

Earmarking unconstitutionality and its impact on housing deficit: Evidence from São Paulo State, Brazil

Rodger Barros Antunes Campos¹
Gustavo Pereira Serra²

The Universal Declaration of Human Rights already considered housing as a fundamental human right since 1948. This good has an important role in welfare of individuals and families, not only as a good per se, but also due to the access to other goods and services, it provides to households, for instance public transport, sanitation, public health, and safety. Moreover, better housing conditions have a direct impact on long-term human capital, which also affects firms productivity.

The discussion about public policies on housing are associated with the housing deficit issue due to wellbeing provided by housing access. The housing policies developed in Brazil have occurred concomitant to the rapid urbanization process. This process accelerated since 1950 with the rural exodus, the acceleration of industrialization, and fast population growth in Brazil, requiring the expansion of the housing supply. Regarding the state of Sao Paulo, the heavy inflow of migrants has resulted in annual migration rates above the national average between 1930 and 1970.

Over the recent Brazilian economic history, important housing policies were developed, such as the decree-laws in the Vargas period (1930-1945), the *Sistema Financeiro de Habitação*³ (SFH) and *Banco Nacional de Habitação*⁴ (NHB) creation. All of these public policies were promoted at the federal level of government.

Although public policies promoted at federal level may have multiple foci on multiple income ranges (social classes), the creation in 1949 of *Companhia de Desenvolvimento Habitacional e Urbano*⁵ (CDHU) was focused on low-income housing at the state level (São Paulo). Since then, we can point this kind of public policy as a focused policy because it aims to reduce the housing deficit among low-income households. Depletion of centralized financing mechanisms and of national policy formulation resulted in the collapse of Federal government coordination capacity, leading to decline the structured economics system since from the year 1960 (dictatorial government).

Under this context, Sao Paulo state housing policy has been developed by state government with own financial resource and rules. The funding to finance the program stemmed from state government fiscal power and public spending decision in social areas. Regarding to fiscal power,

¹ Master in Economics and Ph.D student in Economics at São Paulo University and member of Regional and Urban Economics Lab and Capes scholarship. E-mail: rodger.campos@usp.br.

² Master in Economics at São Paulo University. E-mail: gserra@usp.br.

³ In free translation: Housing Financial System.

⁴ In free translation: National Housing Bank.

⁵ In free translation, Housing and Urban Development Company.

the state government enacted the State Law 6.556 of November 1989, which expanded the taxation on goods and service circulation (from 17% to 18%), earmarking the incremental revenue to low-income housing policies.

On earmarking taxes, it is a common policy mechanism in Brazil. The Brazilian Federal Constitution of 1988 earmarks a large part of tax revenue to expenditures considered essential, such as education, public health and social care. Therefore, given the public budget constraint, this binding imposed to Government authorities limit their power to adopt policies in other areas, reducing considerably their degree of discretion. The opinions on earmarking are divergent: some authors argue in favor of this, alleging that this mechanism represents a legal guarantee of a minimum level of investment in the areas benefited, whereas some oppose to the binding, declaring that this leads to an inflexible public budget.

According to State Law 6.556, the incremental tax revenue would be designated to raise capital for the *Caixa Econômica do Estado de São Paulo* (state bank), which could be used solely in financing housing programs. Those programs were designated to low-income households (with income up to 5 minimum wages), and monthly payments related to the subsidized financing should not exceed 20% of their income. In December 27th, 1990, the State Law 7.003 included two more public banks (*Nossa Caixa Nosso Banco* and *Banco do Estado de São Paulo*) which would receive the incremental tax revenue, to raise their capital and invest in housing programs.

Later, the State Law 7.646 of December 26th, 1991 renewed the mechanism for one more year, albeit reducing the allowed ratio of the payment to income of households receiving less than 3 minimum wages, from 20% to 15%. The 20%-ratio has remained the same for households receiving between 3 and 5 minimum wages. In the following years, the tax revenue binding was renewed. The last changes occurred in the Law was in December 27th, 1995, when the State Law 9.331 designated 5% of the revenues to urbanizing slums, and in December 20th, 1996, which renewed the binding for one more year.

Contrary to the State Law mentioned, the Brazilian Federal Constitution (FC) of 1988 forbids binding tax revenues to an agency or fund, or to expenses not related to public health or education (Braz. Const. art. 167, §4 (1988)). For this reason, in September 18th, 1997, the Brazilian Supreme Federal Court declared the State Law 6.556 of São Paulo was against the FC, alleging that the latter do not consider housing programs in its art. 167 §4 as a possibility of binding tax revenues, nor allow the destination of the revenue to an agency as CEF and CDHU.

To analyze the impact of the program on housing deficit in São Paulo, we must compare the housing situation in different moments, pre and post earmarking. However, the tax revenue

earmarking might reflect the interest of the Government of Sao Paulo at that moment in increasing investments in housing programs, which would compromise the validity of econometrics strategy. Therefore, an analysis which compares the scenarios pre and post validity period of the mechanism (from November 1989 to September 1997) faces an endogeneity issue due to the intention of the state government at that moment to overcome Federal resource scarcity.

Although the endogenous effect mentioned above, the decision made by the Brazilian Supreme Federal Cort, which ended the tax revenue binding by the State of Sao Paulo (without alter taxation rate), may be interpreted as exogenous to the State Government decision. In view of this fact, we consider that, in spite of comparing the periods before and during the implementation of the mechanism, a better investigation strategy, which may not imply that endogeneity issue, would be comparing the periods pre and post the validity of the State Law 6.556 of November 30th, 1989, i.e., pre and post Supreme Federal Cort unconstitutionality decision). By this strategy, we may identify whether earmarking tax revenues to housing programs has positive/negative effects in reducing the housing deficit among low-income households, highlighting the aforementioned earmarking debate.

The databases used in this impact evaluation come from the National Household Sample Survey (PNAD)⁶ and National System of Costs Research and Index of Construction Sector (SINAPI) from the Brazilian Institute of Geography and Statistics (IBGE).

To evaluate the impact of earmarking mechanism on the housing deficit of the state, we apply a non-linear Difference-in-Difference approach exploring São Paulo state unconstitutionality. We estimate the following econometrics model:

$$D_{its} = \gamma dI_{its} + \beta x_{its} + \alpha \mu_t + \varphi v_s + \varepsilon_{it}$$

Where:

- D_{its} is the dichotomous household housing condition in household i in income group s and year t .
- dI_{its} is an indicator variable that takes on the value one if household housing condition i in years after Supreme Court decision (after 1997) is housing need and 0 otherwise.
- x_{its} is a vector of control variables that vary both across household and time such as age, cycle of life, income, curse attend, race, migrant and population projection.
- μ_t is a year fixed effect common to all household in period t , capturing all time-varying common to controls and treatments.

⁶According IBGE technical notes, the survey is conducted by means of a sample of housing units, taken from a master sample, to guarantee that results will properly represent the several geographic levels established for the dissemination of results. Every quarter a total 211,344 permanent private housing units are surveyed, in approximately 16,000 enumeration areas, distributed among about 3,500 municipalities.

- ν_s is census situation fixed-effects that captures all spatial level factors that vary across metropolitan or self-representative regions but are fixed over time.
- ε_{it} is a zero mean variable assumed to be independent of the covariates and fixed effects.

Using household housing condition (house need or not) during 1992 to 1999 (PNAD database) as the dependent variable, it gives us a cross-section with seven years⁷. Then, having data on housing deficit before and after Supreme Court decision and given that the eligible household condition did not change, we are able to exploit time variation and to define treatment and a control group. Additionally, we include year fixed effects that control for any aggregate shocks in evolution of housing deficit, and census situation fixed effects that control for time-invariant influences. Controlling for Supreme Court intervention time and for control and treated group, we obtain the the intention to treat (ITT) of the effects of unbinding resource on housing deficit.

By comparing the situation pre and post ruling, preliminary, we found that this decision of forbidding the earmarking police in State of Sao Paulo increased the probability of a household to remain in inadequate housing conditions in that State (many families in one house; more than three persons in the same room; inadequate construction, etc.). For example, using as treated and controlled groups household monthly income up to 1 minimum wage and 5.5 minimum wage, respectively, the result shows that in absence of earmarking mechanism the housing deficit probability increases in 2.24 percentage points (pp). For households with monthly income between 1-2 minimum wage (Group II), increasing probability of 0.75 pp is found.

Seeking better understanding on how earmarking mechanism actually worked, its strengths and weakness, we exploit some dimensions of potential heterogeneity in response. Regarding to gender, for example, our results suggest that female-headed households suffer bigger impacts on its own housing deficit remaining probability than male-headed households do.

We also evaluate how the increasing probability on housing deficit affects São Paulo state and Rest of Brazil macroeconomics variables such as employment level, GDP, tax collection and production. We estimate US\$ 532 million would be increased, in terms of GDP, in Brazilian economy due to housing construction, but US\$ 408 million was retained in Sao Paulo state. The impact on state tax revenue (ICMS) would be US\$ 30.6 million and US\$ 62.9 million on federal tax revenue (IPI). The collection generator rates in Sao Paulo state economy are 63.9 pp and 68.9 pp, respectively. On employment generator, 170,356 new employment in whole economy (or 116,864 in whole state)

⁷Exceptionally, in 1994 the PNAD research was not produced. Following years are not include in analysis due to massive federal housing policy developed since 2002. Doing that way, we avoid additional confounding in the econometrics estimation.

would be created if earmarking mechanism have been used or government commitment were observed.

Our study contributes to the debate on the role of earmarking in overcoming housing deficit, using an approach which controls for the endogeneity issue (Federal Supreme Court exogenous decision) related to the topic, frequently highlighted in other papers on earmarking. It also sheds some light on public policies on housing, verifying its macroeconomic and microeconomic effects.