COLUMBIA UNIVERSITY

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**Python for Public Policy**

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**Final Paper**

**Countries Interest Rate Comparison**

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# **INTRODUCTION**

This paper has the purpose of studying and analyzing macro indicators across different world economies, more specifically aiming to compare these indicators with the one of a specific country, Brazil. Our goal is analyzing Brazil’s indicators to understand possible reasons that justify presenting an interest rate so elevated compared to other emerging markets or other countries from the BRICS group.

To do so, we are going to use a database from the website Trading Economics – extracted on the day: 09/27/25; URL: <https://tradingeconomics.com/matrix> – that has macro indicators from all the countries in the world. This file was copied and converted into a csv file that is available at GitHub along with the python code used in our analysis.

The libraries used to fulfill this paperwork were **Pandas and Plotly**, as requested from the professor.

# **WHY BRAZIL’S INTEREST RATE IS SO HIGH?**

Brazil’s benchmark interest rate, the Selic as called by Brazilian, currently sits at 15% nominal, reaching its decade’s peak. This rate, set by the Central Bank’s Monetary Policy Committee (COPOM), is one of the highest among major economies and plays a pivotal role in controlling inflation while shaping the country’s credit and investment conditions. The elevated Selic reflects Brazil’s ongoing struggle to balance inflation control with economic growth, particularly in a context marked by fiscal constraints, structural inefficiencies, and volatile investor sentiment. Despite the recent downward trend, the real cost of borrowing in Brazil remains exceptionally high by international standards.

According to the Table 1, Brazil’s nominal interest rate of 15% and inflation rate of 5.13% result in a real interest rate of approximately 9.87%, placing the country among the nations with the highest real rates in the world. Only a handful of countries – such as Yemen (26.23%), Congo (16.84%), Niger (14.25%), and Sierra Leone (12.90%) – show higher real returns, and these economies are typically characterized by severe instability or small size. This comparison emphasizes that Brazil’s high real rate is not typical of large emerging economies. For instance, Egypt (10.00%) and Ghana (10.00%) are roughly in the same range, while many peers like Turkey (7.55%), Nigeria (6.88%), and Sri Lanka (6.55%) maintain lower levels despite similar inflationary pressures. Such figures reveal how Brazil’s monetary stance is exceptionally restrictive for a country with stable institutions and moderate inflation, highlighting the enduring “Brazilian premium” required to attract investment and sustain confidence in the real.

***Table 1 – Countries sorted by “Real Interest Rate”***

A table with numbers and letters

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*Obs.: The bold number on the right is related to country’s position according to GDP*

Brazil’s persistently high real interest rates stem less from short-term policy and more from structural weaknesses. Inflation expectations remain elevated due to its history of hyperinflation, while political volatility, fiscal deficits, and leadership changes raise country risk. Chronic fiscal imbalances – a large public debt and rigid spending – erode confidence, forcing tighter monetary policy. A low savings rate limits domestic capital, increasing dependence on foreign funds. Though the Central Bank’s independence improved credibility, political pressure for lower rates persists. Altogether, these factors sustain high rates as a perceived shield for stability, but one that constrains growth and investment.

***A graph of a graph showing the country's economic indicators

AI-generated content may be incorrect.Chart 1 – Countries Economics Indicators – Top 20 GDP***

It’s interesting that Brazil’s numbers are similar with other emerging country, Russia, however this country has been at war for the last two years. In investment theory, interest rate is how much investors expect to be rewarded by allocating their capital in an investment – in this case a country. Nevertheless, it is reasonable to expect this reward to be the same as of a country like Russia? – who has been under dictatorship for the last decade, banned from the swift payment system, and in a declared war against its neighbor?

# **BRAZIL VS BRICS**

A graph with a number of dots

AI-generated content may be incorrect.***Chart 2 – BRICS Debt/GDP vs Interest Rate***

# By analyzing the scatter plot of BRICS economies, Brazil’s public debt sits mid-pack, not as an outlier: 76.5% of GDP for Brazil, versus 16.4% for Russia, 81.92% for India, 88.3% for China, and 76.9% for South Africa. While Brazil’s ratio is higher than Russia’s, it is below China’s, like South Africa’s, and close to India’s. Yet Brazil’s real interest rate is markedly higher than these peers. Taken together, this suggests that debt/GDP alone does not justify Brazil’s exceptionally tight monetary stance; other factors (risk premia, expectations, institutions) must be doing the heavy lifting.

A graph with a line and a line

AI-generated content may be incorrect.***Chart 3 –BRICS GDP vs Rates***

# **BRAZIL VS LATIN AMERICA**

A graph with colored dots

AI-generated content may be incorrect.***Chart 4 – LATAM Debt/GDP vs Interest Rate***

A graph with different colored lines

AI-generated content may be incorrect.***Chart 5 – LATAM GDP vs Rates***

The first chart illustrates how dystopic is Brazil’s level of interest rate compared to its peers in Latin America, which makes even more interesting considering the country has the biggest GDP according to chart 2. Furthermore, Brazil’s inflation rate of 5.13% is moderate, and its Debt/GDP ratio, near 77%, is not excessive compared to regional averages. This contrast suggests that Brazil’s high-interest rate stems less from macroeconomic fundamentals and more from structural factors – such as fiscal rigidities, institutional risk premiums, and persistent inflation expectations – rather than immediate financial instability.

# **BRAZIL VS EMERGIN MARKETS**

A graph with blue dots

AI-generated content may be incorrect.***Chart 6 – Emerging Markets Debt/GDP vs Interest Rate***

***A graph showing the growth of the stock market

AI-generated content may be incorrect.Chart 7 – Emerging Markets GDP vs Rates***

Compared with other major emerging markets, Brazil’s monetary stance remains unusually tight. Its 9.87% real interest rate is far above Turkey (7.55%), Nigeria (6.88%), Sri Lanka (6.55%), and India (~3%), even though Brazil’s inflation rate of 5.13% is moderate. Meanwhile, its Debt/GDP ratio, around 77%, is similar to or lower than many peers with looser monetary conditions. As a result, this gap shows, likewise our previous comparison with BRICS and LATAM, that Brazil’s high rates are not explained by inflation or debt dynamics but by deeper structural issues.

# **CONCLUSION**

All in all, analyzing macro indicators is not a simple task and there are many variables that should be considered while doing it. During this paperwork we passed through data collection, formatting according to our groups of interest, and presented graphically through bar and scatter plot charts. Hopefully this project introduced to the reader more about the current challenges Brazilian economy and its Central Bank are facing due to political decision and international demand. Moreover, I hope to have shown the perspective of this country related to its peers such as the BRICS group, Latin America, and Emerging Markets.