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Ludovica Milano and Magali Talandier

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Article abstract

In this paper, we discuss an operational framework to quantify and analyze regional economic development through the application of economic base theory. This theory asserts that regional development hinges not only on capturing income from outside the region (the basic sector), but also on the region's ability to retain this income and circulate it locally for community benefit (in the non-basic sector). Our study focuses on Bahia, the largest state in Brazil's Northeast Region, with a particular emphasis on its *regiões geográficas imediatas* (commuting zones). The study's original contribution is to apply the economic base model in a Global South context using income data rather than employment data as a proxy. The available Brazilian data allow us to include in our analysis income flows that are generally overlooked in mainstream economics and entirely omitted from applications of this theory in the Global North. The findings underscore the pivotal role of informality, non-monetary income, and transfers, prompting further examination of regional income and its diverse sources in economic development analysis. Based on our results, we argue for a broader understanding of territorial economies as complex systems of socially embedded practices. This perspective calls for regional studies to shift away from the prevailing productivist viewpoint and toward a more holistic approach that embraces the diversity and richness of territorial economies.

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EXPANDING ECONOMIC BASE THEORY TO INFORMAL AND NON-MONETARY INCOME: EVIDENCE FROM THE STATE OF BAHIA, BRAZIL

Ludovica Milano, Magali Talandier

Ludovica Milano
PhD, Regional Planning and Development
Univ. Grenoble Alpes, CNRS, Sciences Po Grenoble*, Pacte, 38000 Grenoble, France
* School of Political Studies Univ. Grenoble Alpes
[corresponding author]

Magali Talandier
Professor, Regional Planning and Development
Univ. Grenoble Alpes, CNRS, Sciences Po Grenoble*, Pacte, 38000 Grenoble, France
* School of Political Studies Univ. Grenoble Alpes

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Abstract: In this paper, we discuss an operational framework to quantify and analyze regional economic development through the application of economic base theory. This theory asserts that regional development hinges not only on capturing income from outside the region (the basic sector), but also on the region's ability to retain this income and circulate it locally for community benefit (in the non-basic sector). Our study focuses on Bahia, the largest state in Brazil's Northeast Region, with a particular emphasis on its *regiões geográficas imediatas* (commuting zones). The study's original contribution is to apply the economic base model in a Global South context using income data rather than employment data as a proxy. The available Brazilian data allow us to include in our analysis income flows that are generally overlooked in mainstream economics and entirely omitted from applications of this theory in the Global North. The findings underscore the pivotal role of informality, non-monetary income, and transfers, prompting further examination of regional income and its diverse sources in economic development analysis. Based on our results, we argue for a broader understanding of territorial economies as complex systems of socially embedded practices. This perspective calls for regional studies to shift away from the prevailing productivist viewpoint and toward a more holistic approach that embraces the diversity and richness of territorial economies.

Keywords: economic base theory; measures of development; non-wage income; informality; Brazil

Résumé : Dans cet article, nous proposons un cadre opérationnel pour quantifier et analyser le développement économique régional à partir de la théorie de la base économique. Cette théorie postule que le développement repose non seulement sur la capacité des régions à capter des revenus extérieurs (secteur basique), mais aussi sur la capacité de retenir ces revenus et les redistribuer localement, au profit des populations locales (secteur non basique ou domestique). Notre étude se concentre sur Bahia, le plus grand État de la région Nord-est du Brésil, en mettant l'accent sur ses *regiões geográficas imediatas* (bassins d'emploi). L'originalité de la démarche réside dans l'application du modèle de la base économique dans un contexte des Suds, en utilisant des données de revenu plutôt que d'emploi. Les données disponibles pour le Brésil permettent d'intégrer dans le modèle des flux de revenus souvent négligés par l'économie mainstream et généralement absents des applications de la théorie de la base dans les Nords. Les résultats mettent en lumière le rôle central de l'informalité, des revenus non monétaires et des transferts, soulignant la nécessité de prendre en compte la diversité des flux de revenus dans l'analyse du développement économique des régions. À partir de ces résultats, nous plaidons en faveur d'une conception élargie des économies territoriales, envisagées comme des systèmes complexes de pratiques enracinées dans des dynamiques sociales locales. Cette perspective invite les études régionales à s'éloigner du paradigme productiviste dominant pour adopter une approche plus holistique, mettant en valeur la diversité et la richesse des économies territoriales.

Mots-clés : théorie de la base économique; mesures de développement; revenus non-monétaires; informalité; redistribution; Brésil.

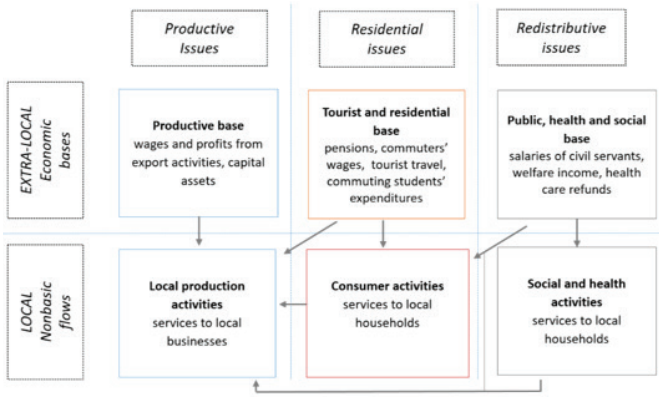
INTRODUCTION AND BRIEF HISTORY OF ECONOMIC BASE THEORY

Regional economic development is influenced by multiple factors and strategies which have been extensively covered in the literature. Most approaches emphasize innovation processes, spatial organisation, and the competitiveness of export-oriented production activities (Krugman 1991; Porter 1998; Polèse and Sheamur 2009; Storper and Scott 2009). As the work of some authors demonstrates, however, regional science can and should include analyses of non-productive and/or non-exporting resources (Torre 2015). Studies of local household consumption (Glaeser, Kolko, and Saiz 2001), the impact of residential amenities on the urban economy (Partridge 2010; Portney 2013), regional tourism and cultural activities (Markusen 2006), the significance of migrants' wages (Nelson 2005; Roberts 2005), and the role of transfer income in local economies (James and Campbell 2016) all underscore the importance of non-productive levers for regional development. Each of these studies sheds a different light on territorial dynamics, focusing on either supply, demand, or mechanisms of public and social redistribution. However, it is less common to find among the literature an analytical framework that integrates these different facets of territorial development holistically.

The work carried out over the last twenty years to revise the economic base theory model has opened up some interesting perspectives in this respect. According to economic base theory, a territorial economy consists of two sectors. The basic sector (or economic base), which encompasses all the flows of wealth that an area attracts from the outside, and the non-basic or domestic sector, which meets the needs of local households. In this article, we propose a methodology to broaden this cornerstone theory of regional science to (and learn from) economies of countries of the Global South, drawing lessons from its application to the Brazilian state of Bahia.

Although there is no general agreement on the origins of economic base theory, Sombart (1916) tends to be recognized as the first author to have formalized it in his case study of medieval Berlin (Krumme 1968). The author differentiated the "städtebildner" (town builders) and the "städtefüller" (town fillers), the former bringing external income into the city, the latter working to satisfy local needs. Although originally formulated in terms of income, economic base theory has most frequently been applied using employment data. In the 1930s, this model emerged as a theory of the manufacturing base, positing that export activities were the primary drivers of local economic development (North 1955), while non-basic activities were seen as passive– a perspective that sparked a substantial debate in the 1950s (for a review, see Vollet et *al.* 2018). In the 2000s, European researchers proposed a revision of the theory in terms of income, expanding the definition of economic base to business service activities and three other levers of economic development, i.e., the residential, public, and social bases (Figure 1).

Figure 1. The economic base model using income data, in its 2000s version.



Source: Talandier (2023)

The productive base consists of income from export activities. The residential base encompasses retiree income, commuter income, and tourist spending. The public base includes the salaries of public servants, while the social base refers to income from social welfare programs. When these income inflows–which constitute the economic base–are spent locally, they stimulate the development of non-basic activities, such as local shops, personal services, and construction.

Studies conducted in the Global North consistently confirm the importance of residential and redistributive drivers for local economies (the public and social bases). Evidence from various countries–including Canada (Rutland and O'Hagan 2007), the US (Beyers 2005; James and Campbell 2016), France (Vollet 1998; Talandier 2007; Davezies 2008), Switzerland (Segessemann and Crevoisier 2016), Belgium (De Keersmaecker et *al.* 2007), and Portugal (Guimarães et *al.* 2014)–supports this assertion.

Since its inception, economic base theory has significantly influenced local policies and urban strategies. Over the past decade, the outcomes stemming from its expanded formulation (see above) have contributed extensively to a rethinking of regional economic development by shedding light on factors beyond only productive issues (Markusen and Schrock 2009). Widely utilized in countries of the Global North, this income-based approach has more recently gained traction among researchers and local stakeholders in several countries of the Global South, including non-governmental organisations. These applications remain partial and sectoral, however. For instance, Requier-Desjardins (2011) examines the remittances of Latin American migrants through the lens of economic base theory, while Poirine (2015) considers foreign direct investment in the economic base of French overseas territories.

In the Global South, the theory has predominantly been applied in terms of employment, primarily focusing on the industrial export base across different geographical scales (Piacenti et *al.* 2002; Pedralli et *al.* 2004; Martins, Ferrera de Lima, and Piffer 2015; Silva 2020). In Latin America, a significant portion of economic base surveys concentrate on specific economic sectors (Arend and Orlowski 2012) or high export areas (Almeida 1996; Acosta, Acolt, and Flores 2016). While some applications to the tourist sector exist, they still rely on employment data as a proxy for income (EMBRATUR 1980; Cruz 1997).

In Brazil, certain authors highlight a disconnect between income and employment indicators. Favareto and Abramovay (2009) use the "residential economy" and consumption base to explain the greater improvement in income, poverty, and inequality indicators in rural municipalities in Brazil during the 1990s compared to urban areas. This output is largely attributed to the redistributive role of the state (through loan and transfer programs), the seasonal work of migrants (who remit their earnings to their regions of origin), and industrial delocalization (which facilitated the diversification of rural economies).

Drawing inspiration from the interest of Brazilian and South American researchers in the economic base model, we propose a more comprehensive approach based on income data. Our analysis includes certain income flows widely considered specific to the Global South, such as non-monetary income, inter-household transfers, and wage income from informal occupations. Data on these flows exist and are relatively accurate in many countries of the Global South, and several indicators of their importance also emerge from studies conducted in the Global North.

MATERIALS AND METHODS

The selected case study is the state of Bahia, one of the 27 Federative Units of Brazil. It is the largest state of Brazil's Northeast Region, which, alongside the North, often conjures up images of inequality, poverty and neglect. Bahia does indeed exhibit characteristics such as low incomes, pronounced inequalities, and a substantial rural population. However, it also hosts several industrial districts and attracts significant national and international tourist flows. Furthermore, while monetary poverty is prevalent, the state's economy is also characterized by the presence of dynamic territories, innovative socioeconomic practices, and various forms of solidarity (Heller 2012; Samara, He, and Chen 2017; Reis and Almeida Filho 2017). The central question for the purposes of out discussion is not whether people are poor, but rather how they make a living–that is, where does their income originate?

The geographical scale chosen for our analysis is the região geográfica imediata (immediate geographical region), hereafter referred to as RGI, a division analogous to a commuting zone, established for statistical purposes in 2017 by the IBGE (Brazilian Institute of Geography and Statistics). Each RGI is structured around an urban centre (the "regional pole") and represents the space within which the daily mobility necessary to meet the immediate needs of the population takes place, such as purchasing durable and non-durable consumer goods and accessing work, health, and education services (IBGE 2017). Brazil is divided into 510 RGIs, 34 of which are located in the state of Bahia, comprising 417 municipalities.

TOTAL REGIONAL INCOME

Regional income calculations are based on Brazilian government data, including the General Census (IBGE, 2010), the Consumer Expenditure Survey (POF) (2008-2009; 2017-2018), data from the Ministry of Tourism on tourist expenditures (MINTUR 2014), and a survey of tourist accommodations (PSH) (IBGE 2016). The sources and variables used in our study are presented in Appendix 1.

Our formula for calculating the total annual income of the RGIs (basic + non-basic) is constituted of the following components:

$$Ir = WIr + NWIr + TIr + NMIr + TEr \quad (1)$$

Where:

I = total annual regional income
r = region (RGI)
WI = Wage income = FWI + IWI
  FWI = Formal Wage Income
  IWI = Informal Wage Income
NWI = Non-wage private income = RI + IDI + CAI
  RI = Rents
  IDI = Interests, Dividends
  CAI = Change in Assets
TI = Transfer Income = FTI + PI + PTI
  FTI = Federal Transfers
  PI = Pensions
  PTI = Private Transfers
NMI = Non-Monetary Income
TE = Total tourism expenditure

Thus, each component of the equation corresponds to annual income from a different source. We carried out this calculation for every municipality in the State of Bahia, aggregating the results into income data for each RGI.

According to the IBGE, wage income (WI in our equation) consists of wages from both formal and informal employment (FWI and IWI), distinguished by the presence or absence of a formally established employment contract and tax contributions to social security.

Non-wage private income (NWI) consists of monetary rents (RI), interests and dividends (IDI), change in assets (CAI), which is the income earned from the sales of real estate, cars and other assets, inheritances and the positive balance of financial movement.

Transfers (TI) are composed of public transfers (such as Bolsa Familia) (FT), private and public pensions (PI) and inter-household transfers (PTI). Non-monetary income (NMI) includes donation, non-monetary rent, consumption of own production or of profitable company stocks, barter, harvesting and hunting.

Most of these data are collected within the framework of the census and the POF. The POF is a declarative survey on a representative sample, conducted every ten years in each of Brazil's Federative Units. In order to measure non-monetary incomes, for example, , the survey askc households about the monetary value of goods and services received through non-monetary means–that is, how much they would have spent to obtain the goods and services they have acquired via gifts, bartering, or production for self-consumption.

Based on this dataset, we identified the main components of the basic (productive, public, residential, and solidarity bases) and non-basic sectors (formal, informal, non-market, and non-monetary sectors). The following paragraphs detail the categorization process.

UNTANGLING BASIC INCOME FROM NON-BASIC INCOME

The distinction between basic and non-basic activities is central to economic base theory. Two main types of methods are used to achieve this: direct methods based on surveys and indirect methods relying on statistics. Various approaches exist to define the economic base, including a priori (or ad hoc) definition, the location quotient method, the minimum requirement method, econometric models, and the histogram method (Talandier 2020). The first two methods are used most commonly. The ad hoc method classifies a sector as basic or non-basic based on predefined criteria. The location quotient method is more precise, comparing each region's economic structure to a national average. Sectors in which a region is over-specialized are assumed to have a surplus linked to exports; therefore, jobs in this sector are considered as meeting local needs (and thus part of the non-basic sector) when employment rates are below or equal to the national average. Beyond that point, they are considered export-oriented (basic).

Recent European studies on income flows have employed a mix of the ad hoc method and location quotient (Davezies 2008; Carlier et *al.* 2006; De Keersmaecker et *al.* 2007; Talandier 2007; Segessemann and Crevoisier 2016; Ruault 2018). Authors first apply ad hoc definitions to activities that do not pose classification problems. For example, manufacturing can be deemed basic and exported, while retail and personal services can be considered non-basic and consumed locally. For sectors that are more difficult to classify, authors use location quotients, either based on total employment or on population, to determine their classification.

Building on this methodology, we propose to classify economic sectors as "entirely basic," "entirely domestic," or "mixed" (see Appendix 2). We use the ad hoc method for the first two categories, while for the third we apply the location quotient method in order to untangle its basic and non-basic components.

In terms of "captured" income, sectors supported by external funding or oriented towards external demand collectively form the region's economic base, which includes:

- Private base, composed of:
  - Productive base: entirely exporting sectors (both formal and informal), such as extractive industries, and the basic part of "mixed sectors" (see below);
  - Portion of financial flows and capital;[1]
- Public base: the array of sectors operating with public funds, such as public administration,[2] health,[3] and education.[4]
- Residential base: this includes income from tourism and residential settlement within a territory. Following the methodology proposed by Davezies and Talandier (2009), it encompasses:
  - Tourism base: expenditures by national and international tourists;
  - Pension base: income drawn by retirees; and
- Solidarity base: all public transfers and private transfers (between households), which often serve as a social safety net.

With regard to "retained" income, we find several entirely non-basic or domestic sectors, meaning sectors tied to the local economy, oriented towards satisfying the needs of residents:

- Market sector: formal and informal activities meeting local residents' demand for goods and services (e.g., retail, construction). A portion of financial flows and capital is also included in this category, as well as the non-basic part of mixed sectors;
- Non-market sector or human development sector (see Talandier, 2020): local activities with social functions operating with private funds, such as private education and healthcare, funded by household income; and
- Non-monetary sector: local activities that operate through means other than money, such as the gift and barter of goods and services, unpaid work, and production for self-consumption.

Finally, there are "mixed" sectors, combining both basic and non-basic components in varying proportions across different regions. To weight these components, we employ the location quotient to both formal and informal wages within each mixed sector at the regional level. Any portion of annual wage income per inhabitant that is below or equal to the Bahia average is considered domestic, while the remainder is categorized as basic.

As demonstrated in a comparative study by Milano (2023), it is feasible to refer to the Brazilian national average in order to extend the methodology to all Brazilian commuting zones. However, the scope of this article is focused on the state of Bahia. Since Brazil is a federal republic, each federal unit, or state, enjoys a certain degree of autonomy in domestic policy. The present article focuses on the state level in order to provide a diagnostic tool and decision-making aid for local stakeholders. It is important to note that the two methods are complementary: using the Brazilian average highlights the main economic poles at the national level, while using the state average can reveal specialized poles that are significant for internal state policy, even if they do not play as prominent a role at the national level.

Untangling formal wage income from informal wage income

The census contains municipal data about wage income, both from primary and secondary employment. Main job income is disaggregated into formal and informal components for each of the 22 economic sectors. The criterion for distinguishing these components is the presence (or lack) of a work contract, as well as the presence (or lack) of contributions to social security and retirement funds: this is the definition of informality used by the IBGE. These data, including the presence or absence of a work contract, are self-reported by workers. It is essential to underline that informal work does not inherently include illegal activities which, if present, cannot be specifically identified from census data. The relative proportion of formal and informal wages within the basic and non-basic sectors is determined through the ad hoc and location quotient methodologies described above.

Regarding wages from secondary jobs, due to their nature and characteristics (e.g., small businesses, personal services, family farming), our methodology categorizes them within the non-basic informal sector. Non-monetary incomes, for their part, constitute a distinct category within the non-basic sector. However, they can also be viewed as integral to the informal practices that sustain the territorial economy, as discussed below.

Tourism expenditure data

We classify tourism as an entirely basic source of income, grouped within the residential base, alongside pensions. Although this sector does not export goods or services, it represents ad additional segment of consumers, which works to increase final demand in the regions. The methodology we use to estimate tourist expenditures for each region is inspired by authors such as Talandier (2007) and Ruault (2014). Using data from the Tourism Department of the State of Bahia (see Appendix 1), we first calculate the expenditures of international and domestic tourists and then distribute these expenditures by region, in proportion to the number of beds in accommodation facilities in each RGI.

$$TE_r = [(DT * \overline{DTE}) + (IT * \overline{ITE})] * H_r / H_{ba} \quad (2)$$

TE = total tourism expenditure
DT = domestic tourists
DTE = average per capita expenditure of domestic tourists
IT = international tourists
ITE = average per capita expenditure of international tourists
H = number of beds in hospitality accommodations
$_{ba}$ = Bahia
$_r$ = region (RGi)

COMPOSITION OF THE BASIC AND NON-BASIC SECTORS AND THE BASE MULTIPLIER

In conclusion, the two sectors of the regional economies are composed as follows:

$$BSI_r = BFWI_r + BIWI_r + PWI_r + TE_r + FTI_r + PTI_r + PI_r + NWI_r/2 \quad (3)$$

$$DSIr = DFWIr + DIWIr + SWIr + NMIr + NWIr/2 \quad (4)$$

1 Since the available data does not allow us to distinguish between basic and non-basic flows, we consider half as basic and the other half as domestic.

2 All salaries in this sector are considered basic.

3 According to WHO data, public health expenditure (as a percentage of total health expenditure) fluctuated between 41% and 45% during the period 2010-2017. Therefore, we consider half of the salaries in this sector to come from external sources, namely the federal government (public health), and the other half from domestic sources (private health).

4 The 80/20 split between public (basic) and private (domestic) education was based on the PNAD (2019) data. According to it, in Brazil, 80% of students aged 0-14 are in public education.

BSIr= basic sector income
DSIr= domestic sector income
FWI = total formal wage income
IWI = total informal wage income
BFWI = basic formal wage income
BIWI = basic informal wage income
DFWI = domestic formal wage income
DIWI = domestic informal wage income
PWI = public wage income

Finally, to represent the relationship between the basic sector and total regional income, we use the base multiplier (k). This ratio is assumed to be the constant of the economic base model and has been traditionally used to predict future socio-demographic changes. Since many authors have questioned both its invariability over time and its power of prediction (Tiebout 1956; Lane 1966; McNulty 1977), as well as the relevance of economic base theory as a growth theory, we use this ratio only as a descriptive tool. The larger the multiplier, the larger the driving effect of the basic sector on the domestic sector.

$$k = (BSIr + DSIr) / BSIr \quad (5)$$

RESULTS

Using the model detailed above, we calculated the relative proportions of all components constituting the basic and non-basic sectors for each of the commuting zones (RGIs) in the state of Bahia. The results presented in the following pages refer to average values across all RGIs in the state (see Appendices 5, 6, 7, 8 for more detailed data).

Expanding the economic base model using Bahia state data

In the case of Bahia (Figure 2), the major driver of regional economic development appears to be the residential base (50.8%), consisting of pensions (38.0% of the total economic base) and tourist expenditures (12.8%). This confirms the results obtained in the Global North: for example, in France the residential base is the most important, accounting for 40% of the economic base (Talandier 2023). The basic public sector in Bahia represents more than one-fifth (21.4%) of the total economic base; the basic private sector and the solidarity base each represent 13.9%. The basic private sector is composed of informal wage income (3.8% of the total economic base), of formal wage income (3.4%) and of a portion of financial flows and capital (6.7%). The solidarity base is composed of public transfers (11.3% of the total economic base) and interhousehold transfers (2.6%). The disaggregation of wage income into formal and informal components shows the crucial role of informality for both the basic and non-basic private/market sector. On average, the informal component exceeds the formal one.

In the non-basic sector, the market sector dominates (64.3%), with its formal (27.9%) and informal (31.0%) segments showing comparable averages. The remaining component of the market sector consists of financial flows and capital, contributing 9.2% to the non-basic sector. Finally, non-market flows (private health and education) account for 3.9%, and non-monetary income represents on average almost one-third of the non-basic sector (31.7%).

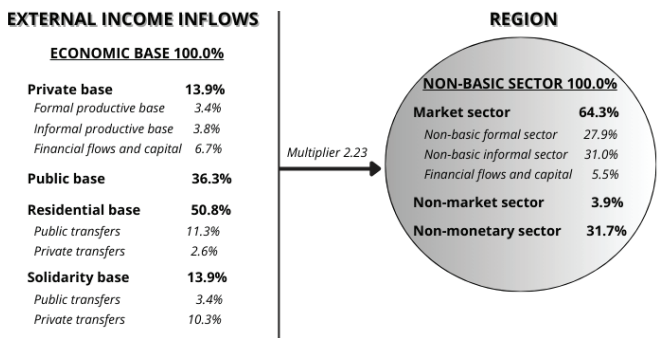
The average base multiplier in the RGIs is 2.23. Thus, the non-basic sector tends to generate more income than the basic sector: a result that is markedly different from that obtained in the Global North. In France, for comparison, the non-basic sector represents approximately 30% of the basic sector. This significant discrepancy is likely due to the inclusion in our analysis of income from informal jobs, as well as non-monetary income, components which are generally overlooked in Global North approaches. The results obtained for Bahia highlight the role of these income sources and the importance of taking all socio-economic practices into account so as to more fully understand the complexity of territorial economies.

RGI income distribution

Looking first at regional income (both basic and non-basic) in terms of stocks, we observe that it is highly concentrated in the Salvador RGI (Figure 3) whose economic base amounts to USD 22 billion PPP and USD 5,506 PPP per capita. For comparison, the average economic base of Bahia's RGIs is USD 1.4 billion PPP, and this drops to 770 million when the Salvador RGI is excluded. However, the data per capita is less affected by the "Salvador effect": the average is USD 2,312 PPP with Salvador and 2,215 without the region.

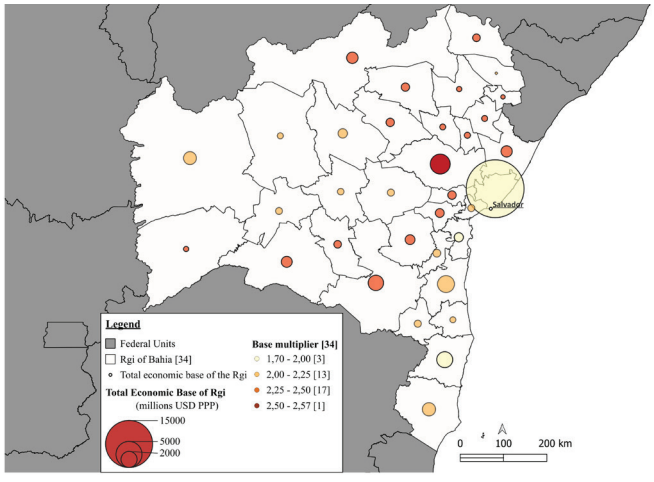
This is not surprising, as the RGI's main city of Salvador is Bahia's state capital. The region contains 27.1% of the state's population and is characterised by higher salaries and cost of living than other Bahia RGIs (which translates into a higher income per capita). Overall, we observe that basic and non-basic incomes, in terms of stock, are similar in size in many regions, and domestic income exceeds basic income in 31 out of 34 regions. This is reflected in the base multiplier, which ranges from a minimum of 1.71 to a maximum of 2.57. Thus, each basic dollar generates 0.71 to 1.57 non-basic dollars, depending on the region. The base multiplier is less than 2 in only three regions (the yellow circles on the map in Figure 3), which retain less income

Figure 2. Basic and non-basic sector composition: the case of the State of Bahia.



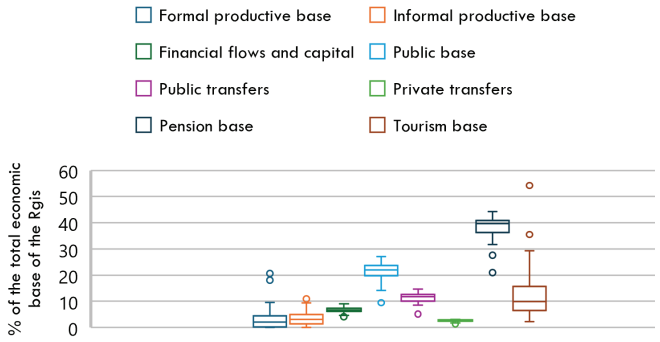
Source: IBGE, Authors' calculations

Figure 3. Basic income (in millions USD) and base multiplier. RGI of Bahia, 2017-2018.



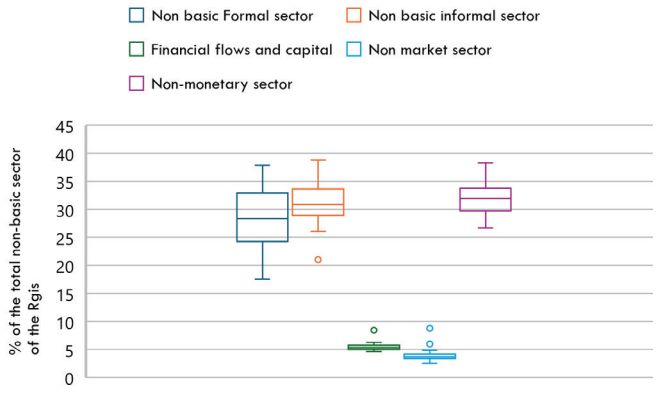
Source: IBGE, Authors' calculations

Figure 4. Box plot illustrating the dispersion of the basic sector components across Bahia's RGIs.



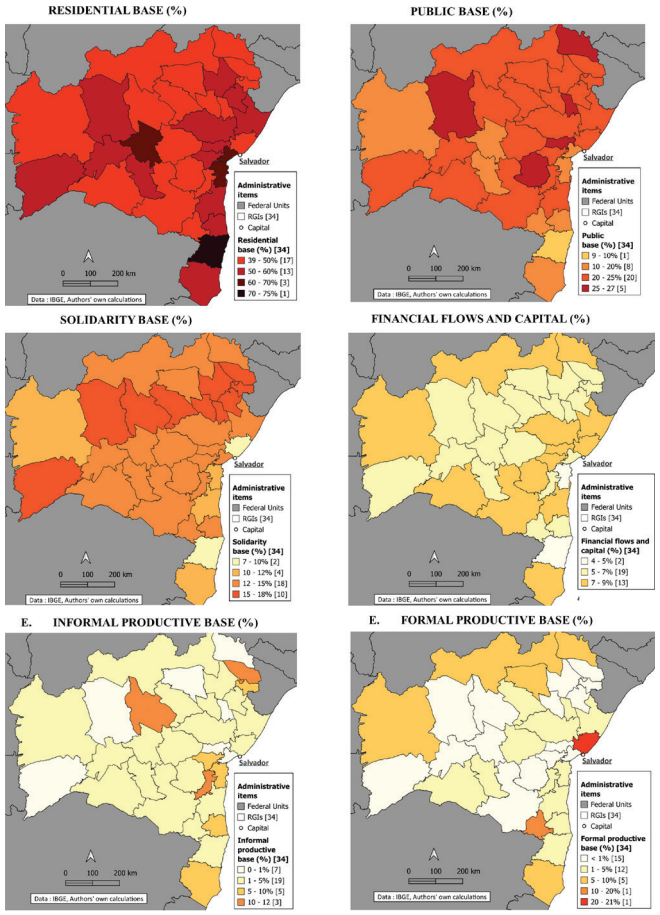
Source: IBGE, Authors' calculations

Figure 6. Box plot illustrating the dispersion of the non-basic sector components across Bahia's RGIs.



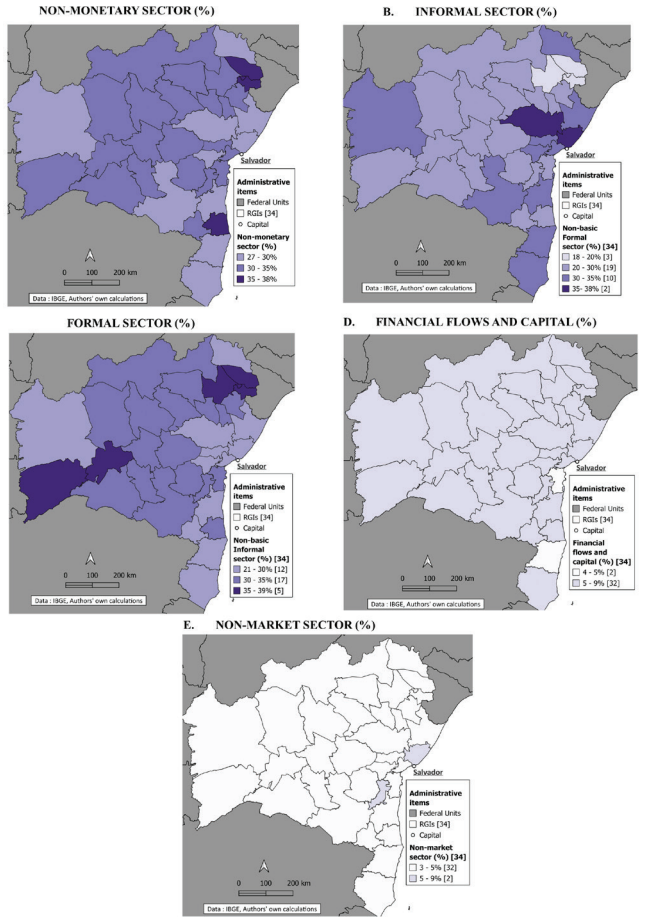
Source: IBGE, Authors' calculations

Figure 5. Maps representing the weight of each basic income source, for each RGI.



Source: IBGE, Authors' calculations

Figure 7. Maps representing the weight of each non-basic income source, for each RGI.



Source: IBGE, Authors' calculations

than they capture. The importance of non-basic sector across all RGIs may be related to the high share of low-income households (Appendix 5), which tend to save less and spend more on the local economy (Banerjee and Duflo 2011; Guérin 2014; Dowbor 2018). Households with an income below the poverty line of USD 5.5 PPP per capita per day represent at least 45% of total households in every region, exceeding 70% in 13 regions. For these households, wage income represents on average only 37.3% of the total income, while transfers and non-monetary income together represent 59.4% (POF 2017-2018, Appendix 3). The importance of non-wage income in family budgets is reflected in the composition of regional income, both in the basic and domestic sectors.

The box plot below (Figure 4) shows the contribution and highlights the dispersion of different components of the economic base for all Bahia RGIs. The maps in Figure 5 illustrate the contribution of each income flow to the economic base of each RGI.

The main driver of development appears to be the residential base, which constitutes between 39.4% and 75.1% of the total economic base of the RGIs (Figure 5A). This base shows uneven distribution (σ = 6.8), reflecting the heterogeneous nature of residential assets across the state. Among its components, pensions account for the largest share (38.0% of the total economic base) and are the most evenly distributed (σ = 4.6). In contrast, tourist expenditure (12.8%) shows the highest standard deviation among all sources of basic income (σ = 10.5).

The public base also plays a substantial role, ranging from 9.5% to 27.0% (σ = 3,8) (Figure 5B). It is particularly important in some of the regions with the lowest living standards, where it offers better paid jobs compared to most of the other sectors.

Next, we find that the solidarity base (Figure 5C) ranges from 6.5% to 17.8%. With a low standard deviation of 2.6, it seems to fulfil its role in reducing inequalities and fostering territorial cohesion. Among its components, public transfers play a pivotal role (11.3% of total economic base with a standard deviation of only 2.3). Private transfers account for only a small proportion of basic income (2.6%) and are very equally distributed (σ = 0.4).

In the last position we find the three components of the basic private sector (Figures 4D, E, F). The smallest among them is the formal component, varying from 0.02% to 20.57% of the total economic base (σ = 4.8), the maximum value being in the Salvador region, which hosts the largest industrial district in Bahia. The informal private base ranges from 0.01% to 11.86% (σ = 3,4). Finally, capital and financial flows range from 4.1 to 9.0%, with a standard deviation of only 1.0.

We can now turn our attention to the non-basic sector. Below, a boxplot displays the significance of its components and their distribution (Figure 6), accompanied by maps illustrating the contribution of each income source across the RGIs (Figure 7).

The non-basic market sector is of great importance. Among its wage components, the formal sector (Figure 6B) represents between 17.6 and 37.9% of the total non-basic income in the RGIs (σ = 5.5), while the informal sector represents between 21.0% and 38.8% (σ = 3.5) (Figure 6C). Financial flows and capital (Figure 6D) constitute the last component of the market sector and range from 4.6% to 8.4% (σ = 0,7).

The non-market sector (Figure 6E) represents the lowest percentage of non-basic regional income (from 2.5% to 8.8%) with a low standard deviation (σ = 1.1). Non-monetary income (Figure 6A) is its most important component, representing at least 26.7% of regional non-basic income, with the maximum value being 38.3% (σ = 2.6). As we can see from the POF data (IBGE, 2017-2018, Appendix 3), non-monetary income is very important not only for the least privileged households (representing 29.1% of the income of households below the poverty line) but also for the wealthiest ones (accounting for approximately 10% of their income).

DISCUSSION

As previously demonstrated in the Global North, economic base theory, when applied using income data, can be a robust framework for analysing regional economic dynamics, encompassing a range of development drivers extending far beyond strictly productive activities. This study, to the best of our knowledge, is the first application of economic base theory to the Global South using income data and measuring informality and non-monetary income. It confirms the theory's adaptability, demonstrating how it can be tailored to diverse settings based on available data. Our findings highlight the importance of non-wage income, especially transfers and pensions, and the informal economy across various territories. Thus, while recognizing the significance of traditional productive sectors as engines of regional economies, our focus on income flows provides new perspectives on economic development mechanisms and local public policy.

THE IMPORTANCE AND LIMITS OF TRANSFER INCOMES

Transfers, both public and private, play an important role and should not be underestimated. On one side, we can point out that they amplify regions' dependence on factors ultimately beyond the control of local stakeholders. In this regard, some scholars view Keynesian levers as tools for stimulating growth, rather than as mechanisms of endogenous local development (Shearmur and Polèse, 2009). A large solidarity base undoubtedly indicates that a high proportion of households face socio-economic insecurity. Still, these income flows also reflect national and inter-territorial solidarity, embodying the spatial dimension of social solidarity. In France, income equalization and redistribution are among the pillars of regional planning policies. Numerous examples in the Global South–such as Brazil's and Mexico's programs with flexible conditionalities–demonstrate that transfers provide relief to beneficiaries in their struggle for survival, allowing them to live better and to invest more in "productive" or income-generating activities, as well as in education and leisure (Hanlon, Barrientos, and Hulme 2010).

Assessing this issue cannot be anything but a priority in contexts like Bahia, where a significant proportion of households live below the poverty line (Appendix 3 and 4). Here, solidarity income is pivotal, constituting over 10% of the base in two-thirds of the state's RGIs. Public transfers target the most vulnerable households, with Bolsa Familia[5] and BPC-LOAS[6] being the two most prominent measures. In Bahia, 28.2% of the households receive Bolsa Familia (compared with a Brazilian national average of 13.7%), and 5.4% receive BPC-LOAS (national average of 3.6%). Together with remittances (or private transfers), these incomes serve as catalysts not only for consumption, but also for productive investments. They sustain local consumption of services and everyday goods by millions of people, thereby promoting job creation and wealth generation in the non-basic sector. Moreover, these funds are also used to directly invest in assets like work tools, taxis, or small businesses (Abhijit & Duflo, 2012), further enhancing local employment and production.

Pensions are another frequently overlooked source of non-wage income in analyses of regional developments. In Brazil, they share similarities with social transfers, particularly in rural areas. In 1991, the government introduced a law establishing rural pensions, with the aim of achieving parity with urban pensions and providing a minimum wage benefit for rural retirees. While in countries like France retirees often choose to live in tourist destinations, studies show that in Brazil, significant numbers of retirees return to their hometowns or move closer to family. In this regard, Milano (2023) found a strong negative correlation between retiree income and tourist income in Brazilian RGIs. This mobility pattern contributes income to rural areas as retirees become a substantial source of revenue (Schwarzer 2000; Beltrão, Camarano, and Mello 2005; Augusto and Ribeiro 2011). This dynamic represents a potential lever for capital circulation and the creation of economic activities for economically mar-

5 Bolsa Familia is a direct cash transfer program aimed at families living in poverty and extreme poverty, to guarantee their right to food, as well as access to education and health

6 The Benefício de Prestação Continuada is a guaranteed monthly minimum wage benefit for disabled and elderly people who do not have the personal or family resources to provide for their own subsistence.

ginalized regions. Retirees also play a role in development through non-monetary income sources, such as their social capital, voluntary investments in associations and local politics, as well as their contribution to the living standards of their families (e.g., childcare, self-sufficiency production).

Certainly, development policies cannot rely on transfer incomes alone: indeed, their prevalence also indicates precariousness and territorial dependence. However, given their weight and impact, such transfers are potential drivers of economic activities, supporting both production and consumption (Sadoulet, Janvry, and Davis 2001; Araújo and Lima 2009; Favero 2010; Nesse 2014).

The importance of well-structured transfers in mitigating inequalities and poverty, as well as in ensuring territorial cohesion, is widely demonstrated (Soares et *al.* 2006; Hanlon, Barrientos, and Hulme 2010; Kakwani, Neri, and Son 2010; Hoffmann 2013). The challenge lies in building on existing approaches to create new solutions, so that the impact of these transfers in all their forms can be enhanced to the benefit of territories and their populations. Some innovations deployed worldwide can facilitate optimal local circulation for this type of income, as is the case in Brazil, where credits and basic income are transferred in local currency (Waltenberg et *al.* 2021).

INFORMALITY AS BOTH A DEVELOPMENT DRIVER AND A LEVER FOR THE CIRCULATION OF WEALTH

Informality plays a crucial role in both the basic and domestic sectors. It is essential to clarify that the informal economy discussed here does not involve illicit activities, but rather, as detailed earlier, encompasses employment relationships that lack formalization through an employment contract. A substantial body of literature emphasizes the importance and challenges of the informal economy in various world regions, including the Global South. Our approach, however, consists in measuring these incomes at the regional level and comparing them with other development drivers. Only a few previous studies have undertaken similar methodologies, and, to our knowledge, none have drawn on economic base theory.

Our results indicate that in nearly two-thirds of Bahia's RGIs, the informal base surpasses the formal base, accounting for more than a quarter of the private base on average (25.6%). In the non-basic sector, the informal component also outweighs the formal one in two-thirds of the regions, representing on average 48.5% of the market sector. The lowest informal base percentages are observed in the RGI of Salvador, where the formal base is strongest, and yet where the informal component nevertheless represents 10.4% of the productive base and as much as 32.0% of the non-basic market sector.

In Brazil, several authors consider informal employment rates to be structural (Costa 2010; Duarte 2014). Despite fluctuations in overall unemployment rates during economic crises and growth periods, the informality rate remains consistently around 40 percent. In Bahia, informal employment accounted for 56.7% of total employment in 2018, which was significantly higher than the national average of 41.5% (IBGE, PNAD 2019).

The IBGE also includes within the informal sector unpaid workers and those producing for their own consumption, generating what our model terms "non-monetary income," which, according to our calculations, represents approximately one third of the non-basic sector. If we consider non-monetary income to be part of the informal sector in our model, the non-basic sector would exceed 50% in all regions except Salvador (49.3%), going so far as to surpass 60% in 24 out of 34 regions.

These findings underscore the critical role of the informal economy in the territories under study. Despite efforts by international and national organizations to address undeclared work that bypasses state-sponsored social protection frameworks, this economic sector remains a pivotal aspect of the sociocultural fabric of the region and people's livelihoods. This persistence requires us to explore the role of informality in the functioning of local economic systems.

Informality is frequently regarded as a pre-modern form of the economy, a "spatial pathology" that planning policies have sought to address and eradicate (Kamete 2013; Avni and Yiftachel 2014). Yet, evidence from the Global South suggests that the informal economy and the informal city are here to stay (Hart 1973; Hodder 2016). Moreover, several authors have argued that these realities and conceptualizations provide insights of value to understanding similar issues in the Global North, where they are frequently glossed over (Comaroff and Comaroff 2012).

Our calculations reveal strong interdependencies between the "upper" (formal) and "lower" (informal) circuits of the economy, as conceptualized by Milton Santos (1975). These economic spheres coexist and are intricately linked, challenging the traditional evolutionary perspective on informality. In the literature pertaining to South America, it is seen as an "economy of popular sectors" (Hillenkamp, Lapeyre, and Lemaître 2013; Gaiger 2019; Kraychete 2021) providing livelihoods to those who are not formally integrated within local economies. Our findings show that the informal sector is involved in both export-oriented and local activities, highlighting its potential to support and complement formal sectors. Inevitably, this prompts concerns about labour protection, fair compensation, and the adequacy of tax collection, which must necessarily be prioritized in territorial development strategies.

In the Global North, informality and non-monetary practices often evade analytical scrutiny, even though they are quite ubiquitous in practice. Over the past decade, several studies have underscored the importance of informal and non-monetary practices, including in the Global North (Reid 1951; Insel 2008; Atkinson and Marlier 2010; Kitzmann and GEMASS 2016; INSEE 2018). According to the International Labour Organization, the informal economy employs over 60% of the global workforce, also playing a significant role in Europe, where the average is above 25% (ILO 2018b). Unpaid labour is also a pillar of economies worldwide: women–who constitute half of the global population–spend more time performing unpaid labour than they do in paid work, across all continents (ILO 2018a).

If we are to design viable studies delineating the realities of informal and non-monetary income also in the Global North, and thereby develop a fuller understanding of its economic bases, we must first reject the notion that these practices derive from a "pathological economy" endemic only to Global South countries.

While economic base theory facilitates such exploration, the lack of systematic data on these dynamics remains a significant challenge.

CONCLUSION

The present article applies economic base theory, as revised by Europeans authors in the 2000s , to the Brazilian State of Bahia. We calculated an array of income flows contributing to the regional economy at the scale of commuting zones (RGIs). The methodology employed distinguishes between basic sectors, encompassing all income received from outside each region, and non-basic sectors, which include income flows retained (and multiplied) in the area through local consumption.

While the traditional version of economic base theory asserts that basic flows are primary drivers of local economic development, it also assesses the impact of internal wealth circulation through a Keynesian multiplier. Therefore, an area's development hinges on its

capacity to: generate income from its productive base, attract external wealth (via residential, tourist, and redistributive bases), and ensure that these incomes circulate locally. Thus, mere competitiveness alone does not suffice to improve living conditions for the population. If income generated from productive activities is spent elsewhere due to capital outflows or the mobility of workers and consumers, it will have little impact on the territory and its inhabitants.

In recent decades, studies grounded in economic base theory have offered a more nuanced understanding of the complex mechanisms driving economic development in European territories. For instance, results from this analytical framework reveal that the prosperity of France's major urban centres cannot be attributed solely to their export performance, but stems, rather, from their "productive-residential" profile. Many rural areas thrive primarily due to their residential and tourist-oriented economies. Conversely, certain regions rely on redistributive bases and multiplier effects for continued viability.

Economic base theory has been utilized to a limited extent in studies of local economic dynamics in the Global South. However, the same fundamental questions persist regarding the production, attractiveness, and distribution of wealth. By adapting the theory from its foundational premise and applying it to the Brazilian context, we can identify additional challenges confronting territorial economies, both in the Global North and in the Global South.

Our calculations reveal that the residential base is the primary driver of economic development in Bahia's regions, contributing to more than half of the total economic base. The public base constitutes on average 21% of the total economic base, while both the private productive base and the social base account for 14% each. However, there are significant variations between more formally productive centres (as measured by conventional indicators) like Salvador, where the private base reaches 32%, and more fragile areas, where the solidarity base accounts for nearly 20%. These figures are comparable to those observed in European countries. What distinguishes our approach is its consideration and measurement of income flows traditionally overlooked in the Global North, specifically income generated by informal and non-monetary activities.

Two key insights emerge from our findings regarding the informal economy in Bahia. First, informal work plays a pivotal role in the productive export sector, generating, on average, no less than half of the sector's income. However, this contribution varies considerably depending on specific export activities and company profiles. Secondly, while the informal economy's impact on local consumption activities (or non-basic sector) is widely acknowledged, our analysis provides a quantification of these income flows. We found that on average 31% of non-basic income across the RGIs originates from informal activities. Even in Salvador, where this contribution is at its lowest within the state, it is still substantial at 21%.

Furthermore, our study enables the estimation of the scope of non-monetary activities, previously neglected by most regional economic development analyses. These activities account for more than 30% of non-basic income, with uniformly high rates observed across all RGIs, underscoring their significant role in the economic life of these regions. Further research is needed to gain a deeper understanding of both their positive and negative impacts, however, in both the Global North and South.

Ultimately, the economic development of territories relies significantly on employment and income categories that are largely disregarded by approaches focusing predominantly on the formal productive sector. These categories include the residential economy, the informal economy, transfer incomes, and non-monetary activities. Our empirical findings quantify the significance of these non-productive incomes, informing key questions about local governance, including those surrounding optimal strategies for territorial development, such as taxation and economic diversification, as well as wealth circulation and redistribution. Building on these initial findings, we have conducted additional, as yet unpublished, qualitative research to explore the role of social innovation in the mechanisms that capture and retain wealth, such as community banks and basic income in local currencies in Brazil. This research highlights potential avenues for action to better understand and harness such income streams, which have long been unduly dismissed as merely detrimental.

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Appendix 1. Database and variables description.

Database	Year	Statistical Variables	Geographical scale	Sample	Further details
Census, IBGE	2010	N. of families by income group and their average income.	Municipalities	Households	22 economic sectors. The difference between formal and informal employment is based on whether the employee is entitled to social protection or not.
		N. of employments and average income (in R$) by sector, disaggregated into a formal component and informal component.	Municipalities	Employed population aged 10 years and over	
Consumer Expenditure Survey (POF – Pesquisa de Orçamentos Familiares), IBGE	2008-2009; 2017-2018	Components of household income (in R$), for each income group, and number of families belonging to each income group.	State (Bahia)	Households	The sources of income are presented as follows: • Wage income; • Transfers (Retirement and pension, Social programs, inter-household transfers or donation); • Other income (income from absent residents and from children under the age of 10, dividends, interest received and other income) • Rents; • Non-monetary income; • Change in assets.
Tourism data, SETUR and Observatório do Turismo da Bahia	2011, 2014, 2017	Number of domestic (2011, 2014) and international (2017) tourists and their respective average expenditure (2011, 2014).	State (Bahia)	Domestic and international tourists	The authors estimated 2017 data.
Accommodation services research (PSH – Pesquisa de Serviços de Hospedagem), IBGE	2016	Number of beds in each accommodation facility.	Municipalities	Accommodation structures	Data take into account formal accommodations only.

Appendix 2. Bahia. Categorization of census economic sectors.

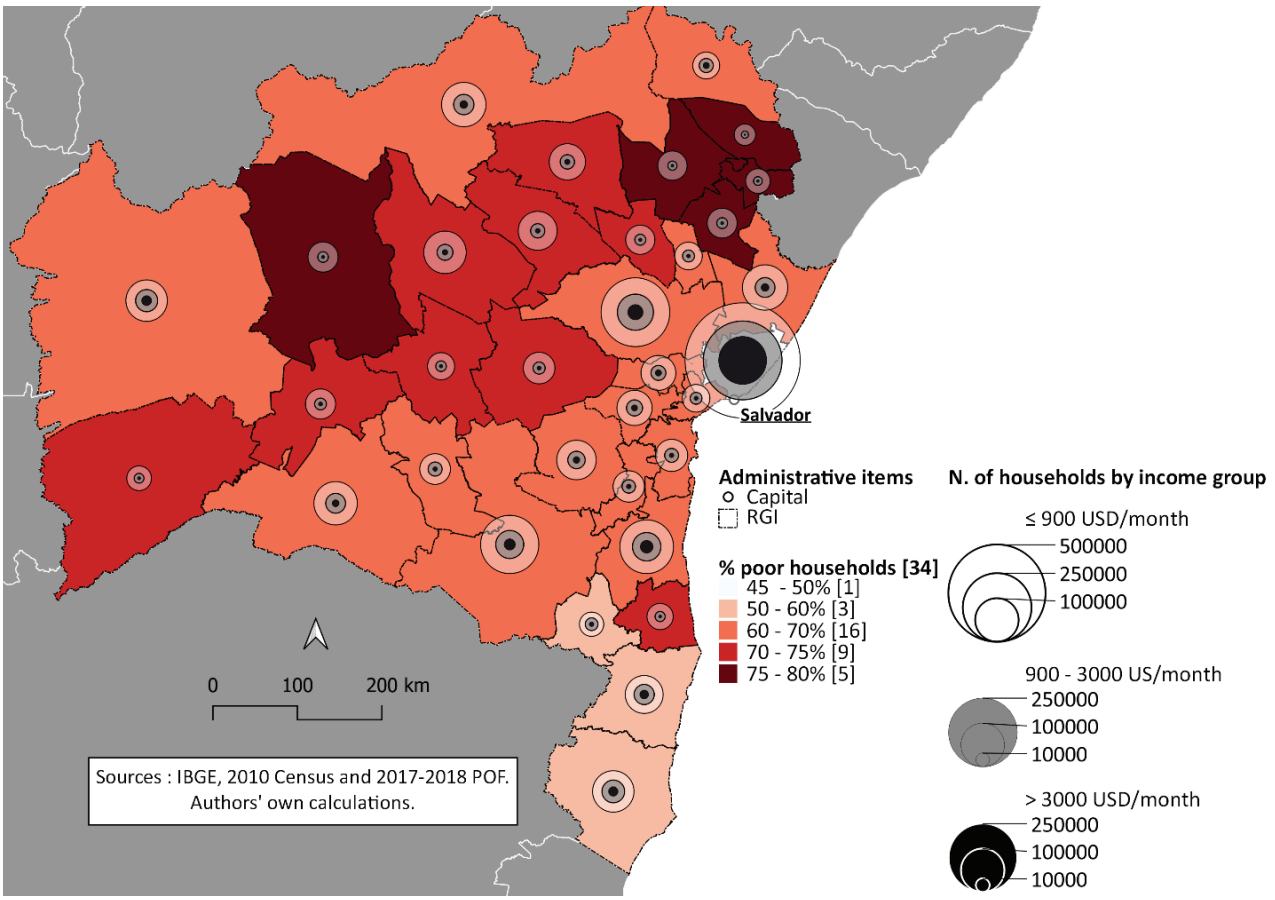
Entirely basic Sectors	Entirely domestic sectors	Basic public sectors	Domestic public sectors	Mixed sectors
• Extractive industry	• Construction and building • Trade and repair of motor vehicles • Accommodation and restaurants • Real estate activities • Household services • Secondary employments	• Public administration, defence and social security • International organisations and other extraterritorial institutions • 80%[1] of Education • 50%[2] of Health and Social Services	• 20% of Education • 50% of Health and Social Services	• Agriculture, livestock and forestry production • Manufacturing • Electricity and gas • Water, sewerage, waste management • Transport, storage and courier • Information and communication • Finance, insurance and related services • Professional, scientific and technical activities • Administrative and support service activities • Arts, culture, recreation and sport • Other service activities • Undefined activities

[1] The 80/20 split between public (basic) and private (domestic) education was based on the PNAD (2019) data. According to it, in Brazil, 80% of students aged 0-14 are in public education.
[2] According to WHO data, public health expenditure (as a percentage of total health expenditure) has fluctuated between 41% and 45% during the period 2010-2017. Therefore, we consider half of the salaries in this sector to come from external sources, namely the federal government (public health) and the other half from domestic sources (private health).

Appendix 3. Data on household income. IBGE, POF 2017-2018.

	Components of family's income (%), ranked by Income groups. Bahia, 2017-2018							
Sources of income	**Total (%)**	**≤ 600 $**	**600-900 $**	**900-1800 $**	**1800-3000 $**	**3000- 45000 $**	**45 000- 75 000 $**	**> 75 000 $**
Total income and asset variation	100	100	100	100	100	100	100	100
(1) Total income	95,1	98,5	97,7	96,5	95,8	90,9	94,2	89,6
Labour income	53,3	37,3	36,1	55,9	62,9	56,2	61,9	61,8
Employee	36,4	23,9	24,8	41,6	47,3	36,2	43,9	31,7
Employer	6,8	0,3	1,1	3,0	4,6	7,5	10,5	26,5
Self-employed	10,1	13,1	10,2	11,4	11,0	12,5	7,5	3,5
Transfers	22,8	30,3	38,5	20,2	17,9	19,1	18,3	16,0
Pensions	17,6	15,2	30,1	14,9	15,1	16,8	17,6	15,7
Federal social programs	3,0	11,4	5,4	2,7	0,6	0,1	0,1	-
Allowance or donation	1,1	2,0	1,4	1,0	1,4	1,4	0,4	0,1
Other transfers	1,1	1,7	1,6	1,6	0,8	0,9	0,2	0,2
Rent	1,3	0,2	0,2	0,8	1,5	3,2	0,8	3,0
Other income	1,3	1,5	1,1	1,4	1,7	0,3	3,2	-
Non-monetary income	16,4	29,1	21,8	18,1	11,7	11,9	10,0	8,9
(2) Changes in assets	4,9	1,5	2,3	3,5	4,2	9,1	5,8	10,4
Average monthly income (USD)	**376**	**119**	**235**	**395**	**730**	**1140**	**1772**	**3883**
Number of households	**4901100**	**1889653**	**1093739**	**1203923**	**381714**	**166461**	**107076**	**58534**
% of Households	**100**	**38,6**	**22,3**	**24,6**	**7,8**	**3,4**	**2,2**	**1,2**
Average household size	**3,01**	**2,71**	**3,03**	**3,33**	**3,26**	**3,43**	**3,12**	**2,88**

Appendix 4. Households' living standards. Number of households by group of income (including non-monetary income) and percentage of households below the poverty line. 2017-2018.



Appendix 5. Basic and non-basic sector income, by RGI, in millions PPP USD.

	BASIC INCOME (MILLIONS USD PPP)				NON-BASIC INCOME (MILLIONS USD PPP)		
RGI	Private base	Public base	Solidarity base	Residential base	Market Sector	Non Market sector	Non monetray sector
Salvador	7019	4675	1580	8639	13872	1266	5978
Alagoinhas	134	208	140	526	902	46	402
Santo Antônio de Jesus	89	132	93	324	594	32	267
Cruz das Almas	46	149	87	308	547	30	247
Valença	84	98	72	436	389	21	199
Nazaré – Maragogipe	30	86	53	263	328	15	149
Ilhéus – Itabuna	242	529	249	1201	1840	114	767
Teixeira de Freitas	268	204	157	762	1134	50	477
Eunápolis - Porto Seguro	176	187	129	1487	974	36	395
Camacan	60	55	44	165	203	8	116
Vitória da Conquista	214	450	270	914	1754	106	783
Jequié	89	211	114	367	652	43	320
Brumado	69	96	72	249	405	25	200
Ipiaú	114	122	68	210	330	50	195
Itapetinga	117	62	54	202	309	13	156
Guanambi	144	213	143	456	822	47	403
Bom Jesus da Lapa	31	91	58	234	322	18	158
Barreiras	291	235	148	648	1100	61	464
Santa Maria da Vitoria	19	62	40	140	210	12	107
Irecê	133	151	113	322	533	43	304
Xique-Xique – Barra	21	84	52	175	239	19	135
Juazeiro	167	240	146	486	888	43	419
Senhor do Bonfim	74	134	84	277	467	26	232
Paulo Afonso	78	125	60	226	430	30	186
Ribeira do Pombal	26	74	53	166	278	16	141
Euclides da Cunha	24	57	46	137	210	12	118
Cícero Dantas	32	48	35	91	157	11	93
Jeremoabo	24	35	26	62	98	7	65
Feira de Santana	395	653	410	1561	3315	163	1269
Jacobina	76	137	94	272	449	31	248
Itaberaba	65	94	63	205	329	21	172
Conceição do Coité	38	68	57	156	276	14	148
Serrinha	38	87	52	158	282	17	143
Seabra	27	73	47	228	247	15	126
Mean	**307**	**292**	**144**	**649**	**1026**	**72**	**458**
Mean without Salvador	**104**	**159**	**101**	**406**	**637**	**36**	**291**

Appendix 6. Basic and domestic sector income per capita, by RGI, in USD per capita.

	BASIC INCOME (USD PPP per capita)				NON-BASIC INCOME (USD PPP per capita)		
RGI	Private base	Public base	Solidarity base	Residential base	Market Sector	Non Market sector	Non monetray sector
Salvador	1763	1175	397	2171	3485	318	1502
Alagoinhas	268	414	280	1049	1797	91	800
Santo Antônio de Jesus	305	453	319	1110	2037	110	916
Cruz das Almas	161	520	304	1072	1906	104	861
Valença	331	388	286	1723	1537	82	787
Nazaré – Maragogipe	164	473	294	1453	1814	85	826
Ilhéus – Itabuna	366	799	377	1816	2782	172	1160
Teixeira de Freitas	596	453	348	1694	2521	112	1061
Eunápolis - Porto Seguro	465	494	341	3929	2573	96	1043
Camacan	441	405	319	1207	1485	60	850
Vitória da Conquista	261	548	329	1114	2137	129	954
Jequié	256	610	328	1061	1883	124	924
Brumado	303	423	316	1095	1779	112	879
Ipiaú	516	553	311	952	1501	229	885
Itapetinga	775	406	354	1330	2038	84	1031
Guanambi	301	446	300	954	1720	97	844
Bom Jesus da Lapa	133	392	251	1014	1394	79	686
Barreiras	582	470	297	1298	2201	122	929
Santa Maria da Vitoria	135	446	287	1011	1519	87	770
Irecê	326	372	279	791	1311	105	747
Xique-Xique – Barra	96	382	236	793	1085	86	614
Juazeiro	324	467	284	946	1730	84	816
Senhor do Bonfim	250	453	282	931	1571	87	781
Paulo Afonso	401	644	311	1162	2210	152	958
Ribeira do Pombal	128	370	263	826	1380	77	698
Euclides da Cunha	126	301	246	725	1112	65	624
Cícero Dantas	252	374	275	708	1222	87	718
Jeremoabo	247	350	260	624	987	73	658
Feira de Santana	322	533	334	1274	2706	133	1036
Jacobina	234	424	290	842	1388	97	768
Itaberaba	290	422	281	918	1476	93	769
Conceição do Coité	195	354	293	805	1429	74	766
Serrinha	203	459	274	836	1492	90	756
Seabra	151	418	266	1302	1407	88	718
Mean	**343**	**476**	**300**	**1192**	**1783**	**108**	**857**
Mean without Salvador	**300**	**455**	**297**	**1163**	**1731**	**102**	**837**

Appendix 7. Basic and domestic sector income, by RGI, in %.

	BASIC INCOME (%)				NON-BASIC INCOME (%)		
RGI	Private base	Public base	Solidarity base	Residential base	Market Sector	Non Market sector	Non monetray sector
Salvador	32,0	21,3	7,2	39,4	65,7	6,0	28,3
Alagoinhas	13,3	20,6	13,9	52,2	66,9	3,4	29,8
Santo Antônio de Jesus	13,9	20,7	14,6	50,8	66,5	3,6	29,9
Cruz das Almas	7,8	25,3	14,8	52,1	66,4	3,6	30,0
Valença	12,1	14,2	10,5	63,1	63,9	3,4	32,7
Nazaré – Maragogipe	6,9	19,9	12,3	61,0	66,6	3,1	30,3
Ilhéus – Itabuna	10,9	23,8	11,2	54,1	67,6	4,2	28,2
Teixeira de Freitas	19,3	14,6	11,3	54,8	68,2	3,0	28,7
Eunápolis - Porto Seguro	8,9	9,5	6,5	75,1	69,3	2,6	28,1
Camacan	18,6	17,1	13,5	50,9	62,0	2,5	35,5
Vitória da Conquista	11,6	24,3	14,6	49,5	66,4	4,0	29,6
Jequié	11,4	27,0	14,5	47,0	64,3	4,2	31,5
Brumado	14,2	19,8	14,8	51,2	64,2	4,0	31,7
Ipiaú	22,1	23,7	13,3	40,8	57,4	8,8	33,8
Itapetinga	27,0	14,2	12,4	46,4	64,6	2,7	32,7
Guanambi	15,1	22,3	15,0	47,6	64,6	3,7	31,7
Bom Jesus da Lapa	7,4	21,9	14,0	56,6	64,6	3,6	31,8
Barreiras	22,0	17,8	11,2	49,0	67,7	3,8	28,6
Santa Maria da Vitoria	7,2	23,7	15,3	53,8	63,9	3,7	32,4
Irecê	18,4	21,1	15,8	44,7	60,6	4,9	34,5
Xique-Xique – Barra	6,4	25,3	15,7	52,6	60,8	4,8	34,4
Juazeiro	16,1	23,1	14,0	46,8	65,8	3,2	31,0
Senhor do Bonfim	13,0	23,6	14,7	48,6	64,4	3,6	32,0
Paulo Afonso	15,9	25,6	12,3	46,1	66,6	4,6	28,9
Ribeira do Pombal	8,0	23,3	16,6	52,1	64,0	3,6	32,4
Euclides da Cunha	9,0	21,5	17,6	51,8	61,8	3,6	34,6
Cícero Dantas	15,7	23,2	17,1	44,0	60,3	4,3	35,4
Jeremoabo	16,7	23,6	17,6	42,1	57,5	4,2	38,3
Feira de Santana	13,1	21,6	13,6	51,7	69,8	3,4	26,7
Jacobina	13,1	23,7	16,2	47,0	61,6	4,3	34,1
Itaberaba	15,2	22,1	14,7	48,0	63,1	4,0	32,9
Conceição do Coité	11,9	21,5	17,8	48,9	63,0	3,3	33,8
Serrinha	11,4	25,9	15,5	47,2	63,8	3,8	32,3
Seabra	7,1	19,6	12,4	60,9	63,6	4,0	32,4
Mean	**13,9**	**21,4**	**13,9**	**50,8**	**64,3**	**3,9**	**31,7**
Mean without Salvador	**13,4**	**21,4**	**14,1**	**51,2**	**64,3**	**3,9**	**31,8**

Appendix 8. Average regional distribution of each source of income (in % of total basic and non-basic income).

	BASIC INCOME (%)								NON-BASIC INCOME (%)				
Indicator	Formal	Informal	Financial flows and capital	Public base	Public transfers	Private transfers	Pension base	Tourism base	Formal sector	Informal sector	Financial flows and capital	Non market sector	Non-monetary sector
MIN	0,0	0,0	4,1	9,5	5,2	1,4	20,9	2,3	17,6	21,0	4,6	2,5	26,7
MAX	20,6	11,9	9,0	27,0	14,7	3,1	44,3	54,2	37,9	38,8	8,4	8,8	38,3
MEAN	3,4	3,8	6,7	21,4	11,3	2,6	38,0	12,8	27,9	31,0	5,5	3,9	31,7
MEDIAN	2,1	3,1	6,7	22,0	11,8	2,8	39,6	9,9	28,3	30,8	5,3	3,7	31,9
σ	4,8	3,4	1,0	3,8	2,3	0,4	4,6	10,5	5,5	3,5	0,7	1,1	2,6

Source: Authors' calculations