THE BRIDGE TO STAGNATION: GOVERNMENT EXPENDITURE CAP, REFORMS AND THE FALL IN THE BUSINESS INVESTMENT SHARE IN BRAZIL, 2015-2022[1]

Guilherme Haluska
Instituto Latino-Americano de Economia, Sociedade e Politica (ILAESP, Brazil)
Universidade Federal da Integracao Latino-Americana (UNILA, Brazil)
Corresponding author: guilherme.haluska@gmail.com
Franklin Serrano
Instituto de Economia, Universidade Federal do Rio de Janeiro (UFRJ, Brazil)
Ricardo Summa
Instituto de Economia, Universidade Federal do Rio de Janeiro (UFRJ, Brazil)

Manuscript received 23 May 2025; accepted 20 October 2025.

ABSTRACT

The paper assesses the change in direction of economic policy in Brazil during the period from 2015 to 2022 towards fiscal austerity and social security pensions and labor market reforms, allegedly with the purpose of opening space for an acceleration of growth led by private investment and net exports, through reduction in the real

[1] The initial ideas of this paper were presented at the *IPE Political Economy Forum* in Berlin, July 2022. Previous versions of the paper were also presented at the *50th Conference of the Eastern Economic Association*, Boston, March 2024, at the 5th Demand-led Growth Workshop, Rio de Janeiro, July 2024, at the *17th Conference of the Brazilian Keynesian Association*, Maceio, September 2024 and at the Research Seminar Series at Institute of Economics, UFRJ, October 2024. We thank the participants for helpful comments and suggestions. We also thank Ben Hoi for editing assistance and Luciano Alencar for helpful comments. Of course, remaining errors are exclusively ours.

http://dx.doi.org/10.22201/fe.01851667p.2026.335.91755

interest rate and a more depreciated real exchange rate. Although the interest rate has fallen and the exchange rate has indeed depreciated, we show that these policies did not increase the grow of exports and led to a reduction in the absolute size of the internal market and to a decrease in the business investment share. Although it was a failure to stimulate growth, the new policy regime was successful in achieving its actual political objectives: The reduction of the relative size of the State in the economy, the weakening of the bargaining power of workers and the decrease of the wage share.
Keywords: Brazilian economy, demand-led growth, economic policy.
JEL Classification: E11, E60, O11.

EL PUENTE HACIA EL ESTANCAMIENTO: TOPE DEL GASTO PÚBLICO, REFORMAS Y LA CAÍDA DE LA PARTICIPACIÓN DE LA INVERSIÓN EMPRESARIAL EN BRASIL, 2015-2022

RESUMEN

El artículo analiza el cambio de rumbo de la política económica en Brasil durante el periodo 2015-2022 hacia la austeridad fiscal y las reformas en las pensiones de seguridad social y del mercado laboral, supuestamente con el objetivo de abrir espacio para una aceleración del crecimiento liderado por la inversión privada y las exportaciones netas, mediante la reducción de la tasa de interés real y un tipo de cambio más depreciado. Aunque la tasa de interés disminuyó y el tipo de cambio efectivamente se depreció, demostramos que estas políticas no incrementaron el crecimiento de las exportaciones y condujeron a una reducción del tamaño absoluto del mercado interno y a una disminución en la participación de la inversión empresarial. Aunque fracasaron en estimular el crecimiento, estas políticas lograron sus verdaderos objetivos políticos: la reducción del tamaño relativo del Estado en la economía, el debilitamiento del poder de negociación de los trabajadores y la disminución de la participación salarial.
Palabras clave: economía brasileña, crecimiento liderado por la demanda, política económica.
Clasificación JEL: E11, E60, O11.

1. INTRODUCTION

In the period 2015-2022, Brazil had three different presidents but a remarkable continuity in the direction of economic policy (apart from the brief 'emergency Keynesianism' of 2020, during the pandemic). The second term of President Dilma Roussef was marked by a general contraction of aggregate demand with large cuts in public expenditures, a large exchange rate devaluation, sharp increases in public utility prices, an interest rate hike, and a contraction of credit supplied by public banks in 2015[2].

A few months before Roussef's impeachment in mid-2016, the center-right party of the vice president Michel Temer, who later succeeded her as president, released a document titled *A bridge to the future,* arguing for a structural fiscal adjustment that could generate large primary surpluses, which would first stabilize and then reduce public debt as a percentage of Gross Domestic Product (GDP). The new feature of this proposed fiscal adjustment is that it should be made basically on the side of expenditures, rather than through increases in tax revenues, since it was claimed that the tax burden in Brazil was already too high and could not be further increased. Therefore, the government and Congress should: *i*) impose new fiscal rules that guaranteed that government primary expenditures would grow less than the GDP; and *ii*) change the laws of the pension system in Brazil, such as the minimum age for workers to retire. This document also called for changes in the labor laws that would make the labor market more flexible. If these set of reforms were successfully implemented, the document argued, interest rates would fall permanently, stimulating business investment. Also, this would increase productivity and improve competitiveness of Brazilian exports. The Brazilian economy growth would then be pulled by private investment and exports.

As it is going to be argued through this paper when we evaluate the set of economic policies adopted from 2015 to 2022, both the center-left

[2] This unusual shift towards contractionary policies with regressive redistributive effects during a left-wing government was at the time justified by the authorities as the need to placate international credit rating agencies worried about a supposedly 'unsustainable' domestic public debt-to-GDP ratio.

party administration of Roussef and the center-right and then extreme right administrations of Temer and Bolsonaro pursued the policies and reforms proposed in the *Bridge to the future* document since the beginning of 2015.

The result was the stagnation of the Brazilian economy. In 2015 and 2016, GDP decreased 3.4% a year, on average, followed by a period of slow recovery from 2017 to 2022 (temporarily interrupted by the pandemic), when GDP grew 1.4% a year. Considering the entire period from 2015 to 2022, GDP grew only 0.2% a year, on average, and it was only in 2022 when the level of real GDP surpassed the level from 2014. Table 2 in the Appendix summarizes most of the information about the rates of growth of the several components of aggregate demand presented in the paper[3].

In order to provide a critical evaluation of the actual results of these reforms and policies in the 2015-2022 period in terms of economic growth and the business investment share from a demand-led growth theoretical perspective, we apply the same methodology used in studies of the Brazilian economy for earlier periods (Serrano and Summa, 2012, 2015). The rest of this paper is organized as follows. In Section 2 we examine the external financial conditions facing the economy over this period as well as the evolution of Brazilian imports and exports. We then analyze the economic policies introduced in the 2015-2022 period and their consequences. Section 3 discusses monetary policy, while Section 4 deals with fiscal policy. We then, in Section 5, discuss the growth of household consumption and residential investment, considering both the effects of the changes in income distribution as well as the effects of the monetary and fiscal policies on these two components of demand. Section 6 then examines the behavior of business investment during this period. Section 7 concludes with brief final remarks.

---

[3] Some of the data regarding the components of demand in GDP used in this paper are more disaggregate then the ones released in the publication of the Brazilian *System of National Accounts* by the Instituto Brasileiro de Geografia e Estatística (IBGE), the Brazilian official statistics institute. These variables were calculated from the data from IBGE and using the same methodology as in Haluska (2021, 2023), with the real rates of growth of each component of demand being calculated using proper deflators. All the rates of growth presented are expressed in real terms.

2. EXPORTS, IMPORTS AND THE EXTERNAL SECTOR

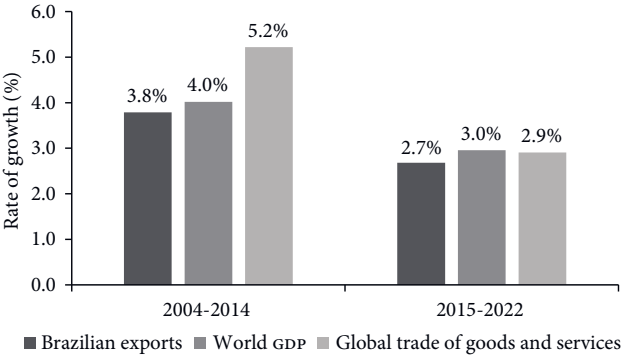
Before discussing the behavior of exports and of the imported content in aggregate demand, it is important to make some comments about the financial external conditions of the Brazilian economy. Brazilian financial external conditions have improved remarkedly during the first decade of the 2000's (as discussed by Serrano and Summa, 2015) and have remained quite comfortable since then. It is possible to list some indicators that support this conclusion. First, the Brazilian Central Bank accumulated a considerable level of foreign exchange international reserves from 2005 to 2012 and maintained it at a comfortable level from the 2010s on (around 350 billions of USD). Second, the ratio between short-term external debt and international reserves showed a significant decline during the first decade of the 2000s and has remained stable around 20% during the recent period. Third, the structure of gross external liabilities has also improved, and the external debt denominated in foreign currency represented only 21.3% of gross external liabilities by the end of 2022[4] (Biancarelli and Rosa, 2024; Rosa and Biancarelli, 2024). Fourth, Brazil's sovereign spread (measured by the Embi+) experienced a large decrease during the first decade of the 2000s and have remained quite stable after that. Therefore, we consider that the economic stagnation since 2015 cannot be explained by any kind of shortage of foreign exchange that could have forced the government to reduce aggregate demand in order to decrease imports.

Moving to the direct impact of the external sector on the growth of aggregate demand, the average rate of growth of Brazilian exports decreased from 3.8% during the period from 2004 to 2014 to 2.7% during the period from 2015 to 2022. This decline in the rate of growth of exports can be largely explained by the decrease in the average rates of growth of the global trade of goods and services and of world GDP, as can be seen in Figure 1.

In the period between 2015 and 2022, the real exchange rate was, on average, 26.1% more depreciated than between 2004 and 2014, as can

[4] Data from BCB.

Figure 1. Rates of growth of Brazilian exports, global trade and world GDP, average by period



Source: IBGE and IMF. Elaborated by the authors.

be seen in Figure 2[5]. Therefore, this more devalued real exchange rate was not capable of preventing either the decline in the rate of growth of exports, or the process of 're-primarization' of Brazilian exports (Lopes, 2020, p. 186), which confirms that the price-elasticity of Brazilian exports is low, as shown by Padrón *et al.* (2015)[6].

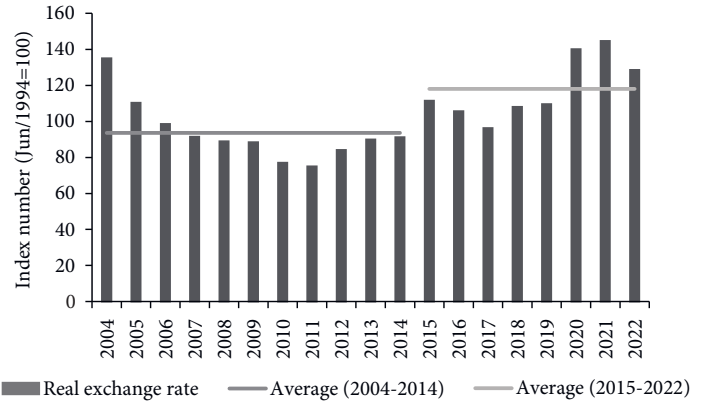
It is also important to mention that Brazil, a continental country, is naturally relatively closed to international trade, with exports accounting for about 15% of GDP. Therefore, exports are not capable of inducing high rates of growth of GDP in the absence of increases in other components of autonomous expenditures, such as government expenditures and consumption financed by new credit (Freitas and Dweck, 2013; Haluska, 2023; Campana *et al.*, 2024).

---

[5] We considered here the real effective exchange rate index, calculated using the IPCA —which is the price index for household consumption.

[6] As pointed out by Padrón *et al.* (2015), Brazilian exports are concentrated in goods such as agricultural products in raw or semi processed form, crude oil and iron ore. This low elasticity of exports in relation to the real exchange rate can be explained by the fact that *i)* the demand for these products presents a low sensitivity to prices; and *ii)* Brazil is price taker in most of the products it exports, so when there is a devaluation of the domestic currency, exporters increase their profit margins, but it does not necessarily makes the exporters sell more products in the international market.

Figure 2. Brazil's real exchange rate

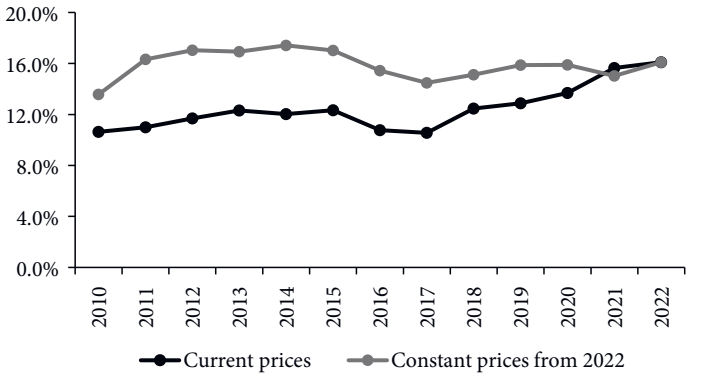


Source: BCB. Elaborated by the authors.

Another possible negative effect on GDP growth is an increase in leakages from aggregate demand to imports. In fact, the import content in aggregate demand did increase by 4 percentage points (pp) from 2014 to 2022, measured at current prices. This increase in the import content was due to a price effect, as can be seen by the decrease in the import content measured at constant prices in Figure 3. The nominal exchange rate increased 119.5% in the 2014-2022 period, resulting in a higher deflator of imports than of GDP. The slight decrease in the import content in the constant prices indicator was a result of a lower growth of the volume of imports than GDP. In fact, not only was the rate of growth of the imports lower than the rate of growth of GDP during this period, but the volume of imports itself was actually lower in 2022 than in 2014. Between 2015 and 2022, the volume of imports decreased, on average, 0.9% a year, while GDP grew 0.2% a year.

Thus, although the real exchange rate depreciated, the price-elasticity of imports is low in Brazil, according to Dos Santos *et al.* (2017). On the other hand, changes in the composition of aggregate demand certainly help to explain the low growth of imports. Each of the components of aggregate demand presents a different imported content. As calculated by Fevereiro (2016), in Brazil, investment is the component of aggregate demand with the highest imported content, and it was also the component of aggregate demand with the smallest average rate of growth during this

Figure 3. Imported content in aggregate demand



Source: IBGE. Elaborated by the authors.

period (it fell at a rate of 1.2% a year, on average). Therefore, the weight of the component of demand with the highest imported content on aggregate demand decreased during this period, which helps to explain the observed decline in the level of imports.

We conclude this section by pointing out that Brazil faced quite comfortable financial external conditions and that the decrease in the rate of growth of GDP from 3.7% a year from 2004 to 2014 to 0.2% a year from 2015 to 2022 cannot be accounted for by the performance of the external sector. When taking together the contributions of the growth of exports and the changes in the degree of imported content in demand, the contribution of the external sector to the growth of GDP was, on average, 0.1 percentage points (pp) per year during the period from 2004 to 2014, and this contribution has actually increased during the period from 2015 to 2022, when the external sector had a contribution to the growth of GDP of 0.8 pp per year[7]. As we will explain in the next sections, this decrease in the average rate of growth was caused by the reduction in domestic demand, whose contribution to the growth

[7] These contributions were calculated from a decomposition of growth based on the Sraffian Supermultiplier model, using a methodology like the one used in Haluska (2023). The contribution of the domestic demand is the sum of all the other contributions excluding the growth of exports and the changes in the degree of imported content, so it includes both private and public components of demand.

of GDP decreased from a positive contribution of 3.6 pp per year from 2004 to 2014 to a negative contribution of 0.6 pp per year from 2015 to 2022. This means that the contribution of domestic demand in the period 2015-2022 was negative, at a value of minus 0.6 percent per year. The internal market of the Brazilian economy has thus decreased in absolute terms over this period. Let us now examine how the economic policies adopted produced this outcome.

3. MONETARY POLICY

In order to reach its inflation target, as inflation stood near or above the upper limit, the Central Bank started to increase the base nominal interest rate in 2013, in a process that lasted until mid-2016. The base nominal interest rate increased from 7.25% to 14.25%. In 2015, inflation increased up to 10% a year, which can be explained by the large increase in monitored prices (especially fuels and energy) and by the nominal exchange rate devaluation.

From 2016 until the beginning of 2021, the Central Bank promoted several cuts in the base nominal rate of interest, which fell to a historically low level of 2%. Many economists attribute this decline in the rate of interest to the economic reforms that were conducted since the impeachment of Dilma Roussef, such as the cap for government expenditures and the reform in the pension system.

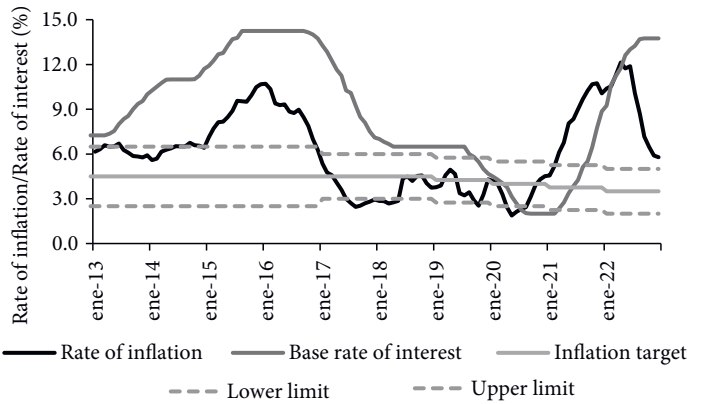
We have a different interpretation of this decline (Summa, 2024). From 2016 to 2019, the rate of inflation fell because during these years the effects of the shock of monitored prices and of the exchange rate devaluation that occurred in 2015 dissipated and the increase in the unemployment rate resulted in a decrease in the rate of change of the nominal wages. As a result, during most of these years, the rate of inflation remained between the lower limit and the center of the inflation target. Therefore, the Central Bank simply reacted to the low inflation by reducing the nominal rate of interest, without any connection to the economic reforms. The only way in which fiscal policy and the economic reforms contributed to the decrease in the rate of interest was through an indirect channel. The recession caused by the contractionary fiscal policy resulted in an increase in the rate of unemployment which, together with free market economic reforms, decreased the bargaining power of workers, resulting

in a lower rate of change in nominal wages and a decrease in the rate of inflation. Therefore, these policies helped to decrease inflation to the extent that they reduced the capacity of workers to obtain increases in their nominal wages. From 2004 to 2014, nominal wages increased, on average, 9.0% a year, while from 2016 to 2019, they increased only 5.2% a year[8]. This lower rate of increase in nominal wages made it easier for the Central Bank to keep inflation close to the target, making it possible to lower nominal rates of interest. This happened despite the depreciation of the real exchange rate[9].

Figure 4 presents the base nominal rate of interest, the rate of inflation as well as the inflation target and its upper and lower limits. Notice that the inflation targets were reduced four times since 2019 but were easily met before the pandemic.

The sequence of cuts in the nominal base rate of interest was not interrupted by the beginning of the COVID-19 pandemic, and the practice of very low interest rates in that context had effects on the rate

Figure 4. Rate of interest, rate of inflation, inflation target and its lower and upper limits



Source: IBGE; BCB. Elaborated by the authors.

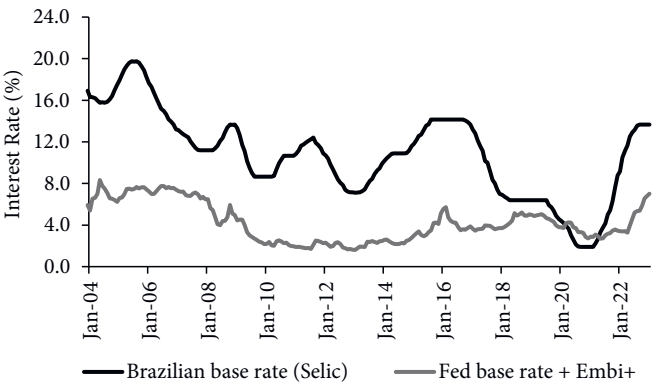
[8] Calculated from the nominal income surveys (PNAD and PNAD-Continua) by IBGE.

[9] The international conditions also contributed to this decrease in the nominal interest rate, since the international interest rate plus country risk remained relatively stable during this period.

of inflation through the cost channel. As pointed out by Serrano, Summa and Aidar (2021), the interest rate differential between domestic interest rate and foreign interest rate plus sovereign spread is one of the elements that determine the rate of change of the exchange rate. Usually, the base rate of interest in Brazil is higher than the base rate of interest set by the Federal Reserve plus the Embi+, a proxy of the sovereign spread. However, during several months of 2020 and 2021, the interest rate differential remained negative. This fact, combined with the devaluation of most developing economies' currencies, contributed to an increase of 30.1% of the exchange rate from February 2020 until March 2021[10]. It is important to note that the Brazilian currency devalued more than the average of the currencies of the emerging economies during this period. Figure 5 compares the Brazilian base rate of interest with the Fed rate plus the Embi+, while Figure 6 shows the interest rate differential and the rate of change of the nominal exchange rate in Brazil.

This large devaluation in the nominal exchange rate, combined with a strong increase in the international prices of several commodities (especially the energy commodities) in US dollars, resulted in an increase

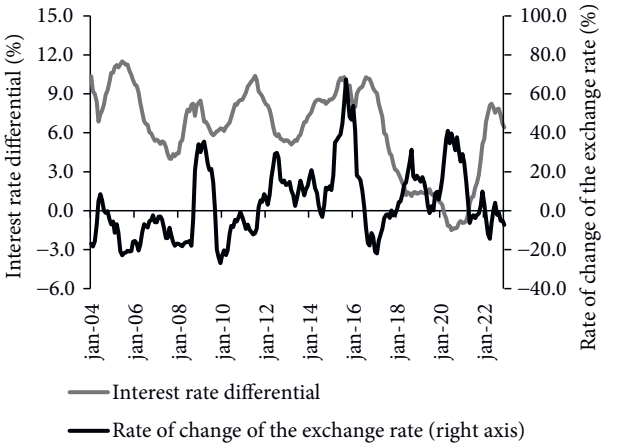
Figure 5. Brazilian base rate of interest and the Fed rate plus the Embi+



Source: BCB; FED; JP Morgan. Elaborated by the authors.

[10] The risk of devaluation in the exchange rate due to the low rate of interest in that context was already pointed out by Braga and Serrano (2020).

Figure 6. Interest rate differential and rate of change of nominal exchange rate



Source: BCB; FED; JP Morgan. Elaborated by the authors.

in the rate of inflation to the consumers, which reached 12.1% by the beginning of 2022. During this period, the inflation of monitored prices also increased, because Petrobras (the state-owned oil company) followed a rule for setting the prices of fuels according to the international prices. Due to this increase in the rate of inflation, the Central Bank was forced to increase interest rates again, and the nominal rate of interest reached 13.75% by the end of 2022. This points out that fiscal austerity and the reforms implemented in the period were unable to permanently reduce the real interest rate in Brazil and that the interest rate in Brazil is dependent on the need to control nominal exchange rates, and through them, the rate of inflation[11].

4. FISCAL POLICY

Right after winning a tight election in 2014, Dilma Roussef started her second term in 2015 doing the exact opposite of what she promised dur-

[11] Vázquez-Muñoz and Perrotini-Hernández (2022) show that same constraint on lowering domestic nominal interest rates currently applies also to Mexico.

ing her campaign, cutting public expenditures in an attempt to decrease the government primary deficit. As a result, government consumption expenditure decreased 0.6% on average during the years of 2015 and 2016. Non-financial government transfers to households[12] kept increasing because Brazilian demographic trends resulted in an increasing number of beneficiaries, while the rule adopted by then to adjust the minimum wage still guaranteed real increases in the minimum wage[13]. This was the only type of government expenditure that presented positive rates of growth during this period, growing, on average, 1.9% a year in 2015 and 2016, even though this represented a decline in the rate of growth of transfers, which grew, on average, 5% a year from 2004 to 2014.

The government had a peculiar response to the corruption probe mainly involving Petrobras: Instead of following the normal practice of investigating (and eventually jailing) the suspects, it reacted by stopping the execution of ongoing investments and cancelling new investment projects. As result of this, investment by the government and state-owned enterprises also experienced large reductions, decreasing by 19.8% and 24.6%, respectively, on average a year, during 2015 and 2016[14], as shown in Figure 7 below.

In 2016, Dilma Roussef was removed from office before the end of her second term due to an impeachment process, being succeeded by her vice president, Michel Temer. In 2019, Jair Bolsonaro became president and stayed in chair until 2022. Both Temer and Bolsonaro promoted reforms that aimed to reduce the rate of growth of government expenditures and to deregulate the labor market. By the end of 2016, a new fiscal rule was implemented as a constitutional amendment, establishing that, during the next twenty years, the aggregate of the federal government primary expenditures could only be adjusted according to past inflation,

---

12 Transfers made by the government to households corresponds to approximately 18.0% of GDP in Brazil. Although transfers do not enter directly into the calculation of the expenditure measure of GDP, it is an important component of household disposable income, so it is important to explain household consumption Haluska, 2023).

13 In Brazil, the values of several social benefits are indexed to the minimum wage, so increases in the minimum wage results in an increase in government transfers to households (Corrêa, dos Santos, and Filho, 2015).

14 For the economic cost of this corruption probe (known as Lava-Jato), see De Paula and Moura (2021). See also Sanches and Carvalho (2022).

without any real increase. In practice, this established a cap for federal government expenditures in real terms. This rule did not apply to states and municipalities[15,16].

The second important reform that affected government expenditures occurred in 2019 and consisted in changes in the Brazilian pension system that affected workers of both the public and the private sector. This reform tightened the rules for retirement, requiring workers to work more years before being able to retire, and changed the method used to calculate the value of the benefits in a way that reduced the value of the benefits. Another important *economic policy* change was that after 2019, the government stopped increasing the real minimum wage, which affected both the wages paid to less skilled workers and the value of the transfers to households.

The general orientation against expanding government intervention in the economy of the Temer's and Bolsonaro's administrations, combined with the cap for federal government expenditures, resulted in very low rates of growth of government expenditures during the period from 2017 to 2022. Government consumption increased, on average, 0.3% a year. From 2017 to 2021, investments made by the government remained very stable, growing only 0.2% a year. Only in 2022 did these investments present an exceptional growth of 50.3%, mainly due to increases in investment made by regional governments[17]. Although state-owned companies were not restricted by the government expenditures cap, their investments decreased, on average, 2.3% a year from 2017 to 2022.

Transfers to households presented several fluctuations during these years. In 2017 and in 2019, the government allowed workers to withdraw

---

15 Until 2016, the main fiscal rule that prevailed in Brazil was a target for the primary surplus of the government sector.

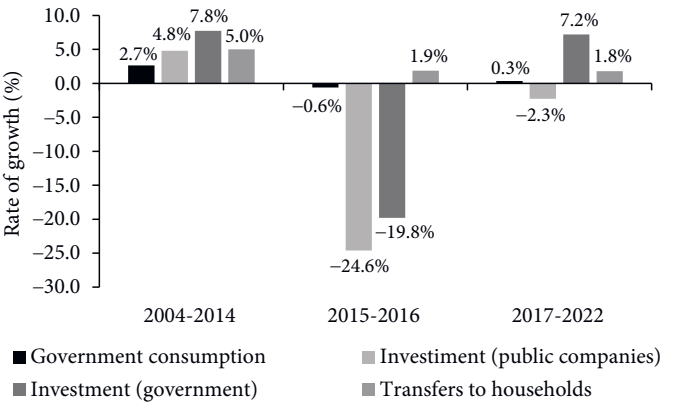
16 This new type of rule was already under discussion during Roussef's administration, when the government sent a bill project to the congress with the purpose of establishing some limits for expenditures as a percentage of GDP.

17 Investment made by the states and by municipalities grew 66.8% and 56.8%, respectively, in 2022. These large increases can be explained by the fact that the increases in commodity prices that occurred during 2021 and 2022 increased tax receipts through several channels (for more details, see Braga, Araújo and Amitrano, 2023). The fact that 2022 was an election year for state governors is also important, because governors usually boost investment to try their reelections.

their FGTS (compulsory saving accounts)[18] under exceptional conditions, contributing to increased household consumption (Bastos and Aidar, 2017). After the outbreak of the pandemic in 2020, Bolsonaro's administration created a social program to pay benefits to households to mitigate the effects of the pandemic. This social program experienced large cuts in 2021, and in 2022 the expenditures on social programs increased again as the elections came closer and the government tried to boost the economy and improve the popularity of the incumbent president.

The average growth rate of transfers was 1.8% a year from 2017 to 2022, lower than it was during the period from 2004 to 2014, but it was the main instrument used for the government to try to stimulate the economy using fiscal policy; either allowing workers to withdraw their deposits from FGTS accounts, or increasing the value of social benefits to low-income households. The erratic policy regarding the emergency payments makes it difficult to investigate the more persistent factors behind the growth of transfers. Therefore, it is difficult to measure the

Figure 7. Growth rates of types of government expenditures and investment by state-owned companies, average by period



Source: IBGE; Miguez (2016); Miguez and Freitas (2019) and *Bulletin of Federal Public Companies*. Elaborated by the authors.

[18] Workers with formal labor contracts are obliged make monthly contributions to this fund and can withdraw these deposits under some specific conditions. In 2017 and in 2019, the government made the rules for withdrawing these deposits more flexible.

effect of the reform in the pension system after 2019, although the new rules probably had a small effect on transfers in the first years after its implementation. However, it is safe to say that the absence of real minimum wage increases after 2019 is an important factor to explain the decrease in the rate of growth of public transfers. Figure 7 presents the average growth rate of three types of government expenditures (consumption, investment, transfers) and the growth rate of investment by state-owned companies, divided by each subperiod we are using in our analysis.

5. HOUSEHOLD AUTONOMOUS EXPENDITURES AND INDUCED CONSUMPTION

Other important components of aggregate demand are household autonomous expenditures and induced consumption[19]. By household autonomous expenditures, we mean the sum of autonomous consumption and residential investment which are sensitive to interest rates and credit conditions, and consumption out of public transfers (the latter was already discussed in section 4 above)[20].

5.1. Household autonomous expenditures

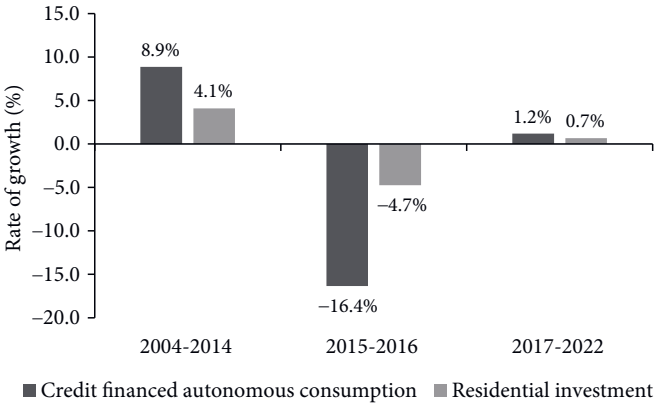
During the recession of 2015 and 2016, that coincided with a period of rising interest rates and cuts in credit by public banks, new credit flows decreased. As a result, credit-financed autonomous consumption declined 16.4% a year, on average, while residential investment declined 4.7% a year. However, the relatively long cycle with several cuts in the base nominal rate of interest, and the consequent fall in real interest rate, did not result in an expressive credit expansion. The slight recovery in credit after 2017 was thus very modest when compared with the pace of expansion observed during the period from 2004 to 2014. From 2017 to 2022, credit-financed autonomous consumption and residential investment grew, respectively, only 1.2% and 0.7% a year, on average, as shown in Figure 8.

---

[19] For a theoretical discussion on the concept of autonomous demand and its relation with macroeconomic policies, see Serrano, Summa and Freitas (2023).

[20] We are using the consumption of durable goods as a proxy for the portion of autonomous consumption that is sensitive to credit conditions. Induced consumption, by its turn, depends on the sum of wages and gross mixed income net of taxes.

Figure 8. Growth rates of consumption of durable goods and residential investment, average by period



Source: IBGE. Elaborated by the authors.

Some factors other than the rates of interest are important to explain these low growth rates of credit. First, in 2005, when the cycle of credit expansion was at its beginning, the level of household indebtedness was 21.3%, while by 2016 (when a new cycle of decreases in the base rate of interest begun), the level of indebtedness had already reached 45.8%[21]. Therefore, the higher indebtedness precluded new loans from growing at higher rates even during periods of low interest rates (Martins, Sarno and Feijó, 2024). Second, in Brazil, having a job with a formal labor contract is an important condition to have access to credit. From 2004 to 2014, the number of formal jobs increased at a higher rate than the total number of jobs, making a larger share of workers eligible for new loans and contributing to credit expansion. From 2016 to 2022, an opposite trend was observed, with the number of formal jobs growing less than total jobs (Amitrano, de Oliveira, and Squeff, 2023). Third, in 2009, the government created a housing program, called *'Minha Casa, Minha Vida'*, with the purpose of building new houses for low-income households with subsidized credit. This program contributed to the relatively high growth rate of residential investment until 2014. From

[21] Data from BCB.

2015 on, the budget for this program was also reduced, together with its effects on the volume of residential investment.

5.2. Induced consumption

During the period 2004 -2014, the combined share of wages and gross mixed income in GDP presented a clear rising trend, increasing from 49.1% to 52.0% (see Summa and Serrano, 2018, for a more detailed explanation). This increasing trend had stopped and was reversed after 2017, with the combined share of wages and gross mixed income falling to 47.0% by 2021. To explain these facts, we can look at *i)* the bargaining power of workers, *ii)* the policy of the government for monitored prices, and *iii)* the inflation of commodities expressed in domestic currency[22]. The rate of unemployment increased from 6.9% in 2014 to 12.8% in 2017, and after that it started falling at a slow pace (with exception for the year 2020, when unemployment increased because of the effects of the pandemic). During these years, the portion of formal jobs in total jobs was reduced, and the government stopped increasing the real minimum wage. The labor reform from 2017 made the labor market more flexible and also worsened workers' bargaining power. The policy for adjusting some monitored prices also changed[23], resulting in average inflation of monitored prices of 7.9% a year from 2015 to 2022, higher than the average inflation (which was 6.1%). The accumulated increase of 119.5% in the nominal exchange rate combined with the increases in the prices of commodities in US dollars resulted in an average rate of inflation of commodities of 14.8%. Figure 9 presents the share of wages and Gross Mixed Income in GDP[24].

---

22 Summa and Serrano (2018) look at the same variables to explain the increase in the wage share from 2004 to 2014.

23 Perhaps the most important change in the policy for setting monitored prices was in the rule for determining the prices of fuels. Until 2014, the prices of fuels remained stable for long periods and the government tried not to pass-through the increases in international prices to the domestic market. However, this policy changed after 2016, when the company started to fix its price according to the price of fuels in the international market, adjusting its prices much more often and automatically whenever there was a change in international prices or in the exchange rate.

24 Figure 9 presents data until 2021 because by the time this paper was submitted, there was still no data on functional income distribution available for 2022.

Figure 9. Share of wages and gross mixed income in GDP

Source: IBGE. Elaborated by the authors.

The share of induced consumption in GDP depends not only on the wage share, but also on taxes over wages, which reduces the disposable income of workers. Nevertheless, there have not been any relevant changes in taxes over wage bills or over household incomes that could have offset the effects of the decrease in the share of wages over induced consumption. The share of social contributions on wages has remained around 22%, while income taxes to households (including all types of incomes) as a percentage of GDP had a slight increase from 2.9% in 2014 to 3.3% in 2021[25].

As previously discussed in the fourth section, transfers were the only type of government expenditure that presented systematically positive rates of growth during the period under consideration, partially offsetting the negative effects that the changes in income distribution had on household consumption.

[25] Data from the *National Accounts*, IBGE.

6. BUSINESS INVESTMENT

Finally, we get to the discussion of the behavior of business (non-residential private) investment[26]. So far, we have demonstrated that in the 2015-2022 period *i)* the rate of growth of exports decreased, despite the depreciated real exchange rate; *ii)* the degree of imported content in aggregate demand increased; *iii)* the growth rate of government expenditures decreased; *iv)* the reduction in the base rate of interest was not capable of making credit-financed autonomous consumption or residential investment to grow significantly; and *v)* the set of policies regarding the management of monitored prices, the exchange rate, the minimum wage, and the labor reform from 2017 all contributed to the decrease in the wage share and consequently, in the share of induced consumption in GDP. All these factors had contractionary effects if taken individually. Therefore, the only way in which all these factors could end up being expansionary for the economy is if it somehow opened space for business investment to growth at higher rates in a way that could offset all the other contractionary effects.

However, business investment is actually induced by the level of demand, and not the other way around, as firms invest to adjust the size of their productive capacity to the expected levels of demand. According to the flexible accelerator mechanism, when the trend of the growth rate of GDP increases, firms tend to increase the growth rate of their productive capacity, which requires the growth rate of investment to increase more than the increase in the growth rate of GDP. Therefore, there is a positive relation between the growth rate of GDP and the share of business investment in GDP.

It is difficult to examine the behavior of business investment in each year of the period under analysis because there were several economic and statistical effects that made this series experience several oscillations. We opted to focus our analysis on the averages of the periods we are

[26] These investments consist mainly of investments in machinery and equipment, but also include construction structures, software, research and development and cultivated biological resources. Most of these investments are made by private firms, but it also includes investment by self-employed workers.

considering[27]. Table 1 presents the averages of the growth rate and the share of business investment in GDP during the period 2004-2014 and from 2015 to 2022. This relationship between investment and GDP is what would be expected according to the flexible accelerator model: The decrease in the growth rate of GDP resulted in a decrease in the growth rate of business investment and in the share of these investments in GDP (Avancini, Freitas and Braga, 2015; Braga, 2020)[28].

It is important to note that during the period under analysis, the decrease in the wage share would be related to an increase in the normal rate of profits on new investments. Additionally, as we saw, real interest rates decreased from 2016 to 2021. However, these factors were not capable of stimulating firms' investments. The reason for that is that capitalists will only invest to build new productive capacity if there are increases in aggregate demand seen as persistent by them (for a more detailed discussion on this issue, see Serrano, 2001; Serrano and Summa, 2022).

Table 1. Average growth rate and share of business investment in GDP, average by period

	2004-2014	2015-2022
GDP growth rate	3.7%	0.2%
Business investment/GDP	10.1%	8.9%

Source: IBGE and Ministry of Economy (2022). Elaborated by the authors.

[27] First, there were oscillations caused by the pandemic and it's following economic recovery. Second, Petrobras owned several oil platforms that were registered as property of a subsidiary abroad, and in 2021, some of these platforms were nationalized, which was registered in the *System of National Accounts* as imports destined to investment, even though these platforms have already been producing for several years and did not represent an increase in productive capacity. Third, trucks produced after 2023 should meet stricter rules about the emissions of pollutants, which raised production costs and prices. Therefore, several companies anticipated their purchases of new trucks in 2022, contributing to a temporary boost in investment in that year.

[28] Avancini, Freitas and Braga (2015) and Braga (2020) perform empirical tests of the accelerator mechanism for the case of Brazil to look for the causality between these variables. In these papers, the authors demonstrate that the rate of growth of GDP explains (in the Granger sense) the share of investment in machinery and equipment and that the rate of growth of final demand (*i.e.*, aggregate demand excluding investment in machinery and equipment) Granger causes the rate of growth of investment in machinery and equipment.

The economic reforms carried on in Brazil following the agenda put forth by the '*Bridge to the future*' relied on a substantial long run decline in the interest rate, and the consequent growth led by private investment. However, that was not what happened: Given the set of contractionary policies adopted, business investment declined because there was no expansion of the internal market.

7. THE BRIDGE TO STAGNATION

As we have seen, the very low growth rates of the Brazilian economy observed from 2015 to 2022 cannot be attributed to the external sector. In fact, Brazil faced quite comfortable external financial conditions, with a large amount of foreign international reserves and a large portion of its external liabilities denominated in its own domestic currency. So, there was clearly no binding external constraint to growth in this period. Moreover, in terms of generating demand, not only did the external sector have a positive contribution to growth, but the average annual contribution of the external sector to the growth of GDP was actually larger during the period from 2015 to 2022 than in the previous period (2004 to 2014).

The main cause of the stagnation must necessarily be explained by the evolution of domestic demand. The stagnation of the domestic market came initially by the large cuts in government expenditures in 2015 and in 2016; later by the effects of economic reforms that aimed to reduce the growth rate of government expenditure and the worsening of the bargaining power of workers through changes in labor market laws. One of the alleged purposes of these reforms was to make a fiscal adjustment that would result in a sustainable decrease in the base rate of interest, which would stimulate private investment, changing the pattern of economic growth to a pattern led by private investment. The real interest rate in fact decreased from 2016 to 2021, but that occurred mainly because inflation remained below the target for several years. The latter was a result of a lack of large commodity price shocks, while the stagnation itself and the labor law reforms significantly reduced the rate of increase of nominal wages.

As a result, the share of wages in income stopped increasing and started to fall, having a negative effect on household induced consumption.

The lower base real rate of interest, on the other hand, was not capable of stimulating aggregate demand. First, because it was not capable of generating high growth rates of household autonomous consumption nor of residential investment. Second, since investment by firms in machinery, structures, and so on are mainly induced by the trend of expected and actual effective demand; these investments were negatively affected by the decrease in the growth rate of GDP during this period. Low real rates of interest cannot stimulate aggregate new investment in the absence of expectations of persistent increases in demand. To make matters worse, the particularly low nominal rates of interest observed during 2020 and 2021 (which induced negative interest rate differentials) resulted in a large devaluation of the domestic currency. Since the exchange rate elasticity of imports and exports in Brazil is quite low, this devaluation ended up having a contractionary effect on demand, as it contributed to increase inflation, reduce real wages and, consequently, reduce household consumption.

In sum, the strategy of reducing the growth rates of government expenditure, that supposedly would open space for the Brazilian economy to grow based on exports and private investments, has failed, resulting only in a large reduction in the average growth rate of the economy and of the business investment share. In fact, the real exchange rate devalued and the real interest rate decreased in the period, without leading to higher growth rates of exports and business investment[29]. This experiment has thus produced results very contrary to what was expected by many Post-Keynesians and New Developmentalists, namely, that growth would arise from the right management of the "macro prices" (Bresser-Pereira, 2017; Marconi, 2017).

However, this bridge to stagnation was actually quite successful in terms of its real political objectives, that were the reduction of the relative size of the State in the economy and of the bargaining power of workers (Serrano and Melin, 2016; Serrano and Summa, 2022). ◄

---

[29] Some authors such as Feijó (2024, p. 224) and Arestis *et al*. (2022, p. 5) acknowledge that the lower real rate of interest observed since 2016 and the more devaluated real exchange rate during the recent past were not successful in increasing the share of business investment in GDP and in increasing the rate of growth of GDP. However, they do not offer an explanation for this.

REFERENCES

Amitrano, C.R., de Oliveira, A.S., and Squeff, G.C. (2023). The impacts of the Brazilian Labour Reform on employment, output, and labour productivity. *Panoeconomicus*, 70(4), 647-669.

Arestis, P., Ferrari-Filho, F., Resende, M.F.D.C., and Bittes Terra, F.H. (2022). A critical analysis of the Brazilian 'expansionary fiscal austerity': Why did it fail to ensure economic growth and structural development? *International Review of Applied Economics*, 36(1), 4-16.

Avancini, D., Freitas, F., and Braga, J. (2015). Investimento e Crescimento Liderado Pela Demanda: um estudo para o caso brasileiro com base no modelo do Supermultiplicador Sraffiano. *Anais da ANPEC*. https://www.anpec.org.br/encontro/2015/submissao/files_I/i6-ab8630dd7ed1234a7bda055e97d26004.pdf

Bastos, C.P., and Aidar, G.F. (2017). O Brasil bateu no piso? *Brazilian Keynesian Review*, 3(2), 130-149.

Biancarelli, A., and Rosa, R. (2024). A resiliência externa da economia brasileira: avaliando a vulnerabilidade diante da nova realidade do setor externo. XVII Encontro da AKB, Maceió, AL.

Braga, J. (2020). Investment rate, growth, and the accelerator effect in the supermultiplier model: The case of Brazil. *Review of Keynesian Economics*, 8(3), 454-466. https://doi.org/10.4337/roke.2020.03.08

Braga, J., and Serrano, F. (2020). Juros e Câmbio: já temos problemas suficientes. *Grupo de Economia Política da UFRJ*. https://www.excedente.org/blog/juros-e-cambio-ja-temos-problemas-suficientes/

Braga, J., Araujo, M., and Amitrano, C. (2023). Carta de conjuntura. *IPEA. Número 60 – Nota De Conjuntura* 33 – 3° Trimestre de 2023. https://www.ipea.gov.br/cartadeconjuntura/wp-content/uploads/2023/09/231003_cc_60_nota_33_visao_geral.pdf

Bresser-Pereira, L.C. (2017). Brazil's 36 Years-Old Quasi-Stagnation and the Interest Rate–Exchange Rate Trap. Oxford *Handbook on the Brazilian Economy*.

Campana, J.M., Vaz, J.E., Hein, E., and Jungmann, B. (2024). Demand and growth regimes of the BRICS countries–the national income and financial accounting decomposition approach and an autonomous demand-led growth perspective. *European Journal of Economics and Economic Policies*, 21(1), 17-41.

Corrêa, V.P., dos Santos, C.H., and Filho, N.A. (2015). Structural Changes in Brazil: Improvements and Limits. *The Brazilian Economy Today: Towards a New Socio-Economic Model?*, 137-161.

De Paula, L.F., and Moura, R. (2021). A Operação Lava Jato e as mudanças na gestão da Petrobras: uma avaliação dos impactos econômicos gerais e locais. *Operação Lava Jato: crime, devastação econômica e perseguição política*, 1, 115-145.

Dos Santos, C.H.M., Cieplinski, A., Pimentel, D.M., and Bhering, G. (2017). Por que a elasticidade-preço das importações é baixa no Brasil? Evidências a partir das desagregações das importações por categorias de uso. *Economia e Sociedade*, 26(1), 141-164. http://dx.doi.org/10.1590/1982-3533.2017v26n1art5

Feijó, C. (2024). Stagnation of the Brazilian economy and peripheral financialization. *International Economics/Economia Internazionale*, 77(2).

Fevereiro, J.B. (2016). Decomposição da taxa de crescimento do PIB pelo lado da demanda: uma metodologia alternativa. *Nota Técnica, Carta de Conjuntura* [30], IPEA. https://www.ipea.gov.br/portal/images/stories/PDFs/conjuntura/160627_carta_conjuntura30_nota_tecnica_2.pdf

Freitas, F.N., and Dweck, E. (2013). The pattern of economic growth of the Brazilian economy 1970-2005: A demand-led growth perspective. In: *Sraffa and the Reconstruction of Economic Theory: Volume Two: Aggregate Demand, Policy Analysis and Growth* (pp. 158-191). London: Palgrave Macmillan.

Haluska, G. (2021). A desaceleração e a recessão econômica no Brasil entre 2011 e 2019 analisada a partir do modelo do Supermultiplicador Sraffiano. *Anais do 14o Encontro Internacional da Associação Keynesiana Brasileira: o Brasil em um mundo em transformação*, UFABC. https://www.even3.com.br/anais/akb2021/375494-a-desaceleracao-e-a-recessao-economica-no-brasil-entre-2011-e-2019-analisada-a-partir-do-modelo-do-supermultiplic/

Haluska, G. (2023). A economia brasileira no século XXI: uma análise a partir do modelo do Supermultiplicador Sraffiano. *Economia e Sociedade*, 32, 297-332. https://doi.org/10.1590/1982-3533.2023v32n2art03

Lopes, V.T. (2020). A reprimarização das exportações brasileiras em perspectiva histórica de longa duração. *Carta Internacional*, 15(3).

Marconi, N. (2017). O papel dos preços macroeconômicos na crise e na recuperação. *Estudos Avançados*, 31, 97-109.

Martins, N., Sarno, P., and Feijó, C. (2024). Household financial fragility in Brazil (2005-2023): A Minskyan analysis. *Journal of Post Keynesian Economics*, 1-23.

Miguez, T. (2016). *Evolução da formação bruta de capital fixo na economia brasileira 2000-2013: uma análise multissetorial com base nas matrizes de absorção de investimento (MAIS)*. Unpublished PhD Dissertation. Instituto de Economia, Universidade Federal do Rio de Janeiro. https://www.ie.ufrj.br/images/IE/PPGE/teses/2016/Thiago de Holanda Lima Miguez.pdf

Miguez, T., and Freitas, F. (2019). *Matrizes de Absorção de Investimento: proposta metodológica para o SCN Ref. 2010*. Rio de Janeiro: BNDES.

Ministry of Economy (2022). *Boletim das Empresas Estatais Federais, edição no 23*. Secretaria Especial de Desestatização, Desinvestimento e Mercados; Secretaria de Coordenação e Governança das Empresas Estatais. Brasília. https://www.gov.br/economia/pt-br/centrais-de-conteudo/publicacoes/boletins/boletim-das-empresas-estatais-federais/arquivos/boletim-das-empresas-estatais-federais-23a-edicao.pdf

Padrón, A.D.R.S., Santos, C., Amitrano, C., Ribeiro, F.J.D.S.P., and Bhering, G. (2015). Por que a elasticidade-preço das exportações é baixa no Brasil? Novas evidências desagregadas. In: A. Mello e Souza and P. Miranda (eds.), *Brasil em desenvolvimento 2015: Estado, planejamento e políticas públicas* (pp. 15-41). IPEA. https://portalantigo.ipea.gov.br/agencia/images/stories/PDFs/livros/livros/bd_2015_web.pdf

Rosa, R., and Biancarelli, A. (2024). Original sin e a mobilidade dos fluxos de capitais para a economia brasileira (2002-2023). *Anais do 52º Encontro Nacional de Economia*, Anpec, Natal.

Sanches, M.D.S., and Carvalho, L.B.D. (2022). A contribuição da política fiscal para a crise brasileira de 2015-2016: uma análise baseada em multiplicadores de despesas e receitas primárias do governo central no período 1997-2018. *Nova Economia*, 32(01), 7-36.

Serrano, F. (2001). Acumulação e gasto improdutivo na economia do desenvolvimento. In: J.L. Fiori and C. Medeiros (orgs.), *Polarização mundial e crescimento* (pp. 135–164). Petrópolis: Vozes.

Serrano, F., and Summa, R. (2012). Macroeconomic policy, growth and income distribution in the Brazilian economy in the 2000s. *Investigación Económica*, 71(282), 55-92. http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S0185-16672012000400003&lng=es&tlng=en [Recuperado el 14 de septiembre de 2024].

Serrano, F., and Summa, R. (2015). Aggregate demand and the slowdown of Brazilian economic growth in 2011-2014. *Nova Economia*, 25, 803-833. https://doi.org/10.1590/0103-6351/3549

Serrano, F., and Summa, R.D.F. (2022). *Distributive conflict and the end of Brazilian economy's "Brief Golden Age"* [Working Paper no. 186/2022]. Institute for International Political Economy (IPE) Berlin. https://www.ipe-berlin.org/fileadmin/institut-ipe/Dokumente/Working_Papers/ipe_working_paper_186.pdf

Serrano, F., Summa, R., and Aidar, G. (2021). Exogenous interest rate and exchange rate dynamics under elastic expectations. *Investigación Económica*, 80(318), 3-31. https://doi.org/10.22201/fe.01851667p.2021.318.8081

Serrano, F., Summa, R., and Freitas, F. (2023). *Autonomous demand-led growth and the supermultiplier: The theory, the model and some clarification* [Working Paper 03]. Instituto de Economia, UFRJ.

Serrano, F.; Melin, L.E. (2016). Political aspects of unemployment: Brazil's neoliberal u-turn. *Crítica Marxista*. Gennaio/Frebbraro.

Summa, R. (2024). The political economy of Brazilian inflation. *Phenomenal World*, August 8. https://www.phenomenalworld.org/analysis/the-political-economy-of-brazilian-inflation/

Summa, R., and Serrano, F. (2018). Distribution and conflict inflation in Brazil under inflation targeting, 1999-2014. *Review of Radical Political Economics*, 50(2), 349-369. https://doi.org/10.1177/0486613417691787

Vázquez-Muñoz, J.A., and Perrotini-Hernández, I. (2022). The peso problem and dollar hegemony under inflation targeting. *Review of Keynesian Economics*, 10(4), 513-532.

APPENDIX

Table 2. Growth rate of GDP and of components of aggregate demand; averages by period

Demand component	2004-2014	2015-2016	2017-2022	2015-2022
GDP	3.7%	–3.4%	1.4%	0.2%
Household consumption	4.6%	–3.5%	1.5%	0.2%
Household consumption of services and non-durable goods	4.3%	–2.6%	1.6%	0.5%
Credit-financed autonomous consumption	8.9%	–16.4%	1.2%	–3.5%
Government consumption	2.7%	–0.6%	0.3%	0.1%
Gross fixed capital formation	5.8%	–13.0%	3.0%	–1.2%
Government investment	7.8%	–19.8%	7.2%	–0.3%
State-owned companies investment	4.8%	–24.6%	–2.3%	–8.4%
Residential investment	4.1%	–4.7%	0.7%	0.7%
Business investment	6.5%	–14.3%	4.2%	–0.8%
Exports	3.8%	3.8%	2.3%	2.7%
Imports	9.8%	–12.3%	3.2%	–0.9%
Transfers to households	5.0%	1.9%	1.8%	1.8%

Source: IBGE; BCB; Miguez (2016); Miguez and Freitas (2019) and Ministry of Economy (2022). Elaborated by the authors.