



ECONOMIC DYNAMISM AS A FACTOR OF LOCAL DEVELOPMENT

**A DINÂMICA ECONÔMICA COMO FATOR
DO DESENVOLVIMENTO LOCAL**

ECONOMIC DYNAMISM AS A FACTOR OF LOCAL DEVELOPMENT

A DINÂMICA ECONÔMICA COMO FATOR DO DESENVOLVIMENTO LOCAL

Alcimar das Chagas Ribeiro¹

Received: 01/10/2026

Accepted: 04/27/2026

¹ Doctor of Engineering Sciences (UENF).
Professor at the State University of Northern
Rio de Janeiro Darcy Ribeiro.
Campos dos Goytacazes – RJ, Brazil.
Email: alcimar@uenf.br

ABSTRACT

This article applies the Local Economic Dynamics Index (INDEL) as an alternative to better understanding local economic dynamics by perceiving the relative potential for retention of wealth generated by the economic system. This effort is justified by the degree of heterogeneity of these systems, especially the nature of capital inflows. Economic systems that benefit from investments based on natural resources tend to allow consistent wealth flight due to their weak capacity to absorb positive externalities. To investigate the pattern of absorption capacity for internally generated wealth, four municipalities in the North Fluminense mesoregion were selected in the INDEL application process: Campos dos Goytacazes, Macaé, São João da Barra, and São Francisco de Itabapoana, which present distinct characteristics and offer opportunities for relevant reflection.

Keywords: agribusiness; modernization; public policies; agriculture.

RESUMO

O artigo aplica o Índice de Dinâmica Econômica Local – INDEL como alternativa para melhor entendimento da dinâmica econômica local a partir da percepção do potencial de fixação relativa da riqueza gerada pelo sistema econômico. O esforço é justificado pelo grau de heterogeneidade desses sistemas, especialmente pela natureza do fluxo de capital. Sistemas econômicos beneficiários de investimentos de base em recursos naturais tendem a permitir consistente fuga de riqueza pela frágil capacidade de absorção das externalidades positivas. Para investigação sobre o padrão da capacidade de absorção da riqueza gerada internamente, quatro unidades municipais da mesorregião Norte Fluminense foram selecionadas no processo de aplicação do INDEL: são elas Campos dos Goytacazes; Macaé; São João da Barra; e São Francisco de Itabapoana, que apresentam contornos de natureza distinta e oferecem possibilidades de reflexões relevantes.

Palavras-chave: externalidades positivas; dinâmica econômica; projetos exógenos; economia local/regional, INDEL.

1 INTRODUCTION

To identify the level of local economic development is always a challenge of the highest degree. The consistent heterogeneity among units, together with the diverse nature of investments, creates barriers to a deeper analysis that is entirely dependent on the foundations of the available international literature.

Following Barquero's (1999) statement that endogenous development is a process that evolves through economic, social, cultural, and political phases, understanding the fundamentals of the economic phase is crucial. Identifying the level of development within the context of the combination of these same phases can lead to identification of important mistakes. Thus, the contribution proposed in this paper seeks to facilitate a better understanding of local economic dynamism, a strategically necessary condition to guide the formulation of public policy while also considering other social, cultural, and political dimensions.

According to Furtado (1974), knowledge of local/regional economic dynamism must precede the condition of economic development. Local economic dynamism, understood in this context, is represented by the local economic system's capacity to internally retain a substantial portion of the wealth generated by capital inflows (Ribeiro et al., 2024).

For a clearer understanding of the issue of wealth retention, the work of Cohen and Levinthal (1990) is indispensable. According to them, from a learning perspective, recognizing the value of new information, assimilating it, and applying it for economic purposes generate capabilities that collectively constitute the absorptive capacity of a company, country, or region. Naturally, the expansion of this process allows for the advancement of the competitiveness of the unit under analysis.

In order to better clarify the local economic system, this paper draws on the Local Economic Dynamism Index (INDEL)¹, developed by the Economic Research Center of the State of Rio de Janeiro – NUPERJ/UENF². Methodological aspects will be addressed later.

1 Acronym in Portuguese for Índice de Dinâmica Econômica Local.

2 Acronym in Portuguese for Núcleo de Pesquisa Econômica do Estado do Rio de Janeiro / Universidade Estadual do Norte Fluminense Darcy Ribeiro.



2 THE EVOLUTIVE PATH OF ECONOMIC DEVELOPMENT

By the end of the Second World War, a pronounced process of inequality between wealthy and poor countries had become evident. At the same time, the Keynesian model of greater state participation in the economy began to show signs of weakness, turning alternative reflections into a necessary intellectual endeavor. This scenario enabled the rise of neoclassical models as an attempt to explain the process of economic growth (Solow, 1956). However, a few years later, economic theorists and empirical scholars neglected the study of growth, focusing their attention on other fields, specifically on short-term macroeconomic policies (Ribeiro & Arica, 2004).

It was only in the 1980s that interest in questions of economic growth reappeared, following a true empirical recognition of the high level of inequality between wealthy and poor countries. The new approach, as an active element in the growth process, came to consider that technical progress exerted expansionary effects on output by increasing factor productivity and transmitting these effects across productive units (Romer, 1986).

In parallel with the developments of neoclassical theory, alternative scientific approaches emerged, emphasizing innovation as playing a fundamental role. Freeman (1994) systematized some elements that enhance progress according to Neo-Schumpeterian theory, such as: incremental innovations responsible for the largest share of economic performance gains achieved by firms; the transmission of productivity through scientific discoveries as a fundamental element for firms originating in universities and research institutions; and the process of the concentration of innovation in successful firms, driven by social interactions through networks composed of a variety of innovation agents.

The endogenous approach is emphasized in this evolution. In this context, three fundamental characteristics are presented by Ray (1997): development activity is defined within a territorial rather than sectoral framework, with the territorial scale being smaller than the nation-state; economic activity and other development activities are restructured in order to maximize the retention of benefits within the local territory, valuing both physical and human local resources; and development is contextualized, focusing on the needs, capabilities, and perspectives of local populations.



According to Barquero (1999), endogenous development is a process that unfolds through different phases. The first, of an economic nature, occurs when private initiative and interested agents gain access to the use of productive factors and achieve competitive standards that enable them to compete in the market. The second, concerning social and cultural aspects, occurs when agents become involved in local institutions, creating a robust system of interrelationships that integrates societal values into local development in an endogenous way. The third, of a political nature, aligns itself with local needs and interests, enabling the creation of a local community that stimulates production and promotes development.

In the understanding of Pike et al. (2016), development must be associated with the reduction of social inequalities in the region, in a way that avoids conflicts and increases the quality of local life. Places presenting higher levels of inequality also present higher levels of criminality and distrust. Following the same line of reasoning, Amin (2018) identifies as a guide for development the mobilization and expansion of knowledge bases. He argues that regional agents need to be engaged and mobilized for the growth and utilization of all knowledge generated in the region, whether formal or informal.

The idea that regions must create mechanisms of resilience aimed at minimizing vulnerabilities is reinforced by Santos (2009). The author highlights the conditions of rural producers, who cannot remain confined to the tradition of working only with monocultures. The project must evolve and expand its scope of production for the development of the local economy beyond extractivism. It can therefore be concluded that regional development is an evolutionary process defined by institutional and organizational systems in which the collective seeks to maintain or change elements depending on the heritage of social learning.

Addressing the collective aspect, Amin (1998) identifies the creation of clusters and local economies as one of the essential elements of regional development. The endogenous model represents a response to the inadequacy of the exogenous model in addressing the evolution of the innovation process and technological advancements, which were not contemplated in the post-Keynesian and liberal experiences aimed at the development of less-favored regions. However, an essential foundation in the process of regional development is the endowment of social capital within



the territorial context. In this regard, development requires acceptable standards in levels of formal and informal education, technological progress, research and development, and infrastructure. All these elements must contribute to the growth of the region, not only its physical geographic space.

Sustained regional development must focus on the study of a given territory, considering its geographical characteristics, its population, and its relationships with other elements within the space. This approach is grounded in the principle of progressive planning, continuous and autonomous participation of the local population, as well as a market-oriented perspective, always focusing on improving the living conditions of the regional population.

In the view of Amaral Filho (2001), endogenous regional development can be understood as a process of economic expansion that implies continuous growth capable of adding value to local production. At this stage, the region's capacity for economic retention is configured, in which the scale is determined by the absorption of economic surplus generated within the regional economy and/or the absorption of surplus originating from other locations. This condition results from the expansion of employment opportunities, increases in production, and growth in regional income.

The endogenous nature of this development is not solely focused on consumption within the region or local area. Its driving forces can be observed both in the process of economic endogenization, or surplus capital, and in the accumulation of knowledge, technology, and other innovations, with consequences for the expansion of productivity.

As explained by Masquietto (2010), knowledge of local productive groupings—industrial clusters—as a means of shaping regional economies goes beyond mere geographic concentration of economic activity. It involves a set of firms and organizations in which each component plays a crucial role in collective competitiveness. Firms have come to understand that the economic viability of the productive chain is highly vulnerable without a more proactive approach, which has led to the adoption of cooperative practices.

Therefore, beyond competition—traditionally part of the definition of a productive chain—it is also necessary to pay attention to cooperation. By considering the productive chain at the level of strategic partnership, a paradox arises, as firms sacrifice part of their independence and autonomy in favor of strengthening a specialized area. In this way, they develop joint actions with the goal of



achieving a common trajectory, requiring the adoption of specific behaviors.

In the view of Crocco (2006), local productive clusters in the capitalist periphery present specific characteristics derived from the following aspects:

- In general, innovative capacities are lower than those of developed countries;
- The organizational environment is open and passive, meaning that major strategic functions are performed outside the system, with an almost exclusively productive mentality prevailing locally;
- The institutional and macroeconomic environment is more volatile and subject to structural constraints;
- Local systems are predominantly oriented toward subsistence, with low urban density, low per capita income, low educational levels, few productive complementarities with services in urban centers, and fragile social integration.

In this environment, the forms of coordination, networks, and connections among firms within the cluster are underdeveloped, with predatory competition prevailing, low levels of trust among agents, and limited information sharing. The cluster's infrastructure is precarious, lacking basic support services for sustainable development, such as financial services, production centers, and training. In some cases, difficulties in vertical integration and in strengthening the cluster's production chain result in groups of single-product firms with low levels of intra-cluster exchange and cooperation.

3 THE INDEL AS A TOOL FOR ECONOMIC AVALUATION OF LOCAL SPACE

The Local Economic Dynamism Index – INDEL does not aim to measure municipal economic development. The index addresses a prior stage, promoting an analysis of the strengths and weaknesses of local economies. Its goal is to define patterns of internalization of locally generated wealth. In this sense, it is a powerful tool for the formulation of public policies and for the planning of private investments, without the intention of intensifying competition among municipalities, but rather of understanding the dynamics within each one.



The purpose of the Index derives from the diagnosis that traditional economic indicators, such as Gross Domestic Product (GDP), often fail to effectively capture the reality of the development stage of regions outside major urban centers. This fact becomes even more evident when compared to cases of local economic dynamism marked by a significant presence of investment flows, which generate a dissonant image in relation to the coding of the region's economic vigor and the empirical experience of local development. In other words, the idea is to explain the perceived low level of development in regions characterized by a strong presence of exogenous investments.

It was in this spirit that INDEL developed a methodological framework based on the weighting of five variables generally ignored in traditional analytical models: public investment spending; revenue from the tax on the circulation of goods and services (ICMS); the stock of employment and income in commerce; banking activity; and the relative share of the non-vulnerable population, as shown in the figure below. The objective is precisely to measure the level of harmony between capital inflows, productive agglomeration, and wealth retention.

Figure 1 | Selected variables for the Index

Local Economic Dynamism Index – INDEL				
Variables				
Public Investment	ICMS	Employment/Income Commerce	Banking Activity	Vulnerability (-1)
Dimensions of the variables				
% of current revenues	% of current revenues	% of total employment	% of credit (assets)	% of population dependent on the working-age population
% of added value average investment	% of transfers	% of total income	% of deposits (liabilities)	
% of budget allocation	% of added value			
	% of budget allocation			
Comparative standard				
investment to GDP ratio average of 20%	% tax burden in the country	% of employment/income in the same parameter in national commerce	same parameter in the country	same parameter in the country

(Source: Prepared by the author)



The variables were chosen based on their importance, according to the objective of the index, as well as their periodic publication by official agencies (TCERJ³, SEFAZ-RJ⁴, RAIS⁵, BCB⁶, IBGE⁷, and Federal Transparency).

Regarding the comparative standard at the national level, it is justified by the scope of application and inference of the index. The same methodology can be applied to all municipalities in the country.

3.1 METHODOLOGICAL APPROACH

PUBLIC INVESTMENT

The public investment index results from the relative share of public investment expenditure in current revenues realized during the period; from public investment expenditure in relation to fiscal value added; from the historical average of public investment; and from the relative share of budget allocation in relation to the initial forecast. The calculated average coefficient is compared with the comparative benchmark (0.20), established in the GDP equation ($GDP = \text{Consumption (0.80)} + \text{Investment (0.20)}$). Additionally, the index is expanded to assess its share in fiscal value added, based on the average investment since 2001 in comparison between realized and budgeted values. The average public investment index corresponds to the arithmetic mean of the four elements considered.

TAX ON THE CIRCULATION OF GOODS AND SERVICES – ICMS

The variable “Tax on the Circulation of Goods and Services – ICMS,” in addition to its easy availability, is highly representative of internal economic activity in municipalities. Its distribution is defined by the Federal Constitution (art. 158), which establishes that 25% of the total amount collected is allocated to municipalities. Defined as the Municipal Share of ICMS (QPM-ICMS), it is based on the following distribution criteria: 75% according to the value added (related to the industrial, commercial, service, and agricultural sectors) of each municipality and, in the case of the state of Rio de Janeiro, 25% distributed according to population, geographic area, own tax revenues, minimum quota, and economic adjustment (Ribeiro, 2019).

3 Acronym in Portuguese for Tribunal de Contas do Estado do Rio de Janeiro.

4 Acronym in Portuguese for Secretaria de Estado da Fazenda do Rio de Janeiro.

5 Acronym in Portuguese for Relação Anual de Informações Sociais.

6 Acronym in Portuguese for Banco Central do Brasil.

7 Acronym in Portuguese for Instituto Brasileiro de Geografia e Estatística.



The index is calculated by dividing ICMS revenue by current revenues realized, with the result compared to the benchmark corresponding to the country's tax burden in the same period. In this case, the index is also expanded to assess its share in current transfers, in relation to fiscal value added, and in the relationship between realized and budgeted values. The average ICMS index corresponds to the arithmetic mean of the four elements considered.

STOCK OF EMPLOYMENT AND INCOME IN COMMERCE

The variable stock of employment and income in commerce presents characteristics that promote local wealth retention. Total employment, commonly used as an indicator of wealth generation, may produce significant distortions in regions dependent on large-scale investments based on natural resources. In such cases, large stocks of employment ties and corresponding income are recorded, which tend to be transient and do not stimulate the local economy. Hence the choice of employment and income in commerce as a strategy to isolate such distortions. The index corresponds to the result of dividing the stock of employment and income in local commerce by the total stock of employment and income, in comparison with the same proportional relationship at the national level.

BANKING ACTIVITY

The fourth index, referring to banking activity, is calculated by dividing the value of credit operations by total assets at the local level, compared with the same ratio at the national level. In addition, the value corresponding to total deposits (demand deposits, time deposits, and savings) is divided by total liabilities at the local level, also compared with the same ratio at the national level. The corresponding average index is the arithmetic mean of the two parameters considered.

VULNERABILITY (-1)

The vulnerability index (-1) represents the complementary relative share of the vulnerable group. The measurement considers the ratio of beneficiaries registered in the federal government's database to the stock of the working-age population (ages 16 to 59). The result is compared with the same ratio at the national level, yielding the corresponding average index.



OVERALL CONSOLIDATED INDEX

The composition of the overall index (consolidated INDEL) establishes weights calculated using the Analytic Hierarchy Process (AHP) method developed by Saaty (1988). The method provides a basis for comparing multiple decision-making criteria within a mathematical structure, creating a hierarchical framework for optimal selection.

The tables below present the process of applying to the AHP. The conditioning factors were arranged in a pairwise comparison matrix. The factors were assessed according to the influence of their occurrence, based on the importance criteria of Saaty's fundamental scale (op. cit.). After completing the pairwise comparison matrix, it is possible to define the weight vector associated with the matrix. Each element represents the importance of each factor in comparison to the others.

Figure 2 | Calculation of weights for the selected variables

Weight Distribution for INDEL Variables						
INDEL	Investment	Banking Activity	ICMS	Commerce Emp/Inc	Non-Vulnerable	
Investment	1	4	5	6	7	
Banking Activity	1/4	1	3	4	5	
ICMS	1/5	1/3	1	2	3	
Commerce Emp/Inc	1/6	1/4	1/2	1	2	
Non-Vulnerable	1/7	1/5	1/3	1/2	1	
Total	1.75952381	5.78333333	9.83333333	13.5	18	
Judgment Scale (degree of preference in relation to local economic dynamism)						
1	equal preference					
3	weak preference					
5	moderate preference					
7	strong preference					
9	absolute preference					
2,4,6,8	intermediate values					
INDEL	Investment	Banking Activity	ICMS	Commerce Emp/Inc	Non-Vulnerable	Row Sum
Investment	0.57	0.69	0.51	0.44	0.39	2.60
Banking Activity	0.14	0.17	0.31	0.30	0.28	1.19
ICMS	0.11	0.06	0.10	0.15	0.17	0.59
Commerce Emp/Inc	0.09	0.04	0.05	0.07	0.11	0.37
Non-Vulnerable	0.08	0.03	0.03	0.04	0.06	0.24

Sum of row totals of the normalized matrix, obtaining vector P					
P = (2,60; 1,19; 0,59; 0,37; 0,24) T					
Investment	0.51				
Banking Activity	0.24				
ICMS	0.12				
Commerce Emp/Inc	0.08				
Non-Vulnerable	0.05				
	1,00				

(Source: Prepared by the author)

Based on the method, the consistency of the weights was verified through the calculation of the Consistency Ratio (CR). This parameter relates the Consistency Index (CI) and the Random Index (RI), according to the equation.

$$CR = \frac{CI}{RI} \quad (i)$$

The CI is determined by the model presented in Equation (ii), and the RI varies as a function of the number “n” of factors selected for the Pairwise Comparison Matrix.

$$CI = \frac{\lambda_{\max} - n}{n - 1} \quad (ii)$$

Where:

n is the number of factors and

λ_{\max} is the maximum eigenvalue, which is obtained through Equation 3.

$$\lambda_{\max} = \left(\frac{1}{n}\right) \sum_{i=1}^n \frac{\omega s_i}{\omega_i} \quad (iii)$$

Where:

$\sum_{i=1}^n \frac{\omega s_i}{\omega_i}$ represents the Consistency Vector (C).

ω_i is the Weighting Coefficient (weight), and

ωs_i is the Sum Vector, these parameters being obtained as shown in Table 5.

Regarding the determination of RI, Saaty (1988) proposed a table that relates the number “n” of factors to corresponding values, according to laboratory demonstrations. Table 1 presents this relationship for matrices of orders ranging from 1 to 15. For this study, five factors were used. The corresponding RI value was 1.12.



Table 1 | Random Indices (RI)

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
RI	0	0	0.58	0.9	1.12	1.24	1.32	1.41	1.45	1.49	1.51	1.48	1.56	1.57	1.59

Source: Saaty (1987)

According to Saaty (op. cit.), if the CR results in a value less than or equal to 0.10, the results obtained are considered adequate in the pairwise comparison, that is, the judgments are consistent.

Regarding the judgments made within the scope of this study, the CR calculated with the support of the Python code described below reached 0,04, therefore a consistency ratio within a satisfactory standard. The sequence of instructions is presented below.

Figure 3 | Modeling of the Consistency Ratio

```
1 import numpy as np
2
3 A = np.array([
4     [1, 4, 5, 6, 7],
5     [0.25, 1, 3, 4, 5],
6     [0.2, 0.33, 1, 2, 3],
7     [0.16, 0.25, 0.5, 1, 2],
8     [0.14, 0.2, 0.33, 0.5, 1]
9 ])
10
11 eigenvalues, eigenvectors = np.linalg.eig(A)
12 lambda_max = max(eigenvalues)
13 print("Amax:", lambda_max)
14
```

PROBLEMS OUTPUT DEBUG CONSOLE **TERMINAL** PORTS

```
PS C:\Users\User\Desktop\Códigos>
& C:/Users/User/AppData/Local/Programs/Python/Python312/python.exe c:/
Amax: (5.176156259015029+0j)
PS C:\Users\User\Desktop\Códigos> []
```

(Source: Prepared by the author)

The five indices, already weighted accordingly, generate the overall average index, which is classified according to the following parameters:

- Low economic dynamism (from 0.0 to 0.4 points);
- Regular economic dynamism (results between 0.4 and 0.6 points);
- Moderate economic dynamism (results between 0.6 and 0.8 points);
- High economic dynamism: results above 0.8 points.

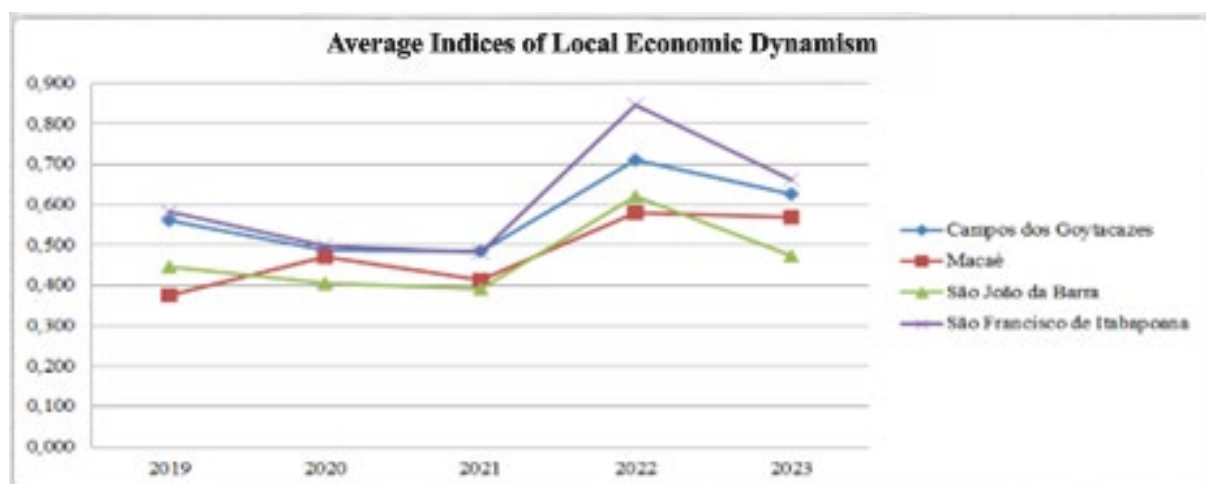
Additionally, the results corresponding to the calculated average indices are compared with the fiscal value added per capita of each municipality. The comparison between these two elements is important to demonstrate that the municipality with the highest value added per capita does not necessarily exhibit greater economic dynamism within its system. In this way, it is possible to observe the pattern of retention of locally generated wealth.

4 RESULTS OF THE APPLICATION OF INDEL IN THE NORTH FLUMINENSE MESOREGION

For the application of INDEL, the most prominent municipalities in the mesoregion were selected, such as: Campos dos Goytacazes, an oil producer in the Campos Basin; Macaé, an oil producer and base for offshore oil activities in the Campos Basin; and São João da Barra, an oil producer and location of the Açu port complex. The municipality of São Francisco de Itabapoana was included in the present sample due to its marked differences in relation to the other municipalities. Productive investments there present endogenous characteristics, being primarily directed toward the traditional economy.

The average indices of local economic dynamism are presented in Figure 4 below.

Figure 4 | Average INDEL indices



(Source: Prepared by the author)

As can be observed, the trajectory of INDEL in the selected municipalities highlights São Francisco de Itabapoana positively. The municipality was the only one to reach the high dynamism standard (0.846) in 2022. The contraction in economic dynamism in 2023 more strongly affected São Francisco de Itabapoana, São João da Barra, and Campos. In Macaé, the contraction was milder, presenting a pattern of regular dynamism, together with São João da Barra in that year. Meanwhile, São Francisco de Itabapoana and Campos dos Goytacazes reached the pattern of moderate economic dynamism (between 0.6 and 0.8).

The preliminary analysis draws attention due to the more pronounced pattern of economic dynamism in the distinct municipality. This occurs in the absence of robust investments in oil and port activities, which are common in the other municipalities in the sample. Studies by Ribeiro and Hasenclever (2017 and 2019) had already indicated the transient nature of these exogenous investments based on natural resources. They exhibit a high capacity for wealth generation; however, the territory proves fragile in absorbing a significant share of the wealth generated. In other words, the data seems to indicate a paradoxical relationship between the presence of a high flow of exogenous investments and the capacity to retain them, which explains the explanatory deficit of traditional indicators when compared to the empirical reality of economic development in the analyzed regions.

A deeper analysis, through the observation of the ICMS share, confirms the prominence of São Francisco de Itabapoana compared to the other municipalities. Despite the slowdown over the period, its relative share exceeds that of the other municipalities. It is important to note that the distribution of this tax by the state plays a significant role in internally generated value added and in own-source revenue collection.

Figure 5 | Percentage of ICMS in Current Revenues

Share of ICMS in Current Revenues	2019	2020	2021	2022	2023	2024
Campos	17,16	19,68	17,07	11,07	9,48	10,85
Macaé	15,10	12,32	11,15	7,76	7,38	7,69
São João da Barra	16,66	19,49	20,40	10,75	9,30	13,34
São Francisco de Itabapoana	30,80	27,58	23,41	19,30	16,00	15,31
<i>Sefaz-RJ</i>						

(Source: Prepared by the author)



Figure 6 | Share of ICMS in Current Revenues



(Source: Prepared by the author)

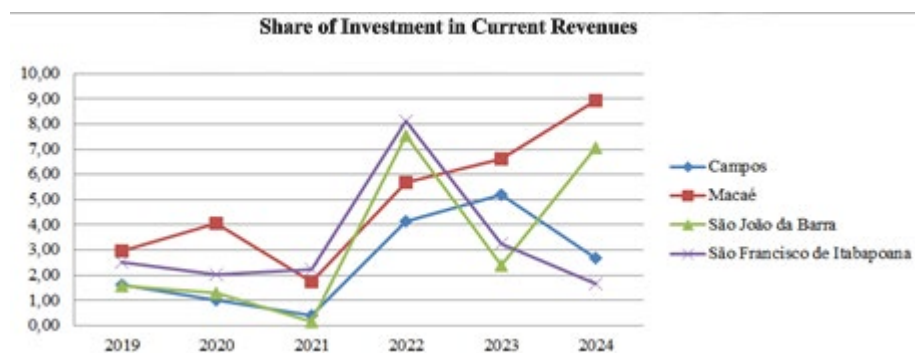
A second important indicator is public investment, whose weight is significant in the calculation of INDEL. The results are presented below.

Figure 7 | Percentage of Investment in Current Revenues

Share of Investment in Current Revenues						
Campos	1,60	1,00	0,39	4,12	5,21	2,67
Macaé	2,97	4,04	1,73	5,66	6,61	8,95
São João da Barra	1,56	1,29	0,15	7,56	2,39	7,05
São Francisco de Itabapoana	2,51	2,03	2,22	8,10	3,26	1,66
<i>Sefaz-RJ</i>						

(Source: Prepared by the author)

Figure 8



(Source: Prepared by the author)

An initial overview reveals the fragility of municipalities in the formation of public investment. Despite the prominence of Macaé in the years 2019 and 2022, as well as in 2023 and 2024 compared to the other municipalities, the highest average rate reached was 4.99% over the period. São João da Barra reached an average rate of 3.33%; São Francisco de Itabapoana reached an average rate of 3.30%; and Campos dos Goytacazes reached an average rate of 2.50% over the same period.

As investment plays a fundamental role as a multiplier effect in the process of wealth generation and appropriation, the pattern presented by the mesoregion corroborates the weak level of local economic dynamism.

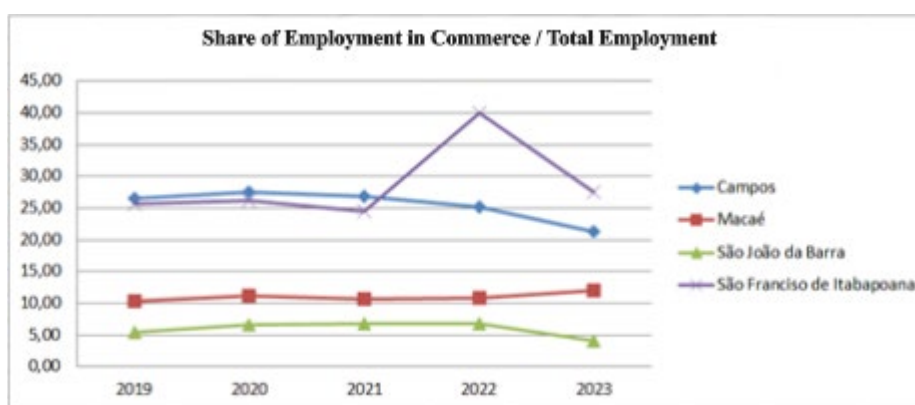
A third indicator that is highly consistent in capturing local economic dynamism, as indicated in the methodology, is employment and income in commerce. These elements capture the movement of value added within the system and, above all, the share of informality in the local economy.

Figure 9 | Percentage of Employment and Income in Total Employment

Share of Employment in Commerce in Relation to Total Employment					
	2019	2020	2021	2022	2023
Campos	26.54	27.48	26.90	25.13	21.35
Macaé	10.27	11.18	10.67	10.77	12.09
São João da Barra	5.50	6.62	6.81	6.85	4.01
São Francisco de Itabapoana	25.72	26.24	24.43	40.10	27.52
<i>Sefaz-RJ</i>					

(Source: Prepared by the author)

Figure 10



(Source: Prepared by the author)

The present indicator once again highlights São Francisco de Itabapoana in the assessment of the index of employment in commerce in relation to total employment. Despite the differences already noted, the agricultural sector is dynamic and offers the greatest agricultural diversification within the state context. The harvested area represents 40.95% of the mesoregion's total harvested area, and dairy production accounts for 24.21% of the mesoregion's total production.

The municipality presents particular characteristics. Traditional indicators such as total employment, GDP, and GDP per capita point to a condition of impoverishment; however, banking operations and employment in commerce confirm a significant pattern of economic dynamism. Small properties generate work and income, in many cases under informal arrangements.

CONCLUSION

The article investigated the capacity for internal absorption of local economic systems through the analytical use of INDEL, based on the understanding that economic dynamism represents the essential foundation for the formulation of public policies aimed at local economic development.

Local economic systems of a heterogeneous nature were examined and presented contradictory results when considering generated and internalized wealth. In systems with a greater capacity for wealth generation, due to large-scale investment projects of an exogenous nature (Macaé and São João da Barra), the difficulty in absorbing positive externalities became evident. A substantial portion of this wealth proved to be transient. The provision of labor and services with higher technological standards depends on external sourcing, while the absorption of negative externalities occurs automatically.

At this point, it is crucial to revisit the perspective of Cohen and Levinthal (1990). The authors argue that, from a learning perspective, recognizing the value of new information, assimilating it, and applying it for commercial purposes materializes capabilities that collectively constitute the absorptive capacity of a firm, country, or region. In the case examined, the municipalities receiving large-scale projects based on natural resources (São João da Barra and Macaé) failed to understand this dynamic, allowing the wealth generated to flow to more innovative regions.



The results indicated that São João da Barra, with the highest fiscal value added per capita in 2023 (R\$304,689.51) among the nine municipalities of the North Fluminense mesoregion, recorded the lowest economic dynamism index (0.473), corresponding to a regular level of economic dynamism.

Campos dos Goytacazes, the largest municipality in the region in terms of territory and population, ranked fifth in fiscal value added (R\$34,405.56) and fourth in INDEL (0.627), corresponding to a moderate level of economic dynamism in the same year. The municipality is an oil producer in the Campos Basin, but the base of operating companies is located in Macaé, extending to Rio das Ostras. Its strategic position between Macaé and São João da Barra allows it to absorb a significant portion of the wealth generated in these economic systems, due to its more consolidated service structure. Campos dos Goytacazes is characterized as a regional hub city, whose economic trajectory, historically based on the sugar-energy industry, has enabled the development of a consistent structure in education, healthcare, housing, financial services, and leisure.

São Francisco de Itabapoana, on the other hand, lacking significant inflows of exogenous investment, must act endogenously. The traditional economy is its central pillar, with agriculture standing out as the most diversified in the state and livestock also playing a relevant role, despite territorial limitations. The municipality, which in light of traditional indicators appears to be the poorest in the state, actually presents a well-distributed income, observable in the banking system and local commerce. The level of informality is significant, as an important share of the population owns small agricultural properties, generating a form of household income that remains largely unrecorded. This condition allows these individuals to qualify for government benefit programs, enhancing household income as reflected in banking activity and commerce. This helps explain, for example, the higher levels of commercial activity and bank credit operations compared to São João da Barra, a municipality that is an oil producer and home to the Açu port.

Among the nine municipalities in the region, São Francisco de Itabapoana was the only one to reach a high level of economic dynamism, recorded in 2022. In the following year, 2023, it achieved the second-highest INDEL (0.661), indicating moderate economic dynamism, even though it ranked sixth in fiscal value added per capita, amounting to R\$13,229.46 in the same year.

In conclusion, the indicators presented are important for a better understanding of the economic system under analysis, contributing to potential efforts in the formulation of strategies aimed at promoting local and regional economic development.



REFERENCES

- AMARAL FILHO, J. A. *Endoneização no desenvolvimento econômico regional e local*. Planejamento e Políticas Públicas ppp. N. 23, jun. 2001.
- ASH, AMIN. *An institutionalist perspective on regional economic development*. Paper presented at the Economic Geography Research Group Seminar "Institutions and Governance", July 3 1998. Department of Geography UCL, London.
- ASH, AMIN e JOHN GODDARD. *Technological Change, Industrial Restructuring and Regional Development*. Routledge Library Editions: The Economics and Business of Technology, 2018.
- BARQUERO, A. V.; *Inward investment and endogenous development. The convergence of the strategies of large firms and territories?* Entrepreneurship & Regional Development, 1999.
- BARQUERO, A. V.; GIL, J. A. *Endogenous development in the tropics: the relevance of institutions*. International Forestry Review, v. 17, n. 1, p. 97-110, 2015.
- COHEN, W.; LEVINTHAL, D. *Absorptive capacity: a new perspective on learning and innovation*. Source. Administrative Science Quarterly, v. 35, n. 1, Special Issue: Technology, Organizations and Innovation, p. 128-152, 1990.
- CROCCO, M., GALINARI, R., SANTOS, F., LEMOS, M., e SIMÕES, R. *Metodologia de Identificação de Aglomerados Produtivos Locais*. CEDEPLAR/UFMG, 2006.
- FREEMAN, C. *Innovation and growth*. In: DODGSON, M., ROTHWELL, R. (Eds.). The Handbook of industrial innovation. Aldershot: Edward Elgar, 1994 b, p. 78-93
- FURTADO, Celso. *El mito del desarrollo y el futuro del Tercer Mundo*. El trimestre econômico, 1974 JSTOR.
- MASQUIETTO, C. NETO, M. e GIULIANI, A. *Identificação de Arranjos Produtivos Locais: o caso do Arranjo Produtivo Local do Álcool de Piracicaba*. Gestão e Regionalidade, v. 26 n. 77 (2010).
- PIKE, A. RODRIGUEZ-POSE, A. *Local and Regional Development*. Routledge, Taylor & Francis Group – London and New York, 2016.
- RIBEIRO, Alcimar e ARICA, Jose. *Organização Produtiva Local: uma estratégia para capacitar espaços periféricos*. Revista Econômica do Nordeste, v. 35, nº 4, out-dez, 2004.
- RIBEIRO, Alcimar e HASENCLEVER, Lia. *Investigação sobre a capacidade de absorção de externalidades positivas geradas por grandes projetos no estado do Rio de Janeiro*. Rev. Econ. NE, Fortaleza, v.50, n. 2, p. 133-145, abr./jun., 2019.
- RIBEIRO, Alcimar. *A Economia Fluminense: Análise da Conjuntura e Perspectivas*. Autografia, RJ., 2019.
- RIBEIRO, Alcimar. *Estrutura Metodológica para Construção de um Índice de Dinâmica Econômica Local – INDEL*. Cadernos do Desenvolvimento Fluminense – Rio de Janeiro – jul./dez. 2023
- RIBEIRO, Alcimar., ZANOTTO, Francis e MARTINELLI, Victor. *Estrutura Metodológica de Investigação Econômica em Espaços Territoriais: o caso do Território Fluminense*. In: IV Simpósio latino-americano de Estudos de Desenvolvimento Regional – IV SLAEDR e V Seminário Internacional da Rede Ibero-Americana de Estudos sobre Desenvolvimento Territorial e Governança – V SIDETEG, 2024, Ijuí- RS.
- RODRIGUEZ-POSE, ANDRÉS; KROIJER, ANNE. *Fiscal Decentralization and Economic Growth in Central and Eastern Europe*. Working Paper, 2009.
- ROMER, P. M. *Increasing returns and long-run growth*. Journal of Political Economy, Chicago, v. 94, n.5, p. 1002-1037, 1986.



S. BRUSCO., M. PEZZINI. *Small-scale enterprise in the ideology of the Italian left, in in PYKE, F., BECATTINI, G. and SENGENBERGER, W. (Eds.) Industrial Districts and Inter-firm*, 1992.

SANTOS, M. *Pobreza Urbana*. Editora Universidade de São Paulo – São Paulo. 3ª ed.; 2009.

SC Ray, E Desli. *Productivity growth, technical progress, and efficiency change in industrialized countries: comment*. *The American economic review*, 1997 – JSTOR.

SOLOW, R. *A Contribution to the theory of economic growth*. *The Quarterly Journal Economics*, Cambridge, v.70, n.1, p. 65-94, 1956.



Esta obra está licenciada com uma Licença Creative Commons
Atribuição 4.0 Internacional.



