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*Full Length Research Paper*

# An essay on floating exchange rate policy in Brazil

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**This essay analyzes the exchange rate in Brazil and assesses the trend of free floating, focusing the first ten years of Plano Real (1999-2009) based mainly on the New Developmentalism (ND) approach. The hypothesis is that the trend of overvaluation of exchange rate, especially between 2002-2007, combined with the rise of commodity prices in the international markets and weakness of Brazilian competitiveness have harmed the economic growth, manufactured industrial output and trade balance in Brazil. Thus, there are macroeconomic evidences of Dutch Disease ongoing in Brazil, driving by a low local value added generation and weakness in Brazilian competitiveness.**

**Keywords**: exchange rate, economic growth, Brazilian economy.

## INTRODUCTION

One of the key elements of economic policy is the exchange rate. There is no possible economic growth without a competitive exchange rate See Bresser Pereira (2007, 2010 and 2015), Curado et. al. (2008), Eichengreen (2007), Gala (2007), Gala and Libânio (2008), Herman et. al.(2006), Kalyoncu et. al. (2008), Lacerda and Oliveira (2009), Missio et. al. (2009), Nakashi et. al. (1999), Nakashi et. al. (2008), Chang (2002) and Williamson (2003). Nonetheless, Developing Countries such as Brazil have a tendency to maintain the exchange rate at a relatively valuated level in long term. The overvalued exchange rate was used by Brazilian Central Bank (BCB) in Plano Real as an instrument of inflation stabilization.

Another question regarding to exchange rate in Developing Countries is the exchange overshooting The overshooting is calculated as the percentage deviation of the actual effective exchange rate (REER) of its equilibrium level. (VIEIRA; CARDOSO, 2007, p. 33).

that represents exchange rate instability, harming not only exports but also domestic production and local investments, since the exchange rate is one of the key prices in the Brazilian economy. The national currency valuation harms the production of goods with high value added per capita, and consequently, there is a restriction on increasing the country's productivity, which in turn affects the performance of the economic growth.

The main causes for these results, according to the references which will be presented in the following sections are: (i) "Dutch disease"; (ii) growth with foreign savings that conventional orthodoxy recommends to Developing Countries According to Brazilian Central Bank (BCB), two variables have illustrated this situation for Brazilian economy: 1) foreign direct investments (FDI) inflows have increased from USD 26.5 billion (2002) to USD 76.1 billion (2008) and; 2) international reserves have increased from USD 39.5 billion (2002) to USD 206.8 billion (2008). (iii) high interest rates.

The exchange rate required for the country's economic growth is one that makes competitive exports of high local added value. If a local industry is unable to compete with foreign companies, is a sign that the exchange rate is overvalued In the Global Competitiveness Report of 2014, the World Economic Forum has appointed

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weaknesses of Brazilian competitiveness, represented by country´s position (57th), among 144 countries surveyed (WORLD ECONOMIC FORUM, 2014, p. 14).

The Plano Real has started in 1994, which used large-scale growth policy with foreign savings was the dominant cause and led the country to crisis in 1998; Broadly, however, since the country opened its capital account and lost control over the exchange rate, in the early 90s, the Dutch disease is the main reason for the semi-stagnation, which according to the definition of Bresser Pereira.

> The Dutch disease is a market failure or a resulting market syndrome existence of cheap and abundant natural resources used to produce commodities whose exports are compatible with a more appreciated exchange rate than would be required to make competitive the other tradable industries. (BRESSER PEREIRA, 2010, p. 141).

Thus, the main reasons of Dutch disease, i.e., are the lacks in local valued generation and the commodities According to the CRB Index (Commodity Research Bureau) and IPEADATA, which is an indicator that represents a group of the most important commodities traded in the international market, the average price of commodities (general index, ex. Oil) grew up by 93% between 2002-2008. Oil prices index increased 288% in the same period (see Annex 1). prices rising, such the oil and the agricultural products in the country. Since the trade liberalization of 1990s, the Brazilian economy has faced difficulties to arising in the absence of adjustments of economic policy. According to Lacerda.

> The Brazilian currency board policy (1994-1998) would only be changed at the beginning of 1999 by the unsustainability of the model, given the new international market conditions and the deficit growth in current account of balance of payments. (LACERDA, 2004, p. 70).

The oil exports generally cause the Dutch disease, which harms in long term other tradable production externally, such as agricultural exports (e.g. sugar, coffee, among others). In this sense, in Developing Countries, particularly Latin America, the emphasis of recent decades has given in matters relating to the prices stabilization and trade and financial openness, than competitiveness improvements.

In the next section, there will be a review of the main theoretical approaches, such as Classical approaches and Post-Keynesian approach of Minsky's financial instability on the macroeconomic impact of national currency valuation.

## A Review of the Main Theoretical Approaches: Classical and Post-Keynesian Approaches

In this section, a review will be conducted of the main Classical theoretical approaches, focusing on the exchange rate valuation and its macroeconomic results such two approaches or complementary approaches, such: (i) external constraint approach with elasticities; (ii) dual economy and productivity approach of endogenous labor.

### The Main Features of Classical Approach: The Role and Relationship between Exchange Rate and Economic Growth

The first approach that we present in this section is the external constraint. The purpose of the external constraint approach is to explain the economic growth in the long term, given the external constraint situation, such the Brazil in the 1980s. To justify the economic growth without external imbalances in long-run, a special focus is given to the businesses performance of the country with respect to the outside, and in the long-term exports and imports should grow at the same rate to not generate external imbalances.

Thus, the role of the exchange rate is crucial in the approach, especially the trend of the effective exchange rate to balance the trade between Brazil and other countries in the long run. Accordingly, for a suitable trade adjustment, it is required consider the World growth and income elasticity The income elasticity of exports and imports is a weighted average of the income elasticities of each product or tradable industries. of exports and imports (THIRLWALL, 1979 and 2005).

Eventually of any interference in the free adjustments and demand for domestic and foreign currency, the effective exchange rate can change the income elasticities of trade flows and thus it can have permanent artificial imbalances on the growth rate of the economy in the long run. Changes in the effective exchange rate level change the composition of flows and trade and thus influence the average elasticity (composition effect), harming the economic growth.

In this approach, the ratio of exports affected and their respective industries on GDP are important because, a priori exchange rate depreciation can either increase or decrease the income elasticity, depending on which industries become more competitive, thus defining the balance performance commercial and consequently GDP performance.

The second approach presented in this section is the dual economy and productivity of labor. The approach of the dual economy and productivity of work According weaknesses in Brazilian competitiveness: “Brazil also

exhibits a weaker macroeconomic performance (85th), a further tightening of access to financing, and a poor education system (126th) that fails to provide workers with the necessary set of skills for an economy in transition toward more knowledge-based activities." (WORLD ECONOMIC FORUM, 2014, p. 33). consists in observe the economy as modern industries of tradables and other non-tradables producers.

In the short-term, economic growth of modern industry depends on the growth of domestic demand and external demand and the effective exchange rate level. In the long-term growth rate of tradable industries depends only on the income elasticities of trade flows and economic growth of the rest of the World. In these industries, the growth rate of productivity is a positive function of output growth rate (LÉON-LEDESMA; THIRLWALL, 2002, EDWARS, 2006 and LIBÂNIO, 2009). By contrast, in non-tradables industries the growth rate of productivity is defined by the growth of the labor force and the demand induced tradable industries.

In this approach, the effective exchange rate can change the labor productivity, generating a higher or lower growth of tradable industries, which in turn determines the rate of growth of average productivity of the economy. Under this approach, a devaluation of the exchange rate could stimulate a higher rate of innovation and technical progress, which enables companies to produce products with higher value added locally. As defined Missio, Schettini and Jayme Jr.

> It is assumed that a currency devaluation to stimulate technological progress is able to change the income elasticities of exports and thus inhibit the activity of the external constraint (MISSIO; SCHETTINI; JAYME JR., 2009, p. 28).

That is, in this approach is given a greater relative productivity of tradable industries in GDP growth, which may be impacted to a greater extent by the effective exchange rate, compared to the non-tradeables industries.

Moreover, the effective exchange rate influences the rate of investment through its effect on the relative price of capital goods and the profit margin of the industries (tradable and non-tradables). According to this view, a national currency valuation, as observed in the Plano Real, especially in the periods 1994-1998 and 2002-2007 is responsible for some contradictory effects.

The exchange rate valuation leads in the short term an increase in the population's purchasing power, causing a temporary stimulus to the growth of aggregate demand. This value also causes a reduction in the relative price of imported capital good, causing a stimulus for productive investment in the early years. However, over time, there is pressure to reduce the industrial profit margin, especially for manufactured goods –, a fact that discourages investment, resulting economic decreasing. These approaches have a number of advantages and disadvantages. These concepts are useful for specific problems and cases, especially for Developed Countries. In other, these concepts generally ignore the effects of temporary lags or, in practical terms, its dynamic effects For example, political and economic effects of international trade agreements. on economic growth, moreover, should be adapted to Developing Countries.

That is, the next section will be presented the main features of Post-Keynesian approach of Minsky's financial instability of the macroeconomic impacts caused by national currency valuation.

**The main features of post-Keynesian approach: Minsky and financial instability**

The Post-Keynesian approach of Hyman Minsky (1919-1996) has a specific focus on the analysis of financial capitalism instability, through the systematization of a theoretical framework that primarily includes the recognition of the importance of the agents' expectations in the credit system and investment decisions.

Under this approach, agents' expectations are associated with uncertainties that guide to the future profitability and risk of investment projects, recognizing the impact on the balance sheet of the companies of investment decisions. For Minsky (1986 and 1991), investment decisions, which depends on economic expectations regarding the future, in a context where the evolution of the relevant economic variables are unpredictable, dependent on funding and safety conditions in investments available:

> (...) The decision to invest (according to Minsky) involves two decisions: What sort of assets to be acquired and how to finance your purchase (...) how to finance the acquisition of an asset depends on both the generation capacity internal funds by firms as financing conditions offered by the financial market. (FEIJÓ, in. SICSÚ; VIDOTTO, 2008, p. 203).

In the context of an open economy, financial instability can be understood as the tendency in the behavior of economic agents in a modern capitalist economy, increase the participation of external financing for their investments in capital assets, which it makes them more vulnerable to the behavior of the economy, especially the unstable and volatile financial market, resulting nominal and effective exchange rate changes in large scale. As defined by Minsky, financial instability of the capital structure as the ratio of debt service and net revenues required to stock the service of that debt. If there is insufficient income to meet the obligations, the refinancing is required – possibly there are difficulties in

rolling the debts.

The Minsky's uncertainties regarding the influence of agents' expectations with relative role of the exchange rate were observed in research. The literature has identified some transmission channels to the volatility and the exchange rate level in the economic growth, as defined by Curado, Rocha and Damiani.

> (...) The transmission channels of the exchange to the growth effects, among which stand out: i) the role of financial market development; ii) the degree of trade liberalization; iii) investment decisions under uncertainty and iv) high inflation record in international experience of some countries. (CURADO; ROCHA; DAMIANI, 2008, p. 6).

In this sense, the concept of financial instability presents interdependence with the capital structure of companies and especially with the investment strategy and fluctuations in international prices, reflected by the exchange rate.

As defined by Minsky, the degree of financial instability is not only analyzed by the composition of the portfolio of units of economic investments, but mainly by the cash generation capacity of this portfolio. According to Minsky.

> There are three financial structures, as follows: Hedge structure takes place when the cash flows from operations are expected to be large enough to meet the payment commitments on debts. In Speculative structure, the finance takes place when the cash flow from operations are not expected to be large enough to meet payment commitments, even though the present value of expected cash receipts is greater than the present value of payment commitments. In other hand, Ponzi structure is related to a situation in which cash payments commitments on debt are met by increasing the amount of debt outstanding. In other hand, in the Ponzi structure, the financing units cannot carry on too long. Feedbacks from revealed financial weakness of some units affect the willingness of bankers and businessmen to debt finance a wide variety of organizations. Quite suddenly a panic can develop as pressure to lower debt rations increases". (MINSKY,1982, p. 67).

Therefore, the process of indebtedness of financial structures mentioned above is chronicle in a capitalist economy. However, to rely on financial markets to the process of financing and debt refinancing, the financial structure takes on a character unstable due to the existing volatility in these markets, which also is responsible for the transition processes of economic units of hedge type in type units speculative or Ponzi. In this sense, to Minsky (1986) the debt has a unstable cycle, given the financing structure and the volatility of financial and foreign exchange markets that is created in good times, i.e., in a predominantly hedge system. Thus, the processes of instability and financial crisis are generated endogenously, and have its core in terms of financing / investment economy.

Minsky argues that the analytical core of the financial instability hypothesis is concentrated in capitalist conditions, in which the pace of investment depends on the conditions of funding, both internal and external sources, but mainly the latter. It is thus prosperous cycle, paradoxically causing and endogenous and cyclical nature of financial instability.

In other words, in positive economic cycles, demand for additional funding is increasing and the final decision lies with the financial agents (bankers and businessmen of the financial industry). This decision is grounded in the expected return on investments, which in periods of prosperity are commonly re-evaluated positively. Therefore, this cyclical and almost natural tendency of capitalist economies is characterized by chronic periods of financial instability will only increase the unstable character of the economy. (LACERDA; OLIVEIRA, 2009, p. 5).

In this sense, and according to the degree of financial instability of the economic agents, Minsky concludes that the greater the weight of the hedge structures in the economy, the greater stability. While a growing share of speculative position and Ponzi position indicates an increased vulnerability of the economy to financial instability. As defined by Alves Jr., Paula and Ferrari (2000), the concept of financial instability Minsky develops a measure for assessing the ability of an economy facing shocks and volatility of financing conditions in the financial and currency markets, without dismantling the flows payments between agents.

With this theoretical analysis, we conclude that, in theoretical sense, neither approach is absolute in order to determine any relationship between the exchange rate valuation and economic growth. Thus, in this sense, it is recommended that these issues are fruits of new research on the complexity and importance to the Brazilian economy today.

From this review of the literature on the exchange rate and growth has presented above, the next section will present some indicators of national currency valuation trend and its macroeconomic impact on the Brazilian economy.

## Brazilian Economy: The Trend of National Currency Overvaluation and the Macroeconomic Results

The exchange rate is one of the main economic variables; it is the reference of transactions in international trade between countries and has a direct influence on investment decisions and value of the

economy. In its formal definition is the price in national currency of one unit of foreign currency. According to Bresser Pereira´s definition Bresser Pereira have contributed significantly to the genesis of the new theoretical approach, known as New Developmentalism (ND). According to the author, the economy is oriented to the long-term equilibrium considering five macroeconomic prices, as follow: the exchange rate, the profit rate, the interest rate, the wage rate and inflation rate. The main purpose of ND theory, regarding the exchange rate is: "competitive exchange rate is a condition to promote profits, capital accumulation of potential firms and the economic growth". (see BRESSER PEREIRA, 2014 and 2016).

> (...) The most strategic of economic policy is the exchange rate, it is a powerful determinant not only of exports and imports, but also wages, consumption, investment and savings. Thus, the exchange rate plays an important role in economic development. (BRESSER PEREIRA, 2010, p. 121).

The Plano Real, in its introduction, was managed in BRL/USD = 1.00. In July 1994, several results were felt in macroeconomic indicators of the Brazilian economy. One of the main effects was the reversal of the trade balance, caused specifically by the use of managed exchange rate (1994-1998) as an instrument of prices stabilization (REGO; MARQUES, 2001, p. 215).

These results presents the structural problem caused by economic growth that has been combined with trade liberalization and managed exchange rate maintenance (around BRL/USD = 1.00). The national currency valuation has reduced the competitiveness of Brazilian exports in the international market – especially compared to other BRICS countries According to IMF data, historically China and India has an exchange rate more competitive than Brazil. In recent years, especially from 1999 on, countries such as Russia and South Africa has managed its exchange rate more competitive than Brazil (see table 1). With the consequent drop in revenues, which occurred along with the imports increasing.

The high reliance on capital inflows to ensure the financing of the balance payments in the 1990s, a fact that occurred with other Developing Countries, as defined by Gala:

> Most Latin American and African countries, have suffered from severe balance of payments crisis due to Exchange rate overvaluation. Chile and Mexico in early eighties, as well as Mexico, Brazil and Argentina in the nineties are good examples. (GALA, 2007, p. 1-2).

Besides, has caused higher external vulnerability to the Brazilian economy. By capital inflows, especially in short-term speculative inflows the country has become highly vulnerable to adverse shocks in international financial markets. The risk often consolidated high outputs of these capital is one of the factors that cause fluctuation of international reserves especially in these difficult times (LACERDA; OLIVEIRA, 2009, p.15-16).

This macroeconomic policy According to Bresser Pereira: "In 1999 liberal economists implemented in Brazil the "macroeconomic tripod" – primary surplus, inflation targeting and floating exchange rate – which they equate with responsible and competent policymaking. Yet, in the years in which it was applied (1999– 2010), it proved to be a perverse tripod. Inflation targeting meant a high level of interest rate, and floating exchange rate meant an overvalued exchange rate in the long term coupled with high current account deficits. In other words, the tripod meant exchange rate irresponsibility – the Brazilian economy continued to be trapped by high interest rates and an overvalued currency". (BRESSER PEREIRA, 2015, p. 1). was improved with the inflation targeting introduction and the floating exchange rate regime since January 1999. In most countries there is the dirty floating policy. The free floating did not ensure the reduction of price fluctuations and product. According to Hermann.

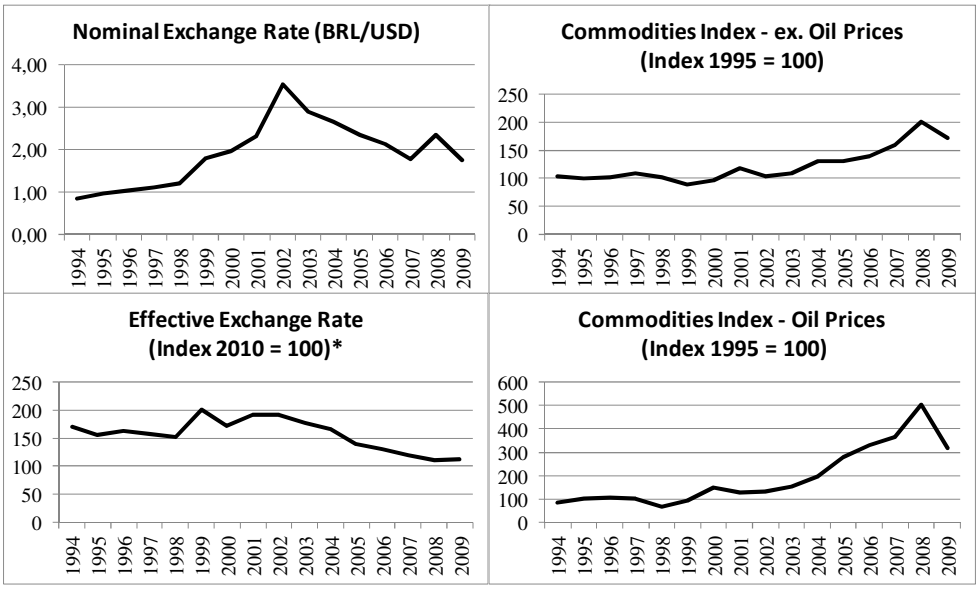
> It is necessary that the Brazilian Central controls its instruments to fight the exchange rate volatility and manage the balance of payments. (HERMANN et. al, 2006, p. 179).

This set of measures, makes the modern economy and possible periods of adverse shocks are willing to correction by means of economic policy instruments. According Giambiagi:

> With this, there are the elements to attack the main macroeconomic imbalances in an integrated manner. From 1999 (the above set of policies) allows to realize the challenges and aspire to have low inflation, external balance and fiscal control. (GIAMBIAGI, 2005, p. 189).

The regime of inflation targeting (RMI According to Vieira and Cardoso, "The role of interest rates to restrain aggregate demand and contain inflationary pressures during the hard currency regime can be explained by gains in real wages to inflation stabilization, but it is noteworthy that such a policy interest had and continues to have perverse consequences for the Brazilian economy in relation to the limits to achieve higher growth rates and similar to other emerging economies." (VIEIRA; CARDOSO, 2007, p. 43). There were evidences of Dutch disease in Brazilian economy, especially because the general commodities index increased 93% and oil prices grew up 288% between 2002-2008. According to official data (IBGE), industrial output in Brazil grew up only 26% (2002-2008). See Annex 2 which has more than ten

**Chart 1** Brazilian Exchange Rate (Nominal[1] and Effective) and Commodities Prices




**Source**: Brazilian Central Bank (BCB), IPEADATA and Commodities Research Bureau (CRB).
[1]National currency against US Dollar (end of period).
* Effective Exchange Rate: Prepared by IPEA. Weighted arithmetic average of the bilateral effective exchange rates in the country compared to 24 selected trading partners. The bilateral effective exchange rate is defined by the ratio between the nominal exchange rate (BRL / unit of foreign currency) and the ratio between the price index Wholesale Prices (IPA-EP-DI / FGV) of Brazil and the Producer Price Index (PPI) of the country in the event. The weights used vary each year, and obtained by the participation of each partner in the total Brazilian exports to the countries considered in the two years immediately preceding. For details of the methodology: Effective Exchange Rate. Obs.: The methodology was updated and revised in October 2015, involving the recalculation of the entire series.

years of implementation in Brazil, has its virtues, but also weaknesses. Virtue was to win on credibility, which provided greater predictability in monetary policy and a more transparent horizon for planning and decisions of economic agents. Also, it contributed significantly to strengthen the lower inflation process initiated in 1994 to levels near to those practiced internationally.

That is, in the 2000s, the trend was valuation of the exchange rate, which in turn has caused impacts on the productive development of the economy, as defined by Bresser Pereira:

> The path of the exchange rate overvaluation has two main structural causes: the Dutch disease and the capital attraction that harms the production in Developing Countries. (BRESSER PEREIRA, 2010, p. 131).

Such national currency valuation trend can be observed for both the nominal exchange rate as the effective exchange rate, as we can see in the chart above, according to the data of the BCB and IPEA (Chart 1).We can see two cycles of overvaluation of the Real against the US Dollar – a overvalued level during 1994-1998, due currency board, and a trend of overvaluation from 2002 until 2007. In the period 1999-2002, there was a devaluation cycle of the Real against the US Dollar.

In general, national currency valuation, which has maintained in the Plano Real, have short-term positive effect of reducing inflation and increase the real wages of workers and corporate profits, cheapening consumption goods and investments.

According to the International Monetary Fund – IMF (table 1), there was an improvement in the economic growth rate of the Brazilian economy. The average of annual economic growth was 2.5% (1990-1998) to 3.8% (1999-2009). A component of GDP which contributed positively were exports Despite Brazil has recorded a devaluation of 44% in the period 1999-2009 (concentrated between 2007-2009) due international crisis, comparing, for example Brazil and China, there are substantial differences between the two countries. In addition to the exchange rate, there are other factors that influence the productive industries and investments, i.e., excessive bureaucracy, labor costs and tax burden (WORLD ECONOMIC FORUM, 2014). Moreover, the Dutch disease in Brazil has been harmed by the overvaluation of 50% (BRL/USD) between 2002-2007 – the rate has changed from BRL/USD = 3.53 (2002) to BRL/USD = 1.77 (2007) (see Annex 1). whose average

**Table 1** Macroeconomic Indicators: BRICS Group

| Country | Indicator | 1990-1998 | 1999-2009 |
|---|---|---|---|
| **Brazil** | GDP Growth (*) | 2.5 | 3.8 |
| | Total Investments (**) | 19.7 | 18.4 |
| | Exchange Rate (***) | 1.21 - | 1.74 (+44%)/1 |
| | Exports (****) | 6.3 | 7.0 |
| | Current Account (*****) | -2.2 | -1.4 |
| **Russia** | GDP Growth (*) | -5.5 | 5.6 |
| | Total Investments (**) | 27.1 | 19.3 |
| | Exchange Rate (***) | 9.71 - | 31.74 (+227%)/1 |
| | Exports (****) | 3.7 | 3.8 |
| | Current Account (*****) | 1.5 | 8.9 |
| **India** | GDP Growth (*) | 5.4 | 7.1 |
| | Total Investments (**) | 24.0 | 30.8 |
| | Exchange Rate (***) | 41.26 - | 48.41 (+17%)/1 |
| | Exports (****) | 9.0 | 11.2 |
| | Current Account (*****) | -1.5 | -0.8 |
| **China** | GDP Growth (*) | 10.2 | 10.0 |
| | Total Investments (**) | 37.9 | 39.3 |
| | Exchange Rate (***) | 8.28 - | 6.83 (-18%)/1 |
| | Exports (****) | 21.7 | 17.4 |
| | Current Account (*****) | 3.5 | 4.7 |
| **South Africa** | GDP Growth (*) | 1.6 | 3.5 |
| | Total Investments (**) | 17.9 | 18.6 |
| | Exchange Rate (***) | 5.53 - | 8.47 (+53%)/1 |
| | Exports (****) | 5.9 | 1.7 |
| | Current Account (*****) | 0.1 | -4.0 |

**Source:** International Monetary Fund – IMF, World Economic Outlook Database and World Bank Database.
(*) Gross domestic product, constant prices (Percent change) in annual average.
(**) Total investment (Percent of GDP) in annual average.
(***) National currency against US Dollar (end of period). /1 positive variation means a national currency devaluation. Negative variation means a national currency valuation.
(****) Volume of exports of goods (Percent change) in annual average.
(*****) Current account balance (Percent of GDP) in annual average.

annual growth was 6.3% (1990-1998) to 7% (1999-2009) – especially by exports of Basic goods – due to devaluation of 44%, compared the two moments. However, this devaluation was not enough to stimulate more investment in the Brazilian economy - investment rate decreasing of 19.7% (1990-98) to 18.4% (1999-2009). Furthermore, the Brazilian economy has the second worst result of the current account when comparing the two periods, only surpassed by South Africa.

Brazilian economic growth was below the average Brazilian growth between the decades of 1950-70, which increased around 7% per year. In comparison with other Developing Countries in the period 1999-2009, while the Brazilian economy grew up 3.8% p.a., other major Developing Countries like China, India and Russia, with Brazil form the group called BRIC, grew up 10.0% p.a., 7.1% p.a. and 5.6% p.a., respectively, according to the IMF, indicating that the Brazilian economy is able to increase near to this economic growth rates.

In Brazil, based on the evolution of the effective exchange rate and nominal (BRL/ USD), provided by the BCB based on theoretical references and data analysis, there are indications that the national currency valuation had a negative effect on some of the Brazilian GDP components. Household consumption, for example, which corresponds to 62% of the total Brazilian GDP showed growth of 6% p.a. in the first period of the Plano Real, between 1990-1998 especially for workers' purchasing power gains, recorded sharp decline in subsequent periods, growing only 1% p.a. 1999-2009 and 1.8% between 2002-2007. One possible explanation for these results is that despite the gains from increased purchasing power, there was a concomitant process of excessive stimulus to consumption generated some imbalances in the Brazilian economy, which according to

Bragança and Libânio:

> The pattern of the current exchange rate policy in Latin America (including Brazil) discouraged the tradable industries, favored the emergence of consumption bubble and led to accumulation of high current account deficits and consequently led to greater macroeconomic instability and lower economic growth. (BRAGANÇA; LIBÂNIO, 2008, p. 7).

The still overvalued exchange rate in Brazil, compared to other BRIC countries, has influenced the productive investments. These investments as a percentage of GDP in Brazil, according to IBGE reached an annual average of 18.4% between 1999-2009, and in the other BRIC countries, such as China and India, is rate was around on average twice. This result, analyzed from the point of view of capital constraint approach with endogenous investment rate mentioned above, applied to the Brazilian economy, signals that the currency overvaluation in comparison to other Developing Countries has caused a negative impact on the rate of capital accumulation and growth in Brazil.

From the point of view of the external sector, the Brazilian exports, which account for approximately 15% of total GDP during the Plano Real (IBGE), were also affected by the currency overvaluation, which stimulates imports and harms exports. Thus, the issue of chronic current account deficit has remained unsolved, and in the period 1999-2009, there was a deficit around USD 4.5 billion p.a. (around 1.4% of GDP).

According to the references below, the adverse effects of overvalued exchange rate live in a long term; it causes a reduction in the competitiveness of domestic companies, according to the precepts of the capital constraint approach with endogenous investment rate mentioned above. Thus, there is a decrease in growth prospects and thus discourages investment and growth in subsequent times. In the words of Nakashi, Curado and Neto:

> The overvalued exchange rate for a long period of time has affected the export tariff and the productive structure of the Brazilian economy in order to undermine its long-term growth. Exporters segments of commodities and basic industrial products are gaining ground with the international rise in prices of these goods. However, this change, as well as have an impact on the productive structure of the Brazilian economy also affects the dynamism of imports and exports, with negative impacts on the growth of the Brazilian economy when considering longer periods of time. (NAKACHI; CURADO; NETO, 2008, p. 18).

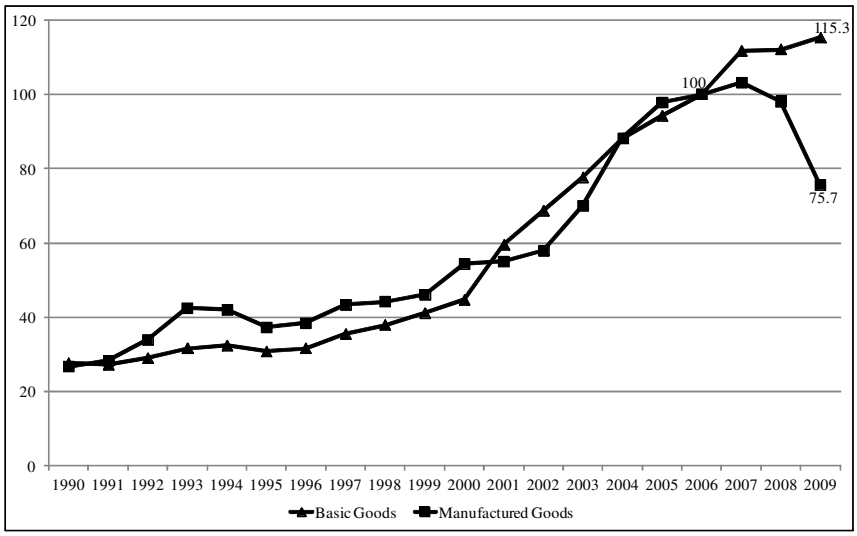
**Brazil: National Currency Overvaluation and Its Disadvantages**

The currency overvaluation of 2002-2007 was primarily caused by two factors: (i) domestic interest rates and (ii) international commodities demand. The first and leading is the high rate of domestic real interest rates (nominal interest rate less the expected inflation) This level, which is the largest in the World, has attracted much speculative capital into the country; The second factor is the trade surplus that has been achieved by the country, mainly by the increase in commodity prices in the international market. Both factors increase the supply of dollars in the Brazilian market, causing the artificial overvaluation of the local currency.

According to BCB data, there were a number of Dollars of acquisitions in the market, resulting in increase in Brazilian net reserves and decrease of the exchange rate valuation trend. This made the international reserves should grew up from USD 39.5 billion in 2002 to USD 206.8 billion in 2008 According to the Minsky´s interpretation, with the gradual reduction of Brazil's foreign debt and the increase in Brazilian international reserves, the group of investors and companies in the country changed Ponzi capital structures (1980s) for speculative capital structures (1990s) to reach a Hedge capital structure in the 2000s. Despite this increase, Brazil is still well below the levels of countries such as China, Russia and India. However, in March the Central Bank stopped their interferences in the market, a position which further enhances the last days. This would be a good time for the Central Bank to continue to increase its international currencies, through the purchase of dollars. This solves the problem but not solve definitely, since the main issue is the high interest. Regarding the Brazilian industry, there was an increase of 5% between 1994-1998, followed by an increase of 29% between 1999-2009. The domestic demand was supported by imports, that had an increase of 89% between 1994-1998, followed by an increase of 70% between 1999-2009. However, the share of manufactured goods in imports had grew up.

The effects of commodity prices rising and the overvalued exchange rate between 2002 and 2007 has explained, according to data from FUNCEX, by 15% of basic goods exports increasing Especially oil from Petrobras, minning from Vale, and agricultural goods sales had recorded historical level of external revenues. that Brazil has a great know-how and fall of 24 % of Manufactured exports fall – a difference of almost 40 basic points –, due to lack of competitiveness of the Brazilian production of value added According to Funcex data, total imports had doubled in the period 2002-2007, especially of foreign purchases of manufactured goods such as machinery and equipment and other technology goods - which denotes the Dutch disease effects and the

**Chart 2** Brazil: Exports Quantum (average 2006 = 100)




**Source:** Funcex

weakness of Brazilian competitiveness (see Annex 2) (Chart. 2).

Brazilian exporters generally try to reduce the negative exchange rate factors seeking increased productivity See the Classical approach (mainly in LÉON-LEDESMA; THIRLWALL, 2002, EDWARS, 2006 and LIBÂNIO, 2009). which is not always possible. It is a fact that exports are contributing to the economic growth of the country and are extremely important for protection against possible international imbalances. The more structured and sustainable alternative would be to lower the basic interest rate (Selic), reducing the entry of speculative capital, which at the same time, stimulate credit and reduce the cost of public debt financing. Another healthy alternative would be to search the tax exemption of exports, which, however, would not address the main issue. Economic policy should not allow the exchange rate weakens the recent trade surplus (exports minus imports of goods and services).

One of the big questions about the exchange rate issue in Brazil is that an overvalued exchange rate encourages private investment by cheapening imports of machinery and equipment for the modernization of enterprises and new projects. This situation has at least two issues involved, which cannot resist a more comprehensive analysis, taking into account the dynamics of the decisions of new enterprises. First, because what would motivate productive investments, not just those for production for export, but also directed to the domestic market is just a more depreciated exchange rate. The overvalued exchange rate reduces the competitiveness of products manufactured locally in relation to international competitors, whether international or domestic market. Therefore, the low exchange prevents the local added value and is an incentive to imports of manufactured products According to Lacerda, measures to improve local supply chain, increase local value added and create employment are required by economic policies such as: innovation incentives, industrial and infrastructure modernization and competitive exchange rate (LACERDA, 2004). According to Chang, the past cannot be repeated, even because competitiveness conditions international in recent years are very different from the pre-globalization period that was mentioned above. But if the reality is different, it also brings new elements, such as competition with China and other Asian countries, which just use the tools suggested here with great skill. Especially in the exchange rate issue. So if we want and we want to take a new leap for development that includes the new industries and services and also we increase the local value added, it is necessary to face the exchange rate issue. In a scenario of an increasingly fiercer international competition. (CHANG, 2002).

## CONCLUSION

The paper has presented an analysis of exchange rate policy in Brazil and analyzes the exchange rate overvaluation and its macroeconomic impacts, with a focus on the period from 1999 to 2008, with a line of highly complex research and importance to the Brazilian economy today. The study is conducted based from a review of the main theoretical approaches to the Classical post-Keynesian approach to financial instability Minsky and ND theory. The ND theory hypothesis is that the exchange rate policy implemented since 1999 with a valued exchange rate exerted impacts on the Brazilian macroeconomic performance, negatively affecting GDP

growth, through some of its components, mainly, consumption and investment, as well as an analysis of external indicators, especially with the focus on current account.

According to ND thesis, the overvalued exchange rate in Brazil has even influenced the productive investments. These investments as a proportion of GDP in Brazil, according to IBGE reached an annual average of 1999-2009, and in the other BRIC countries, such as China and India is rate was on average twice. This result, analyzed from the point of view of capital constraint approach with endogenous investment rate mentioned above, applied to the Brazilian economy, evidences that the currency overvaluation in comparison to other Developing Countries has caused a negative impact on the rate of capital accumulation and growth in Brazil.

From the point of view of the external industries, the Brazilian exports were also affected by the exchange rate valuation, which stimulates imports and harms exports. Thus, the issue of chronic current account deficit has remained unsolved. The adverse effects of overvalued exchange rate in long term are the competitiveness reduction of domestic companies and harms local investments and economic growth. In this sense the overvalued exchange rate does not encourage investment and reduces the Brazilian competitiveness.

In another words, with the commodity prices rising, especially between 2002-2007, there were exports increasing, mainly of basic goods (oil, mining, agricultural). On the other hand, with the consequent overvaluation – above other BRICS countries –, there was a negative impact on local investments, industrial output reduction and exports decreasing of manufactured goods. Thus, there are macroeconomic evidences of Dutch Disease ongoing in Brazil, driving by a low local value added generation and weakness in Brazilian competitiveness.

**REFERENCES**


Aaron T (1982). Can “it” happen again?” Essays on instability and finance. New York: M. E. Sharpe.

Aaron T, Missio F (1986). Stabilizing an unstable economy. New Haven: Yale University Press.

Abel TM (2005). A natureza do crescimento econômico: um referencial teórico para compreender o desempenho das nações. Brasília: IPEA.

Acadeosse MT, Minsky HH (2007). Macroeconomia da Estagnação: crítica da ortodoxia convencional no Brasil pós-1994. Editora 34, São Paulo.

Adams TW (2010). Globalização e Competição: por que alguns países emergentes têm sucesso e outros não. Elsevier e Campus Editora, Rio de Janeiro.

Afarnda ABN, Kalyoncu W, Missio F (2014). Developmental Macroeconomics: New Developmentalism as a Growth Strategy London: Routledge.

Agnes TW (2015). The macroeconomic tripod and the Workers’ Party administrations.Paper prepared for book edited by Lauro Mattei. March 2015. Available: <http://www.bresserpereira.org.br/papers/2015/331-Tripod-Dilma.pdf>. Acess: 22.06.16.128, March. 15.pdf>. Acess in: 10 dec. 2014.

Alves Jr, Paula L, Ferrari FF (2000). Crise cambial, instabilidade financeira e reforma do sistema financeiro internacional: uma abordagem pós-keynesiana. Revista de Economia Contemporânea. 4(1):79-106.

Banco Central Do Brasil – Bcb (2016). Séries Temporais. Available: <http://www.bcb.gov.br>.

Bragança A, Libânio G (2008). Taxa real de câmbio e crescimento econômico na América Latina e no Sudeste. In. XXXVI Encontro Nacional de Economia da ANPEC.

Bresser PL (2016). Reflecting on new developmentalism and classical developmentalism. Revista de Economia Política, vol. 36, nº 2 (143), pp. 237-265, abril-junho/2016

Chang, H. (2002). Kicking Away the Ladder: Development Strategy in Historical Perspective. Anthem Press Commodity Research Bureau – (CRB) (2016). Available: <http://www.crbtrader.com>.

Curado M, Rocha M, Damiani D (2008). Taxa de câmbio e crescimento econômico: uma comparação entre economias emergentes e desenvolvidas. In. XXXVI Encontro Nacional de Economia da ANPEC.

e Alves JA (1999). Fragilidade financeira externa e os limites da política cambial no Real, Revista de Economia Política, v. 19, n.º 1 (jan.-mar. de 1999).

Edwards S (2006). The Relationship Between Exchange Rates and Inflation Targeting Revisited. National Bureau of Economic Research Working Paper. N. 12163.

Eichengreen B (2007). The real exchange rate and economic growth. University of California, Berkeley. Julho.

Feijó C (2008). O investimento industrial no Brasil – 1990-2005: uma interpretação à luz da teoria de investimento Keynes-Minsky. In. SICSÚ, J., VIDOTTO, C. Economia do Desenvolvimento – Teoria e Políticas Keynesianas, Editora Campus - Elsevier, Rio de Janeiro.

Fundação Centro De Estudos Do Comércio Exterior – Funcex (2016). Site oficial. Available: <http://www.funcex.com.br>.

Gala P (2007) Real exchange rate levels and economic development: theoretical analysis and econometric evidence. In. XII Encontro Nacional de Economia Política.SEP.

Giambiagi F (2005) Estabilização, Reformas e Desequilíbrios Macroeconômicos: os anos FHC. In. Giambiagi e Villela (Org.) Economia Brasileira Contemporânea (1945-2004).

Hermann J (2006). Crescimento, restrição externa e fluxos de capital: uma análise da experiência brasileira nos anos 1990-2000. In. SICSÚ (Org.) Câmbio e Controles de Capitais: avaliando a eficiência de modelos macroeconômicos.

Instituto De Pesquisa Econômica Aplicada – (IPEA) (2016) IPEADATA. Available: < http://www.ipeadata.gov.br>

International Monetary Fund – (IMF) (2016). Database. Available: <http://www.imf.org>.

Kalyoncu H, Artan S, Tezekici S, Ozturk I (2008). Currency Devaluation and Output Growth: An Empirical Evidence from OCDE Countries. International Research Journal of Finance and Economics - Issue 14, pp. 232-238.

Lacerda A (2004). Globalização e Investimento Estrangeiro no Brasil. Editora Saraiva.

León-Ledesma M, Thirlwall A (2002). The endogeneity of the natural rate of growth, Cambridge Journal of Economics, vol. 26(4):441-459.

Libânio G (2008). Efeitos da apreciação cambial nos salários, lucros, consumo, investimento, poupança e produtividade: uma perspectiva de curto e longo prazo. In: XXXVI Encontro Nacional de Economia.

Libânio G (2009). Aggregate Demand and the Endogeneity of the Natural Rate of Growth: evidence from Latin American Economies. Cambridge Journal of Economics (a ser publicado).

Minsky H (1991). The financial instability hypothesis: a classification. In. FELDSTEIN, M. The risk of economic crisis. Chicago: The University of Chicago Press.

Missio F, Schettini B, Jayme JrF (2009). Câmbio e crescimento: teoria e implicações de política econômica, Texto para Discussão no. 350, CEDEPLAR/FACE/UFMG, abril.

Nakashi L, Curado M, Neto (2008). Os efeitos do câmbio no crescimento da economia brasileira. Texto para discussão 4. UFPR.
Oliveira A (2009). Financiamento externor instabilidade: uma abordagem pós-keynesiana sobre a economia brasileira do período 1999-2008. In II Encontro Interacional da Associação Keynesiana Brasileira (AKB), Porto Alegre.
Rego, J., Marques, R. (2001) Economia Brasileira, Editora Saraiva, São Paulo.
Thirlwall A (1979). The Balance of Payments Constraint as an Explanation of International growth Rate Differences. Banca Nazionale del Lavoro Quarterly Review, no 128, march
Vieira F, Cardoso C (2007). Câmbio, Inflação, Juros e Reservas na transição de regimes cambiais: uma investigação econométrica para o Brasil. Revista Análise Econômica, n. 47: 23-48, UFRGS, Porto Alegre, setembro.
Williamson J (2003). Exchange rate policy and development. In.: Initiative for Policy Dialogue Task Force on Macroeconomics, Columbia, NewYork.
World Bank (2016). Database Available: < http://data.worldbank.org/indicator/PA.NUS.FCRF?page=1. >
World Economic Forum (2014). The Global Competitiveness Report 2014. Available: <http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2014-.

# ANNEX

**Annex 1** Brazilian Exchange Rate (Nominal[/1] and Effective) and Commodities – time series

| Year | Nominal Exchange Rate (BRL/USD) | Effective Exchange Rate(*) | Commod. Index – ex. Oil Prices(**) | Commod. Index – Oil Prices(**) |
|---|---|---|---|---|
| **1994** | 0.84 | 170 | 103 | 83 |
| **1995** | 0.97 | 156 | 100 | 100 |
| **1996** | 1.04 | 164 | 102 | 106 |
| **1997** | 1.12 | 157 | 109 | 101 |
| **1998** | 1.21 | 153 | 102 | 69 |
| **1999** | 1.79 | 201 | 88 | 93 |
| **2000** | 1.95 | 172 | 96 | 148 |
| **2001** | 2.32 | 192 | 118 | 128 |
| **2002** | 3.53 | 193 | 104 | 130 |
| **2003** | 2.89 | 177 | 109 | 152 |
| **2004** | 2.65 | 166 | 130 | 197 |
| **2005** | 2.34 | 140 | 130 | 278 |
| **2006** | 2.14 | 131 | 139 | 333 |
| **2007** | 1.77 | 121 | 160 | 367 |
| **2008** | 2.34 | 111 | 201 | 505 |
| **2009** | 1.74 | 112 | 172 | 317 |

**Source:** BCB, IPEADATA and Commodities Research Bureau (CRB).
[/1] National currency against US Dollar (end of period).
* Index 2010 = 100, available data.
**Index 1995 = 100, available data.

**Annex 2** Brasil: Industrial and Exports - Quantum – time series

| Year | Industrial Output (*) | Imports General Index(**)[/1] | Exports Basic Goods(**) | Exports Manufactured Goods(**) |
|---|---|---|---|---|
| **1990** | 79.0 | 21.3 | 27.7 | 26.7 |
| **1991** | 77.0 | 23.3 | 27.3 | 28.4 |
| **1992** | 74.0 | 24.0 | 29.0 | 33.9 |
| **1993** | 80.0 | 32.3 | 31.6 | 42.5 |
| **1994** | 86.0 | 43.7 | 32.4 | 42.0 |
| **1995** | 87.0 | 64.5 | 30.8 | 37.4 |
| **1996** | 89.0 | 68.5 | 31.6 | 38.4 |
| **1997** | 92.0 | 81.0 | 35.5 | 43.4 |
| **1998** | 90.0 | 82.5 | 37.9 | 44.2 |
| **1999** | 90.0 | 70.1 | 41.2 | 46.1 |
| **2000** | 96.0 | 79.3 | 44.7 | 54.4 |
| **2001** | 97.0 | 81.7 | 59.6 | 55.1 |
| **2002** | 100.0 | 71.7 | 68.7 | 57.9 |
| **2003** | 100.0 | 69.1 | 77.7 | 70.1 |
| **2004** | 108.0 | 81.7 | 88.1 | 88.3 |
| **2005** | 112.0 | 86.1 | 94.3 | 97.9 |
| **2006** | 115.0 | 100.0 | 100.0 | 100.0 |
| **2007** | 122.0 | 122.0 | 111.8 | 103.2 |
| **2008** | 126.0 | 143.6 | 112.1 | 98.1 |
| **2009** | 116.0 | 119.3 | 115.3 | 75.7 |

**Source:** Funcex
[/1] Funcex does not disclosure the data openly of basic and manufactured classes of imports. Funcex only disclosure the subclasses of goods such as capital, intermediate goods, etc, making it impossible to compare with the exports data.
* Average 2002 = 100, available data.
** Average 2006 = 100, available data.