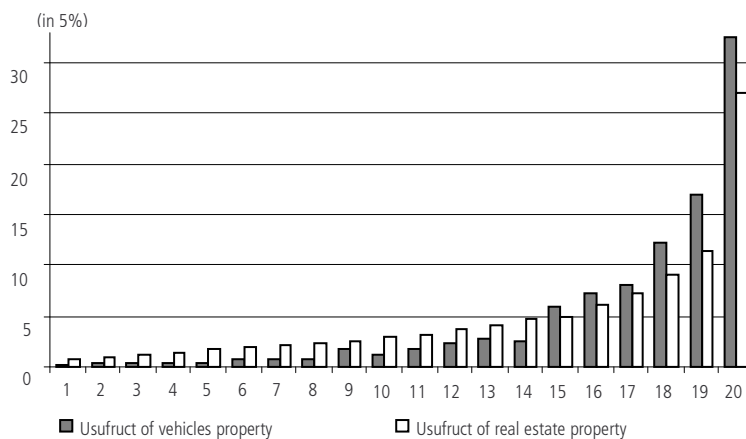


Source: IBGE/POF 2002-2003 and Phad 2003.

Intuitively, due to the lower frequency of other types of property in the households assets (as all households must live in somewhere and enjoy any kind of real estate, although some may be precarious), if it was added to the index of property concentration not only to real estate property, but also shares in companies, cars, jewelry, boats, art works and other species of property, the level of property concentration would be even higher. Burhauser and Weathers (2000) report that in the United States, among the lowest deciles of income, the principal asset consists in Social Security wealth. In fact, in the case of Brazil, the capitalized present value of expected income from Social Security and others social benefits should be incorporated to the family wealth, if we want measure the level of wealth and it concentrate among families. However, because the complexity of this subject, this calculation is not performed in this work, which will be restricted only to tangible assets (primarily real estate and automobiles). It is important to emphasize that the social benefits and some types of Social Security benefits have progressive distribution among the families, as study of Silveira (2004) and this fact would impact the level of concentration of wealth.

As an example of wealth distribution, the chart 2 below shows the distribution of the usufruct of residential real estate property and ownership of motor vehicles (including cars, motorcycles, motor boats, yachts, trucks, among other vehicles), by twentieths of household income extracts.

CHART 2
**Usufruct concentration among real estate and automotive property by
 twentieths of household income: Urban Brazil – 2003**



Source: IBGE/POF 2002-2003 and Pnad 2003.

As shown in chart 2, the concentration of the real estate usufruct of property was lower than the ownership automotive vehicles concentration in 2003. This occurs because only 15.8% of households in that 2003 had declared to own a motor vehicle, what made the concentration index of such property much higher. In the case of residences, the frequency was universal and all of them have some value, even in cases that they are very low, what resulted on the fact that the real estate concentration tends to be lower than other types of property.

The Income Tax has represented in Brazil a progressive level to much below the potential. Despite the fact that the country has high GDP and high concentration of income, a tax system of progressive rates would be extremely convenient to be applied, but what have happened is that there are only two progressive rates and there are significant statutory exemptions and reductions. The current rates of 15% and 27.5% are small and very close to a better effective progressive taxation through the Income Tax. In European countries, in spite of the lower income concentration, the rates can reach 55% as in the case of Belgium and Norway.¹³ Another problem that exists in Brazil is a large permissivity of the wealth transfer between individuals and companies, making the property and the expenses of the families firms are used by the families' owners. Moreover, it is relatively common in cases where the family's owners use the cash from their companies to the satisfaction of the wealth and personal expenses. On the other hand, the income declared for the Income Tax for these taxpayers engaged in such conduct can be very low despite its pattern of consumption.¹⁴

13. Besides the high rates of Income Tax in these countries, there are contributions to Social Security, Progressive Tax on Real Estate and Progressive Wealth Tax. Some countries such as Spain has limited all these taxes to 60% of the taxpayer's income.

14. The Brazilian Federal Tax Department (Receita Federal do Brasil) has made efforts to confront the income declared by taxpayers and their credit cards spends, but this would not affect those who use the tactic of using the cash of own companies for personal expenditures. This first case only would have more ability for tax the informal sector in economy. Actually, the audit of administrative expenses in private/familiar companies is very expensive and complex.

Gold (1979) states that the property tax has the capacity to tax those taxpayers who can evade the income tax. In fact, the payment of property tax is a condition for recognition of ownership by the legislation in Brazil. As it is a highly visible tax, the evasion is complicated and the default would cause immediately depreciation in its market value. Of course, there is high default in the payment of IPTU in Brazil, but data from POF 2002-2003 suggest that the “non-payment of IPTU” occurs in low-income families, mostly, outside the legal, organized and structured property market. For example, a luxurious building, with debts of IPTU would make the market value be depreciated, and a car with IPVA (automotive tax in Brazil) in debt, besides the depreciation of its market value, the owner would lose the traffic rights. It is not necessary to have a strong investigator commitment to reduce evasion such as the case of Income Tax,¹⁵ when there is a real estate cadastre updated and comprehensive.

4 PROGRESSIVENESS OF IPTU AMONG THE HOUSEHOLDS' PROPERTIES

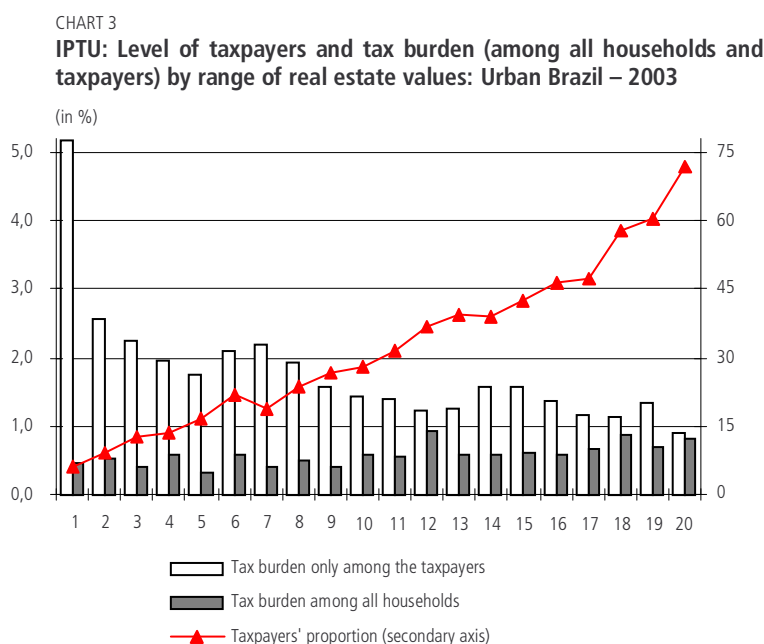
This work makes an important distinction between the "Global Tax Burden of IPTU" and "Taxpayers' Tax Burden of IPTU". The first shows the average amount of tax in the entire stock of residential property, regardless if the property is taxed or not. It shows us a better macroeconomic and social view and the impact of taxation in the distribution level. Already the “Taxpayer's Tax Burden of IPTU” shows us the average amount that is taxable only among who paid IPTU (about 30% of homes in Brazil in 2003). This indicator gives us the effective tax rate which is collected from the taxpayers¹⁶ provides a better microeconomic and industrial view and shows the progressive or regressive pattern in the tax system analyzed. The two indicators are important in this analysis because the “global tax burden” indicates the impact of current tax and the tax burden suffered by economy in general and the “taxpayer's tax burden” shows the pattern and problems in distributive aspects of the tax system and the main challenges that have to be done.

Chart 3 shows the distribution of the IPTU tax burden in Brazil, i.e., the participation of IPTU payment in the value of taxed property which is shown by bars in the main axis by twentieths real estate values. Furthermore, the chart 3 also shows the proportion of households who pay the tax through the line in the secondary axis. The dark bars in chart 3 show the “Global IPTU Tax Burden”, or that incident on all households and the white bars show the “Taxpayers' IPTU Tax Burden” incident only among paying the tax. As it is observed, that the global tax burden is progressive, but this only happens due to the low proportion of taxpayers in the initial twentieths of property values, not for a progressive tax system in fact. When it is analyzed the tax

15. One of the reasons for Spain to establish the “Impuesto sobre el Patrimonio” (Wealth Tax) in 1991, was that the capitalist system was becoming more sophisticated with the increased of capital flow and their interests/profits and at the same time, decrease the weight of salaries in the national income composition.

16. The rate included in the legislation (legal rate) is rarely equal to the effective tax rate (portion that was taxed). The effective rate is the ratio between the portion that was properly taxed and the real estate market value. The large difference between statutory and effective tax rate is very common in Brazil because there is popular legal rebates and discounts granted on the assessed value and mainly because these assessed values are calculate with disabled and in disagreement with the market.

paid by only among the taxpayers, this results in a regressive system, how is observed in chart 4. This fact is worrying because if it was set a policy to increase the IPTU taxpayers' proportion without correcting the distortions of the tax system, this would increase the regressiveness.



Source: IBGE/POF 2002-2003 and Pnad 2003.

Chart 3 also shows the taxpayers' proportion increases with the value of the property, although the number of taxpayers is still below the potential. At the national level, only the class of buildings above the eighth decil, we can find a IPTU payment level greater than 50%. Evidently there are many factors that can make some families do not declare to pay IPTU in the Survey of POF 2002-2003. For example, a municipality may grant exemption from IPTU to certain families or kind of buildings, the real estate may be illegal or not be registered by the municipality or the family may also be debt to the payment of tax.

The data shows that there are great differences in regional IPTU levels, as in the North and Northeast Brazilians Regions, where the households' proportion that are IPTU taxpayer was only 12% and only above the seventh decil of real estate values, which there was a proportion of paying greater than 10%. This situation is very serious, because even in the last tenth of building values, the taxpayers' proportion was only 42%. Due to the low number of paying, the total tax burden in the North and Northeast was progressive, but if we only consider the universe of taxpayers the tax was highly regressive. Even in the Midwest Region, the global tax burden was relatively neutral or slightly progressive, due to the low number of paying, but if we consider the taxpayers' universe, there was a strong regressiveness, similar to the North and Northeast Regions. The indicators of taxpayers' IPTU coverage were better in Southeast and South, where about 40% of all households stating pay the tax, but due to the higher proportion of paying than in the other Regions, the "Global Tax Burden" was slightly progressive. Moreover, considering only the

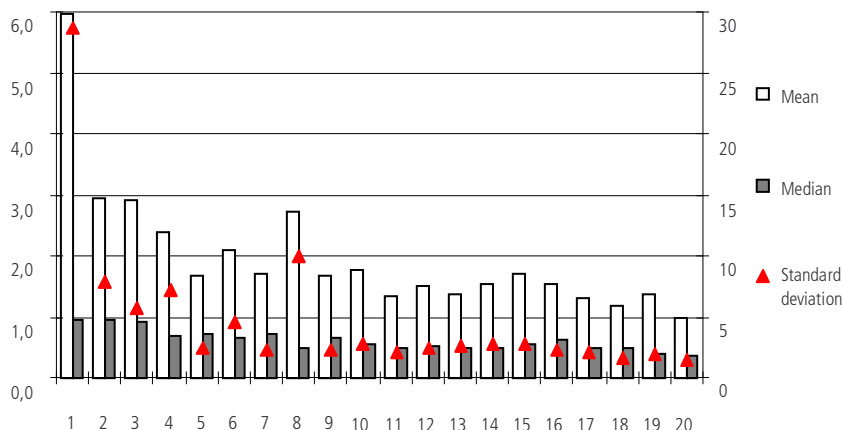
taxpayers' universe, we have a highly regressive tax system. At local levels, specifically in the State of São Paulo, due to the high number of taxpayers compared to others, even the "Global Tax Burden" was regressive.¹⁷ Already the State of Rio de Janeiro showed a unique characteristic, because the universe of IPTU taxpayers' was almost entirely above to the seventh decil of real estate values and both the "Global IPTU Tax Burden", as the "Taxpayers' IPTU Tax Burden" were progressive. This happens due to the main city in state, Rio de Janeiro City, provides a broad policy of exemptions and discounts besides there are a high number of slams and irregular buildings.

To make an analysis of the horizontal regressiveness, ie, different taxation levels on real estate that have similar market values, due to problems in official property evaluation, it should be considered, initially, only the taxed real estates universe and then compare the median and mean of portion taxed.¹⁸ Therefore, by chart 4, it was observed that the mean is more close to the median and the standard deviation is lower when increases the real estates values. This shows that there is more horizontal regressiveness (the difference between evaluate value and market value) in the lower real estates values. Several Brazilians authors such as De Cesare (2004) and Varsano (1977) argue that the least valued buildings are more likely to suffer from errors in assessing process for real estate tax purposes. This is quite intuitive, because the errors in assessing usually have discrete values, affecting in more proportion the lower buildings. For example, it is more likely that a real estate with market value in R\$ 10,000 be estimated at R\$ 15,000, (an overestimation of 50%) than a property of R\$ 200,000 be overstated by R\$ 300,000. Therefore, the chart 4 shows that nationally, the median of effective tax rate in the extract of the 50% most valued, was 0.52% and in the class of the 50% least valued, the median of effective tax rate was 0.68%. The 50% least valued properties had a higher taxation, above a third suffered by the most valued and its standard deviation was four times higher, supporting the hypothesis that horizontal regressiveness is more common in real estates with lower values.

17. The data of the tax legislation in the main state capitals will be seen in more detail in section 3.

18. The comparison between the mean and the median effective tax rate of IPTU among the taxpayers is a good indicator to evaluate the horizontal regressivity in the property tax system. The regressivity is called horizontal when real estate with similar market values are taxed at different levels. Within each ranged property value used in this work (twentieths of properties values), if the standard deviation of effective tax rates in each property was high, the difference between the mean and median will be also high in the case of existing any bias in the assessments.

CHART 4
Mean, median and standard deviation in effective IPTU taxation among the taxpayers for ranger of real estate value: Urban Brazil – 2003
 (in %)



Source: IBGE/POF 2002-2003 and Pnad 2003.

At regional levels, it was observed that for the North, Northeast and the Midwest Regions the effective tax rate among the taxpayers’ is regressive and higher than South and Southeast Regions, although the low level of taxpayers in North and Northeast made the “Global IPTU Tax Burden” much smaller. In fact, the median among the 50% least valued properties in North, Northeast and Midwest ranged between 0.65% and 1.50% and between 0.35% and 0.80% among the 50% most valued properties. For the Southeast and South Regions, these indicators ranged between 0.55% and 1% among the 50% least valued properties and between 0.40% and 0.65% among the 50% most valued class.

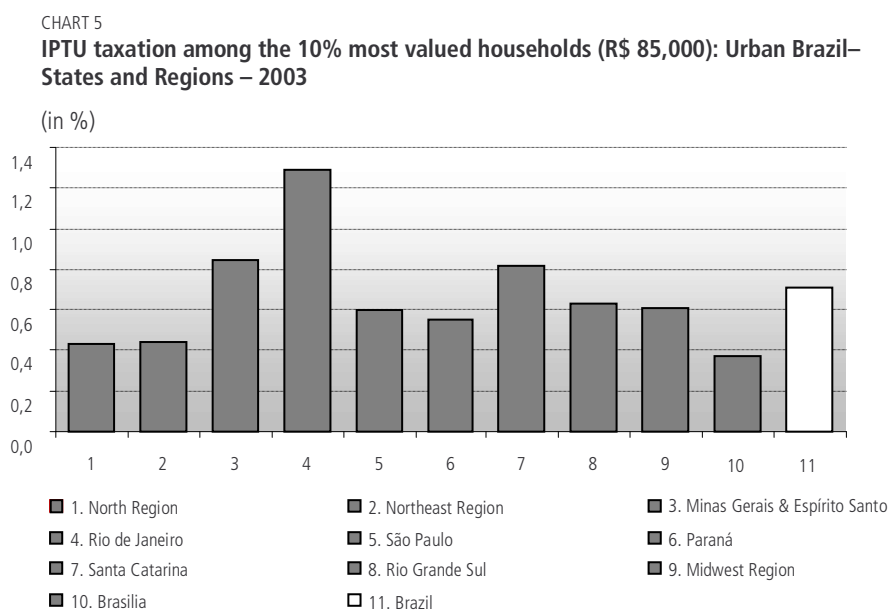
The regressiveness level among taxpayers of real estate taxes has been up to reality even in developed countries with extensive experience and high taxation on property, such as Canada. As Chawla and Wannell (2003, p. 3) indicated, in that country (which did not adopt progressive rates in general), the families included in the first sixth of households’ income, spent on average, 10% of their income to pay the real estate tax and the families inserted in the last sixth devote only 1.8%. Therefore, the authors estimated that there was an increase of 9% in the Canadian coefficient of Ginn¹⁹ due to the real estate taxes, showing that real estate taxes may be regressive behavior, even in countries with high sophistication in property assessment and with great administrative efficiency. In that case, the application of progressive tax rates would reduce the regressive pattern in that property taxes system.

The main reason for the regressiveness observed among the IPTU taxpayers, in spite of being a direct and real tax, and even may have progressive rates, probably is the regressive officials assessments buildings that in practice end up taking a regressive tax burden among taxpayers. In fact, the assessed system is the main challenge of property taxation in the world. The most Brazilians cities have old and outdated

19. This increase in the Ginn coefficient due the Real Estate Tax was reversed with a decrease of 11% due to Income Tax.

assessments systems, not reflecting the dynamism of the real estate market. The instrument which the municipality insert the land value for some area or urban division²⁰ to determine the market real estate value is a local law which is called “Planta Genérica de Valores” (PGV). The PGV must be established by the municipal administration in the form of a law project and must be approved by the City Council which may amend or repeal the entire project.²¹ The fact that a technical work must pass for a political process increases the chance of the PGV among the Brazilians cities become outdated.²² This is justified because it is easier the local government be more pressure for political reasons from the local society and interest groups organized. As the real estate taxes are direct and highly visible, they became object of dislike for most taxpayers, compared to another kind of taxes, like the indirect taxes.

It is observed in chart 5, that the level of effective taxation by IPTU in 2003, only in property values up to R\$ 85,000 (which would be the last decil of real estate values, at national level) is very low and have significant differences between some states and regions.



Source: IBGE/POF 2002-2003 and Pnad 2003.

The chart 5 shows that in Brazil there is an average taxation of 0.7% in the last tenth of real estates values and only the state of Rio de Janeiro highlights with an

20. In Brazil, the built portion of real estate value is usually estimated through cost of construction, less or plus some factors such as the kind of construction, age of property, slope, existence of condominium or garage, among other technical aspects of civil engineering. However, the concern about the land portion of real estate value should be higher, because the location is the main component of the value of the property.

21. This is the only case in Brazil where the tax value must be established by the Law, according understanding by the STF (RE 87,763-1 of 07/06/1979 and Súmula 160).

22. It has been the case with the city of Porto Alegre where the new Assessment System was not approved since 1990. The City Council of Porto Alegre has repeatedly rejected several law projects of a new assessment system.

average taxation of 1.3%.²³ But in the North, Northeast and the Midwest Regions the tax does not reach 0.5% of that real estates included in the final tenth of real estates values. When examining the rates of other important Brazilian tax on property, the IPVA (Motor Vehicles Tax), the states usually establish the rates between 3% and 5% of the vehicle assessed value, in this case, almost ten times higher than usual average rate of IPTU. Moreover, the official vehicles assessed values usually are based on research conducted by the Foundation Institute of Economic Research—Fundação Instituto de Pesquisas Econômicas (Fipe)—that estimates the average vehicles price offered in the market, thus being much more realistic as opposed to most local real estate assessments established by the municipality.

5 PROGRESSIVENESS OF IPTU AMONG THE HOUSEHOLDS' INCOME

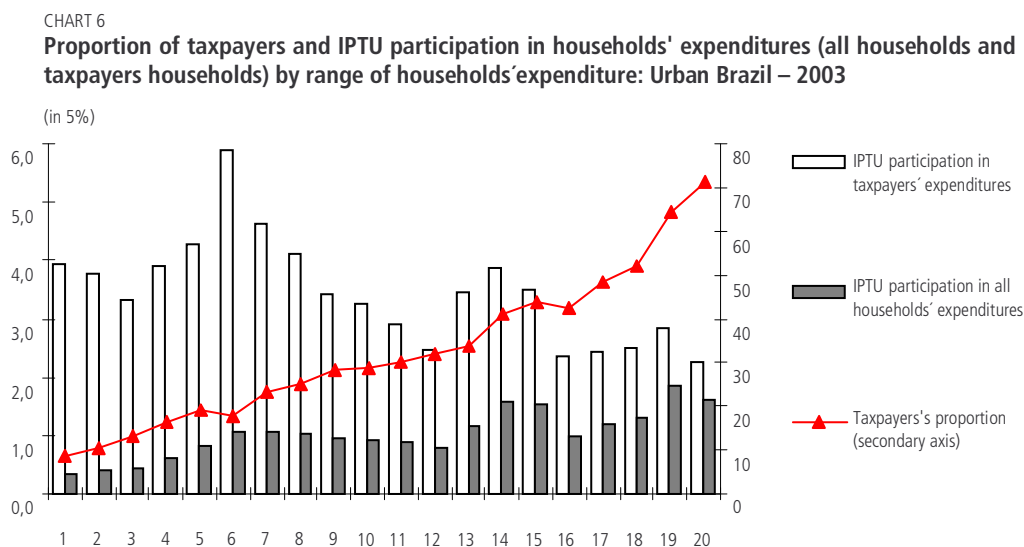
Another indicator that provides a distributive view of the IPTU tax burden would be the tax payment participation on household's spending,²⁴ which can be compared with the household's payment ability. Of course, the IPTU is based on the property value and the household's expenses maybe can not express properly the real tax distribution level. However, the indicator gives us an idea of the tax participation in the household's budget and the ability to payment, showing changes in the households' welfare. Varsano (1977), in their paper, used the same indicator and reported that IPTU would be naturally regressive, as the tax base—the value of the property—and it tends to growth less than the income. Indeed, for the 70's, due to the accelerated economic growth in Brazil, this arguments would be correct, but later, it was found that the lands urban prices in Latin America metropolis also growth dramatically, reaching the same levels of developed countries, as Smolka and Morales (2005). Moreover, study the IPTU distributives aspects through the families' budget, with the current statistical series in Brazil is easier than estimates the real estate values, how it was done in this work (chapter 3).

Chart 6 shows the tax distribution by twentieths of household's expenditure in the urban Brazil. The white bars show the IPTU average participation among the taxpayers' expenses and the dark bars show the IPTU average participation in all households' expenditures, considering the total of households, taxpayers or, ie which is similar to the "Global IPTU Tax Burden". The indicator of IPTU progressivity level among taxpayers' expenses (white bar) is important to provide us a notion of tax system progressiveness and it shows the possible impacts and the distributional distortions in the case of increase the proportion of taxpayers. For this study, it was chosen the relation "IPTU payment participation and the "Households' Expenses" instead of "Households' Income", because in the last exists a worldwide problem in all Sample Families' Budget, like POF 2002-2003, that it is the respondents usually

23. It is important to emphasize that in Rio de Janeiro City (which concentrates the majority of buildings in the Rio de Janeiro State), there is a policy to waive or grant large tax discounts to popular buildings, which makes the taxpayers to be concentrated in the class of last tenth of real estate values.

24. It could also use the indicator of tax participation on household income, but the probability of the households underdeclare their income is greater than underdeclare their spending, according to several research studies in the Family Budget Survey.

not declare all their income and the statement of their expenditure is more appropriate in this case to indicate the level of contributive capacity, as Hoffmann, Silveira and Payeras (2006, p.15).



Source: IBGE/POF 2002-2003.

As is shown in chart 6, the IPTU participation in the Households' Expenses has a distribution similar in the analysis (chapter 3) of the tax participation in the real estate value, which was also progressive, considering the universe of all households, for 2003 data. The chart 6 indicates that the IPTU participation in the all households' expenses was around 0.5% in the segment of the 20% poorest, around 1.8% in the 10% richest and around 1.1% in the other extracts intermediaries, which maybe imagine a progressive tax. However, considering only the distribution among taxpayers, this situation is reversed: the average IPTU participation in taxpayers' expenses was about 4% among the 50% poorest households and 2.9% among the 50% richest. Moreover, the taxpayers' proportion among the households increases progressively with the households' expenditure, only 10% among the 10% poorest, to cover about 70% among the 10% richest. This situation does not change so much when comparing the results for Metropolitan and Non-Metropolitan Regions, while in the first, the taxpayers' proportion up to the third decil of household's expenses was only 8%, compared to the indicator of 17% in Not Metropolitan Regions for the same class. This fact can be explained, because it is usual tax exemptions offered by main cities due these cities have a vast tax base (including commercial and industrial buildings). Besides this, there is a large number of precarious and informal settlements, which generally are not included in the official real estate register, therefore not be able to pay the tax.

Moreover, the regional data shows that in the North and Northeast Urban Regions (together analyzed) there was a high progressiveness level in the IPTU payment on the household expenditure. This fact was once again justified due the low number of taxpayers in these Regions (only 12 % of all households). Considering only the taxpayers' universe—these 12% of families—there was some distributive

neutrality, which the indicator has fluctuated around 2.5% to 3.5% of households' expenditures. In the case of the Southeast Urban Region, there was progressive IPTU participation, if was considered all households' expenditures, which was 0.8% and 2.1% in the first tenth and in the last tenth of expenditures range respectively. However, a higher taxpayers' proportion when compared to North and Northeast Regions was responsible, consequently, for a higher global tax burden. When it is analyzed only the taxpayers' universe (43% of all households in southeast region), it was proved a highly regressive tax system, on which the IPTU payment in household expenditure was on about 4% among the 60% poorest taxpayers and 2.8% among the 40% richest taxpayers. In the South Region, the IPTU participation in the all familiar budget was progressive, being 0.5% in the first tenth and 1.4% in the last tenth. Moreover, among the taxpayers (40% of all households in south region), there was also a regressive pattern, on which the IPTU represented on average 3.5% of the expenses among the 60% poorest families and 2.4% among the 40% richest families. Finally the IPTU payment participation on the families' expenditure in Midwest Region was also progressive pattern similar the others regions, due to the fact that region has a proportion of 27% taxpayers' households. In the first tenth of expenditures, the families, in average, expensed only 0.5% of their budget on the IPTU payment and the last tenth this indicator was 1.1%. Now, considering only the universe of taxpayers' households (27% of all households in Midwest region), it was found a highly regressive system, with the 60% poorest spending 3.6% of their expenditure and the 40% richest spending only 1.9%. The table 1 summarizes these regional and national data for IPTU distribution, considering the whole household's universe, as only the taxpayers' universe and also shows the indicator of IPTU tax burden both in terms of the real estate value as a function of household expenditure. Table 1 briefly summarizes these results for national and regional levels as for fifths of property values and household's expenses.

TABLE 1
Analytical summary of IPTU distribution by fifths' ranges of real estate values and by households' expenditures: Brazil and Regions – 2002-2003.

Region	Five equal ranges of real estate value														
	All households' universe										Taxpayers' universe				
	Taxpayers' proportion (%)					Mean IPTU/real estate value (%)					Mean IPTU/real estate value (%)				
	1st	2nd	3rd	4th	5th	1st	2nd	3rd	4th	5th	1st	2nd	3rd	4th	5th
Brazil	8.5	18.1	29.4	44.5	62.2	0.5	0.5	0.6	0.8	0.9	3.0	2.0	1.4	1.5	1.1
Noth/Northeast	2.8	6.6	6.1	12.0	32.2	0.2	0.2	0.1	0.2	0.3	3.8	1.5	1.2	1.0	1.0
Southeast	19.5	29.8	43.5	51.5	70.1	0.8	0.6	0.9	0.8	0.9	3.0	2.1	1.5	1.5	1.2
South	17.5	29.0	38.8	48.8	63.9	0.6	0.7	0.7	0.7	0.8	3.1	1.7	1.5	1.5	1.1
Midwest	8.3	17.5	28.1	31.9	48.0	0.3	0.3	0.4	0.4	0.5	2.3	1.5	1.2	1.1	1.0

(continue)

(continuation)

Region	Five equal ranges of households' expenditures														
	All households' universe										Taxpayers' universe				
	Taxpayers' proportion (%)					Mean IPTU/household's expenditure (%)					Mean IPTU/household's expenditure(%)				
	1st	2nd	3rd	4th	5th	1st	2nd	3rd	4th	5th	1st	2nd	3rd	4th	5th
Brazil	12.2	21.4	29.8	40.3	59.1	0.5	1.0	0.9	1.3	1.5	4.4	3.0	3.5	2.4	2.5
Noth/Northeast	3.1	5.5	8.3	12.9	29.7	0.1	0.2	0.3	0.4	0.8	3.9	2.8	3.2	2.9	2.2
Southeast	22.9	33.4	39.9	50.3	68.2	0.9	1.5	1.4	1.5	1.7	4.6	2.9	3.9	2.4	2.7
South	20.3	28.4	37.7	48.5	63.2	0.7	1.1	1.3	1.2	1.5	3.5	3.7	2.4	2.6	2.1
Midwest	11.7	19.1	25.2	31.8	46.0	0.5	0.7	0.8	1.0	1.1	3.8	3.4	3.0	2.7	2.5

Source: IBGE/POF 2002-2003.

6 CASE STUDIES RELATING TO REAL ESTATE TAXATION IN MAJOR BRAZILIANS CAPITAL CITIES

This topic of this study aims to show the conditions of IPTU taxation in major Brazilians States' capital cities and in the Federal District (Brasília) in the years of development of the POF, i.e., 2002 and 2003. Through the POF data, it can be analyzed the discrepancy between the IPTU tax burden (effective rate), on taxpayers' level, and the legal tax rate included in legislation of each city selected (legal rate). Therefore, if the difference between the tax burden suffered by taxpayers (effective rate) and legal rate is high, it supposes that probably there is a high discrepancy in the official real estate assessments and the market value or there is a high granting of significant discounts in the tax base. The data also allowed us to analyze the tax distribution and taxpayers' proportion by five ranges of real estate values (how the sample in this case is restricted at citie's level, it is better to divide data in no more than five extracts).

As the POF data are for 2002 and 2003, when we doing an evolutionary analysis of the IPTU tax revenue since 2003, we can probably consider that there was some improvement in the tax administration, in the case where there was a significant increase in tax revenue in the subsequent years. For example, if a municipality, according to POF 2002-2003, has bad indicators of taxpayers' level and IPTU tax burden, but there was significant increase in revenues in the subsequent years, then probably there was some improvement in tax administration, especially if the council has done work of new real estate registration or approved a new law on property assessments (PGV). As this study has shown, there is a low level of taxpayers and that it is high the lag in official assessments buildings and the market value, probably the reason for some large increase in IPTU revenue happen would be due to these improvements in administrative aspects cities instead of the legal increase of rates, for example.²⁵

25. In the case of states' capital cities, it is low the risk that any commercial or industrial enterprise can increase significantly and suddenly the IPTU tax revenue (such as the installation of an industrial plant). This is more likely in medium size cities which have received more industrial investments. Note, it must be that the IPTU data revenue provided by STN (Federal Department of Finances in Brazil) encompass both the residential segment, as the incident on commerce, industry and vacancy land.

Analyzing the municipal data summarized in annex 2, in the Northeast capital cities (Fortaleza, Recife and Salvador), it is shown the IPTU reality in this region, where there is low level of taxpayers. However Recife had a slightly better performance in the IPTU taxation in most valued real estates. In the Southeast region states' capital cities, Rio de Janeiro has the residential IPTU revenue concentrated almost entirely in the class of 20% most valued real estate, with 1.4% of taxation in this extract, on the other hand, the taxation was very small in the others extracts. São Paulo, in contrast, had a taxation of only 0.5% in the class of 20% most valued real (similar to Northeast region), although the taxation in the intermediaries classes is greater than in other capital cities studied. In the case of Belo Horizonte city, the IPTU represents the main tax revenue, what is unusual in Brazil, and the city has high per capita tax revenue, despite the legal rate of 0.8% is not so high, what probably indicates efficiency. The data showed that the tax burden is higher in Belo Horizonte than other cities, even above the legal rate on all extracts of property values, so there is a possibility that the real estate assessments is above the market value.²⁶ The taxpayers' proportion in Curitiba and Porto Alegre, both in South Region, also was higher than in other capital cities studied and despite the fact that Curitiba has a progressive tax rates system, Porto Alegre has a more progressive tax burden distribution. In the Midwest Region, Brasília had low taxpayers' proportion IPTU (despite the high income in this city), but the tax burden was higher than the statutory rate of 0.3%, what leads us to believe that the assessments should be close in value market. Even Goiânia had a high taxpayers' proportion and seems to have a good assessment system, although the tax rates are low. Manaus and Belém, in North Region, had terrible revenue indicators and the taxpayers were only 3.3% and 15.3% of all households in these cities respectively. In Belém, there was only a significant taxpayers' proportion in the last value real estate fifth, but this was not true in Manaus even in this class. The very low real estate taxation in Manaus is explained mainly because this city exempts the IPTU payment from who has income below three minimum wages and there is a great difficulty to monitor the households' income by the local administration, giving scope for evasion. A better criterion for exemption, would take into consideration the localization or the assessment real estate value due this criteria would be less costly to monitor, besides being more visible to the local administration.

An important fact showed in this study was that São Paulo, Curitiba and Belo Horizonte had global tax burden with regressiveness distribution, even in the last fifth of real estate values (20% most valued), unlike the others selected cities. This fact shows that these cities should pay attention to equity in the real estate taxation; however, this fact also can be explained by the greater households' level. Another interesting fact, was that in Belo Horizonte, Brasília and Goiânia, the global tax burden was higher than the legal rate. This fact can be justified not only by exaggerated assessment real estate system, but also because this probably occurs in the buildings with lower market values. The data suggests a high standard deviation in

26. This issue should be further studied before any conclusions about it. For example, Belo Horizonte charges others taxes together within the same urban taxes bill and perhaps the data of POF can show the total value of in this bill, not been only the IPTU value paid. Anyway, the high *per capita* Belo Horizonte IPTU revenues and their low legal rate (0.8%), at least, tell us that the real estate assessments are not far below the market value.

real estate assessments, what can artificially raise the average tax burden, as the median was significantly lower.²⁷ The statutory tax rates in these three cities are lower than in the others (0.8%, 0.3% and 0.5% respectively), what incentivizes the cities to have a more efficient assessment system.

To facilitate the understanding of local indicators, were prepared annexes 2 and 3. The first shows the distributional IPTU indicator and the second places analyses and comments on the results found. Initially, in the sixth column of annex 2 is shown the last real estate market value percentile that is associated with each range of assessed values (fifth column) which are applied the IPTU statutory aliquots, in the case of a city with progressive rates. The distributive impact of a progressive tax rates tends to be small if the real estate assessments were in very different level of market value and if the establishment of the statutory rates were not based on these assessed values distribution. For a good progressive tax rates system, in the case of property taxes, generating in fact a progressive taxation, are necessary two attributes: realistic assessment and progressive rates based on the distribution of these realistic assessed values. For example, there is no reason to municipality establish in law that property values over R\$ 200,000 will be taxed at a high rate, if the assessed values were very unrealistic, artificially concentrating almost all the buildings that actually have market values over R\$ 200,000 being taxed a lower rates, due the low level of assessment. The annex 2 also shows that in the main Brazilians cities with progressive rates of IPTU, almost all buildings were concentrated in the bands of lower rates. This fact occurs because there are great differences between the market values and the official evaluations and there is a bad calibration of values ranges applied to these progressive rates. A good example is the case of Curitiba, despite this city has a system with nine progressive rates which is well distributed according to the local real estate market values, probably the official evaluations become the tax burden regressive from the last fifth of real estate values.

Another problem that happens is the establishment of values ranges associates to progressive rates with very different market values distribution. As some examples of poor rates calibration, there are Recife and Belo Horizonte. In Recife there are five different progressive rates, and the second lowest cover real estate values between the percentile 25.5 and 73.7 (half of all real estates) and the highest rate is applied only since 99 percentile (only 1% of all). In case of Belo Horizonte, there are three rates (excluding the exemption class) and the lower rate is applied between the percentile 12.9 and 98.5, leaving a too very small number of real estate subject to the others two higher rates. To aggravate this problem, if the assessed values are in lagged with the market values, these highest rates would be even more restricted.

27. Another possibility aforementioned is that these cities can occur in joint charge of the IPTU Tax Bill, other urban taxes and many interviewed in POF 2002-2003 could not break down those taxes.

7 CONCLUSIONS

The one of main discussion of reform and improvement of progressiveness in Brazilian tax system that is to reduce the high taxation level on consumption and increasing the rates of direct taxes, notably the Income Tax and Real Estate Tax and to establish the Tax on Large Fortunes (Wealth Tax). However, this issue deserves a deeper discussion, because it does not only increase the tax rates or establish a new tax. The real estates remains the principal and most popular investment for Brazilian families, even with the growth of financial market (maybe nowadays this tendency of growth has reduced due the financial crisis), because there is still in the country some bureaucratic restrictions on access to investment in the financial market, besides the general perception great risk associated. Furthermore, the Brazilian families have historical and cultural preference for investment in land or real estate market. Given the fact that the real estates are commonly used as financial assets in Brazil (value store in inflationary economy, for exemple), with low taxation and assessment level, there is no doubt end up large housing assets unoccupied and high growth in the price of urban land.

The distribution of residential real estate usufruct made by this work through the database of POF 2002-2003, showed regressive behavior, higher than the family income distribution in the same database, which only 5% of households had 32.2% of residential real estate stock. This demonstrates the great potential of IPTU like a tax with high distributive potential impact. Another IPTU aspect is the tax property assessment, although may be complex and expensive, is the basic instrument of measurement the tax base not only for IPTU, but also for the Wealth Tax, the Property Transfer Tax, the Income Tax and the Inheritance Tax, in addition to the Real Estate Valuation Tax.

This study shows that the IPTU has a highly regressive structure between taxpayers, who in fact pay the tax, but this regressiveness level among the taxpayers was compensated due to low tax coverage in the poorest households (only 30% of all Brazilian families pay IPTU in 2003 and only 12% among the 20% poorest families). The low tax coverage was stronger than the regressiveness among the taxpayers and ended up making the overall tax burden slightly progressive. The national data show taxation of 0.65% in the real estates market value, and this indicator was 0.5% in the first fifth of real estate values and 0.9% in the last fifth. But this progressivity in the IPTU tax burden only occurred because the proportion of taxpayers was 8.5% and 62.2% in these fifths, respectively. When considering only the universe of taxpayers, the situation is reversed: the first fifth suffer 3.0% of real estate taxation and the last fifth only 1.1%. The median in this case can be better than the mean data, due to the high horizontal regressiveness among the assessed real estate value for taxation (high standard deviation between the assessed values). In this case the median for the first fifth was 0.78% and for the last fifth was 0.43%. An interesting fact is that the IPTU tax burden among all the households presented regressive pattern in the regions or cities when the taxpayers' proportion was more than 40% of households. This showed that in cities with a higher proportion of taxpayers, the regressiveness of taxation was more visible and a policy of increasing the IPTU revenue without applying progressive tax rates or reform the real estate

assessments system, paradoxically would increase the inequality, despite the large concentration of real estates stock in Brazil. This fact could also increase the antipathy of the taxpayer and the political pressure against the IPTU, even the property owners group of most valued real estates have more power to organize and usually to make political and judicial pressure in local government attempts to increased the property taxation. This has hindered the implementation of major changes that have been allowed by the Constitutional Amendments and the Cities Statute (Federal Law nº 10,257/2001) since 2000.

The reasons that made the IPTU be regressive among the taxpayers are various and they were mentioned during the text, although the inherent regressive pattern of property taxes be a reality in all the world and the real estate stock often be more concentrated than the households' income. In Brazil, the main reason would be the municipal assessment systems that usually are older and deficient and in general attach more weight for the building value than the localization value when estimates the tax base. The factor that attenuated and even reversed the regressive pattern of IPTU at national level was the lower taxpayers' proportion among the least valued buildings. The low proportion of taxpayers in least valued real estates can occur for several reasons, such as the popular legal tax exemption granted by the municipality for the poor people, which can be based on different criteria. These criteria can be the family's income, property localization or assessed value in general. Another reason would be a real estate cadastre little comprehensive, due to large number of irregular and illegal buildings. Moreover, it also is common the default, which occurs when the municipality is not efficient in the collection and recovery, creating such kind of "non-payment taxes" culture. The few taxpayers among the least valued real estates had more impact on the distribution of tax burden than the regressive pattern of property assessments, making the IPTU slightly progressive in the national level. This paper also showed that is important the council be careful on to establish the rules in an exemption policy. It is preferable to establish some criteria on what the municipality has better control, such as localization, assessed value, size or some other property characteristic instead of use the owners' income. In some capital cities which on this last criterion was adopted, like Manaus, the taxpayers' proportion were extremely lower than the municipalities which have applied the criterion of market value, size or localization of the property.

The introduction of progressive tax rates, statutory instrument allowed by the Constitutional Amendment nº 29/2000 and adopted by many municipalities, has been limited distributive impact, as noted in the States' capital cities analyzed in this paper. Although has not had a distributive analysis before and after of progressive rates introduction, the data show that even in municipalities that apply progressive tax rates as Curitiba, São Paulo and Belo Horizonte, the real estate taxation was still lower in the last fifth of real estate market values than in the other extracts. It is important to emphasize in those cities is possible that the property assessments system are so regressive, that they reach to cancel the effect of the progressive tax rates. Another important fact is that these rates can be ranged in such a way that they do not reflect the real distribution of buildings values assessed in these cities, which is the tax base. In the case of lagged assessed values and progressive rates ranged according the market, the higher rates would cover only a very small number of

buildings. For example, in Belo Horizonte, the maximum rate is applied on assessed value over than R\$ 500,000, which would be less than 1% of all households in the case of these assessed values be equal to the market values. If the assessed value was lower than market values in Belo Horizonte, what is common in Brazilian cities, the proportion of households taxed for this rate would be still lower!

Among the 10% most valued homes in Brazil, about 60% was taxed in 2003, but in North and Northeast Regions this indicator was about 30% and, in opposition, in São Paulo State it was 80%. The political cost of collecting urban tax, the culture and the level of real estate values in the North and Northeast are also important elements to justify the low taxation performance in these regions, besides the high level of constitutional revenue flows by Federal Government to municipalities in the North and Northeast Regions. This fact does not stimulate the own municipal collection and it is necessary to make the IPTU more comprehensive and progressive besides create conditions so that the municipalities have incentives to execute their works for evaluation and registration properties with technical, efficiency and fairly. It is also needed to create legal mechanisms to have greater transparency in this process and reduce political pressures, such as the problem of necessity for approval the law of new values assessed (PGV) by the local legislative council. Unfortunately, according to historical experiences in Brazilian federalism model, important change initiatives introduced by the municipalities on this issue often are paralyzed by legal claims in a local court injunctions, so the creation of a Federal Law which could regulate the IPTU and the property assessments is highly necessary. A Federal Act or an amendment in the National Tax Code could regulate better the tax, such as the establishment of a maximum period frequency of property revaluations, issues about the registration of the property, the harmonization of the policy of exemptions and discounts and the external control of property assessments by the Local Auditors Courts (Tribunais de Contas Locais). It could also be established a range of rates, as well as the Services Tax—Imposto Sobre Serviços (ISS), another local tax, that had the aliquots and other attributes regulated by a Federal Law nº 116 (Lei Complementar Federal nº 116/2003), making taxpayers of different cities that are not taxed with so many different rates (regional inequity). The external control of the assessed values is implicitly reported in the Fiscal Responsibility Law nowadays (Lei de Responsabilidade Fiscal) and, moreover, the States could report in their Locals Constitutions the obligation of analyzing the real estate assessments by the Local Court of Auditors. It should think not only the mere institution of IPTU, which exists in almost all municipalities as a requirement for receipt of revenues by the federal government, but its efficacy and less regressiveness among taxpayers. Besides the evaluations, the Local Court of Auditors could also examine the policy of granting exemptions and celebrate agreements with universities or specialized firms as occurs in USA and Canada. A tax regulation imposed by a Federal Law is also important, in the Brazilian case, because the assessed values not only affect the IPTU but also other properties taxes like the ITCM (state tax on inheritances and donations), the ITBI (municipal tax of real estate transfers), the Income Tax (in the case of profit in real estate transactions) and the Tax on Large Fortunes (Wealth Brazilian Tax, in discussions for its introduction).

The work aimed to break the paradigm of the discussion about low revenue of IPTU in Brazil due the “laziness taxation”, i.e., low local revenue due to high dependency for Federal transfers revenues. It highlighted the importance of urban instruments and municipal taxes of their difficult implementation due the political pressures and various legal challenges. The public policy to increase the importance and justice in property taxation cannot be done just increasing the legal rates or introducing a progressive rates system. For this fact occurs is necessary have assessed value “realistic” and a correct calibration of these tax rates in line with the reality of the local real estate market and the distribution of assessed values. Those are important reasons that must be examined when it wants to increase the weight of property taxation in any country.

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ANNEX A

Main characteristics of real estate taxes in some countries and cities – 2002-2005

Country or city	Tax base of the real estate tax	Rates of real estate tax (%)	Period	Properties taxes / GDP (mean, %)	Real estate tax/GDP (mean, %)	Local real estate tax/local revenues (mean, %)
Austria	10%-20% Market value	0.05 – 0.2	2002-5	0.58	0.25	2.6
Belgium	Cadastral value	1.25 – 2.5	2002-5	2.89	1.40	18.3
Czech Republic	Property size (per sq, flat tax for the building)	0.23 – 3.38	2002-5	0.50	0.18	1.8
Denmark	Market value (three cumulative taxes for the real estates)	1.7 – 7.5 (sum of 3 rates)	2002-4	1.92	1.24	3.6
Finland	Market value	0.22 – 1.0	2002-5	1.16	0.43	2.4
France	"Taxe d'habitation" and "Taxe foncière" by value "Rent"(both cumulative, but the tax base usually outdated).	5.0 – 15.0 (Taxe d'habitation) 9.16 – 23.17 (Taxe foncière)	2002-5	4.63	3.59	28.9
Great Britain	Assessed value that is inserted in intervals of 8 values (taxation in "bands")	2.5 (mean)	2002-5	1.77	1.54	0.1 – Local 4.3 – Central
Greece	Market value	0.3 – 0.8	2002-5	1.08	0.19	5.1
Germany	Assessed value	1.5 (mean)	2002-5	0.83	0.42	5.6
Ireland	Assessed value as value of "rent"	1.5	2002-5	0.68	0.55	5.3
Italy	Cadastral value	0.4 – 0.6	2002-5	1.54	0.91	5.7
Netherlands	Established by the municipality	0.1 – 0.3	2002-5	2.00	0.75	4.2
Norway	Assessed value	0.2 – 0.7	2002-5	0.48	0.21	1.5
Poland	Property size and tipe of use	0.69 – 18.6 (per sq)	2002-5	1.46	1.39	10.3
Portugal	Value of rental Income (annual income = 4% of the property)	0.7 – 1.3	2002-3	0.57	0.52	8.2
Russia	Market value	0.1 – 2.0	2003-5	0.90	0.81	7.6
Spain	Cadastral value	0.4 – 1.05	2002-4	3.35	1.08	11.6
Sweden	Assessed value	0.5 – 1.0	2002-5	1.54	1.00	0.0 – Local 2.6 – Central
United States	Assessed value	10.0 – 12.0 (New York City) 1.0 (California) 3.0 (Florida) 4.1 – 6.6 (Chicago)	2002-5	3.38	3.09	Not available
Canada ²⁸	Assessed value	0.7 – 1.9	2002-5	3.54	3.05	36.4
Australia	Assessed value	0.11 – 2.5	2002-5	2.45	1.14	37.6 – Local 2.5 – State

(continue)

28. Chawl and Wannell (2003).

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Country or city	Tax base of the real estate tax	Rates of real estate tax (%)	Period	Properties taxes/GDP (mean, %)	Real estate tax/GDP (mean, %)	Local real estate tax/local revenues (mean, %)
New Zealand	Land value (charged together public services)	Not available	2002-5	2.21	1.98	50.0
Israel	Property size and tipe of use	21.8 – 47.0 (per sq)	2002-5	2.86	2.38	39.4
Lebanon	Annual net rental income of the property	4.0 – 14.0	2002-4	7.63	1.87	Not available
South Africa	Market value	0.98 (cape town)	2002-5	2.19	1.44	17.1
Thailand	Assessed annual rental value of the property	12.5 (on rental value)	2002-5	0.72	0.35	5.9
Indonesia	Assessed value	0.5	2002-4	0.76	0.70	0.0 – Local 3.0 – Central
Singapore	Rental value	0.4 or 1.0	2002-4	0.94	0.83	Not available
South Korea	Statutory price of building and land	0.15 – 0.4	2005	0.65	0.06	0.00
Colombia	Self-assessment if it was higher than the assessed valued	0.1 – 1.6	2003-5	1.01	0.81	10.2
Chile	Cadastral value	1.0 – 1.2	2002-5	0.69	Not available	Not available
Peru	Cadastral value	0.2 – 1.0	2002-5	0.35	0.30	7.8
Bolivia	Assessed value	0.35 – 1.5	2002-5	4.33 ²⁹	1.63	10.7 – Local
Argentina	Cadastral value	1.25 – 1.45 (Buenos Aires)	2002-4	3.65	0.82	5.0 – State
Brazil	Assessed value established by municipality	0.25 – 2.0 (Main Cities)	2002-5	2.44 ³⁰	0.46	6.3

Source: Brown and Hepworth (2002) and IMF (2007). Elaboration: Ipea/Dirur.

²⁹ Includes the Tax on Financial Transactions.

³⁰ Includes the Tax on Financial Transactions – CPMF.

ANNEX B

Summary of residential IPTU distribution in main states' capital cities selected: Brazil – 2002-2003

City	Main IPTU exemptions and discounts	Criterion of variation in residential IPTU rates	Value of residential IPTU rates by range of value (%)	Range of assessed values by rates (1,000 R\$)	Percentile of property market value by each rate	Kind of index (%)	Universe of all households					Universe of taxpayers		
							Five equal ranges of real estate values					Tax burden		
							1st	2nd	3rd	4th	5th	Total	Mean	Median
Fortaleza	Exemption for assessed values up to R\$ 21,600	Assessed value	Exempt	< 21.6	43.7	Tax burden (mean)	0.14	0.01	0.28	0.23	0.57	0.24	1.34	0.98
			0.6	21.6 – 50	73.4									
			0.8	50 – 180	94.4									
			1.4	> 180	100.0									
Recife	Exemption for taxpayers with to low income and building up to 50m ² of size. Reduction of 25% or 50% for real estates values up to R\$ 21,000 besides another restrictions.	Assessed value	0.6	< 17.6	25.5	Tax burden (mean)	0.13	0.07	0.09	0.57	0.89	0.33	1.12	0.51
			0.8	17.6 – 65.6	73.7									
			1.0	65.6 – 153	95.0									
			1.2	153 – 349	99.0									
1.4	> 349	100.0												
Salvador	Exemption for real estates with IPTU charging less than R\$ 18,00	Kind of building construction.	0.1 (Precarious)			Tax burden (mean)	0.07	0.04	0.04	0.24	0.50	0.18	0.71	0.20
			0.2 (Simple)											
			0.3 (Medium)		Not applicable									
			0.4 (Good)											
			0.7 (Luxe)											
			1.0 (High luxe)											
Belo Horizonte	Exemption for assessed values up to R\$ 12,300	Assessed value	Exempt	< 12.3	12.9	Tax burden (mean)	0.55	1.10	1.29	1.72	1.45	1.22	3.02	1.11
			0.8	12.3 – 350	98.5									
			0.9	350 – 500	99.0									
1.0	> 500	100.0												
Rio de Janeiro	Reduction of 40% to buildings up to 100 m ² of size and assessed value up to R\$ 36,400	Single rate	1.2	Not applicable	100.0	Tax burden (mean)	0.07	0.17	0.05	0.59	1.46	0.47	1.58	0.50

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City	Main IPTU exemptions and discounts	Criterion of variation in residential IPTU rates	Value of residential IPTU rates by range of value (%)	Range of assessed values by rates (1,000 R\$)	Percentile of property market value by each rate	Universe of all households						Universe of taxpayers		
						Kind of index (%)	Five equal ranges of real estate values					Tax burden		
							1st	2nd	3rd	4th	5th	Total	Mean	Median
São Paulo	Exemption for assessed value up to R\$ 24,000 or assessed value up to R\$ 60,000 with Simple kind of building construction	Assessed value	Exempt	< 24	25.7	Tax burden (mean)	0.05	0.22	0.28	0.77	0.51	0.37	1.24	0.52
			0.8	24 – 65.5	70.0									
			1.0	65.5 – 131.1	91.0									
			1.2	131 – 262	97.2									
			1.4	262 – 524	99.6									
1.6	> 524	100.0	Proportion of taxpayers	5.4	17.1	20.9	39.3	65.9	29.8					
Porto Alegre	Exemption for retirees and pensioners with income up to 3 minimum wage or assessed values up to R\$ 6,000	Single rate	0.85	Not applicable	100.0	Tax burden (mean)	0.26	0.17	0.81	0.66	0.99	0.58	1.63	0.43
			Proportion of taxpayers	13.0	17.3	39.3	38.7	68.6	35.4					
Curitiba	Exemption for assessed values up to R\$ 28,000, with up to 70m ² of size and simple kind of construction Reduction for real estate with native vegetation or for retirees and pensioners with income up to 3 minimum wage.	Assessed value	0.20	< 20	18.9	Tax burden (mean)	0.33	0.29	0.47	0.83	0.69	0.52	1.23	0.41
			0.25	20 – 25	26.8									
			0.35	25 – 35	41.5									
			0.55	35 – 45	54.5									
			0.75	45 – 65	63.8									
			0.85	65 – 95	78.4									
0.95	95 – 125	88.3	Proportion of taxpayers	16.0	19.2	42.4	62.0	70.8	42.1					
1.00	125 – 155	92.2												
1.10	> 155	100.0												
Goiânia	Exemption to buildings up to 60 m ² of size and located in the 4 th fiscal region	Fiscal region (localization)	0.20	Not applicable	Not applicable	Tax burden (mean)	0.41	0.15	0.29	0.34	0.61	0.36	0.75	0.20
			0.36											
			0.50			Proportion of taxpayers	17.6	30.4	52.8	63.7	77.8	48.5		
0.55														
Brasília	Exemption to buildings up to 60 m ² of size located in satellite towns whose owners are retirees or pensioners with income up to 2 minimum wages	Single rate	0.30	Not applicable	100.0	Tax burden (mean)	0.27	0.50	0.33	0.38	0.43	0.38	1.29	0.49
			Proportion of taxpayers	17.6	30.4	52.8	63.7	77.8	48.5					

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ANNEX C

Critical analysis of IPTU residential distribution in the main capitals cities in Brazil

City	Policy of exemptions and discounts	Characteristics and distribution of residential rates	Last year's real estate assessment (2004)	Analysis of IPTU taxpayers' proportion	Distributives aspects	Actual per capita tax revenue for biennium: 2003-4 & 2005-6 (in R\$ 2006)
Fortaleza	The exemption covers a considerable number of households, close to half of the all properties.	3 progressive rates, but the properties exempted and those taxed by the lower rate of 0.6% already make up about three quarters of them.	2003	Only 18.4% of taxpayers who concentrated in the last two fifths of real estate values.	The global tax burden was progressive due to the low number of taxpayers in lower property values extracts. Moreover, the taxation of 1% of the market value between taxpayers (median) shows little discrepancy with the legal rate and little regressiveness horizontal too.	2003-4: 35,93 2005-6: 38,68 Actual revenue increase of 7.5% in revenue due to new assessment in 2003. Even so, the indicator is very low if compared to other capital cities in Brazil.
Recife	The municipal policy for exemption and reduction is confuse, because it combines various criteria such as size, market value and taxpayers' income (this latter criterion being a barely visible for the municipal administration).	5 progressive rates badly ranged, and the two lower reaches nearly three quarters of all buildings. This number would be true if the assessed value is equal to market value.	1998	Only 29.2% of taxpayers, concentrated almost exclusively on higher values building. The last fifth of real estate values has 80% of taxpayers.	The global tax burden is highly progressive because the taxation is more concentrated in the real estate most valued. The median of effective taxation was 0.5% of the market value between taxpayers besides there was high horizontal regressiveness. There is great discrepancy between effective taxation of property and the legal tax rate, suggesting a delayed assessment system.	2003-4: 80,30 2005-6: 87,86 Actual revenue increase of 9.4%, suggesting significant improvement in the tax administration.
Salvador	The exemption covers property with IPTU charging less than R\$ 18, that by the ranges of rates may be between R\$ 6,000 and R\$ 18,000.	The rates vary according to the standard construction (luxury) of the real estate. This criteria requires a property tax cadastre well elaborated and detailed.	1998	Only 25.1% of taxpayers, proportion who concentrated in extract of the most valued properties. Even so, IPTU reaches a little more than half of households in the class of 20% more property values.	The tax burden is progressive due of the low number of taxpayers among lower property values. Analyzing only the universe of taxpayers, the median of taxation was 0.2% of market value. Moreover the data suggests high horizontal regressiveness.	2003-4: 49,36 2005-6: 46,99 Actual revenue reduction of 4.7% in the period, suggesting that IPTU in Salvador still has serious problems.
Belo Horizonte	The city exempts assessed values up to R\$ 12,300, which would be about 13% of all households.	3 progressive rates, but badly ranged, because the lower rate and exemption range cover 98.5% of all households. This number would be true if the assessed value equals the market value.	2002	40.4% of households are IPTU taxpayers or about 50% if we consider those outside the exemption limit.	The tax is progressive until the penultimate fifth of real estate values. This suggests the problem of regressive vertical in the most valued buildings and this problem should be corrected. The median of property taxation only among taxpayers is 1.1%.	2003-4: 135,03 2005-6: 145,37 Actual revenue increase of 7.6% in the period, showing a probable increase in the number of taxpayers.

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City	Policy of exemptions and discounts	Characteristics and distribution of residential rates	Last year's real estate assessment (2004)	Analysis of IPTU taxpayers' proportion	Distributives aspects	Actual per capita tax revenue for biennium: 2003-4 & 2005-6 (in R\$ 2006)
Rio de Janeiro	The city granted 40% of reduction in assessed value to R\$ 36,400, which would cover about 50% in the municipality in the case of the assessed value was the same as market value. In practice, due to lag assessment, the proportion of benefit must be greater.	The single rate is 1.2% which is quite high compared to others Brazilians cities.	1997	About 30% of households pay IPTU and the proportion of taxpayers only begins to be significant from to 40% most valued buildings.	The IPTU tax burden is basically concentrated on most valued buildings due to grant exemptions and discounts granted lower value properties and large number of irregular settlements. The median of effective taxation only among taxpayers is 0.5%, but the horizontal regressiveness is very high. It must be happen because there is a high lag between assessed and market values besides the large granting of discounts.	2003-4: 174,12 2005-6: 178,38 Actual revenue increase of 2.4% showing that probably the situation has changed very little.
São Paulo	The exemption for buildings up to R\$ 24,000 would cover 25% of all households if the assessed value was equal to the market value. The exemption for buildings up to R\$ 60,000 (with standard constructive simple) would cover 68.5% of all households, if the assessed value is equal to the market.	5 progressive rates as assessed value. They are poorly ranged, because the two lowest rates would cover 91% of all households if the assessed value was equal to the market.	2002	About 30% of households pay IPTU. The 60% less valued buildings has very low level of IPTU payment.	The tax burden is progressive up to 80% most valued buildings, after there was a decrease in the last fifth of market values, indicating problems of vertical regressiveness. The median of effective taxation among taxpayers is 0.5% and the horizontal regressiveness was also high.	2003-4: 255,09 2005-6: 240,64 Actual revenue fall of 5.6% showing that the situation does not improve. There was the granted of more criteria for exemptions and reductions to reduce the politic cost of a new assessment system and progressive rates of IPTU in 2002.
Porto Alegre	If the assessed value was equal to the market, the exemption for buildings of up to R\$ 6,000 would cover just 5% of all households. The city also exempts retirees and pensioners with income up to 3 minimum wage, what requires high administrative cost for review of income and control of fraud.	Single rate of 0.85%	1991	35.4% of households reported paying IPTU and the proportion of taxpayers becomes significant among 60% most valued properties. The council has a better IPTU coverage than other state capitals.	The tax burden was progressive and the median of effective taxation between taxpayers was 0.43%, which differs significantly of the legal rate. The horizontal regressiveness is very high, because the municipality does not update its assessment system since 1991.	2003-4: 133,71 2005-6: 131,05 Actual revenue decrease of 2.3% showing that the situation did not improve and probably will continue due to old assessment system.
Curitiba	The exemption for buildings of up to R\$ 28,000 would cover 30% of all households, if the assessed value is equal to the market and the size was less than 70 m ² (the legal exemption criteria).	9 progressives and well calibrated rates, according to the distribution of assessed values.	2004	42.1% of households reported paying IPTU with indicators very significant among 60% most valued buildings.	The tax burden was progressive up to 80% most valued buildings, after there was a decrease in the last fifth of market values, indicating problems of vertical regressiveness. The median of effective taxation among taxpayers is 0.41% and the horizontal regressiveness was also high.	2003-4: 144,24 2005-6: 126,53 Actual revenue reduction of 12.3%, probably due to the exemption granted by the Municipal Law no. 1,212/2003.

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City	Policy of exemptions and discounts	Characteristics and distribution of residential rates	Last year's real estate assessment (2004)	Analysis of IPTU taxpayers' proportion	Distributives aspects	Actual per capita tax revenue for biennium: 2003-4 & 2005-6 (in R\$ 2006)
Brasília	The exemption is granted by criteria of income (pension or retirement income up to 3 minimum wages) and property location (satellite town). The review of the income criterion is usually more expensive and susceptible to fraud than the others.	A single rate of 0.3% for all households, quite below the Brazilian average.	2004	About 30% of households reported paying IPTU. The proportion of taxpayers among the 20% most valued buildings was just a bit more than 50%. This corroborates the fact that there is a large number of middle-class families with real estate in an irregular situation in Brasília.	The tax burden is relatively neutral or slightly progressive, in the same level of other capitals studied. As the city has a low rate, this probably tells us that the assessment system is realistic. The median of effective taxation only among taxpayers was 0.49%, with reasonable horizontal and vertical regressiveness.	2003-4: 104,00 2005-6: 110,58 Actual revenue increase of 6.3%, probably reflecting the new assessment system in 2004. The prices of buildings in the Federal District (Brasília) have increased, requiring a constant review of assessed values.
Goiânia	The exemption is very restricted, applied only to buildings up to 60m ² of size and located in the 4 th Tax Region	4 selective rates by location of the building, being higher in the most valued places. However, the greatest rate is only 0.55% that is much lower than the others Brazilians States' capital cities.	2004	Almost 50% of households reported paying IPTU, being the best indicator among the state capitals studied. The proportion of IPTU taxpayers is quite significant between the 20% most valued properties.	Due to the higher proportion of taxpayers than in the other capitals analyzed, the global tax burden was not progressive. The median of property taxation only between taxpayers was 0.2%, with high horizontal regressiveness.	2003-4: 99,12 2005-6: 122,72 Actual revenue increase of 23.8%, probably reflecting the new assessment system in 2004. It is expected that the horizontal regressiveness had decreased with this.
Belém	The city exempts the buildings with assessed value up to R\$ 16,000. This would be about 1/3 of all households if the assessed value was equal to the market.	5 progressive tax rates. If the assessed value was equal to the market, it is estimated that a half of taxpayers are taxed with lower rate of 0.3%	2000	Only 15% of households reported paying the tax and the Residential IPTU revenue is concentrated in the 20% most valued properties.	The tax burden is low and progressive because of the low proportion of taxpayers. The median of taxation only among taxpayers was 1.31%, with little horizontal regressive. The high level of taxation among the taxpayers probably stimulates the default.	2003-4: 22,96 2005-6: 22,79 Decrease of 0.7% in actual revenue. The situation must have been little changed due less than 40% of the tax charged is paid. The city should have a better system of judicial recovery of debts
Manaus	The city exempts all registered owners with income up to 3 minimum wages. The continuous actual increasing of minimum wage has become exempts' proportion crescent. This criterion is difficult to control and monitoring.	In 2003 there was a single rate of 0.9% applied in an old assessment system by 1991. In 2006 was established a new assessment system and progressive rates ranging from 0.2% to 0.9%.	1991 (New Assessment System in 2006)	Only 3.5% of households reported paying IPTU. The exemption criterion by income level always increases the chances for evasion and fraud. Even among the 20% most valued real estate, the proportion of taxpayers was only 6.5%	The tax burden was only 0.12% and an analysis of taxpayers' taxation could not be performed due of the limited data sample.	2003-4: 13,80 2005-6: 18,42 In 2006 was approved a new assessment system and progressive tax rates that should fix the tax distortions in the city from 2007. But the law is being challenged legally in local court.

Source: IBGE/POF 2002-2003; Municipal Tax Codes. Elaboration: Ipea/Dirur.

ANNEX D

Summary of the local IPTU rates structure by Brazilian selected cities (above 50,000 inhabitants)

State	City	Inhabitants (2000)	Number of local law	Buildings IPTU rates			Vacancy land IPTU rates	
				Residentials (%)	Not residentials (%)	Rate variation criterion	(%)	Rate variation criterion
RO	Cacoal	73,568	1,024/99	1.0	1.0	-	3.0	-
RO	Ji-Paraná	106,800	1,366/04	0.1 to 0.45	0.15 to 0.5	Localization/ assessed value	0.05 to 3.0	Localization/assessed value
RO	Porto Velho	334,661	LC 199/04	0.5	0.5	-	1.0 to 2.5	Urban improvements
AM	Manaus	1,405,834	1,091/06	0.2 to 0.9	0.2 to 0.9	Assessed value	1.0 to 2.0	Assessed value
AM	Parintins	92,118	LC 29/05	1.0	1.0	-	2.0	-
AM	Coari	67,096	407/03	1.0	1.0	-	2.0	Annual rate increases up to 10%
RR	Boa Vista	200,568	LC 459/98	0.5	1.0	-	2.0	-
PA	Ananindeua	393,569	LC 2,181/05	0.5	0.5	-	1.0	-
PA	Belém	1,280,614	7,934/98	0.15 to 0.6	0.5 to 2.0	Assessed value	1.0 to 3.5	Assessed value
PA	Bragança	93,779	3,866/06	0.45 to 1.0	0.5 to 1.1	Assessed value	1.5 or 2.0	Urban improvements
PA	Marabá	168,020	17,192/05	0.5	0.5	-	0.75 or 1.0	Urban improvements
PA	Santarém	262,538	16,299/98	0.5	0.5	-	1.5	-
PA	Redenção	63,251	LC 33/03	0.5	0.5	-	1.0	Urban improvements/ Annual rate increases
AP	Macapá	283,308	LC 22/02	0.65 to 0.8	0.75 to 0.85	Assessed value	0.9 to 1.1	Assessed value
AP	Santana	84,439	LC 01/05	0.7	0.7	-	1.5 or 3.0	Social function
TO	Araguaína	113,143	1,134/91	1.0	1.0	-	1.6 to 4.0	Urban improvements
TO	Palmas	137,355	LC 116/05	0.25 to 0.50	0.4 to 0.8	Localization	1.5 to 5.0	Localization
MA	Acailândia	88,320	LC 03/05	1.0	1.0	-	2.0	-
MA	Barra do Corda	78,147	LC 08/02	1.0	1.0	-	2.0	-
MA	Caxias	139,756	1417/99	1.0	1.5	-	2.0	-
MA	Codó	111,146	951/91	2.0	2.0	-	2.0	-
MA	Imperatriz	230,566	LC 01/03	0.6	1.2	-	2.0	-
MA	São Luís	870,028	26957/04	0.7	1.2	-	2.0	-
MA	Timon	129,692	LC 05/06	1.0	1.5	-	2.0	-
PI	Florianópolis	54,591	LC 8/05	1.0 or 1.5	1.5	Assessed value	3.0	-
PI	Parnaíba	132,282	LC 2,210/05	1.0 or 1.5	1.0 or 1.5	Assessed value	1.5	-
PI	Picos	68,974	1,666/90	0.5	0.5	-	1.0 or 2.0	Annual rate increases up to 5%
PI	Teresina	715,360	3,606/06	0.2 to 0.7	0.2 to 0.9	Assessed value	1.2 to 1.9	Assessed value
CE	Caucaia	250,479	1,169/98	1.0	1.0	-	1.5	-
CE	Camocim	55,448	LC 1/06	0.15	0.15	-	0.5	Annual rate increases up to 5%
CE	Crato	104,646	2,207/03	0.5	0.5	-	1.0	Annual rate increases up to 5%
CE	Fortaleza	2,141,402	LC 33/06	0.6 to 1.4	1.0-2.0	Assessed value	1.0 or 2.0	Localization/urban improvements
CE	Itapipoca	94,369	LC 58/05	0.08 to 1.5	1.0 to 1.5	Assessed value	1.3 or 1.5	Assessed value

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State	City	Inhabitants (2000)	Number of local law	Buildings IPTU rates			Vacancy land IPTU rates	
				Residentials (%)	Not residential (%)	Rate variation criterion	(%)	Rate variation criterion
CE	Juazeiro do Norte	212,133	LC 9/05	0.6 to 0.7	0.7 to 0.9	Kind of construction	1.0	Annual rate increases up to 5%
CE	Maracanaú	179,732	932/03	1.0	1.0	-	1.5	-
CE	Maranguape	88,135	1,377/97	0.75	0.75	-	1.5	-
CE	Russas	57,320	914/03	1.0	1.0	-	2.0	-
CE	Sobral	155,276	LC 02/97	0.5	0.5	-	1.5	Annual rate increases up to 5%
CE	Tianguá	58,069	358/03	0.5	0.5	-	1.0	-
RN	Macaíba	54,883	1,080/02	0.6	0.6	-	1.0	Annual rate increases up to 2.5%
RN	Macau	25,700	LC 1/99	0.5	0.5	-	1.0	Annual rate increases up to 3.0%
RN	Mossoró	213,841	538/90	1.0	1.0	-	2.0	Annual rate increases up to 10%
RN	Natal	712,317	3,882/89	0.15 to 0.6	0.6 to 1.0	Assessed value/ size	2.0	Annual rate increases up to 10%
RN	Parnamirin	124,690	LC 03/98	0.6	0.6 to 1.0	Size	1.0	Annual rate increases up to 2.0%
PB	Campina Grande	355,331	1,380/85	1.0	1.2	-	1.0 or 2.5	Size/Annual rate increases up to 7.0%
PB	João Pessoa	597,934	LC 02/91	1.0	1.5 or 2.0	Kind of commerce or industry	1.5 or 3.0	Localization
PB	Patos	91,761	2,509/97	0.5	0.7	-	1.0	-
PE	Abreu e Lima	89,039	419/00	0.5 to 1.15	1 to 1.45	Assessed value	2.5	-
PE	Cabo de Santo Agostinho	152,977	1,993/01	1.0	1.5	-	2.0	Annual rate increases up to 10%
PE	Camaraçibe	128,702	266/05	0.6 to 1.4	1.0 to 2.0	Assessed value	3.0	-
PE	Caruaru	253,634	LC 06/04	1.0	1.0	-	2.0	-
PE	Garanhuns	117,749	2,928/98	0.6 to 1.4	0.9 to 2.1	Assessed value	3.0	-
PE	Gravata	67,273	3,216/03	0.6 to 1.6	0.8 to 2.0	Assessed value	2.0 or 3.0	Urban improvements
PE	Igarassu	82,277	2,393/01	1.0	1.0	-	1.5 or 2.0	Urban improvements
PE	Ipojuca	59,281	1,181/98	1.5	1.5	-	2.5 or 3.5	Urban improvements
PE	Jaboatão dos Guararapes	581,556	155/91	1.5	1.5	-	3.0 or 5.0	Urban improvements
PE	Olinda	367,902	LC 19/03	0.8 to 1.0	0.8 to 1.0	Assessed value	3.0	-
PE	Paulista	262,237	3472/97	1.0	1.0	-	2.0 or 3.0	Urban improvements
PE	Petrolina	218,538	1,117/01	1.0	1.25	-	0.8 to 4.0	Size/Urban improvements
PE	Recife	1,422,905	16,933/03	0.6 to 1.4	1.0 to 2.0	Assessed value	3.0	-
PE	Santa Cruz do Capibaribe	59,048	1,378/02	1.0	1.0	-	2.0 to 3.0	Urban improvements
PE	Serra Talhada	70,912	LC 34/05	0.5	0.5	-	1.0	Annual rate increases up to 15%
AL	Arapiraca	186,466	2,342/03	1.0	1.0	-	2.0	-
AL	Maceio	797,759	5,349/03	1.0	1.0	-	2.0	Annual rate increases up to 15%

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State	City	Inhabitants (2000)	Number of local law	Buildings IPTU rates			Vacancy land IPTU rates	
				Residentials (%)	Not residentials (%)	Rate variation criterion	(%)	Rate variation criterion
SE	Aracaju	461,534	1,547/89	0.8	1.0 to 2.4	Localization	2.5 to 6.0	Size/Urban improvements
SE	Estância	59,002	LC 08/03	0.5	1.0	-	2.0 or 2.6	Urban improvements
BA	Alagonhias	130,095	LC 05/01	0.5 to 1.5	0.8 to 1.5	Kind of construction	2.0	Annual rate increases up to 15%
BA	Barreiras	131,849	706/05	1.0	2.0	-	2.0 or 3.0	Urban improvements
BA	Camaçari	161,727	595/02	0.9	1.2 or 1.5	Kind of commerce or industry	2.0 or 3.0	
BA	Candeias	76,783	534/02	0.7	2.0	-	3.0	-
BA	Euclides da Cunha	53,885	1,145/02	0.5	0.5	-	1.0	-
BA	Eunapólis	84,120	575/05	0.1 to 1.0	1.0 to 1.5	Kind of construction	2.0	-
BA	Feira de Santana	480,949	LC 03/00	0.5	1.0	-	1.5 to 2.5	Urban improvements
BA	Ilhéus	222,127	2,638/97	1.0	1.2	-	2.5 to 10.0	Urban improvements
BA	Itamaraju	64,144	618/03	0.1 to 1.0	1.0 to 1.5	Kind of construction	2.0	Annual rate increases up to 15%
BA	Jacobina	76,492	793/06	0.5	2.0	-	2.0 or 3.0	Urban improvements
BA	Jequié	147,202	1,083/89	0.6	0.6	-	1.0	-
BA	Juazeiro	174,567	1,475/96	0.5	0.5	-	1.0	-
BA	Paulo Afonso	96,499	967/03	0.9	1.2 or 1.5	Kind of commerce or industry	2.0	-
BA	Porto Seguro	95,721	565/04	0.1 to 1.0	1.0 to 1.5	Kind of construction	2.0	-
BA	Salvador	2,443,107	7,186/06	0.1 to 1.0	1.0 to 1.5	Kind of construction	2.0	-
BA	Senhor do Bonfim	67,723	865/01	0.5 to 1.0	0.7 to 1.3	Kind of construction	1.2 or 1.7	Urban improvements
BA	Simões Filho	94,066	647/02	0.5 or 1.5	1.0	Occupation	3.0	-
BA	Teixeira de Freitas	107,486	308/03	1.0	2.0	-	2.0 or 3.0	Urban improvements
BA	Vitória da Conquista	262,494	1,259/04	1.0	1.0	-	1.5 or 2.0	Urban improvements
MG	Alfenas	66,957	LC 01/97	0.5	0.5	-	1.0	-
MG	Araguari	101,974	1,862/78	1.0	1.0	-	1.0	-
MG	Araxá	78,997	3,983/01	0.3 to 0.7	1.0 to 3.0	Localization/ kind of construction	0.5 to 6.0	Localization/urban improvements
MG	Barbacena	114,126	3,246/95	0.5	0.5	-	0.75 to 3.0	Urban improvements
MG	Belo Horizonte	2,238,526	8,291/01	0.8 to 1.0	1.6	-	1.0 or 3.0	Urban improvements
MG	Betim	306,675	3,467/01	0.3 to 1.0	1.0 to 4.0	Size/Kind of construction, commerce or industry	2.5 to 4.5	Size
MG	Caratinga	77,789	2,935/05	1.0	1.0	-	2.0	-

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State	City	Inhabitants (2000)	Number of local law	Buildings IPTU rates			Vacancy land IPTU rates	
				Residentials (%)	Not residential (%)	Rate variation criterion	(%)	Rate variation criterion
MG	Cataguases	63,980	LC 1,896/90	0.5	0.5	-	1.0 to 7.0	Urban improvements
MG	Conselheiro Lafaiete	102,836	2,239/80	1.0	1.0	-	1.0 or 2.0	Urban improvements
MG	Contagem	538,208	3,013/97	1.0	1.5	-	2.4 to 3.0	Urban improvements
MG	Coronel Fabriciano	97,451	3,158/03	0.8	1.0	-	1.0 or 1.5	Urban improvements
MG	Curvelo	67,512	1,508/90	0.5	0.5	-	1.0	-
MG	Divinópolis	183,962	LC 15/93 e LC 44/97	1.0	1.0	-	3.0 or 4.0	Assessed value
MG	Governador Valadares	247,131	LC 51/03	0.45	0.6	-	1.5 to 3.0	Urban improvements
MG	Ibirite	133,044	LC 11/97	1.0	1.0	-	1.0 to 3.0	Localization
MG	Ipatinga	212,496	2,257/06	0.1 to 1.3	0.3 to 2.0	Size/Kind of construction	1.5 to 3.0	Urban improvements
MG	Itabira	98,322	3,404/97	0.5	0.75	-	1.0	-
MG	Itajuba	84,135	LC 16/03	0.5	0.5	-	2.5	-
MG	Itauna	76,862	LC 18/01	0.29 to 0.4	0.34 to 0.4	Kind of construction/ income	0.3 to 3.0	Localization/Kind of commerce or industry
MG	Ituiutaba	89,091	LC 01/90	1.0	1.0 or 5.0	Kind of commerce or industry	1.5 or 3.0	Urban improvements
MG	Janaúba	61,651	1,516/02	0.75	1.0	-	0.5 or 5.0	Urban improvements
MG	João Monlevade	66,690	1,090/91	0.3	0.3	-	0.5	-
MG	Juiz de Fora	456,796	11,233/06	0.5 to 1.2	0.6 to 1.5	Assessed value	1.1 to 1.7	Assessed value
MG	Montes Claros	306,947	LC 4/05	0.35 to 0.5	0.35 to 0.5	Kind of construction	1.4 to 3.5	Size/urban improvements
MG	Muriae	92,101	3,195/05	0.5	0.5	-	1.0	Annual rate increases up to 2.5%
MG	Pará de Minas	73,007	4,460/04	0.2	0.5	-	1.0 to 2.0	Size/urban improvements
MG	Passos	97,211	1,722/89	0.5	0.5	-	1.0	-
MG	Patos de Minas	124,056	LC 63/97	0.1 to 1.0	1.0	Size	2.0 to 4.0	Urban improvements
MG	Patrocínio	73,278	LC 40/06	0.5	0.5	-	1.0 to 2.0	Urban improvements
MG	Poços de Caldas	135,627	2,497/76	0.5	0.5	-	0.7	-
MG	Ponte Nova	55,303	2058/95 - 03	0.5	0.5	-	1.0	-
MG	Pouso alegre	106,776	2,023/83	0.5	0.5	-	0.5	-
MG	Sabará	115,352	LC 01/02	0.5 or 1.0	2.0 or 3.0	Tumbled property	2.0 or 3.0	Urban improvements
MG	Santa Luzia	184,903	2,171/99 e 2,163/99	0.5	0.5	-	2.0 or 3.0	Urban improvements
MG	São João del Rei	78,616	4,012/06	0.5	0.5	-	1.0	-
MG	São Sebastião do Paraíso	58,335	1773/90	0.7	0.7	-	2.3	Annual rate increases up to 5%
MG	Sete lagoas	184,871	LC 24/02	0.4 to 1.0	0.9 to 1.9	Kind of construction	2.5 to 4.95	Urban improvements/ assessed value
MG	Teófilo Antoni	129,424	LC 21/00	0.5 or 0.75	0.75	Kind of construction	1.0 or 1.5	Urban improvements

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State	City	Inhabitants (2000)	Number of local law	Buildings IPTU rates			Vacancy land IPTU rates	
				Residentials (%)	Not residential (%)	Rate variation criterion	(%)	Rate variation criterion
MG	Treks Pontas	51,024	2,531/04	0.5	0.5	-	1.0	-
MG	Ubá	85,065	LC 62/01	0.5	0.5	-	1.0 or 1.25	Annual rate increases up to 15%
MG	Uberaba	252,365	LC 212/00	0.13 to 0.23	0.13 to 0.23	Size	0.75 to 3.0	Size/urban improvements/ localization
MG	Uberlândia	501,214	4,012/83	0.4 to 1.0	0.4 to 1.0	Localization	1.0 or 2.0	Localization
MG	Unaí	70,033	LC 22/94	0.6	1.2	-	3.0 or 6.0	Urban improvements/ Annual rate increases up to 10%
MG	Varginha	108,998	2,872/96	0.5	0.5 or 1.0	Kind of commerce or industry	1.5	-
MG	Viçosa	64,854	1,627/04	0.25	0.25	-	1.0	-
ES	Cachoeiro do Itapemirim	174,879	5,394/02	0.5 to 0.7	0.75 to 0.95	Assessed value	2.0 to 3.0	Assessed value
ES	Cariacica	324,285	3,979/01	0.2	0.21	-	1.0	Annual rate increases up to 5%
ES	Guarapari	88,400	1,836/98	1.0	1.0	-	2.5	-
ES	Ibiracu	10,143	2,473/03	0.2	0.2 or 0.25	Kind of commerce or industry	1.0	-
ES	Linhares	112,617	1,343/89	1.0	1.0	-	2.0	Annual rate increases up to 10%
ES	Serra	321,181	3,019/06	0.2	0.25	-	1.0 to 3.0	Urban improvements/ Size
ES	Vila Velha	345,965	3,375/97	0.25	0.25	-	1.5	Annual rate increases up to 2.5%
ES	Vitoria	292,304	6,778/06	0.2 or 0.25	0.25 to 0.4	Assessed value	2.0 to 3.0	Assessed value
RJ	Angra dos Reis	119,247	1,142/01	0.0 to 1.5	1.0 to 1.5	Assessed value	1.0 to 1.8	Assessed value
RJ	Araruama	82,803	LC 23/01	0.6 to 0.8	0.8	Assessed value	1.5 to 5.0	Assessed value/urban improvements
RJ	Armação dos Buzios	18,204	LC 12/05	0.75	1.0	-	1.5	-
RJ	Barra do Pirai	88,503	616/01	0.5 to 0.6	0.5 to 0.7	Assessed value	1.2 to 2.0	Assessed value
RJ	Barra Mansa	170,753	LC 29/01	0.375 to 0.75	0.75 to 1.5	Localization/kind of commerce or industry	0.75 to 1.50	Kind of commerce or industry/Localization/ Annual rate increases up to 3%
RJ	Belford Roxo	434,474	LC 75/05	0.45 to 1.50	0.9 to 1.8	Size	1.5	-
RJ	Cabo Frio	126,828	LC 03/03	0.75	0.75	-	3.00 or 3.50	Urban improvements
RJ	Campos dos Goytacases	407,168	5138/90	0.8 to 1.2	0.9 to 1.4	Size	4.0	-
RJ	Duque de Caxias	775,456	1664/02	1.2	1.7	-	1.5 to 2.0	Urban improvements
RJ	Itaboraí	187,479	LC 33/03	0.7	0.7	-	1.40	Annual rate increases up to 10%
RJ	Itaguaí	82,003	2,096/99	1.0	1.0	-	2.0 or 3.0	Kind of commerce or industry
RJ	Itaperuna	86,720	123/01	0.5	0.5	-	1.0	-
RJ	Macaé	132,461	LC 53/05	0.5 to 0.78	0.6 to 1.32	Assessed value	1.5 to 1.92	Assessed value

(continue)

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State	City	Inhabitants (2000)	Number of local law	Buildings IPTU rates			Vacancy land IPTU rates	
				Residentials (%)	Not residential (%)	Rate variation criterion	(%)	Rate variation criterion
RJ	Mage	205,830	1,806/06	1.0 or 1.2	1.25 or 1.4	Assessed value	2.5 or 3.0	Assessed value
RJ	Marica	76,737	LC 69/98	0.8	0.8	-	1.6 or 2.4	Urban Improvements/ annual rate increases up to 15%
RJ	Nilópolis	153,712	63/04	0.8	1.0	-	1.0	Annual rate increases up to 1.5%
RJ	Niteroi	459,451	2,284/05	0.60 to 1.50	1.0	Assessed value	2.5 to 3.5	Assessed value
RJ	Nova Friburgo	173,418	LC 25/06	0.6	0.6	-	1.2	-
RJ	Nova Iguaçu	920,599	LC 01/02	0.65 to 1.1	0.8 to 1.1	Localization/ Assessed value	1.0 to 2.0	Localization
RJ	Petrópolis	286,537	4,789/90	0.75 or 1.0	0.5 or 1.0	Assessed value/ Kind of commerce or industry	2.0	-
RJ	Queimados	121,993	LC 01/95	0.8 to 1.1	0.9 to 1.1	Size	1.0 to 2.0	Size
RJ	Resende	104,549	2,381/02	0.5	0.6	-	2.0	-
RJ	Rio das Ostras	36,419	508/00	0.5	0.5	-	1.0 or 3.0	Urban improvements
RJ	Rio de Janeiro	5,857,904	2,955/99	1.2	2.8	-	3.5	-
RJ	São Gonçalo	891,119	73/06	0.05 to 1.5	0.05 to 1.5	Localization/ Assessed value	0.6 to 2.5	Assessed value
RJ	São João de Meriti	449,476	LC 71/02	1.0	1.5	-	2.0 to 4.0	nd
RJ	São Pedro da Aldeia	63,227	LC 32/02	0.5 to 1.5	0.5 to 1.5	Urban improvements	1.0 to 4.0	Localization/Kind of commerce or industry/ Assessed value
RJ	Saquarema	52,461	LC 01/98	0.6 or 0.8	0.8	Assessed value	1.2 or 1.5	Urban improvements/ Assessed value
RJ	Teresópolis	138,081	977/79	0.4 to 1.4	0.5 to 1.5	Size	1.0 to 3.4	Localization/Urban Improvements Kind of commerce or industrys
RJ	Tres Rios	71,976	1,915/13	0.7	0.7	-	1.5	-
RJ	Valença	66,308	LC 39/01	0.5	0.6	-	1.2	-
RJ	Volta Redonda	242,063	3,009/93	0.5 to 0.85	0.60 to 1.30	Size	1.2	Kind of commerce or industry
SP	Americana	182,593	3,516/00	0.5	0.5	-	2.0 to 6.0	Urban improvements
SP	Amparo	60,404	1,179/07	1.5	1.5	-	2.3	-
SP	Andradina	55,161	LC 4/02	1.0	1.0	-	2.0	-
SP	Araçatuba	169,254	LC 50/97	1.3	1.3	-	3.5	-
SP	Araraquara	182,471	LC 45/01	1.5 to 2.0	1.5 to 2.0	Assessed value	4.0 to 10.0	Assessed value
SP	Araras	104,196	3,362/01	0.75	0.75	-	3.0	-
SP	Assis	87,251	LC 01/98	1.0	3.0	-	n.d.	-
SP	Atibaia	111,300	LC 313/99	0.8	0.8	-	1.5	-
SP	Avaré	76,472	LC 13/01	1.0 or 1.5	1.0 or 1.5	Urban improvements	3.0 or 4.0	Urban improvements
SP	Barretos	103,913	LC 35/01	1.2 or 1.5	1.2 or 1.8	Urban improvements	5.0 to 7.2	Urban improvements

(continue)

(continuation)

State	City	Inhabitants (2000)	Number of local law	Buildings IPTU rates			Vacancy land IPTU rates	
				Residentials (%)	Not residential (%)	Rate variation criterion	(%)	Rate variation criterion
SP	Barueri	208,281	LC 118/02	0.5	0.5	-	1.0	-
SP	Batatais	51,112	2,367/98	1.0	1.0	-	3.0 to 6.0	Urban improvements
SP	Bauru	316,064	D 10,084/05	0.8	0.8	-	2.0	-
SP	Bebedouro	74,815	2,026/89	1.0	1.0	-	3.0	-
SP	Birigui	94,300	4,142/02	0.9	0.9	-	2.9	-
SP	Botucatu	108,306	LC 181/97	0.54 or 0.71	0.54 or 0.71	Size	2.92	-
SP	Bragança Paulista	125,031	1,999/84	1.2	1.2	-	2.5	-
SP	Caçapava	76,130	LC 106/98	0.3	0.3	-	2.0	-
SP	Cajamar	50,761	LC 68/05	1.0	1.0	-	2.5	-
SP	Campinas	969,396	12,445/05	0.4 to 0.7	1.1 to 2.9	Assessed value	2.3 to 2.8	Assessed value
SP	Campo Limpo Paulista	63,724	LC 170/01	1.8	1.8	-	2.9	-
SP	Caraguatatuba	78,921	LC 14/03	1.0	1.0	-	4.0	-
SP	Catanduva	105,847	LC 98/98	1.31	1.31	-	3.1	-
SP	Cotia	148,987	1,140/01	1.06	1.06	-	1.8	-
SP	Diadema	357,064	LC 148/01	0.7 to 1.9	0.8 to 2.3	Assessed value	0.8 to 6.0	Assessed value
SP	Embu	207,663	LC 64/03	1.21	1.21	-	2.16	-
SP	Fernandópolis	61,647	LC 46/06	1.5	1.5	-	3.0	-
SP	Ferraz de Vasconcelos	142,377	LC 163/05	0.45	0.45	-	1.7	-
SP	Franca	287,737	LC 94/05	1.8	2.0	-	2.0 to 5.0	Localization/urban improvements
SP	Francisco Morato	133,738	51/97	1.5	1.5	-	5.0	-
SP	Franco da Rocha	108,122	LC 10/99	2.0	2.0	-	2.0	-
SP	Guaratinguetá	104,219	LC 24/06	1.0	1.0	-	3.0	-
SP	Guaruja	264,812	LC 45/99	2.2	2.2	-	2.2	-
SP	Guarulhos	1,072,717	5,753/01	0.3 to 2.0	1.0 to 2.1	Kind of commerce or industry/ assessed value	1.5 to 3.5	Urban Improvements/ Assessed value
SP	Hortolândia	152,523	1,801/06	0.5	1.0	-	5.0 to 12.0	Urban improvements
SP	Indaiatuba	147,050	2,927/92	0.1 to 0.9	0.4 to 1.0	Size	2.0	-
SP	Itanhaem	71,995	LC 25/98	1.5	1.5	-	3.5	-
SP	Itapetininga	125,559	LC 13/03	0.5 or 0.75	0.5 or 0.75	Urban improvements	1.0 or 1.5	Urban improvements
SP	Itapeva	82,866	2,092/03	0.6 or 0.75	0.9	Assessed value	1.5 to 3.0	Urban improvements
SP	Itapevi	162,433	LC 34/05	0.3	0.4 or 0.5	Kind of commerce or industry	2.2	-
SP	Itatiba	81,197	3242/99	1.0	1.0	-	1.0 to 3.0	Size/localization
SP	Itu	135,366	710/05	1.0	1.0	-	2.0	-

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(continuation)

State	City	Inhabitants (2000)	Number of local law	Buildings IPTU rates			Vacancy land IPTU rates	
				Residentials (%)	Not residential (%)	Rate variation criterion	(%)	Rate variation criterion
SP	Jaboticabal	67,408	LC 07/92	1.0	1.0	-	2.0	-
SP	Jacareí	191,291	LC 5/92	0.5	1.0	-	2.0	-
SP	Jandira	91,807	1,426/03	0.65	0.65	-	1.5	-
SP	Jaú	112,104	2,288/84	1.0	1.0	-	1.0	-
SP	Jundiaí	323,397	LC 14/90	1.0	1.0	-	2.0	-
SP	Leme	80,757	LC 406/04	1.05	1.05	-	5.3	-
SP	Limeira	249,046	LC 190/97	1.0	1.0	-	4.0	-
SP	Lorena	77,990	580/03	1.0	1.0	-	2.0 to 7.0	Localization
SP	Marília	197,342	LC 444/05	1.4	1.4	-	2.8	-
SP	Mauá	363,392	1,880/83	0.5	0.5	-	3.0	-
SP	Mococa	65,574	1,567/81	1.0	1.0	-	2.0	-
SP	Mogi Guaçu	124,228	LC 798/06	1.25	1.25	-	3.0 or 8.0	Irregularities
SP	Moji das Cruzes	330,241	3,526/89	1.0	1.5	-	2.0 to 6.0	localization/size
SP	Moji-Mirin	81,467	4,131/83	1.0	1.0	-	1.0 or 2.0	Localization
SP	Osasco	652,593	LC 139/05	1.1	1.1	-	2	-
SP	Ourinhos	93,868	3,252/90	1.0	1.0	-	2.0 or 4.0	Urban improvements/ annual rate increases up to 12%
SP	Paulínia	51,326	LC 16/99	0.3	0.3	-	1.5	-
SP	Penápolis	54,635	777/98	1.0	1.0	-	3.0	-
SP	Peruíbe	51,451	692/02	0.6	0.6	-	5.0	-
SP	Pindamonhangaba	126,026	1,156/69	0.4	0.5	-	1.5	-
SP	Piracicaba	329,158	3,264/90	0.7 to 4.0	0.7 to 4.0	Assessed value	2.0 to 5.5	Assessed value
SP	Pirassununga	64,864	LC 49/03	0.5 to 0.8	0.5 to 0.8	Urban improvements	0.5 to 3.0	Urban improvements
SP	Poá	95,801	2,614/97	0.3	0.3	-	3.0	-
SP	Praia Grande	193,582	LC 464/06	1.8	1.8	-	3.6	-
SP	Presidente Prudente	189,186	LC 132/03	1.0	1.0	-	3.0	-
SP	Ribeirão Pires	104,508	4,213/98	0.9	0.9	-	2.0	-
SP	Ribeirão Preto	504,923	LC 1,779/01	0.4 to 0.6	0.4 to 0.6	Assessed value	1.6 or 2.2	Assessed value
SP	Rio Claro	168,218	3,222/01	1.2	1.2	-	3.4	-
SP	Salto	93,159	2,656/05	0.5	0.2	-	1.0	-
SP	Santa Barbara do Oeste	170,078	2,622/01	1.0	1.0	-	2.8	-
SP	Santana de Parnaíba	74,828	2,412/02	1.0	1.0	-	1.7	-
SP	Santo André	649,331	8,470/03	0.0 to 1.0	0.5 to 1.2	Assessed value	2.0	-
SP	Santos	417,983	LC 555/05	0.0 to 1.0	1.0	Assessed value	2.5	-
SP	São Bernardo do Campo	703,177	4,931/00	0.3 to 0.7	0.7 to 1.5	Assessed value	1.6 to 2.5	Assessed value

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State	City	Inhabitants (2000)	Number of local law	Buildings IPTU rates			Vacancy land IPTU rates	
				Residentials (%)	Not residential (%)	Rate variation criterion	(%)	Rate variation criterion
SP	São Caetano do Sul	140,159	4,185/03	0.54	0.92	-	3.95 or 5.0	Urban improvements
SP	São Carlos	192,998	13,692/05	0.5 to 1.0	0.5 to 1.5	Assessed value/ Kind of commerce or industry	1.6 to 2.6	Assessed value
SP	São João da Boa Vista	77,387	LC 106/97	1.0	1.0	-	2.0 to 4.0	Localization
SP	São José do rio Preto	358,523	LC 96/98	1.0	1.0	-	3.0	-
SP	São José dos Campos	539,313	3,677/89	0.3	0.3	-	2.0 to 6.0	Urban improvements
SP	São Paulo	10,435,546	13,250/01	0.8 to 1.6	1.2 to 1.8	Assessed value	1.2 to 1.8	Assessed value
SP	São Sebastião	58,038	1,317/98	2.0	2.0	-	2.0	-
SP	São Vicente	303,551	LC 482/05	1.3	1.3	-	nd	-
SP	Sertãozinho	94,664	LC 122/01	1.0	1.0	-	1.75 or 2.5	Urban improvements
SP	Sorocaba	493,468	5,272/96	1.5	1.5	-	3.0	-
SP	Sumaré	196,723	2,244/90	0.5	1.0	-	5.0	-
SP	Suzano	228,690	LC 39/97	1.0	1.0	-	3.0	-
SP	Taboão da Serra	197,644	LC 97/03	0.6	0.6	-	1.4	-
SP	Taquaritinga	52,065	LC 3,345/03	0.97	0.97	-	3.5	-
SP	Taubaté	244,165	LC 02/90	0.5	0.5	-	1.0	-
SP	Valinhos	82,973	3915/05	0.4 or 0.5	0.9	Localization	2.0	-
SP	Várzea Paulista	92,800	LC 60/05	1.0	1.0	-	3.0	-
SP	Votorantim	95,925	1,602/01	1.0	1.25 to 1.75	Kind of commerce or industry	1.25 to 2.0	Localization/Urban improvements
SP	Votuporanga	75,641	LC 41/01	0.75	0.75	-	3.0	Annual rate increases up to 14.4%
PR	Almirante Tamandaré	88,277	45/79	1.0	1.0	-	2.0	-
PR	Apucarana	107,827	85/02	1.0	1.0	-	3.0	-
PR	Arapongas	85,428	2,854/01	0.55	1.2	-	1.5	Annual rate increases up to 6%
PR	Araucária	94,258	LC 1/97	0.4 to 0.7	0.5 to 1.0	Size	1.0 to 3.0	Localization
PR	Cambé	88,186	733/90	0.88	1.0	-	3.0	Rate increases for each five years
PR	Campo Mourão	80,476	779/92	1.0	1.0	-	3.0	-
PR	Cascavel	245,369	3,739/03	0.45	0.8	-	0.5 to 3.0	Localization
PR	Curitiba	1,587,315	LC 40/01	0.2 to 1.1	0.35 to 1.8	Assessed value	1.0 to 3.0	Assessed value
PR	Fazenda Rio Grande	62,877	149/02	0.2 to 0.6	0.24 to 1.0	Size	nd	-
PR	Foz do Iguaçu	258,543	82/03	1.0	1.0	-	2.0	Annual rate increases up to 7%
PR	Francisco Beltrão	67,132	2,714/98	0.5	0.5	-	2.2	-

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State	City	Inhabitants (2000)	Number of local law	Buildings IPTU rates			Vacancy land IPTU rates	
				Residential (%)	Not residential (%)	Rate variation criterion	(%)	Rate variation criterion
PR	Guarapuava	155,161	1,108/01	0.35 or 0.55	0.35 or 0.55	Localization	1.6	-
PR	Londrina	447,065	7,629/98	1.0	1.0	-	1.5 to 3.0	Size
PR	Maringá	288,653	LC 505/03	0.3 to 1.0	0.3 to 1.0	Localization	0.5 to 2.0	Localization
PR	Paranaguá	127,339	LC 06/00	0.6	0.6	-	2.0 or 3.0	Urban improvements
PR	Paranavaí	75,750	2,384/02	1.0	1.0	-	2.0 to 6.0	Localization/Annual rate increases up to 10%
PR	Pato Branco	62,234	LC 01/00	0.55	0.55	-	2.5	-
PR	Pinhais	102,985	501/01	0.3 to 1.1	0.35 to 1.5	Assessed value	1.0 to 3.0	Assessed value
PR	Piraquara	72,886	573/01	0.35 to 1.0	0.35 to 1.0	Assessed value	2.0	-
PR	Ponta Grossa	273,616	6,857/02	0.8	1.5 or 2.0	Kind of commerce or industry	3.0 to 5.0	Size/Urban improvements
PR	São José dos Pinhais	204,316	LC 01/03	0.3	0.3	-	0.1 to 4.0	Localization
PR	Sarandi	71,422	LC 70/01	1.5	1.5	-	3.0	-
PR	Toledo	98,200	1,931/06	0.5	0.5	-	2.0	Annual rate increases up to 8%
PR	Umuarama	90,690	LC 174/07	1.2	1.2	-	7.0	-
SC	Araranguá	54,706	LC 6/97	0.5	0.5	-	1.0	-
SC	Balneário Camboriú	73,455	1,548/95	1.0	1.0	-	1.5	-
SC	Blumenau	261,808	3,680/89	0.3 to 1.5	0.4 to 3.5	Localization	0.8 to 4.0	Localization
SC	Brusque	76,058	34/94	0.5	0.75 or 1.0	Kind of commerce or industry	1.0 to 3.0	Urban improvements
SC	Caçador	63,322	945/95	0.5	0.5	-	6.0	-
SC	Chapecó	146,967	3,047/89	0.5	0.5	-	6.0	-
SC	Concórdia	63,058	1,766/81-05	0.5	0.5	-	1.0	-
SC	Criciúma	170,420	2,435/89	1.5	1.5	-	3.0 or 5.0	Urban improvements
SC	Florianópolis	342,315	5,054/97	0.5 to 1.2	1.0 to 1.7	Size	0.5 to 2.0	Size
SC	Itajaí	147,494	LC 20/02	0.3 to 1.25	0.7 to 1.5	Urban improvements	1.25 to 3.0	Urban improvements
SC	Jaraguá do Sul	108,489	LC 11/96	0.6	1.2 to 2.5	Kind of commerce or industry	3.0	-
SC	Joinville	429,604	2,489/90	0.5 to 0.8	0.5 to 0.8	Size	5.0 to 7.0	Localization
SC	Lages	157,682	721/83	0.5	0.5	-	1.0 or 1.5	Urban Improvements/ annual rate increases up to 5%
SC	Palhoça	102,742	LC 18/02	0.4 to 1.0	0.4 to 0.8	Size/localization	0.8	Size/localization
SC	São Bento do Sul	65,437	140/97	0.3 to 0.75	1.0 to 7.5	Localization/ kind of commerce or industry	0.5 to 4.0	Localization/urban improvements
SC	São Francisco do Sul	32,301	LC 1/99	1.0 to 1.5	1.0 to 1.5	Urban improvements	1.6 to 4.0	Urban improvements
SC	São José	173,559	LC 21/05	0.5	0.5	-	2.0	-
SC	Tubarão	88,470	LC 01/02	1.0	1.0	-	3.0	-
RS	Alegrete	84,338	LC 14/04	1.0	1.0	-	1.5 to 3.5	Localization

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State	City	Inhabitants (2000)	Number of local law	Buildings IPTU rates			Vacancy land IPTU rates	
				Residential s (%)	Not residential s (%)	Rate variation criterion	(%)	Rate variation criterion
RS	Alvorada	183,968	1,063/99	0.5 to 0.75	1.5 or 1.7	Assessed value	3.0 or 3.5	Assessed value
RS	Bagé	118,767	3,965/02	0.8 to 1.0	0.8 to 1.0	Localization	2.0 to 5.0	Localization
RS	Bento Gonçalves	91,486	LC 106/06	0.5 or 1.0	0.5 or 1.0	Urban improvements	1.5 or 2.0	Urban improvements
RS	Cachoeira do Sul	87,873	2,769/94	0.5	0.6	-	1.0 to 2.0	Urban improvements
RS	Cachoeirinha	107,564	2,140/02	0.2 to 0.4	0.3 to 0.5	Assessed value	1.1 to 1.8	Assessed value
RS	Camaqua	60,383	509/79 - 03	0.5	0.5	-	2.0	
RS	Campo Bom	54,018	2,397/02	1.0	1.0	-	3.0	Annual rate increases up to 15%
RS	Canoas	306,093	4,721/02	0.5	0.7	-	2.0 to 6.0	Assessed value
RS	Carazinho	59,894	LC 02/84 -03	0.5 or 1.0	0.5 or 1.0	Urban improvements	1.0 or 2.0	Urban improvements
RS	Caxias do Sul	360,419	LC 164/01	0.8	0.8	-	2.0	-
RS	Erechim	90,347	3,694/03	1.0 or 1.5	1.0 or 1.5	Urban improvements	2.5 or 3.0	Urban improvements
RS	Esteio	80,048	2,457/95	0.5	1.0	-	1.0	-
RS	Farroupilha	55,308	2,563/00	0.5	0.5	-	0.8 to 1.5	Localization
RS	Garibaldi	28,337	2,598/97	0.7	0.7	-	1.6	-
RS	Gravataí	232,629	2,070/03	0.15 to 0.85	0.3 to 0.9	Assessed value	0.85 to 3.75	Assessed value/ localization
RS	Guaíba	94,307	1,184/93	0.8	1.0	-	1.0 to 2.0	Localization/urban improvements
RS	Ijuí	78,461	2,954/93	0.5	0.5	-	2.0 to 5.0	Localization
RS	Montenegro	54,692	LC 4,010/03	0.5	0.5	-	1.1 or 2.2	Assessed value
RS	Novo Hamburgo	236,193	1,031/03	0.35	0.35	-	3.0	-
RS	Passo Fundo	168,458	1,779/77	1.0	1.0	-	2.0 to 5.0	Localization
RS	Pelotas	323,158	4,878/02	0.2 to 1.0	0.5 to 5.0	Assessed value/ familiar Income	0.5 to 1.5	Size
RS	Porto Alegre	1,360,590	LC 556/06	0.85	1.1	-	0.95 to 6.0	Localization
RS	Rio Grande	186,544	4,848/93	0.2 to 0.8	0.2 to 0.8	Localization	1.0 to 7.0	Localization
RS	Santa Cruz do Sul	107,632	LC 04/97	0.5	0.5	-	0.5	-
RS	Santa Maria	243,611	LC 02/01	1.0	1.0	-	n.d.	-
RS	Santa Rosa	65,016	LC 34/06	0.5	0.5	-	3.0 or 5.0	Localization
RS	Santana do Livramento	90,849	2,870/91	0.5	0.5	-	2.0	Annual rate increases up to 8%
RS	Santo Ângelo	76,745	2,162/97	0.6 to 1.2	0.84 to 1.44	Localization	2.0 or 3.0	Urban improvements
RS	São Borja	64,869	1,299/84-97	1.0	1.0	-	3.0	-
RS	São Gabriel	62,249	2,556/01	0.3 to 0.6	0.3 to 0.6	Localization	1.0 to 1.2	Localization
RS	São Leopoldo	193,547	5,047/01	0.5	0.5	-	2.0	-
RS	Sapucaia do Sul	122,751	2,328/00	0.4 or 0.5	0.6 to 1.0	Localization/ kind of commerce or industry	3.0	-

(continue)

(continuation)

State	City	Inhabitants (2000)	Number of local law	Buildings IPTU rates			Vacancy land IPTU rates	
				Residentials (%)	Not residentials (%)	Rate variation criterion	(%)	Rate variation criterion
RS	Triunfo	22,166	1,722/02	0.5	0.5 to 1.0	Localization/ Kind of commerce or industry	2.0	-
RS	Uruguaiana	126,936	2,413/93	0.5	0.75	-	2.0 to 8.0	Localization
RS	Venâncio Aires	61,234	2,533/98	0.3	0.3	-	1.0	-
RS	Viamão	227,429	2,069/90	0.3 to 0.8	1.0	Localization	0.8 to 2.0	Localization
MS	Campo Grande	663,621	1,466/73	1.0	1.0	-	1.5	-
MS	Corumbá	95,701	LC 02/02	1.0	1.0	-	3.0	-
MS	Dourados	164,949	LC 90/05	0.5 to 1.0	0.7 to 1.0	Assessed value	2.0 to 3.5	Assessed value
MS	Três Lagoas	79,059	1,427/97	1.0	0.8	-	1.5 to 5.0	Localization
MT	Cáceres	85,857	LC 17/94	0.6 to 1.0	1.0	Size	2.0	-
MT	Cuiabá	483,346	LC 129/05	0.4	0.4	-	2.0	-
MT	Rondonópolis	150,227	3,861/02	0.2 to 1.6	0.2 to 1.6	Localization/ urban improvements	1.0 to 5.0	Localization/urban improvements
MT	Sinop	74,831	LC 7/01	0.5	0.5	-	2.0 or 3.0	Urban improvements
MT	Tangará da Serra	58,840	LC 34/97	0.4 or 0.5	0.4 or 0.6	Size	1.0	Annual rate increases up to 3.5%
MT	Várzea Grande	215,298	1,824/97	0.6 or 0.8	0.5 or 0.6	Size	2.0	Annual rate increases up to 16%
GO	Águas Lindas de Goiás	124,056	LC 001/05	0.6	0.6	-	1.5	-
GO	Anápolis	103,913	LC 136/06	0.5	0.5	-	2.2 to 5.6	Urban Improvements/ annual rate increases up to 15%
GO	Aparecida de Goiânia	102,836	2,233/01	0.4	0.4	-	1.5	-
GO	Catalão	64,347	2,174/03	1.0	1.0	-	3.0	-
GO	Goiânia	1,093,007	LC 61/97	0.2 to 0.55	0.5 to 1.0	Localization	1.0 to 7.0	Localization/urban improvements
GO	Itumbiara	81,430	LC 19/01	0.5	0.7	-	1.5	Annual rate increases up to 6.5%
GO	Jataí	75,451	1,445/90	0.6 to 1.0	0.6 to 1.0	Urban improvements/ localization	0.1 to 3.0	Urban Improvements/ localization/annual rate increases up to 15%
GO	Rio Verde	116,552	4,226/01	0.5 to 1.0	0.8 to 2.0	Urban improvements	1.0 to 5.0	Urban Improvements/ annual rate increases up to 15%
GO	Trindade	81,457	LC 01/03	0.45	0.45	-	0.90	Annual rate increases up to 5.4%
DF	Brasília	2,051,146	D 22,608/01	0.3	1.0	-	3.0	-

Source: Municipal Tax Codes – Selected Cities. Elaboration: Ipea/Dirur.

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