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July, 2019

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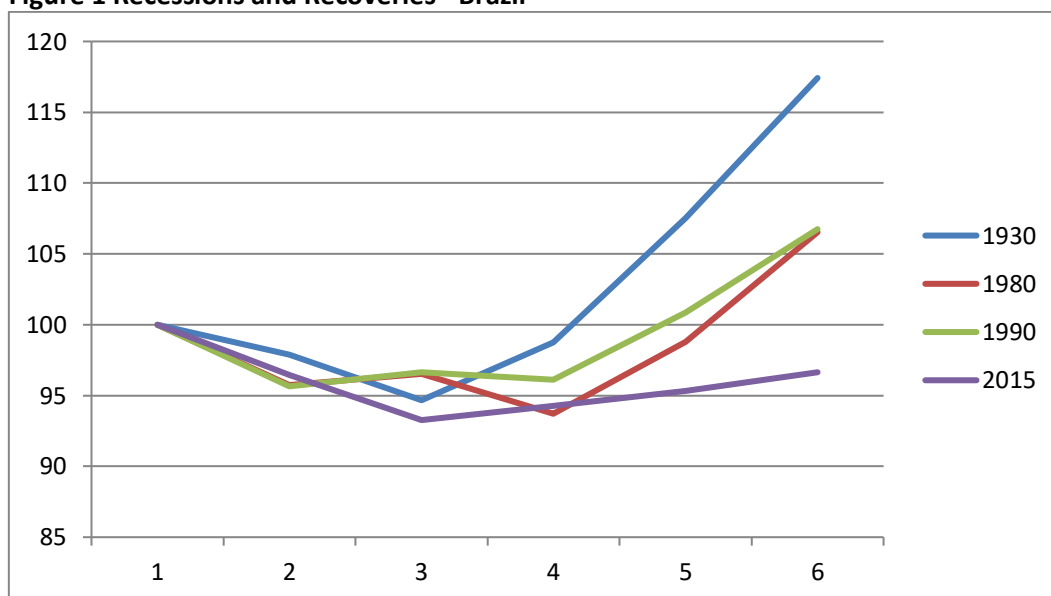
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1 Introduction

The economic slump that accumulated in 2015 and 2016 a 6.7 % GDP fall was the worst in Brazil’s history (and comparable to international episodes of recession during wartime and other unexpected shocks). However, more than just the worst slump, two years after the end of recession one might say that the country is going through the weakest recovery in its history (Figure 1). Even in moments, when the economy was under serious external constraint, or lacking external financing at all, the recoveries after the economic downturns were faster.

Figure 1 Recessions and Recoveries - Brazil



Source: IBGE, 2019 (estimated)

It is well established that the heterodox tradition in Latin America stresses the external constraint as the main explanation for the limits of growth and balance of payments crisis the reason for domestic economic recessions². Brazil’s fast growth developmentalist

² Prebisch (1962) seminal paper on Latin America’s development deals exactly with how the economies of this continent should, or could, overcome the external constraint in order to achieve higher rates of growth, or pursue a catching up process with respect to developed countries. The influential contribution by Bertola and Ocampo (2012) affirms that “...policy efforts to manage the balance of payments as a means of coping with aggregate external supply shocks have played a much more important countercyclical role in the Latin American economies, where macroeconomic disturbances were primarily triggered by events outside the region.”(p. 153)

period (1950-1980) was abruptly interrupted by the international crisis that followed Volker's interest rate hike. The two consequences of the world's credit crunch to developing countries was the drastic reduction of average rate of growth and an acceleration of inflation rates. Whilst the return of Brazil (and the most part of Latin American Countries) to the voluntary international capital market in the nineties was the key element to stabilize the economy, in terms of rates of growth the economy registered almost the same average GDP growth³ of the previous decade. As shown by Medeiros (2008), during the 1990's some episodes of balance of payment crisis (Mexico's in 1994, the Asian in 1997, Russia's in 1998 and Argentina's 2001) had a contagion effect with negative impact on Brazil's and other Latin American countries external financing, contributing for its low average growth. It is worth saying that despite the external constraint and international crisis in the 1990s, Brazil had as well "comfortable" years in terms of balance of payments and even so presented a modest growth, which reflected the change of general policy orientation that was primarily pro-growth (or developmentalist policies) and became "stability" oriented (or the neoliberal order).

Historically this approach has a good fit to the Brazilian reality but in the recent period it seems to have lost explanatory power to describe the recent crisis. In the last two decades, the external conditions changed dramatically, relaxing the external constrain to most part of Latin American countries (with the exception of 2009 during the international crisis). Despite the "comfortable" external conditions, the Brazilian short "golden period" in the first decade of 2000 was suddenly interrupted⁴. Therefore, we call it a self-inflicted crisis. We suggest that the short golden age during Lula's years should be considered as a brief interruption, in some policy areas, of the neoliberal agenda started in the 1990s, changes that were progressively replaced by profit led policies after 2011.

³ It is important to stress that the external conditions were not the same throughout this span of time as a whole. From 1982 to 1991 there was severe limitation of voluntarily financing making the external constraint strongly binding. After the return to the voluntary external capital market, Latin American countries faced another kind of external fragility, due to a fast integration to international capital markets.

⁴ For the description and original period classification, see Serrano and Summa (2018).

According to this general logic, we argue that the recent economic crisis and the very slowly recovery in the last three years are the result of a profit led agenda⁵ (between 2011 and 2014) and a neoliberal “revival”⁶ after 2015, particularly in a radical fashion, that undermined the public expenditure, specifically through social transfers, which was key to boost consumption and Brazilian growth since the 1990s (and specially in Lula’s years). In particular, this article will try to show how this adherence to a neoliberal and conservative order, and after 2016 the attempt to deepen that orientation, as well as to destroy a few unorthodox measures implemented by Lula’s government, is the main explanation for both the 2015 crisis and the slow recovery after 2017. Following this broad interpretation, Bastos and Aidar (2018), suggested that the economy found a “floor” in 2017 after two years of recession, mainly because the institutional framework built during the XXth that has been kept in place, up to 2016. However, it is remarkable that in the beginning of 2016 some of these institutions have been challenged by a radicalization of liberal reforms, with short run macroeconomic impacts and possibly drastic long run ones. One question that arises from these changes, as well as the rate of economic growth in 2018, almost the same as in 2017 (1,1%): is the 2017 floor a new ceiling?

This broad picture and question translate, in macroeconomic terms through this article, in an effort to find the pattern, or pattern change, for the trends of the main effective demand components. Specifically following a super multiplier approach (Serrano, 1995), in which productive capacity investment is induced, we will be particularly interested in analyzing autonomous expenditure that not only are the elements that explain a faster or slower recovery from a slump, but also determines the long term rate of growth.

This paper is divided in five sections after this introduction. The first section briefly describes the Brazilian short golden age in Lula’s years and the change brought by Dilmas’s government. The next section then presents the neoliberal U-turn (Melin e Serrano, 2015) firstly introduced by Dilma’s second term and consolidated after the

⁵ By this term we mean a set of measures that had as the main target to favor profit rates through several policy measures in order to stimulate private investment, especially industrial investment. The debate about this point will be developed in the next section.

⁶ For the original claim, see Serrano and Melin (2016).

Brazilian impeachment in 2016. The third section explain why despite the contractionary policies the economic recession hit its floor. In the fourth section, we show why this floor may have become the Brazilian ceiling and we try to place our discussion in a historical perspective in terms of Brazil's economic development. The final section concludes. After the final remarks there are two annexes that exploit two relevant topics to the understanding of both the economic performance during the period analyzed and the short and medium terms perspectives. The first discusses the low, but persistent, wage inflation of the period and the second shows succinctly the lackluster evolution of industrial modernization and then manufactured goods international trade.

2 The short golden age and Dilma Rousseff's 2011 adjustment and the Profit Led agenda

It is widely known that the external conditions changed in the 2000s, relaxing the external constraint for most part of the periphery. Among the reasons for this change, we can point the sharp decrease in interest rates in advanced economies (especially after the financial crisis), the Chinese commodities imports, the commodity price boom and the accumulation of foreign exchange in the developing world (for a detailed analysis of this trend, see Freitas, Serrano and Medeiros, 2015). The new external conditions allowed the developing economies to attain a higher growth trend compared to advanced economies.

Brazil's economy experienced faster growth and, specifically between 2006 and 2010, a combination of positive results in terms of income distribution and economic growth. Serrano and Summa (2012) describes the policy mix that caused this upsurge in growth. In particular, they highlight the growth in the real minimum wage, which has an important role as a floor to social transfers in Brazil, the increase in public investments and the credit stimulus either by monetary policy, or a more aggressive utilization of public banks and lax credit regulations that stimulated consumer, mortgage and investment borrowing. The average annual growth rate in this period was 4.5%, compared to an average of 1.8% in the 1990s.

Table 1 – Average rate of growth – Brazil

1990-99	2000-05	2006-10	2011-14	2015-2018
1.7%	3.1%	4.5%	2.3%	-1.2%

Source: National Accounts - IBGE

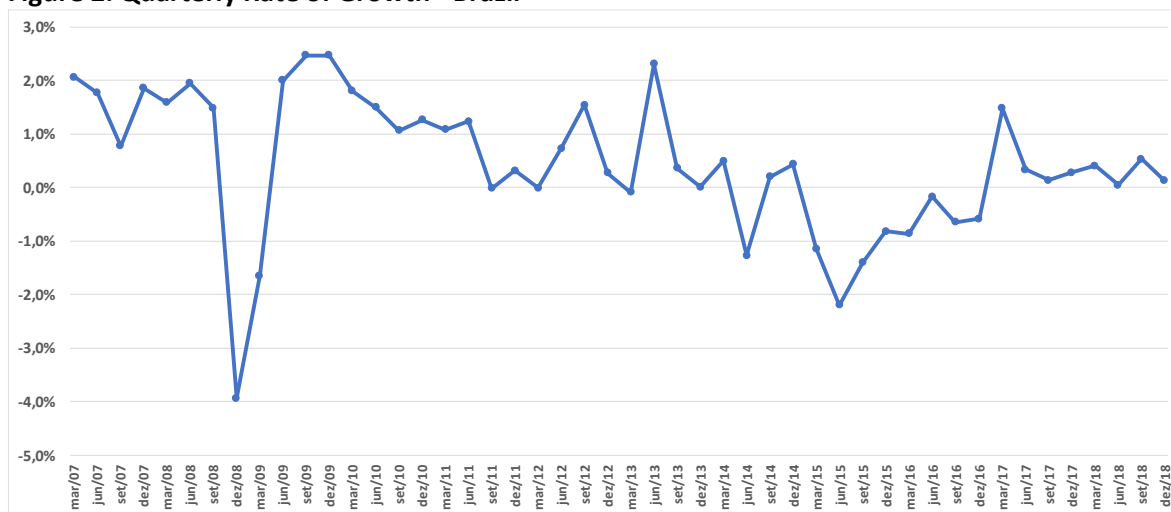
As we can see from Table 1, the brief period of growth turned into a deep recession from 2015 on. However, the roots of the 2015 crisis can be found four years before. They were sowed by the initial policies adopted in 2011 by the, then, elected President Dilma Rousseff. According to the new government's policy makers the economy was overheated, or near full employment, and needed several austerity measures to return to a more sustainable path. This austerity turn encompassed the traditional fiscal and monetary measures. At the fiscal front the Federal Government increased its primary fiscal surplus from 3.1 to 3.74% of GDP, cutting total expenditures in 2.8%, and cut public investment by 11%. In terms of monetary policy not only the basic interest rate

went from 8.5% to 12.5%. There was also another monetary restrictive initiative, called “macro-prudential” measures: an increase in banks compulsory deposits, increase in minimum downpayments for long terms loans, increase of minimum monthly payments for credit card debts and doubled the tax on consumers loans. Therefore, both the fiscal and credit drivers of previous growth were discontinued by the Brazilian government.

There are two important comments to be made about those measures before we examine their consequences on aggregate demand and the economic situation at the end of President Rousseff’s first term.

First it might reflect a mistake, or a misunderstanding of the real economic situation at the time. If one look at the rate of growth of 2010, 7%, it seems much higher than the average historical rate of growth, and even above the higher average registered through the Lula’s years. However, this number reflects a statistical effect due to the 2008 crisis. Figure 2 shows that though 2010 the economy was already decelerating after a strong rebound in 2009 from the downturn after September 2008. The austerity measures taken by Dilma’s government worked the way they were designed for. By the end of 2011 the economy was almost stagnant.

Figure 2: Quarterly Rate of Growth - Brazil



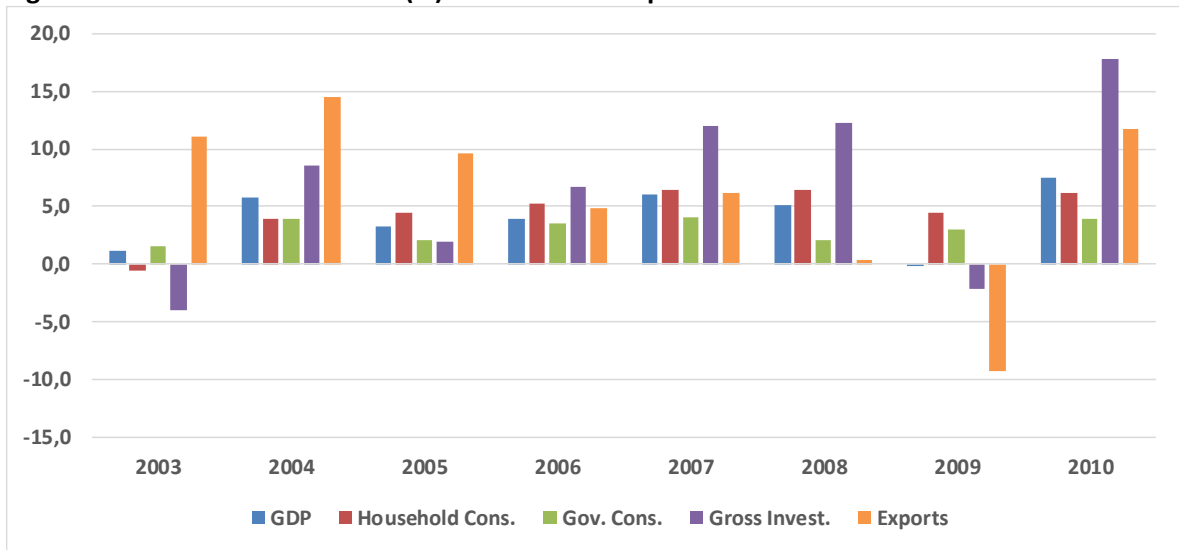
Source: National Accounts – IBGE

A second comment has a more general and theoretical, or of political economy nature. The economic growth during Lula's years, and more specifically his second term, is sometimes considered "wage led" or "driven by consumption" which somehow was interpreted as detrimental to the long-term prospects of sustainable growth⁷ driven by private investments. However, as expected by any economist that adopts the hypothesis of induced investment, translated in macroeconomic terms by the accelerator mechanism, the faster growth had the effect to accelerate the investment that grew through this period at a higher average rate than consumption (Figure 3)⁸. In fact the misperception that the positive effect of a better income distribution, lower unemployment rate and formalization of labor force as well as the greater and access to credit as something negative in the long run, reflected a larger consensus among the ruling class against any advance of workers and lower middle class. Besides, it is worth noting, public investment was also raised either by federal government, states, municipalities and, more importantly, state-owned companies (namely Petrobras).

⁷ de Carvalho and Rugitsky (2015) mentions that there was a "... widely held view that that the recent [between 2004 and 2010] Brazilian growth model was consumption-led" (p. 13). They also stress the critical position of neo developmentalist authors: "According to these authors, the economic downturn post-2011 has signaled the failure of the wage-led, or the consumption led, growth model." (p. 15)

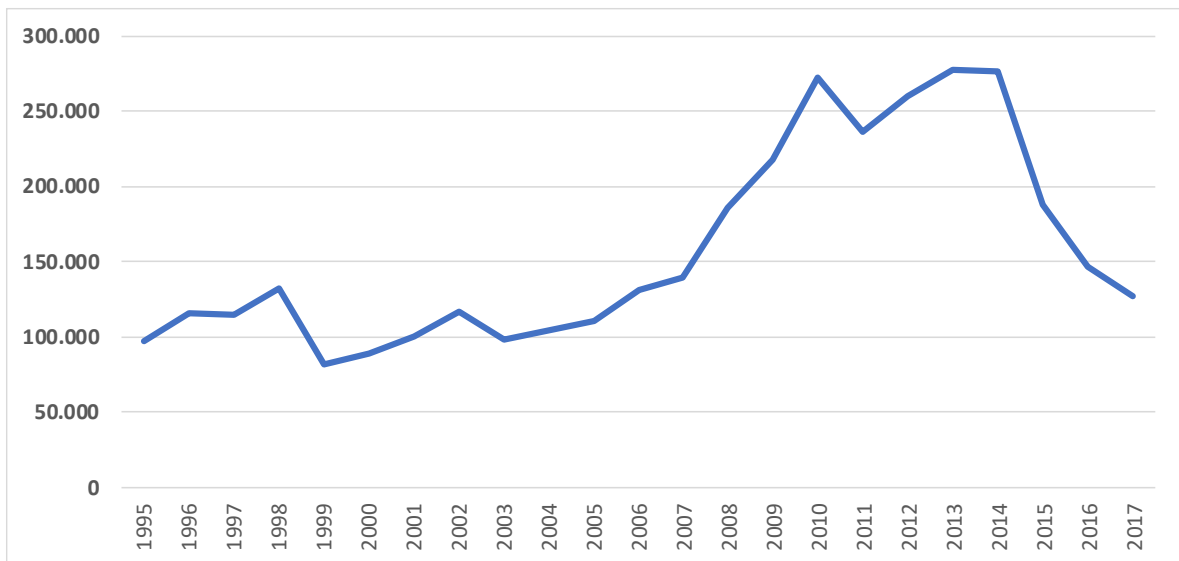
⁸ It is worth mentioning that the data on investments here considered includes both capacity generator investment and non capacity investment, such as public investments, residential investments, etc.

Figure 3: Annual Rate of Growth (%) of Demand Components - Brazil



Source: National Account – IBGE

Figure 4: Public Investments (constant prices – R\$ millions) - Brazil



Source: Independent Fiscal Institution – Brazilian Senate

Irrespective of the lack of empirical support for the “excess consumption” hypothesis, in policy terms it was the basis for a re-orientation through president Rousseff’s second term toward a more “profit led” policy orientation. This new regime would increase profits by giving tax incentives to capital and, at least theoretically, increase exporters’ profits by devaluing the exchange rate. This agenda also implied in a contraction of fiscal expenditure, that according to the government would allow a decrease in interest rates.

The average rate of growth of Rousseff's first term against Lula's two terms is clear proof of how mistaken was this strategy (Table 1). Let's take a bird's eye view of this period's economic record and show how it was used to "justify" the even more radical austerity measures in 2015.

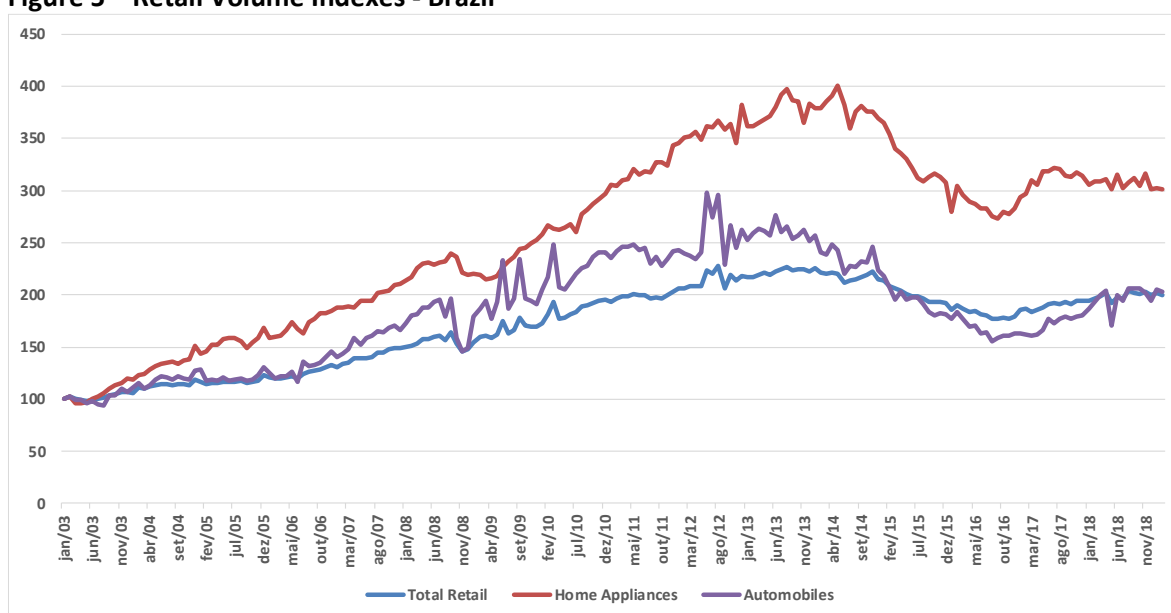
As mentioned before, the austerity measures implemented in 2011 were effective, to the point that in the end of 2011 the government was already reversing some of these measures to try to revive the economy. The fiscal policy became more expansionist, the rate of interest was sharply reduced in one year from 12.5% to 7.25% (the sharpest reduction ever seen), and the exchange rate went through a period of devaluation, but these measures were unable to bring back stronger rates of growth, and in 2013 the economy was heading towards a recession.

The explanation could be found initially in a permanent effect that the 2011 austerity had on credit expansion. The first one is consumer's credit, and we need to go back in time to understand how the deceleration provoked by 2011 had an almost permanent effect on credit expansion. Its expansion started in 2004 and explains the trend of autonomous consumption which was a key element to the aggregate domestic private consumption increase since this year. There are a couple of reasons for this expansion. First of all, the credit expansion departed from a very depressed level, i.e., there was plenty of room to rise household indebtedness. Secondly, there were some institutional innovations like payroll loans that, at the same time, reduced the interest rates and made easy the access to credit⁹. However, a crucial element for the sustained credit expansion was employment growth, and foremost the growth of formal employment, as pointed originally by Medeiros (2015). As any developing economy Brazil has historically a substantial share of informal jobs. However, during the Workers Party administrations the average participation of formal jobs in total employment increased 12 percentage points reaching 69% compared to 57% for the 2002. Formal employment is a very important condition

⁹ It was initially a credit offered to civil servants and pensioners, and the monthly interest payments were discounted directly on each borrower pay slip. Given the stability of these sources of income the risk of default by borrowers were quite reduced. Even though they were very low risk loans the spread between the basic rate of interest and the rate charged on these loans was still high but not as high as in other forms of private credit lines.

for credit access by workers not only due to the more stable income expectations but mainly by the almost inexistent sub-prime borrowers market: in order to get access to loans individuals have to show their payslips or any form of formal labor contract. Accordingly, recent studies have shown that the creation of formal labor positions is the key variable to explain credit expansion (see Lima, Pimentel e Bastos (2019)), and during the first president Rousseff's term there was a continuous deceleration of formal jobs creation following the reduction of aggregate rate of growth. Hence, in a context of high interest rate, already substantial level of the ratio indebtedness to income, the deceleration of formal jobs creation was key to the almost stagnation of consumption credit indebtedness. It explains in good measure the durable consumption an important part of aggregate private consumption. The deceleration of durables consumption brought down along the aggregate consumption and, with some delay, investment, compounding negative effects on economic growth. As a proxy to autonomous consumption of households mainly financed by credit, the Figure 5 shows the evolution of the volume indexes of retail sales of automobiles and home appliance.

Figure 5 – Retail Volume Indexes - Brazil



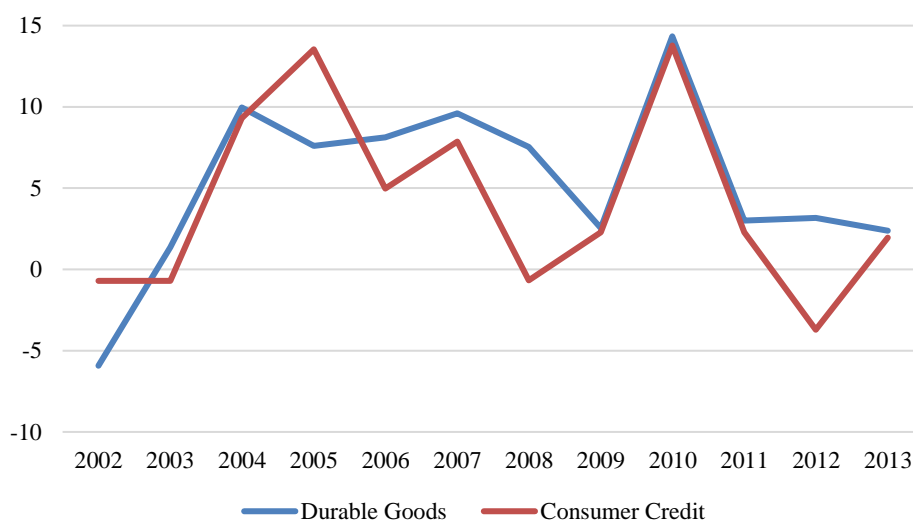
Source: Retail Survey – IBGE.

The Figure shows that the stabilization of cars purchases started in 2010 while home appliances leveled off in the beginning of 2012, setting the trend for the aggregate for

total retail. The free fall of these goods started in the end of 2013 for cars and beginning of 2014 for home appliances.

Another interesting data that is to compare the rate of growth of new consumer loans and the consumption of durable goods. The two series have very similar values:

Figure 6 – Consumer Credit and Consumption of Durable Goods (annual rate of growth %)



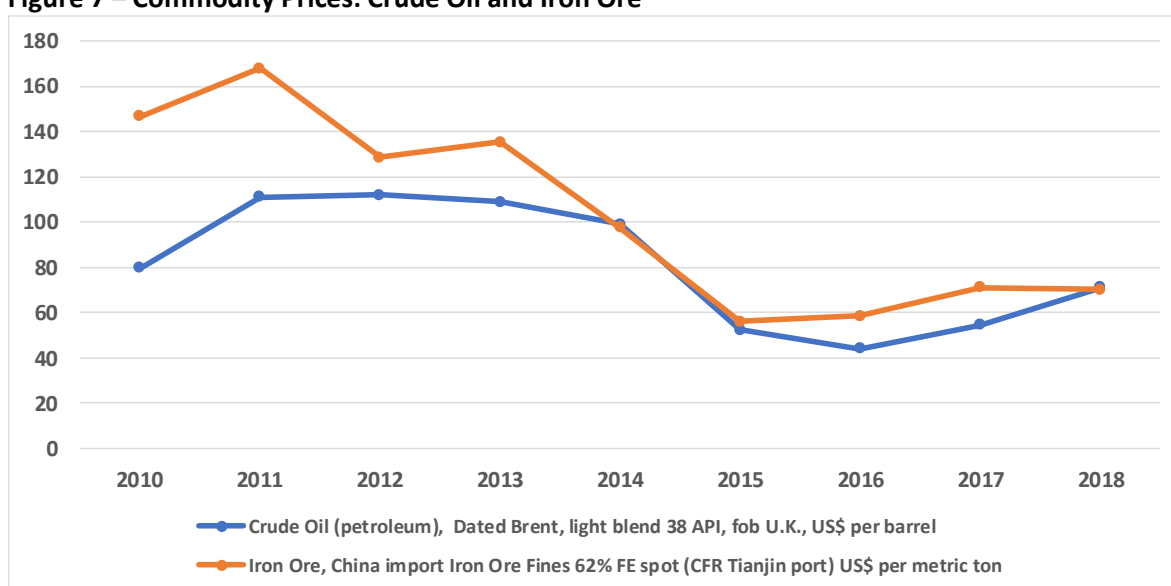
Source: National Account (TRU) and Central Bank

At the same time autonomous consumption was depressed, the external sector also contributed to Brazilian growth deceleration. Although the share of exports in Brazilian aggregate demand is less than 15%, which cannot explain alone any change in growth trend¹⁰. However as shown in Figure 9, exports also decelerated from 2012 onwards. Great part of this reduction was caused by the decrease in growth during this period in important Brazilian trade partners in the advanced world, such as Europe and US. There is also an additional factor in which the external sector affected the slowdown in the Brazilian economy. The fact that the influx of foreign investments more than balanced the current account deficit in the period allowed that the country did not register any kind of external bidding growth ceiling. Notwithstanding, Figure 7 presents the great fall in two

¹⁰ For a more detailed discussion, see Serrano and Summa, 2015. In the last section of this paper based of Fevereiro (2016) we discuss some quantitative estimates of the impact of exports on growth.

commodities prices from 2012 to 2015 (crude oil and iron ore), which was also behind the fall in exports, damaged two of the biggest Brazilian economies: Petrobras and Vale (one of the biggest companies in extraction of iron ore in the world). The decrease of its revenue impacted its financial capacity to sustain investments. In addition, since these two companies are important tax payers, the decrease in its revenues had a secondary effect decreasing tax revenues for the government. In sum, although we agree that the fall in commodity prices did not stopped growth through the exports channel, it may have a negative impact on private investments and tax revenues.

Figure 7 – Commodity Prices: Crude Oil and Iron Ore



Source: World Economic Outlook – IMF.

Another autonomous expenditure that also lost its momentum during Dilma Rousseff's first term was residential construction. According to Mendonça (2013) the expansion of this activity initiated at the end of 2005, and, similarly to what happened to consumption credit, reflected changes in supply conditions (laws and regulations that facilitated home loans) and demand elements like income increase. However, as a particularity of this market, government subsidized credit for home loans, from 2009 onwards, played a crucial role for the expansion of the housing market. The official program housing Minha Casa Minha Vida, covered both the construction almost entirely subsidized of houses for very low income buyers, and interest subsidies for low and medium income buyers. Other elements, like real estate prices, played also an important role in the expansion of construction activity. It was a secondary effect of the initial growth of house purchases

but also reflected urban improvements related to the World Cup and the Olympics, or a secondary impact of public investment increase (see Mendonça 2013). This strong expansion came to an end in 2012 and we can find its cause in the monetary austerity at the beginning of 2012, and a slower rate of employment and labor income growth. These elements were exactly the same that influenced the end of strong consumption credit expansion. Besides, the higher ratio of residential debt to income might also have played a role in this deceleration process¹¹.

Finally, the fiscal policy had, as mentioned before, an erratic behavior that has to be closely analyzed. It was austere in the first year of government and became more expansionist, in the next three years. Nevertheless, the average real growth of Federal Government outlays was lower than during Lula's period, as a whole. In addition, there was a change in terms of the mix expenditure/taxation compared to the previous period. A new feature of the policy stance was the introduction of tax breaks for entrepreneurs as part of the profit led set of policies. This measure was, justified by the diagnosis, mentioned before, that the economy had been in previous years too "wage led" with the increase of salaries, combined with low productivity growth, squeezing profits. Therefore, investment would not had been properly "stimulated", or in other words, to guarantee a higher rate of investment the profit rate had to increase, and the instrument chosen to achieve it was fiscal subsidies to capital. In addition to tax cuts, the government increased interest rate subsidies to private investment through public banks. Since the primary fiscal surplus was kept positive during the period from 2011 to 2014, Dilma's government cut public investments and did not increase wages in public sector. According to our framework here employed, that is, the capacity investment being induced by demand and the autonomous demand components being the determinants of the growth trend, the overall reduction of the rate of growth and the "new mix" of fiscal expenditures

¹¹ It is worth mentioning that the political turmoil and the investigations promoted by the "Car Wash" operation, in Brazil, contributed to the slowdown of the construction sector. The main Brazilian contractors, big multinational firms, were investigated for paying bribes to politicians and several top executives were arrested. As a consequence, these companies lost several public contracts in Brazil and abroad, as well as it access to public and private credit.

did not contribute to any increase in investment, which in fact fell as mentioned before, and certainly contributed to the reduction of the primary surplus by reducing tax revenues.

Table 2: Federal Government Expenditures – Brazil

	Nominal Rate (%)				Real Rate (%)			
	1999-2002	2003-2006	2007-2010	2011-2014	1999-2002	2003-2006	2007-2010	2011-2014
Total Revenue	14.9	14.1	11.7	9.3	6.5	4.8	3.6	2.2
Total Outlays	12.1	14.6	13.1	11.4	3.9	5.2	4.9	4.2
Compensation of Federal Employees	12.6	10.4	12.1	7.2	4.4	1.3	4.0	0.2
Social Benefits	14.3	18.7	12.6	12.5	5.9	9.0	4.4	5.2
Consumption and Investment Expenditures	8.3	12.2	15.2	13.3	0.4	3.0	6.8	6.0
Consumption Expenditures	9.7	11.5	13.2	12.7	1.7	2.4	5.0	5.4
Investment	8.4	5.7	30.8	6.4	0.5	-3.0	21.4	-0.5
Subsidies	-2.7	31.5	-0.6	35.2	-9.8	20.7	-7.8	26.4
GDP rate of growth					2.3	3.5	4.5	2.1

Source: Orair e Gobetti (2015)

A brief comparison with the previous period might be helpful. During almost every year of President Lula’s term, the public sector registered a persistent, and substantial (above 3% of GDP), primary surplus. In his first year in power he raised the primary surplus target as a “proof” of fiscal responsibility and commitment to economic orthodoxy. In the following years this surplus was kept at the high level mentioned before, a feature that for several heterodox economists was the proof of a permanent fiscal contractionary policy. However, Bastos, Lara e Rodrigues (2015) show that in spite the persistence of a substantial primary surplus the fiscal policy during most part of President Lula’s terms was moderately expansionist. Therefore, the acceleration of the rate of growth due to induced effects of public expenditure (increase of income and accelerating effects on investments and on private consumption financed by credit via the creation of formal jobs), combined with an increase in formal jobs, raised the gross tax burden (Figure 8) that kept the primary surplus above 3% of GDP, even though the government was

contributing to aggregate growth by increasing expenditure at reasonable rates of growth¹².

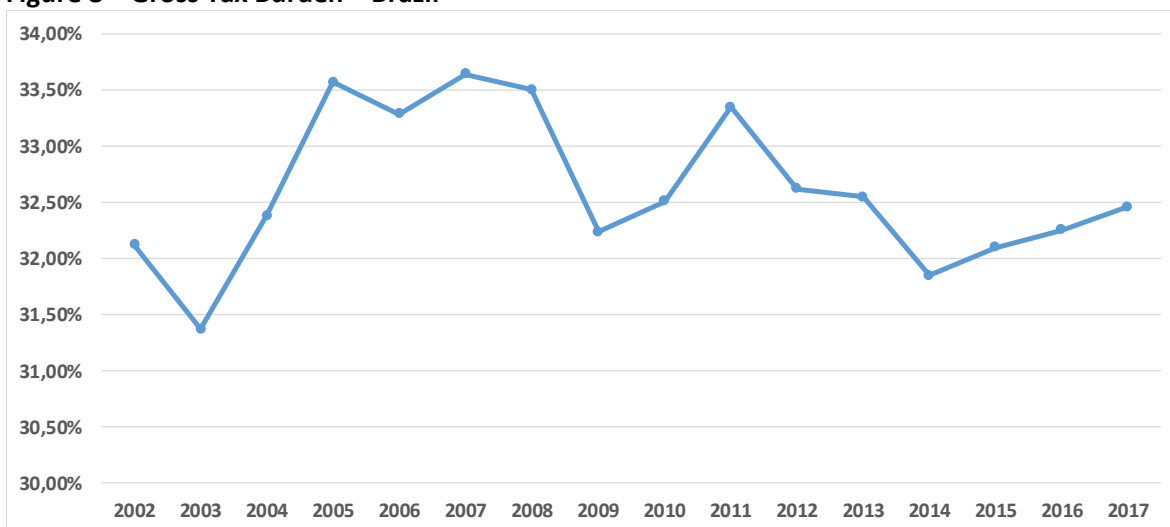
In brief, President Lula's fiscal stance can be characterized as a "Haavelmo's stance". There was an increase in expenditure rate of growth, but the revenue increased, endogenously¹³, as a share of GDP, keeping at the same time a constant primary surplus and moderately expansionary policy. In President Rousseff's policy, on the contrary, there was a decrease in expenditure that slowed down economic growth with negative effects on tax revenue which was further enlarged by tax breaks for firms. This deterioration of fiscal primary surplus from 2011 to 2014 was then used as a political instrument to support, or justify, the disastrous policies adopted in 2015¹⁴. We then call it the "counter Haavelmo".

¹² This picture has changed in 2009 as a consequence of the 2008 world crisis. In this occasion the government adopted a counter cyclical stance, allowing its primary surplus to fall not only due to a reduced revenue but also to expansionary fiscal measures. It was not an "automatic stabilizers" case, but expenditure and public credit expansion as well as tax breaks for purchase of durable goods. However due to the rapid recovery in 2009 the primary surplus returned to a higher level in 2010 and increased even more with the fiscal adjustment in 2011

¹³ There was no increase of tax rates. However the elasticity of the existent taxes was/is higher than one. It is explained not only by the usual increase of number of taxpayers that cross the threshold of income tax payment as the economy grows (or the increase of the number of taxpayers in higher tax brackets) but in Brazil's case the improvement in labor market (formalization, for example) increased the number of workers that contribute to Social Security. It explains why, in spite of a strong real growth of expenditures during the period there was no growth social security deficit.

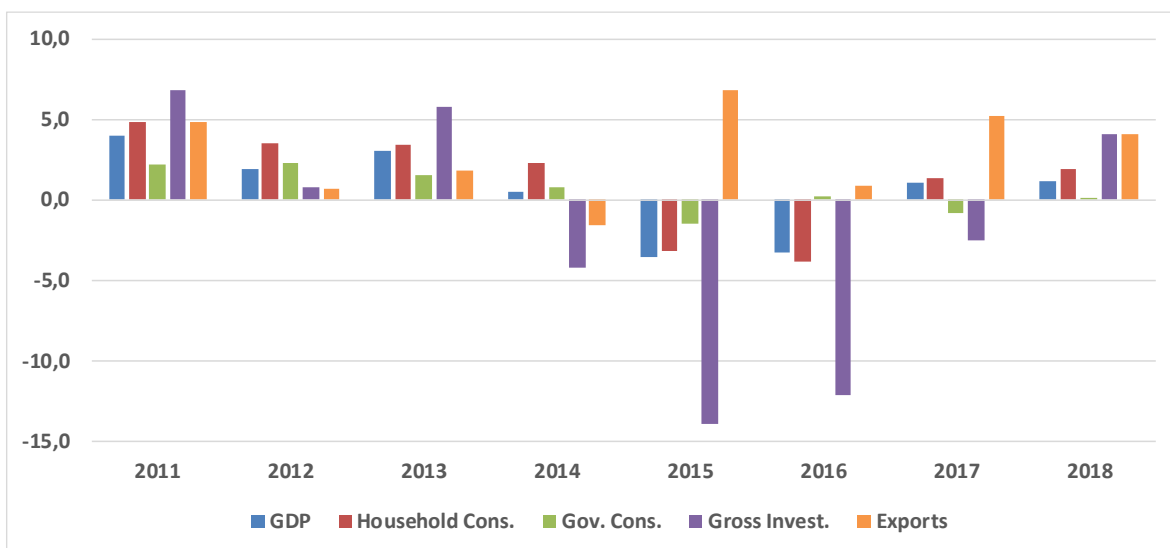
¹⁴ There is an interesting political point here. As we mentioned President Lula was able to combine moderately expansionary fiscal policies with socially oriented transfers, higher growth and persistent high primary surplus. Therefore the party could "overcome" a neoliberal criticism that its "leftism" was incompatible with "fiscal responsibility". The problem with this "fortunate coincidence" was that, in political terms, the party became a "hostage" of its own "success", by never confronting, in political terms, the fiscal orthodoxy or balanced budget (in fact, primary surplus) dogma. When, the primary surplus started to progressively dwindle, the answer by president Rousseff's administration was not to try to explain to the society that it was the result of the economic slowdown, and the consequent fall of revenues, but to use accounting tricks, creative accounting, to hide the deterioration of the surplus. In fact these accounting practices were behind the impeachment process.

Figure 8 – Gross Tax Burden – Brazil



Source: Brazilian Federal Revenue Office.

Figure 9 – Annual Rate of Growth (%) of Demand Components – Brazil



Source: National Account – IBGE.

There is another very important element that contributed, in political terms, to justify the austerity turn described in the next section. During the whole period discussed here inflation had been persistent but not very high, within the margins established by the inflation target regime. As presented in Annex 1 it was, mostly, a wage inflation and the result of a process of wage growth (in nominal and real terms) and specifically the minimum wage strong push. In this sense it was the consequence of a more inclusive

growth with increase of wage share, and specifically low income workers, share in aggregate income. However, the persistence of inflation at the higher bound of the inflation target system and the low rates of unemployment always prompted an orthodox criticism that macroeconomic policy was lax with inflation and some tough measure had to be taken. This critique was reinforced by the government's choice to keep fuel prices under control (using the market power of the state own company Petrobras) in order to preserve the real income. Of course, to heed to this discourse instead of reversing it and use as a political argument in favor of wage growth and income distribution was a "choice" by the Workers Party government, but one cannot fail to take note that both in 2011 and 2015, but not only in these years, the inflation scarecrow was used to support austerity measures¹⁵.

¹⁵ Singer (2015, p. 52) gives a good example of this connection. Facing massive public protests in 2013 the government decides to cut R\$ 10 billion of its budget as an answer to the financial sector that was accusing the government to be lenient with inflation.

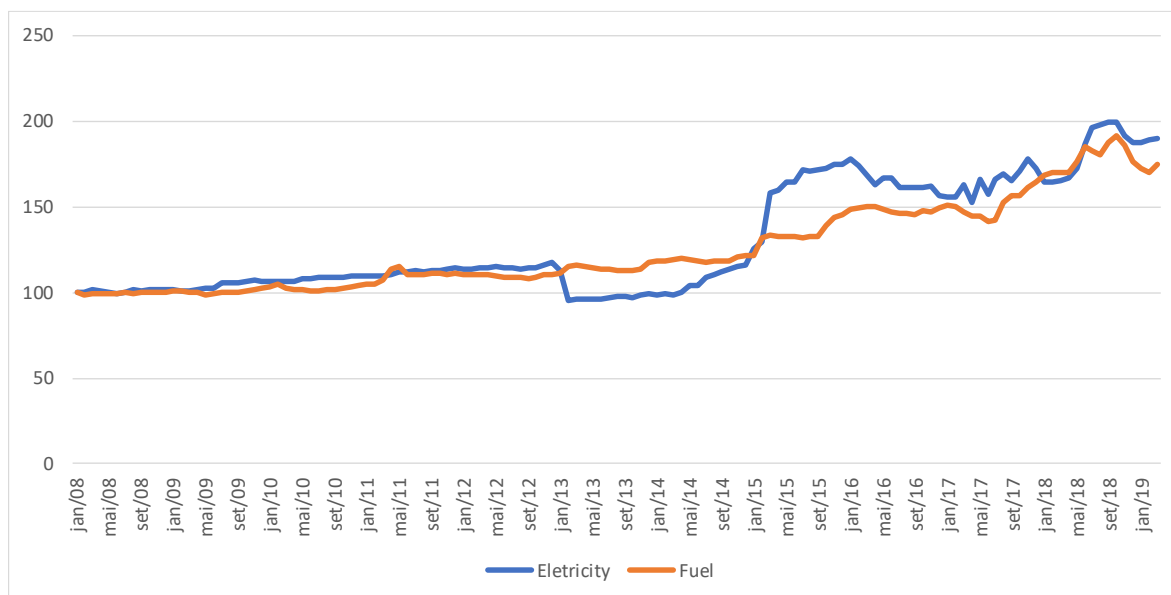
3 The 2015 debacle

After the 2014 elections, that was won with a really slim margin (3 percentage points), President Dilma Rousseff was convinced that a strong fiscal adjustment was necessary and looked for a name in the financial sector to be her future Ministry of Finances¹⁶ to implement such austerity policies. However, what happened was not just a fiscal adjustment in classical terms. It is true that there was a drastic cut in public expenditure, but another kind of adjustment was carried out, namely the increase in public administered prices. It was already mentioned the case of fuel prices, which Petrobras during Dilma's government keep rather stables despite the upsurge in oil prices until 2012. Since fuel commercial prices did not follow oil prices during that period, Petrobras balance sheet deteriorated, provoking serious reaction from financial markets (in addition to the effects of Car Wash police operation). Moreover, from 2012 on, President Dilma adopted a new policy regarding electricity distribution and it also subsidized electricity tariffs¹⁷ as part of its policies to reduce industry costs and maintain household real income. One of Minister Joaquim Levy's measures were then to increase abruptly these public prices to levels that would eliminate any subsidy cost to the state. Therefore not only these prices rapidly increased (50% for electricity and 20% for fuel in 2015), but they were liberalized by the state (Figure 10). In doing so, the government cut subsidies, augmented profits of state-owned companies and electricity distribution concessionaires trying to prove itself to be, somehow, "market oriented".

¹⁶ It is a matter of political speculation to what extent her, somehow fragile position, not only due the close election victory but also the, then mounting pressure from Car Wash operation, had any influence on her decision to embrace a very conservative policy stance. Her government, from the start, had been challenged by the defeated candidate. Eventually, the promise of a conservative economic policy run by a banker (the economist Joaquim Levy) would soothe the political elites and reduce the pressure for the government destitution. In practical terms it is irrelevant if these policies were adopted by political calculation or policy conviction. In the end, the austerity strategy was disastrous and brought the president's popularity to abysmal low levels, which was an important element that contributed to her impeachment.

¹⁷ Electricity tariffs were subsidized because the cost had increased due to a long and severe drought. The decrease in water reservoirs levels forced the increase in the use of, more expensive, thermoelectric power. The average higher cost of electricity was not entirely passed to consumers out of fear of inflation acceleration.

Figure 10 – Fuel and Electricity Prices Index – January 2008 = 100



Source: IBGE

Adding to this scenario of increasing prices, the exchange rate was devaluated by approximately 20% in first three months of 2015. After this first sharp devaluation, the exchange rate kept the same trend for the rest of the year closing it with a nominal devaluation of more than 45%. As a consequence of the inflation impact of this devaluation (and reinforcing the austerity policies), the monetary police was also contractionary, raising interest rate from 11.75% to 14.25% at the end of 2015. Levy made it clear, as well, that his goal was “to adjust” the labor market, as shown by Serrano e Melin (2016), so the rise of unemployment was something expected.

As expected, the result was a deep recession accompanied by raising inflation. The latter is easily explained by the basic costs shock and the former not only by the monetary and fiscal policies but also by the impact of inflation on wages and, consequently, consumption. One should not forget that the economy was already decelerating before the austerity measures were put in place as can be seen in Figure 2 and the quarterly rates of growth remained in the red for 2015 and 2016. Figure 9 shows the strong fall in consumption and even stronger in investment. Unemployment jumped from 6.9% in 2014 to 9.6 and 12% respectively in 2015 and 2016, with the average household per capita income falling in 2015, compared to 2014, 7.2%; the 10% lowest income bracket performed even worse, a fall of more than 11%.

As it was expected by any sensible observer, the fiscal effect of these measures was the deterioration of deficit and debt indexes. The primary fiscal deficit jumped from 0.4% of GDP in 2014 to 2% in 2015 and 2.5% in 2016. Net Public Debt increased, as percentage of GDP, from 32.59% in 2014 to 35.64 % in 2015 and 46.16% from 2016. The values of the gross debt for the same years were 52.28%, 66.5 and 69.86%, respectively. This evolution reflects not only the increase in primary deficit, due to the fall of tax revenues, but also the effects of the nominal interest rates increase on aggregate deficit, as well as the fall of GDP, and specifically in 2015 a higher cost with dollar swaps. If the economy was going south, the political picture was as much complicated with the beginning of the impeachment process and massive protest manifestations. However, in spite of the disastrous scenario, the free fall was stopped in 2017. In the next section we attempt to explain this fact.

4 The economy finds its floor

In the middle of its worst slump in history President Rouseff was impeached and her vice president assumed. His platform, or general program, presented in a document called “A Bridge to the Future” was basically a boilerplate of generic neoliberal ideas. However, it had a political objective: to indicate that the new administration would move away from supposed interventionists and statist ideas of previous Worker’s Party administrations. There was one important consequence of such document in the short run: since it defended the primacy of fiscal responsibility to achieve any positive macroeconomic result, one could not expect that the new government would pursue counter cyclical fiscal measures to reverse the economic downturn. In the medium term the official document also indicated that several liberalization reforms would be necessary to achieve sustainable growth. These reforms would reduce the size of the state, liberalize the labor market, reform the pensions system, open the economy, deregulate, etc. In brief, it doubled down a bet that hadn’t been very successful in the 1990’s.

In the middle of a second year of recession and defending the continuation of fiscal austerity, the discourse of the new administration to infuse some optimism to the, realistic bleak economic perspectives, was a strong version of a “Confidence Fairy”. Firms would invest and foreign capital would pour because the administration had a strong commitment to fiscal austerity and liberal principles.

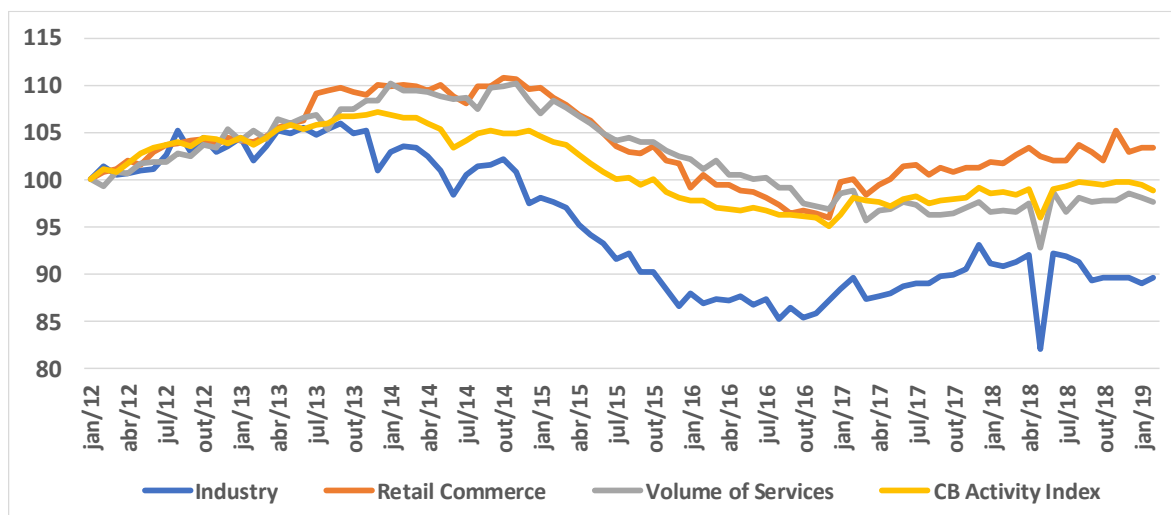
As expected, it did not work and the Brazilian recovery became the slowest compared to past recoveries. The idea that investment would come first, or before any other demand consumes and, for that matter, the aggregate product, in fact remains to be seen in the real world. In this specific case, interest rates were not even being brought down sharply!

However, beginning in the end of 2016 and through 2017 the economy found some sort of floor for several of its economic variables. In fact, not only production, but also demand

leveled off. There was a slight recovery with the economy starting to grow at a very slow pace, in fact, too weak, to provide a recovery of the GDP per capita in a near future¹⁸.

The Figure 11 shows a few disaggregated indicators that illustrate this claim. As can be seen there is a general tendency to the stabilization of the levels of economic activity followed by a weak recovery that, however, brought the levels of production to values much lower than respective previous peaks. There are also some differences in terms of timing: industrial production was the first to stabilize, around the beginning of 2016, but it took about one year after that to present a more consistent, in spite of moderate, recovery tendency. This tendency was interrupted in 2018 and the data for the first months of 2019 is of stagnation or even modest downturn. Services stopped to fall later, in 2017 but after that hadn't in fact showed any persistent recovery tendency, something that is also observed with respect to retail data. The Central Bank index of activity follows closely the industrial production trend¹⁹.

Figure 11 – Monthly Activity



Source: IBGE.

¹⁸ If the recovery follows a rate close to the ones observed in 2017, 2018, 1.5%, it would take 15 just to recover the per capita GDP of 2014.

¹⁹ The sharp fall of some of the series in April 2018 is the result of a truck drivers strike/lockout.

This state of affairs begs an explanation since all the induced variables have the tendency to reinforce each other. Less consumption induces less aggregate demand, and a bigger slack depresses investment reinforcing the downward spiral. If the economy found a floor and even rebounded slightly there must have been some autonomous expenditure to explain such behavior.

As Bastos and Aidar (2018) show, ironically, some of these autonomous expenditures that put a break on the economic free fall of 2015 and part of 2016 were the very ones vilified by incoming neoliberal policy makers as obstacles to the efficient workings of the market.

The first element was the minimum wage or, more specifically, the combination of the adjustment rule²⁰ and the reduction of inflation rate, as described by Bastos and Aidar (2018):

“the nominal wage increase of 6.48% in 2017 resulted in a significant increase in the average real wage given that the inflation in that year was close to 2.7% ..[given the adjustment rule]..the reduction of inflation has a positive effect on wages and therefore on induced consumption, especially in a first moment or at the real peak value of the received wage” (p. 139)

The second one is related with the minimum wage trend combined to social security payments. Social security payments (retired and disabled) has a fairly broad coverage including rural population and minimum wage benefits (the minimum value for benefits) reached 67.7% of the total paid (data for February 2019), covering almost 23 million people. In other words: since the minimum benefit is the minimum wage its adjustment raises also social security payments for a large portion of the poor population.

²⁰ The minimum wage was adjusted by the previous year real peak (or a full inflation indexation) plus the real growth of GDP with two years lag.

A further measure that had a positive impact on consumption was the possibility of workers to withdraw their FGTS accounts²¹, an injection of R\$ 44 billion (approximately 0.7% of GDP) to workers income that seemed (there are no official estimate) to have been used to consumption or debt payment (which has a potential positive effect on credit expansion).

Another element that had a modest positive effect on demand was the behavior of exports. In 2017 there was 6.8% increase in the average level of basic exports (quantum) compared to 2016. Industrial goods exports remained almost stable and total exports increase by 4.1%. Giving the small participation of exports in total demand it had a modest, but positive effect on growth. This improvement in exports continued at a lower rate, 3.6%, in 2018.

The large net of basic income forms not only a floor for induced private consumption but also plays a very important social role. In a country with so much poverty and a large informal labor market (therefore, where newly unemployed workers are not covered by unemployment benefits) those benefits play a role of “social anchor”, allowing a familiar unity to keep its livelihood around the recipient of a social benefit income. On a more general aspect which is beyond the macroeconomic impact, given the already high degree of tension on Brazil’s social fabric, with growing urban violence, increase of grey economy and the rule of mafia type groups in deprived areas, it is difficult to even speculate the impact, in terms of social stability, of drastic changes in Brazil’s welfare system. We briefly return to this point in the final section of the paper.

²¹ These are deposits that result from a monthly contribution by workers and employers and normally can be withdrawn in case of unemployment, retirement or for house’s purchase (as down payment, usually).

5 Has the floor become the ceiling? Is the ceiling falling?

At this point we will take a step back on our analysis and draw a very stylized picture of Brazil's historic socio-economic patterns. We will do it in order to provide a background to a tentative claim we defend at the end of this section: the idea that Brazil is entering a new socioeconomic pattern with possible negative consequences that are not very easy to quantify.

After the World War Two, and specifically from the 1950's onwards, as it happened in many underdeveloped countries, Brazil embarked on a developmentalist experience, creating several institutions and laws designed to support the development, and particularly the industrialization effort. A modern state bureaucracy was slowly created, as well as public banks providing credit, long and short, to the industry and agriculture. Public infrastructure was improved, public enterprises were created to exploit natural resources and produce basic industrial inputs as well as protectionist instruments, to spur import substitution, were set in place. This modernization was mostly the result of a pact among elites, however some benefits for workers were granted, like labor legislation, minimum wage, a pension scheme defined to specific occupations, a restricted access to education and so on. It is important to notice that this social modernization was conceived to urban populations, leaving a chasm between urban and rural populations.

It also created a less pronounced, but still, relevant distance between the poor population somehow belonging to the formal sector and the majority working at the informal sector. This dual nature, which is a basic feature of any underdevelopment theoretical model, was reproduced in spite of the industrialization of the period.

The military coup of 1964, didn't change the basic developmentalist policy orientation adopted since the 1950's which was combined with repression to organized labor movement, leftwing political parties and other popular organized associations. It deepened the modernization process in terms of the monetary policy and its instruments (for example a modern Central Bank was created), strengthened public enterprises establishing a realistic tariffs policy and raised tax burden. It also gave a special emphasis to the modernization of agriculture and export promotion instruments. An especially

ambitious industrialization plan was put in place in the 1970's known as the II National Plan of Development (IIPND) aiming to "complete" Brazil's industrialization with emphasis in capital goods industry. In spite of its conservative political nature, with, as mentioned before, repression to unions and the initial reduction of real wages to fight inflation, the military regime did not destroy the incipient social safety net. In fact, it also modernized the latter and generalized it to larger portions of the population. The expansion of certain public services were also broadened but accompanied, almost always, by the degradation of their quality.

The developmentalist period came to an end as a consequence of the debt crisis of the 1980's and was slowly substituted by neoliberal policies. A curious feature in Brazil's history is that the end of dictatorship and of the developmentalist period coincided, and the agenda that has matured during the fight against the latter was materialized in a new constitution that was highly advanced in social terms. The text of the new constitution introduced a permanent tension in the political life: the raise of a neoliberal order within a legal framework that broadened social rights.

However, the structural changes towards a neoliberal order of the 1990s did not destroyed neither all the developmentalists institutions inherited from the developmentalist period nor the social advances established by the new constitution. There were important changes, for sure. Some services were privatized, like telephone services and, partially, electricity, as well as large public firms (steel mills, the almost monopolist mining company, among others). The state oil company completed a large primary IPO in New York Stock Exchange, but was not privatized. Federal public banks either, although the local government banks were. Tariffs were reduced but not to a minimum level. Capital controls were lifted but the Central Bank kept a tight supervision over this market. On the social side, some minor changes on pensions occurred but the main tenets of the system were kept intact, like broad coverage and the guarantee that the lowest benefit paid could not be less than the minimum wage. The latter was also kept as a minimum remuneration for formal workers and its value, which was at a historically low point after the high inflation period, started to rise. The labor legislation was not significantly changed.

The importance of such, not so radical, neoliberal administration was that it left almost untouched the institutions and instruments that could, and were used to achieve a more interventionist and expansionary policy.

As mentioned before, a good example is the credit expansion from 2004 to 2011: it was the combination of the existence of a significant formal labor market, including public employees retired workers covered by the official pensions system, which participants could pay their loans as a direct discount of their wages by employers and the existence of public banks. These loans were launched by Banco do Brasil, a state owned bank.

Another public bank, Caixa Economic federal had an important role when government decided to expand mortgage loans, in particular a subsidized housing program started in Lula's government and carried out by Dilma that offered up to 5 million houses to low income population. The Brazilian Development Bank had a very important role in financing long term private investment, especially after the 2008 crisis, when the private sector was un able, or unwilling, to supply credit.

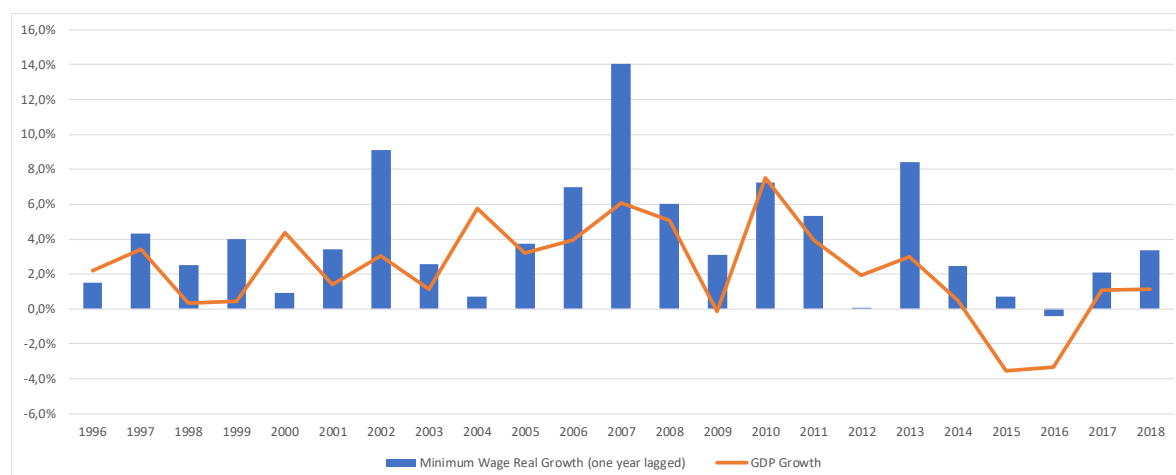
Another example of public intervention which was possible only due to the survival of public enterprises can be given by a sizeable Petrobras' drilling program that not only discovered, but also, made the exploitation of the pre salt petroleum economically viable. In the course of this process Petrobras also promoted a procuring program that was meant, beyond the simple demand aspect, to incentive production innovations and technological upgrading by suppliers²².

Finally, we have already mentioned the role of the minimum wage and large social security net was already demonstrated too since the 1990s. The Figure 12 describes the real growth of minimum wage (with one year lag) and the GDP growth. Both series have a simple correlation of 0,6 and indicates that one important candidate in Brazil to explain autonomous demand growth is the minimum wage, in particular its effects through social transfers. Perhaps the major progressive policy lead by Lula, namely the rule of minimum

²² This procurement policy was supposed to be an important component of the industrial policy along with other programs in areas like pharmaceutical industry, for example.

wage growth (which guaranteed each year the change in prices plus the GDP growth of two years before), was the one important driver of growth.

Figure 12: GDP and Real Minimum Wage Growth



Source: IBGE

In brief, without abandoning the macroeconomic conventional “inflation target” policies there was room for more expansionary and interventionist policies by president Lula’s policy makers. On the other hand, when PT administrations and the government that took over the power after the impeachment, opted for strong contractionary policies such institutional arrangement was responsible to establish a floor that stopped economic slump.

However, the deposition of Dilma Rousseff, as briefly described above, was seized as an opportunity to implement a more radical neoliberal agenda based on some arguments of fiscal nature, or fiscal unsustainability, reflected in politically statements as: “the socially oriented constitution does not fit within the budget”. Another political attack was aimed against rigidities and market interventions/distortions, vestiges of the developmentalist period and also of the, allegedly, populist constitution.

This new orientation was translated in some quite radical laws. The first establishes a formal ceiling to public expenditure. Therefore, it cannot grow in real terms, rendering the fiscal policy ineffective both as a countercyclical instrument and as a long term

autonomous demand dynamic component. A second important law was a change in labor market regulations, making it easier to hire an employee without formal rules. Almost immediately this new law has an impressive impact in terms of reducing in 2 percentage points (more than 1 million people) share of formal employment in the total population employed. For example it is now easier to admit part time workers receiving less than the minimum wage. Besides its distributive effects, a decreasing role of minimum wage adjustment on the wage bill affects directly induced consumption. On the other hand, the reduction of the share of formal in total employment will impact negatively the pool of eligible borrowers²³ and it will affect negatively public revenues.

The third final great “economic reform” unsuccessfully attempted by Temer’s government was the Pensions Reform. The failed pensions reform was defined as the top priority by the government elected in 2018. At the moment of the writing of this article, the government sent to the Congress a bill that just started a complex and politically challenging, legislative path. Given the political and media pressure, it is reasonable to argue that some sort of reform will be achieved, weakening even more an important source of autonomous effective demand. The radical proposal of changing the system from a PAYG to capitalization may not pass, but, the most conservative scenario points to the reduction of government transfers and increase in social security contributions²⁴.

The picture sketched above raises an important question: it seems that the components that set a floor for the economy are being weakened, to say the least, or in some cases entirely destroyed by the new government measures. Fiscal policy, with its ceiling rule cannot provide a dynamic autonomous demand component in the near future. Household credit, as described above, depends on formal employment (and also labor income, or

²³ In the short term is not very realistic to expect the creation of a sub-prime credit market that would cater for the informal, low income, workers.

²⁴ It is a complex topic to discuss to what extent a reform that curbs benefits and increases contribution can spur growth in the long run. The effective demand literature consistently shows the negative effect of a less generous pensions system on long term growth (see Pivetti 2006). As usual the great problem of radical pension reform is the “transition” deficit. Of course if this radical proposal is to be approved the consequences will be much more dramatic in term of the very survival of the pensions system as a whole. In this sense to adopt a more conservative (or limited) reform hypothesis seems to be a better option.

aggregate wage bill as a share of output) and the reforms already in place reduced drastically its share in total employment. If these reforms are to be further deepened one cannot expect that autonomous credit consumption will be a strong growth component in the near future. The same problem applies for the housing market. The slow growth of income and employment will certainly impose a strong restriction at this market, and as we discuss further one cannot trust in a strong reduction of the basic interest rate and there is no reason to believe that the spread on housing loans will decrease. On the contrary, with the virtual end of the program Minha Casa Minha Vida and the declared intention of reducing the role of public banks, in the specific case the role of Caixa Economica Federal in home loans market, the short term tendency is a spread increase, or nominal rates of loans increase, not reduction.

Exports also cannot be trusted as a dynamic force in the medium term. There is no commodity cycle in sight and the perspectives of Brazil's industrial exports are not very promising either. In annex 2 we show that the trajectory of exports has been in the medium term rather lackluster. The end of the developmentalist period in the 1980's marks also a watershed for industrial growth and, therefore, larger participation in external dynamic markets. A brief commodity boom in the beginning of the 2000's was crucial to pick up the slack of the economy in 2003 but it didn't last for more than 5 years. On the other hand, while Brazil's industry was struggling with the change in policy orientation in the 1990's the global environment has changed drastically with the surge of China as an industrial giant and the emergence of the Global (or Regional) Value Chains as the dominant international trade pattern. In Annex 2 we briefly exploit the combination of these tendencies to conclude that is almost impossible to think, at least in the medium term, that industrial exports would become a drive for economic growth. In fact, the change of this pessimist picture would happen only if the radical neoliberal proposals are substituted by well designed and implemented industrial policies.

In spite of this discussion around industrial and trade trends, one should notice, as mentioned above, that the contribution to growth of exports in Brazil is limited, or in other words, given the size and structure of the economy, the primary impact of exports is limited. The decomposition of growth taking into account the imported component (or discounting the imported component) in Fevereiro (2016) shows that the exports

component has a limited effect in total growth. It was relevant, as mentioned before, to avoid a recession in 2003, but at this time the commodities boom was just beginning. In 2004, for example, with this boom at full throttle, the contribution for the growth was already below private consumption. From this point onwards, as the commodity boom subsided, exports contribution fell dramatically. For example, from 2006 to 2010, a period of economic growth acceleration, or a annual average growth of 4.51%, the contribution of exports was just 0.22 %, and during the low growth period from 2011 to 2015 the contribution of exports for an average annual rate of growth of 1.03% was 0.25%. In both periods, as it expected the average rate of growth of exports was not very high, roughly 2.4%. The conditions observed from 2011 to 2015 seem to be a good estimate for the medium term perspectives and hence the value calculated in Fevereiro (2016) seems a reasonable guess for the medium term²⁵.

However, in Annex 2, we present another problem that might arise from the trends in external trade. Exports are an autonomous component of external demand, but the trade balance and its impact of current account might become a constraint to growth, the well-known idea that growth in developing countries are external constrained, and this is exactly what was slowly happening in the 2010 decade and accelerated after the 2008 crisis. Of course there was no overall bidding ceiling, or for that matter, any serious crisis since 1999, because there has been no lack of external financing. However the increase of trade deficit and, specially, industrial trade deficit, certainly points in the direction of an unsustainable situation in the long term that might have some implication in terms of external financing, especially in the case of a change in the favorable trend observed in the international capital flux to developing economies, so far, in this century. Besides the fact that exports will provide just a very low floor, or a very low direct contribution to the

²⁵ This calculation has two important variables: the domestic impact of exports and the rate of growth of exports itself. The latter, according to IMF's recent forecast (IMF 2019) will oscillate in the short run around 3,5 and 4%, taking by hypothesis that Brazil's exports will follow this rate, the increase is not significative compared to the 2011 to 2015 period. On the other hand, the increase of import coefficients have a negative impact in terms of the multiplier effects of exports (as a matter of fact of any expenditure). Once we combine both trends, the very low contribution to growth registered in previous years seems a reasonable guess for the near future.

rate of growth, their evolution, combined with the dynamic of imports, might impose a relevant binding external constraint.

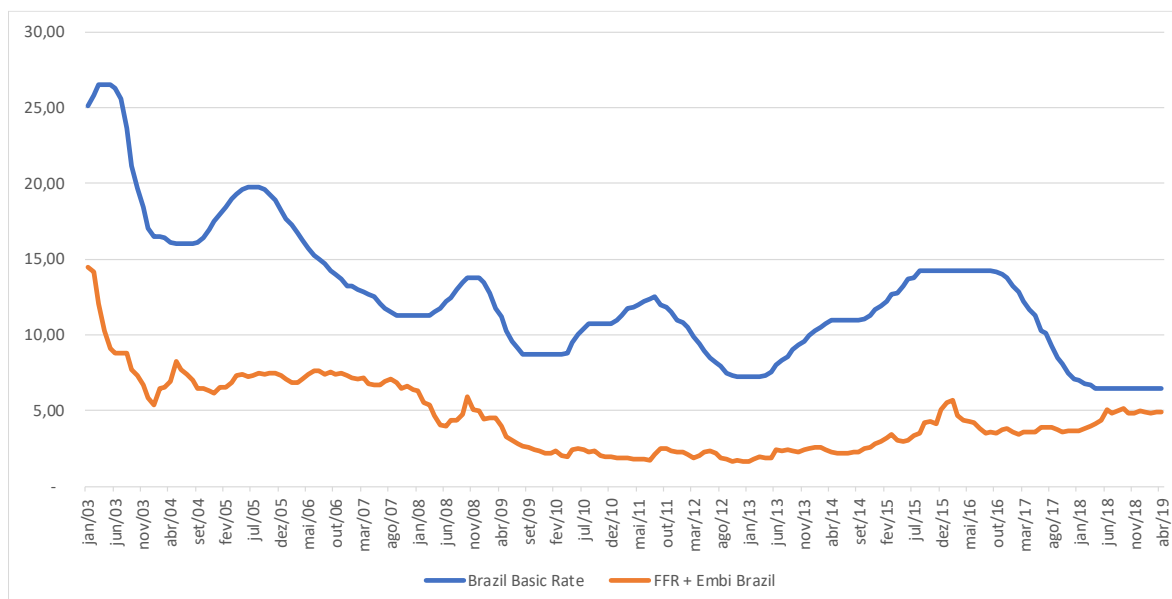
The secondary effects that exports might have, like improvement in labor market and hence credit, for example, depend also on domestic policies, already discussed. One might not forget that Brazil's commodities exports are not labor intensive, and also regionally concentrated in the south and center-west countryside around medium size, relatively rich cities, which are loosely connected with south east megalopolis or even the poor northeast region.

Returning to internal demand components, it seems that the bet of officials hinges on an interest rate reduction as a positive consequence of deficit reduction as a consequence of the pensions system reform. Even without discussing in detail this orthodox hypothesis of the impact of a deficit on interest rates and then the crowding out effect, some empirical points might be raised to introduce a grain of salt on these very optimistic forecasts that once the pensions reform is approved the economy would become to grow.

Firstly, in an open economy the basic interest rate has a low limit represented by the country's risk premium plus the international interest rate and the expected exchange rate devaluation. Therefore, one must ask how distant is Brazil from its lower bound, and how much this lower bound is higher than a theoretical, according to the marginalist approach, full employment natural rate of interests. In fact, interest rates are at a low level given the historical pattern and so far the persistent fall of interest rates, of course not considering the question of spread, had no clear impact on investment²⁶. The Figure 13 presents how the Brazilian domestic interest rate has recently approached its lower bound recently given the rise of the FED rates and the country-risk premium.

²⁶ An empirical analysis of the impact of interest rates on investment found that "The real interest rates showed a positive and non-significant coefficient for all estimated equations. In spite of the sign of the estimated coefficients being consistent with what was expected by the theory, their values are very close to zero and non-significant, indicating that this proxy for the capital utilization cost does not contribute to the reduction of private investment"(Luporini and Alves, 2010 p. 464)

Figure 13 – Brazilian Lower Bound



Source: Brazilian Central Bank, FED and JP Morgan.

More than that, the discussion so far has been made around the basic interest rate. However, one of Brazil's particular feature is the large spread charged by the private financial on its loans. It remains unclear how this spread would be reduced and the connection between it and the public deficit is not direct and depend on the analysis of the operation of Brazil's financial market²⁷. In the short run, since Temer's raised the cost of public banks long term loans and no compensatory movement was observed in the private sector it seems that the effective long-term interest rates are going up.

²⁷ Within the "spread debate" a group of authors stresses the connection between too high spreads and lack of competition. As in Belaisch (2003) and Modenesi, Castor and Silva (2017). The Syndicate of Banks (FEBRABAN 2018) refute this line of reasoning defending that Brazil's financial market structure concentration could be considered "moderate" compared to other countries and, therefore, the high spread is the consequence of some institutional factors like laws that protect borrowers in default, tax costs, labor costs, etc.. Although of different nature, these explanations for high spread are based mainly on institutional elements, not on the aggregate public deficit. Finally, it should be noticed that in 2012 the government "waged a war" against spread using not only political pressure but also its public banks to push for an aggressive reduction of loans interest rates. It raised at the same time public banks market share and serious political reaction from the financial sector (see Singer 2015 p. 47-49).

6 Conclusion

Summing up, following the principle of effective demand in the short and long run the perspectives of growth are quite limited, given the institutional changes and the policy orientation of the governments since 2016. It suggests that the country is heading to a long period of income per capita stagnation. Even following the neoclassical interpretation the economic, faster recovery hinges on some rather strong hypothesis about interest rates, elasticity of investment, improvement of productivity and better external trade position based only on the effects of opening and deregulating the economy. The creation and development of technological and scientific institutions, for example, doesn't seem to be priorities to policy makers.

From 2016 onwards policy makers opted for a radical strategy: to destroy some long term political and social structures that guaranteed some minimum social stability through different policy regimes. As we tried to show, this bet doesn't seem to have any solid reason to work in the short or medium term²⁸.

Finally, a more complex, but that given this bleak perspective, inevitable question has to be raised: is there any social floor that will somehow emerge from a long period of almost GDP per capita stagnation and slow job creation? The obvious trend in terms of employment, already in place, is the increase of informal sector. But even this depends indirectly on the formal, or "modern sector" growth. Not even the creation of "bad jobs" are guaranteed. Besides, the attacks on Brazil's welfare state would likely to leave the poor population in a more fragile position as mentioned before. Particularly, Brazil doesn't have the possibility of relieving social pressure through immigration. It is worth mention a more socio-political aspect in great urban centers it has been particularly sensitive the inability of the State to impose its authority in some areas dominated by paramilitary criminal organizations. It is a matter of speculation to imagine if a social deterioration of this order might force governments to roll back recent institutional

²⁸ Of course that in terms of the conservative U turn mentioned in this article these policies had successfully tipped the balance of the class struggle towards the proprietary classes.

changes and implement anti austerity policies or that deterioration just bring more stagnation and further distress for the social tissue.

Appendix 1: Inflation

We chose to present these annexes as a medium term analysis, not divided in small sub-periods, because we see a pattern, or better said, trends for both inflation and international trade throughout the whole time span of the present analysis. We start with inflation.

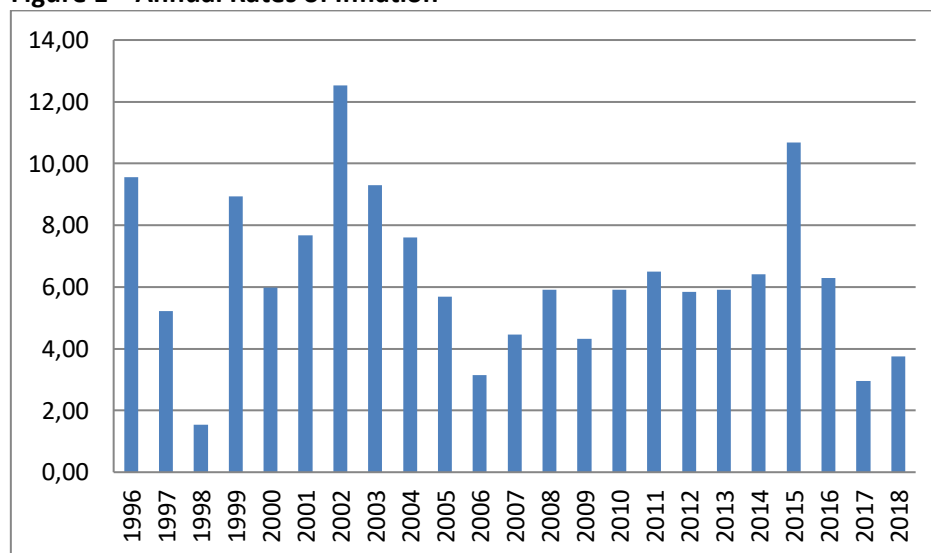
Brazil has a troubled inflation historical record. After the Second World War, or more specifically, through its developmentalist period, the country has been characterized by persistent medium to high inflation, a pattern that moved to very high levels, some would say hyperinflation, in the 1980's and first half of 1990's. This historical record can be associated with persistent external problems, or resulting from the impact of exchange rate devaluation and some degree of wage resistance triggering an exchange rate-wage-price spiral. This line argument is developed in Bastian, Bastos, Braga and Bieschowsky (2016) where it is shown that almost episode of inflation rate acceleration was the result of an external shock followed by exchange rate depreciation. Particularly, the most dramatic episode in history, the 1980/1990's "hyperinflation", is associated with also the worst external crisis in history, after Mexico's suspension of external obligations payments²⁹. It is not a surprise that the end of this long period of very high inflation took place with the return of Brazil to the international capital market that allowed a stabilization plan that used the exchange rate as its nominal anchor³⁰.

²⁹ The classical episode that comes to mind is the 1929 crisis but as historically dramatic this episode might have been in terms of its impact to Brazil it is reasonable to say that it had less in terms of duration. And it is not only due to deterioration of terms of trade, which were rather similar. The most important question element that differentiate the two episodes is the external financing. While in 1930 Brazil could adopt unilateral measures as moratorium on external debt and special trade arrangements, in the 1980s US political and economic power almost forced our country to keep serving the external debt without any new external capital flow and to follow rather strict IMF austerity measures which included continuous exchange rate devaluation to guarantee its "competitive" value.

³⁰ Brazil's stabilization keeps a close similarity with the 1920's German stabilization, a feature explicitly assumed by some of its formulators. The particularity of Brazil's case is that during the long period of high inflation complex and efficient prices indexation arrangements were put in place. Therefore the stabilization had first to increase and shortening the indexation period, in fact bring the official indexation within a time span of a day, and then to eliminate it, once and for all, at the "stabilization day".

After the Real Plan was launched, inflation rate was reduced to much lower levels. In this new low inflation environment the main cost elements behind its dynamic were not the same all the time. To analyze this variation let take a look at the aggregate inflation.

Figure 1 – Annual Rates of Inflation

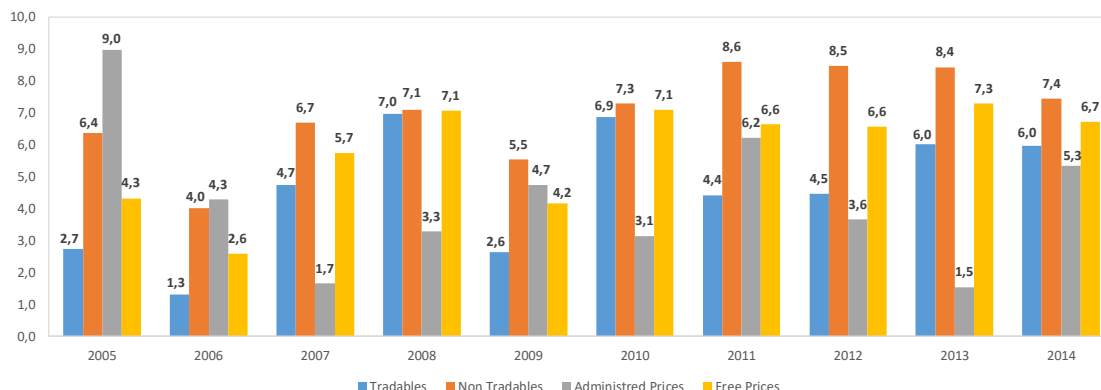


Source: IBGE

If we leave aside the year of 1996, which higher inflation rate still reflects the past high inflation period, there are three peaks, or annual rates above 8%, which were years when, for distinct reasons, a stronger exchange rate devaluation was registered (the year of 2015 is a particular case that has been already discussed).

However, excluded these outliers, and specifically from 2005 onwards, which covers the period of our discussion, inflation has hovered around 6%. The disaggregation of the inflation in its main components gives us an idea of the possible main cost component behind such aggregate behavior.

Figure 2 Annual Disaggregated Inflation Rates



Source: UFRJ

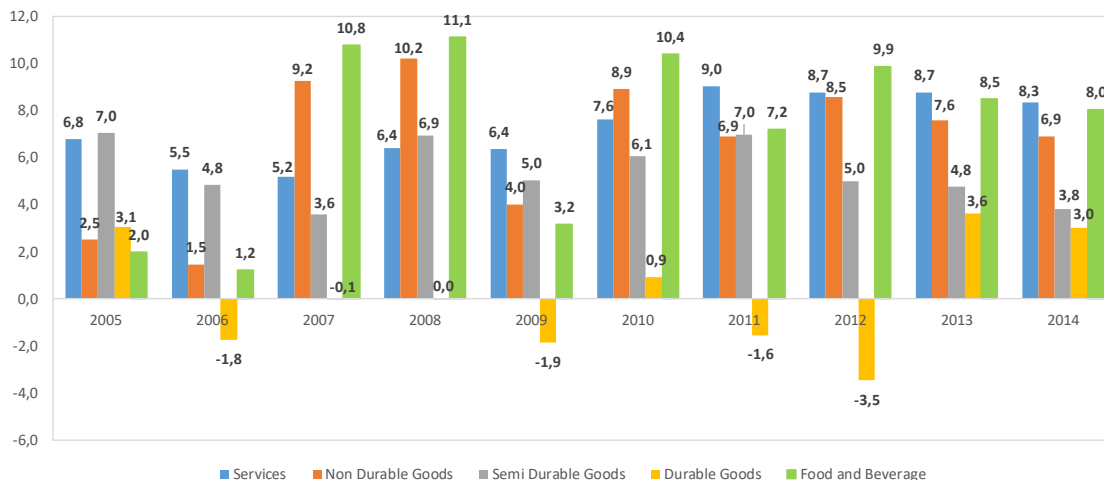
As we can see, since 2007 non-tradable goods have been the major component of inflation, which mean goods which price formation process is not affected directly by external conditions (international prices changes and exchange rate variations)³¹ and therefore prices which labor costs exert a critical influence. One interesting piece of information, that this figure also conveys, is the behavior of administered prices. Those are the prices under direct government control, comprising goods and services directly provided by governmental firms (gas, for example) or prices of services and utilities controlled by some adjustment formula established by the government (like health insurance, mobile phones). Those prices show in 2004 and 2005 the higher rates of variation among all, but after that they are almost always the smallest component. This picture reflects a policy change by the government that in the case of gas and power. Those policies included a subsidy to the private sector with an impact on public primary surplus, which was mentioned in this article and was an important element to support the conservative rhetoric behind the policy inflection of 2015.

This other graph reinforces the argument sketched above. It shows that services were the main component of inflation in this period. Services, as we know are labor intensive and

³¹ Of course these international prices in local currency impact non tradable goods as its input prices increase.

reflect directly, mainly, labor costs. The information about food also reflects these costs since it includes eating out.³²

Figure 3 Annual Disaggregated Inflation Rate



Source: IBGE

It is interesting to notice the eventual deflationary negative impact of durables goods which reflects, besides positive exchange rates shocks, the impact of global relative prices trend on domestic inflation.

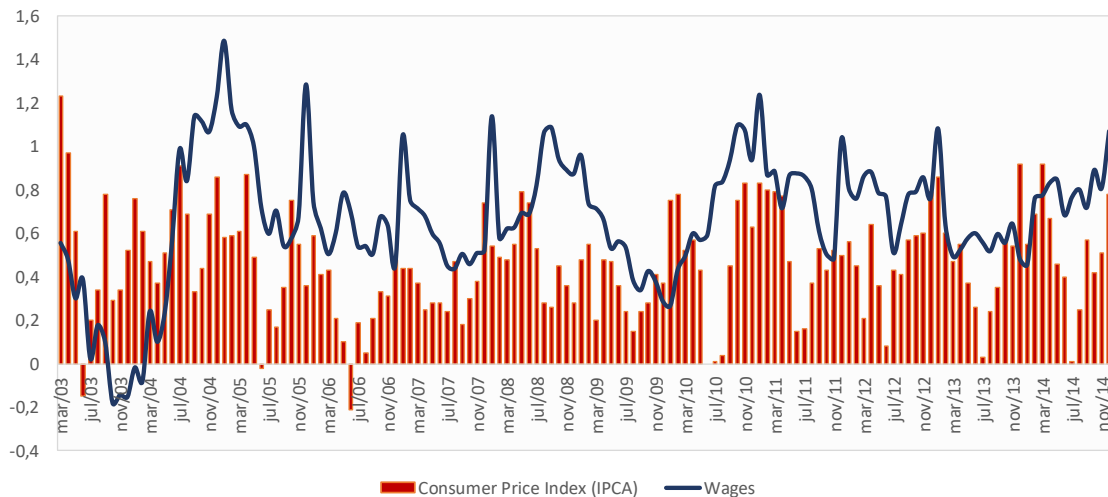
Therefore, the broad picture raised above stresses the relative importance of the nominal wage growth on prices from 2005 to 2014. This pattern suggested that Brazil’s economy went through a period that had some resemblance with the post war creeping inflation

³² The importance of services inflation to the overall inflation rate is explored in Dos Santos et alli (2016). In this paper the authors show that within the broad classification of services there are some important differences in terms of prices evolution. There were services that incorporated technical progress, like telecommunications, which prices grew below the average inflation. Other labor intensive, as we mentioned, had a stronger impact on inflation. With respect to wage push associated with this labor intensive services there is a direct link of minimum wage rise to nominal wages in services and them price increases. However, there was a secondary effect of the increase in real wages, and improvements in income distribution on certain services labor intensive, but with jobs with best qualification. In this case the demand increase for private medical and education services by the “new middle class” had a positive effect on these labor markets pushing wages up, and consequently prices.

experience in some developed countries, a pattern of relatively low but persistent inflation with persistent real wage growth³³.

The figure below illustrates this pattern: a persistent growth of nominal wages above the inflation, or a persistent pressure of nominal wages in part compensated by a lower increase in other costs resulting in a steady increase in real wage. One should notice that this pattern is the opposite of what prevailed before 2004. One important debate that this trend raised was the eventual process of profit squeeze. In fact, if one compares the rate of growth of real wages with productivity will notice that it had the former had been higher than the latter though this period.

Figure 4 Nominal Wages and Inflation



Source: IBGE

The low rate of growth of productivity was a structural characteristic of the period that reflected the inability of the economy to improve its productive structure in spite of an acceleration of overall economic growth and even the expansion of private investment. Possible explanations for this lack of improvements on the productive side are beyond the scope of this article, but this behavior combined of wages and productive growth, was both a factor to explain the persistence of wage inflation and also used by businessmen to

³³ See Morlin and Bastos (2018) for a comparative analysis between the Brazilian and European countries case.

demand, by government, for measures to recover profitability. This claim had some degree of circularity: a higher profitability would entail higher investment and hence a faster productivity growth. A discourse that was bought by President Rousseff with its consequence on public finances showed before.

In terms of the political economy of the period, the existence of a low but persistent inflation combined with a real wage growth was used as a rhetoric instrument against a more progressive policy in two fronts: a) first the persistent inflation, was all the time at the upper bound of the inflation target raising the conservative criticism that some stabilization policy needed to be applied to bring it to the center of the target. Such discourse defended that this persistent deviation from the center of the inflation target was a sign of lax commitment to the combat of inflation and the reflex of an overheated labor market, and both should be tackled by some degree of austerity b) as mentioned the combination of dynamic of wages and productivity demanded some counter measures to improve profitability, as tax breaks and exchange rate devaluation (increase of exporters profitability).

Annex 2: Exports and Industrial Performance Aspects

The external sector, or more specifically the external trade sector, had some important changes and also other persistent patterns since the beginning of the Workers Party administration. In the beginning of President Lula's first term the commodity boom was responsible for picking up the economy slack after contractionary fiscal and monetary measures. As we mentioned before, the first movements of the newly elected Workers Party government were meant to appease the market by raising the primary surplus, through spending cuts and taxes rises. Commodities exports strong rate of growth, played a crucial role as the unique autonomous expenditure to pull the economy while public expenditure and autonomous consumption were rather weak. However, the improvement in external conditions not only were the crucial element to start the economy recovery in 2003 but also relaxed the external constraint creating a comfortable space for expansionary fiscal and credit policies, mainly, after 2005. Export was the autonomous component that initiated the economic recovery but after that was internal demand that mainly explain growth but this acceleration having no short run external constraint. Until 2007 Brazil could combine economic growth acceleration with current account surplus a quite unique combination in its history³⁴.

The favorable commodities export performance remained until 2008, and its larger share on total exports suggested a narrative that was widely adopted by Brazil's economists: a "re-primarization" of exports. This analysis for the whole period since 2003, however, misses some important points like the behavior of industrial exports in line with the world pattern of such variable and the roughly stability of participation of Brazilian exports in its main markets. However, it raises an important structural element that is also connected with the de-industrialization debate, which is a heated one in Brazil. It is a fact beyond doubt that Brazil didn't upgraded its industrial exports to a more dynamic mix, or joined

³⁴ Since 1947 before 2003 there were only 7 years of Current Account surplus and none of them associated with an GDP growth acceleration.

any global value chain at a more favorable position. In fact if one looks at the high technology trade balance it has been in permanent deficit

In a very sketchy fashion we can summarize this tendency with a few numbers. For a long time Brazil, or during the developmentalist period, industry was the leading sector in terms of growth. From a value of participation in total output around 14% in 1947, industrial output reached a peak, in real terms (which excludes the relative prices effects) in the 1970's decade, at a value around 21%. This result is even more impressive if we remember that the average aggregate rate of growth in this period was 7%. The external debt crisis of the 1980's initiated a trend of much more lackluster performance. In spite of the sharp decrease in aggregate rate of growth, the industrial sector managed to grow even less, prompting a continuous decrease of participation of industrial GDP as a share of total output. The liberalization that marks the beginning of the neoliberal period in the 1990's didn't change the previous trend and the decade end with a contraction of industrial output.(see Morceiro (2018) p. 37) This picture changes in the new century, and specifically between 2004 and 2008. During this period not only the industrial production grew at a higher rate than in previous years, but also reverted the tendency of decreasing participation in total GDP, an index of de-industrialization. The same picture arises for industrial employment. However, this aggregate industrial production good performance was not only short lived but had also problems on its own.³⁵

During this period there was an increase in several import coefficient indexes. Morceiro (2018) shows an increase in import inputs, share of imports in total apparent consumption and import in total final demand. An interesting, additional, information, is given by the sectoral disaggregation indexes. The increase in import participation, both in consumption and inputs happened in mid-high and high technology sectors. The trend in terms of consumption reveals that the increase in income, and improvement of income distribution, increased, as expected, the demand for goods with higher income elasticity

³⁵ A general and serious problem mentioned in the previous analysis is the almost lack of productivity growth during the whole period, especially in the period of fastest growth where one might expect a better performance (for calculations of productivity see Fevereiro e Freitas (2015)) . This fact just reinforces the narrative that the trend in industrial structure does not support any positive expectation about improvement in terms of external competitiveness and hence any export drive or reduction of external constraint.

that was not entirely covered by the expansion of domestic supply and also that this more dynamic sectors used progressively more imported inputs. This fact, per se, is not an unexpected one, since it reflects a diversification of consumption pattern and also a tendency of international productive integration³⁶. However, the problem to Brazil's economy was that this greater openness didn't have a positive impact on international trade. Eventually the greater diversification in consumption and integration to international production chains could have improved efficiency through specialization and productivity gains. Nothing like that happened. Brazil didn't improve its participation in dynamic international markets and also created a huge deficit in industrial goods, specifically middle and high tech industrial goods. The former creates an effective demand problem and the latter increase the structural external constraint to growth.

However, as mentioned before, these trends that were present in a reasonably "positive" period for the industry, took an absolute negative turn after 2008 crisis. As the economy decelerated after the adjustment in 2011 industrial growth fell even faster, reducing the participation of industry in GDP to a value inferior to the post II World War value in 1947 (the lowest point in Morceiro (2018) historical series). If it is true that the fall of industrial exports followed the global tendency, the deterioration of manufacture trade balance was impressive, even more in a period where the economy was slowing down. The economic slump resulted in a deficit reduction but the very slow recovery had already, in part, reverted this effect.

³⁶ Just in passing it should be said that low and medium low technology industries had a much lower import penetration indexes in the period. However in previous years in terms of local production some intensive labor sectors like apparel and clothing, footwear, furniture had been losing space for cheaper imports. Both trends are expected. As a middle income country it was almost natural that Brazil would follow the international trend of trade and production, which concentrate the production of such items in very low wage countries. However, what is lacking in Brazil performance is the upgrade of production to higher value goods, a trend that has serious impacts on its trade balance.

Table 1 - Trade Balance 2000 - 2018

	2000	2001	2002	2003	2004	2005	2006	2007
Manufacture	-3,577	-2,108	6,932	16,562	23,854	31,451	29,862	18,929
	2008	2009	2010	2011	2012	2013	2014	2015
Manufacture	-7,234	-8,414	- 34,840	- 48,852	- 50,913	- 59,884	- 63,658	- 30,847
	2016	2017	2018					
Manufacture	-2,454	-3,216	- 25,157					

Source:IEDI

Summing up, those very basic features of Brazil’s industrial and international trade trends were raised to stress a structural feature that is very important to devise any growth scenario in the medium term. It is highly unexpected that exports might become and “engine of growth”, or in the case of Brazil an accelerator of growth, unless there is an external swing in terms of commodities terms of trade and strong demand increase. The recent trend, both of exports and industrial production and modernization, implies that, *coeteris paribus*, it’s very unlikely that Brazil might increase its exports gaining new dynamic markets (or increasing its international market share in high income elasticity goods) and even becoming part of a dynamic global or local value chain³⁷. On the contrary, the trade balance might became a biding growth limitation and a factor to increase external country’s risk.

³⁷ Once again, even without exploring in more detail this point it is a highly unlikely that Brazil is a candidate to enter GVC in both ends. In the low end its local characteristic and the advantage giving by low wages doesn’t seem to be very promising. In the higher end Brazil lacks almost everything: modern infrastructure, technological and scientific capabilities, trained workforce and scale.

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