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WHAT WENT WRONG? THE DYNAMICS OF THE RISE AND FALL OF BRAZIL'S ECONOMY (2004-2016) IN THE PERSPECTIVE OF NEW DEVELOPMENTALISM THEORY

O QUE DEU ERRADO? A DINÂMICA DA ASCENSÃO E QUEDA DA ECONOMIA BRASILEIRA (2004-2016) NA PERSPECTIVA DA TEORIA DO NEO DESENVOLVIMENTISMO

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ABSTRACT: The article's main goal is to examine the performance of the Brazilian economy from the beginning of the 2000s to the economic recession of 2015/2016 through the New Developmentalism theoretical perspective. It argues that the economic expansion of the 2000s resulted more from conjunctural economic factors than from effective structural changes through modernization of the production structure. From the beginning of the 2010s, macroeconomic policy gained an increasingly discretionary and interventionist character, with the aim of promoting external competitiveness and spurring domestic investment. However, these initiatives resulted in macroeconomic disequilibria and did not impede the continuation of the process of deindustrialization.

Keywords: Macroeconomics; Industrialization; Heterodox Economics.

RESUMO: O objetivo principal do artigo é examinar o desempenho da economia brasileira desde o início dos anos 2000 até a recessão econômica de 2015/2016 através da perspectiva teórica do Novo Desenvolvimentismo. Argumenta que a expansão econômica dos anos 2000 resultou mais de fatores econômicos conjunturais do que de mudanças estruturais efetivas por meio da modernização da estrutura produtiva brasileira A partir do início da década de 2010, a política macroeconômica ganhou um caráter cada vez mais discricionário e intervencionista, com o objetivo de promover a competitividade externa e estimular o investimento doméstico. No entanto, essas iniciativas resultaram em desequilíbrios macroeconômicos e não impediram a continuidade do processo de desindustrialização.

Palavras-chave: Macroeconomia; Industrialização; Economia Heterodoxa.

Classificação JEL:B22; O14; B50

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1. Introduction

Between the early 2000s and the middle 2010s, the Brazilian economy has undergone two main economic cycles. The first, which lasted until the early 2010s, is marked by the acceleration of economic growth rates compared to the 1990s (Giambiagi et al., 2011). By contrast, the second period is marked by the reduction of the pace of economic growth in the 2010s and the onset of economic recession in 2015/2016.

The article's main objective is to examine the performance of the Brazilian economy in these two distinct periods from the New Developmentalism (ND) perspective. In this sense, the articles research question is how Brazil's economic performance (2003-2016) can be understood according to the New Develomentalism Theory? To what extent do external factors related to the global economy explain the slowdown and recession of the Brazilian economy (2014-2016)? It is argued that the expansionary cycle in the 2000s did not result in a transformation of the Brazilian economy's production structure. In this period, the economic boom derived mostly from conjunctural factors related to the accentuated underutilization of economic capacity within the Brazilian economy and to the external bonanza in a context of the international commodity super cycle. With the changes in the external environment after the crisis of 2008 and the exhaustion of the economic growth model based mainly on domestic consumption, the Rousseff government implemented a new economic policy regime known as the New Economic Matrix (NEM), with the goal of increasing external competitiveness and reversing the deindustrialization of the Brazilian economy. However, the policies implemented as part of the NEM were not successful in keeping the main macroeconomic prices to enhance Brazilian economy's external competitiveness.

From a methodological perspective, the central argument is constructed on the basis of the identification and analysis of the main variables that explain the Brazilian economic performance. We establish a relationship to the Brazilian production structure which, in the ND perspective, is connected to the main macroeconomic prices (profits, wages, interests rates, and exchange rates).

The presentation of the article's central argument is divided into four sections. The first section presents a summary and the central theoretical and historical notions of classical structuralism and ND. The second section analyzes the main macroeconomic variables that explain the economic cycle of expansion of the Brazilian economy from the 2000s. The third section contextualizes the Brazilian economic policies based on the NEM during the early 2010s to the economic crisis that begun in the end of 2014. Finally, we discuss the relation between macroeconomic policy and the Brazilian economy's production structure through an ND perspective.

2. Classical Structuralism and New Developmentalism: Historical and Conceptual Aspects

New Developmentalism can be viewed as a theoretical current aiming to study the middle income trap in developing countries which have already passed the process of industrialization and urbanization[2]. The theory has its roots in classical structuralism which emerged with the creation of the Economic Commission for Latin America and Caribbean (CEPAL).

Classical structuralism has become one of the main theoretical currents in explaining the income disparity within the global economy from the 1950s. The economies marked by a predominantly agrarian production structure have often been stuck in a vicious cycle due to the intrinsically low productivity of the agricultural sector as the main economic activity. This cycle would only be interrupted with the transformation of the production structure

[2] The term middle income trap is used to characterize countries that have seen a rapid increase in economic development through industrialization, but which at the point of reaching middle-income status have confronted strong economic deceleration. This is the case with countries such as Brazil, which since the 1980s have presented a relative stagnation and slow economic growth.

characterized largely by an acceleration of industrialization. This phenomenon allows the transfer of labor from subsistence agriculture to activities with higher labor productivity. With productivity growth, there would also be an increase in the economic surplus and investment rates. Breaking this cycle of underdevelopment through the acceleration of industrialization would thereby create the conditions for economic takeoff (Prebish, 1949; Bielschowsky, 2016)

These theoretical perceptions influenced many third world governments at the time, which implemented economic policies minded at spurring industrialization, mainly through import substitution. In Brazil, the import substitution model reached its peak in the 1970s but was gradually exhausted with the debt crisis of the so-called “lost decade” of the 1980s (Baer, 1995).

The economic reforms implemented, as part of the Washington Consensus and the macroeconomic stabilization, created the conditions for a new economic cycle through the expansion of domestic consumption and the international commodity super cycle. Hereby, an acceleration of the process of deindustrialization and a loss of diversity within the Brazilian production structure became evident. Rodrik (2015) refers to this phenomenon as premature deindustrialization, as the reduction in the added value to GDP by the industrial sector occurs before the country reaches a high level of income.

The ND can be understood as a theoretical framework which seeks to reformulate and update classical structuralism with some additional hypotheses.

Table 1. Classical structuralism and additional hypotheses of New Developmentalism.

Classical structuralism	**New Developmentalism (Additional hypotheses)**
Industrialization as principal variable to increase productivity.	Economic complexity is a principal driver of productivity growth.
Industrialization aimed at the domestic market is based on import substitution.	Productive industrialization and sophistication oriented towards the domestic and international market.
Economic planning and industrial policies serve as economic policy instruments.	Industrial policy is important, but depends on connection with the macroeconomic policy regime.
Trade protectionism serves as an instrument to spur growth of infant industries.	Trade protectionism serves as a mechanism to neutralize Dutch Disease.
Ambiguity regarding fiscal policy and import of foreign savings.	Neutral fiscal policy and rejection of external deficit, mainly in periods when Dutch Disease is evident.
Macroeconomics as an instrument for policies of economic stimulus.	Market failures and a need for correction of macroeconomic prices.

Table elaborated by the author based on Bresser-Pereira and Gala (2010), Bresser-Pereira (2011, 2018); Gala (2017); Oreiro (2012); Bielschowsky (2016); Love (2005).

As Bresser-Pereira and Gala (2010) observe, there is a structural trend of appreciation of the exchange rates of developing countries with non-convertible currency and who depend on international commodity exports for two reasons.

The first reason regards the existence of Dutch Disease which can be viewed as a chronic appreciation of the interest rate because exports are tied to international commodities which are characterized by a higher degree of international price fluctuation. The appreciation tends to be more acute in periods with high international prices, and even with the reduction of income on behalf of international commodity exporters, the sector remains competitive within international markets.

On the other hand, the appreciation of the national currency reduces the profitability of

the tradable sectors, which tends to result in a process of deindustrialization and regression of the production structure (Marconi, 2017). A second factor regards to use of the exchange rate as an anchor for controlling inflation. This is the case of Brazil's economic policies throughout the 1990s. The use of an anchor for controlling inflation increased the current account deficit and the foreign indebtedness and were one of the main causes for the crisis in 1999. The opening of financial accounts resulted in a higher attraction capacity and substantial short-term capital inflows to finance current account deficits in periods of high liquidity and expansion of the global economy. (Bresser-Pereira, 2011).

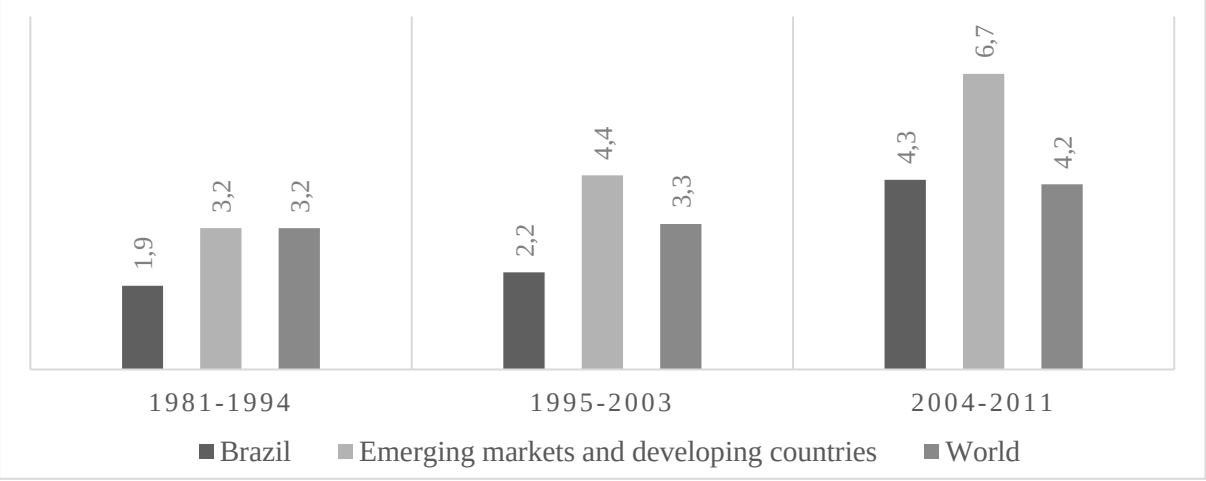
Economic policy should aim to correct the main macroeconomic prices – principally the exchange and interest rates – to propel the tradable sector and external competitiveness (Marconi 2017). Monetary policy should work in a dual fashion to both maintain stable inflation rates in the medium term, while simultaneously seeking to spur economic growth. In other words, the use of the interest rate exclusively to control inflation tends to distort and reduce the expectations of economic agents while discouraging investments.

The interest rate should thereby be maintained below the average return on investments. Inflation is an essential component, but in the case of developing countries, these should display a higher degree of flexibility in the case of the occurrence of domestic and external shocks within a medium-term horizon (2 to 3 years). Wage growth must keep pace with worker productivity growth for two reasons. First, if wages grow above productivity, there will be a tendency for consumption to increase above production, with negative effects on savings growth. On the other hand, if wages grow below labor productivity, aggregate demand will not keep up with the potential expansion of domestic consumption (as it happens in many developing countries). Finally, the central objective of the exchange rate is to promote the competitiveness of tradable sectors within domestic and foreign markets (Bresser-Pereira and Nassiff and Feijó, 2016).

3. The Golden Decade of the 2000s

The Brazilian economy entered a new cycle of accelerated expansion from the beginning of the 2000s. Between 2004 and 2011, the GDP grew at an average annual rate of 4% - compared to an expansion of 2% throughout the 1980s and 1990s. The new cycle of economic growth largely coincided with the two Lula terms (2003-2010) and can better be observed from Graphic 1.

Graphic 1. Average annual growth rates of Brazil, developing countries and the world in selected periods.



Source: IMF (2021).

The stabilization of the macroeconomic framework from the late 1990s resulted in increased economic growth throughout the 2000s. Although the interests and inflation rates

have declined strongly from the point of the introduction of the Real, in 1994, the Brazilian economy still presented macroeconomic disequilibrium related mainly to the weak public finances and the external vulnerability (Samuels 2003).

The macroeconomic outlook only began to gradually improve from the middle of the 2000s. In the first year of the Lula government (2003-2010), the economy still suffered from electoral uncertainties, and the weakness of the external balances which in the last year of the FHC government had made the country sign an agreement with the International Monetary Fund (IMF) (Almeida 2010). The Lula government continued the macroeconomic policies from the FHC period and deepened the microeconomic reforms which contributed to raising domestic consumption, mainly through increased credit.

Due to the uncertainties generated by the high inflation rate throughout the 1980s and 1990s, domestic credit played a secondary role as a dynamizing factor in spurring domestic consumption. Within this context, with the stabilization of macroeconomic indicators and the increase of liquidity from within the global economy, more favorable conditions were generated for the expansion of domestic credit (Freitas, 2009).

The expansion of credit in this period was driven mainly by institutional reforms and by the improvement of the macroeconomic environment. It is worth highlighting the creation of payroll loans[3], the reform of the Bankruptcy Law of 2005, and the change in the rules for concession of loans for motor vehicle purchases which reduced the time for the execution of guarantees on behalf of the financing agent. Together, these changes permitted the reduction of default risk on behalf of the loan takers as well as the interest rates for the final credit beneficiaries (Funchal, 2008).

With the improvement of the conditions for the execution of guarantees in credit operations, there was also an increase in credit availability within the Brazilian economy. The domestic credit volume increased from close to 24,6% of GDP in 2003 to 45,2% in 2010. Within this same period, the credit operations controlled by the private sector increased from 14,8% to 26,3% of GDP. With the new credit modalities, financial institutions expanded credit to fuel household consumption and investments. The credit expansion in this period had positive impacts on the Brazilian economy's productivity throughout the 2000s and 8% of the per capita income growth (2001 – 2011) can be attributed to credit availability (Mora 2015).

A second domestic factor regards the underutilization of production factors – capital and labor – at the beginning of the 2000s. As the unemployment rate was at high levels for the historical patterns in Brazil at the beginning of the 2000s, the economic expansion initially occurred without wage increases or inflationary pressures. Data from the National Confederation of Industry (CNA) also demonstrate that in this period, there was a higher degree of underutilization of the Brazilian industrial sector, which permitted the increase of supply without the need for new investments. In 2008, for example, the utilization rate of Brazilian industrial capacity reached its highest level since 1976 which strengthens the hypothesis that growth derived from the underutilization of production factors throughout the 2000s (Bonelli and Bacha 2013). As Giambiagi and Schwartsman (2014, p. 224) observe with regards to this phenomenon:

> the growth in the period 2003-2010 was marked by the accentuated reduction of the underutilization within the economy. The utilization of industrial capacity rose 3,6 percentage points, while unemployment fell in an even more expressive manner with 5,6 percentage points. Our measure for the utilization of resources hereby rose nearly 5 percentage points in this period. These data reveal that the growth in that period was, put in colloquial terms, "easy", and based mainly on the occupation of the underutilized capital (as reported by the Level of Utilization of Installed Industrial Capacity – NUCI) and labor (estimated by the Monthly Labor Reports).

[3] Payroll loans were introduced in 2003 and permitted that workers within a labor union, but mainly public servants and retirees could gain access to discounted loans which were automatically deduced on their paycheck. The payroll loans which were nearly nonexistent in the 2000s reached 3,7% of GDP in 2010 and became one of the main channels for credit expansion.

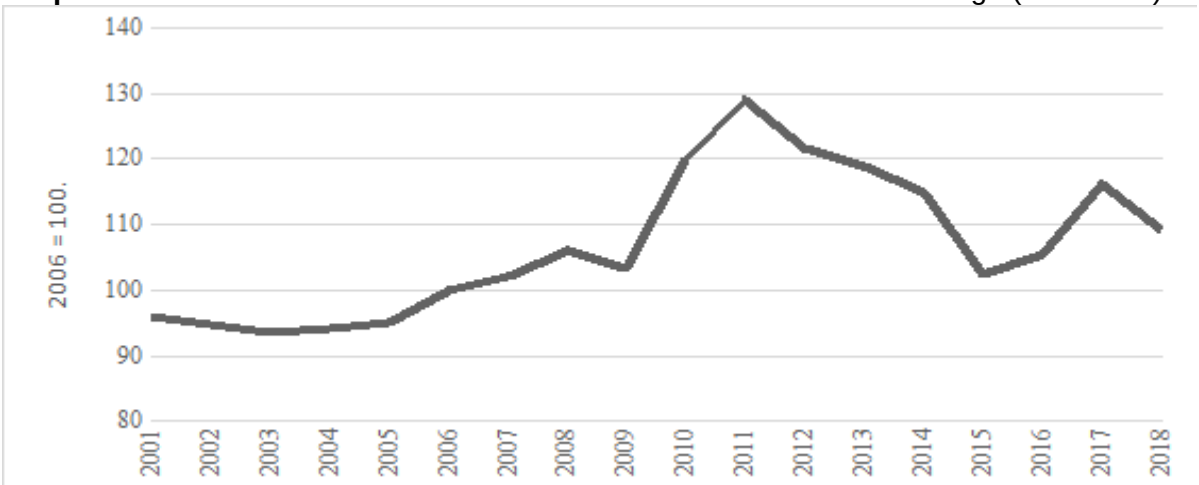
The improvement of the fiscal outlook took place mainly during the first Lula government and also created budgetary space for the expansion of policies aimed towards improving income distribution and increase the level of investments in capital stocks within the Brazilian economy. During the second Lula government (2006-2010), public investment became one of the main dynamizing factors within the Brazilian economy, not least when the economic crisis took hold in the United States and private credit plummeted. Between 2006 and 2010, driven mainly by the Program for Growth Acceleration (PAC)[4], federal investments increased at an average annual rate of 27,6% (Carvalho, 2019).

Although public investments represent a smaller share of federal public spending, the multiplier effect of this spending is significantly higher than for other sources of spending made by the Brazilian government (Alves and Rocha and Gobetti, 2019). Moreover, a strong increase in the resources destined to social programs such as Bolsa Familia and the Continued Benefits Program (BPC) which, combined with the increase of the minimum wage above the level of inflation, had an important impact in elevating domestic income, mainly for families at the base of the income distribution pyramid with a higher propensity to consume. The minimum wage, for example, underwent a real annual increase of 5,7% during the Lula governments (Souen, 2013).

Beyond the issues related to the domestic environment, the expansionary cycle of the Brazilian economy throughout the 2000s On average, the global economy underwent an annual expansion of 4,4% between 2002 and 2008, which represents a significant elevation of economic growth in comparison to earlier decades. The acceleration of economic growth and urbanization on the Asian continent – especially in China, but also to a lesser degree in India – led to a significantly higher demand for agricultural products, minerals, and energy resources. Throughout the 2000s, the beginning of a commodity super cycle could thereby be observed with strong impacts on international prices and demand (Manzi, 2016).

The Index for Terms of Trade in Brazil – a price coefficient for exports and imports – increased gradually throughout the 2000s, as can be read from Graphic 2. As a result of the demand and prices within international markets, between 2002 and 2008 Brazilian exports more than tripled, passing from approximately US$60 billion in 2002 to more than US$197 billion in 2008. In this period, foreign sales underwent an average annual growth of 21,9% mainly due to the rise in international commodity exports to China.

Grapic 2. Evolution of the Index for Terms of Trade in Brazil. Annual average (2006=100).



Source: Fundação Centro de Estudo do Comércio Exterior (2021).

[4] The PAC was launched in January 2007 and relied on investments from the federal government, companies, and public-private partnerships (PPPs). Between 2007 and 2010, the PAC investments totaled approximately R$619 billion Reais and were directed mainly towards the energy sector, urban infrastructure, and logistics.

Other aspect related to the global economy is the increase of the liquidity within global markets and the reduction of international interest rates. Upon the burst of the dot-com bubble in NASDAQ, the Federal Reserve (FED) initiated a prolonged cut in interest rates of the FED funds, which became further accentuated after the terrorist attacks on September 11, 2001. In 2003, the interest rates within the United States reached the lowest value since 1954 at a level around 1% per year. Even with the partial reduction of the FED's monetary policy from 2004, the interest rates in the United States throughout the 2000s continued well below the historical average of previous decades (Roubini and Mihn, 2010).

The IMF (2014) underlined that the relaxation of monetary policy throughout the 2000s had positive repercussions on emerging economies for three different reasons: (1) it allowed a more accentuated reduction of domestic interest rates; (2) it increased foreign investors' appetite for new investment opportunities within emerging markets, and; (3) it reduced the cost of financing for governments from the moment at which the interest rates within was below in international markets.

The New Economic Matrix (NEM) and the end of the golden age

The turbulence in financial market in the United States wielded a global impact, which also encompassed Brazil. Between September and December 2008, global industrial production fell by close to 20% (Roubini; Mihn 2010). However, in contrast to other periods of crisis and economic turbulence within the global economy – such as the crash of 1929 or the oil shocks of the 1970s – the impacts of the global crisis of 2008 were relatively limited in Brazil's economy. In 2010, the Brazilian economy had already recovered and GDP grew 7,5%.

The increased resilience of the Brazilian economy to the external shock of the global crisis of 2008 derived mainly from the improvement of the macroeconomic indicators throughout the 2000s: inflation rate was hovering close to the goal stipulated by the National Monetary Council (NMC); public finances had been balanced and the country accumulated large international reserves which considerably reduced the Brazilian economy's external vulnerability. For example, international reserves increased from approximately US$33 billion in 2000 to nearly US$193 billion in 2008 (Giambiagi et al 2011).

In any case, from the point of the global crisis of 2008 and throughout the first Rousseff government (2011-2014) the conduction of the economic policy was marked by a range of important points of inflexion. The Rousseff government When Rousseff ascended to the presidency of the republic in 2011, the scenario of the global economy was different from that observed throughout the 2000s. The deepening of the Eurozone crisis, the relatively slow recovery in the United States, the monetary policies adopted by central banks[5] in developed countries and the deceleration of the Chinese economy would require changes in the economic policies from the new government to maintain the economic growth of the 2000s. (Safatle; Borges; Oliveira, 2017).

Beyond this, the economic growth model throughout the 2000s, which was based on the expansion of domestic consumption, also began to show some initial signs of exhaustion. The Brazilian Central Bank's financial stability report from 2014 indicated that the leverage within the business sector increased rapidly from a level close to 30% of GDP closely before the global crisis of 2008, to around 50% in 2014. This amount was close to the average amongst other emerging economies and initially did not compromise the financial solvency of Brazilian companies, but it did emit a signal to the government of the need for changes within the economic policy to avoid a drastic fall in investments the following years.

The level of indebtedness of Brazilian households also showed signals of exhaustion. At the beginning of 2010s, a survey from the National Confederation of Goods, Services, and Tourism (2018) highlighted that approximately 30% of the available household income was compromised by debt payments. In addition to issues related to the exhaustion of the economic expansion model, the economic policy makers of the Dilma government also inferred the need

[5] The expansionary monetary policies in form of the quantitative easing adopted by developed countries, for example, led to an unprecedented expansion of liquidity within international financial markets contributing to the appreciation of emerging market currencies (Wolf 2014).

to reverse the process of deindustrialization of the Brazilian economy that worsened in the 2000s. Economic policies aimed at strengthening the industrial sector in Brazil were necessary to revert the process of deindustrialization.

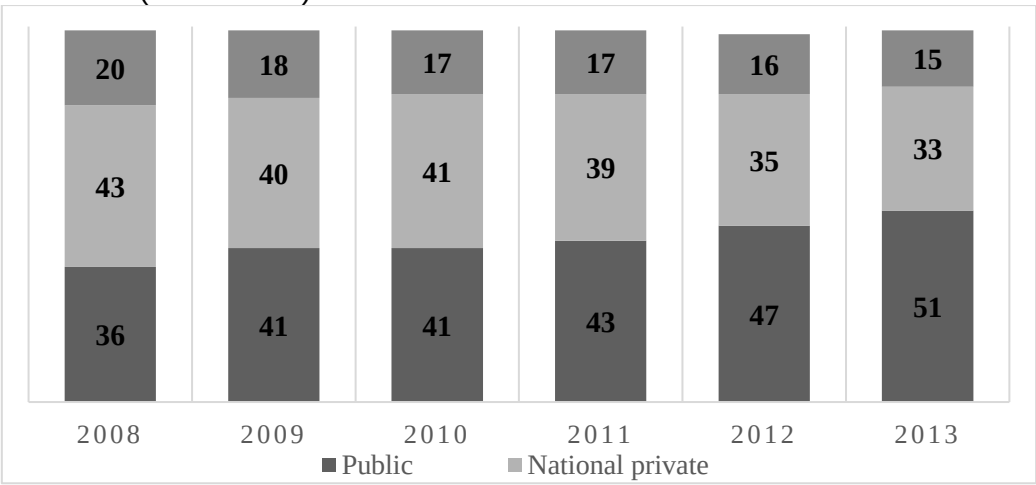
It is in this context, at the beginning of the Rousseff government an array of economic policies were implemented in her first mandate. These policies which were known as NEM can be interpreted from a series of macroeconomic policies and sectoral interventions which raise the degree of discretion and economic policy interventions within markets (Pessoa 2016).

The diagnostics of the economic policy formulators within the Rousseff government was based on three central elements: there was a need for correction of the macroeconomic aggregators (mainly interests and exchange rates[6]), expansion of subsidized credit by public banks to elevate productive investment, and the adoption of policies aimed to stimulate "strategic" sectors to increase leverage within the economy.

With regards to monetary policy, the Brazilian Central Bank undertook a series of cuts in interest rates, and between August 2011 and November 2012, reduced the SELIC[7] with 12,5% to 7,25%, which hereby reached its lowest level since the introduction of the real in 1994. The Brazilian Central Bank also began undertaking investments within currency markets through an increase in dollar-linked bonds (currency swaps) which resulted in a lower appetite for dollars on behalf of market operators (Ribeiro, 2013). In order to reduce the short-term volatility of international capital which pressed for the appreciation of the real, the Brazilian government raised the Tax on Financial Operations (IOF) to 2% on the entry of foreign capital destined towards short-term investments in fixed income and derivatives. These measures sought to reduce the appreciation of the real (Paula and Pires, 2017).

In addition to monetary politics, the credit policy towards the private sector was expanded through a higher degree of participation of public banks controlled by the Federal Government. In 2009, the Program for Investment Sustainment (PSI) was created, implying subsidized loans to the private sector aimed at the acquisition of capital goods and investments in innovative technologies, mainly through the increased use of resources from the National Economic and Social Development Bank (BNDES). These operations significantly increased the BNDES's capacity to concede loans. The bank's liabilities rose from around R$200 billion in 2007 to close to R$900 billion by 2015 (Grapic 3).

Graphic 3. Evolution of the composition of the value of credit operations through capital controls in Brazil (in % of total).



Source: Departamento Intersindical de Estatística e Estudos Socioeconômicos (2014).

[6] The reduction of interest rates had a two-folded effect: lowering the cost of credit in credit operations and diminishing the costs of rolling over the Brazilian government's public debt which would lead to less rigid fiscal policies.

[7] The SELIC is the short-term interest rate for interbank operations on the Brazilian market. The BCB defines the goal to be pursued by monetary authorities in periodical meetings.

The Rousseff administration also implemented a microeconomic reform agenda to raise the competitiveness and productivity within specific sectors. In 2011, the Greater Brazil Plan (PBM) was launched, which established a series of goals that were to be reached in the course of the following years. Amongst these, the most noticeable ones were: the expansion of the investments as part of GDP, the increase of R&D expenditures, an increase of the value-added from the industrial sector as part of GDP – mainly for the high-tech sectors –, the promotion of the densification of national production chains, a diversification of the Brazilian export matrix, and an expansion of the number of Brazilian households with access to the internet.

The institutional policies of the PMB had the industrial sector as their main focus. Mattos (2013) observes that the 287 measures within the PMB were aimed mainly towards the agro-industrial complex, oil and gas, naval technology, the automobile sector, space and airspace, capital goods, electronics, chemistry, renewable energies, mining, furniture, and the construction sector. Carvalho (2019) characterizes these policies of the NEM as the "FIESP Agenda" referring to the demands from this major pan-sectorial business organization. A resume of some major policies and goals during this period can be observed in Table 2.

Table 2. Major policies of the New Economic Matrix.

Subject	**Policies and goals**
Tax revenues	**Policies:** increase tax exemptions to specific sectors. As a result, the Federal government's tax exemptions, for example, increased from 3.3% of GDP in 2006 to 4.5% in 2015. Several sector were benefited with these measures. **Goals:** achieve new investments in sectors considered strategic to national development.
Electric sector	**Policies**: Law 12.783 of 2013 which significantly changed the sector's regulatory framework in Brazil. The government basically anticipated the renewal of public concessions for the operations of the companies within the electricity generation sector and distributors in Brazil, though, with a temporary freezing of the prices of electrical energy. **Goals:** to reduce the price of energy with the objective of control inflation and to increase competitiveness of sectors intensive in energy consumption.
Automotive sector	**Policies:** creation of the Program to Technological Innovation and the Densification of the Production Chain for Motor Vehicles (Inovar-auto). **Goals:** to increase the production of automobile parts and assembly in Brazil. Also, to encourage the installation of automobile new factories in Brazil.
Oil sector	**Policies:** revision of the regulatory framework and the national-content policies related to the exploration of oil in the pre-salt layer. **Goals:** reindustrialization and incentives to national industries of parts and components of oil and naval industries.

Source: Author's own elaboration.

Table 3. Growth Rates (% of GDP) in Brazil.

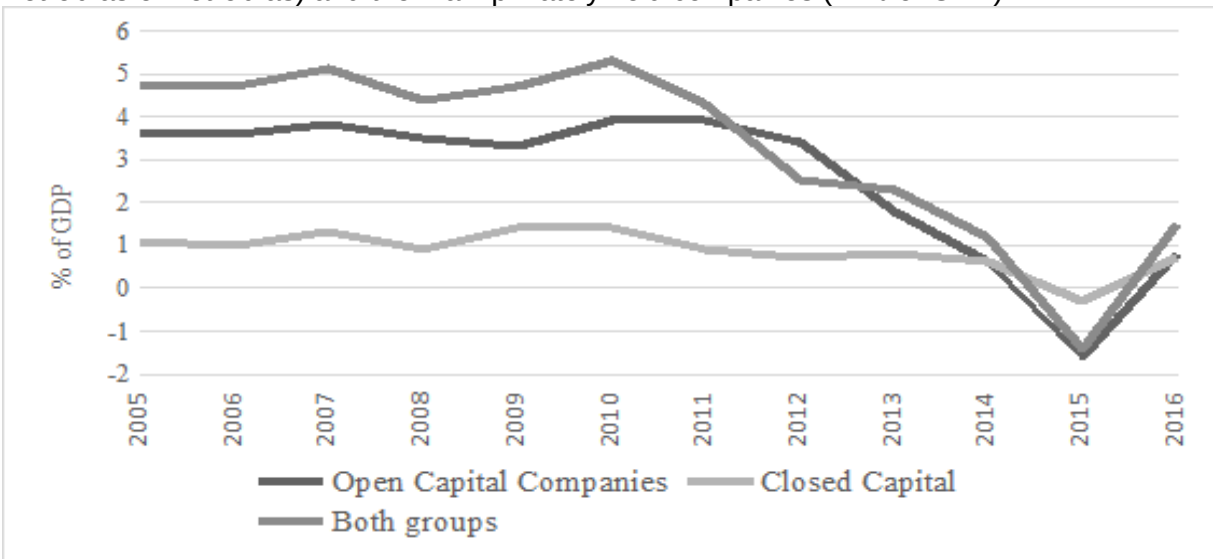
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Economic growth rate (% do GDP)	3.9	1.9	3	0.5	-3.5	-3.2	1.3

Source: IMF (2021).

Despite a relative devaluation of the Real compared to the main international currencies and a rise in growth and investment rates, between 2011 and 2013, an increasing deceleration of the Brazilian economy can be observed, which continued throughout the 2010s as can be read from Table 3. The growth rhythm of household consumption was reduced from an average expansion of 5,8% during the second Lula government (2007-2010) to 3,5% during the first Rousseff administration (2011-2014) (Carvalho 2019). Investment made by companies

began to decline throughout the first half of the 2010s due to the negative perspectives and the deterioration of balance sheets of major Brazilian companies (Graphic 4)[8].

Graphic 4. Evolution of net profits of publicly-listed companies (with Vale do Rio Doce, Petrobras e Eletrobrás) and the main privately held companies (in % of GDP).



Source: Centro de Estudos de Mercado de Capitais (2017).

The inflation start to increase and only did not surpass the CMN inflation target due to the repression of energy and electricity tariffs by Petrobras to control fuel prices within the domestic market. Public finances deteriorated rapidly as economic policies resulted in a fall in tax collection and public expenditures continued to grow above GDP. The Federal Government's primary surplus declined from 2% of GDP in 2011, to 1,4% in 2012, 1,1% in 2013, and turned into a deficit of 0,5% in 2014.

The government began to use artificial mechanisms to improve the fiscal accounts, the so-called "pedaladas fiscais" which subsequently would be used as the juridical argument for the impeachment of Dilma Rousseff. Finally, the external environment deteriorated gradually as the deceleration of the Chinese economy resulted in a lower appetite for international commodities. As a reflection of this, between 2014 and 2016, Brazilian exports declined around 30%, with particular emphasis on the reduction of commodities income (Borges, 2015; Gomes da Silva; Fishlow, 2021).

In this context, the expansionary economic cycle from the early economic recovery in the post-crisis of 2008 reached its end. The Committee for the Dating of Economic Cycles (CODACE) of the Fundação Getúlio Vargas (FGV) concluded that the Brazilian economy already had entered an economic recession from the first quarter of 2014, mainly due to the strong decline in investment rates. From 2015, a stronger retraction of domestic consumption took place, and government spending remained relatively stable (FGV, 2017).

The deteriorating fiscal and economic outlook resulted in a downgrading of Brazil's creditworthiness by Standand and Poors's to the level of "speculative" and the country lost the investment grade which it had gained by this same agency during the Lula government in 2008. In fact, upon a period of relative reduction in the 2000s, the gross public debt increased from 61.1% in 2014 to 83.1% towards the end of 2017. On the monetary side, the Central Bank continued to raise interest rates as it had done from the end of 2014 due to the inflationary pressures, but at the same time reduced even more the consumption and investment rates.

[8] The sample from the Centre for Studies in Capital Markets (CEMEC) is composed of 319 publicly listed companies and privately-held 421 companies. In the sample banks and financial institutions are excluded. The sample from these companies represent approximately 30% of the value-added to GDP.

The strong economic deceleration from 2015 is also a result of political instability. The Lava Jato police operation which gained much public attention during the presidential campaign of 2014 implicated a wide array of politicians and major companies in a corruption scandal. Even with the reelection for a second term in 2014, the Rousseff's government was politically exhausted due to the scandals deriving from the Lava Jato operation and the beginning. In addition to the political repercussions, the Lava Jato exposed the financial fragilities of petrobras which revised its own financial statements and recorded billionaire losses at the end of 201 with negative impacts. As of 2015, the company has significantly reduced investments with negative impacts to the economy. At the end of 2015, impeachment proceedings were initiated, which led to the removal of Rousseff in 2016. At that moment, the economy was already in recession, which fed back on the political crisis, leading to an even higher degree of instability and insecurity amongst economic agents.

What went wrong? Macroeconomy and deindustrialization within the New Developmentalist Perspective

The Brazilian crisis that began in 2014 became one of the deepest Brazilian recessions since the beginning of the 20th century. Between 2014 and 2016, GDP per capita shrank by around 10%. The economic recession lasted until early 2017, when GDP began to grow, although at a slower pace compared to other periods of the post-economic recession. Given this depth, the crisis generated hypotheses to explain the performance of the Brazilian economy in this period.

One of the most important subjects is related to the external impacts on the Brazilian economy due to the end of the supercycle of international commodities. As of the second half of 2014, there was a sharp reduction in international prices of commodities which would be an important fact to understand the Brazilian crisis. To measure the external impacts on the economic performance of countries, Matos (2016) built an Index of External Vulnerability. The index is composed of several indicators that measure: trade openness, financial linkage, terms of trade, % of exports to the Euro zone, United States and China and the percentage of net exports of commodities. The results showed that Brazil occupies the 24th position in the ranking (First position is less vulnerable to external shocks), which indicates an intermediate position (the index is made of 54 countries). Brazil is more vulnerable in items that measure commodity exports and the terms of trade. However, the country has a low level of commercial and financial openness, which results in less vulnerability to external shocks.

Table 3. Average rate of GDP growth (%) in selected countries, group of selected countries (world and developing countries) and Latin America countries position in the Index of External Vulnerability (IEV).

Country	2001-2008 (%)	2009-2013 (%)	2014-2016 (%)	Position (IEV)
World	4.1	3,3	3,3	-
Developing countries	6.4	5.3	4.4	-
Mexico	1.8	1.6	2.8	6
Dominican Republic	4.6	3,9	6.8	7
Colombia	4.3	4,2	3.1	21
Brazil	**3.6**	**3.2**	**-2**	**24**
Jamaica	1.3	-0.7	0.9	25
Costa Rica	4.9	3.3	3.7	27
Uruguay	2.4	5	1.8	30
Argentina	6.7	2.3	-0.6	35
Venezuela	4.8	1.2	-9	36
Peru	5.7	5.5	3.1	38
Chile	4.7	4	1.8	48

Source: Author's elaboration according to FMI (2022) and Matos (2016).

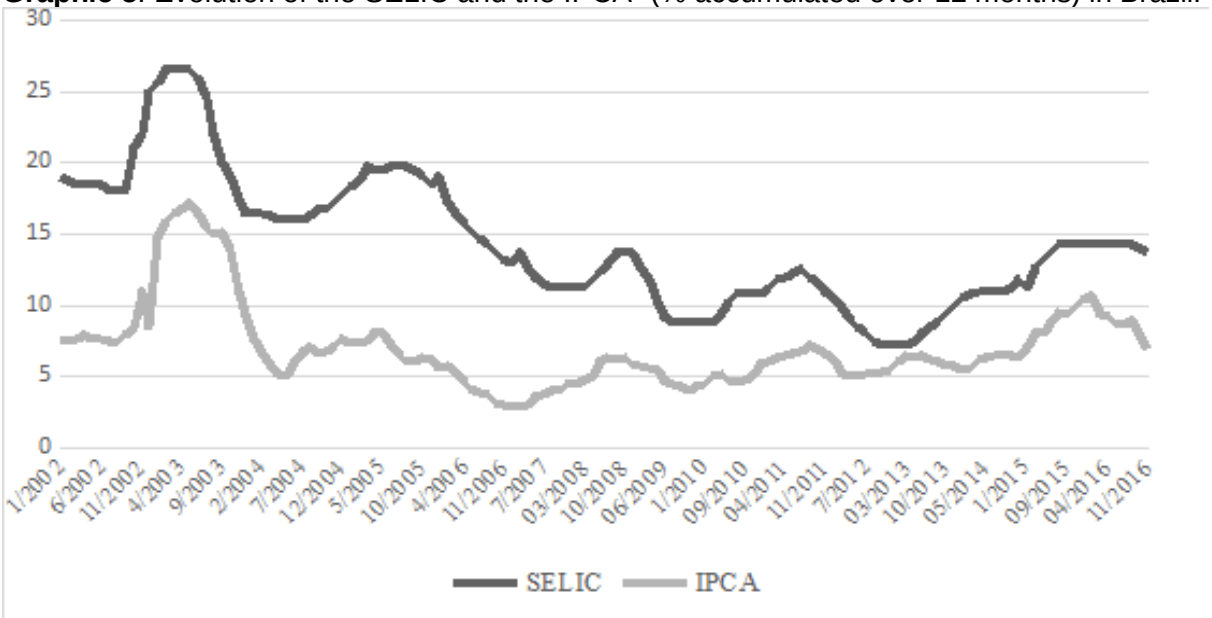
The results in Table 3 indicate that emerging countries registered an acceleration of

economic growth rates mainly during the 2000s. After the outbreak of the 2008 global crisis, there was a reduction in the pace of economic growth both in the global economy and in emerging. In the case of Latin America, the largest economies of the region (with the exception of Mexico) registered an acceleration of growth rates throughout the 2000s and a relative deceleration in the first years after the outbreak of the 2008 global crisis (2009 – 2013).

It is from the mid-2010s that economic performance becomes more heterogeneous in the region. In Chile, Peru, Colombia, the reduction in the GDP growth rate (2014 - 2016) follows, to a certain extent, the slowdown observed in the emerging world. However, another group of countries represented by Argentina, Brazil and Venezuela are experiencing a strong economic slowdown and recession. In the case of Venezuela, the magnitude of the recession is unprecedented in times of peace for a Latin American country and revels more political problems than economic issues. In addition, the IEV reveals that Brazil is a country that has a lower level of external vulnerability when compared to most Latin American economies. Thus, the data suggest that the economic recession in Brazil is primarily linked to endogenous variables of the Brazilian economy itself.

From the ND perspective the experience of mainly Southeast Asian countries has demonstrated the importance of the adoption of macroeconomic policies oriented towards avoiding the process of premature deindustrialization and the risks associated with the middle-income trap. Instead of adopting economic policies aimed at inflation control (a Brazil case in the 1990s), which simultaneously would maintain a model focused on promoting competitiveness and integration within global production chains, the Brazilian macroeconomic policy essentially became an instrument for inflation control. The dimension related to external competitiveness – through exchange and interest rates – became a secondary objective in the economic policy formulation after the stabilization of the real.

Graphic 5. Evolution of the SELIC and the IPCA[9] (% accumulated over 12 months) in Brazil.



Source: Banco Central do Brasil (2021) and Instituto de Pesquisa Econômica Aplicada (2021).

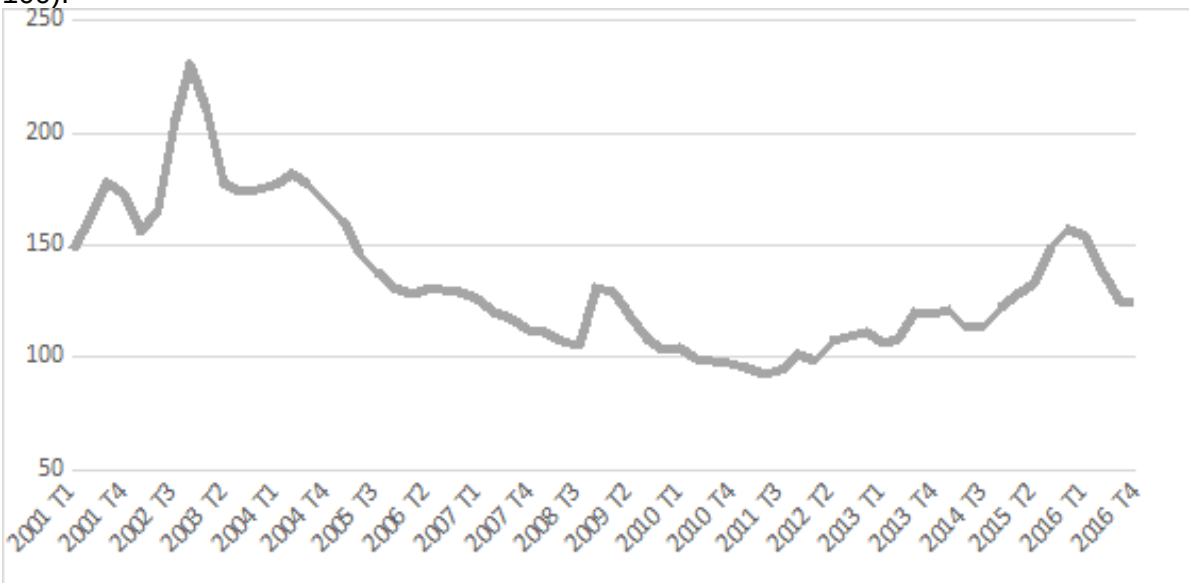
The NEM attempt to correct the distortions specially promoting the external competitiveness of the Brazilian economy through reduction of the interest rates and exchange rate. For Rousseff's government, the improvement of the macroeconomic outlook and the control of the inflation rate close to the goal established by the BCB throughout the 2000s

[9] The Índice de Preço ao Consumidor Amplo (IPCA) is the official index used to measure inflation in Brazil.

permitted a reduction of the real interests rates In the early 2010s (Graphic 5). Also, with the exhaustion of the model based on expansion of domestic consumption already in the first part of the 2010s, the monetary authorities sought to expand and stimulate growth mainly by raising the investment rate through a more significant reduction of interest rates to spur consumption and productive investments.

In this context, the monetary policy of the NEM sought to combine three objectives: complying with inflation targets, stimulating investment, and promoting external competitiveness through currency devaluation. When inflation proved to be less intensive, the government sought to attenuate the loss of external competitiveness through monetary policy interventions which resulted in currency devaluation. At the same time, signals of an increase in inflation rates led the government to use monetary policy (through interest rates) to reduce domestic consumption and decelerate the Brazilian economy. In any case, fiscal policy became excessively expansive at a moment in which the economy operated close to full employment, which thereby resulted only in inflationary pressures and not in economic growth (Oreiro, 2015).

Graphic 6. Quarterly evolution of the effective exchange rate for Brazilian exports (2011 = 100).



Source: Instituto de Pesquisa Econômica Aplicada (2021).

In practice, macroeconomic policies in line with the NEM proved to be contradictory as economic measures at certain moments stimulated exchange rate devaluation, while at others, monetary policy was used to promote equilibrium between the supply and demand. Even though a certain degree of devaluation of the real took place from 2012, this devaluation was not sufficient to revert the more persistent situation of appreciation of the real from the beginning of the 2000s (Graphic 6)[10]. The exchange rate was only devalued again at a moment of economic recession when the economy already displayed deep macroeconomic imbalances (Marconi, 2017; Oreiro, 2015).

In this situation, the more persistent reduction of interest rates, which would be the main inducer meant to spur investments, remained at a low level for a period much too short to generate long-term changes. With the growth of inflation, the government initiated a new cycle

[10] The effective exchange rate for exports is calculated from the arithmetic average of the exchange rate in Brazil in relation to twenty four trade partners. These values are also weighted by the evolution of the inflation rate (Índice Nacional de Preços ao Consumidor – INPC) and by the price index from trade partners. Values above 100 on this index point towards a devaluation in relation to the baseline year (2011). With regards to the methodology of the application see Instituto de Pesquisa Econômica Aplicada (2020).

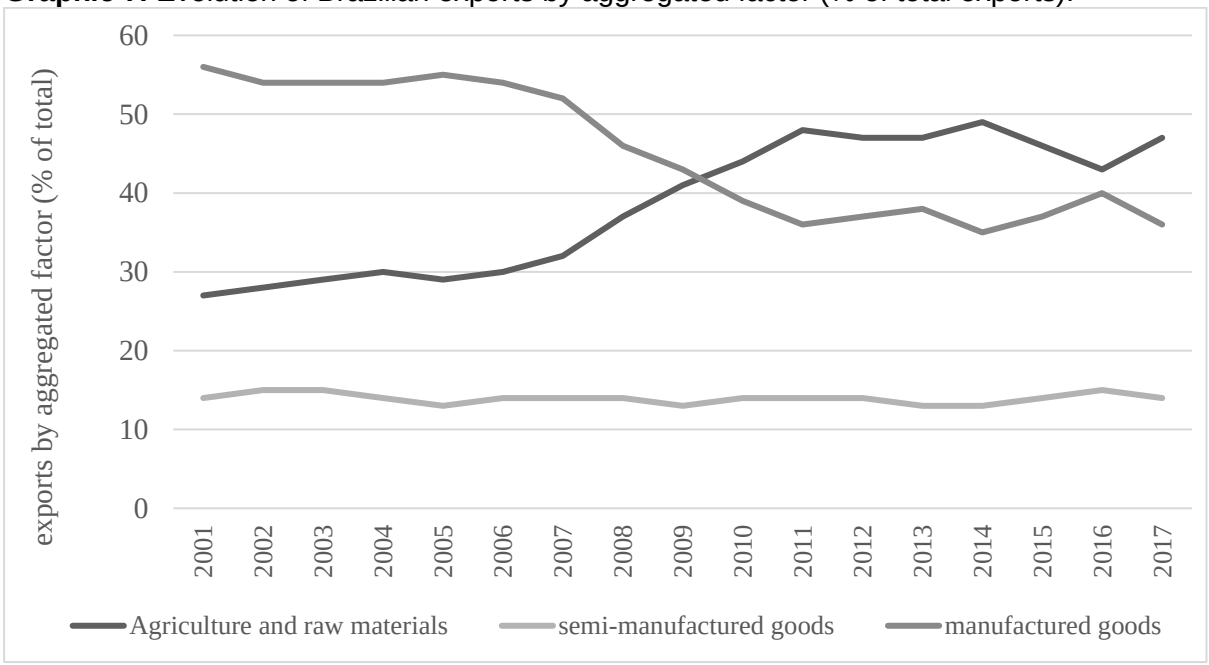
of interest rate appreciation from late 2013, thus halting the growth in private investments from the point at which the investment in SELIC-indexed bonds again became more profitable. In practice, there was an inherent contradiction in the NEM which is resumed in the words of Oreiro (2015, p. 123):

> The Dilma Rousseff government's macroeconomic policy was a sort of "airport windsosck", at certain points adopting measures which accelerated the normal exchange rate devaluation in order to recover the Brazilian economy's external competitiveness; and suddenly, skipping these measures in order to reduce inflationary pressures deriving from the increase in wages at a rhythm above the level of productivity growth. The result of this erratic character of the macroeconomic policy was the sustaining of exchange rate overvaluation and of the elevated real exchange rate, or rather, the perpetuation of the "exchange rate-interest rate trap".

Apart from the "exchange rate – Interest rate" trap, the loss of external competitiveness is related to the dissociation between the elevation of salaries and the evolution of productivity indicators of the Brazilian workforce (Parnes and Hartung, 2013). As the economy entered a new cycle of expansion during the 2000s, the reduction of unemployment rates and the growth of salaries above productivity resulted in a loss of productivity of labor and capital. This phenomenon resulted in a decline in the returns on investments and a compression of profits (Figure 4) and a loss of competitiveness, mainly on behalf of companies exposed to foreign competition. In real terms, wages reached the highest level in 2014 (Marconi, 2017).

In this way, the politics of NEM did not alter the tendency of loss of external competitiveness of Brazilian economy. The tendency of stagnation and decline were most accentuated in the 2010s even with the economic policy under the NEM trying to stimulate the industrial sector. Constant prices and participation of the manufacturing sector as part of Brazilian GDP was reduced from approximately 18,7% in the 1980s to 10,5% in 2015. Consequently, the share of the workforce employed within the manufacturing sector was reduced from 18,3% in 2001 to 15,4% in 2017 (Federação das Indústrias do Estado de São Paulo, 2019).

Graphic 7. Evolution of Brazilian exports by aggregated factor (% of total exports).



Source: Author's calculations based on Ministério da Indústria, Desenvolvimento e Comércio Exterior (2021).

This process can also be measured through the indicators of foreign trade illustrated in Graphic 7. In a sense, the increase in the share of raw materials and agricultural goods in the export basket is an expected phenomenon due to the super cycle of commodities in the 2000s. However, there was also an increase in imports of manufactured goods during this period, which corroborates the prospect of premature deindustrialization of the Brazilian economy. (Rodrik 2015).The data from the National Confederation of Industry (CNI) explain this phenomenon with point of departure in the import coefficients of the manufacturing sector[11] which increased from an annual average level of 15,5% (2003-2010) to 19,9% (2011-2016). In other words, the industrial sector's loss of competitiveness implied a loss of domestic market share, which converges with arguments highlighting the premature deindustrialization of the Brazilian economy.

In the Brazilian case, the expansion of the service sector throughout the 2000s occurred in sub-sectors in which productivity gains are limited and which are marked by an intrinsically low level of productivity. In other words, contrary to what can be observed in the case of developed countries, where deindustrialization was accompanied by the expansion of modern services, the expansion of the service sector in Brazil occurred in low jobs skills and productivity (Marconi, 2015). These are the cases with construction, retail, transport and food production, as well as general services which also accounted for the largest share of the generation of new jobs throughout the 2000s. According to Gala (2017, p. 100):

> The vast majority of jobs generated in Brazil in recent years have been in sectors with low intrinsic productivity: construction, unsophisticated services (stores, restaurant, hairdressers, medical services, call centers, telecom), transport services (bus drivers, trucks, aviation pilots), among others. The credit boom, the commodity super cycle and domestic consumption, observed in Brazil, stimulated sectors with low potential gains in productivity and discouraged sectors potentially rich in economies of scale and increasing returns, complex manufactures.

From the perspective of ND theory, deindustrialization is mainly a reflection of imbalances in macroeconomic prices, specially: exchange rate, interest rate, and wage growth above productivity. However, dynamics related to only the evolution of macroeconomic indicators are insufficient to explain the regression of Brazilian industry in recent decades.

As Pastore (2021) observes, the use of the exchange rate as an instrument to boost the competitiveness of the Brazilian economy is inspired by the countries of Southeast Asia that recorded strong economic acceleration from the expansion of the industrial sector. However, evidence points out that success in accelerating the industrialization process in these countries is largely linked to the availability of savings, which is reflected in a higher rate of investment. That is, even if the undervalued exchange rate may be an important variable to explain the growth of industry in these countries, it is necessary to observe the existence of specificities (high savings rate) and macroeconomic policies, for example, that maintain wage growth at a level similar to the increase in labor productivity.

In addition to questions related to macroeconomic imbalances, the Brazilian recession also stems from structural problems mainly linked to the stagnation of productivity indicators. Negri; Cavalcante (2014) that the most important factor to explain the stagnation of productivity in Brazil is the evolution of the indicators that measure intra sectoral productivity. That is, the main determinant that explains the performance of Brazilian productivity is just not related to migration between sectors (agriculture, services and industry) as highlighted mostly by ND theorists. In Squeff; Negri (2014, p. 277) words:

> The productivity of the Brazilian economy grew little, not because the participation of less productive sectors in the productive structure increased, but rather because productivity within the economic sectors grew not much. It appears, therefore, that the low productivity growth of the Brazilian economy, in the recent period, is associated with phenomena other than the structural

[11] The import coefficient for the manufacturing sector measures the percentage of domestic consumption of industrial goods which is imported.

> change that took place. This does not mean, however, that the productive structure does not matter from the point of view of efficiency and growth, on the contrary. This simply means that this structural change was not responsible for the low productivity growth. The causes for the low dynamism of the Brazilian economy go far beyond the simple industry versus services dichotomy.

In this way, even if the change in the productive structure is considered an important factor to understand the stagnation of productivity and economic growth indicators throughout the 2010s, several other microeconomic factors seem to be essential to understand the process of deindustrialization in Brazil. The distortions caused by taxation on the industrial sector, the business environment and problems related to the qualification of the workforce are important elements that ND theory should include in their research agenda to better understand Brazil's economy (Bonelli; Veloso; Pinheiro, 2017).

Conclusion

Understanding the slowdown of the Brazilian economy throughout the 2010s and the deepening of the economic recession in 2015 and 2016 have become central issues in the economic debate in Brazil. During the 2000s, Brazil registered an economic acceleration of the growth rates anchored in domestic consumption growth and in the context of the commodity supercycle. A first relevant aspect is to analyze to what extent the impacts related to the end of the commodities supercycle and the slowdown of the global economy are fundamental variables to explain sudden change of Brazil performance from on the 2010s. The results indicate that external factors, despite contributing to the Brazilian slowdown, are insufficient to explain the magnitude of one of the worst recessions since the beginning of the 20th century.

In the early 2010s, the Brazilian government implemented a series of economic policies that were called NEM to reverse the process of deindustrialization of the Brazilian economy and boost a new cycle of economic expansion after the exhaustion of the model based on the expansion of domestic consumption of the 2000s. These policies sought to foster competitiveness of the industry and raise investment rates in the Brazilian economy. However, the implementation of NEM policies proved to be contradictory throughout the first half of the 2010s and resulted in the emergence of macroeconomic imbalances.

Despite the theoretical contributions of the ND to the Brazilian crisis, the perspective of low economic growth in Brazil in the long term is related to other economic indicators that go far beyond the productive structure or even the deindustrialization process. These issues demonstrate that ND theorists have a challenge to broaden the research agenda to incorporate how themes related to productivity are also important to understand the recent scenario of stagnation of the Brazilian economy.

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