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The macroeconomics of Latin America and the peripheral countries in the new context of the 2000s. Three Essays on growth and inflation.

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ABSTRACT

The subject of this thesis is the changes in the international economic order since the beginning of the new millennium and its repercussion on the economic performance of the peripheral countries, particularly in Latin America. The first essay that integrates this thesis is focused on the conditions, mechanisms and implications of the decoupling process between the *trend* in GDP growth rates of developing countries ("periphery") in relation to the advanced countries ("center") that takes place from the beginning of the new millennium. Then, the analysis of how this new context impacts on the main Latin American countries and their macroeconomic functioning is the second essay that integrates this thesis. But to carry out this task, it is necessary to make a double movement. First, it is necessary to suggest (albeit in a preliminary way) a different hypothesis to explain the financial and exchange rate crises of the late 1990s. Second, with a more consistent explanation of the macroeconomic dynamics of the 1990s, it will be possible to make a more precise comparison about what are the differences and similarities between the two periods in the case of the Latin American economies. Finally, the third chapter is devoted to the analysis of recent Argentine inflation. The Argentine inflationary process of the last years is an interesting case for the analysis since it constitutes in some sense an anomaly in the international landscape. The most superficial idea in the global press and less informed international analysts is that double-digit inflation rates in a world characterized by the Great Moderation can only be the result of irresponsible macroeconomic policies. The chapter will attempt to show that the root of Argentine inflation can be explained by a *specific* combination of the same mechanisms and factors that explain the relatively lower inflation in Mexico or Brazil, and that have very little to do with the so-called populist policies.

RESUMO

O tema desta tese é as mudanças na ordem econômica internacional desde o início do novo milênio e sua repercussão no desempenho econômico dos países periféricos, particularmente na América Latina. O primeiro ensaio que integra esta tese está focado nas condições, mecanismos e implicações do processo de descolamento entre a tendência das taxas de crescimento do PIB dos países em desenvolvimento ("periferia") em relação aos países avançados ("centro") que decorrem de o início do novo milênio. Então, a análise de como esse novo contexto afeta os principais países latino-americanos e seu funcionamento macroeconômico é o segundo ensaio que integra essa tese. Mas para realizar esta tarefa, é necessário fazer um duplo movimento. Primeiro, é necessário sugerir (embora de forma preliminar) uma hipótese diferente para explicar as crises financeiras e cambiais do final da década de 1990. Em segundo lugar, com uma explicação mais consistente sobre a dinâmica macroeconômica da década de 1990, será possível fazer uma comparação mais precisa sobre quais são as diferenças e semelhanças entre os dois períodos no caso das economias latino-americanas. Finalmente, o terceiro capítulo é dedicado à análise da recente inflação argentina. O processo inflacionário argentino dos últimos anos é um caso interessante para a análise, uma vez que constitui, em certo sentido, uma anomalia na paisagem internacional. A idéia mais superficial na imprensa global e os analistas internacionais menos informados é que as taxas de inflação de dois dígitos em um mundo caracterizado pela Grande Moderação só podem ser o resultado de políticas macroeconômicas irresponsáveis. O capítulo tentará mostrar que a raiz da inflação argentina pode ser explicada por uma combinação *específica* dos mesmos mecanismos e fatores que explicam a inflação relativamente mais baixa no México ou no Brasil, e que têm muito pouco a ver com as chamadas políticas populistas.

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Introduction

1. The subject of this thesis is the changes in the international economic order since the beginning of the new millennium and its repercussion on the economic performance of the peripheral countries, particularly in Latin America. The three essays will critically discuss some controversial issues in current literature on inflation and growth.

First of all , as there is no such thing as an innocent view of reality , we must say what view we are guilty of. Thus, we will describe succinctly some important features of this approach.

First, the three papers assume that growth is demand-led, even in the long term, in the line of the supermultiplier approach, which combines the idea of the multiplier and the accelerator with exogenous distribution (see, for example, Freitas and SERRANO, 2015).

Second, inflation is considered as a process entirely explained by distributive conflict and by changes in normal costs (SERRANO, 2006; Stirati, 2001). This also involves international commodity prices (see SERRANO, 2013). Thus, income distribution, relative prices and inflation are strongly influenced by political and institutional factors, while the growth of the economy depends on the evolution of effective demand, and hence on macroeconomic policies.

Third, it is assumed that the world economy has operated in practice, at least since 1980, under the so-called "floating dollar standard", which confers extraordinary asymmetrical power to the US economy in the global context (see MEDEIROS & SERRANO, 1999). There are several features of this international monetary pattern. Since the dollar is the international means of payment, all US imports are paid in dollars, just as the total US external liabilities are also denominated in dollars. Since the dollar is issued by the Fed it is impossible for the US not to have enough resources (dollars) to pay its external obligations. Also, as the FED determines the dollar's basic interest rate, the US government has the privilege of determining the interest rates it pays on its own external debt.

This set of factors is clearly evident with each crisis and with the subsequent "flight to quality" of capital flows. These "flights to quality" of the market are never made *against* the dollar, but *towards* the dollar, despite even the reductions of interest rates in the United States. Still when the crisis has an epicenter at the core of the American economy, capital is "flying" toward the dollar. In this way, contrary to those views that postulate that the US economy is fragile and increasingly "dependent on the rest of the world" and would be on the verge of a major crisis, it would seem that the rest of the world is increasingly dependent on the dollar as international reserve currency.

This point is particularly important in our thesis, since it not only connects the three essays that compose it, but is crucial for the understanding of some important aspects that characterized the dynamics of the international economy, and the peripheral countries, in the last years.

Fourth, it is assumed that interest rates are set exogenously by central banks. In a sense, this is today a generally accepted hypothesis, but this approach tends to change radically when an open economy is analyzed (as will be clearly seen in the second essay of this thesis). In this case, the (erroneous) assumption that the interest rate would be determined by an exogenous supply of money again occupies the center of the stage (this time due to a supposed relationship between foreign exchange reserves and money supply). This idea underlies most analyzes of macroeconomic performance in the 1990s, when fixed exchange rate systems prevailed.

In this dissertation, however, it will be reaffirmed the idea that even in an open economy with free movement of capital, the short-term basic interest rate is exogenous, that is, it is an economic policy variable directly controlled by the central bank. This means that in general the central bank can set the interest rate to the desired level.[1]

Fifth, it will be assumed that the nominal (and real) exchange rate is determined in a manner analogous to that of interest rates. The nominal exchange rate is determined by

[1] In fact, the discretionary power of the central bank is limited by the possible consequences on the balance of payments situation and the evolution of the exchange rate derived from a certain level of interest rates set by the monetary authorities. This shows that there is no automatic (endogenous) mechanism of adjustment between exchange rates, interest rates and balance of payments. The absence of such a mechanism makes it inevitable that the exchange rate regime is always managed (even partially) by the purchase and sale of foreign currency by the central bank, by manipulating the domestic interest rate and also by means of capital control measures , which tend to increase the degrees of freedom of macroeconomic policy (See SERRANO & SUMMA, 2012).

the supply and demand of foreign exchange. These transactions reflect the needs of trade and portfolio decisions of economic agents. In turn, these portfolio decisions largely determine capital flows. This means that monetary authorities can manage the nominal exchange rate through changes in interest rates (VERNENGO, 1999).

Of course, as previously explained, there are limits to the ability of the central bank to manage the nominal exchange rate due to the fact that the exchange rate is a distributive variable and its changes affect the distribution of income. Also, a small open economy cannot sustain low interest rates for long periods unless other central banks follow the same policy. In particular, the hegemonic country (KINDLEBERGER, 1973) can impose high or low interest rates without being restricted by the policies of other countries.[2] In this way, the nominal (and real) exchange rate is determined as a conventional variable, it does not have a "natural" or "equilibrium" level. Thus, it has the connotations of a distributive variable (VERNENGO, 1999).

2. With these elements at hand, the first essay that integrates this thesis is focused on the conditions, mechanisms and implications of the decoupling process between the *trend* in GDP growth rates of developing countries ("periphery") in relation to the advanced countries ("center") that takes place from the beginning of the new millennium.

Certainly this trend is strongly associated with a change in global circumstances, including the fast GDP growth of China, its central position in determining the terms of trade between industrial goods and raw materials, and the low interest rates in States United States (and other developed countries). It was these international conditions, together with the changes in the economic policy of some peripheral countries after the crises of the 1990s, which made possible the so-called decoupling of growth rates from the periphery to the developed world in recent years.[3]

Thus, the three essays that make up this dissertation are articulated around a certain idea of a cyclical movement of the world economy that affects the long-term results, both in its price dynamics and in the trend of the level of activity, which changes the relative

[2] As PIVETTI writes (1992, p.14): "Low rates of interest, for example, simply cannot be a long-term phenomenon in a relatively small and internationally integrated economy unless low interest rates prevail and continue to prevail in the rest of the world".

[3] See SERRANO (2013) and SERRANO, MEDEIROS & Freitas (2016).

positions of the "center" and the "periphery". These relationships lie outside the analytic "core" of the classical theories of value and distribution (GAREGNANI, 1984).

In such a context, and observing the historical experience, this cyclical movement was schematically described as follows. In the boom periods, pushed by the growth of the (industrialized) central economies, the terms of trade improved for the periphery (relative commodity prices rose). For example, the increase in world demand, in the short term, led to a rise in the prices of raw materials and commodities.[4] However, sooner or later, the rise in the price of commodities causes inflationary pressures in developed countries on the cost side. In a context of wage resistance, these pressures induce increases in the nominal wages of workers, producing inflation in the developed world and reversing the trend of the terms of trade.

In this circumstance, the center could resort to interest rate rises to repress wage inflation, leading to a reversal of capital flows (from the periphery to the center), and producing crises in the developing countries and thereby reversing the trend of terms of trade in favor of industrial goods produced at the center (GUINZBURG & SIMONAZZI, 2004).[5] Finally, the real interest rate (deflated by its export prices) that the periphery pays for its external debts increases ("debt deflation") in a way that produces a financial crisis.

In this model, the "deflation of debt" in the periphery is produced by the flexibility of its export prices, which are endogenous to the monetary policy of the "central countries" (GUINZBURG & SIMONAZZI, 2004). Thus, the debt deflation in the periphery influences, through the prices of the imported goods, on the normal cost of production and, therefore, for a determined rate of interest and a monetary wage, on the price level in "core" countries.

[4] This is due to the fact that, at least in the short term, prices of agricultural and mineral products fluctuate with changes in supply and demand. In this sense, they are flex prices, as opposed to fixed prices, formed by the addition of a markup on costs (KALECKI, 1971). Or as suggested by Sylos Labini (1982), commodity prices are determined by supply and demand in the short term and by production costs in the long term.

[5] However, it should be noted that the GUINZBURG & SIMONAZZI (2004) analysis focuses on two large deflationary cycles (the so-called "Great Recession" of 1873-1896 and the "Great Disinflation" 1980-2000). In this context, the authors argue that for the sake of simplicity, they do not consider the differences in exchange rate regimes with a fixed exchange rate at the time of the Great Recession, and a flexible exchange rate in the last two decades of the century XX. So the exchange rate plays no special role in his argument.

In the 80s and 90s we can find similar mechanisms in place. Towards the end of the 1970s we have increasing commodity prices triggering an inflationary process in industrial countries, in a context of high wage resistance.[6] The turning point comes in 1979 when the Federal Reserve places very high interest rates. This upturn is related to the defense of the leading country hegemony, while other developed countries respond (defensively) with increases in their interest rates. But, in this context, another important change takes place. As PATNAIK observes:

> "... the "liberalization" of exchange rate regimes which is a part of the process of "globalization" has an independent, powerful and separate effect on the terms of trade which has its origin in the currency markets and not the goods markets. This effect arises from the secular tendency of the real values of third world currencies to fall, relative to the dominant currency in a regime of "liberalized exchange rates"" (PATNAIK, 2002, p.3).

Thus, in these new conditions, rising interest rates trigger a recession. Then commodity prices fall, due to short-term reasons (lower demand, liquidation of stocks), as well as the reversal of capital flows from the periphery to the center. The latter produces coordinated devaluations in the periphery, which further worsen the terms of trade and confer a *persistent* character on the new trend. Certainly, other peaks in US interest rates will occur later, as in 1989 and 1994, albeit with smaller dimensions.

The sharp rise in interest rates by the Federal Reserve in 1979 put an end to the cycle's boom phase and implied a structural break. This decision inaugurates the "floating dollar standard", which is basically the hegemony of the dollar but now based on an entirely fiduciary currency.

The rise in interest rates led to a sharp reduction in the flow of capital for most of the peripheral countries. Besides, there is a decline in the growth of the volume of exports with a worsening of the terms of trade for the periphery. With the increase of the interest rates in the United States virtually the access to the external financing disappears. Thus, there is a growing fragility in the external position of peripheral

[6] CAVALIERI, GAREGNANI & LUCII (2004) point out that the wage explosion, and the price inflation that followed, had *preceded* the rise in oil prices, which is often associated with the 1970s inflationary wave. Inflation was generated by an autonomous peak in distributive conflict rather than by external shock.

economies: interest rates on external liabilities increase, while the rate of growth of the value of exports tends to stagnate. In addition, in the case of the Latin American countries, there is a strong pressure to open up to imports and to further liberalize the capital account of the balance of payments. The financial and balance of payments crises take place and there are strong devaluations of most of the peripheral currencies.

In the 90's, things change though partially. In general, the persistent devaluations of peripheral currencies lead to an acceleration of inflation and a rise in conflicts over the distribution of income. The return of international financing, largely due to credits from international financial institutions related to the process of privatization and trade liberalization, allowed the establishment of fixed nominal exchange rates, which function as nominal anchors to control inflation. Large inflows of capital are directed at peripheral countries, but the rapid accumulation of external liabilities and the low growth of export value will eventually lead to even greater external and financial crises.

3. What are the most visible changes that are occurring in this cyclical movement in the beginning to the new millennium? First, the boom cycle is initiated at the periphery. But trade, although it has been important, does not seem to be the main transmission channel of the boom phase. Certainly, China's growth is a prime factor in this process. But the acceleration of growth in the periphery in the 2000s cannot be exclusively attributed to Chinese growth, since this country in the 1990s grew at rates as high as in 2000 (AKYUZ, 2012). In other words, China was already in a process of decoupling since the 1980s, although that did not seem to produce the takeoff of the rest of the periphery.

Second, China's role in the decoupling process has been important because of its strong demand for commodities (oil, minerals, oil) as well as a large *supplier* of industrial goods in the international market (many of these, products of high technological sophistication). Clearly, after China's accession to the WTO in 2001, this process has taken a more rapid pace.[7] The effect of China's demand on the price of commodities in dollars is virtually irrelevant (except in metals). But the growing impact of the Chinese economy on the terms of trade, and on the parameters of international competitiveness, is more than significant. Now, China's very low labor costs in dollars are increasingly

[7] For example, according to IMF data, during the period 1981-1999, China's exports (in current dollars) grew at an average annual rate of 11.4%, while in the 2000-2011 period it grew to 20,3% per annum.

determining the international costs of a wide range of industrial products. Then, the stable trend of industrial prices in dollars is one of the main determinants of the improvement in the terms of trade in favor of the commodity export periphery.

Third, in the early-mid-2000s, there was a third boom in capital inflows to developing countries. This boom was triggered by exceptionally low interest rates in the major advanced economies. Then, with the international crisis of 2008, the US Fed pushed interest rates to their lowest historical levels. In turn, this US policy was followed by other central countries, such as Japan or also by the conservative European Central Bank.

Unlike the international cycles of the past, in the first decade of 2000 real wages have not kept pace with the growth of labor productivity, both in the advanced economies as well as in the new export periphery of industrial products. While it is true that the rate of growth of real wages in China is among the fastest in the world, growing at around 10% a year in recent times (ILO, 2013), it is also true that the initial level of that growth is unusually low in international comparison.[8]

So while in previous cycles the commodity price boom had an inflationary impact on developed countries (on the side of production costs), which then tended to reverse the trend terms of trade, in recent years there was a very low impact on inflation in the center. The main reason for this low inflationary impact of the commodity boom appears to have been the unusually low bargaining power of industrial workers in most advanced economies. The weakening of the bargaining power of the workers of the central countries is in turn explained to a large extent by the strong competition of low-cost industrial exports in dollars from developing countries, especially China (and also from other developing countries, such as Mexico). These factors explain the unusual relationship between rising commodity prices and declining inflation in central countries.

Fourth, at the same time many "emerging market" developing countries abandon (or make major changes in) the economic policy patterns prevailing since the 1990s, which had led to external and financial crises (Mexico, 1995, Brazil 1998, East Asia and

[8] According to the Bureau of Labor Statistics, for example, despite rapid real wage growth in China, in 2010 US dollar hourly wages were 17 times higher than in China, 8.3 times higher in South Korea, 6.35 times higher in Argentina and 5.05 times higher in Brazil.

Russia, 1997-1998, Argentina, 2001). Among the most important changes in macroeconomic policies is the almost generalized adoption of heavily managed *flexible* exchange rate regimes, which prevents speculative attacks and avoids the possibility of currency crises. In particular, the floating (managed) exchange rate allows avoiding large devaluations.

The main implication of this set of factors is that the influx of foreign capital and improved terms of trade in favor of commodities and raw materials allowed the primary exporting countries a *broad real appreciation* of their currencies against the US dollar, consolidating an upward trend in the *absolute* price of commodities in dollars and further strengthening the rising trend in the *relative* price of primary commodities to industrial goods (SERRANO, 2013). This shows that the main channel of China's influence on the growth of the periphery in the 2000s, and hence in the decoupling itself, comes from a cost channel. This cost (price) channel has the characteristic of producing a shift in the balance of payments constraint of the set of peripheral countries that export commodities. Of course, trade was also an important factor. In fact, since 2002 the physical volume of exports from most peripheral countries has grown at high rates (driven by the acceleration of South-South trade).

To analyze these effects, different authors use the Sraffa framework extended to take into account the open economy hypothesis. Thus, while GUINZBURG & SIMONAZZI (2004) seem to place the analytical emphasis on the effects of these interactions on inflationary processes in the central countries, SERRANO (2013) adopts a similar approach but tries to offer a global vision, with special emphasis on the set of developing countries.

SERRANO (2013) argues that one of the factors that allowed the decoupling in the growth rates of the periphery was the remarkable improvement in the balance of payments management policies in many developing countries. These improvements include managed floating exchange rate regimes.[9] In this case, exchange rate flexibility is by no means "free floating". Rather, it entails tightly managed flexibility, which makes the exchange rate regime particularly robust for dealing with speculative attacks.

[9] In addition, massive accumulation of foreign exchange reserves, early repayment (or restructuring) of official foreign debt, creation of sovereign wealth funds, and selective taxation of some export commodities (and sometimes subsidization of some commodity imports), among other.

Besides, SERRANO's analysis relativizes the demand side in explaining the commodity price trend and drives its interest on the supply side. He points out that the (classical) theory of production prices brings to the fore the necessary connections between production costs and distributive variables and, in particular, the (social) rules governing the distribution of income between wages, profits and different types of rents (and also exchange rates) in each particular historical situation (SERRANO, 2013, p.197).

In this analytical context, he notes the changes in the balance of payments position of commodity-exporting countries in the 2000s to show the important role of commodity dollar prices in general in the trend towards a nominal (dollar) and real appreciation of the currencies of the main countries exporters of raw materials.[10] On this point, there is strong empirical evidence that the appreciation of the currencies of commodity-exporting countries (the so-called "commodity currencies"[11]) was and is a key factor in determining and sustaining the (absolute) dollar price of these commodities.[12]

Thus, it is possible to identified a common pattern in the dynamics of real exchange rates for the two sets of countries. As most commodity prices showed a downward trend in the 1980s and 1990s, the currencies of countries exporting mainly commodities tended to depreciate (this would also be true, albeit to a lesser extent, for "oil-currencies"). The opposite is the case since the early 2000s, when improved terms of trade in favor of commodities allowed the reversal of devaluation tendencies in the periphery, consolidating and amplifying the favorable trend of the terms of trade via the appreciation of the commodity currencies.

Now China, which shows substantially higher growth rates than the central countries, is a major importer of primary commodities, at the same time that it has become a large

[10] This point introduces a significant difference with GUINZBURG & SIMONAZZI's (2004) emphasis, since now the price trend of raw materials imported by the center is not a "purely" exogenous element for the industrialized countries, and is not only influenced by the relative growth of the "core" industrialized countries, but now also the macroeconomic policies of the periphery have an impact.

[11] “Commodity currencies" is the denomination of the currencies of those countries that depend significantly on the export of raw materials and commodities. In general, and not without ambiguity, the denomination includes developing countries, although it also includes some developed countries like Canada and Australia..

[12] See CHEN, ROGOFF & ROSSI (2008), COUDERT, COUHARDE & MIGNON (2008) and CASHIN, CESPEDES & SAHAY(2003), among others.

exporter of sophisticated industrial goods but with very low labor costs. For the whole of the periphery this fact is at the same time a blessing as a serious problem.

The positive impact of the increased value of exports to peripheral countries is gradually offset by the growing weight of China's exports to the rest of the periphery. In many cases, the positive balance becomes a trade deficit of each of these regions with China. For example, in the case of Latin America, bilateral trade with China shows a faster increase in imports than in Latin American exports. This differential pace of goods flows has implied a growing trade deficit for the region with China.[13] Something similar seems to take place in the trade link between sub-Saharan Africa (SSA) and China. While there is a clear positive association between China's growth and SSA's exports to China, however, African imports from China have tended to grow faster than exports since 2008 (DRUMMOND & XUE LIU, 2013).

While this process takes place, the low labor costs in China's dollars makes unit labor costs in foreign exchange an increasingly less important variable in determining competitiveness among countries. This fact is reflected in the vast empirical evidence on the scarce (or null) effect of relative prices and/or the manipulation of real exchange rates on countries' trade volumes. China's income shifted industrial labor costs down so much that cost-based competitiveness is not socially viable for a wide range of developing countries.

This seems to be one of the most powerful reasons why the attempt to stimulate exports, especially of industrial goods, via a "competitive" real exchange rate would not seem to work. It´s a stylized fact that foreign trade (exports and imports) of Latin American countries is relatively insensitive to changes in the real exchange rate, confirming the "elasticity pessimism" of the old structuralist economists.[14]

[13] In terms of growth rate, the accumulated variation between 1990 and 2009 for imports was almost twice that observed for exports. In annual average terms, the growth rate of exports to China was 26.8% per annum while the same rate for imports was 30.6% per annum. The difference between the growth of imports and exports was much lower in the 2000s due to the intensification of export flows. Considering only the 2000-2008 period, average export growth reached 34.0%, while imports grew by 35.4% (BITTENCOURT, 2012). But the trend towards trade deficit with China seems to gradually accentuate in more recent years.

[14] "Depreciations without Exports?" is the suggestive title of a recent IMF study (AHMED, APPENDINO & RUTA, 2015) that finds evidence that the elasticity of manufacturing export volumes to the real effective exchange rate has declined over time.

Thus, in this thesis the following effects of the oscillations in the exchange rate are underlined (and confirmed by empirical evidence). First, *nominal* devaluations, if persistent, can favor capital *outflows* and produce feedback on the devaluation process itself (between actual market outcomes and expectations), generating instability in the exchange market and introducing greater external fragility.[15] Second, devaluations of the *real* exchange rate, if coordinated among the peripheral commodity exporting countries, lead to a worsening of the terms of trade for the periphery as a whole (as empirically documented in the first essay of this thesis). Third, real devaluations appear to be *contractive* in both the short and long run, generating inflationary acceleration, falling real wages and consumption, and thus negatively affecting private investment.

4. The analysis of how this new context impacts on the main Latin American countries and their macroeconomic functioning is the second essay that integrates this thesis. One of the most interesting aspects of the new international context is that it allows comparisons in the macroeconomic dynamics of the countries in relation to the performance of the 1990s. But to carry out this task, it is necessary to make a double movement.

In the first place, it is necessary to suggest (albeit in a preliminary way) a different hypothesis to explain the financial and exchange rate crises of the late 1990s. Second, with a more consistent explanation of the macroeconomic dynamics of the 1990s, it will be possible to make a more precise comparison about what are the differences and similarities between the two periods in the case of the Latin American economies.

In a certain sense, the argument of this second essay can be schematically formulated as follows: it is necessary to make a new interpretation of the macroeconomics of the 1990s (based on analytically more appropriate hypotheses and with more empirical relevance) to understand the new situation that emerges in the first decade of the new millennium and its prospects. An unprejudiced comparative analysis of macroeconomic developments between the 1990s and the first decade of the 2000s highlights several serious inconsistencies and limitations of the usual analysis of the causes of the crisis in

[15] Clearly, this seems to be the case in Argentina in recent years. In this case, the tendency to a greater devaluation of the nominal exchange rate had a double consequence (not necessarily related). On the one hand, it produced a higher inflation rate in a context of high "wage resistance". On the other, it stimulated capital outflows as it had a negative impact on the external-internal interest differential.

the decade of the 1990s, which has become a sort of new macroeconomic consensus (called "neo-developmentist") among economists.

The almost consensual diagnosis of the causes of the financial and external crises in the 1990s emphasized in particular the role of capital flows, their intrinsically unstable nature, and the associated appreciation of real exchange rates that led to increasing (and unsustainable) current account deficits, growing "de-industrialization", and finally to the crisis.

But accumulated empirical evidence, especially in recent years, cast doubt on several important aspects of this commonly accepted diagnosis. For example, if one of the main causes of the financial and external crises of the 1990s was excessive appreciation of real exchange rates, why there is no evidence of financial or exchange rate crises today, although the level of appreciation of real exchange rates is similar to the one registered in the 90's? This "puzzle" has been explained in a number of ways, but all explanations have converged to shifting the focus from the *real* exchange rate to the *nominal* (fixed or flexible) exchange rate.[16]

This paradox led us to investigate once again the reasons for the external crisis of the 1990s and the regressive productive restructuring that undoubtedly took place. Basically, we can summarize the results of this inquiry in two main topics. First, the regressive structural change that took place in the late 1980s and early 1990s was not mainly the result of the appreciation of the real exchange rate or the reduction of tariffs. The empirical research available analyzing the period in which the pro-liberalization reforms took place conclusively show that the "price effect" was very small, and yet there was a considerable increase in the income elasticity of imports in almost all countries.[17]

In fact, trade liberalization was not carried out solely through a price channel. The protection consisted of high tariffs, *para-tariff* barriers and also the *prohibition* of importing a very wide range of goods. But, above all, changes in the use of public

[16] For example, both Lopez, MORENO-BRID & PUCHET (2006), in the case of México, or FRENKEL & RAPETTI (2012) for all Latin-American countries, have to explain why financial and foreign exchange crises did not occur in the 2000s, when capital inflows and exchange appreciation levels were similar to the 1990s.

[17] See, for example, PACHECO-LOPEZ & THIRLWALL (2006).

procurement were fundamental.[18] These changes in import regulation systems that are unrelated to relative prices (such as import licensing systems and essentially the use of state purchasing power) will be placed at the center of the analysis of this thesis.

These changes in import regulation systems that are unrelated to relative prices (such as import licensing systems and essentially the use of state purchasing power) will be placed at the center of the analysis of this thesis. In short, it will be assumed that the regressive structural change that took place at the beginning of the 1990s was mainly due to the dismantling of that system of promotion and incentive to domestic industrialization (and not to a certain degree of appreciation of the exchange rate real).

On the other hand, the external and financial crises of the late 1990s are basically related to *fixed* (or quasi-fixed) *nominal* exchange rate schemes, something is now commonly accepted, rather than a certain level of the *real* exchange rate.

The other fundamental aspect that is missing in the analysis of this macroeconomic consensus is the role of fiscal policy in long-term growth. This omission seems to be due to two interrelated aspects. On the one hand, the great influence of the conventional view that considers fiscal policy, at most, as a tool to stabilize cyclical fluctuations, without any influence on the growth trend of the economy. On the other hand, there is a specific aspect of peripheral exporting commodity economies. In these cases, such as Mexico and Argentina, the government may have an *implicit* fiscal rule that associates the increase in public spending with the dynamics of primary exports, through taxes on exported value. We could call this mechanism a open economy balanced budget multiplier (Haavelmo's theorem).

[18] The policies of economic openness applied in these countries since the late 1970s and since the 1980s have changed substantial aspects of the so-called state-led industrialization period (BÉRTOLA & OCAMPO, 2012). Historically, a broad system of public enterprises had been established which, together with state investment in infrastructure (roads, hospitals, etc.), required massive purchases of goods. To the extent that this demand for goods was directed towards the domestic industry, the public procurement system became a powerful tool to stimulate local activity and technological development. But the decision to privatize public enterprises put an end to this historic stage. Now, with few exceptions, private companies (operating in previously nationalized areas) are not required to direct their demand for goods to the local industry. Therefore, traditional local suppliers are forced to compete with imported production. The dismantling of the system of promotion of state purchases (and of the conditions for national development) implied a transfer of decisions from the public sector to the private sector and closed a historical stage in which the State had been a guiding force for the industrialization process in these countries.

In these cases, despite the relative low weight of exports in the aggregate demand of these countries (or the low domestic content associated with these exports), the high correlation between the growth rate of exports and the GDP growth rate may be essentially explained by an expansive fiscal policy, generating the false impression that these economies could be of an export-led type, or, equivalently, that exports have an unusually high multiplier effect.

These elements allow a better understanding of the macroeconomic evolution of these countries in recent years, both in terms of growth and inflation. For example, in the case of Brazil, conventional wisdom held that the prevailing macro-economic regime was a crisis-prone model. This prognosis was based on the conventional ("heterodox") interpretation of the crises of the 90s. But none of that happened. Brazil today has a crisis that has nothing to do with volatile capital flows and / or appreciation of the real exchange rate, but with a fiscal austerity regime that plunged the country into a deep recession. In Brazil there is no evidence of a balance of payments crisis, and the level of international reserves is unusually high.

A priori, the macroeconomic policy in Brazil looks like a very restrictive framework and in a sense very dependent on the international conditions. For example, since 2005 Ignacio "Lula" Da Silva's government has been able to take advantage of the gradual reduction of the international interest rate, to lower the domestic interest rate while maintaining a significant differential of rates that favored the influx of capital and the appreciation of the nominal exchange rate (the main anti-inflationary mechanism in this stage). Then the fall in interest rates (along with other measures) allowed for a consumer credit boom, which was one of the main expansionary elements at that stage.

However, due to the mechanisms detailed in this thesis, the change in the orientation of fiscal policy set an additional limit to the growth of credit itself, by limiting the disposable income of the private sector as a whole.[19] These cases highlight, in one way or another, the importance of fiscal policy in the growth of these countries. In short, exports alone cannot explain the growth of Mexico or Argentina, nor the limits of Brazil's credit boom can be understood, without considering the role of fiscal policy.

[19] On this point, see PARIBONI (2016).

In general, the structural diversities and the different economic policy options adopted explain the specific international insertion of countries such as Argentina, Brazil and Mexico in the new context. In this perspective, the growth path of each country is strongly affected by macroeconomic policies and, in turn, these macroeconomic policies are strongly influenced by the need to remove the constraint of the Balance of payments. Therefore, a key to understanding the growth process is the study of the interaction, in each historical period, between the external context (trends in international trade, the economic-financial environment and the associated geopolitical situation) and the economic policies followed By the State, which in turn are strongly influenced by internal conflicts (MEDEIROS & SERRANO, 1999).

Thus, the second essay presented here aims to focus on the study of the interaction between changes in the international environment and its articulation with the changes in internal policies of recent years, and to present its main results. In this context, the balance of payments is the main transmission channel between these two levels, which co-determine the macroeconomic policies and, through them, the economic growth rate. In practice, external financing is ultimately the key "input" in the development process.

At the same time, the second essay of this thesis summarizes the main stylized facts of the macroeconomics of these countries, describing the main econometric evidence, to show how the macroeconomic dynamics of these countries can be explained (consumption, inflation, growth, investment, etc.) on the basis of alternative hypotheses, consistent with the approach synthesized at the beginning of this introduction. In consequence, the analysis will produce important differences between the countries under study with respect to their particular international integration and the relative effectiveness of their macroeconomic policies.

Thus, while Argentina and Brazil were favored by improved terms of trade and high demand for primary commodities from China, Mexico showed a very different dynamic. Since its entry into NAFTA, it has become a major exporter of competitive industrial products from Chinese production and has shown a large trade deficit with China. In contrast, Argentina and Brazil showed a pattern of complementary trade with China, and thus faced a smaller bilateral deficit and even maintained a surplus until recent years. Unlike the countries of South America, Mexico now has a much lower

weight of primary products in its export agenda. In addition, imports from China consist of intermediate goods for final assembly to be re-exported to the United States.[20]

Mexico was practically the only country in the region that did not benefit from the effects in its trade relations with the other countries of the region, while Brazil was the main beneficiary (through its industrial exports) of higher growth of South America induced, in turn, by the expansion of China (CUNHA, LÉLIS & BICHARA, 2013). Besides, both Brazil and Mexico (except for short periods) have been financing their current account deficit with a positive capital account since the early-mid-1990s. Of course, in times of crisis, there is an adjustment (e.g., Brazil towards the beginning of 2000, and Mexico in 1995). By the mid-2000s, and especially after the subprime crisis (when interest rates fell to near zero), Brazil and Mexico both received large foreign capital and accumulated huge foreign exchange reserves.

However, Argentina shows a very different evolution. One of the features of the inflation targeting system is its marked bias towards nominal (and real) exchange rate appreciation. This trend of the nominal exchange rate ensures that carry trades are safe and profitable, favoring the persistent inflow of capital. But Argentina maintained a persistent tendency to *devalue* the nominal exchange rate, which combined with relatively low interest rates, discouraged the inflow of capital and stimulated capital outflows. This was the main reason Argentina failed to finance its small current account deficit.[21]

In recent years, the three economies show a certain tendency to the most pronounced rise in nominal (and real) exchange rates. This trend can be explained in the Argentine case by the fact that there is a context of relative scarcity of foreign exchange reserves, which translates into persistent demand pressures in the foreign exchange market. But in the case of Brazil and Mexico it seems to be a trend explained by internal (distributional) factors, since there has been no significant change in the external financial conditions of these economies.

[20] See MEDEIROS & CINTRA (2015, p.34).

[21] The situation becomes more complicated as of 2010, when the small current account deficit is added to the persistent deficit of the capital account, implying a premature loss of international reserves. Shortly thereafter, economic policy began to be constrained by a shortage of foreign currency reserves by 2014, while Brazil and Mexico continued to accumulate large foreign exchange reserves in that period.

The comparison includes a discussion about the inflationary processes in these three countries, with emphasis on their different institutional regimes (Mexico and Brazil with inflation targeting systems, and Argentina, which has only recently joined the inflation targeters group). At this point, it should be emphasized that in the case of México there was a *negative* contribution of the distributive conflict, which contributed to the slowdown of inflation. Thus, the main disinflation factor was not the nominal exchange rate, but the unit labor costs that had a fundamental disinflationary impact in the years 2000.

Moreover, the case of Brazil and Argentina in recent times seems to show that inflation targeting systems can be successful in reducing inflation using the exchange rate appreciation when the distributive conflict presents low intensity or It is controllable. Otherwise, the pressure of unit labor costs in the tradable sectors leads to (political) pressure for the devaluation of the currency, even in the presence of abundant international reserves. In other words, currency devaluation can be a resource (perhaps only short-term) to try to accommodate the pressure on the profitability of tradable sectors in the face of rising persistent labor costs.

Finally, the third essay is devoted to the analysis of recent Argentine inflation.

The Argentine inflationary process of the last years is an interesting case for the analysis since it constitutes in some sense an anomaly in the international landscape. The most superficial idea in the global press and less informed international analysts is that double-digit inflation rates in a world characterized by the Great Moderation can only be the result of irresponsible macroeconomic policies.

The chapter will attempt to show that the root of Argentine inflation can be explained by a *specific* combination of the same mechanisms and factors that explain the relatively lower inflation in Mexico or Brazil, and that have very little to do with the so-called populist policies.

The essay begins with a theoretical discussion, outlining the main features of the new consensus model, as well as the main criticisms it has made, as well as the results of changing its main assumptions. Then a brief analysis of Argentine inflation between 2002 and 2015 is developed. Finally, we conclude with a discussion of the possible

results, as well as the main dilemmas and problems that could face the application of the regime of inflation targets in Argentina.

Chapter 1. Sustainability and implications of "decoupling" on the growth trend between the center and the periphery

1.1. Introduction

The main objective of this essay is to analyze the causes, implications and sustainability of "decoupling" between the growth trend of the center and the periphery. It will be shown that this trend was closely related to a change in global conditions, including China's rapid economic growth, its central role in determining the terms of trade between industrial goods and basic goods, and the low interest rates in the States United.

The hypothesis of the essay is that these international conditions, along with the changes in the economic policy of some peripheral countries after the crises of the 90s, made possible the phenomenon known as "decoupling" in the years 2000 in the rates of growth Of the periphery and the developed world. Also, a more detailed analysis will show that there is nothing automatic about this "decoupling" phenomenon. The "China effect", its robust growth process (as well as that of other developing countries such as India), does not automatically translate into high and sustained growth rates for the rest of the periphery. This depends, to a great extent, on the autonomous policies of the periphery itself.

The text aims to discuss the factors that explain the decoupling of the growth trend in developing countries and, in this connection, to investigate if the developing world is moving toward a gradual re-coupling. The general idea is to test the interpretation put forward by SERRANO (2013). According to this approach, the causes that explain the decoupling of peripheral countries are the following:

1. The persistence of the so-called floating dollar standard. Hence, the existence of low interest rates in the United States, which have been generating a surge in external capitals flows to developing countries (particularly since the financial crisis of 2008);

2. the increase in commodity prices and the remarkable improvement in the terms of trade for developing countries;

3. a high international demand for commodities, particularly from China;

4. The above-mentioned factors have led to a substantial improvement in the external position of the peripheral economies, which was reinforced by a significant improvement in the management policies of the balance of payments in these economies, namely: the widespread adoption by developing countries of flexible exchange rate regimes, which imply the existence of floating exchange rates but strongly managed by central banks (i.e. managed floating exchange rate system), the implementation of export taxes and / or subsidies for some imports, substantial reductions in external debt and a huge accumulation of foreign exchange reserves.

5. In the absence of balance of payments constraint given the very expansionary policies of China, developing countries showed fast growth in domestic demand through expansionary macroeconomic policies, which determined a strong expansion of South-South trade.

Certainly, this process of decoupling was the result of great improvement in external conditions, which implied a substantial shift in the balance of payments constraint of the peripheral countries in relation to previous decades. However, although the removal of the external constraint on growth is a necessary condition for the process of decoupling takes place, it is not a sufficient one. As LEWIS (1980) observed, if the way to resolve the balance of payments constraint for developing countries is through the trade with developed economies, then the decoupling growth cannot take place.

In his Nobel award lecture, LEWIS discussed the feasibility for less industrialized countries to form an *autonomous* pole of growth. This possibility would change the nexus of strong dependence of developing countries on industrialized countries economic growth. Thus,

> "If a sufficient number of LDCs (Less Developed Economies) reach self-sustaining growth, we are into a new world. For this will mean that instead of trade determining the rate of growth of LDC production, it will be the growth of LDC production that determines LDC trade, and internal forces that will determine the rate of growth of production" (LEWIS, 1980, p. 562).

The *necessary* condition was that one (or more) of developing countries must to develop a strategy of autonomous growth (relative to more developed economies), thus

becoming a "cyclical center" for other developing countries. This "cyclical center" would provide a high demand for exports from other peripheral countries. In following sections it will be discussed some hypotheses about the transmission channel of Chinese exports to the growth of other developing countries (particularly in commodity exporters).

Certainly, LEWIS could not foresee the fundamental role that the flows of financial capital in recent times have played. Thus, the other condition that LEWIS did not think about is that there is no big private capital outflow from the periphery to the center as it tends to happen when the interest rates in the centre are increased sufficiently.

However, LEWIS stressed the responsibility of governments to promote internal growth of developing countries, especially through large investment programs. LEWIS believed that this responsibility could not be done without "foreign aid" (at that time, foreign aid was the responsibility of the World Bank and other multilateral lending agencies).

1.2. The facts: Cycle and trend

The decoupling of growth in developing countries relative to developed economies had as its main feature a different evolution of the cycle and the trend in GDP growth rates. On the one hand, the cycle of growth in developed and peripheral countries showed a stronger correlation in the first decade of the 2000s. This higher correlation of cyclical movements is the result of greater financial and trade integration (the latter, closely linked to the spreading and deepening of the so-called global value chains or GVC).

However, on the other hand, the usual process of decomposition of the series GDP growth rates in its cyclical and trend components reveals a clear decoupling in the *trend* growth rates of developing countries in the last decade. The gap in the growth *trend* had a peak in 2008 and in recent years there is a gradual process towards a *recoupling* in the growth trend between central and peripheral countries. At the same time, this process was accompanied by a lower synchronization in cyclical movements of the two regions (see figure1).

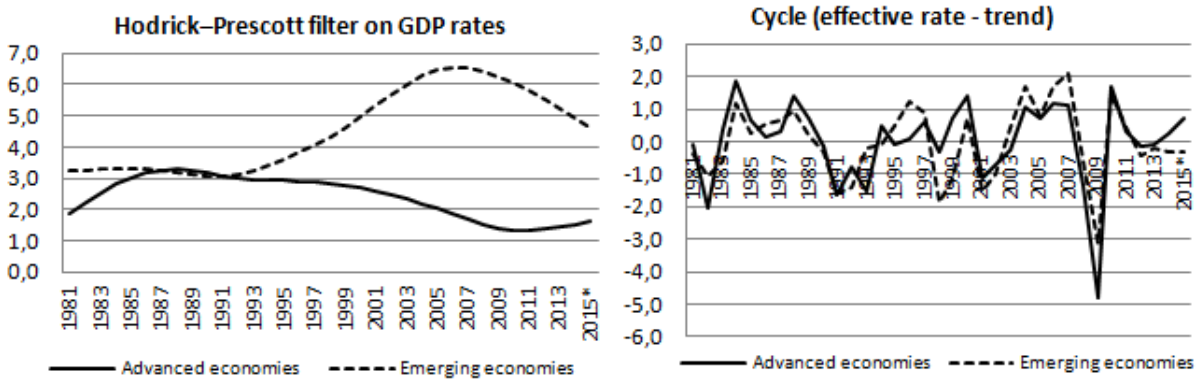


Figure1. Cycle and trend in GDP growth rates, 1980-2015

*Source: IMF, World Economic Outlook, April 2015 (*projected).*

The difference between *effective* rates of GDP growth between developing and advanced economies turned maximum to 2009 (6.5 percentage points) and thereafter was gradually reduced. Between 2010 and 2011 this reduction was gradual, but from 2012 became faster, until 2015 the difference in growth rates between the two regions was only 2.1 percentage points.

There are important differences when GDP growth rates in each country or region are analyzed (see Figure 2). Africa maintains a positive gap in the growth rate in relation to the more advanced countries equivalent to 3.4 percentage points in 2015, after reaching a maximum gap of 7.5 pp in 2009.India shows a sustained positive gap around 5 pp by 2015. Similarly, in 2015 China has a positive gap of 4.4 percentage points. Indeed, the gap is less than that observed in 2009 (12.6 pp), but still high, and it is similar to that exhibited in 2000.Finally, because the performance of Latin America has been so bad in recent years, the gap in growth rates became negative (-1.5 pp in 2015) after reaching a maximum positive gap of 3.8 pp in 2008.

Undoubtedly, the process of decoupling requires as a necessary condition the establishment of new "engine of growth in the periphery (a role that clearly was played so far by China). But there is another condition, namely: countries must transmit the new external environment (high prices, high demand for their exports) by a macroeconomic policy that promotes sustained stimulus to domestic demand. Only then can transform the best external conditions in greater domestic growth (and thus, increased regional growth).

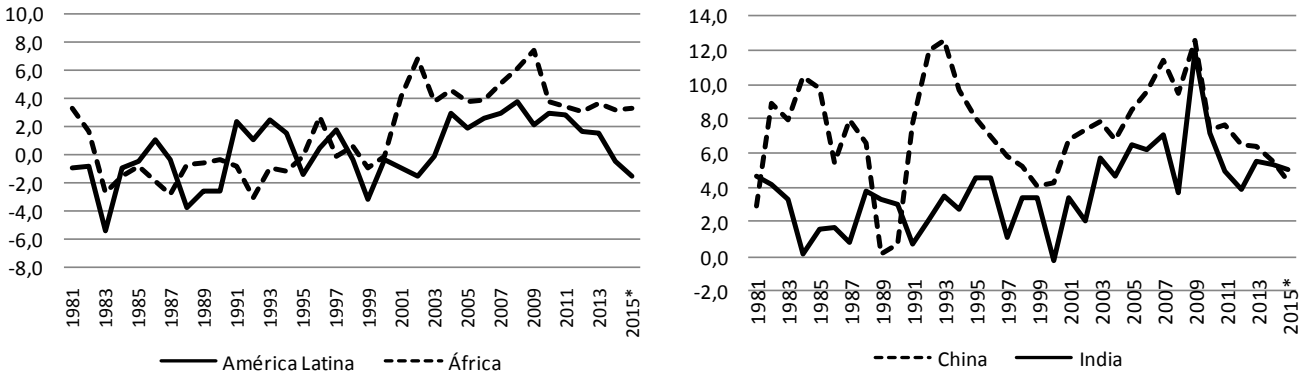


Figure2. Differences in the rates of growth of GDP of each country or region relative to advanced countries (in percentage points)

*Source: IMF, World Economic Outlook, April 2015 (*projected).*

A first preliminary conclusion that emerges from the above brief description is as follows: in recent years (2009-2010) we have a tendency towards progressive re-coupling in the pace of economic growth between central and peripheral countries. Second, the partial reduction of the gap in GDP growth rates between the two groups of countries is the result of a faster slowdown in growth rates in the developing world than in developed countries. Thirdly, as was repeatedly pointed out by most analysts and the media, the growth rate of China's GDP in 2015 was the lowest in 25 years (although it should be stressed that this result was basically the level targeted by the Chinese government in its plans).We will return to these important points later.

1.3. Some probable causes of partial re-coupling

As stated at the beginning, the process of decoupling was caused by a number of interrelated factors: low interest rates in developed countries and increased flow of foreign capital to developing countries; rising commodity prices and improved terms of trade for the periphery; high international demand for commodities (particularly from China); a substantial improvement in the management policies of the balance of payments in developing countries and, finally, the existence of expansionary macroeconomic policies in developing countries with a strong expansion of South-South trade. These being the causes of decoupling, then, logically, the process of partial re-coupling should be the result of a change in (at least) some of the conditions or causes referred.

Further, it is important to distinguish between two very different issues. On the one hand there is the discussion of the reasons that produced a certain re-coupling in recent years. On the other hand, a completely different question is what will happen in the future and whether these recent changes may lead to a *new trend*. This paper aims to provide some elements to answer the first question, and only attempt to conjecture a few tentative thoughts on the second point.

2.1. Interest rates and capital flows

As is known, the level of interest rates in the United States (and in other developed countries) is a crucial factor determining capital flows to the periphery (Rey, 2015). After a long period of interest rates close-to-zero, the US Federal Reserve decided that since 17 December, the target band for rates will be 0.25% to 0.5%, a quarter point higher than in the past.

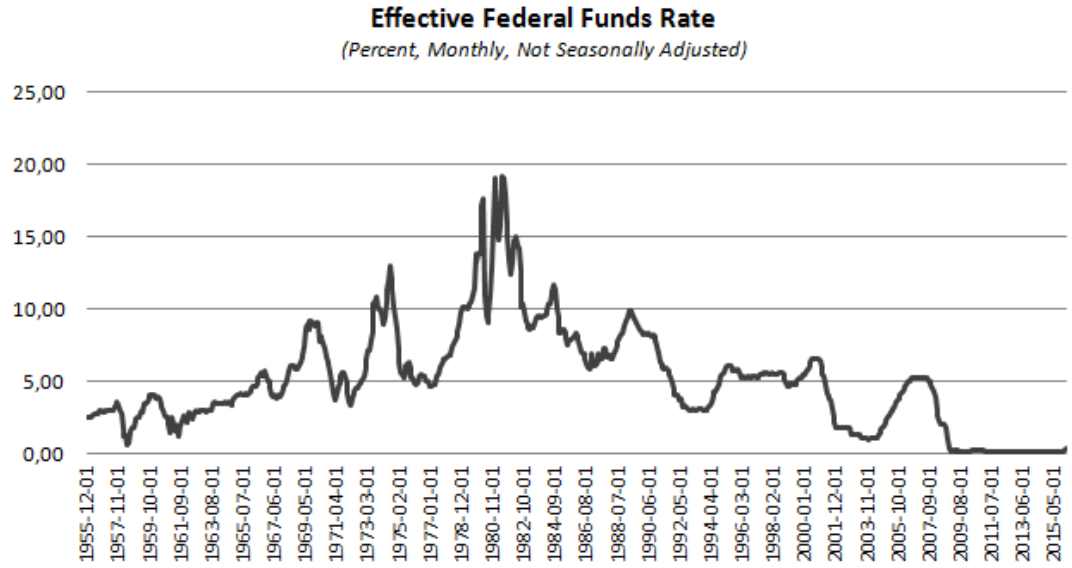


Figure3: Effective Federal Funds rate
(percent, Monthly, Not Seasonally Adjusted)
Source: Federal Reserve Bank of St. Louis.

Higher rates strengthen the dollar by attracting foreign capital. But it seems not to be the case today. After a long time in which the harmful effects of any rise in US interest rates were announced, no one seems to be paying much attention to the recent rise. The reason is that the increase is so small that it cannot significantly alter the high interest

rate differentials that hold the majority of developing countries. At best, they may generate some short-term volatility.

As shown in the graph (data are up to 2014), it seems unlikely that this change has been a major cause in the relative slowdown in growth in the developing world. In the first place, the deceleration (or the process of partial re-coupling) seems to have started much earlier. Second, it may be that the recent increase in interest rates by the Federal Reserve will lead to a slowdown in the flow of capital to the periphery, but it is difficult to conclude that this will lead to a *reversal* of capital flows.

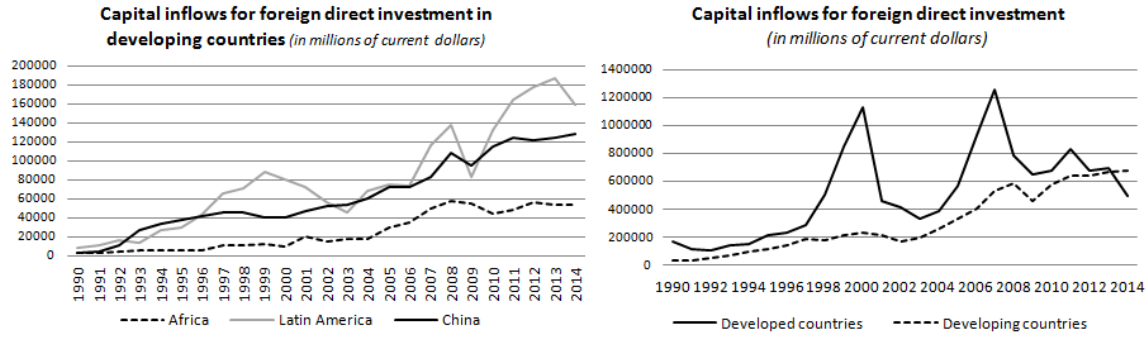


Figure4: Capital flows

(millions of current dollars)

Source: Centro de Economía Internacional based on national sources, World Bank, UNCTAD and ECLAC.

As seen in the Figure4, in 2014 there was a decline of 16% in flows to Latin America and the Caribbean in the form of foreign direct investment (FDI) and a decrease of 2% in Africa. For developing countries as a whole, these decreases were offset by a substantial increase in FDI in developing countries of Asia, mainly due to China (15%) (ECLAC, 2015, pp.17).

In 2014, for example, in the case of Latin America and the Caribbean, FDI inflows were affected by the decline in economic growth in the entire region, as well as lower prices of many export commodities. This had a particularly negative impact on the natural resources sector, particularly in mining, in which a reduction in profits largely caused the decline in FDI inflows (due to lower reinvestment of profits).Also, while there has been a decline in the profitability of FDI in the region, however the returns to FDI remain the heaviest negative item in the current account of the balance of payments and,

as such, increase the current account deficits in many countries (see ECLAC, 2015).For its part, the inflows of FDI to Africa remained stable in 2014. It should be noted, however, that the amount of FDI (as well as financial flows of portfolio), in Latin America and the Caribbean and in Africa, remain at historically high levels (UNCTAD, 2015).

It may be that the recent increase in interest rates by the Federal Reserve may be a factor that accentuates some extent the ongoing process, but it is difficult to conclude that, under its own weight, can lead to a reversal of capital flows. Certainly, as will be discussed below, the interest rate differentials include the country risk premium and the expected change in the nominal exchange rate (which is closely associated with the effective evolution of the exchange rate). Therefore, if developing countries undertake policies of persistent depreciation of their currencies, this may, at some point, begin to create tensions in the external sector of the emerging countries.

2.2. Commodity prices and terms of trade

This section is based on the general argument that the change in the relative prices of commodities in the 2000s reflects changes in the relative costs of production (see SERRANO, 2013).Only in the case of some metals (such as aluminum, nickel, copper and iron ore) demand from China had a significant impact on prices. However, there is another impact of China in terms of costs, which has played a key role in the substantial increase in the *relative* price of commodities.

On the one hand, nominal unit (in dollars) commodity costs rose rapidly in the first decade of the 2000s because of the deliberate restriction of supply of oil (result of both OPEC policy and the revival of the so-called "Natural Resources Nationalism"), rising costs of minerals (due in part to capacity constraints in the most efficient mines) and the rapid growth of real wages in major commodity exporting countries (both mineral and agricultural), along with the real appreciation of their currencies.

On the other hand, unit costs in dollars of industrial exports increased slowly due both to the slow growth of real wages in the advanced capitalist countries, and the increase (faster) in real wages -but less than productivity- in developing countries that are strong exporters of industrial products (China and other Asian NICs). Thus, the low initial level and the low rate of growth in unit labor costs in dollars of exports of manufactured

goods from China and other developing countries (countries that are involved in a strong process of industrialization) were a major factor in the trend in terms of trade. Therefore, in the first decade of the 2000s (particularly since 2003), international industrial prices (and world inflation) did not keep pace with such fast commodity price increases, resulting in a large increase in the *relative* price of all types of commodities (SERRANO, 2013).

Among the various factors that drive changes in the trend of commodity prices it has been noted the influence of real exchange rates of developing countries (particularly those countries exporting commodities and oil). The revaluation of the currencies of the set of commodity-exporting countries relative to the dollar may have been an important element in the rise of dollar commodity prices, as this process increases the unit costs of production of all types of commodities, measured in dollars. This influence has been widely identified, even in the literature that follows a more conventional approach.

For example, COUDERT *et al* (2008) revisit the relationship between commodity prices and real exchange rates for a large sample of countries over the 1980 to 2007 period. Firstly, he show that real exchange rates co-move with commodity prices in the long run, as they are co-integrated. He also evidences the same type of relationship for oil-exporting countries, even if the response of their real exchange rates to oil price is somewhat smaller. Secondly, the authors identify common patterns in the real exchange rates of commodity and oil exporters. As most commodity prices were on a downward trend in the 1980s and the1990s, commodity currencies tended to depreciate. This is also true though to a lesser extent for oil currencies. From the start of the 2000s up to 2007, the upturn in commodity and oil terms of trade reversed the depreciation trend.

It is also possible to reverse the direction of causality between these variables, that is, from the exchange rates of developing countries to the dollar price of commodities. A typical example of this interaction is given by those historical cases in which the interest rate in developed countries rose sharply, generating a sudden stop in capital flows and therefore a flight to quality towards the center. Then, capital flight towards the center produces a coordinated depreciation in developing countries, which pushed down the dollar price of commodities exported by these countries (more on this below). In this context, what matters for explaining the trend of prices is if the appreciation of the

commodity currencies persists and, in particular, if is not more than cancelled out by large subsequent devaluations.

Regarding this relationship, as shown in DRUCK *et al* (2015) in 2012 it seems to have had beginning a period of dollar appreciation in the US, while point out that the phases of appreciation of the dollar were correlated with lower real GDP growth of the emerging market economies. Interestingly, the authors note that the main transmission channel is through an *income* effect "owing to the impact of the dollar on global commodity prices. As the dollar appreciates, dollar commodity prices tend to fall. In turn, weaker commodity prices depress domestic demand via lower real (dollar) income. Thus, real GDP in emerging markets decelerates". Moreover, DRUCK *et al* (2015) shows that these effects hold "despite any potential expenditure-switching effect resulting from the relative currency depreciation of emerging market economies when the dollar appreciates".

It is interesting to look more closely at this trend, especially when many economists now postulate that currency depreciations should have *beneficial* effects on developing economies. Above all, it is expected that the depreciation should be a stimulus to increase exports. In suggestive paper, AHMED *et al* (2015) show that really happens is another thing, namely *devaluations without exports*. That is, there seems to be no expenditure-switching effect at all.

The authors show that the exchange rate elasticity of exports would have changed over time and that the formation of global value chains has affected this relationship. As countries are more integrated into global production processes, the depreciation of the currency only improves the competitiveness of a small fraction of the value of exports of finished goods.

DRUCK *et al* (2015) also show that despite controlling for the effects of the US real exchange rate appreciation and real GDP growth, an increase in the US interest rate further reduces growth in emerging markets. The authors conclude that "emerging markets growth is likely to remain subdued reflecting, in part, the expected persistence of the strong dollar and the anticipated increase in the US interest rates". Thus, this trend toward appreciation of the US dollar in real terms is the counterpart of the

nominal (and real) devaluation of domestic currencies of several developing countries (in particular, those that are exporters of commodities).

In recent years, the increasing trend in the dollar price of oil had as one of its main causes deliberate supply constraints introduced by OPEC (in addition to the so-called "natural resource nationalism"). But recently, there was an oversupply of oil in the world due to the strong growth of world production, especially in the US (Due to the use of unconventional technologies such as fracking). As a result, the dollar price of oil has fallen dramatically.

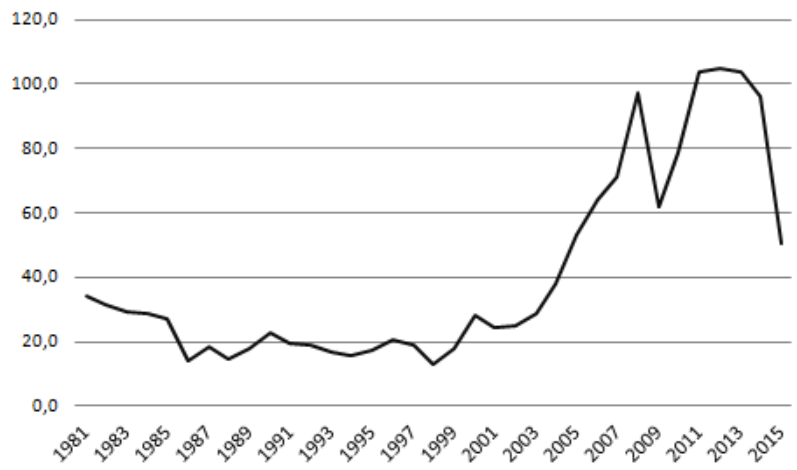


Figure5: international oil prices
(U$S, average Brent-Dubai-WTI)
Source: IMF.

This oversupply was accentuated when in November 2014 OPEC refused to reduce its production ceiling. OPEC blames the sharp increase in oil production in the United States by low oil prices. Therefore, it has maintained its production level in order to maintain its market share. This downward trend in oil prices may well be regarded as a short-term phenomenon, since it cannot continue without destroying the American oil industry.

But so far, this decline continues and has been very damaging to exporting economies such as Venezuela, Russia or Iran. But on the other hand, most developing countries has

benefited because they are net oil importers. In addition, the fall in oil prices is a positive shock on inflation in developed countries, which strengthens the tendency to maintain low interest rates.

2.3. Exchange rate flexibility and international reserves

Certainly one of the key aspects of the process of decoupling has been the improvement in the management policies balance of payments, which (along with external conditions) made it possible for more than a decade without external crises in developing countries. However, since 2012 even without severe external shocks, domestic currencies of most of the "emerging" economies (including some developed countries that are major exporters of commodities, such as Australia, Canada and New Zealand) are depreciating significantly against the dollar.

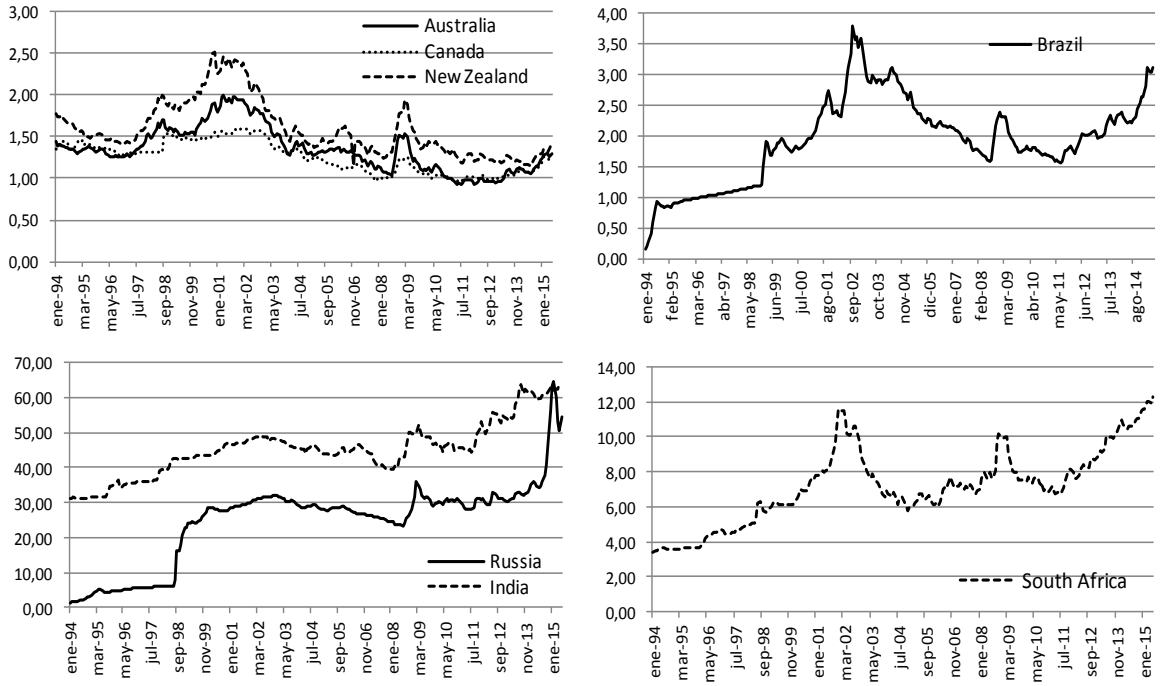


Figure6: Nominal exchange rates, 1994-2015

(developing and commodity exporter's countries)

Source: IMF - World Economic Outlook, and national agencies.

The reasons why developing countries are depreciating their currencies are not obvious. Many of these countries have a lot of international reserves (such as Brazil, India, Indonesia, Russian Federation, Turkey and South Africa). Certainly, if the evolution of foreign exchange reserves in major developing countries (excluding China) is observed,

it appears that the level of international reserves reached a peak in 2012 and then gradually began to decline. For the set of selected countries (shown in the graph below, in the aggregate without China), the decrease in foreign exchange reserves is exacerbated by the heavy loss of Russia in 2014 (-24%).

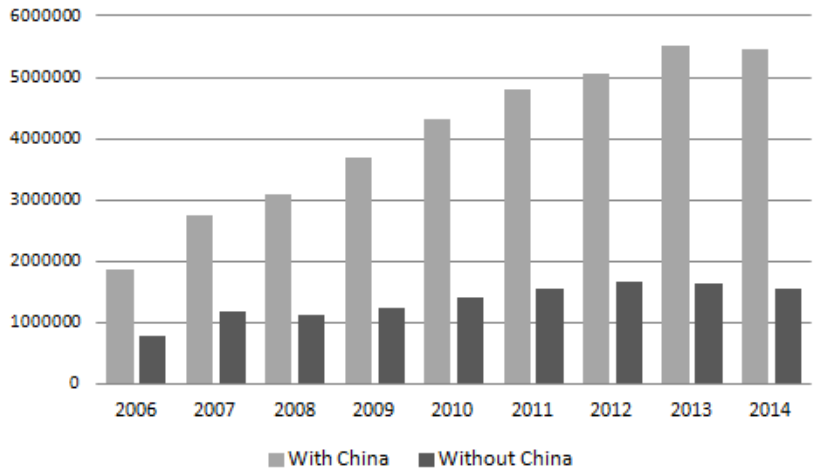


Figure7: International Reserves in developing countries

(includes gold, millions of current dollars)

Source: World Bank, World Development Indicators.

Selected countries: Brazil, China, India, Indonesia, Malaysia, Mexico, New Zealand, Russia, South Africa and Turkey.

But anyway, all countries show a change in trend, and the massive accumulation of foreign exchange reserves that characterized the first years of the new millennium are moving towards a period of relative stabilization (except for Turkey and Mexico, countries that are not commodity exporters). Nevertheless, *levels* of foreign exchange reserves by 2014 are considerably high. Therefore, the point is whether this change in the trend of foreign exchange reserves of developing countries (excluding China) is inducing changes in domestic macroeconomic policies (mainly in exchange rate policy), since devaluations of currencies cannot be considered automatic or spontaneous reactions, but rather as a consequence of a *policy* decision.

It is true that when there was the outbreak of the subprime crisis in 2008, there was a more or less *spontaneous* devaluation of the currencies of developing countries. But these devaluations were quickly reversed and nominal (and real) exchange rates returned to a path of appreciation. Instead, the trend toward devaluation of the

currencies of several peripheral countries that has taken place from 2012 onwards does not seem to show signs of reversal.

If these trends will last, then two important aspects that had previously been determinants of substantial improvement in the management of the balance of payments of developing countries would change significantly. If the appreciation of the real exchange rates of the "commodity currencies" was a major cause in improving terms of trade, the reverse process (i.e., the coordinated devaluation of several peripheral countries exporters of primary commodities) will lead to *deterioration* into the prices of primary commodities. Besides, because they are interconnected factors, deteriorating terms of trade can lead to further loss of foreign exchange reserves and so on.

The question is: what are the criteria that guide the exchange rate and monetary policy in these countries? In the current literature there is no single way to understand this "progress" in the macroeconomics of developing countries. For example, DE LA TORRE *et al* (2013) point out that the key factor is the fundamental improvement of the "macro-financial immune system" of the Latin American countries. For the first time in decades, this would allow countries now resort to the depreciation of their currencies to absorb external shocks and stimulate the national economy. However, the authors admit that such depreciation would probably have to be accompanied by active interventions by central banks in the foreign exchange market to limit excessive volatility.

This alternative is possible because of two fundamental changes. First, the de-dollarization of financial contracts, which substantially reduces the adverse effects of the depreciation on the balance sheet of the debtors. Second, the decline in exchange rate pass-through to prices, which would reflect,

> "a more credible monetary policy that is better able to coordinate expectations in a forward looking manner —i.e., around the inflation target preannounced by the central bank—thereby breaking the old tendency for prices and wages to be set in a backward looking manner—i.e., indexed to past inflation and devaluation" (DE LA TORRE *et al*).

Certainly, exchange rate flexibility and the trend towards accumulation of reserves have been characteristics of virtually all the developing countries and have not been specific attributes of inflation targeting systems. More importantly, its advantages do not derive from the "credibility" or "institutional quality", but by the fact that expand the margins

of monetary autonomy. The lack of commitments in relation to the nominal exchange rate provides flexibility to the economy to adjust to external shocks. It also reduces the incentives for speculators to bet on the currency market in one direction. Besides, in their portfolio choices between domestic and foreign assets, private agents must assume currency risk. Therefore, it is expected a lower exposure of portfolios to changes in the nominal exchange rate, as well as a lower fragility of the financial system to external shocks (FRENKEL & RAPETTI, 2009).

The other key aspect is the strong reserve accumulation. The central banks have pursued a goal (whose empirical indication is unobservable) that is, a volume of reserves adequate to persuade the public that the central bank can determine the nominal exchange rate. Since the "spontaneous" exchange market forces do not tend toward any equilibrium level (see SERRANO & SUMMA, 2012), it is the central bank that should guide expectations. Thus, if the level of international reserves is sufficient (in the above sense), betting on a devaluation will not be profitable.

On the other hand, the tendency to analyze the current macro-financial vulnerability of Latin American Countries (and developing countries in general) by categories that were applied to the emerging economies in the 1990s is clearly wrong. The situation is now clearly different, though not without problems.

One of the major differences is that developing countries today have less financial fragility. For example, in 2000 the stock of external debt in relation to exports has declined substantially relative to the 1990s in almost all developing countries.

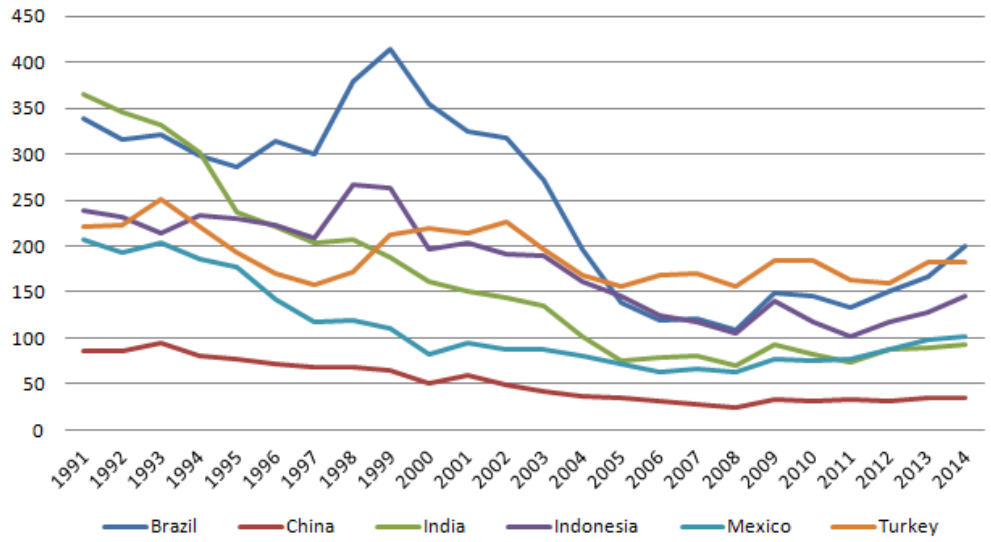


Figure8: External debt stocks

(%of exports of goods, services and primary income)

Source: World Bank, World Development Indicators.

One of the perhaps most important problems is as follows. While exchange rate flexibility can be useful to smooth the external adjustment of the peripheral economies, when it results in a *generalized* policy (coordinated by exogenous events, such as a decrease in the dollar price of commodities), can adversely affect the external position of the *whole* of developing countries because it validates or accentuated the fall of commodity prices (thus damaging the terms of trade of these economies).In other words, what may be useful for an individual country, it may nevertheless be harmful to the whole (See SERRANO, 2013; and GUINZBURG & SIMONAZZI, 2004).

In conclusion, would seem to be two reasons that interact to explain why most countries are allowing the depreciation of their currencies (although these adjustments do not improve exports nor diminish the propensity to import). First, under a regime of floating exchange rate, when an economy has capital inflows (whether portfolio flows or even foreign direct investment) that are denominated in domestic currency and whose returns must be repaid in that currency, investors should bear the exchange risk, since the dollar value of those liabilities can always be reduced by a devaluation of the exchange rate. This feature seems to be a factor explaining the policy followed in recent times by central banks and governments. When an external shock (small or large) negative happens, depreciation of domestic currencies seems to be an option to the loss of foreign exchange reserves.

The second reason (maybe more important than the first) is that the currency depreciations aim to improve the profitability of the entire business sector (and not only the tradable sector of the economy), at least in the short term. This objective is often rationalized by arguing that the increased profitability is a necessary stimulus to increase productive investment, promote technological progress and diversification of exports. This seems to be a common vision for the economists of the so-called "new developmentalism" as well as for those of more conventional view, who seem to form a kind of "new consensus" macroeconomic to developing countries (BRESSER-PEREIRA, 2008; FRENKEL & RAPETTI, 2012).

2.4- On Chinese growth and its prospects

As explained above, one of the key factors of decoupling in growth rates of the peripheral countries was the strong growth in China. This unprecedented growth rate (around 10% annual averages in the early 2000s) was associated with a rapid increase in Chinese imports from the exporting periphery of commodities (such as Latin America and Africa). On this aspect, was repeatedly pointed out by most analysts and the media that the growth rate of China's GDP in 2015 was the lowest in 25 years (although it should be stressed that this result was basically the level targeted by the Chinese government in its plans).

However, on this top it is convenient to point out two aspects. The first is whether there are elements by which these data can be interpreted as the beginning of a *new phase*, characterized by a tendency of China's GDP growth more moderate. The second is to analyze the implications of this hypothetical new trend of growth of the Chinese economy in terms of decoupling growth rates between developed and developing countries.

On the first point, the gradual slowdown in the pace of Chinese growth (certainly from unusually high rates), cannot be taken by himself as an indicator of a new trend of growth of the Chinese economy in the future. As is known, the tendency of growth of any modern economy is not predetermined, and the factors that cause economic growth are neither spontaneous nor automatic. As KALECKI said, "In fact, the long run but a trend is slowly changing component of a chain of short-period Situations: it has no independent existence" (KALECKI, 1968).

But there is an important difference between the Chinese economy and other modern economies. The capacity of the Chinese government to control the business cycle is much higher than in other countries. This is because (among other reasons) the enormous weight of public investment in aggregate investment.

So it could be taken as the best hypothesis about the future trend of growth, the very objectives outlined in the five-year plans of the government. Therefore, as the government has set a target of average growth for the period 2016-2020 of "around 6.5% annually" one could take this projection as the best hypothesis about the growth trend for the coming years. Then, the projection of the *trend* resulting from this growth target clearly shows a *decline* compared to previous years.

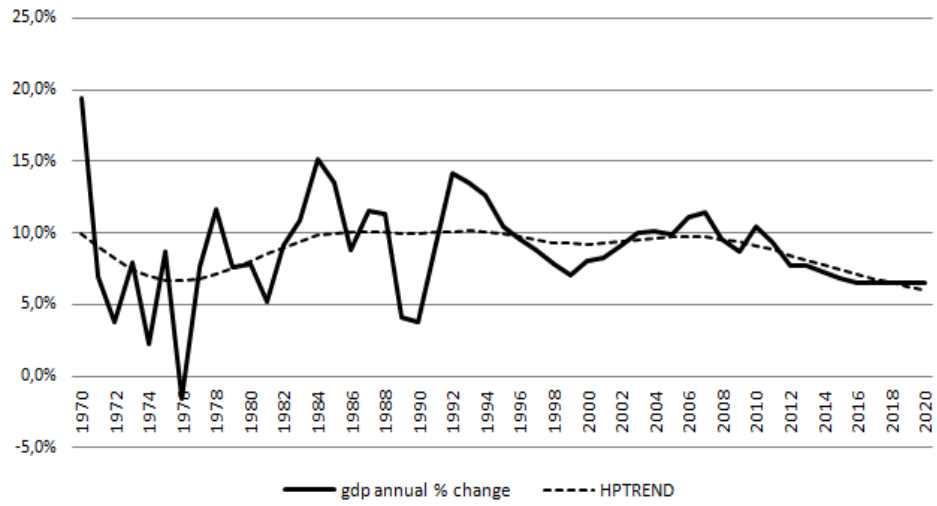


Figure9: China GDP growth rates

(% annual change)

Source: IMF and growth targets contained in the five-year plan 2016-2020.

However, it is interesting to note that even if this were the case, and making the assumption that developed economies sustain their present growth rate, China would preserve a considerable gap between its growth *trend* with respect to the developed world. In the hypothesis formulated by LEWIS (1980), the creation of a new engine of growth should lead to a change in the dynamic *between* the peripheral countries. Thus, the starting point is the acceleration of growth in the "cyclical center"; then, this growth will lead to an acceleration of trade between developing countries. One direct way to

measure the evolution of this "acceleration of trade" is to observe the dynamics of Chinese imports, taken as a *proxy* of "engine of growth" of the periphery.

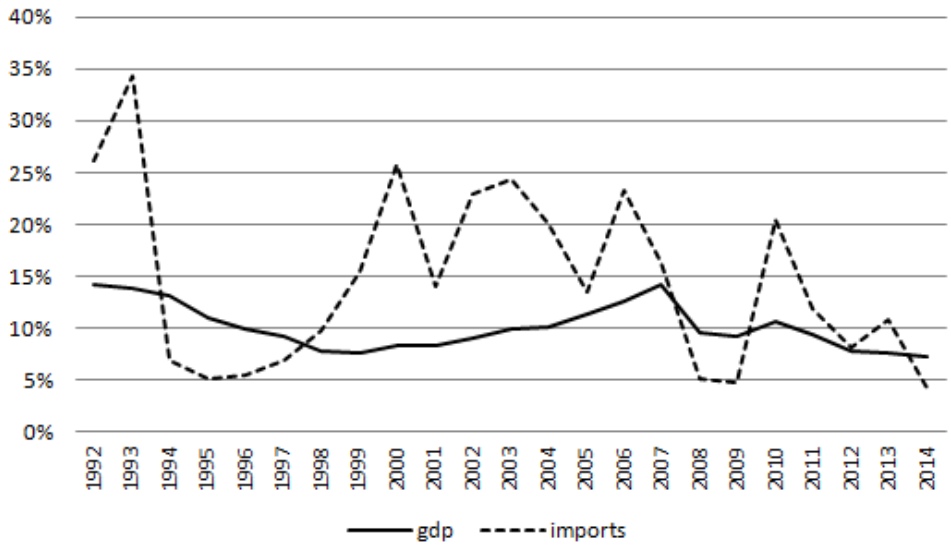


Figure10: China, GDP and imports

(% annual change, constant 2005 U$S)

Source: World Bank.

As shown in the graph, Chinese imports (measured in constant 2005 dollars) in 2014 exhibited a significant decline in their annual growth rate, following the slight slowdown in the rate of annual GDP growth that began in 2010.Also, after a long period characterized by a persistent increase in the ratio of imports / GDP of China's economy (increased from 14% of GDP in 1991 to 34.5% in 2013 at constant 2005 prices), this coefficient appears to show a gradual stabilization trend, probably due to the gradual slowdown in economic growth (See chart below).

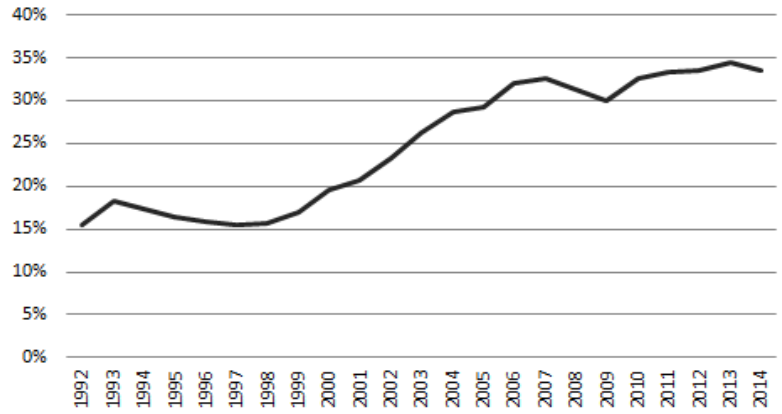


Figure11: China, imports/GDP ratio

(in %, constant 2005 U$S)

Source: World Bank.

However, although the growth of the Chinese economy will not be the same (unusually high) in the early 2000s, however it is reasonable to assume that in the future this country will maintain high rates of GDP growth (and imports). An important point, however, is that the growth of the peripheral countries is not totally induced by China, as will be discussed briefly in the next section.

2.5. Exports and growth in developing economies

To explain the possible transmission channels from increased exports to GDP growth, it is necessary to distinguish between two possible roles to exports (MEDEIROS & SERRANO, 2001). On the one hand, exports are a component of the autonomous aggregate demand (along with public spending, autonomous consumption and others). In this respect, exports may be more or less important, depending on the specific economy. On the other hand, exports are a source of foreign currency and in this sense play a crucial role in any economy (except for the economy issuing the international reserve currency).

When a peripheral country becomes an "autonomous pole" of growth (LEWIS), this implies that accelerates the growth rate of imports from other developing countries. Then the increase in exports of other peripheral countries to the new "cyclical center"

removes the balance of payments constraints (by increasing import capacity) and makes feasible a more rapid expansion of the domestic market and growth GDP. The balance of payments constraint determines a maximum point beyond which growth cannot continue. But it does not determine the *actual* pace of growth (indeed, countries can grow persistently below that maximum).So, the easiest access to sources of foreign currency is not automatically transformed into a larger domestic GDP growth and employment. Rather, it depends, directly or indirectly, of domestic macroeconomic policies. A further specific feature can be distinguished within this general approach. If it is accepted that a crucial factor in the long-term growth of modern economies is fiscal policy, it would be interesting to draw attention to the macroeconomic policies of developing countries in recent years.

As explained above, even in a context of slowing "engine of growth", countries of Southeast Asia and the Pacific continue at a growth rate much higher than developed countries. Even with a lower growth gap, the same applies in the case of sub-Saharan African Countries. However, Latin America has *reversed* the process of decoupling in 2014 (which in any case had been weaker than in the case of Asia and Africa), and is now growing even more slowly than the developed countries. According to ECLAC (2015), Latin America and the Caribbean has been the worst export performance in the last decades, with a sharp contraction of trade in 2015. Despite the nominal depreciations, the trade deficits of the countries of the region increase and intraregional trade collapses (even more than exports to the rest of the world).

However, faced with the crisis of 2008 and 2009, the main countries of Latin America and the Caribbean instrumented strong countercyclical policies. The region quickly overcame the crisis and in 2010 reached a considerable growth of around 5.7% GDP. Since then, the slowdown has been persistent, and by 2015 became stagnation (0,5%). It is true that the total regional exports fell 3% in 2014, but in 2009 had decreased by 25% and this did not prevent countries to implement countercyclical policies. With the exception of Argentina, the whole region has abundant foreign exchange reserves to sustain a reasonable growth rate (at least in the short and medium term).

Given this slowdown, governments of major countries in the region adopted a different policy to that applied in 2009. In Peru, Colombia, Chile, Mexico and Brazil persistent nominal depreciation of the domestic currency against the dollar were observed. In part

this was the result of using "countercyclical" monetary policies (i.e., lower interest rates). These policies led to capital outflows and in this way led to the devaluation of domestic currencies. At the same time, fiscal policy has assumed a secondary role or worse, acquired a contractionary bias.

Most likely this change in the policy response of governments (i.e., the virtual absence of counter-cyclical policies in a similar extent to those of 2008/2009) has its origin in the emergence of obstacles of a *political* nature. A long period of sustained economic growth rates produce results (both economic and political) that are not necessarily well regarded by social groups and classes that have a higher relative power. These growth processes are never spontaneous, and therefore increasingly need greater state intervention in the economy. In turn, if the process of growth and development takes persistence over time, this inevitably leads to reducing unemployment, which may eventually lead to the emergence of distributive and political tensions (KALECKI, 1943). In fact, the processes of growth in several countries in the region (such as Brazil, Argentina and Venezuela, among others), even with their significant differences, have been supported by the formation of large "distributional coalitions" (to use an expression of Mancur Olson), which they emerged after the severe crises caused by the neoliberal experiment in the 1990s.

This reaction of the most powerful groups and social classes is one of the main causes of change, more or less quickly towards a new economic policy that is observed in several countries in the region. Generally speaking, this shift of economic policy aimed at reducing the role of government in promoting economic growth. Instead, the private sector should assume primary responsibility for the growth. The encouragement of private investment and exports (by increasing profitability and improving the real exchange rate) should replace the boost to consumption and expansionary fiscal policies, emphasizing in this case the need for fiscal balance.

Some countries in the region had managed to overcome this self-imposed restriction, due to the arbitrary criterion of "sound finance", linking the improvement in tax revenue (and thus the expansion of public expenditure) to the dynamics of exports of commodities. In several cases we can see the probable existence of fiscal rules (explicit or implicit) connecting exports with fiscal policy and, therefore, with real growth of GDP. In turn, this feature could help explain how the change in commodity prices could

have an "income effect" in some developing economies (as observed by DRUCK et al, 2015).

The experience of some Latin American countries in recent years is a clear example of the link between exports and fiscal policy. In some of these countries, there was an association of governments of the region with the boom in commodity prices (through improved tax revenues). Thus, a set of 19 countries in the region had increased substantially (and simultaneously) their income and public spending (consumption, investment and social transfers), generating expansionary fiscal policies while maintaining balanced primary fiscal results and small financial deficits, which they looked "acceptable" in light of the conventional view (ECLAC, 2013, p.39).

Table1

Latin America and the Caribbean: fiscal income from the exploitation of commodities

	1999-2001	2009-2011	1999-2001	2009-2011
	(% gdp)		(% of total income)	
Argentina	0,0	3,0	0,1	13,6
Bolivia	5,1	9,6	20,5	29,9
Chile	0,8	3,7	3,8	17,3
Colombia	1,2	2,4	10,2	16,2
Ecuador	6,3	13,5	30,8	34,5
México	6,1	7,5	31,2	32,5
Perú	0,2	1,6	1,2	9,3
Venezuela	8,7	8,3	44,0	39,2

Fuente: ECLAC.

Note: corresponds to:

Central Government: Argentina and Chile.

General government: Bolivia.

Nonfinancial public sector: Ecuador.

Public sector: Mexico, Colombia, Peru and Venezuela

Certainly, it is not at stake here only (or mainly) an analytical question about the role of fiscal policy in modern economies. Underlying the theoretical aspect there are other elements, less academic or, as KALECKI (1943) wrote, "... Usually obstinate ignorance is a manifestation of underlying political motives".

1.4.Final remarks

Summing up the above observations, we propose the following explanatory sequence. It was a process of decoupling in the trend growth rates caused by a number of interrelated factors: low interest rates in the United States influx of external private capital to developing economies, high commodity prices and improved terms of exchange, strong demand for commodities, and improvements in macroeconomic policies in developing countries. This decoupling of the growth trend of developing countries in relation to the more developed nations reached its peak in 2009. From then on, the process of decoupling was more attenuated, moving slowly towards a re-coupling.

Although there was a small rise in US interest rates, international financial conditions remain favorable for developing countries. On the one hand, the stagnation in the advanced economies of Europe and Japan leads the level of interest rates in these countries remains very low. In fact, based on differences in interest rates in the short term, carry trades operations can use currencies (the "funding currencies") where prevailing low yields. On the other hand, China is expanding the possibilities of external finance for many developing countries (through currency swaps and other mechanisms).

Also, the general index of commodities (estimated by the IMF) in 2015 was 35% lower than the previous year, but still 76% higher than in 2000. In addition, all commodities have increased price over products and industrial inputs. Therefore, although more moderately, the terms of trade remain favorable for developing country exporters of commodities. But the main problem here is the trend towards the depreciation of currencies in the peripheral countries. As explained, the reasons for this policy appear to be two. On the one hand, they allow a type of adjustment to external shocks which tends to prevent the loss of foreign exchange reserves. On the other (and more important), it seems to be part of distributive conflict in some countries (such as Brazil and Argentina). However, as the evidence shows, this policy leads to further deterioration in the terms of trade.

For growth prospects of many developing countries it is crucial to the rate of economic growth in China. In this regard, the growth trend that the Chinese government is planning for the coming years implies a certain slowdown in growth. However, if this trend were to materialize, though lower than that exhibited in the early years of the new

millennium, is anyway a significant gap in growth rates relative to the developed world. That is, the Chinese economy will continue to be "decoupled" albeit at a somewhat slower pace. In this scenario, Chinese imports (taken as a proxy engine of growth in the periphery) continue at a similar pace.

Finally, a fundamental aspect of the weakening of the decoupling process in recent years, appear to be changes in the economic policies of many developing countries own (something that is very clear in Latin America).Unlike 2008/9, persistent depreciation of domestic currencies in many developing countries, combined with the absence of counter-cyclical policies is a key factor that determines a lower rate of growth and an increasing deterioration of the terms of exchange. The slower pace of growth in imports, in turn, may involve a further reduction of exports by the combined effect on trading partners in each region (all countries in Latin America that are diminished exports to China, globally reduce their import capacity in relation to its neighbors). Since the relevant variables interact in the same direction, a further deterioration in the terms of trade tends to deepen the policies of exchange rate adjustment (to prevent loss of reserves) and so on.

However, in several countries the main cause of this policy is an attempt to intervene in the distributive conflict, after more than a decade of economic growth and social prosperity in many developing countries, characterized by the persistent increase in real wages and employment.

Chapter 2: How macroeconomics works in Latin America: a comparative analysis between Argentina, Brazil and Mexico in recent times

2.1. Introduction

The objective of this chapter is to establish an overview of how macroeconomics works in Latin America, based on the discussion of the available evidence of the main macroeconomic linkages in Argentina, Brazil and Mexico.

The functioning of macroeconomics in this countries has certain specific features. For example, they are countries with a strong presence of commodities in their pattern, with high financial and technological dependence, and structural heterogeneity, among other features. The period of analysis ranges from the financial liberalization reforms in the early 1990s to the present.

Why compare Argentina, Brazil and Mexico? Firstly, they are the three largest economies in the region.[22] Likewise, Brazil and Mexico are undoubtedly the two most successful economies in the state-led development stage, having reached one of the highest levels of industrialization in the region. On the other hand, Brazil and Mexico are the largest economies in the region that have high structural heterogeneity and also still have relatively large percentages of their populations employed in the agriculture. Argentina, for its part, is a few steps behind these experiences of industrialization, although it has a higher per capita GDP and a lower degree of structural heterogeneity. The three countries will be discussed separately: Argentina (2.2), Brazil (2.3) and Mexico (2.4). The chapter closes with a few concluding remarks. In the annex, the main econometric findings on the macroeconomic linkages analyzed in this chapter are summarized.

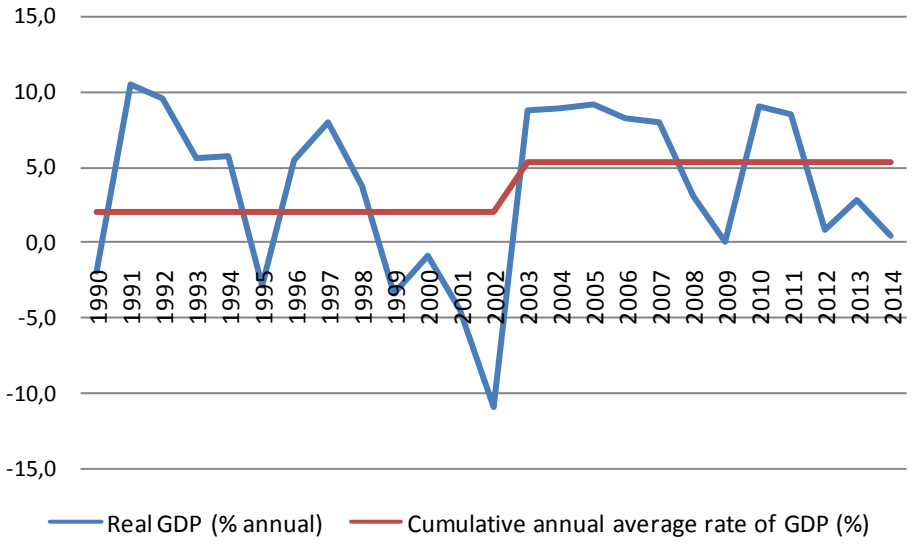
[22] According to data obtained from the International Monetary Fund for 2014, the GDP of each country in PPA was: Brazil (3263800), Mexico (2140600) and Argentina (947600). Thus, Brazil represents 34.9% of the region's GDP, Mexico 22.9% and Argentina 10.1%. Among the three countries, they account for 68% of all regional GDP.

2.2. Argentina

2.2.1. The convertibility plan and its crisis

Argentina's economic growth in the 1990s was one of the most disappointing among Latin American countries. This stage was governed by the so-called Convertibility Plan. Between 1990 and 2002, the country had an average GDP growth rate of 2% per year. From 2002 onwards there was a substantial change in the growth trajectory, which was a consequence of changes in the international context as well as major changes in domestic macroeconomic policy. Thus, in comparison to other countries in the region, the Argentine experience is characterized by the dramatic nature of the changes, given that it reached a cumulative annual average rate of 5.4% in 2003-2014.

Figure12: Argentina: Growth of GDP, 1990-2014



Source: Eclac.

At the beginning of the 1990s Argentina suffered a serious crisis due to the hyperinflation of 1989. The Convertibility Plan launched in March 1991 proved to be successful in its anti-inflation target and also showed a strong growth recovery between 1991 and 1994. However, this pattern of growth was not sustainable. The most distinctive element of the Plan was that fixed by law the nominal exchange rate in relation to the US dollar.

There were two distinct phases in the evolution of the economy. The first covers the period from the implementation of the Plan and continues up to the Mexican crisis of December 1994. The second was marked by an intense (albeit brief) recovery which began in 1995 and was interrupted by the Russian crisis of 1997.

The 1991-94 phase was characterized by a GDP expansion of 40%, which was led by the services and production sectors of durable consumer goods and automobiles. The sharp reduction in inflation and rapid credit growth fueled aggregate demand. FRENKEL, FANELLI & BONVECCHI (1997, p. 43) conceded that, despite structural reforms (particularly the opening of the capital account), "the evolution of aggregate demand is still a crucial determinant of investment demand" (p.43).

In fact, to model the behavior of aggregate investment, the authors estimated an investment function with the so-called flexible accelerator model using quarterly series for the 1980-1995 period. They alternately made estimates of the investment function with GDP and domestic demand. With both variables goods results are obtained, but the outcomes were slightly better with the domestic demand. The model described the behavior of aggregate investment over the whole period well.

The growth of domestic demand and GDP resulted in a sharp deterioration in the trade and current accounts of the balance of payments. This imbalance was able to be sustained by massive capital inflows, which were higher than the current account deficit, which resulted in a significant accumulation of reserves.

Fueled by capital inflows, the stock of international currency reserves grew (albeit at a declining pace) until 1999 and then began to decline sharply. According to FRENKEL *et al*. (1997, p. 49), the average annual surplus of the capital account in the 1990s was approximately three times higher than the average of the 1980s; annual flows rose from 3 billion in 1981-90, to 9 billion in 1991-95.

There was also a change in the composition of flows. In the 1980s, the main sources of credit were "compensatory", while in the 1990s most of the credit was "autonomous". This stage came to conclusion at the end of 1998 with the impact of the Russian crisis. From then until 2001, the Argentine economy plunged into a recessionary dynamic. Capital inflows began to decline in 1998 and then became net outflows at the beginning of 2001.

2.2.2. Capital flows, exchange rate and crisis

This picture led to a close association of the behavior of capital flows and the cyclical evolution of the economy. The specialized literature has related this lack of growth sustainability (and the subsequent exchange and financial crises) to the dynamics of capital movements and the effects associated with the exchange rate. As will be discussed below, the different role of the *real* and *nominal* exchange rates is not completely clear, although the dominant literature makes important distinctions in certain cases. As will be seen, this has important analytical consequences.

Table 2: some evidence on the fundamental macroeconomics linkages in Argentina

Some evidence on the fundamental macroeconomic linkages in Argentina
(econometrics estimations)

Variable dependent	*Methodology*	*Results*	*Observations*	*Source*
Private investment (1)	OLS (1980-1995)	It is estimated an investment function based on the so-called flexible accelerator model. The model described well the behavior of aggregate investment over the whole period.	The authors using alternately GDP and domestic demand. With both variables good results are obtained but slightly better with the domestic demand.	Frenkel, Fanelli & Bonvecchi (1997)
Private investment (2)	OLS (1950-2000)	The behavior of private investment would have been procyclical, mostly associated with variations in aggregate demand, similar to the accelerator mechanism.	The nominal and real interest rates are not significant, neither is the volume of credit. The "state of confidence" did not reveal any correlation with investment. Policies to promote domestic and foreign investment would have altered the composition and quality of investment, but not their aggregate volume.	Coremberg, Marotte, Rubini & Tisocco (2006)
Real exchange rate	VAR model (1965-1996)	A higher RER is associated with a lower rate of product growth (though the Marshall-Lerner condition would be met).	The negative association between RER and product (although the ML condition is satisfied) is probably the result of the negative impact of the RER increase on domestic demand.	López & Cruz (2000)
Imports	OLS (1993:2-2001:1)	In the import equation, the RER coefficient is not statistically significant. The correlation between imports and output is very significant and the elasticity always exceeds 2,5.	The authors interpret this lack of significance of the RER as a consequence of the reduced variance of that variable in the period considered.	Frenkel, Fanelli & Bonvecchi (1997)
Import	OLS (1977-2002)	They estimate an import demand equation for Argentina: (-0.13) rer + (3.66) pib.	The RER coefficient is very small, suggesting that the RER is not an efficient balance of payments adjustment weapon. By contrast, the income elasticity of demand for imports is a well-determined parameter.	Pacheco-López & Thirlwall (2006)
Imports / Exports	Error Correction Model (ECM), 1993-2008.	Low elasticity of trade volumes at the multilateral real exchange rate in relation to the response to changes in GDP.	The "volatility" coefficients of the RER are almost of the same magnitude as the "level" coefficients. There would be a trade-off between level and volatility of the RER.	Berretroni & Castresana (2009)
Imports / Exports	Argentina-Brazil trade model Log-Log (1994-2009)	Close relationship between trade and activity levels in Argentina and Brazil. This link results - at an aggregate level - stronger than that found for the bilateral real exchange rate.	It is concluded that the exchange rate tool may be too generic to address specific productive problems.	Mecon (2009)
Imports / Exports	Error Correction Model (1996-2013)	The income elasticity of Argentine imports is greater than the income elasticity of their exports (if the country grows at the same rate as its main trading partners, it deteriorates its trade balance).	Although the RER was significant for both imports and exports, the sum of the absolute value of the two elasticities does not satisfy the Marshall-Lerner condition, so it is not a tool capable of solving the external deficit.	Zack & Dalle (2014)

It has been pointed out that these exchange and financial crises in Latin America all had a common feature: they were preceded by booms of capital inflows (DAMILL,

FRENKEL & RAPETTI, 2013). Thus, it was observed that Argentina's early experience (as well as that of other Southern Cone countries) of financial liberalization led to a substantial appreciation of the *real* exchange rate and a rapid increase of the current account deficit and external debt, leading to a massive exchange and financial crisis. At the same time, another common feature has been that the stabilization programs used the *nominal* exchange rate fixation as the main nominal anchor of the economy.

Based on these ideas, the authors briefly described the cyclical dynamics that led to the crisis.[23] Supposedly, for these authors, financial openness was associated (at least at the beginning) with higher interest rates, which combined with a fixed (or predetermined) exchange rate leads to a significant spread between the returns of local and foreign assets. This spread brought about a strong net inflow of capital, where many investors began to engage in external indebtedness to take advantage of arbitrage opportunities.

Capital inflows expand liquidity and credit, and so the domestic interest rate falls, while GDP and employment expand. The expansion of aggregate demand leads to price increases (especially in non-tradable goods sectors), which generates an appreciation of the real exchange rate under a fixed exchange rate regime.[24]

The combined effect of real exchange rate (RER) appreciation and economic growth stimulates demand for imports, while exports weaken. The current account deficit increases. Gradually, the credibility of the exchange rate rule weakens too. As the probability of a devaluation of the exchange rate increases, some players begin to undo their positions in domestic assets, which leads to a slow-down of the inflow of capital.

Later, although the central bank begins to raise the interest rate, the ability of monetary policy to attract new external capital decreases considerably. The central bank's foreign exchange reserves begin to grow less and then begin to decline given the effort of the monetary authority to defend the exchange rate rule. Finally the attack against the peso becomes uncontrollable and the exchange rate rule is abandoned. A massive exchange rate and financial crisis emerges.

[23] See for example DAMILL, FRENKEL & RAPETTI(2013) and also DAMILL, FRENKEL& Maurizio, (2002, p.33-40).

[24] DAMILL et al. (2013) note at this point that "(t)he real appreciation reinforces the inflow of capital seeking capital gains by holding domestic assets and, therefore, further fuels the expansion of credit and output growth." However, it is possible that the real appreciation of the exchange rate stimulates growth primarily because of its positive effect on real wages.

In this approach, under the convertibility rule at a fixed parity of the exchange rate, the balance of payments result (i.e. the change in the reserve stock, dR) is the basic determinant of the evolution of liquidity and internal credit. Through this channel, the balance of payments is decisive in the behavior of domestic demand and the level of activity. For example, DAMILL, FRENKEL & Maurizio (2002) summarize this dynamics in a model in which the final equations are:

M = M (Y, ER) y Y = Y (B, r, ER)

Where M is imports, Y (output), ER (nominal exchange rate), r (domestic interest rate) and B (monetary base). Given the rule of the convertibility system:

dB = dR.ER

Where R is the international currency reserves, the final result will depend on the difference between export growth (exogenous) and the evolution of interest payments. If the inflow of capital is constant, everything depends on the behavior of exports.

A curious fact is that in the econometric estimation of the model, the authors estimate the import and output equation using the *real* (and not the nominal) exchange rate. In both equations the real exchange rate is *not* statistically significant for the 1993:2-2001:1 period. In the import equation, while the real exchange rate coefficient is not statistically significant, the correlation between imports at constant prices and output is very significant and the elasticity always exceeds 2.5. The authors interpret this lack of significance of the real exchange rate as a consequence of the reduced variance of that variable in the period considered.

Given that the phase studied by the authors is 1993-2001, this would imply that the real exchange rate would have had importance in explaining imports under the convertibility regime *only* in the period 1991-1992.

2.2.3. Some critical remarks

However, before discussing this point in more detail, some critical observations about the previously described model will be made. First, the conventional view according to which the Argentine Convertibility regime operated according to the Mundell-Fleming model with a fixed exchange rate is entirely adopted. In this analytical context, the stock

of money is endogenous and determined by the balance payment. That is, creation (destruction) of the monetary base is determined by capital inflows (outflows), since the central bank is committed to a fixed nominal exchange rate. In this context, the sterilization process or compensation mechanism does not occur, while assuming (explicitly or implicitly) a stable money multiplier.

However, causality runs in exactly the opposite way. Even in an extreme experiment like the currency board, the liquidity of the economy is demand-driven. Then, given the institutional rule that tightly links the expansion of domestic liquidity with the level of international foreign exchange reserves, the Central Bank's accommodation of liquidity requirements will depend on the government's ability to obtain foreign exchange (either by attracting capital or by issuing public debt in Foreign currency) (SERRANO & SUMMA, 2013).

This expansion of external debt is necessary to accommodate the relationship between the monetary base and foreign exchange reserves postulated by law. Certainly, there is no single way of satisfying this rule, and this also opens up the possibility of "creative" accounting, which ultimately makes the relationship between domestic liquidity and foreign exchange reserves less rigid (see DELUCCHI, 2013).

Secondly, there is no clear distinction between the role of *nominal* and *real* exchange rates. Indeed, in many cases the causal relationship between fixed nominal exchange rate regimes, and financial and exchange rate crises in Latin America (especially in 1981-82, 1995 and 2001) has been observed.[25] However, this ambiguity between the real and nominal exchange rates appears clearly, for example, in FRENKEL & TAYLOR (2006). The authors conceive (correctly in our view) the *nominal* exchange rate as an asset which is subject to speculation. In this context, it is shown how monetary policy can be a powerful mechanism that affects inflation by influencing the dynamics of the nominal exchange rate. Thus, the authors adopt the "speculative" view,

[25] As FRENKEL (2015) pointed out: "Every balance of payments-financial crisis experienced by developing economies during the recent period of financial globalization occurred in the context of fixed or predetermined exchanges rates. This was the case, for example, of the so-called "Latin American debt crisis" endured by the countries of the region in 1981-1982, and also of the crises suffered by Mexico in 1995, Argentina in 1995 and 2001 and Uruguay in 2002. The crises underwent by five East Asia economies during 1997-1998, the one suffered by Russia in 1998 and the crisis in Turkey in 2000 also came about with fixed exchange rate regimes".

according to which the nominal exchange rate *depreciates* when the domestic interest rate decreases, making domestic assets less attractive.

At this point the analysis moves without further justification towards the *real* exchange rate. The authors accept that the exchange rate appreciation is expansionary ("at least in the short term"). However, then they argue that the real exchange rate appreciation would have "devastating" effects on "resource allocation" and on development prospects. Further,

> "fixed or quasi-fixed strong *real* rates can easily provoke destabilizing capital flow cycles" (FRENKEL& TAYLOR, 2006, added emphasis).

After stating this, the authors confuse the dynamics of the real and nominal exchange rates in a single paragraph:

> "The existence and severity of these cycles is in practice a powerful argument for a stable exchange-rate regime built around some sort of managed float (...). A floating rate does appear to moderate destabilizing capital movements in the short run and is therefore a useful tool to deploy. At the same time, the central bank has to prevent the formation of expectations that there will be RER appreciation, which can easily become self-fulfilling along 'beauty contest' lines. A commitment to a stable rate, backed up by forceful intervention if necessary, is one way the bank can orient expectations around a competitive RER".

It should be noted that the authors considered the nominal exchange rate as a liquid asset subject to speculation. It is by no means obvious that the same criterion can be used to explain the evolution of the *real* exchange rate. Indeed, the only theory available to explain the formation of expectations about the *real* exchange rate is the so-called "real parity of interest rates", in the framework of which high interest rates are offset by the expectation of a devaluation. Nonetheless, this conclusion runs contrary to what the authors themselves postulate when adopting the "speculative" approach.

A similar idea appears in FRENKEL (2012). Here it is admitted that a fixed nominal exchange rate regime is an easy victim of a speculative attack, since in this context the monetary authority has no way of preserving the level of foreign exchange reserves. However, once again, the author argues:

> "The foreign exchange market is an asset market. The buying and selling decisions are largely determined by the expectation of future price. If CB interventions and signals manage to stabilize these expectations around the policy's target RER - given fiscal and monetary policies consistent with this stability - market forces themselves tend to stabilize the price path, fewer interventions are required, and they are less expensive. For this reason, the interventions of the CB should be strong, in the sense of providing a clear signal of the will of the monetary authority". (FRENKEL, 2012, p.31).

Third, there is a notable exaggeration of the ("devastating") effects of the real exchange rate. These authors considerably underestimate the effect of the reforms in favor of the trade liberalization that took place at the beginning of the Convertibility Plan. It is true that it has sometimes been observed that trade liberalization has a negative impact on imports, but the proxies of trade liberalization are not included in any of the stylized models or econometric estimates. In all of these cases, the *real* exchange rate plays the main role, although the empirical estimates do not seem to support this hypothesis.

2.2.4. Trade liberalization and real exchange rate

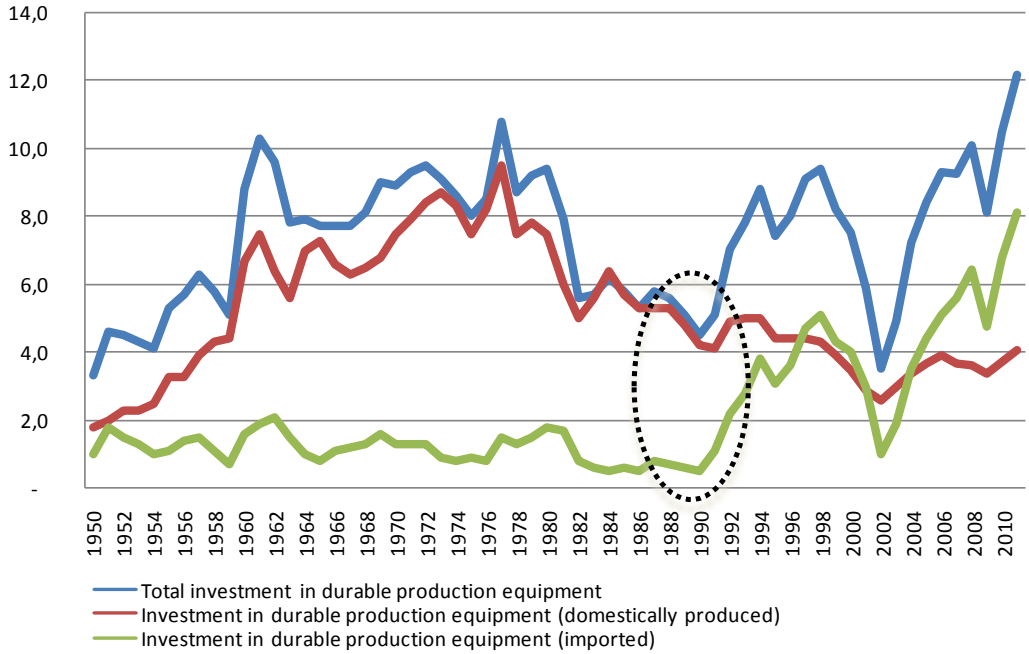
It is therefore appropriate to briefly discuss the characteristics and main effects of the trade liberalization that took place between 1988 and 1991, since these reforms constitute one of the main *structural* (regressive) *changes* of the last decades that will condition all subsequent evolution.

Traditionally, the Argentine economy has shown an external imbalance between imports and exports due to structural reasons. Thus, the different income elasticity of exports and imports, and the high volatility of commodity prices on the world market, have led to a strong fluctuations in import capacity. This structural condition was aggravated by the tariff and non-tariff reforms of the early 1990s.

Until 1990, for example, private investment in capital goods -which was driven by the pace of final demand- was highly correlated with the domestic production of investment goods and inputs (see chart). With each boom cycle in the economy, investment in production equipment grew. This was, in turn, one of the main sources of industrial growth, given that the provision of capital goods, inputs and intermediate goods was increasingly satisfied by domestic production, stimulated by import substitution

policies. Despite this, since 1990, domestic private investment has shown an increasing correlation with the demand for *imported* capital goods and capital goods. From there on, any increase in investment translates into an acceleration of imports.[26]

Figure13: Argentina: Investment in durable equipment, 1950-2010 (% gdp)



Source: Elaboration of the author based on data of COREMBERG et al (2007) and own estimates.

More generally, this feature allows a better understanding of the substantial reduction in imports during recessions. When there is a significant devaluation of the currency -as in 2002- the volume of imports is reduced *more proportionately* than GDP. This decrease is not due to the effect of the variation of the real exchange rate (that is, by the substitution of imports induced "spontaneously" by the change of relative prices, since the empirical evidence shows that this effect is very small), but because output and total income fall sharply. Then, with the decrease in output, productive investment over-reacts by adjusting downward by means of the accelerator effect. Thus, since Argentina

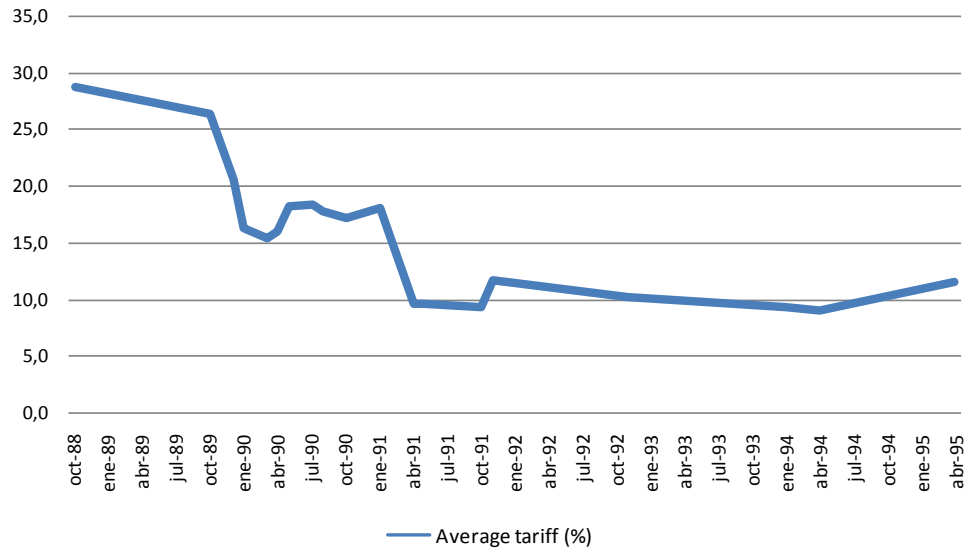
[26] For example, in the 1950-1989 period the correlation between total investment in durable production equipment and investment in imported production equipment was 0.45, while in 1990-2011 this correlation increased to 0.95 (estimated in the series presented in "Patterns of investment and savings in Argentina", COREMBERG, GOLDZIER, HEYMANN and RAMOS, ECLAC, December 2007).

imports large quantities of intermediate and capital goods (and proportionally more than in the past), the main determinant of imports is investment, not the real exchange rate.

Trade liberalization reforms involved both tariff barriers and non-tariff barriers. Indeed, a possible hypothesis is that although the price effect is generally very small (as all current estimates seem to indicate), this effect has been considerably *augmented* by the magnitude of the reforms, i.e. the appreciation of the real exchange rate *plus* the abrupt reduction of tariff protection. This combined effect could have been so powerful as to affect the productive structure once and for all in a systemic sense.

However, trade liberalization was not produced exclusively by the price channel. SCHVARZER observed that the Argentine industry had very generous tariff protection for a period of more than half a century. Such protection consisted of high tariffs, para-tariff barriers and also a *prohibition* of importing a very wide range of goods (SCHVARZER, 1995, p.25). This began to change radically between October, 1989 and November, 1991, when thirteen significant reforms were introduced in the local tariffs.

Figure14: Argentina: Evolution of average tariffs, 1988-1995.



Source: VIGUERA (1998) .

During this period, the average tariffs were much lower than those traditionally in force in the Argentine economy and (perhaps even more importantly) all prohibitions on imports were *eliminated*. In addition, all para-tariff barriers were also eliminated.

The changes in the way in which Government procurement was used were fundamental. Historically, a broad system of public enterprises had been established which, together with the State's investment in infrastructure (roads, hospitals, etc.), required a massive purchase of goods. To the extent that this demand for goods was directed towards the domestic industry (with the so-called "*Compre Nacional*") it became a powerful tool with which to stimulate local activity.

At the outset, this process arose more or less spontaneously. Later, however, state purchasing power became a more systematic regime, and was regulated and applied to a wide variety of activities with remarkable results (SCHVARZER, 1995). From the "easy" promotion of the production of various consumer goods it was quickly expanded to the incentive of the capital goods industry. "Much of the Argentine production of heavy equipment and advanced technologies was born of this process" (SCHVARZER, 1995).

Certainly, the continuity of the process naturally required that public enterprises move towards new areas, with more sophisticated technological demands, which posed new challenges for the system. However, the decision to privatize public enterprises put an end point to this "impasse".

The transfer of companies to private operators represented a radical change to the previous rules. Now, with few exceptions, private companies operating in previously nationalized areas had no obligation to direct their demand for goods to the local industry. So traditional local suppliers were forced to compete with imported production. The weakening of the National Atomic Energy Commission (*Comisión Nacional de Energía Atómica*) completed the process of transferring decisions from the public to the private sector and closed a historic stage in which the state's purchasing power had been a guiding force in the process of industrialization in the country.

One way of estimating the impact of trade liberalization and separating its effects from the real exchange rate is by reviewing the available estimates that include the period in which the 1977-2002 trade liberalization took place and using dummy variables for the key years of liberalization reforms. PACHECO-LÓPEZ & THIRLWALL (2006) estimate a typical equation to explain the volume of imports, using the real exchange

rate (RER) and the income elasticity of import demand (y) as explanatory variables. The result for Argentina in the period 1977-2002 is as follows:

$m = 4.66 - 0.13 \ rer + 3{,}66 \ y$

While the result for the 17 countries using a pooled time-series/cross section is as follows:

$m = -0.32 - 0.069 \ rer + 2.29 \ y$

The parameter of the real exchange rate (ψ) is significantly negative in Argentina, but the magnitude of the coefficient is very small, suggesting that the exchange rate is not an efficient arm of balance of payments adjustment (at least to curb imports). In contrast, the income elasticity of import demand (π) is a well-defined parameter, and given its magnitude, it seems to determine the volume of imports. Certainly, the same observation applies to all countries.

Another way of testing whether trade liberalization has increased the sensitivity of imports to domestic income growth is by interacting the growth of domestic income with the year of trade liberalization using the following equation:

$mt = \alpha + \psi \ (rer) + \pi \ (y) + \beta \ (Dy) + et$

Where D = 1 from the year of liberalization in each country and zero otherwise; π is the income elasticity of demand for imports before trade liberalization and $\pi + \beta$ is the income elasticity after liberalization. The estimated equation using pooled/time-series cross section data is:

$mt = - 0.74 - 0.066 \ (rer) + 2.08 \ (y) + 0.55 \ (Dy)$ (6)

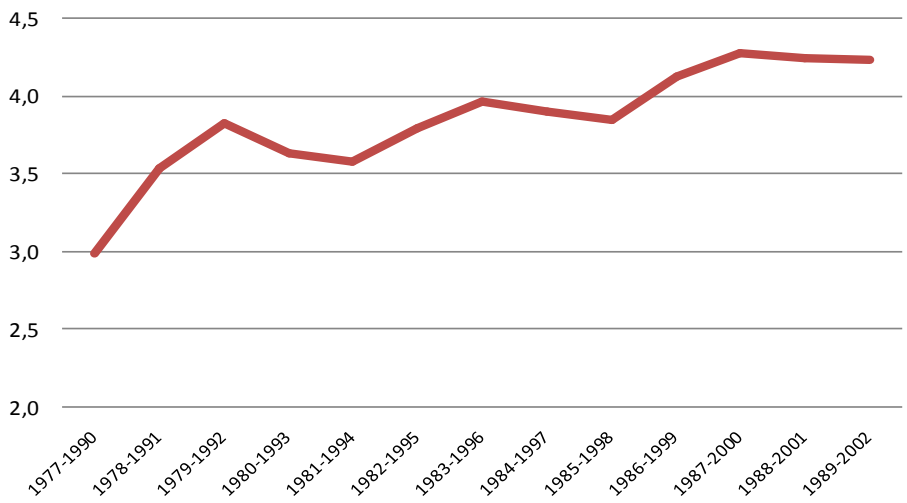
The slope coefficients of y and Dy are positive and statistically significant. The income elasticity before trade liberalization is 2.08 and after trade liberalization it is 2.63. This alternative test confirms the hypothesis that the period of trade liberalization is related to an increase in the income elasticity of import demand.

The slope coefficients of y and Dy are positive and statistically significant. The income elasticity before trade liberalization is 2.08 and after trade liberalization it is 2.63. This alternative test confirms the hypothesis that the period of trade liberalization is related

to an increase in the income elasticity of import demand. It also shows, without a doubt, that the magnitude of the effect of the real exchange rate *vis-à-vis* the effect of the reforms (tariff and non-tariff) is much lower than that usually assumed.

The authors did not make a separate estimate for Argentina, but they did use the rolling-regressions method to estimate the evolution of the income elasticity of import demand before and after the stage of trade liberalization (see chart below). The graph clearly suggests the same trend for the Argentine case: a substantial increase in the income elasticity of import demand after the reforms of trade liberalization. These estimates strongly favor the hypothesis that the real exchange rate was probably not primarily responsible for the regressive structural change mentioned above.

Figure15: Argentina: Rolling Regressions of the Income Elasticity of Demand for Imports
(year of liberalisation: 1991)



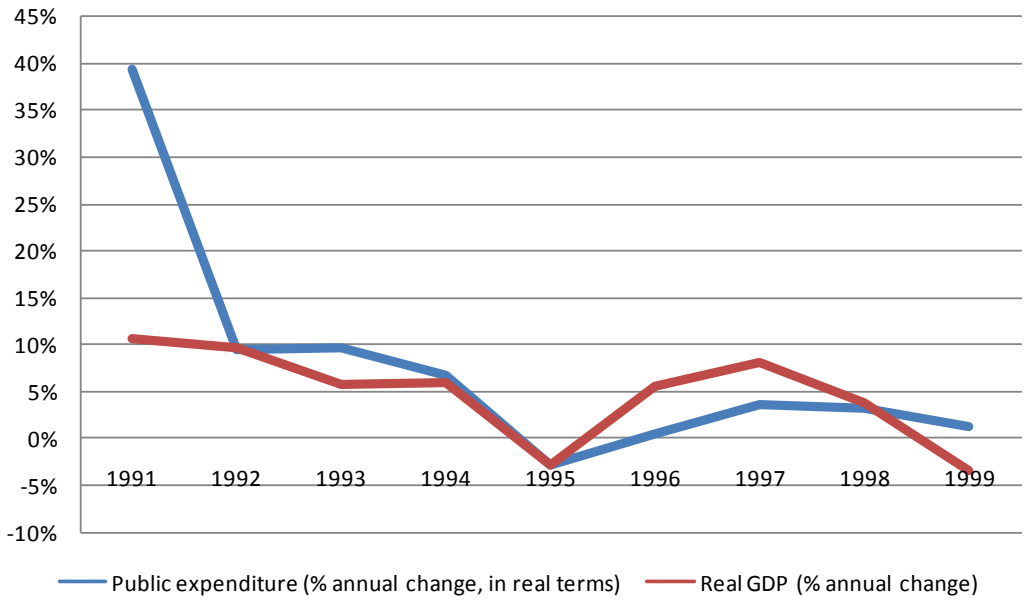
Source: PACHECO-LÓPEZ & THIRLWALL (2006).

2.2.5. Fiscal policy and growth

Fourth, and lastly, in the model on macroeconomic dynamics under the Convertibility Plan fiscal policy does not play any role in growth. A significant point is that, in general, in the dominant interpretation of the boom and crisis under the Convertibility

Plan, fiscal policy did not play a relevant role, especially in the expansion phases. However, the correlation between real public expenditure and GDP is very clear.

Figure16: Argentina: Public expenditure and economic growth, 1991-1999

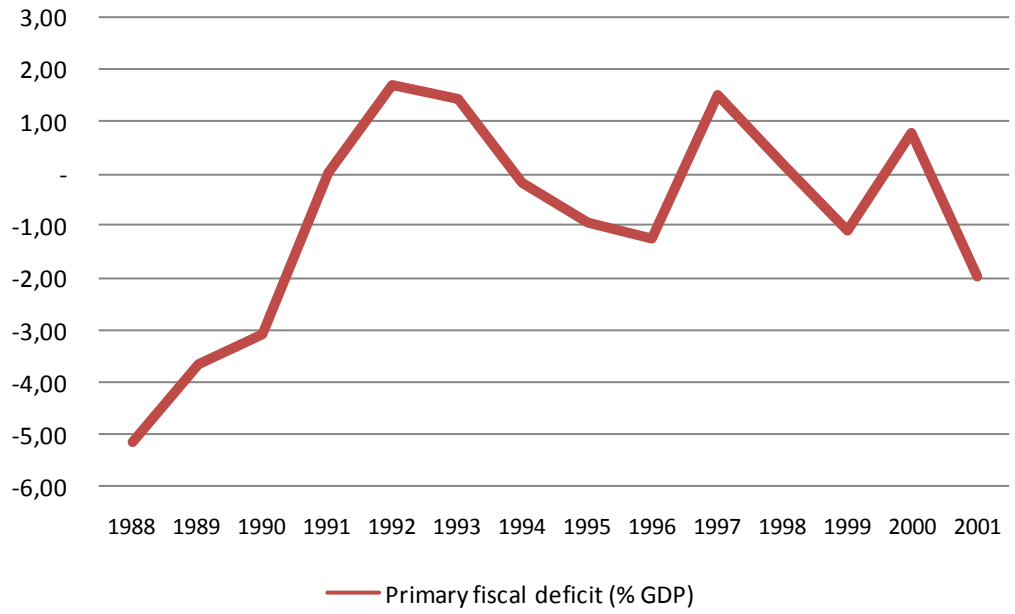


Source: Own elaboration based on data from the Ministry of Finance and Public Finance of Argentina.[27]

This role of fiscal policy was largely hidden behind the rhetoric favoring fiscal austerity that has characterized economic policy since 1991. Moreover, most economists interpreted this fiscal policy as being contractive because the primary fiscal deficit had declined rapidly (a mistake that will come back with the 2003 recovery).

[27] Note: The series "public expenditure" is the sum of public consumption, salaries of public employees, social security benefits and public investment, deflated by the consumer price index.

Figure17: Argentina: Primary fiscal deficit (% GDP), 1988-2001



Source: Ferreres (2010).

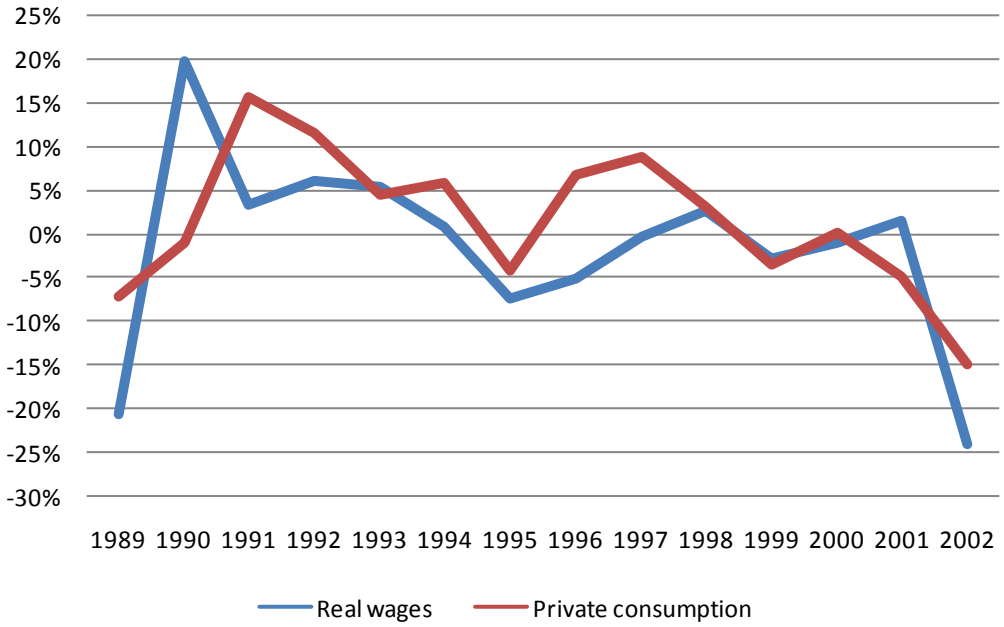
This apparently paradoxical outcome is due to the fact that the fiscal result is basically an endogenous variable. An active fiscal policy will affect the fiscal balance by altering the macroeconomic situation through its impact on private sector incomes and the taxes levied on those incomes. Thus, two situations can be produced. On the one hand, the reduction of public expenditure, due to its negative impact on aggregate demand and the taxable base, can lead to lower tax revenues and therefore it can hamper any attempt at "fiscal consolidation". On the other hand, an expansionary fiscal policy (an increase in public expenditure initially in deficit) may result in a reduction of the fiscal deficit, due to a more than proportional increase in GDP and tax revenues.[28]

In the specific case of the initial period of the Convertibility Plan, the deceleration of nominal public expenditure was much smaller than the rate of inflation reduction. Thus, public spending in *real* terms grew significantly, albeit at decreasing rates.

[28] To a large extent, these results have a lot to do with the end of hyperinflation. For example, in 1991 public expenditure in real terms increased by 40% from the previous year. However, in nominal terms the story is very different: while nominal public expenditure rose in 1991 by 157% from 1990, tax revenue rose 198% in the same period, implying the elimination of the primary fiscal deficit.

A similar dynamic characterized the path of real wages and, consequently, private consumption. It should be noted, however, that at the beginning of the two phases of economic boom (1991 and 1996) there was an autonomous element in the expansion of consumption, linked to the increase in credit for durable and semi-durable consumer goods (see chart below).

Figure18: Argentina: Private consumption and real wages, 1989-2002 (% annual)



Source: Ceped and Ferreres (2010).

2.2.6. Recovery and growth in the 2000s

Since 2003, the Argentine economy has experienced an accelerated stage of growth without precedent in its history. One of the main features of the stage was that growth coexisted with a significant accumulation of reserves and a persistent (although decreasing) external current account surplus, until at least 2011. In addition, investment in productive capacity grew at higher rates, which is logical given that investment in equipment and capital goods is a derived or induced demand.[29]

[29] See for example COREMBERG et al. (2006) and FIORITO (2010).

While private consumption grew at a cumulative 7.7% per annum, investment in durable equipment increased to almost 24% cumulative annually between 2003 and 2011 (including in the calculation the 20% fall in 2009). Thus, despite accelerated growth, capacity utilization levels stabilized at slightly less than 80% on average by 2011.

However, some economists argued that Argentine growth at this stage was the exclusive result of the favorable international conditions which had been in place since the early 2000s. As such, it was an "economic miracle" of a temporary nature.[30] This interpretation is extremely biased and, as such, it is erroneous. First, exports played a small and declining role over time. In real terms, they were the component of aggregate demand that grew the most slowly (6.25% cumulative per year between 2003 and 2011). In fact, in real terms, exports accounted for a decreasing percentage of aggregate demand (from almost 13% in 2003 to less than 11% in 2011).

Indeed, exports contributed directly to GDP growth as an independent source of demand. However, this is a less significant effect compared to other internal demand components. The other, more important and strategic effect, is that exports played a central role in the "genuine" provision of foreign exchange and thus in relieving external constraint on growth.[31]

A significant part of the growth in private consumption resulted from the combined effect of improving real wages and reducing unemployment, resulting in a marked redistributive change in favor of wage earners. The mass of wages, in real terms, grew at higher rates than those of private consumption until the beginning of 2007. It then entered a phase of slower growth. Clearly, since 2007 there has been a gap between the real wage bill and consumption, illustrating the existence of an autonomous element in the impulse to private consumption (AMICO, 2013).

Two elements explain this divergence and relative expansion of autonomous consumption. First, in general, there was a growing expansion of credit and, in

[30] See for example LEVY YEYATI & COHAN (2012).

[31] The external constraint determines a maximum point beyond which growth cannot continue, but it in no way determines the rate of growth, which depends (directly or indirectly) on domestic macroeconomic policies. Argentina took advantage of these better conditions through an expansive macroeconomic policy and this explains why it was able to have higher GDP growth rates than other countries in the region that had enjoyed even better terms of trade.

particular, household consumption, especially in 2010 and 2011 (BCRA, 2012). Second, and more importantly, were the significant social transfers from the State, especially from 2007 onwards, both in terms of subsidies to families of informal workers (the so-called *Asignación Universal por Hijo*) and plans for the extension and inclusion of pension benefits.

A crucial point that needs to be understood concerning the performance of the Argentine economy in recent decades is the role played by fiscal policy. The impact of fiscal policy on Argentine growth is still a controversial issue. At the same time, in line with the macroeconomic mainstream, few economists assign an important role to fiscal policy in promoting growth. It is paradoxical that the gradual recovery of some positive view on the impacts of fiscal policy has taken place in an indirect way, namely, the reiterated demonstration that fiscal consolidation policies do not reduce fiscal deficits (nor improve public debt / GDP ratio), while they do undermine growth prospects.

In the Argentine case, given that the government obtained a high primary fiscal surplus in the early 2000s, some economists argued that fiscal policy was not a major factor in the 2002-2003 recovery. Thus, the change in the budget balance (from a persistent deficit before 2002 to a strong surplus since 2003) was considered an indirect result of the exchange devaluation, which would have improved the profitability of exporters and allowed the Government to capture a share of that income through export taxes (DAMILL, FRENKEL & RAPETTI, 2012).

The most "competitive" real exchange rate since 2002 would have thus been the key factor in the recovery, while fiscal policy would have had a contractive bias until 2005 (DAMILL & FRENKEL, 2009). From 2006, fiscal policy would have become more expansive, but would have only contributed to adding an "excessive" stimulus to aggregate demand and thus its result would have been the acceleration of inflation.

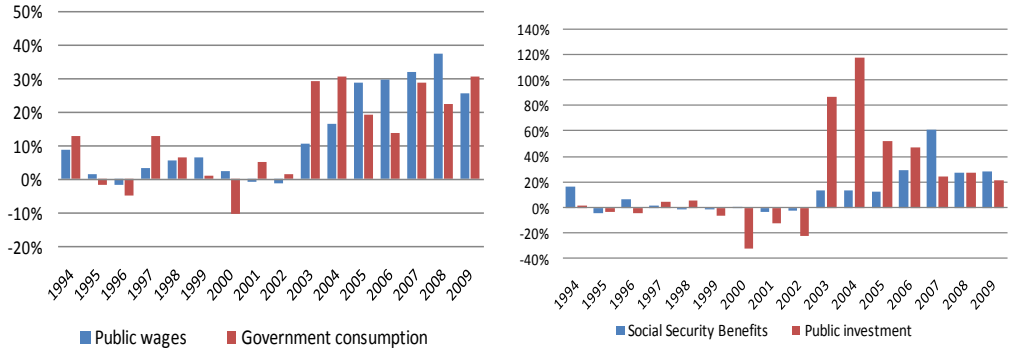
However, the result of the budget balance (deficit or surplus) cannot be considered as an indicator of whether the fiscal policy is being expansive or contractive. Based on the principle of effective demand and Haavelmo's Theorem (1945), an indicator can be constructed that reveals the impact of the public sector on recent Argentine growth.[32]

[32] See SERRANO (2012) on this point.

This indicator shows that fiscal policy has become increasingly expansive since 2003, regardless of the consideration of the budget balance.[33]

The expansionary bias of fiscal policy since 2003 is explained by a direct increase in social transfers (pensions and social programs), the public sector wage bill, government consumption and public investment. The growth of primary public spending, in turn, had a favorable impact on private consumption (pensions, social plans, wages).

Figure19: Argentina: Evolution of the main components of public expenditure
(nominal annual change%)



Source: Own elaboration based on data from the Ministry of Economy and Finance of Argentina.

For example, public expenditure on social security (which represented 20 per cent of primary public expenditure in 2002) had declined in nominal terms (-4 per cent in 2001 and -2 per cent in 2002) but began to grow at 14 per cent per annum from 2003 and accelerated further from 2006. Although these figures represent nominal figures, they are very significant since the inflation rate was very low at that time.

The most shocking reversal was public expenditure on capital, which in the previous stage had had *nominal* reductions (-32% in 2000, -13% in 2001 and -22% in 2002) and then began to grow at very high rates (87% in 2003, 118% in 2004), and stabilized at around 25% per year by 2009. Between 2002 and 2007, the primary fiscal surplus increased initially and then fell slightly to stabilize at around 3% until at least 2007, while in the same period there was a strong expansion of public spending.

[33] Unfortunately, the estimation can only be made until 2009, the last year for which there is updated data for consolidated public expenditures and revenues (nation, provinces and municipalities).

How is it possible that, at the same time, there was an increase in the primary fiscal surplus along with a strong expansion of public spending? One of the main causes was the fact that the most important component of the fiscal surplus was the tax on primary exports, and the contractionary effect of export taxes is substantially less than the expansionary effect of government spending. Secondly, Argentina experienced its foreign debt default in 2002 and did not make payments for debt services until the end of the restructuring in mid-2005. Thus, there were considerable fiscal savings for this channel. Third, tax revenues are highly procyclical, in other words, they vary more proportionately than output and private incomes.

Fiscal policy was also an important factor in the *autonomous* impulse to private consumption due to the significant social transfers that the government began to implement in 2002 and 2003 (with the so-called *Plan Trabajar*) and from 2007 with other social programs.[34]

The social security policy implied the renationalization of the pension system and the return to the pay-as-you-go schemes, which had been privatized in 1994. In this context, transfers to the pension system (and transfers to social programs) constituted a major component of autonomous spending, and thus, one of the central elements in Argentine growth at that stage.[35] In other words, social spending has become an engine of growth, illustrating that there is not necessarily a contradiction between greater social equity and growth.

2.2.7. The stagnation phase, 2012-2015

However, towards the end of 2011, the Argentine economy entered a phase of deceleration. The first component of demand that slowed down was productive private investment, a deceleration that is consistent with the accelerator principle. The aggregate private non-residential investment follows the trend of growth of the

[34] At the beginning of 2007, the so-called *Plan de Inclusión Previsional* was implemented, granting early benefits and access to coverage to about 1.4 million people who did not qualify for benefits (DAMILL & FRENKEL, 2009). This factor is presumably the reason why private consumption grew between 2007 and mid-2008 at higher rates than the real wage bill. Then, at the end of 2009, the government implemented the so-called *Asignación Universal por Hijo* (AUH), which initially involved a subsidy for 1,650,000 households with an initial investment of US $1.8 billion (AGIS, CAÑETE & PANIGO, 2010).

[35] For a theoretical discussion on this point see CESARATTO (2006).

autonomous demand. Thus, when GDP increases its rate of growth, investment overshoots, since it must grow more than GDP to adjust capacity to demand. Then, when GDP growth stabilizes, investment tends to converge at that rate and naturally tends to slow down. So for these reasons investment had already begun to slow down in mid-2010, when the GDP growth rate had stabilized. Indeed, since 2011 there has been a persistent reduction in exports, but this only explains a smaller part of the rate growth reduction.

Therefore, we must focus the analysis on macroeconomic policy. Following the broad triumph in the presidential elections of October, 2011, the Government announced some significant changes to its economic policy which they termed "fine tuning" (gradual increases in public services, suggested limits to wage increases, import restrictions and the implementation of extensive control in the exchange market, among other measures). Presumably, the policy change aimed at correcting the growing primary fiscal deficit in order to restore the balance of the budget. This in turn led to a gradual reduction of subsidies to the private sector (increase of utility tariffs), along with the deceleration of other components of public spending.

This shift in macroeconomic policy towards greater fiscal austerity took place at a time when gradual downward trends were already occurring (decreasing rates of productive investment, stabilization of the distributive situation and a reduction in exports). Unlike in 2002 and 2009 (when fiscal policy showed a strong countercyclical reaction) the macroeconomic policy of 2011 was entirely procyclical.

Besides, the government increased restrictions on imports and implemented an extensive control of the foreign exchange market, which has intensified since mid-2012. Basically, increasing restrictions were imposed on the purchase of foreign exchange for both households and businesses, as well as foreign currency transfers (for example, the remittance of profits and dividends from foreign companies).

Almost simultaneously with the introduction of controls, a *parallel* foreign exchange market emerged. This black foreign currency market developed mainly as a result of the imposed restrictions, which induced families and companies to seek alternative sources of foreign currency. The purpose of foreign exchange controls was to restrict

the rapid formation of foreign assets by the private sector that had been taking place since the beginning of 2011, in order to avoid further depreciation of the exchange rate and to preserve international foreign exchange reserves.

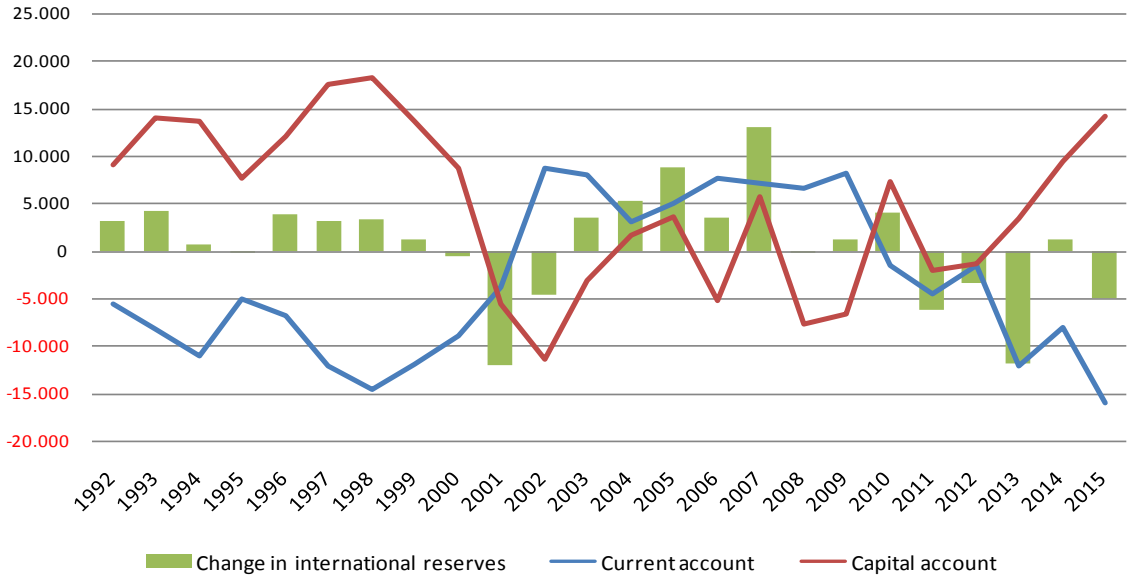
In circles close to the government, this tendency was interpreted in an ambiguous and confused way. In some cases it was argued that it was the result of historical and "cultural" features that compulsively led families and companies to mechanically accumulate their personal savings in foreign exchange. In others, it was interpreted as a political reaction from sectors of economic power (banks and large corporations) that attempted to generate social and political instability, and to trigger the so-called "*Golpe de mercado*", that is to say, the fall of the government by means of *politically* induced economic and financial instability. In either scenario, *direct* controls on the foreign exchange market were considered the only possible option.

However, this diagnosis was incorrect. Much of this persistent trend in foreign asset formation was purely an economic phenomenon. In practically the entire period from 2005 to 2013, economic policy maintained a *negative* internal-external interest differential (net of the country risk premium), generating incentives in an *opposite* direction to the application of controls.

Certainly, between 2003 and 2007, the external current account surplus more than compensated for the private sector's growing trend towards the formation of external assets. However, since 2007 things have changed substantially. The structural trend towards the external imbalance between imports and exports meant that the current account result could no longer offset the increasing demand for dollars from the private sector. As a result, foreign exchange reserves stopped growing and then began to decline. In this transition, growing expectations of devaluation began to prevail.[36]

[36] Between early 2007 and late 2011, there were at least five speculative attacks against the peso. Although all were controlled by BCRA intervention, the costs of such interventions were increasing. For example, a speculative stream in early 2008 caused the central bank to sell reserves for approximately $1.7 billion, while a subsequent attack in August 2011 caused the BCRA to lose $4783 million of reserves.

Figure20: Argentina: balance of payments, 1992-2015 (millions of dollars)



Source: Dirección Nacional de Cuentas Internacionales - INDEC

By the middle of 2011, when foreign exchange controls began, the central bank's foreign exchange reserves reached U$s 52 billion, while at the end of 2014 they had fallen to 28 billion. In that same period, the price of the dollar in relation to the peso had increased more than 100%. The nominal exchange rate was the main determinant of inflationary acceleration (see TRAJTEMBERG *et al*, 2015), producing a sharp fall in real wages in 2014 and contributing to the sharp decline in GDP in that year.

A key implication of the above analysis is that a *persistently* negative interest differential such as that which has been exhibited by Argentina since the end of 2005 is one of the key factors that have induced a tendency towards the persistent devaluation of the currency. Then, given that expectations about the future exchange rate are largely endogenous to the effective exchange rate (SERRANO & SUMMA, 2011), the situation induces the private sector to accumulate foreign assets (dollars), which leads to a deeper currency devaluation process. In practice, this instability resulting from the feedback between expectations and the effective evolution of the exchange rate forces central banks to manipulate interest rate differentials, together with foreign currency buy-and-sell interventions, as the only way to stabilize the market.

The alternative to generating a positive interest differential has been rejected for diverse reasons. A conventional argument is that the rise in the domestic interest rate has contractive effects on level of activity and employment. However, econometric evidence shows that interest rates have no significant impact on private investment (see COREMBERG *et al*., 2006).

The stabilization of the wage share (which affects the economy's marginal propensity to consume), the growing weight of imports in GDP (which causes a growing leakage of stimuli on aggregate demand to the outside), the slowdown of the fiscal impulse since 2011 and, above all, the increasing balance of payments problems (mainly the persistent loss of international reserves), determined that the phase from 2011 to 2015 was a stagnation phase (the average GDP of 2015 is only 2% higher than the average for 2011).

Presidential elections were held at the end of 2015 and none of the main presidential candidates in contention considered it to be feasible to maintain the foreign exchange market controls. President-elect Mauricio Macri's main measures were to eliminate all controls on the foreign exchange market, the almost complete elimination of export taxes (which resulted in a sharp fall in fiscal revenues), the immediate payment to so-called holdouts (known in the political and media world as "vulture funds") and the implementation of a strong fiscal adjustment.

The removal of restrictions on buying and selling currencies led to an abrupt devaluation of the peso by more than 40% in one day, after which the devaluation continued at a slower pace. These policies produced an unprecedented shock and drove the Argentine economy and society to a new crossroads. By the end of 2016 the GDP reduction was estimated at -2.5%, with real wages falling, rising unemployment and rising poverty.

2.3. Brazil

2.3.1. From trade liberalization to the macroeconomic "tripod"

As MEDEIROS (2009) observed, the massive privatization of the 1990s was not conceived as a reorganization of state structures in response to genuine macroeconomic

problems. On the contrary, it was the result of a political-ideological decision to reduce the intervention of the State in economic activity. External pressures had a decisive influence on the extent to which heavily indebted states applied the reforms required by the "Washington consensus" to access external credit and cancel or restructure their debts.

Since 1988, Brazil has gradually reduced levels of protection for its domestic industries. Two reforms, in 1988 and 1989, brought the average tariff on imports from 51% to 35%. Most non-tariff barriers were eliminated in 1990. In addition, a pre-established schedule of tariff reductions that gradually brought the nominal average tariff on imports from 32% in 1990 to 14.2% in the second half of 1993 was adopted (CASTELAR PINEIRO, 1994).

The 1994-95 period was remarkably successful. Economic growth accelerated, the living conditions of vast groups of the population improved and poverty was significantly reduced. In the eyes of conventional theory, it was also a success that fiscal accounts showed, until the middle of 1995, primary surplus and reduced operating deficits. The balance of payments situation was strong, international reserves were increasing and the effects of the Mexican crisis were successfully resisted. Above all, a very high rate of inflation could be controlled without the country going through a recessive period.

From 1996 the debate concerning the problems of economic policy intensified. The focus of the criticisms pointed to the appreciation of the real exchange rate and the growing deficits of the balance of payments and of the public sector. In the midst of the debate over Brazil's macroeconomic evolution in that period (biased towards the more orthodox view), there was a collapse of the public sector that also brought about the collapse of public investment, government purchases, and subsidies and transfers to production, which were historically of vital importance to private enterprise, and were a driver of economic growth in the stage of the developmental "miracle".

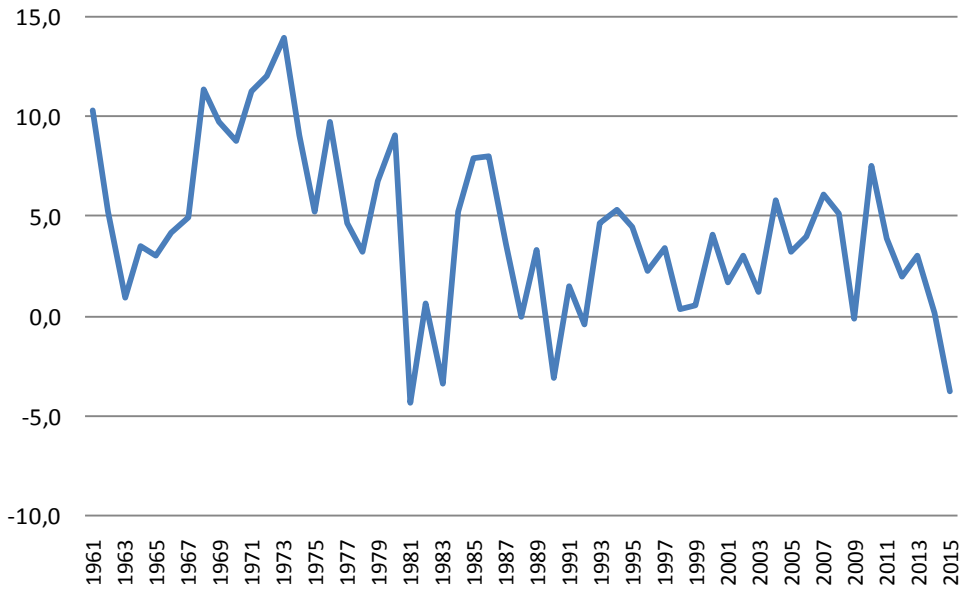
The 1999 devaluation put an end to the Brazilian economic policy stage initiated under the Real Plan. Brazil abandoned the fixed exchange rate regime. Since then, the overall policy framework has consisted of a "tripod" of explicit inflation targets, a floating (very "dirty") exchange rate regime and (large) primary budget surpluses.

It seems paradoxical, but within this same general framework, Brazil experienced a period of sustained growth, significant poverty reduction and improvements in income distribution (such as the 2003-2011 period) as well as a phase of increasing fiscal adjustment, slowing growth, recession, regressive income distribution and rising unemployment (from 2011 to the present).

Before entering fully into the analysis of the expansion stage (2003-2011), it is appropriate to consider the problem in a longer-term perspective. If we look at the following graph, we can see that the growth rate of the Brazilian economy since 2003 had been increasing, even considering the crisis of 2008.

This pattern of growth had two well-marked characteristics. On the one hand, it was far from the "historical" rates (above the 7% annual average) of the 1970s. On the other hand, it indicated a tendency to recover a more significant growth rate compared to the 1990s. From a growth trend of around 2% in the 1990s, Brazil began to approach an average of 4%, reaching 4.4% in the 2004-2010 period.[37]

Figure21: Brazil: GDP growth (annual%)



Source: CepalStat.

[37] SERRANO & SUMMA (2015a).

After a period of recovery, in the 2011-2014 period, the economy slowed down firmly, returning to the average rate of the 1990s (2.1% per year with a tendency towards stagnation). Likewise, between 2003 and 2010 there was a steady reduction in unemployment, with persistent increases in real wages and poverty reduction. There was also a steady increase in international reserves, a persistent appreciation of the real exchange rate until 2011, and a growing current account deficit financed by large flows of foreign capital.

In social terms, the result of this process was striking. Poverty fell from a total of almost 39% in 2003 to 18% in 2013. In the same period, extreme poverty fell from 14% of the total population to 5.9% according to ECLAC data. These data imply that in a decade more than 40 million people left poverty, a surprising number in any international or historical comparison.

It is important to take the general context in which this process took place into account. The general macroeconomic policy framework since 1999 has been characterized by the "tripod", and this general framework has remained unchanged under the Ignacio "Lula" Da SILVA(2003-2011) and Dilma Rousseff (2011-2016) governments. The theory behind the institutional arrangements of inflation targeting argues that the trend in inflation is explained by a past and current series of demand shocks (excess demand). In this analytical context, the policy tool *par excellence* is the short-term interest rate set by the central bank. Thus, the central bank would control inflation through the management of the interest rate, which would impact aggregate demand and, thereby, affect the rate of inflation.

2.3.2. Inflation targeting in Brazil

It is appropriate to take into account the caveat of SUMMA and SERRANO (2015) to avoid confusing the *institutional framework* of the inflation targeting system (which actually works and operates with certain policy rules) with the *theoretical basis* of the new macroeconomic consensus used to justify and explain the system of inflation targets. Certainly, the system exists, but it functions in a very different way from the postulates of the conventional theory. The main point is the widespread (although erroneous) view that in Brazil inflation could be effectively controlled through the

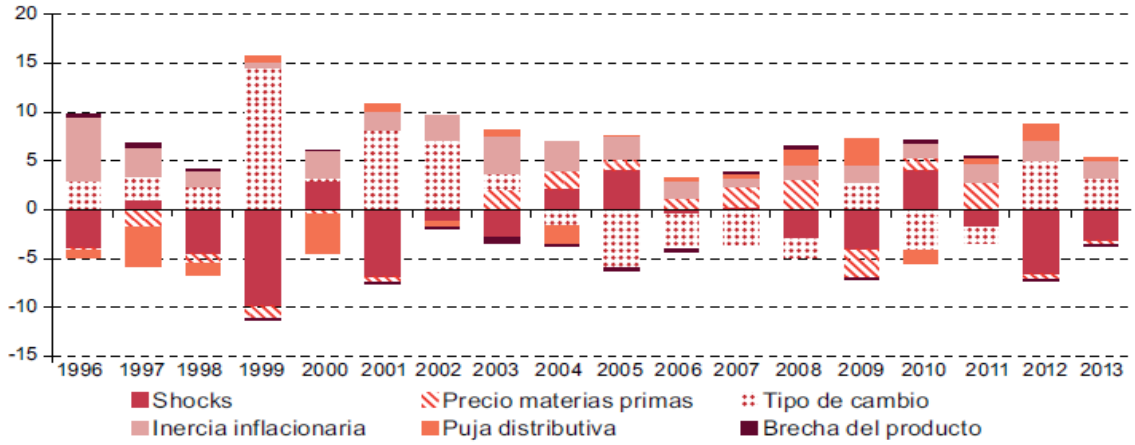
management of aggregate demand, and that this is done through the manipulation of the basic interest rate by the Central Bank of Brazil.

In fact, Brazilian inflation has no systematic relationship with the dynamics of aggregate demand, due to the fact that it is basically a cost push phenomenon and distributive conflict. The interest rate set by the central bank does not have a systematic impact on aggregate demand and actually operates through other channels (more on this below).

As TRAJTENBERG, VALDECANTOS & VEGA (2015) show, in a recent econometric study of 11 countries in Latin America, the output gap was statistically irrelevant, a result that is in sharp contradiction to the conventional approach according to which inflation is fundamentally conceived as a demand phenomenon. The graph below shows the impact that each factor has had on the determination of inflation in each year of the period considered.

In the case of Brazil (as well as in other countries such as Colombia and Chile) there was a definite turnaround in the role of the nominal exchange rate in the 2000s. While between 1999 and 2003 the nominal exchange rate played a prominent role in the increase of the inflation rate, in the year 2000 there was a trend towards nominal appreciation that functioned as a disinflationary mechanism, compensating the upward impact on the prices of another kind of sources (for example, the rise of international raw material prices). Thus, there were years in which exchange appreciation was, in fact, the fundamental weapon used to combat inflation.

Figure22: Brazil: determinants of inflation, 1996-2013



Source: TRAJTENBERG, VALDECANTOS & VEGA (2015).

According to the abovementioned study, the causes that most contribute to the acceleration of inflation in Brazil were the adjustment of the nominal exchange rate and the distributive conflict. Thus, monetary policy affects the rate of inflation through the impact of the interest rate on the nominal exchange rate. Essentially, when the central bank raises the basic interest rate, this induces the inflow of foreign capital, which appreciates the nominal exchange rate and reduces (or moderates) "imported" inflation (tradable inflation). On the other hand, a higher interest rate may affect consumer credit, although this relationship is also complex due to the possibilities of credit rationing or the limits of household indebtedness (more on this below).

Another aspect that differs substantially from the new consensus model is that, in reality, the theory of an inflation targeting system affirms that the nominal exchange rate is free and floating, when in reality there is a flotation, but this is *strongly managed* by the BCB through different channels and instruments. Likewise, the system aims to obtain large primary fiscal surpluses. However, between 2006 and 2011 there was a more expansive macroeconomic policy position, including fiscal expansion (BASTOS, RODRÍGUES & LARA, 2015), as well as the expansion of consumer credit and the minimum wage.

2.3.3. Fiscal expansion with primary budget surplus

It is important to look more closely at what happened at this stage. Certainly, since 2003 (and perhaps more since 2005) the government has adopted stimulus measures for consumer credit, minimum wage increases and social transfers. After 2006, the expansion of public investment (particularly through public enterprises) was very important (SERRANO & SUMMA, 2015a). As a result of this policy, the growth of the main items of public expenditure (consumption, transfers and investments) led to a more expansive fiscal policy position, together with the associated increase in tax revenues.[38]

[38] As DOS SANTOS and GOUVEIA (2014) point out, fiscal revenues grew rapidly, mainly due to the strong increase in employment in the formal sector and the increase in the price of commodities and financial assets, as well as other factors related *endogenously* with GDP growth.

Some evidence on the fundamental macroeconomic linkages in Brazil
(econometrics estimations)

Variable dependent	*Methodology*	*Results*	*Observations*	*Source*
Imports	Cointegration (1996-2013)	The elasticities of imports to the RER are low (-0.51 to -0.37) and the income elasticity has a much greater effect on imports (3.17 to 2.22).	RER-elasticity of imports is low because the composition of imports is concentrated in intermediate goods, fuels, transport, royalties and equipment services, which are not easily replaced by domestic production due to structural deficiencies in domestic supply.	Dos Santos et al (2015)
Imports	OLS, with a linear logarithmic specification (inc. licenses)	The income elasticity of imports is 1.59 while the price elasticity is -0.31.	Using the Rolling Regressions technique, the authors show a growing tendency of the Income Elasticity of Demand for Imports in Brazil between 1980 and 2002.	Pacheco-López & Thirlwall (2006)
Export	Cointegration with non-linearity (1995-2009)	In the long run income elasticity ranged from 0.92 to 1.2 and the price elasticity ranged from -0.04 to 0.11.	In the short term, the impact of the RER is small or nil (it is even negative in some specifications). The world income seemed to exert significant influence.	Schettini, Squeff & Gouvêa(2011)
Private consumption	Cointegration with markovians regimes (1995-2009)	Strong association between the consumption of households and the volume of credit and disposable income of the private sector.	Increases in public transfers of income to the private sector have a significant and rapid impact on the dynamics of household consumption.	Scettini et al (2011)
Private investment	OLS (1970-2005)	Significant (and positives) coefficients for variables such as GDP and capacity utilization. The coefficient of public investment showed a positive sign, suggesting the predominance of the complementarity effect with private investment.	Evidence of a strong accelerator effect. The coefficient of the real interest rate showed a positive sign (although not significant in all estimates). The coefficient of the RER was significant and negative.	Luporini & Alves (2010)
Private investment	OLS (1996-2011)	Public investment in infrastructure has a crowding-in effect on private investment.	The coefficient of real interest rate is positive and insignificant in the estimated equation.	Tadeu & Silva (2013)
Private investment	VAR with I(0) and I(1) variables. Quarterly data (1996-2012).	The results suggest that shocks to the RER, international commodity prices and public investment are the main causal mechanisms of the quarterly dynamics of gross fixed capital formation in Brazil.	There is a positive effect of public investment and the terms of trade. But the effect of a rise in the RER on private investment is negative.	Dos Santos et al (2016)

This is not a paradoxical result in light of Haavelmo's so-called balanced budget theorem (1945), which demonstrated that the increase in public expenditures financed by taxes of the same amount has a multiplier equal to unity. SERRANO & SUMMA (2015a) show that even if taxes increase more than spending, fiscal policy can still have positive effects on aggregate demand (even with a multiplier of *less* than one). This is particularly the case if the propensity to spend of tax payers is lower than those who receive social transfers from the government (as was clearly the case in Brazil between 2004 and 2010). Thus, with a small positive multiplier, if government expenditures and transfers (particularly those transfers to poorer social groups) grow very quickly, there can be a positive impact on aggregate demand, particularly if it is combined with a small reduction of the primary surplus (in terms of GDP).

Certainly, such a policy leads to a gradual increase in the relative weight of the public sector in the economy, even with a primary surplus of an equivalent magnitude. For example, while in 1991 total tax revenues accounted for less than 18% of GDP, in 2013 it exceeded 26%, according to ECLAC. These changes have highly relevant distributive

implications. In fact, in the second administration of Lula da Silva, a *hybrid* regime of economic policy was institutionalized. This policy articulated in a complex way, the more orthodox economic priorities with some more interventionist features associated with the development of a late and unique (middle-income) *tropical welfare state* system, related to "the macroeconomics of the broader process of social inclusion that is known in the history of Brazil" (DOS SANTOS, 2013, p.235). At the same time, it should be noted that this process took place *without* the application of developmental policies, a fact that would have imposed structural restrictions in the future. However, before that, political obstacles emerged, as will be discussed below.

Likewise, the dynamics of public finances in recent years was one of the main causes (direct and indirect) of the growth process with income distribution in the Brazilian economy. Thus, the growth of the gross tax burden was a result of the increase in formal employment associated with the changes in distribution and with the current consumption pattern in the period. Much of the additional fiscal resources were then directed predominantly towards increased government transfers to the poorest families, as well as public investment executed mainly by state enterprises.

2.3.4. The consumption pattern

The analysis of the consumption pattern in this period is fundamental for understanding the dynamics of Brazil's growth. The growth of household consumption in Brazil depends on the evolution of real disposable income, the availability of consumer credit and the real interest rates of these lines of credit.[39] Added to this is the important, but rarely observed, effect of the public sector wage bill, since public sector workers' spending (active and retired) also appears as private consumption (SERRANO & SUMMA, 2015a). Thus, all of these elements helped consumption to grow at very expressive rates in the 2004-2010 period.

After 2003, interest rates in the United States were lower. As the external interest rate (international rate plus country risk spread) decreased considerably, this allowed the Brazilian Central Bank (BCB) to cut domestic interest rates in order to stimulate consumption (and residential investment), while at the same time maintaining a *positive* interest rate differential. Thus, the BCB policy led to a revaluation of the exchange rate

[39] DOS SANTOS (2013).

that, as discussed, was a fundamental for reaching the inflation target. Finally, the appreciation of the real exchange rate led to *increasing* real wages, which expanded not only domestic consumption but also contributed to the *sustainability* of private consumption financed by credit.

In addition to the reduction of real interest rates, the creation of so-called *crédito consignado* in 2003 was one of the most important policies to expand and improve access to credit for the poorest households.[40] Thus, with economic growth, there was a significant increase in employment, together with an increase in the *formalization* of labor and increasing real wages, which were due, in particular, to large increases in real minimum wages. On the other hand, the federal government increased social transfers, which expanded the coverage of pensions and social programs, increased real benefits[41] and also increased the public sector wage bill. As a consequence, private consumption increased directly (as a result of higher disposable income on consumption) and indirectly (by expansion of formal employment and the associated expansion of credit).

The rapid expansion of consumer credit poses the problem of its *sustainability* over time. An important point is the comparison of the real income growth rate (wages and transfers) *vis-à-vis* the real interest rate that is paid for the debt (BARBA and PIVETTI, 2009). Nonetheless, SERRANO & SUMMA (2015a) note that the expansion of credit-financed consumption can be stopped before reaching such a limit. The debt-to-income ratio may rise so much that it leads banks to impose credit restrictions or so that consumers themselves stop borrowing (and they allocate part of their income to repay existing ones). Also, even if consumers are in an area of unsustainability (interest rates > income growth), the increase in the debt-to-income ratio may be faster or slower and difficulties can often take a longer or shorter time in making their appearance.

This is because the sustainability also depends on the *initial conditions*, in other words, on the debt / income ratio at the beginning of the period analyzed. These initial conditions, together with the difference between interest rates and income growth,

[40]An indirect payment system, under which quotas are deducted directly from the individual payroll. Banks use the formal sector wage or the public pension as collateral, allowing access to loans with lower interest rates given that banks can automatically deduct mandatory payments from retirement benefits or wages.

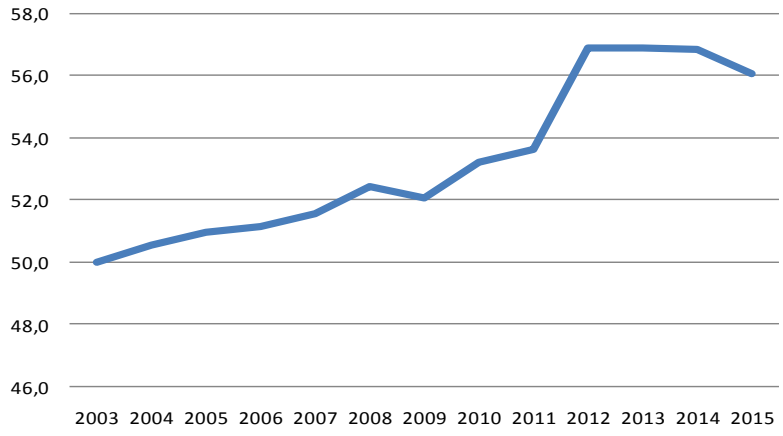
[41] See DOS SANTOS (2013). The majority of these social transfer benefits were formally indexed to the minimum wage, which grew considerably in this period (ORAIR and GOBETTI, 2015).

determine the *span of time* during which consumer credit may increase the growth rate of private consumption.

Another difference with BARBA & PIVETTI's (2009) approach is that, while these authors consider individual indebtedness in the United States as a case in which household debt is ultimately interpreted as a *substitute* for higher wages, in Brazil there is an increase in households debt (and thus an increase in consumption financed by credit) associated with *higher* real wages. Here, consumer credit is a *complement* (and not a substitute) for real wages.

In this framework, SERRANO & SUMMA (2015b) present empirical evidence that the long-term sustainability condition is *not* maintained in Brazil.[42] At the same time, there was a tendency to reduce the difference between the interest rate and the rate of growth of disposable income over the same period. However, in addition, at the beginning of the consumption boom (2005) the proportion of household debt relative to the income of the household was very low.[43] Another factor that worked in favor of greater sustainability was, that between 2006 and 2010, real interest rates gradually declined while the duration of loans generally increased.

Figure23: Employment rate (%)



Source: Eclac.

[42] Real interest rates on the cheapest lines of credit were, on average, 24.5 percent in 2004-2010, while real disposable income grew around 5 percent a year in the same period (SERRANO & SUMMA, 2015a).

[43] The debt / income ratio was only 18 percent in 2005. By 2014 it had risen to 46 percent. Excluding residential housing credit, the ratio was much lower, reaching 28.4 percent in 2014 according to data from BCB.

Third, SERRANO & SUMMA (2015a) point out that there was an "extensive" aspect in this process, as new families are continuously incorporated into the credit market through the constant creation of employment in the formal sector of the economy. The authors observe that increasing consumer credit under these conditions is not sustainable for an *individual* household, since as the household gains access to the formal credit market and increases its consumption, it is increasingly in debt and after some time it cannot continue to increase consumption at the same pace. However, at the aggregate level, the process continued to incorporate many new (non-indebted) households into the formal credit market.

The authors have observed some problems in this "extensive" model of debt-fueled growth. First, for credit-based consumption to continue to grow at the same pace, both the process of reducing real consumer interest rates and the extension of loan terms should continue. Also, the economy must continue to incorporate new borrowers into the formal market, and the aggregate disposable income growth rate must be at least stable (or preferably increasing).

An additional problem may also be observed. As PARIBONI (2016) points out, within the framework of a super multiplier model, with credit-based workers' consumption as the *only* autonomous component of demand, the debt-to-income ratio will be stable to the extent that wage share is *constant*. With this assumption, given that the growth rate of the economy will converge to the growth rate of consumption financed by credit (thus, it will converge to the growth rate of household debt), the numerator and the denominator of the ratio debt / disposable income will grow at the same rate.

However, PARIBONI proposes another dimension which is relevant to the analysis of the sustainability condition. When another autonomous spending component is incorporated into the model (for example, public expenditure), things are different. Assuming that the autonomous expenditures now consist of public expenditure *plus* debt-financed workers' consumption, the economic growth rate will tend to converge to the rate of the fastest growing autonomous expenditure.[44]

[44] For this analysis, of course, we are assuming that exports (the other relevant autonomous expenditure) grow at a rate less than that of public expenditure.

This implies that, if public spending grows more slowly than debt-financed consumption, even with a constant wage share, the debt-to-income ratio will no longer be stable (because debt accumulation will occur at a faster rate than GDP). The conclusion of PARIBONI's analysis is that the growth of public spending is vital for the stability of the private sector's debt-to-income ratio.[45]

Returning to the specific case of Brazil, between 2005 and 2011 the wage share improved at the same time as the pace of economic growth accelerated (SERRANO & SUMMA, 2012). There was also a reduction in the real interest rate in that period. On the other hand, fiscal policy had its most expansive bias precisely during that period (especially in 2006 and 2009),[46] but in 2011 fiscal policy became contractive. The abrupt reduction of the growth rate between 2011 and 2012, even with a declining interest rate, quickly led to an increase in the debt-to-household income ratio. In short, from 2011 fiscal adjustment policy was an additional factor that broke up the gradual improvement of the sustainability condition of household debt that had started in 2005.[47]

In addition, at the beginning of 2010, the Central Bank raised interest rates, which increased from 8.7% to 12.5% at the end of 2011. Nominal interest rate increases and macro-prudential measures put an end to the consumer boom, which had characterized the Brazilian economy in the second half of the 2000s.

2.3.5. Stagnation and Recession (2011-2015)

The process of deceleration-stagnation that began in 2011 was the result of a change in the orientation of macroeconomic policy. The slowdown of growth in Brazil since 2011 was overwhelmingly the result of a sharp contraction in domestic demand. The contraction of domestic demand was in turn the result of a deliberate political decisions

[45] PARIBONI also includes capitalist consumption financed with credit as another component of autonomous demand, which is significant for the stability of the position of private debt. We exclude this component because, although its inclusion can be justified in logical terms, its incidence in practice has very little relevance.

[46] BASTOS, Rodrigues & Lara (2014).

[47] This feature observed by PARIBONI (and which we believe can be applied to the analysis of Brazil's recent experience) seems to indicate (although in an indirect way) that the truly autonomous element in demand-led growth is public expenditure.

of the government, while the decision to slow growth was not forced by an external financing or balance of payments problem.[48]

At the end of 2010, the government decided to implement a strong fiscal adjustment in order to increase the primary surplus to 3.1 percent of GDP in 2011. It also decided not to raise the real minimum wage in 2011 (something that has not happened in Brazil since 1994). Thus, in 2011, public investment by both the central government and state-owned companies fell dramatically by 17.9 percent and 7.8 percent in real terms, respectively (SERRANO & SUMMA, 2015a).

As several papers on the subject have shown, the argument used to justify the strategy pursued by Dilma Rouceff's government after 2010 was erroneous.[49] The argument was that the fiscal adjustment was necessary to obtain a large reduction in interest rates. Then, lower interest rates, along with tax cuts and other incentives for private firms, would allow the expansion of private investment, which, along with exports (stimulated by a higher real exchange rate and lower interest rates), would lead the private sector to become the central actor in the growth process.

However, as adjustment policies reduced aggregate demand, private investment collapsed. Nor was there any export-led growth (exports declined despite the highest real exchange rate). These results are not coincidental. There is abundant empirical evidence in favor of the accelerator principle to explain private investment behavior in Brazil (e.g. LUPORINI & ALVES (2010), TADEU& SILVA (2013) and DOS SANTOS *et al.* (2012)). These studies find that private investment reacts procyclically to changes in GDP and capacity utilization levels, and they also show the predominance of the complementarity effect between public and private investment.

An interesting point is that, according to these studies, the real interest rate coefficient showed a positive sign (although not significant in all estimates), while the RER coefficient was significant and negative. This result is also corroborated by DOS SANTOS et al. (2012) who, in addition to finding evidence in favor of the accelerator

[48] The weight of Brazilian exports throughout the period did not change substantially enough to explain the large slowdown in GDP growth. Between 2011 and 2014, exports accounted for 11.3% of GDP, compared with 11.9% for 2004-2010 (SERRANO & SUMMA, 2015a).

[49] See for example BHERING, CARVALHO & PIMENTEL (2015), SERRANO & SUMMA (2015a), BASTOS (2015), CAMPOS & RIBEIRO(2015) and ZAHLUTH BASTOS (2015).

principle, also found a negative relation between private investment and the real exchange rate.

The overall interpretation of the empirical evidence seems to be as follows. The rise in the real interest rate correlates positively with the dynamics of the nominal interest rate. The rise of the latter, in turn, is associated with the appreciation of the real exchange rate, which improves real wages. The rise in real wages, in turn, is a major determinant of private consumption. Finally, the increase in private consumption is a stimulus for private investment.

If this interpretation is correct, then the neo-developmental thesis that asserts that the negative effects of the real exchange rate on the level of activity are a short-term phenomenon, has no basis. Indeed, by adversely affecting investment, the negative effects of the real exchange rate increase are persistent and affect the potential output of the economy.

Third, since the tax exemptions provided to firms, coupled with the deceleration of growth scenario, hindered the evolution of tax collection, the primary surplus fell in 2013 and became a deficit in 2014. Lower spending growth and government transfers, coupled with the fact that the tax cuts that favored the companies did not translate into an increase in their investment spending, made fiscal policy between 2011 and 2014 less expansive (or more contractive) than that corresponding to the 2004-2010 period. At the same time, the average primary surplus in the most recent period was 1.7 percent, much lower than the 3.2 percent average primary surplus of the previous period. Finally, the ratio of debt (gross and net) to GDP increased slightly due to the lower primary surplus.

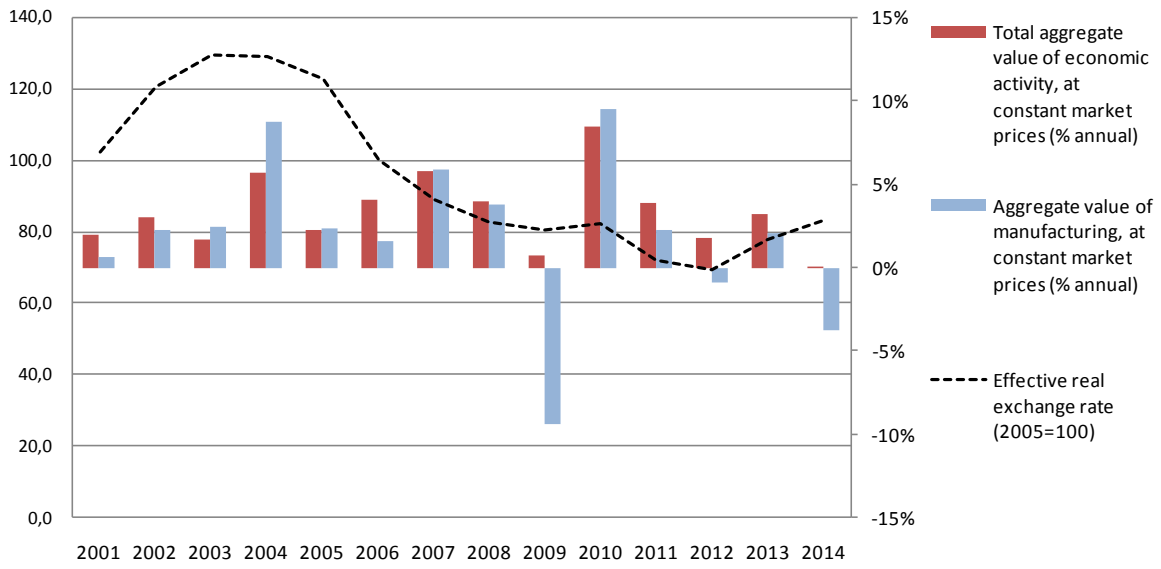
A key point made by SERRANO & SUMMA (2015a) is that the government's contractionary policies led to a steep decline in private investment, so that total investment (public and private) declined significantly. This strong reduction in investment growth is the cause of the sharp slowdown in industrial production that has occurred since 2011, rather than a supposed process of "de-industrialization" produced by the real exchange rate. It should be noted that some authors (e.g. FRENKEL & RAPETTI, 2012, p.52) stated a few years ago that the appreciation of the RER negatively affected industrial growth in relation to the rest of the sectors. Thus, it should be noted:

"...a reduction in the elasticity of modern tradable sector growth (e.g. industry) with respect to other sectors' growth" (p.51)

Thus, these authors showed that several Latin American countries had exhibited a "relative deceleration" of the growth of the value added by the industrial sector with respect to the other productive sectors between 2002 and 2008, something that in its approach was due to the high degree of appreciation of the RER.

However, if the analysis had continued over the next few years, the empirical evidence would have shown something different. Indeed, in the case of Brazil, industrial growth appeared to decelerate relative to other sectors by 2009. Despite this, in 2010 the industry grew more than any of the other sectors, even with a lower RER level than previous years (See chart below).

Figure24: Brazil: industrial growth and effective real exchange rate



Source: Eclac.

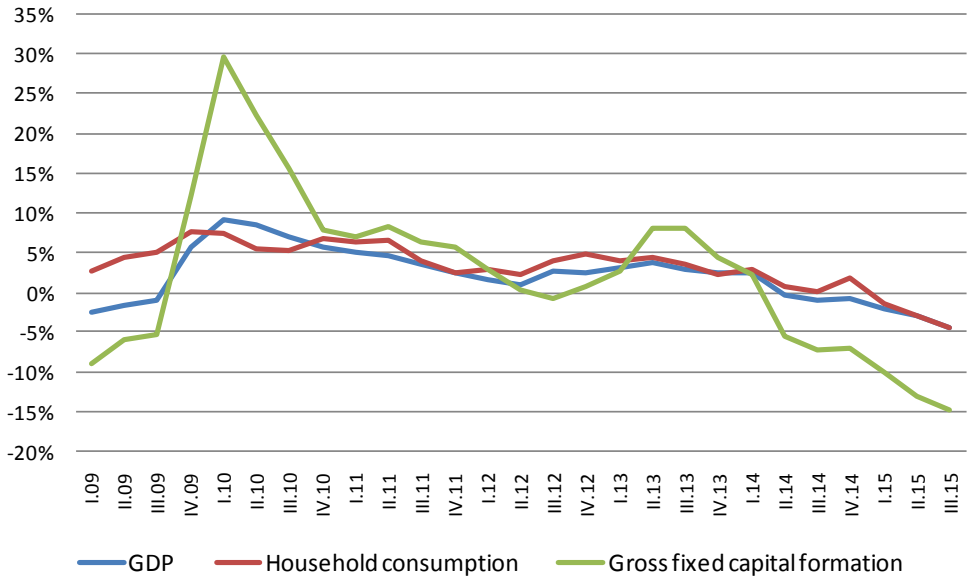
It is also worth noting that during the period of greatest growth in 2004-2010, the appreciated real exchange rate was very important for the control of inflation and, therefore, also to increase real wages and the growth rate of consumption. Thus, as stated previously, it was also important for the sustainability of household debt.

Therefore, the strong reduction in the growth of public and private investment (produced by the fiscal adjustment from the end of 2010) has been the cause of the sharp slowdown in industrial production that has occurred since2011, simply because a large part of the demand for goods investment and equipment (either for the productive capacity of the private sector or for infrastructure works) is an expansion of demand directed to the industrial sector.

After the economy was submerged in stagnation in 2014, these negative trends deepened dramatically when Joaquim Levy assumed the role of finance minister in early 2015. The nominal (and real) devaluation of domestic currency accelerated as well as the fiscal adjustment. According to the quarterly national accounts (seasonally adjusted series), in the third quarter the Brazilian GDP fell by -3.2% in annual terms, while household consumption fell by -4.5% and gross fixed capital formation (FBKF) fell 15%.

Figure25: Brazil: Consumption, investment and GDP

(Quarterly series, annual%)



Source: BCB.

These measures imply a brutal contraction of aggregate demand, generating a high degree of idle capacity. However, despite this contraction in demand, far from weakening, inflation began to accelerate as a result of the nominal devaluation process

that had already begun in 2011 and which jumped in 2015. The result of this process was the near doubling of the open unemployment rate in less than a year, while exports fell -5.3% in 2011, -0.2% in 2012 and -7.0% in 2013.

2.3.6. The causes of decline

There was no significant change in external conditions and/or in the balance of payments that could explain the dramatic depth of the recession in Brazil in such a short time. As explained by LARA (2014), in the period under analysis there was an impressive inflow of foreign capital, which brought the level of international reserves to the equivalent of almost 10 times the volume of external debt in the short term. Thus, far from implying restrictions on domestic economic policy, the country's external position gives Brazil high (and unimaginable) levels of monetary and financial autonomy, the likes of which have perhaps never before been seen in its history.[50]

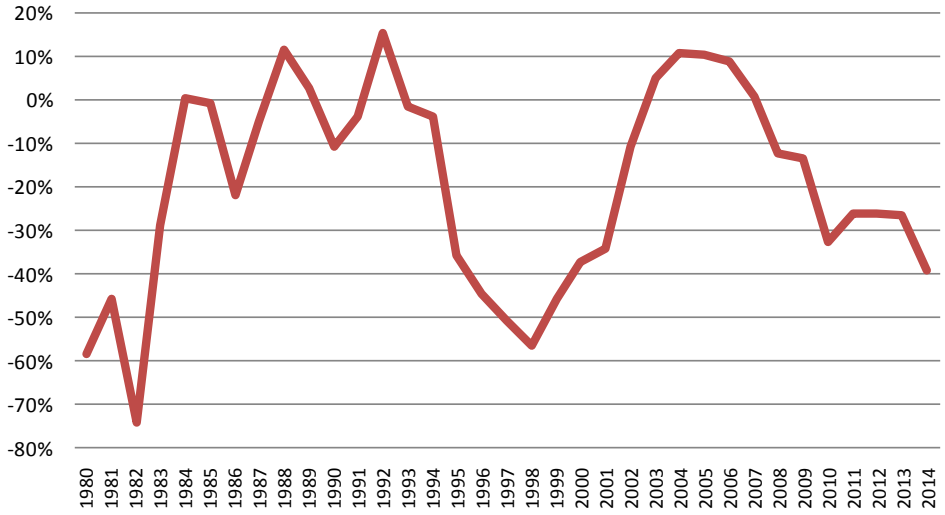
The paradox is that the government used this greater autonomy to make fiscal adjustments and devalue the domestic currency, and this is a crucial fact that must be explained. It is true that the Brazilian economy is facing a worsening of its external solvency in the long term. Indeed, if the external current account is considered as a proxy for the average returns of net external liabilities (imports, remittances, interest payments, etc.) and is related to the dynamics of Brazilian exports (the only genuine long-term foreign currency income), it appears that solvency in foreign exchange is gradually deteriorating, and that if no major changes are made, it will lead to some level of growth contraction in the future.[51] Despite this possibility in the future, it is far from being a fact *today*, since the levels of external liquidity of the Brazilian economy are very significant. As in the case of consumption financed with debt, the *initial conditions* are important here. In addition, the macroeconomic regime is more appropriate to deal with these potential constraints.

[50] See BIANCARELLI & VERGNHANINI (2015) and BIANCARELLI (2015). Indeed, as RESENDE (2015) observes, Brazil's business sector has experienced a sharp rise in foreign currency debt since 2007. However, these risks are now easier to manage. The combination of abundant international reserves and the floating exchange rate regime, make the external position of the Brazilian economy more robust.

[51] See MEDEIROS & SERRANO (2006) on this point.

Figure26: Brazil: Long-term external sustainability

(Current account deficit / exports ratio,%)



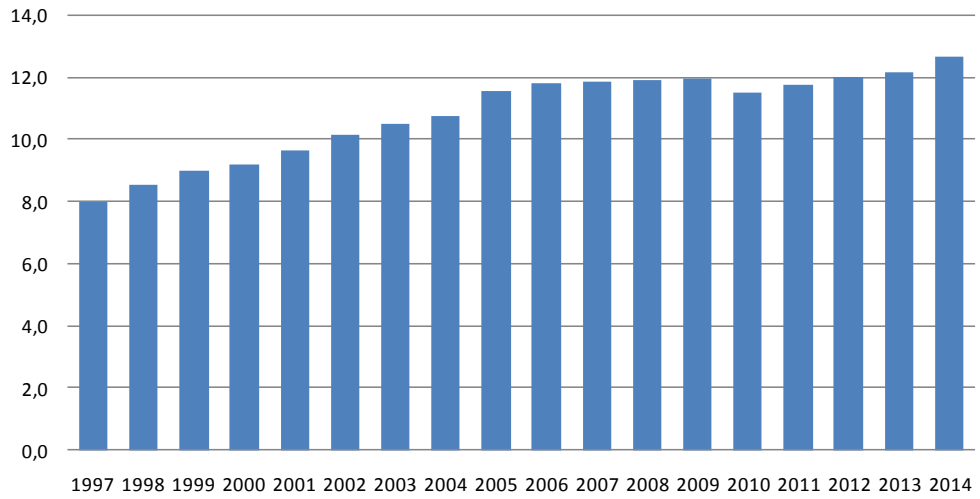
Source: Cepal Stat.

Does this constitute a "fiscal crisis"? Given that the country does not seem to be suffering from an external vulnerability, it seems very implausible that the Brazilian state is experiencing a "fiscal crisis", that is, it is impossible for it to become bankrupt if it borrows in its own currency. In addition, the government had a primary fiscal surplus even through 2013. Moreover, the shift from surplus to budget deficit is a direct result of the adjustment policy implemented in 2011.

As mentioned above, the fiscal policy between 2005 and 2010 led to a gradual increase in the relative weight of the public sector in the economy. However, as the Brazilian state makes many transfers (particularly social and the holders of domestic public debt), in fact the net tax burden has changed very little.[52] Even so, it is important to underline the fact that transfers have a very significant distributive bias. In fact, government subsidies and current transfers were the fastest growing components of public spending (see chart below).

[52] See RODRIGUES & BASTOS (2009) and RODRIGUES (2010).

Figure27: Brazil: Current government subsidies and transfers (as% of GDP)



Source: Eclac.

In summary, although government spending and social transfers grew very rapidly between 2004 and 2010, tax revenues also increased rapidly. This produced two results: on the one hand, the primary fiscal surplus (as a share of GDP) fell very little during this period, and on the other hand, the net effect of these large (and simultaneous) increases in tax revenues, social transfers and government expenditures was clearly expansive (SERRANO & SUMMA, 2015a).

Certainly, if it is assumed that the size of government in relation to the economy is "too large" and that this should be changed, then any reduction of its influence (and hence of the State's ability to promote economic growth) may result in a reduction in the budget surplus (or an increase in the deficit). The larger the state is in relation to the economy, the greater the influence of the level of activity on the budget balance will be.

Government influence on the economy is not restricted to the direct impact of its spending. If the relative weight of social transfers is large, its reduction has strong impacts on aggregate consumption, and thus, on the private sector as a whole (including the fall in private investment, resulting from the contraction of aggregate effective demand). It is not unusual then that when the government cuts spending and transfers, the negative macroeconomic effect is multiplied, so that tax revenues end up falling as much as (or even more than) the initial spending cut.

Thus, the fiscal adjustment that began in 2011 (when the government held a major primary fiscal surplus) was probably one of the factors that caused a shift in the budget balance from a surplus to a deficit.[53] In this way, economic policy itself has created a vicious cycle, where fiscal adjustment produces more deficits and the deficits require more adjustment, and so on.

Certainly, the government also made tax exemptions and provided subsidies to private companies, which have no expansive impact on aggregate demand, but instead, worsen the fiscal balance. However, it is clear that in 2010 the Brazilian economy recovered a significant primary budget surplus, having made a strong countercyclical policy in the crisis of 2009 (with a strong expansion of spending and social transfers).

In fact, the only way out of the vicious cycle is to adopt an approach to fiscal policy that is compatible with *functional finance*. This means that the government ceases to take care of the fiscal balance and focuses on the recovery of the level of activity. However, this alternative has been rejected for political reasons.

Thus, we arrive at a point in which we have to return to political economy to find the cause of such an abrupt decline. The basic idea is that the change in the orientation of the economic policy seems to be ultimately based on the objective of weakening the bargaining power of workers that had been strengthened during the brief so-called Brazilian "golden age" of 2004-2010 (SERRANO & SUMMA, 2015b).

Certainly, the change in income distribution that took place in Brazil between 2004 and 2010 was carried out almost without major conflicts, as a peaceful and civilized process. From the point of view of class conflict, this process seemed to be well represented by the anecdote of the boiling frog, where the frog is slowly boiled to death. The point is that in the case of Brazil, for some reason, the frog reacted violently after several years of seeming to be asleep. More precisely, although the distributive changes were gradual and were carried out without major conflicts, the most representative groups of economic and political power, along with broad sectors of the Brazilian middle class, rejected this process with increasing violence.

[53] In Brazil there are several factors that make the tax revenue elasticity relative to changes in GDP reasonably high. Some of these factors are: more people are included in income tax, increases in formal employment and social contributions, and more people change (raise) the rate they pay for taxes, all of which raises tax revenue total.

The change in economic policy orientation in 2011 was a (vain) attempt to satisfy the demands of those sectors. It cannot be rationalized in any other way. Fiscal adjustment has not worked in any sense. Inflation has increased, but now it has substantially changed its content: while up until 2010 it was a result of the impact of international inflation (tradable inflation) and the distributive conflict, since 2012 it has been driven by the devaluation of the currency.

The distributional consequences of the new inflationary process are very clear. Since the beginning of 2014, there have been three interrelated movements that define a new distributive configuration: persistent increase in the real exchange rate (i.e., devaluation without exports), sustained increase in the unemployment rate (after long years of constant reductions), and stagnation and/or fall in real wages. Note that the persistent devaluation of the currency, in a context of abundant international reserves, is clearly a *policy* decision of the BCB and in no way the result of an external crisis or anything similar.

In his paradigmatic text on the political aspects of full employment, KALECKI (1943) assigns a central role to the doctrine of "sound" finance. For Kalecki, the social function of the sound finance doctrine is to make the level of employment depend (exclusively) on the so-called "state of confidence" of capitalists. A situation in which the economy persistently tends towards full employment was considered negative because of the social and political consequences that would arise.

Certainly, the level of employment cannot depend on the "state of confidence", since, as Kalecki himself stated, the volume of employment will depend on the level of effective demand. In fact, Kalecki is very skeptical that the stimuli to private investment can lead to counteracting depression. Thus, at the end of his article published in1943, Kalecki raised the possibility of the recurrence of economic cycles of a political origin, in which fiscal impulse, with a major or minor countercyclical role, would fluctuate with the results of the social struggles.

For whatever reasons, a mere cyclical movement of the fiscal impulse may not be enough to restore order and discipline, and thereby recompose the distributive situation. In a sense, this had been anticipated by STEINDL (1979), who predicted the emergence of a *political trend* (and not a cyclical movement) against full employment. Following

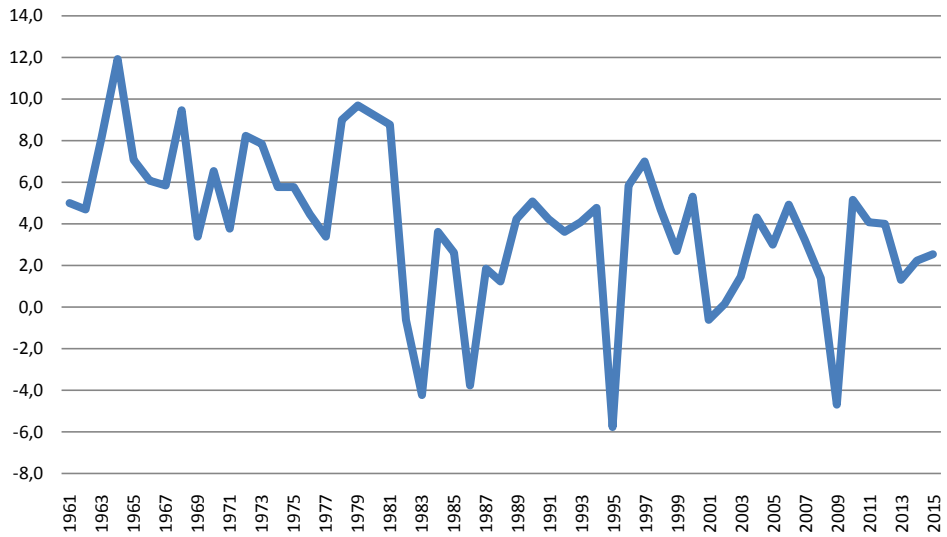
KALECKI (1943), Steindl argued that entrepreneurs had lost interest in full employment because of the growing power of unions. The new political objective was to abolish the welfare state and weaken the unions.

However, in addition to this, Steindl also referred to the emergence of a deliberate *policy of stagnation*. If the State is the main growth engine of modern economies (there is no *endogenous* mechanism of accumulation), this can lead to the *dismantling* of the State's own apparatus. Something like this seems to be happening in Brazil. There is no sign that there is any interest in the classes that hold the economic and political power to return to some path of economic growth or to minimally reconfigure the basic operation of the State. It is a stagnation policy *in extremis*.

2.4. Mexico

Before the most recent times, Mexico had a long "Golden Age" in terms of growth. In the 1960-1981 period, the Mexican economy had a cumulative GDP growth rate in the order of 6.8% per year. If the phase extends over the 1950-1981period, the annual rate of GDP growth is 6.2% per year. Additionally, since 1933 the Mexican economy has not had a year of recession (except in 1953, when growth was zero).

Figure28: México: GDP growth rates (annual %)



Source: World Bank, World Development Indicators.

The crisis of 1982 marked a substantial change of trend. The 1982-1986 period was a time of crisis. In 1987, a new stage of moderate growth began, culminating in the 1994 crisis, just at the same moment that Mexico entered into NAFTA. Thus, it seems appropriate to consider three periods for the analysis of the Mexican economy: (1) the decade before the outbreak of the debt crisis in Latin America in 1982 (i.e. 1970-1981); (2) the so-called "lost decade" that followed the debt crisis and lasted more or less until 1993, the eve of the launch of the NAFTA; (3) the period since 1994, in which NAFTA came into force.

From 1970 to 1981, Mexico had strong economic growth, low unemployment, moderate growth in real wages (at a rate of 1% per year) and a persistent rise in inflation. This decade was followed by a serious deterioration in the general economic situation. The GDP growth rate fell from 7% to about 1% per year in the period from 1982 to 1993 and real wages fell at a rate of almost 1% per year, while inflation accelerated (achieving an average rate of about 60% per year) (ROS, 2015).

In 1986, the oil price shock (a reduction of almost 50%) dramatically deteriorated the Mexican economy's terms of trade and reduced a significant portion of Mexico's fiscal revenue and foreign exchange earnings. These shocks generated sharp imbalances in the balance of payments, with a strong impact on the rate of inflation and a slower pace of economic expansion (MORENO-BRID & ROS, 2009, p.146).

2.4.1. The phase of moderate growth (1987-1994)

In 1987, the Mexican government opted for a price and wage agreement, adopting a fixed nominal exchange rate and introducing important trade, industrial policy and privatization reforms. Moderate GDP growth between 1987 and 1994 was characterized by an explosive increase in the import elasticity of demand and the rapid deterioration of the current account of the balance of payments (LÓPEZ, MORENO-BRID & PUCHET, 2006). There are two dominant hypotheses to explain this result: on the one hand, the appreciation of the domestic currency; on the other, the dismantling of the protection system (see MORENO-BRID, 2001).

Indeed, in this period, capital account liberalization was carried out, public companies were privatized and domestic interest rates were raised, which attracted large capital inflows that financed the growing current account deficit. At the beginning of 1984, the

liberalization of the regime of imports began, and direct import controls were relaxed. Thus, between 1981 and 1984 imports subject to prior authorization fell from 100% to 83%. By 1985, that percentage had fallen to 37.5%. These direct controls (licenses) mainly affected the import of intermediate and capital goods. As a form of compensation, tariffs were raised in the first stage, but then followed a downward path (MORENO-BRID & ROS, 2009, p.162).

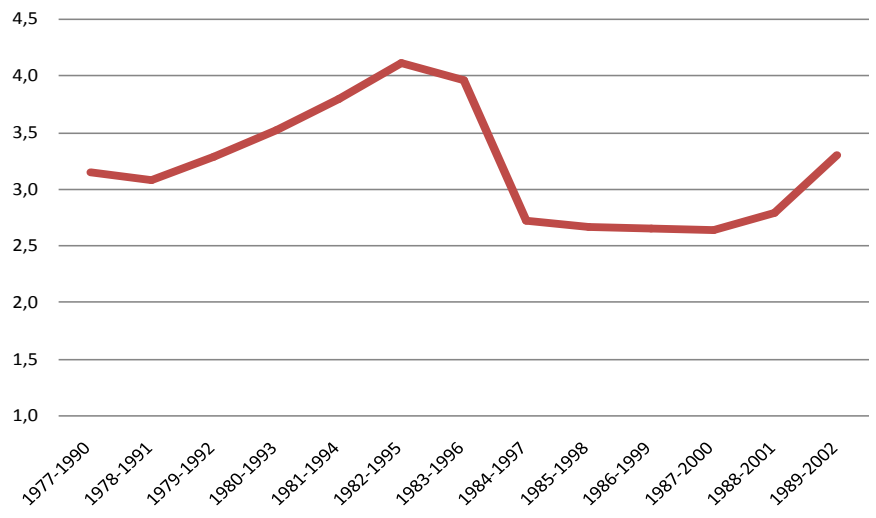
Table 4: México: Import licenses and tariffs

	Import license coverage	Tariff mean (unweighted)	Trade-weighted average tariff	average tariff Dispersion	Number of tariff rates
1982	100,0	27,0	16,4	24,8	16
1983	100,0	23,8	8,2	23,5	13
1984	83,5	23,3	8,6	22,5	10
1985	37,5	25,5	13,3	18,8	10
1986	31,0	22,6	13,1	14,1	11
1987	26,0	10,0	5,6	6,9	5
1988	20,0	10,4	6,1	7,1	5
1989	nd	13,1	9,8	4,3	5

Source: Moreno-Brid & Ros, 2009, p.164

This process was accentuated in July, 1986 by Mexico's accession to the General Agreement on Tariffs and Trade (GATT), and was further deepened at the end of 1987, with the pact that sealed the stabilization policy. By 1989, import license coverage reached barely 20% of imports and the average tariff was 10% (63% lower than in 1982).

Figure29: México: Rolling Regressions of the Income Elasticity of Demand for Imports

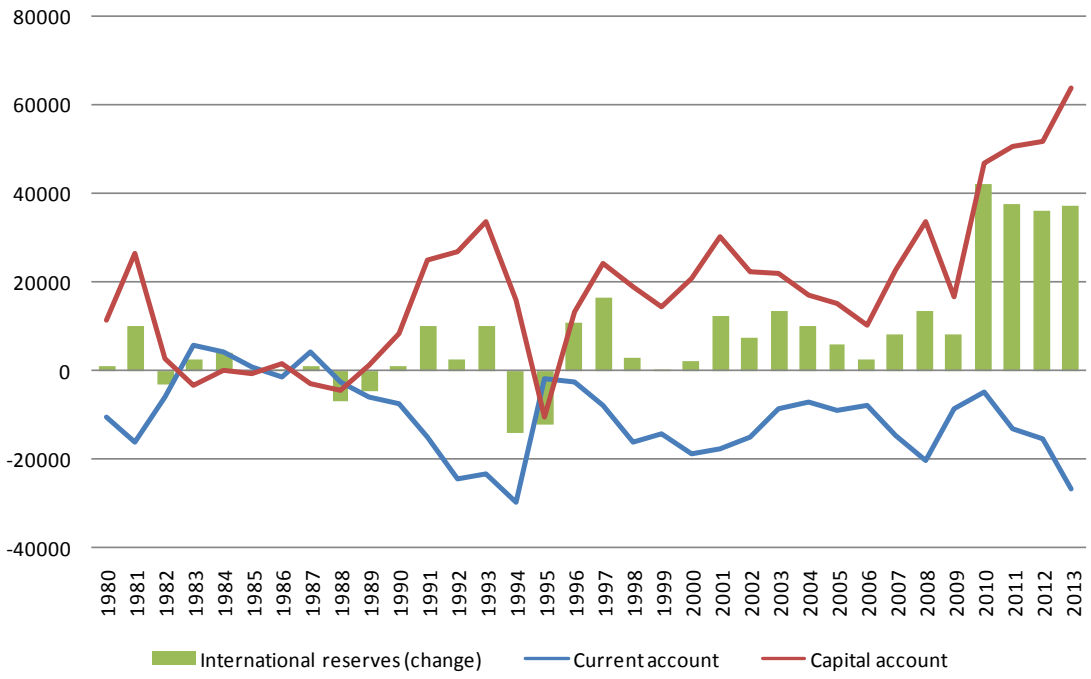


Source: PACHECO LÓPEZ &THIRLWALL (2006).

In this period there was a significant growth in consumption, and particularly, the demand for imported consumer goods grew strongly. This latter fact was attributed to the appreciation of the Mexican peso and the reduction of tariff and non-tariff barriers. However, investment also grew, and in fact grew at a faster rate than consumption (LÓPEZ *et al.* (2006)).

Another stylized fact of the Mexican economy, from the early 1980s to the present, is that the level of international foreign exchange reserves have been supported by a positive capital account, while the current account has been persistently negative throughout the period.

Figure30: México: balance of payments, 1980-2013



Source: CepalStat.

Similarly, there is a clear positive correlation between the appreciation of the Mexican peso and private demand. At the same time, there was an increase in private sector indebtedness to banks, as well as an external indebtedness of the national economy as a whole. For example, corporate debt to banks went from 8.9% of GDP in 1988 to 35.5%

of GDP in 1994. In the same period, the results for household indebtedness were more dramatic, rising from 14.2% to 55.3% of GDP (LÓPEZ et al., 2006). Quite surprisingly, in the same period, government indebtedness to the private sector *declined*, from 60% of total private bank lending in 1988 to just 10% in 1994 (OECD, 1995).

Both the strong private indebtedness in dollars of the private sector, as well as the reduction of government debt and the increase of households debt , constitute a combination of factors that led to a greater domestic and external financial fragility.

2.4.2. The macroeconomic interpretation of the 1994-1995crisis

A very common interpretation of the macroeconomic performance at this stage is as follows. The mechanism that induces the boom phase (which later will become the cause of crisis) begins with the increase of capital inflow. Capital inflows increase the central bank's international reserves, which *endogenously* expand the money supply. This, in turn, expands the lending resources of private banks and leads to an increase in credit, thus increasing effective demand and GDP (see LÓPEZ, MORENO-BRID & PUCHET, 2006, p.371).

While this aspect of the interpretation of the process prior to the 1994 crisis will be discussed in more detail in the following sections, it is convenient to anticipate the difficulties that arise from such an interpretation. Perhaps an trace of such problems is the fact that the authors perceive that after an increase in the banks' loanable funds, the real interest rate had not diminished as an "anomaly".[54] Indeed, the interest rate is an exogenous variable, while the money supply is a positive function of the demand for credit (not the level of international reserves).[55]

In relation to the moderate growth stage (1987-1994) and its subsequent crisis, LÓPEZ et al. (2006) present a macroeconomic model to explain how the growing financial fragility led sooner or later to the crisis. This model has the level of reserves (and their changes in time) in interaction with the dynamics of the real exchange rate as its main variables. Firstly, in this context, the level of output depends negatively on the RER and

[54] The authors attempt a somewhat ad-hoc explanation: they suggest that consumers who were formerly financed in the informal market (with higher rates) were now financed in the formal market (with lower rates), thanks to the more flexible conditions of credit access.

[55] This interpretation is very similar to the one that DAMILL and FRENKEL develop on the operation of convertibility in Argentina between 1991 and 2001.

positively on consumer credit. Given that both wage share and private investment have a *negative* relation with the RER (CABALLERO & LÓPEZ, 2011), if net exports are not very elastic to the real exchange rate change (i.e. if the Marshall-Lerner condition is not satisfied), product levels fall when the RER increases (devaluations are contractionary).

Quite surprisingly, the authors do not assign any role to fiscal policy in the model. This omission seems unjustified for several reasons. Firstly, as demonstrated by CABALLERO & LÓPEZ (2012), there is a *strong accelerator effect* in Mexico, whereby income (*and* expansionary fiscal policies) generates a significant increase in private investment. In the same paper, the authors observe that public spending has a positive effect on private investment, that is, there is a crowding-in effect (more on this in the next section).

Even before, following an effective demand approach within KALECKI's original contributions, LÓPEZ (1994) had has empirically estimated the determinants of private consumption and private investment for the 1980-1994 period. With regard to the effect of public spending on private spending, he found that government spending and the budget deficit stimulate both consumption and private investment. In addition, he identified the existence of an *accelerator* effect on demand. Third, he suggested that the recovery of private investment (which began in 1987 and lasted until 1994) does not appear to be caused by the spontaneity of market forces, but rather a consequence of the application of a moderate expansionary fiscal policy and of a revaluation of the Mexican peso. Finally, the reduction of government spending and subsequent stabilization at a lower level played a decisive role in the contraction and consequent stagnation of GDP.

Second, the model assumes, as already mentioned, that the volume of reserves affects the level of domestic credit, because it is assumed that banks increase lending when international foreign exchange reserves are increased.[56] Thus, the level of the RER depends on the net position of reserves, and there is a certain level of reserves (not observable) that the market considers "sufficient" to sustain the dynamics of the real exchange rate. The model includes three mechanisms of transmission through which the

[56] As will be discussed in the following section, this is a weakness of the model because, in truth, external capital inflows cannot generate any credit boom on their own (see SERRANO & SUMMA, 2012).

inflow of capital, and the consequent appreciation of the RER, stimulates GDP growth. One mechanism is that the appreciation of the RER improves the wage share; second, it stimulates private investment. Finally, it expands (endogenously) the consumption financed with credit. At the same time, the domestic and external financial fragility of the economy increases.[57]

In this context, an acceleration of GDP growth will tend to produce a tendency of currency devaluation (by decreasing the effective level of reserves). Depreciation will have a negative effect on effective demand as well as the value of domestic assets, and the latter will tend to slow capital inflows. This, in turn, will slow the growth of reserves, which will lead to a slowdown in credit expansion. Conversely, the inflow of capital leads to the appreciation of the domestic currency (and thus to the expansion of effective demand), while international reserves increase despite the growing current account deficit. Obviously, the deterioration of the current account cannot last forever, but the exact moment of crisis cannot be predicted. It is only possible to say that an increasingly unstable situation is taking place (LÓPEZ et al. (2006)).

A crucial question posed by the authors themselves is the following: why is there currently no evidence of another crisis when Mexico operates under basically the same institutional system? The response of LÓPEZ *et al.* is that it would have changed the reaction speed of the financial parameters of the model. Basically, the elasticity of capital flows to the domestic interest rate, the dollar price of domestic assets and the effect of the credit on the domestic currency price of domestic assets would be considerably lower.[58] The authors do not offer additional explanations and the paper ends at that point. Nevertheless, they note that several factors were not considered in the model.

One of these factors is the fact that when the peso began to be overvalued, the government was able to devaluate without provoking a speculative attack. As observed by BLECKER (2005, p.18), in 2001-2002, although the level of domestic currency

[57] Note also that the dynamics of the model are based on the real (not nominal) exchange rate, although in some footnotes a quick reference to the nominal exchange rate is made. This will also be an important point in our later discussion of the macroeconomic interpretation of the crisis of the 1990s.

[58] That is: "... the reactions of capital inflows to changes in the interest rates and in the value of domestic assets, and of the price of financial assets to credit expansion, may be now less strong than they were before the crisis, precisely because a deep crisis took place" (LÓPEZ et al, 2006, p.386).

appreciation was similar to that of 1994, the government was able to avoid a currency collapse and a financial crisis. One fundamental reason for this was that since 1995 Mexico had adopted a *managed floating* exchange rate policy. As will be discussed in more detail later, we believe this to be a crucial factor.

BLECKER (2005) and LÓPEZ et al. (2006) point to other factors, namely the greater relative weight of Foreign Direct Investment FDI in relation to "hot money" (which would have led to greater stability of the balance of payments) and the fact that Mexico´s GDP would have grown considerably less from 2001 onwards, reducing the demand for imports and thus avoiding an excessive deficit in the external current account.[59]

2.4.3. The entry into NAFTA and its consequences

Mexico's entry into NAFTA coincided with an internal crisis situation. In 1995, the government's strong austerity plan led to a 6.1% decline in GDP, the largest decline in postwar history in Mexico, and the highest since 1932 (PACHECO LÓPEZ & THIRLWALL, 2004). It should be noted that the entry into NAFTA did not imply a radical change from what had already been occurring since the mid-1980s as a result of the unilateral liberalization of trade in Mexico. Indeed, before NAFTA the Mexican economy was already very open to trade and capital flows.

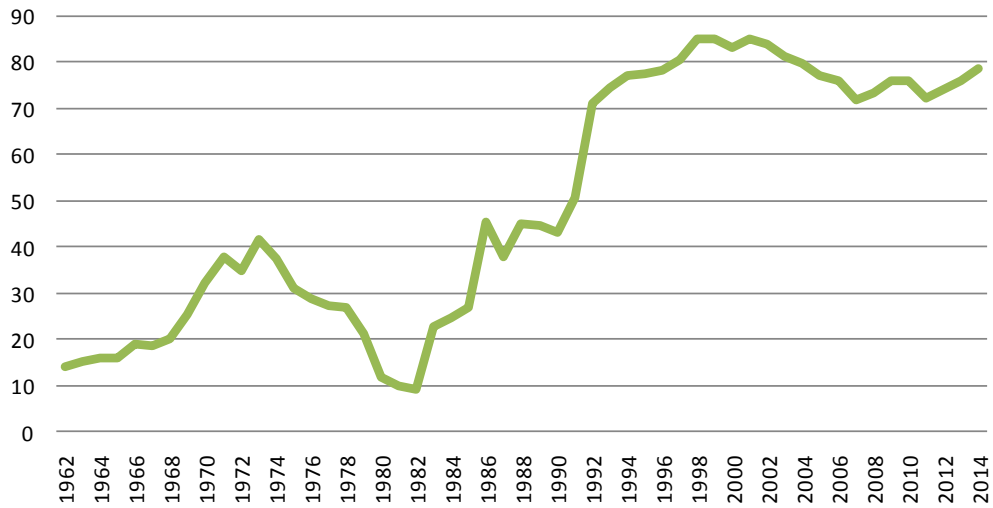
The results of Mexico's entry into NAFTA were far from promising. Mexico's performance in terms of growth during the NAFTA period, although better than the "lost decade", has been much poorer than in the 1970s. The annual growth rate of GDP was 2.2% in 1993-2010 compared to 6.9% in 1970-1981. There is an almost general consensus that liberalized trade and investment flows have not brought the promised development benefits to Mexico and have not led to their convergence with their wealthier northern neighbors.

[59] However, as Kregel (1996) observed, there are several factors that relativize the differences between FDI and portfolio investment in the long run in terms of external stability. On the one hand, there is the fact that even in the investments that represent real assets the exchange and financial risk is not ignored. With the coverage of the risks, there will be flows outside of the country that will increase the pressure on the exchange market. Another aspect of FDI that is often underestimated is based on the assumption that, without a predetermined fixed interest payment burden, no external payments will be made. Obviously, direct foreign investors do not invest without expecting something in return. Finally, actual balance-of-payments conditions may be even more complex if FDI includes a large proportion of capital goods and specialized inputs for domestic assembly, as clearly appears to be the case in Mexico.

As noted by Blecker, the most powerful indicator of the NAFTA failure (and the related free market reforms in Mexico) is given by the fact that the number of Mexicans who immigrated to the United States during the 1990s was estimated to be between 4 and 5 million people. To the extent that income gaps are significant and persistent, the most remunerative labor markets in the United States and Canada will continue to have an inescapable influence on Mexican workers (BLECKER, 2005). In addition, real wages showed a negative growth rate average in 1993-2010 and have tended to diverge, rather than converge with respect to the levels observed in the United States and Canada (ROS, 2015, p.111-112).

The fact is that Mexico has achieved greater liberalization and trade integration, which in terms of the mainstream supposes eliminating the anti-export bias, and through greater competition, improve the efficiency and productivity of the economy as a whole. Besides, the expansion of international trade would (presumably) act as a growth driver.

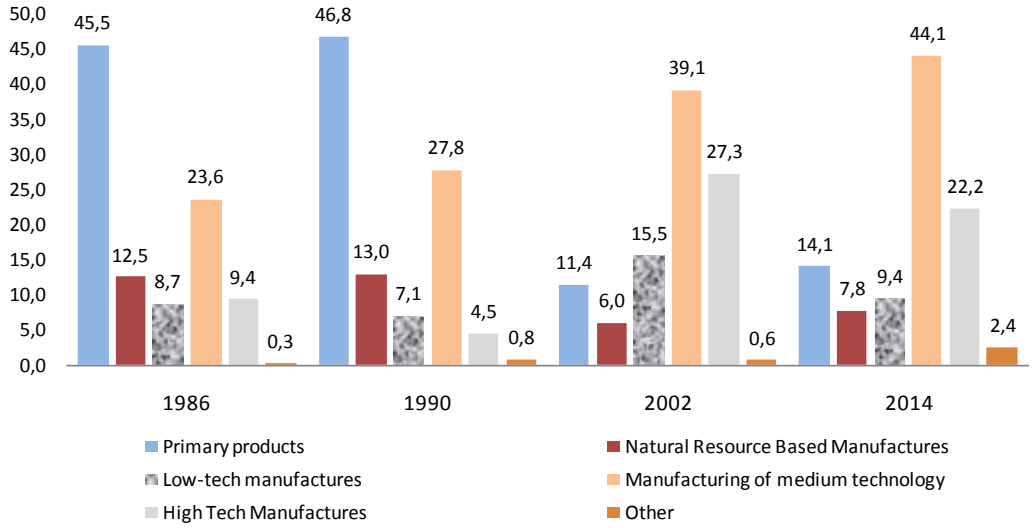
Figure31: México: Exports of manufactured products according to their share of the total (% of the total value of FOB exports of goods).



Source: CepalStat.

Certainly, exports have grown. And they have changed their composition in two ways: on the one hand, the share of industrial exports increased, but it also increased the share of exports with greater technological content.

Figure32: México: Exports of goods by technological intensity (% of total)

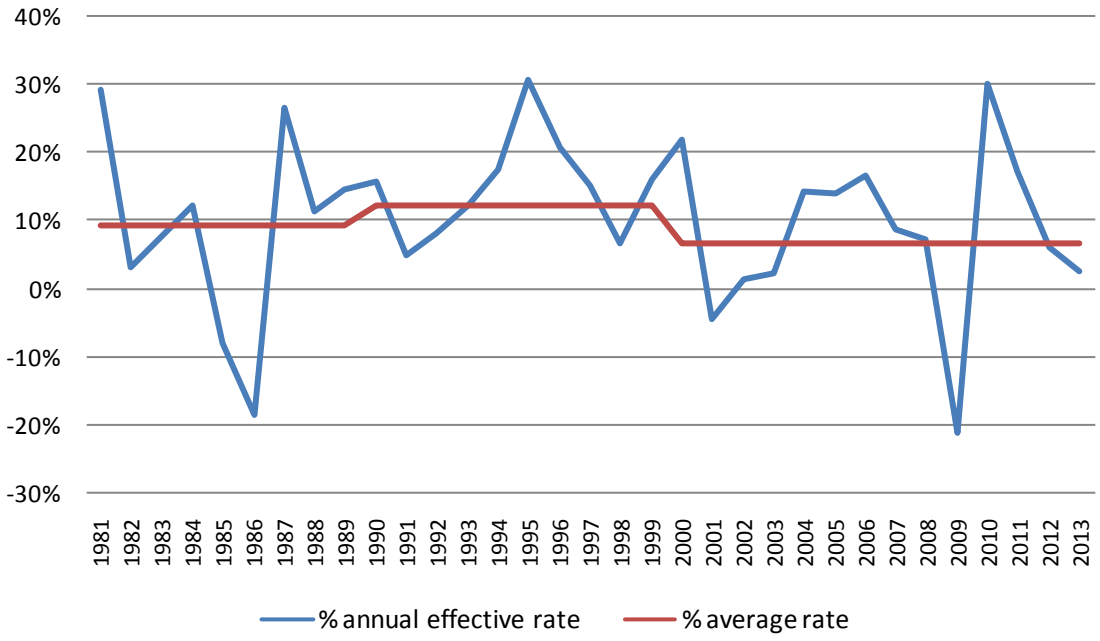


Source: Eclac.

Indeed, there was a decline in the share of primary products in total exports (from 45 per cent in 1986 to 14 per cent in 2014), while the relative incidence of exports of medium technology manufactures (from 24 to 44 per cent) and exports of high technology manufactures (from 9.4% to 22% in the same period) has grown. In a certain sense, this description could be considered as the materialization of an old dream of the Latin American structuralists. However, things are a little more complicated in the present day.

First, although this change in composition was initially associated with a higher rate of growth in the value of exports, since the early 2000s Mexican exports have grown at an average annual rate of 6.6%, that is, an even lower growth rate than that exhibited by countries with a much greater weight of primary commodities in their total exports (such as Argentina, Brazil or others).

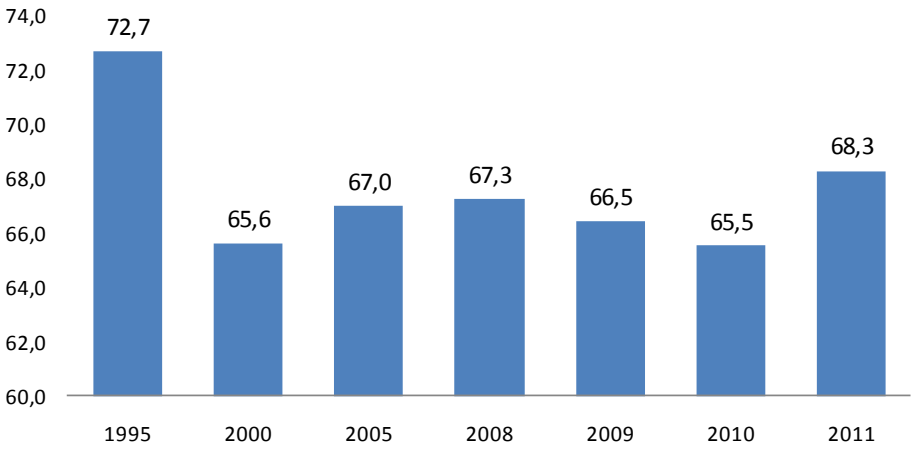
Figure33: México: Rate of growth of exports (annual%)



Source: CepalStat.

Second, domestic value added in gross exports fell significantly after Mexico's entry into NAFTA, decreasing from 72% in 1995 to 68% in 2011.

Figure34: México: Domestic value added in gross total exports, 1995-2011
(percentage)



Source: https://data.oecd.org/trade/domestic-value-added-in-gross-exports.htm

This fact clearly shows that trade integration, by itself, despite a higher incidence of exports of more sophisticated technological content, does not ensure a more diversified economic structure and, still less, can it be counted as synonymous with greater economic growth.[60]

MORENO-BRID & ROS (2009, p.227), first and foremost, question what technological benefits can be derived by firms from exports and the associated question of the *causality* between exports and the performance of productivity. At this point, they use empirical studies at the firm level on the relationship between exports and productivity performance. These studies suggest that causality seems to run *from productivity to exports* (not the other way around, as assumed in the conventional view). In other words, efficient firms seem to self-select export markets, rather than gain technological benefits from exporting.[61] The empirical evidence seems to suggest that the *precondition* for increasing exports is a more diversified economy. This idea is analogous to Amsden's well-known claim that "import substitution was the mother of export growth" (AMSDEN, 2004, p.171).

2.4.4. Inflation Targeting in Mexico

The inflation targeting system was officially adopted in Mexico in 1994, setting an inflation target of 3% in 2002 (with a margin of error of plus/minus 1%). However, since the early 90s the Central Bank of Mexico has applied a strategy to control inflation which is relatively similar to an inflation targeting regime, depending largely on the management of the interest rate.

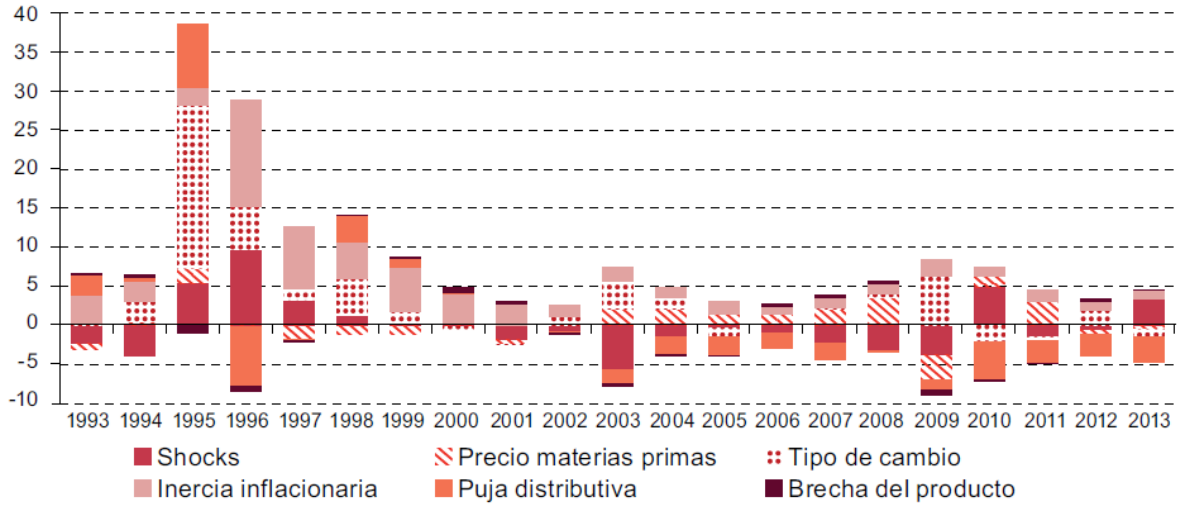
Indeed, there was a coincidence between declining inflation and the implementation of an anti-inflationary strategy based on the management of interest rates. This has led to a debate on the effectiveness of inflation targeting regimes to reduce the inflation rate and the additional impact that such a policy can generate on other relevant variables.

[60] This result is even more paradoxical when it is observed that, in the case of Argentina, domestic value added in exports was 86% in 2011, while in Brazil it was 89% in the same year (according to OECD data), while the exports of these two countries are highly "intensive" in primary commodities (Brazil even more so than Argentina).

[61] See BERNARD & JENSEN (1999) and CLERIDES, LACH & TYBOUT (1998) on this point.

In contrast to what is often postulated in the so-called new macroeconomic consensus, and in opposition to the assumptions on which inflation targeting is based, TRAJTEMBERG *et al*. (2015) show that demand factors (summarized in the output gap) have made a relatively low contribution to the determination of inflation in virtually all cases and in all periods. Rather, the movements of the nominal exchange rate, the conflicts over the distribution of income, fluctuations in international commodity prices and inertia are the elements that account for most of the variability of the price index.

Figure35: Mexico: inflation rates and determinants of inflation, 1993-2013



Source: TRATJTENBERG, VALDECANTOS & VEGA (2015).

Two fundamental features characterize the dynamics of Mexican inflation in the 2000s. On the one hand, during the last decade, the importance of the component of inertia diminished, although it did not disappear completely. On the other hand, there was a *negative* contribution of the distributive conflict, which contributed to the slowdown of inflation (see chart).

As summarized in LÓPEZ & VALENCIA (2015), some studies showed that reducing the inflation rate had negative effects on growth. This was usually due to the supposed negative impact of the real exchange rate appreciation on GDP (see GALINDO and ROS, 2006, MANTEY, 2009). On the other hand, other studies argued that the impact of the interest rate on GDP was virtually nonexistent. Thus, low growth or stagnation should be explained by reasons other than the level of interest rates. In the same sense,

other authors find no evidence of GDP being impacted by such policies or other relevant variables (e.g. CARRASCO and FERREIRO, 2011).

For example, an econometric estimate for inflation by VALENCIA (2015) for the period of 2002 to 2014, revealed that the interest rate had a (albeit very small) *positive* effect on prices. It was observed that this may have been associated with a higher cost of credit, which companies probably transferred to final prices.[62] The study showed that the parameter associated with the capacity utilization rate was positive but also very small. These findings (coinciding with TRAJTEMBERG *et al.,* 2015) indicate that demand *does not have* a *direct effect* on inflation, as is conventionally assumed by inflation targeting regimes. Therefore, the effect of interest rates on inflation should be *indirect,* whether it affects nominal wages, the exchange rate or profit margin.

On the other side, an econometric estimation for the dynamics of nominal wages (LÓPEZ, 1999) found that, in Mexico, nominal wages depend on labor productivity, the minimum wage and prices. The level of employment and output (and therefore the degree of capacity utilization) does not seem to influence the evolution of nominal wages. Clearly, there may be an interest rate effect on the profit margins, but that effect seems to be very small (and positive). The main (indirect) effect seems to be that of the interest rate on nominal exchange rate dynamics. When the domestic interest rate rises, the interest rates differential increases (given the country risk premium), and this induces the inflow of capital, appreciating the nominal exchange rate and producing a positive impact on domestic inflation.

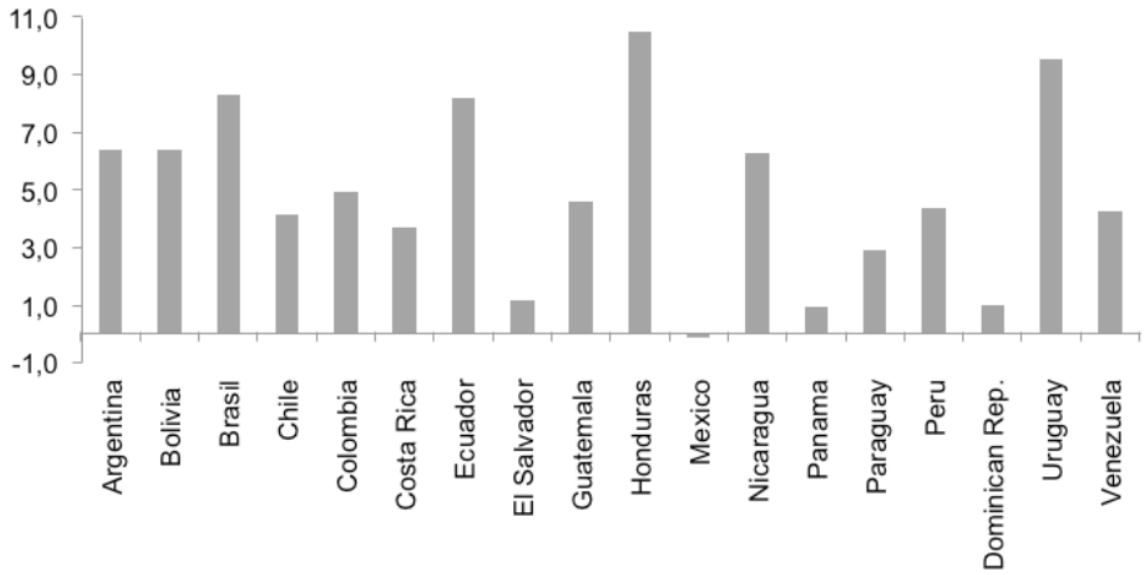
However, if one looks at the graph that represents the determinants of inflation in Mexico, it is verified that the main disinflation factor was not the exchange rate, but rather the unit labor costs that had a fundamental disinflationary impact in 2000s. For example, LÓPEZ, A. & LÓPEZ, J. (2006) investigate the determinants of real wages in Mexico's manufactured sector. Its most important results can be summarized as follows. The authors found evidence that the *minimum* real wage has a significant influence with regards to the *average* real wage. In this sense, the persistent *decline* of the minimum real wage has surely contributed to the average real wage fall.

[62] More generally, this interest rate effect on prices can be explained by assuming that the interest rate constitutes an opportunity cost for capital as a whole (whether borrowed or not), along the lines of the so-called monetary theory of distribution (PIVETTI, 1991).

Besides, it is found that the overall unemployment rate influences the evolution of the real wage, insofar as it affects the bargaining power of workers. Similarly, the authors also found that the evolution of productivity influences the evolution of the real wage. Interestingly, the authors point out that price "surprises" (i.e. acceleration of the rate of inflation) brings about a fall in real wages. It is highly likely that this factor was important in the decline in wages that took place after the 1995 crisis in Mexico. Finally, the average import tariff and the real exchange rate affect the real wage.[63]

The following figure reports the average annual variation in local currency of the real minimum wage for several Latin American countries. This makes the poor performance of the minimum wage in Mexico more evident. In many countries of the region, minimum wages increased sharply in real terms in the 2000s. For example, Argentina and Uruguay recorded substantial increases of more than 10% per annum, while in Brazil, Honduras, and Nicaragua it grew by more than 5% annually. Mexico was the notable exception.

Figure36: Latin America: Average annual change of the minimum wage, 2000-2013 *(percentages).*



Source: MORENO-BRID, GARRY & Keozer (2016).

[63] One possible explanation is that both higher tariffs and a higher real exchange rate tend to raise costs and also diminish the pressure of foreign competition. Thus, they stimulate or force firms to raise their prices, or both, which negatively affects the real wage.

MORENO-BRID, GARRY & KROZER (2016) point out that the strong growth in Argentina, Uruguay, Ecuador and Brazil in recent years is explained by the rise to power of governments that are committed to more inclusive development agendas. This commitment has led them to use various instruments of economic and social policy to better distribute the benefits of growth. Thus, they have stopped considering the minimum wage as a mere instrument of anti-inflation policy, something that does not seem to have happened in Mexico.

In contrast, the Mexican policy of containing the minimum wage seems to reflect the fact that social inclusion is not considered a national priority. On the other hand, this containment (more implicit than explicit) served to support the inflation reduction strategy, while limiting public expenditure on benefits, pensions and other expenses related to the evolution of the minimum wage. At the same time, it served to compress labor costs through prices rather than productivity.

2.4.5. The crisis of 2008 and the Mexican economic growth pattern

The external integration of the Mexican economy influenced their economic behavior decisively during the Great Recession of 2008. Given Mexico's high degree of integration with the US economy, which was the epicenter of the international crisis, particularly with a significant share in exports total of products such as oil or automotive industry, the Mexican economy was strongly affected by the recession in the United States.

Even in these conditions, the Mexican economy seemed to have certain degrees of freedom available for countercyclical policies. For example, ROS (2015) shows that, although the degree of integration of the economies of Mexico and Canada with the United States was very similar, the recession was much more severe in Mexico (a drop in GDP of 4.7 % in 2009) than in Canada, where the decline in GDP (2.5%) was one of the lowest in the countries of the Organization for Economic Co-operation and Development area. Paradoxically, the recovery speed in the later period was much faster in Mexico than in Canada (more on this below).

Table 5: some evidence on the fundamental macroeconomics linkages in Mexico

Some evidence on the fundamental macroeconomic linkages in Mexico
(econometrics estimations)

Variable dependent	*Methodology*	*Results*	*Observations*	*Source*
Real interest rate	OLS 2002-2014	Small albeit postive effect on prices	The parameter associated with the rate of capacity utilization was positive but also very small.	Valencia (2015)
Real exchange rate	Dynamic panel model (1990-2008) for México, Brazil, Chile, Colombia and Uruguay	Negative effect of rer on private investment	There is no evidence of any direct effect of the interest rate on private investment.	Caballero & López (2012)
Private consumption	VAR Model 1988-2010	Positive relationship with wage share, gdp, credit availability (M2), and negative with the real interest rate (r), although the coefficient is irrelevant.	Possible indirect effect: a high interest rate can appreciate the RER and increase the share of the share, expanding consumption.	López & Valencia (2015)
Private investment	Dynamic panel model (1990-2008) for México, Brazil, Chile, Colombia and Uruguay	Positive relationship with GDP and public expenditure on consumption. Negative association with the tax rate and with the RER.	Evidence of a strong accelerator effect. The positive effect of public spending is greater than the negative effect of the tax increase.	Caballero & López (2012)
Imports	Three-stage least squares (3SLS) systems estimation, and two-stage least squares (2SLS) inst. variables (1960-2012).	The potential effect of the RER on the equilibrium growth rate of Mexico's BoP dropped sharply (and in some calculations practically disappeared). Reduction in the price elasticity (rer) of demand for manufactured exports and intermediate imports.	Implication: "caution in defending peso depreciation as a strategy to improve the trade balance or alleviate balance of payments constraints".	Ibarra & Blecker (2013)
Imports	OLS, with a linear logarithmic specification (including licenses)	Two estimates for "trade protection" (1970-84) and "liberalization" (1985-1996). Significant increase in import income elasticity and decrease in price elasticity.	Hypothesis: Trade liberalization has led to a structural change in import demand.	Moreno-Brid (2002)
Imports	OLS, with a linear logarithmic specification (including licenses)	There was a trend increase in income elasticiy of imports for Latin America as a whole and for some countries.	The rolling regressions technique is used.	Pacheco-López & Thirlwall (2006)
GDP	VAR, cointegration and ECM (1980-2006)	The estimation uses credit, US GDP, public spending, trade protection and the real exchange rate as independent variables.	The "trade protection" sign is positive, and the RER sign is negative. This finding contradicts the equivalence between trade protection and the exchange rate generally adopted in the open economy macroeconomics.	López, Sánchez & Spanos (2010)
GDP	A VAR model for the period 1998.1 to 2010.4.	The explanatory variables are Mexico's GDP, US GDP, Income taxes, VA tax, primary public expenditure, money supply (M2), and wage share.	A larger output is associated with higher USA GDP, higher share of wages in value added, and higher primary public spending and greater availability of credit.	Caballero & López (2013)
Manufacturing nominal wages	Generalized Moments Method (GMM) (1988-1999)	The minimum real wage has a significant influence on the average real wage. Unemployment rate, average import tariff and the RER have a negative impact on the real wage.	The price "surprises" (ie the acceleration of the inflation rate) have a negative impact on real wages. The evolution of productivity influences the evolution of real wages.	López, A. & López, J. (2006)

In Mexico, exports were clearly the component of aggregate demand that fell most sharply during the recession, declining at rates of around 10% and 12% during the fourth quarter of 2008 and the first quarter of 2009. Private investment was also severely affected, but recovered later. Exports, however, began a strong recovery in the third quarter of 2009.

It is interesting to discuss the role of fiscal policy more closely, as conceived in the more conventional approaches, because it allows a more consistent and comprehensive understanding of the Mexican growth dynamics. For example, ROS (2015, p.122)

argues that while government spending as a whole tended to increase in Mexico during the recession, the increase was much lower than in Canada. Also, he notes that in Mexico there were contractions of public investment during 2009. Thus, unlike Canada, public spending (especially investment) does not seems to have played an important role in the case of the Mexican economic recovery from mid-2009.

The decisive factor in the recovery, for Ros, were exports, which have been strongly stimulated by a sharp devaluation of the domestic currency. In turn, this devaluation would have been produced in the midst of the crisis due to the "flight to quality" (that is to say, by the reversal of capital flows).

However, in the first place, there seems to be a low sensitivity of exports in relation to the real exchange rate.[64]In spite of this, there is a very high correlation between the growth of exports and the fluctuations of GDP in Mexico. Also, by 2015, Mexico's total exports of goods and services amounted to 35% of GDP. In addition, domestic value added in exports has fallen in recent years.[65]

Given the available empirical evidence, what is it that links export dynamics with domestic growth in Mexico given the relative weight of exports on GDP and their high imported content? We believe that this is a crucial point in order to understand how macroeconomics work in Mexico and to explain the reasons for the relatively low growth of the country. A deeper analysis of the possible transmission channels of the crisis of 2008 (and the subsequent recovery) suggest a possible connection between the dynamics of Mexican exports and fiscal policy. It also suggests an atypical (positive) relationship between the real exchange rate and GDP growth.

In Mexico, the contraction of the value of total exports was largely a result of the fall in oil prices and the volume of manufactured exports. The value of manufacturing exports

[64] For example, IBARRA & BLECKER (2013) find that the effect of the real exchange rate on the maximum growth rate compatible with the external equilibrium (THIRLWALL's "law") fell sharply after Mexico's entry into NAFTA (until practically disappearing in some estimates). This seems to reflect Mexico's growing productive integration with the United States, which led to an abrupt decline in the elasticity of exports of manufactures and imports of intermediate goods in relation to the RER. Pacheco LÓPEZ & THIRLWALL (2004) had made estimates showing a very low elasticity of foreign trade with respect to the RER.

[65] As mentioned above, the domestic value added in exports went from 72.7% in 1995 to about 68% in 2011 according to OECD calculations. However, it may have declined further in recent years because of the increasing weight of the *maquiladora* industry in exports (62% of total exports, according to FUJII, G. & CERVANTES, 2012).

fell 27% in Mexico in 2008-IV and 2009-I. Exports from the automotive industry (which accounts for 26% of non-oil exports in Mexico) were particularly affected, with a contraction of 33% in Mexico during the first quarter of 2009.

At this point, the link between tax revenue (and fiscal policy) and the value of exports is crucial. The impact of the global recession on public finances in Mexico was felt through a drop in oil revenues (1.3 GDP percentage points in 2009), partly due to a reduction in the domestic production of oil and in tax revenues (see ROS, 2015). In the middle of the crisis, the Mexican economy showed a small fiscal deficit (or even a balanced budget excluding PEMEX´s (*Petroleos Mexicanos*) investment), while exhibiting a moderate increase in public spending as a percentage of GDP and a sharp drop in oil prices and tax revenues.

ROS (2015) presents several explanatory factors for these seemingly paradoxical movements. First, "the oil coverages implicated selling future oil at U$S 70 per barrel in 2009 (double the level of late 2008) generating savings of around 118.4 billion pesos (around $8.5 billion)" (p.129). Second, the balanced budget rule was amended in 2008 to exclude investments by the state oil company PEMEX, a measure that reduced budget expenditures and generated a 13% increase in the investment budget. Third, the depreciation of the peso tended to raise the value (in terms of domestic currency) of tax revenues from oil exports. Finally, in 2008 the government made use of (non-recurring) revenue for the oil stabilization fund and also used resources from the operating surplus of the central bank.

These factors could lead to a different interpretation of the proposal put forth by Ros and also to an alternative explanation of the close association between external shocks and aggregate demand in Mexico. The sequence is as follows: when there is a boom in the US economy, this will boost Mexican exports upwards, increasing the effective demand by a multiple of the increase in exports (this is the income effect that drives Mexican exports and is captured in all of the estimates). Similarly, the increase in the value of oil exports will raise government revenues and can stimulate public spending, since oil production is in the hands of the state and a substantial part (about 40%) of government revenue comes from that oil. Also, more generally, if the increase in public spending is financed by taxes, the effect on aggregate demand will be positive.

As demonstrated by CABALLERO & LÓPEZ (2012), public spending has a positive effect on private investment, that is, there is a crowding-in effect: a one percentage point increase in public spending can translate into an increase of private investment of almost one percentage point (0.93%) after a period and more than half a percentage point (0.57%) after eight periods. On the other hand, both income tax and the VAT (Value-Added Tax) have a small discouraging effect on private investment. Thus, a 1% increase in the collection of income tax reduces private investment by 0.12%, while a 1% increase in VAT reduces investment by 0.24%.

Therefore, the stimulating effect of public spending on private investment more than compensates for the negative effect that taxes have on it. In fact, this result seems compatible with the logic implicit in Haavelmo's theorem (HAAVELMO, 1945), which shows that the increase in tax-financed expenditure by the same amount has an expansive effect. That is to say, the increase in public expenditure financed by way of taxes has a positive effect on the level of effective demand and GDP. Given that in Mexico there is a strong accelerator effect on private investment (CABALLERO & LÓPEZ, 2012; BLECKER, 2009), this increase in public spending induces an increase in private investment. Thus, if the government follows an implicit rule for fiscal policy, where government spending appears to be linked to the dynamics of domestic oil production and oil exports, then the role of exports on growth may be *overestimated*, while the real effect of fiscal policy may be hidden.[66]

This aspect allows the nexus between the real exchange rate and GDP to be understood in the case of Mexico. For example, BLECKER (2009) studies the effect of external shocks on the evolution of Mexican GDP between 1979 and 2007. The representative variables of such shocks are the net inflows of capital, international oil prices, US growth and the real exchange rate (lagged).

Blecker obtains a suggestive and somewhat paradoxical result. Using an econometric methodology of simultaneous equations, he finds that the real exchange rate appreciation has a *negative* effect on GDP, but a *positive* effect on private investment. Likewise, Blecker estimates the determinants of private investment and finds that it

[66] This effect may be more important depending on whether the Government's propensity to spend (or beneficiaries of public transfers, if tax collection is not spent directly by the government on consumption or investment) is greater than the exporter's propensity to spend. See SERRANO (2012).

responds to a strong accelerator effect. Given the estimated values of the respective coefficients, the positive effect of the appreciation of the Mexican peso on private investment is more or less cancelled out by the negative effect that this has on GDP.

How should these results be interpreted? We propose the following: the appreciation of the Mexican peso involves two different movements. On the one hand, it increases the participation of wage earners in income and in this way, it increases the aggregate consumption.[67] Then, given the strong accelerator effect, this leads to higher private investment.[68]

On the other hand, the real appreciation of the Mexican peso is induced by some degree of nominal appreciation of the exchange rate. As a consequence of the appreciation of the exchange rate, there is a reduction of the government's fiscal revenues on the value of petroleum exports(given the international price and the quantities of export). Thus, if the Government follows a rule that tends to keep the budget balanced (as seems to be the case), then Mexican growth becomes not only dependent on external conditions, but this same dependence, articulated with a certain fiscal rule, can also considerably reduce the internal multiplier effects. This contradictory mechanism seems to be one of the fundamental factors that cause Mexico's low growth, particularly from the early financial liberalization onwards.

Therefore, a devaluation of the Mexican peso is not expansive because of its supposed positive effect on exports (as ROS suggests), since the price elasticity of Mexico's exports is very low. The devaluation seems to be expansive in the extent to which it allows an expansion of public spending that more than compensates for the decrease in consumption produced by the reduction of the wage share.[69] Another likely positive

[67] In the case of Mexico, although credit-financed consumption has grown significantly, their weight in total consumption is small. An econometric estimation of the determinants of consumption in Mexico for the 1988-2010 period found that the interest rate coefficient on consumption (0,002) was negative for a given wage share, but that it was very small, while the parameter associated with the wage share (0.62) was substantially higher (LÓPEZ & VALENCIA, 2015).

[68] This is consistent with the result obtained by LÓPEZ, SPANOS and SÁNCHEZ (2011), according to which the real exchange rate has a *negative* effect on private investment. The authors found that a 1% increase in the real exchange rate of a period results in a private investment increase for the same period of 0.11%, which is more than compensated for by the decrease of 0.31% of the private sector investment, caused by the rise of the real exchange rate index (ITCR) with a lag period.

[69] It is important to bear in mind that the transmission of the effect from the devaluation of the peso to the increase of public expenditure is far from being a purely economic (or "endogenous") effect. Governments may establish institutional rules governing the spending decisions of States, but decisions on public expenditure are always discretionary or political.

effect is that the domestic purchasing power of workers' remittances in the United States will also increase with devaluation, boosting national income and spending, especially among the poor.

In the same way, LÓPEZ& CRUZ (2000) found a stable long-run relationship (co-integration) between domestic output and the real exchange rate of Mexico. In this case, the sign was also *positive*, which would indicate that a rise in the real exchange rate helped to achieve a higher growth rate of output in the long run. Likewise, while the trade balance is positively associated with international production and is negatively associated with domestic production, its association with the real exchange rate is *negative* for Mexico (LÓPEZ& CRUZ, 2000, p.488).

How should these results for Mexico be interpreted, given that although the Marshall-Lerner condition is not fulfilled, GDP seems to be positively associated with the real exchange rate? LÓPEZ& CRUZ suggest an interpretation of these results that we believe to be fundamentally correct. The econometric results could be rationalized, according to the authors, with the argument that a depreciation of the currency increases government revenues, which are spent immediately. The increase in government spending, therefore, more than compensates for the negative effect of a higher real exchange rate on the trade balance and demand.

In some way, this is a controversial point in the approach of the so-called "Law" of THIRLWALL. This is because it considers that growth rate differences between countries should be explained by the differences in the maximum growth rate compatible with equilibrium of the balance of payments[70], rather than differences in the expansionary policies of domestic demand.[71] Thus, this interpretation is consistent with another aspect emphasized by LÓPEZ& CRUZ, namely, the fact that the contractionary impact of the currency depreciation may indeed be *persistent* and not only confined to

[70] Basically: $Y_{Bt} = \varepsilon(z_t) / \pi$, where Y_{Bt} is the product growth rate compatible with the equilibrium of the balance of payments, ε is the income elasticity of demand for exports, Z is the world income level (or of the trading partners of the country in question), and π is the income elasticity of the demand for imports (see THIRLWALL, 1979, p.431).

[71] As Thirlwall stated: "*The question then becomes why does demand grow at different rates between countries? One explanation may be the inability of economic agents, particularly governments, to expand demand. This explanation by itself, however, is not very satisfactory. The more probable explanation lies in constraints on demand*". (THIRLWALL, 1979, p.429).

the short term, as was argued by FRENKEL & RAPETTI(2015) and GALINDO & ROS (2008).

For example, GALINDO and ROS (2008) estimate an econometric model for 1980-2003 and obtain a *positive* relation between domestic output and the real exchange rate. Among other problems, it has been pointed out that the impulse-response function of the output to real exchange shocks shows a contractionary effect of depreciation on output *for at least 10 quarters* (i.e. more than two years!), which clearly suggests that the negative impact of real depreciations is not a simple short-term matter (see LÓPEZ, SÁNCHEZ & SPANOS, 2010 on this point).

In effect, the fact that higher interest rates appear to be *positively* associated with GDP growth is a paradox for proponents of the inflation targeting system, as well as for the representatives of the so-called "new developmentalism".[72] The point is that a higher interest rate appreciates the real exchange rate and this stimulates demand.

These results imply that public spending is capable of reactivating the economic system in a larger scale if it were financed by tax collection. Given the accelerator effect, increases in the effective output would lead to increases in *potential* output, so that the real limit for growth is given by the capacity to import and the balance of payments.

The maximum point of the restrictive fiscal policy of the Mexican federal government came in 2006, when the Federal Law for budget and fiscal responsibility was approved, legally *prohibiting* fiscal deficit. The law is also designed to prevent the public sector from borrowing to finance deficit. The argument is that fiscal deficit shifts private spending through an increase in the interest rate, while the goal is that the decline in the importance of the public sector allows the private sector to play a greater role in the economy.

In Mexico, total investment accounted for 23.5% of aggregate demand between 1980 and 1981. In 2006-2007 that share had fallen to 22.1%. This decline was associated with

[72] Besides, a study by CABALLERO and LÓPEZ (2011) on the explanatory factors of investment behavior in Mexico for the 1990-2008 period found that an increase in the real exchange rate by 1% depressed investments by 1.6 % in the long term. In addition, the authors report that they found no evidence of a direct effect of the interest rate on investment. As mentioned, there may be an indirect association between the two variables, whereby the increase in the interest rate causes a decrease in the real exchange rate, which in turn stimulates investment.

a considerable drop in public investment from 10.4 to 3.8 percent of GDP and a rise in private investment from 13.1 to 18.3 percent of GDP. This occurred in parallel with a decline in government spending from20.9 to 12.6 percent of GDP.

Finally, the share of exports rose from 15.9 to 41.3 percent of GDP in that period, which was accompanied by a more than proportional increase in imports (from 15.9 to 45.9 percent of GDP). The net result of this process has been the tendency to deteriorate the current account of the Balance of Payments and an increase of the imported component in the demand and in the domestic production. This explains, on the one hand, the reduction of the multiplier and accelerating effect of investment and, on the other hand, the low dynamism of the economy (see LÓPEZ 1994, CABALLERO & LÓPEZ, 2011).

Thus, the evolution of Mexico's economy has certainly been increasingly dependent on external conditions and in particular on the economy of the United States. However, the interpretation presented here shows that this dynamic has also been determined by domestic economic policy (particularly by fiscal policy). In short, as BLECKER & IBARRA (2012) observed:

> In terms of policy implications, our results suggest caution in the advocacy of peso depreciation as a strategy for improving the trade balance or relieving BOP constraints. Our estimates show that the "extended Marshall-Lerner" condition sharply fell in the post-NAFTA period, and depending on the specific method of calculation may not even be satisfied.

All the foregoing analysis shows that policies that have the observation of a "competitive" real exchange rate as their focus seem to lack the real fundamentals in terms of how macroeconomics actually works in Mexico. In this sense, a longer and more difficult, albeit real, road seems to be imposed. First, to unleash fiscal policy on self-imposed constraints so that it can play an active role in promoting growth. Second:

> The "backward links" of export production could be essential to change the structural parameters that currently limit the domestic benefits Mexico receives from its export success. Moreover, our analysis indicates that structural policies, such as industrial promotion efforts that would encourage "backward linkages" of

export production, could be essential for changing the structural parameters that currently limit the domestic benefits Mexico receives from its export success" (IBARRA & BLECKER, 2013, p.42).

2.5. Final remarks

Finally, a few concluding remarks. Firstly, we have attempted to critically examine a certain consensual view about the causes of financial and external crises in Latin America in the 1990s. This consensual view is strongly based on a type of interpretation that closely follows the postulates of the Mundell-Fleming model.

In particular, the role assigned to the real exchange rate in the adjustment of the balance of payments in this model led to misinterpretations. A clear indication of this error is the role that the authors assigned to the real exchange rate in the behavior of exports and imports of the so-called new developmentalism. This is a theoretical (unjustified) deduction and has never arisen from the unprejudiced observation of empirical evidence.

Besides, there is a frequent confusion between the roles played by the real and the nominal exchange rates. The real exchange rate never took on a very important role in the adjustment of the balance of payments, as evidenced early in Harrod's work (1933). Thus, in an open economy, the level of income operates as the adjustment variable for a trade deficit. The real exchange rate affects the level of domestic income (and with it, the trade balance) insofar as it affects the distribution of income and aggregate demand. This explains the so-called elasticity pessimism that characterized the thinking of Latin American development theorists and structuralists.

On the other hand, the *nominal* exchange rate has had a fundamental importance, particularly in the last few decades. This has been characterized by financial liberalization, in which capital flows are of decisive importance in determining the nominal exchange rate and in the adjustment of the balance of payments.

This bias in the approach of the external adjustment of Latin American economies has, in fact, led to an overestimation of the role played by the real exchange rate in

the substantial increase in imports that occurred in the late 1980s and early 1990s, and led to an underestimation of the effects of trade liberalization produced through *non-price* instruments (such as import prohibitions, restrictions on tariffs, licenses, quotas, state purchases, etc.).

The other aspect that we would like to emphasize is that in these interpretations fiscal policy has disappeared and has no role. However, as shown by existing estimates, fiscal policy in all three countries has played a key role in growth. Certainly, the institutional forms of fiscal policy and its channels of transmission are not so obvious in many cases. In Mexico, as we discussed, there is an intricate relationship between fiscal policy and exports, which may in turn be mediated by the exchange rate and generate complex effects.

Something similar occurred in Argentina in the early 2000s, when the Government imposed taxes on primary exports in a context of high international prices and growing demand for commodities. Then, through the policy of social transfers (pensions, subsidies, etc.) generated a powerful engine to stimulate growth, at least until 2011.

However, several independent estimates confirm the role of public spending in growth and its positive impact on private investment. In other words, fiscal policy is far from being a mere short-term matter.

Likewise, in those experiences in which credit-financed consumption has played a prominent role (as in the case of Brazil), fiscal policy has a fundamental impact on the sustainability of private debt, since it affects the dynamics of the private sector's income.

With respect to inflation, it is commonplace to consider that inflation targeting systems do not work in the way that conventional theory postulates. There is a great deal of evidence to show that inflation in the countries concerned. There is also a kind of consensus that the system functions primarily through the channel of the nominal exchange rate.

Likewise, productive investment is clearly a phenomenon that is induced by the dynamics of effective demand and has no relation to the level of interest rates

(CABALLERO &LÓPEZ, 2012 for Mexico, DOS SANTOS (2013) for Brazil, and COREMBERG et al. (2007) for Argentina),

This opens up the possibility of a more realistic and pragmatic consideration of inflation targeting systems. In fact, these institutional systems can be operated in many different ways, with different inflation targets and different general policy objectives.[73]

Certainly, the common criticism to these schemes in their practical operation in Latin America has been that they impart a marked bias toward the appreciation of the exchange rate. However, this is not necessarily so. Paradoxically, even with opposing movements in their *nominal* exchange rates, *real* exchange rates in Argentina and Brazil suffered a similar level of appreciation, while Mexico maintained a certain record of the real exchange rate with a slight upward trend. This situation seems more related to the structural and distributive characteristics of these economies than to the inflation targeting regime (in fact, Brazil and Mexico have very similar targeting systems).

The diverse external insertion and the differences in the macroeconomic policies (more expansive in one case, less in another) between the countries analyzed resulted in a type of industrial expansion that does not appear to be systematically related to the levels of *real* exchange rates and, symptomatically, correlates better with the benefits derived from the terms of trade and their indirect possibilities.

[73] It is not by chance that many authors have considered the possibility of proposing their own (or heterodox) system of inflation targets, changing the basic assumptions to redirect it towards other policy objectives. See for example Lavoie (2006) or FRENKEL (2006).

Chapter 3.Inflation targeting, external constraint and distributive conflict in Argentina

3.1. Introduction

Recently, a number of contributions have criticized the main assumptions underlying the so-called "new macroeconomic consensus". In turn, these criticisms have extended to the case of an open economy. The critiques have not only emphasized that which is incorrect in the theoretical view of the new consensus, but have also aimed at replacing its main hypotheses with others (which are considered to be more theoretically solid and at the same time empirically relevant) in order to analyze the change in the results obtained.

At this point, it is appropriate to distinguish between the institutional arrangement that synthesizes the application of a set of policies focused on inflation and the specific way in which conventional theory attempts to explain how the inflation targeting regime effectively works.[74]The objective of this paper is to synthesize some of the main points of these critical visions in order to make some specific observations about the recent attempt to make a transition towards an inflation targeting regime in Argentina. The analysis will mainly focus on the dynamics of inflation and will only briefly touch on the determinants of growth.

Thus, the second section will outline the main features of the new consensus model as well as the main criticisms that it has drawn, and the change of its basic assumptions. In section 3, a brief analysis of Argentine inflation between 2002 and 2015 will be carried out. Section 4 concludes by discussing the possible results, as well as the main dilemmas and problems that the application of inflation targeting to the Argentine case could face.

[74] "Most analyses of Brazilian inflation during this period (even that of economists that consider themselves heterodox or critical) tend to confuse the institutional framework of inflation targeting, which actually exists, with the so-called new consensus model (or sometimes even with its more complex and unrealistic DSGE or new neoclassical synthesis version) that is often used rhetorically to justify and explain the inflation targeting system", SUMMA & SERRANO (2015).

3.2. The new consensus and its criticism

3.2.1. The model

The model of the new macroeconomic consensus (NMC) is based on three simple equations: an IS curve, a Phillips curve and a rule for monetary policy, which is the so-called Taylor rule. From the IS curve and the Taylor rule an aggregate demand curve is derived, while the Phillips curve provides an aggregate supply curve.

In this system, economic fluctuations may be caused by monetary shocks (affecting only aggregate demand) or by real shocks (affecting the supply curve). The IS curve in an open economy (CARLIN & SOSKICE, 2010) is given by:

$$Y = A - dr + be^* \qquad (1)$$

Where A is the level of autonomous demand, r is the real rate of interest and e* is the log of the real exchange rate. This is defined as: e * = p * + e - p, where p * is the log of the level of international prices, e is the log of the nominal exchange rate and p is the log of the domestic price level.[75]

An increase of e (e*) involves a nominal (real) depreciation. This represents an improvement of the country's competitiveness compared to the rest of the world. It is assumed that the Marshall-Lerner condition is sustained so that a real depreciation increases net exports NX (i.e., b> 0). Then there is a Phillips curve for this open economy:

$$\pi=\theta\,[a\pi_{-1} + \beta\,(Y - Y^*) + c] + (1-\theta)\,(\pi^* + \Delta e) \qquad (2)$$

Where θ represents the relative weight of prices of non-tradable goods in the consumer price index and (1- θ) is the relative weight of the prices of tradables; π* represents the inflation of tradables in dollars. In this context, Y* (potential output) is *exogenous* with respect to the evolution of actual output (Y) and the effective aggregate demand. Also: a = 1; β> 0 and c = 0.

[75] In general, it is considered that the impact of the real interest rate and the real exchange rate on the product occur with a lag of one period. For simplicity, we assume that the effect is instantaneous.

A fundamental point concerns how the exchange rate is determined. For the new consensus, both uncovered interest parity (or UIP) and purchasing power parity (or PPP) are met. These two hypotheses result in the *real* parity of interest rates. On the one hand, the UIP involves:

$$i - i^* = e^e - e = \Delta e^e \qquad (3)$$

Where i and i * are nominal rates of domestic and international interest, and e^e is the expected nominal exchange rate (since the decision to hold assets in one country or another is related to forward-looking expectations). Then the PPP (in its relative version) assumes that:

$$\Delta e^e = \pi - \pi^* = 0 \text{ or also: } \Delta e^e - \pi + \pi^* = 0 \qquad (4)$$

This means, for example, that an increase in the rate of domestic inflation reduces the purchasing power of the domestic currency and therefore must lead to a nominal depreciation of the currency. Substituting (4) into (3):

$$i - i^* = \pi - \pi^*$$

Or also:

$$i - \pi = i^* - \pi^* \qquad (5)$$

Resulting:

$$r = r^*$$

In other words, the real parity of interest rates.[76]According to the theory, in general, adjustment is not produced quickly due to the movement of imperfect capital, among other things. Also for that reason, short-term variations of r have an effect on aggregate demand.

It should be noted that in this approach the high interest rates are compensated for by the expectation of a devaluation, which is not verified empirically for long periods. In

[76] See LAVOIE (2014, pp.479). This means that, in the context of an open economy without capital controls, the central bank is not free to fix real interest rates as it wishes for internal reasons, since it is limited by the condition r = r *, and is forced to set its real interest rate in line with the international real interest rate. This approach, as Smithin mentions, "transfers the doctrine of the natural rate of interest" to the international setting (cited by Lavoie).

addition, another remarkable aspect (particularly in light of the Latin American and Argentina experience) is that the trend of inflation is independent of the nominal exchange rate. If the result obtained in (4) is replaced in the Phillips curve (2) it comes down to:

$$\pi = a\pi_{-1} + \beta (Y - Y^*) + c \qquad (6)$$

This is *identical* to the Phillips curve for a closed economy. Thus, the new consensus approach adopts a hypothesis of *neutrality* of external factors on domestic inflation. As SERRANO (2006) explained, the expression (6) is generally based on the following three assumptions (which are maintained in the case of an open economy): 1. Supply shocks are random and zero on average in the long-term; 2. Potential output is determined by the supply side, and is independent of the (short term) actual output determined by aggregate demand; 3. The coefficient of persistence of past inflation is equal to unity (a = 1).

There is a small difference between the cases of open and closed economies. While in a closed economy, changes in the interest rate only affect domestic spending (Y = A - dr), in the case of an open economy, besides affecting investment, changes in interest rates also have an effect on *net exports*. So in this case, the IS has a steeper inclination (IS' in the figure) given thatit is more sensitive to the interest rate than in a closed economy (IS on the graph).

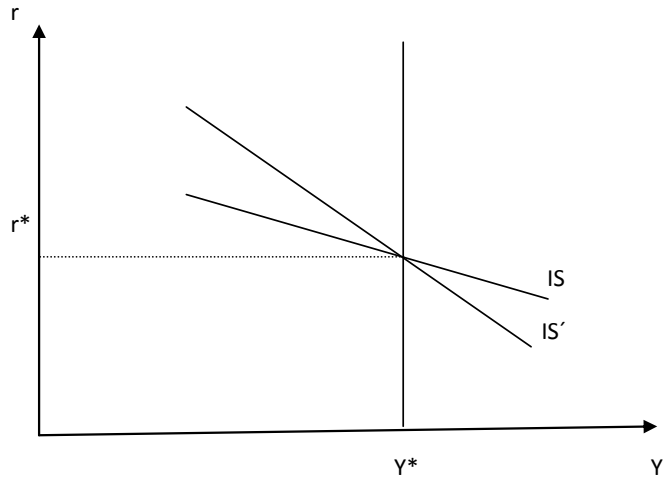


Figure37: the IS curve in closed economy (IS) and open (IS')

Finally, it is necessary to explain how the interest rate in an open economy is determined. Given the hypothesis of neutrality of external factors, the Taylor rule in an open economy is identical to the case of a closed economy:

$$i = \pi + \varphi (\pi - \pi^T) + \Upsilon (Y - Y^*) + r_n^e \qquad (7)$$

If $\pi - \pi^T = 0$ and $(Y - Y^*) = 0$, then: $i - \pi = r_n^e$, which is the expected real rate (the same as in the case of a closed economy). This model has several important implications in terms of inflation. First, due to the assumption of a *complete* persistence of the past inflation (a = 1), any temporary shock (supply or demand) will lead to a *permanent* increase in the inflation rate. If the shock is permanent, it can lead to hyperinflation.

Since supply shocks are offset in the long run, inflation inertia is fully explained by the previous history of all demand shocks. This is the reason why the trend of inflation ("core inflation") is basically due to an excess of demand and it must be controlled by controlling aggregate demand through the interest rate.

Faced with a negative supply shock (such as an increase in oil prices or a currency devaluation), there will be a $c > 0$ and the inflation rate should be accelerated until the shock ends and c returns to zero.[77] In this case, the Central Bank (CB) may judge that the supply shock is transitory and not raise the interest rate. This is the case of central banks exclusively looking for inflation ("core") caused by demand shocks.

However, in the context of the model, this situation could lead to an unstable process. If the shock increases inflation and thereby lowers the *real* rate of interest, this could induce a further increase in aggregate spending and a new rise in the inflation rate and so on. That is, the economy cannot spontaneously return to its original equilibrium position. This is the "Wicksellian" feature of the approach, because although there is a "natural" rate of interest, there is a role for monetary policy in the adjustment of a process which, left to itself, can cause *cumulative* disequilibrium. Thus, in this case, if the inflation rate rises, the Central Bank should raise interest rates further to generate a negative output gap.

[77] As SERRANO (2006) observes, it is curious that it is assumed that these types of shocks have a zero long-term mean (which carries the assumption that they only have a short-term effect on the inflation trend), and that the same assumption is not made for the case of demand shocks.

The second option is if the Central Bank does not allow the shock to settle and observes the "full" inflation (*headline* or total inflation), which also includes the most volatile prices (such as commodities). In this case, the Central Bank will raise the interest rate to generate a negative demand and offset the supply shock (at the cost of a greater loss of output and employment, of course). Finally, if there is a demand shock (Y>Y*) and the central bank wants to bring inflation back to its previous level, then the monetary authority must generate a demand shock of opposite sign, leading to Y<Y* and thus the slowdown of inflation.

In this approach, the *level* of the inflation target is a *decision* made by the Central Bank and the *change* in the level of the inflation target can be achieved by a *single* demand shock. A central point of the new consensus, which was already present in the old monetarist formulations, is that monetary policy *only* has an impact on the inflation rate, and does not affect the long run output growth. Thereby, although money endogeneity is accepted (and thus the quantity of money is not an operating variable), monetary policy is *neutral* in the long run.[78]

In this regard, an interesting point noted by LAVOIE (2006) is that there is no clear justification as to why higher inflation would be harmful and why central banks should have an inflation target as their *exclusive* objective (whose level also depends on its own choice). Given that whatever the level of inflation is, the rate of growth of real output will be identical to the "natural" growth rate. So what would be the sense of an inflation target? For LAVOIE (2006, pp.176) there is a "hidden equation" expressing the belief that a lower inflation rate creates better conditions for the economy in the long run and therefore money is *not completely neutral* (or it is not "super-neutral"). This means that there is no permanent trade-off between inflation and output gap, and inflation has an accelerationist character.

3.2.2. Alternative hypotheses

To proceed, taking the previous model of three equations, we will simply change some of the assumptions on which it is based. First, let's assume that potential output (Y*) is *endogenous* to the trend of actual output and demand, according to the multiplier-accelerator model. Second, we assume that there is no neutrality of external factors

[78] See PIVETTI (2000).

(exchange rate and international prices). Third, we assume that in the IS curve, the autonomous spending factor is fiscal policy, and that the interest rate affects the credit-financed consumption, while investment in productive capacity is a function of the expected autonomous demand. Fourth, the nominal exchange rate is a function of interest rate differential (i-i*) in the short term and the central bank reaches the inflation goal through the management of the interest rate. Fifth, the coefficient of inflation persistence in the Phillips curve is less than one (a<1), resulting in a non-accelerationist Phillips curve. Suppose then that the price level is formed as follows:

$$P = (1+i)\, aP_{-1} + lW + meP^* \qquad (1)$$

Where P is the price level, a, m and *l* are respectively the technical coefficients of domestic inputs, imported inputs and labor, *W* is the nominal wage, P* is the price of imported inputs in foreign currency and *e* is the nominal exchange rate. It is assumed that the nominal interest rate is equal to the nominal markup (PIVETTI, 1991) and that, for purely simplifying reasons, there is not a "risk and trouble" factor. Thus, inflation measured as *ln* (P - P-1) is the result of the rate of change of nominal wages (w), of the nominal interest rate (i), of the nominal exchange rate (e) and international inflation (measured in international currency), π*, as follows:

$$\pi = lw + m\,(e + \pi^*) + a\, i \qquad (2)$$

Suppose that the rate of change in nominal wages is represented as follows:

$$w = \theta\pi_{-1} + \delta\, U + c \qquad (3)$$

Where θ is the fraction of the past inflation that workers are able to incorporate into their wage contracts (depending on their bargaining power). The unemployment rate is represented by U = (N-L) / N, where N represents the size of the labor force (active population) and L the number of employed. Finally, the parameter c indicates the institutional, cultural and political factors (not directly related to the activity level) affecting the growth rate of nominal wages. Thus, by replacing (3) (2) a Phillips curve is obtained:

$$\pi = a\pi_{-1} + \varphi U + lc + m\,(e + \pi^*) \qquad (4)$$

As mentioned before, it is assumed that the inertia is partial, in other words, a = lθ<1 (φ = δ*l*). As can be seen, beyond the short-term productive capacity of the economy or potential output, follows the effective product (governed by effective demand) and the output gap closes (Y* ⟶Y). Therefore demand pressures on inflation are temporary (with *once for all* effects on the price level) and the inflation *trend* is entirely a cost phenomenon. It is also assumed that variations in the nominal interest rate have an impact on the price *level* rather than on the *rate* of inflation.

In this Phillips curve there is a *permanent trade-off* between inflation and unemployment, or more precisely, a trade-off between inflation and output, which by the supermultiplier effect, leads to a trade-off between inflation and *potential* output. In this context, demand shocks have only temporary effects on the inflation rate because the production capacity will adjust following the trend of current output and the demand. Therefore, since the interest rate has only temporary effects on the price level, the long-term inflation rate depends on international inflation, the changes in the nominal exchange rate, the level or degree of conflict ("c"), the level of the unemployment rate and the degree of inflation persistence:

$$\pi = \varphi U + lc + m\,(e + \pi^*)/\,(1-a) \qquad (5)$$

This formulation could be made even more specific by representing component c as those influences on the growth of nominal wages due to institutional, cultural and political factors (not directly related to the activity level).[79] This means that the dynamics of nominal wages (and inflation) depends not only on the level of unemployment, and that it would be necessary to include other variables that reflect the other aspects.[80]

Another variable usually included to explain wage dynamics is the rate of productivity growth. This inclusion can be interpreted as follows: a change in wage dynamics, if persistent enough, can induce a change in the usual levels of consumption and lead to an expansion of the basket of wage goods, changing "habits and customs". When the

[79]Corresponding to what SETTERFIELD & LOVEJOY (2006) do for the United States case

[80] For example, in an early estimate of a Phillips curve for Argentina, BROSERSOHN (1975) had included a proxy variable for the "aspiration gap" using an index based on days lost to strike and number of strikes. This variable was significant, while it was not clearly related to the employment situation in the labor market, which emphasized the fact that trade union pressure was exercised with relative independence of the level of "excess demand" for work.

economy grows at high and relatively persistent rates (as has occurred in recent years in Argentina) it is inevitable that a whole new range of goods will be incorporated into the pattern of consumption of workers and many of those goods will be incorporated to the "normal" wage pattern of society.[81] A similar idea, suggested in SETTERFIELD & LOVEJOY (2006), is that if real wages do not grow at the same pace as productivity, the share of wages in income will change. Therefore, if workers have a target or distributive reference (motivated either by a desire to achieve and maintain a "fair share" of national income or to achieve a certain "historical" participation) then the rate of productivity growth will influence the aspirations for the growth of real wages.

Finally, we will discuss the determination of the nominal exchange rate. The main assumption is that the exchange rate is determined as the price of an asset subject to speculation and that central bank policy is vital because its role is fundamental in guiding expectations. Following SUMMA (2015), the balance of payments can be summarized as follows:

$$FCP + FLP + CC = \Delta R \qquad (6)$$

Composed of short-term capital flows (FCP), long term capital flows(FLP), the current account (CC) and the change of international reserves. Assuming that long-term capital flows (mainly direct investment) are exogenous in the short term, we have:

$$FCP = a\,[i - (i^* + P + e^{esp})] \qquad (7)$$

Where i is the domestic interest rate, P is the country risk, i^* the international interest rate, e^{esp} is the expectation of the future exchange rate and a measures the sensitivity of capital flows to interest rates differential.[82]The level of domestic rate(determined politically

[81] As shown in AMICO (2013), the 2003-2013 period in Argentina is an example of phases of change in the "normal" pattern of real wages. First, there is a marked persistence: there is practically no comparison with any other historical stage, given that the 2004-2013 decade is the longest period in Argentine economic history that shows persistent increases in real wages. Second, the growth rate of real wages is highlighted: in the2003-2013 period, real wages grew at a rate of 4.6% per annum, while GDP per employed was at an average annual rate of 2.9% . This rate of increase in real wages is only comparable to that prevailing in the period 1960-1974 when it reached 3.8% per annum.

[82] Expression (3) may include an exogenous component of the interest differential of short-term capital flows, as is employed by SUMMA (2015), but we have omitted it for the sake of simplicity.

by the central bank)stimulates the inflows or outflows of capital given the expectation of the future exchange rate.[83]

Therefore, an important aspect is how expectations about the future exchange rate are shaped. The fundamental assumption is that changes in the nominal exchange rate follow an *adaptive* pattern and are at least partially endogenous and dependent on the actual evolution of the nominal exchange rate in the recent past.[84] Likewise, the existence of exogenous shocks may also influence expectations about the future exchange rate, such as "bad" or "good" news relating to the current or future evolution of external variables. This "news" may affect opinions of speculators concerning what the exchange rate will be in the future, accentuating or weakening the process described above.[85]

This "news" also impacts the determination of the nominal exchange rate in a complex way and its outcome is not predetermined. However, the key factor is the economic and political capacity of the central bank to guide expectations (which depends on the level of reserves, the country's external position, the target of monetary policy, etc.). The simplest way to formalize this is to assume that expectations about the exchange rate have the prevailing *effective* change in the previous period as a dominant factor ($e^{esp} = e_t - e_{t-1}$). Therefore, by replacing in (6) and (7) we have:

$$a\,[i_d - (i^* + P + e_t - e_{t-1})] + FLP + CC = \Delta R^* \qquad (8)$$

To simplify, assuming that the expected exchange rate will be strongly influenced by the evolution of the exchange rate in the recent past (i.e., $e^{esp} = e_{-1}$), lumping together exogenous capital flows and the current account (F=CC+FLP) and rewriting (8), we have:

[83] A fundamental point is that the domestic interest rate does not necessarily have to converge with the international rate (plus the spread of risk and the expected devaluation).

[84] As the exchange rate is subject to speculation, after a process of nominal exchange devaluation, speculators will expect a higher rate of devaluation in the future. Therefore, they will increase their demand for foreign currency expecting their price to rise in the future, deepening the process of devaluation, as foreign currency sellers will raise their price and buyers will only be able to buy at a higher price. Thus, the effective tendency toward devaluation of the currency may reinforce the expectation of devaluation (the inverse in the case of exchange appreciation).

[85] An example: the FED's announcement of the interest rate rise would lead market participants to expect a higher exchange rate in the future and induce them to increase their demand for foreign assets. Another example, very specific to the recent Argentine case, was the decision of the US Justice benefiting the "Vulture Funds", which would tighten the external financing for the country and could encourage devaluation expectations, stimulating -again- the demand for dollars.

$$e = e_{t-1} - (i_d - i^* - P) - (\frac{F}{a}) + \frac{\Delta R^*}{a} \quad (9)$$

Thus, the nominal exchange rate will depend on the past evolution of nominal exchange rate, on the internal-external interest rates differential (plus risk premium) on long term capital flows and on the current account deficit. Also, the exchange rate variation($e - e_{-1}$), especially in the short term will depend on the interest rates differential (plus the risk premium).

At this point, it is necessary to make some additional remarks. First, the essential implication of the above analysis is that the existence of a persistently *negative* interest rates differential (as exhibited Argentina since late 2005) is one of the factors that induced the capital outflow and strengthened the tendency towards currency devaluation.

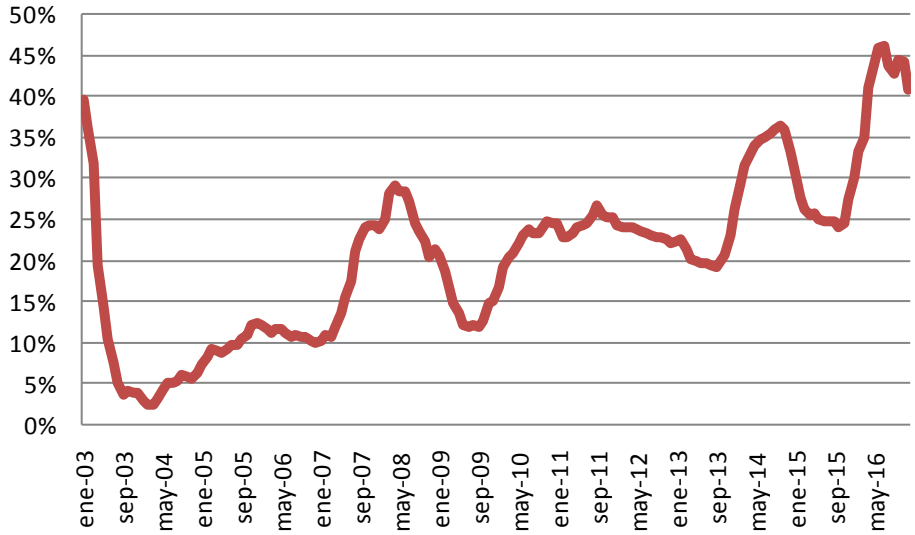
Secondly, as was observed by Marcelo Diamand some decades ago, it should be noted that this trend may be *temporarily* moderated by quantitative exchange restrictions, but will never be completely eliminated without a change in incentives. Third, there are *thresholds* achieved by devaluation expectations from which the interest differential simply *does not work* (i.e., fails to attract capital and / or curb dollarization) or its effect on the flow of capital is very weak.

3.3. Argentine inflation in recent times

The trajectory of inflation since the beginning of the 2000s was influenced by the devaluatory shock of 2002, followed by a sharp deceleration in price dynamics, with an unusually low pass-through of the exchange rate to prices. Annualized inflation fell from 40% in October 2002 to less than 5% by the end of 2003. From there on, there followed a progressively increasing trend, with a slight deceleration towards 2006, probably due to the price and wages agreements promoted by the government in that year.

Figure38: Inflation rate

(consumer price index, percentage variation accumulated last twelve months)



Source: Indec and average provincial inflation since 2007.

By 2007 there was a new inflationary peak due to an external shock (rising commodity prices), subsequently slowing the global crisis in mid-2009, and then again resuming an upward trajectory. The inflation rate appeared to stabilize relatively at around 20/25% by the end of 2013 with a mild downward trend.

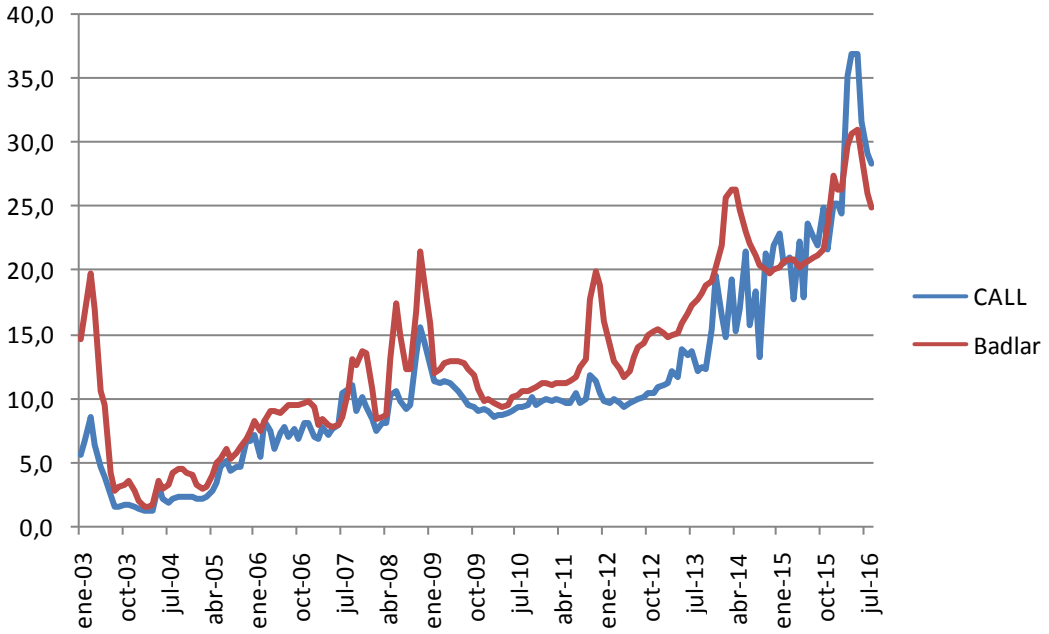
At the beginning of 2014, due to the abrupt devaluation of the change at the beginning of that year, there was a new inflationary shock that brought the inflation rate to around 35% by the end of 2014. The subsequent stabilization of the exchange rate (due to short-term measures that increased the supply of foreign currency and especially due to the sharp rise in interest rates) led to a further inflation slowdown. Finally, in December 2015, the new BCRA authorities disregarded a large part of the foreign exchange controls, inducing a strong devaluation of around 40% in one day, leading to a new phase of inflation acceleration.

Additionally, since 2012 the set of domestic interest rates, in nominal terms, after a certain stability (although marked by two "peaks" in late 2008 and early 2012), have shown a clear upward trend since 2012. This has added more pressure on the *level* of domestic prices by fixing an increasing "floor" on the whole profitability of any

investment (opportunity cost) and in some cases pressing on the higher financial costs of those firms that use credit to finance part of their productive activity.[86]

Figure39: Domestic Interest Rates

(Monthly averages, in annual nominal%)



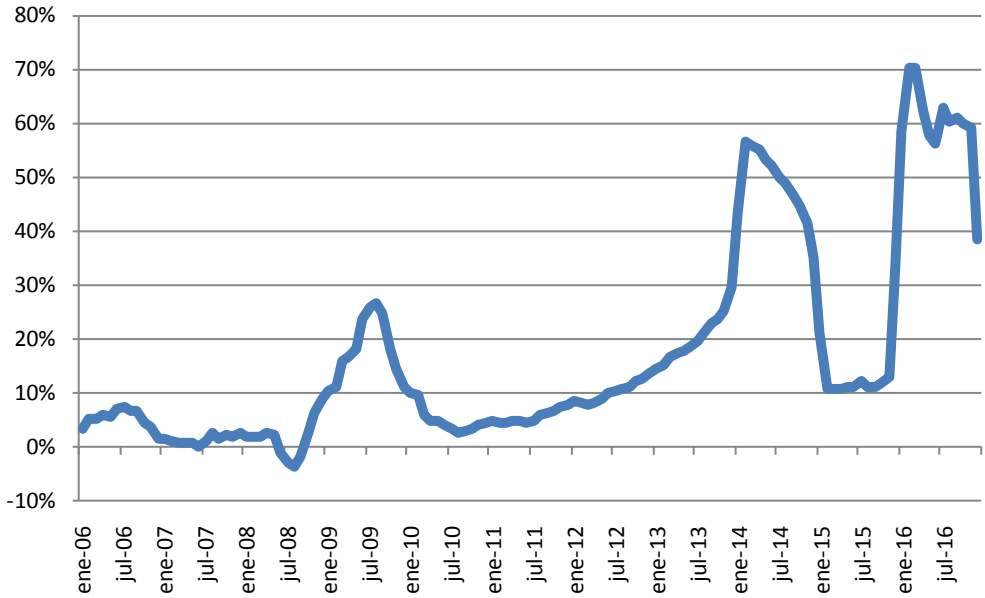
Source: Mecon based on BCRA data.

Of course, the effect of interest rates on the dynamics of the nominal exchange rate may eventually *more than offset* the direct impact of interest rates on prices. For example, a rise in interest rates may induce an appreciation of the domestic currency (by stimulating capital inflows) and this could produce a positive shock on domestic prices by lowering the prices of tradables in the domestic currency.

[86] CAVALLO (1977) argued that the rise in the nominal interest rate, at least in the short term, could have "perverse" effects on inflation by increasing the financial costs of firms. More generally, PIVETTI (1991, 2008) explained that as the interest rate governs the price / wage ratio, an increase in interest rates will raise the price level by inducing a rise in nominal markups. Thus, since the interest rate is a determinant of normal prices, its increase may "in itself be inflationary" (PIVETTI, 2008), at least in the short term.

Figure40: Nominal average monthly exchange rate

(Annual rate of change, in%)



Source: BCRA.

While between 2003 and 2006, the inflation trend is basically explained by the strong recovery of nominal wages and the gradual resurgence of the distributive conflict ("c"), between 2007 and 2011, the main inflationary factors were the interaction between nominal wages and international prices ("c" and π*).

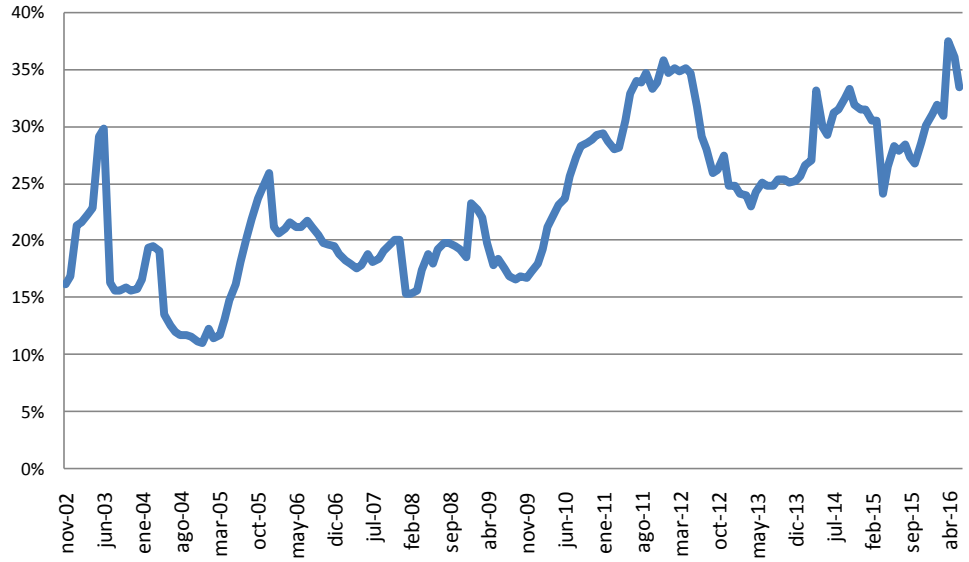
As can be seen in the following graph (price of tradable goods in dollars) in 2007 and 2008, *external* inflation rate factors had a rising importance. Unlike the Convertibility Plan, where the fixed exchange rate and the low growth of the price of tradable goods generated a much more favorable context for the control of inflation, in the 2000s such factors became increasingly prominent, while the policy of persistent devaluation of the exchange rate not only failed to cancel out(or at least compensate) the external inflationary pressure (as happened with the systems of inflation targeting in the style of Mexico, Brazil or Colombia), but even caused it to *increase*.

Finally, from the end of 2010 and early 2011, with the emergence of the external constraint on economic growth, changes in the nominal exchange rate began to be the dominant factor in the explanation of the inflation trend. In 2010, tradable prices took back a rising trend (in particular, the dollar price of exports) and nominal wages

accelerated their growth rate, leading to an *exacerbation* of the distributive conflict. Consequently, these pressures (external and now especially domestic) led to a new rise in the growth rate of aggregate prices. It is interesting to note that this acceleration of nominal wages not only had an impact on the inflation rate (as the vision of "inertial inflation" suggests), but also resulted in an increase in *real* wages and the improvement in income distribution.

Figure41: Average nominal wage, Formal Private Sector

(% year-on-year changes)

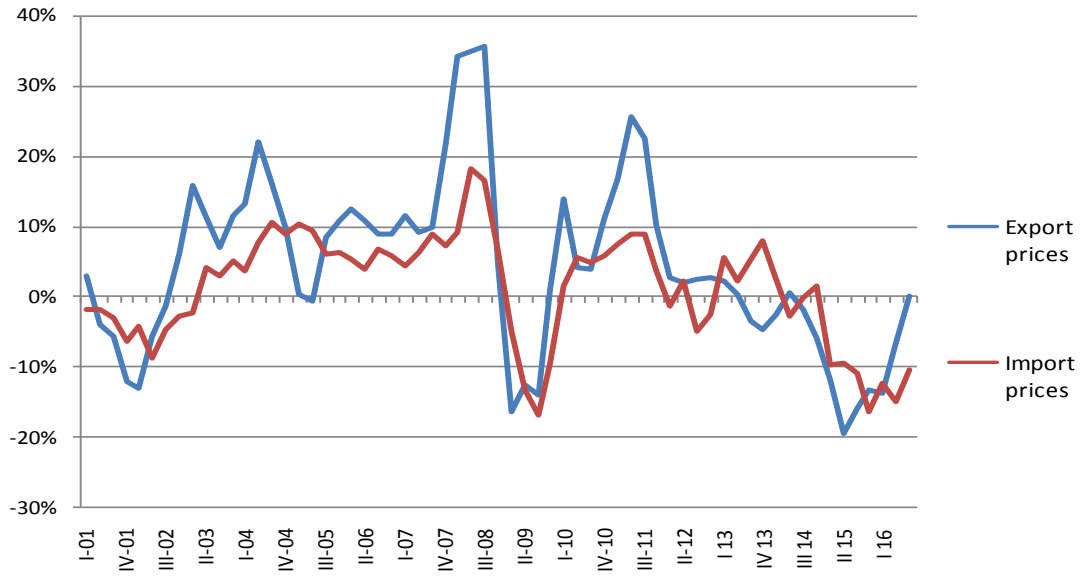


Source:Indec.

Clearly, since the end of 2011, external factors of inflation have given way to a *deflationary* trend (as can be seen in the graph, with the systematic fall in the prices of tradables in dollars since the beginning of 2012). Paradoxically, in this case what is good for inflation is not so good for the balance of payments. But even so, it poses a difficult dilemma for economic policy, as it intensifies the distributive conflict.

Figure42: Prices of tradable goods

(In current dollars, annual%)



Source:Indec.

In the non-tradable sectors, rising costs (for example, rising nominal exchange rates and / or nominal wages) are gradually translated into prices. Depending on the speed at which the various nominal variables adjust a certain distributive configuration will be defined. In the tradable goods sectors, however, the nominal (and real) markup is necessarily a *residual variable*, resulting from the interaction between the international price and the nominal exchange rate, given the wage costs, and the tariff and tax structure of the foreign trade. Suppose:

$$eP^*(1-x)=Pt=(1+r)W.lt \qquad (10)$$

Where *e* is the nominal exchange rate, P* is the international price of the export good, x is the export tax rate, Pt is the domestic price of the export good, W is the nominal wage, and *lt* is the labor coefficient of the sector. Evidently, a decrease in the international price (P*) combined with a rise in the nominal wage can generate a persistent decline in profitability and lead to as strengthening of the distributive conflict. The government can then try to recover business profitability by depreciating the domestic currency (raising *e*) and lowering or eliminating export taxes (x), while attempting to contain the expansion of nominal wages (W).

It is important to clarify that the *decline* in profitability *per se* does not imply any *predetermined* effect on exports, nor on the level of domestic production or investment. Exports depend on external demand, i.e. the level of activity of the country's trading partners (of their propensity to import) as well as a set of specific (technological and financial) and global factors (infrastructure, logistics, etc.), which are unrelated to prices. Similarly, the level of domestic output (and investment) depends on autonomous spending and on the size of multiplier and accelerator effects. Therefore, they *are not a function* of the *level* of profitability.[87]

Certainly, profitability may imply a *restriction* on the flow of new investments if it falls below a certain minimum threshold, or if it simply extinguishes. The very true notion of *effective* demand refers precisely to the fact that what matters is not the *notional* or absolute demand of society, but that demand that can pay a "normal" or average rate of profit included in the supply price of goods.

However, in general, well before reaching this hypothetical critical point of "profit squeeze", the business class has already reacted, *in political terms*, to demand (and possibly impose) changes in macroeconomic policy that make it possible to recompose profitability.[88]In many historical examples (both in Argentina and throughout the world) these changes have led to a contractionary macroeconomic policy (for example, through a program of fiscal "austerity", credit restriction, wage moderation, etc.), which induce a decrease in consumption (both autonomous and induced).

Through the accelerator mechanism, the contraction of consumption induces an even more pronounced fall in private investment. The possible upward trend in the unemployment rate weakens the bargaining power of workers and their ability to maintain the current nominal wage growth rate, affecting the share of wages in income. Thus, private investment is reduced and profitability can be restored, but the economy may be submerged in stagnation or recession.

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[87] For example, COREMBERG et al (2006) concludes in an econometric study that historical evidence "seems to show that the behavior of private investment in Argentina during the period 1950-2000 would have been procyclical, mostly associated with changes in aggregate demand, similar to the "accelerator mechanism"".

[88] As KALECKI (1967) wrote: "Now capitalists do many things as a class, but they certainly do not invest as a class". Clearly one of the "many things" that the capitalists *do as a class* is to pressure, demand and (at the limit) to remove those governments that do not satisfy their clamor for a change in economic policy that allows the recomposition of profits.

Of course, in a more superficial sense, there appears to be confirmation that the deterioration of profitability "caused" the decline in investment. However, that would be totally wrong. If economic policy had maintained an expansive bias, even with a persistent decline in profit margins, investment would increase precisely because of the accelerator mechanism. The crucial point is, as Kalecki perceived, that capitalists "do not invest as a class."

These kinds of programs, at least initially, generate higher inflation (for example by the depreciation of the currency) and stagnation (by the fiscal adjustment and the fall in real wages).The program is often presented as a temporary sacrifice, necessary to amend "populist" excesses, to rebuild the foundations of the economy and to relaunch growth. However, paradoxically, because potential output is *endogenous* to the path of demand and output in the "short run," these programs have enormous costs in terms of *potential* output.[89]

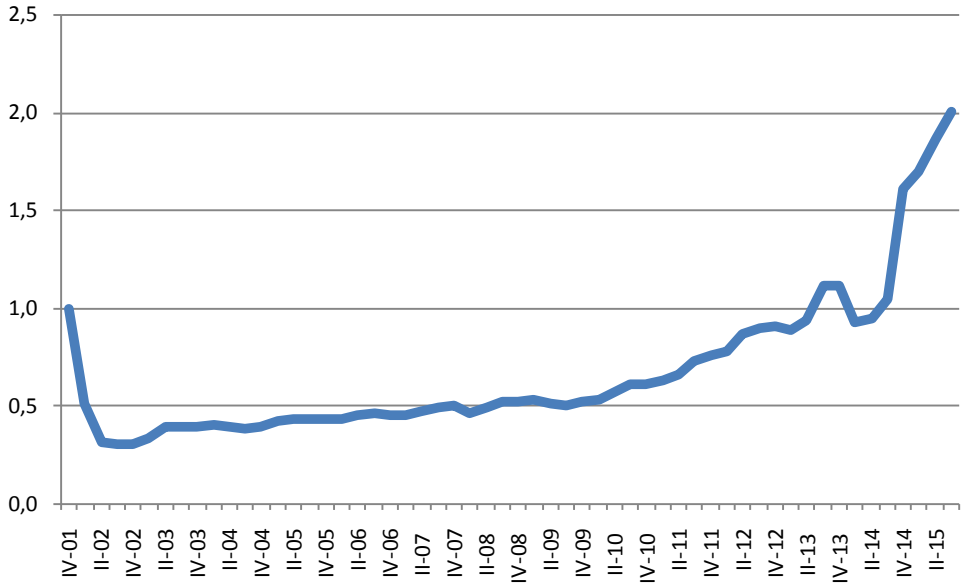
However (and again we are using Kalecki's words), it could be argued that capitalists will always find more than one economist willing to argue that greater profitability is *needed* to stimulate growth, or employment, or to increase exports.[90] The argument is simply meaningless, although it hides a *real* distributive conflict. If we return to the consideration of the recent Argentine case, it can be verified that this conflict occupies center stage.

[89] See, for example, DUTT, & ROS (2009) and SERRANO (2006).

[90] "In this situation a powerful alliance is likely to be formed between big business and rentier interests, and they would probably find more than one economist to declare that the situation was manifestly unsound" (KALECKI, 1943).In Argentina, in recent years, the language used was even more emotional, and some economists came to speak of a "macrocidio", that is, macroeconomic suicide.

Figure43: Average registered nominal wage / average tradable prices in domestic currency

(4th quarter of 2011 = 1)



Source: Own elaboration based on Indec.

The graph shows the ratio of the nominal wages of registered workers in relation to the average tradable prices in dollars at the nominal exchange rate.[91] The drastic reduction of this ratio in 2002 shows the great increase in the profitability of tradables. There is then a persistent trend towards an increase in the ratio, despite the rise of prices of tradable goods in dollars (especially export prices) and the trend towards the nominal exchange rate. This trend is only interrupted by the strong devaluation of the peso in early 2014 and then resumes its previous trend.

In this context, the new government of Mauricio Macri (who took over on December 10, 2015) eliminated most of the controls on the foreign exchange market, inducing a nominal exchange rate increase of 42% in one day. A few days later, it announced a plan of "zero retentions" (the near elimination of the taxes to the exports).

[91]In fact, it is necessary to clarify that a more accurate estimate would require considering nominal wages *less* productivity increases, which would undoubtedly reduce the conflict a little. This is a pending task for information problems. However, it can be assumed that productivity gains in recent years have been minimal given the quasi economic stagnation. Nor are export taxes considered (which would strengthen the trend described in the graph).

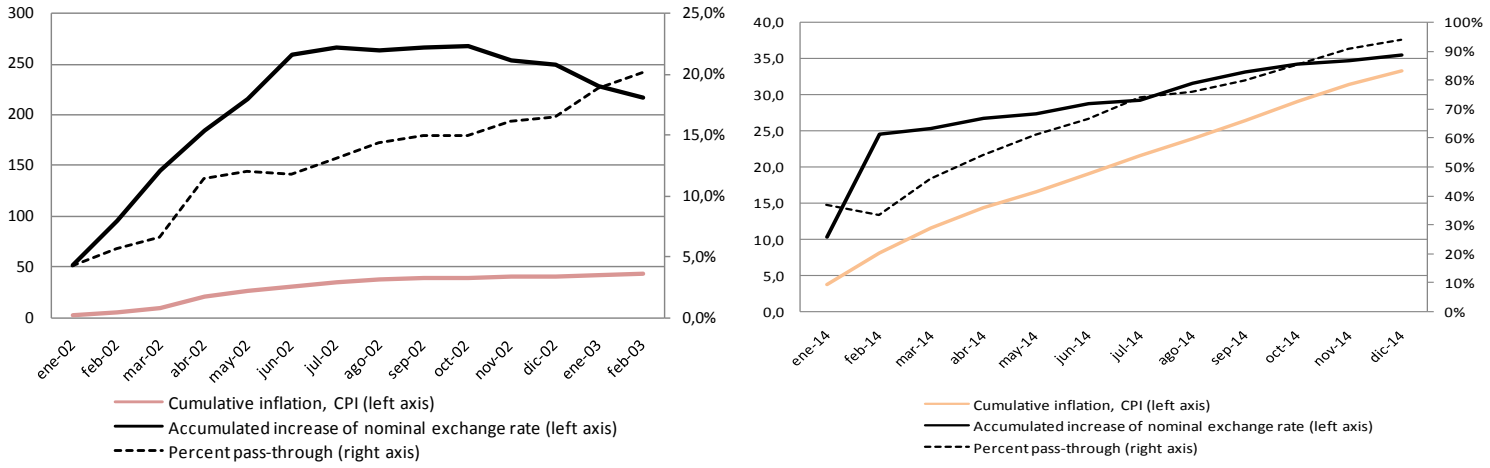
It is interesting to finally make some comments on the pass-through of the exchange rate at current prices in Argentina. In order to this, we must recall the equation that formalizes the tendency of inflation:

$$\pi = \varphi U + lc + m\,(e + \pi^*)/\,(1\text{-}a)$$

In principle, technically a "pass-through" is the effect of exchange rate fluctuations (e) on the general price level (π) regardless of the transmission channels ($\Delta e \rightarrow \Delta\pi$). Certainly there is a direct effect in the form of the rise in the exchange rate on inflation to make imported inputs more expensive (m). However, there are also a number of *indirect* effects (and the feed-back of these effects) on other variables, especially c and a (which may be added to a short-term effect by the additional rise in interest rates).

It is interesting to analyze the pass-through experiences of the exchange rate at prices in the recent experiences in Argentina. To that end, we will closely follow FRENKEL, J.'s (2006) analysis of the different experiences of significant devaluations in Argentine history and, respecting the same methodology, we will replicate the results for the experience of January 2014.

Figure 44: Argentina: Exchange-rate pass-through on prices (a. 2002 and b. 2014)



As shown in the graphs above, the difference in the pass-through coefficient in January 2002 and January 2014 is noticeable. While in 2002 the coefficient was 0.16 over

twelve months, in 2014 it was 0.94 over the same amount of time (see summary table below).

Table 6: Comparative devaluations: 1981, 1989, 2002, 2014 and 2015

	March 1981			February 1989			December 1989			January 2002			January 2014			December 2015		
(*)	(A)	(B)	Pass through	(A)	(B)	Pass through	(A)	(B)	Pass through	(A)	(B)	Pass through	(A)	(B)	Pass through	(A)	(B)	Pass through
1	34	8	23%	61	10	16%	175	40	23%	40	2	6%	10	4	37%	20	6	29%
2	38	16	42%	184	28	15%	156	151	97%	82	6	7%	25	8	33%	44	10	24%
3	178	27	15%	340	71	21%	470	306	65%	146	10	7%	25	12	46%	58	15	26%
4	208	40	19%	911	205	23%	627	693	111%	188	21	11%	27	14	54%	52	19	36%
5	214	51	24%	1396	555	40%	657	783	119%	232	26	11%	27	17	61%	49	26	54%
6	223	62	28%	3641	1842	51%	663	903	136%	265	30	12%	29	19	67%	49	32	64%
7	288	71	25%	3641	2577	71%	704	1043	148%	263	35	13%	29	22	74%	57	36	62%
8	349	84	24%	3641	2827	78%	713	1167	164%	263	38	14%	32	24	76%	56	38	68%
9	347	100	29%	3641	2991	82%	820	1361	166%	265	40	15%	33	26	80%	59	39	65%
10	325	123	38%	3641	3193	88%	784	1590	203%	266	40	15%	34	29	85%	60	40	67%
11	324	135	42%	-	-	-	752	1720	229%	254	41	16%	35	32	91%			
12	389	146	38%	-	-	-	706	1832	260%	249	41	16%	35	33	94%			

Source: all the data corresponding to the experiences of pass-through of March of 2001, February and December of 1989 and January of 2002 are taken from Julia FRENKEL (2006, p.11). Following the same methodology, the same values have been estimated for the devaluation of early 2014. For the estimation of CPI inflation, provincial statistics and private estimates were considered.

(A): cumulative increase in the nominal exchange rate (in%); (B): cumulative retail inflation (%). Pass through = (B) / (A).

Indeed, as FRENKEL, J. (2006) has shown, a number of factors influence the determination of the pass-through of the exchange rate to domestic prices, particularly the reaction of wages. Thus, the low pass-through of 2002 depreciation was a product of low pass-throughs to wages and public service prices (tariffs), and this was a fundamental difference from the previous large devaluations. In January 2014, in addition, the pass-through coefficient was similar to that of the hyperinflation of February 1989 (see table).

Likewise, in the Argentine case, it seems to be demonstrated that without high and persistent unemployment it is difficult to bring down the wage resistance in the face off -for example-devaluatory shocks. A recent econometric analysis shows that exchange rate (or terms of trade) oscillations seem to have *no relevance* to the *trend* of real wages. This seems to indicate that if workers' wage resistance is not affected (weakened) by unemployment or by political or institutional factors, then sooner or later devaluation or international price shocks end up being compensated by successive waves of nominal

wages increases, leaving the real wages trend unaffected (although with a significant impact on the inflation rate) (AMICO, 2015).

Therefore, it is reasonable to expect a high pass-through of the exchange rate to wages and, therefore, to prices in the context of Argentina in early 2016. Moreover, another essential difference with 2002 is that now the government has decided (for reasons of fiscal austerity) to drastically reduce subsidies to the public services, authorizing strong tariff increases. The pass-through could only have been lower if the government had managed to make nominal wage adjustments below the current inflation rate (with wages acting as a "nominal anchor"). But, political and ethical considerations aside, this looks like something that will be very difficult to achieve in Argentina.

3.4. Epilogue: Inflation targeting in Argentina?

In his inauguration speech, the new president of the BCRA, Federico Sturzenegger, said that monetary stability is "the primary objective of the Central Bank."[92] This means, above all, "having low inflation". It would also imply, according to Sturzenegger, "a predictable inflation and a freely convertible currency." He also stated that the president-elect entrusted him with "respecting the independence of the Central Bank" and that the central focus of the BCRA would be "to achieve inflation in line with international parameters."

He added that the BCRA "will pay more attention to the evolution of inflation, than to the value of the dollar", because the real problem is inflation, and therefore "to take care of the value of the peso is to ensure that inflation is low, not that the dollar is quiet ". Thus, in line with the new economic team, Sturzenegger says that "we should not be so interested if a peso can buy more or less dollars, but rather ensure the purchasing power of those pesos in goods." Therefore, "our" reaction function "must respond to changes in the evolution of prices and not necessarily to the evolution of the dollar."

This is consistent with the new consensus model presented in section 2.1.,and underlines the supposed *neutrality* of external factors on the rate of inflation. However,

[92] "Discurso de inicio y lineamientos de gestión, Federico Sturzenegger", BCRA, Gerencia de Prensa, Buenos Aires, 14 of December of 2015.

its emphasis on the exchange rate float did not prevent it from referring to the *real* exchange rate, which would tend to depreciate to compensate for "a weakened, inefficient economy without productivity."

In the first place, and in light of what was discussed in the previous sections, one may ask about the relationship between inflation and demand in Argentina today. Until a few years ago, many economists claimed that the economy was "overheated." Today, given the progressive output and employment stagnation, almost no one sustains that idea.

Second, it is clear that inflation targeting systems, when they have been successful in terms of reaching the inflation target, have not based such success on controlling the dynamics of aggregate demand. Several studies in Latin America have shown that, although it often manages to control inflation, it does so through transmission channels that are very different from the postulates in the new consensus model. For example, FRENKEL (2008) briefly reviews different empirical analyses of the recent experiences of Brazil and Mexico in inflation targeting policies. As a base two works on Brazil (Barbosa-Filho, 2006 and 2008), one on Mexico (GALINDO and ROS, 2008) and finally another covering several Latin American economies (CHANG, 2007) are used.

The conclusions of these studies indicate that the elasticity-interest of aggregate demand is small, so that it is difficult for small changes in the basic interest rate to affect inflation persistently by this mechanism. In addition, there is evidence that inflation in these countries has no systematic relationship to demand shocks. Also, productive investment is a phenomenon *induced* by the dynamics of effective demand and as COREMBERG et al (2007) show, has no relation with the level of nominal or real interest rates, neither with the volume of credit nor with any proxy of the protection of property rights or anything similar.

The *effective* mechanism by which the interest rate can be an instrument in the control of inflation is as follows: since inflation in Latin American countries is basically a cost push phenomena and very sensitive to the dynamics of the tradable prices (in dollars), the rise in the interest rate produces a positive internal-external interest rates differential (net of the premium country risk) that encourages the inflow of foreign capital. The capital inflow appreciates the nominal exchange rate (since the exchange is floating, although administered) and the appreciation of the domestic currency produces a

deflationary shock by lowering tradable prices in domestic currency (SERRANO, 2010a).

This mechanism does not work when the rise in interest rates fails to modify the direction of the change of the exchange rate dynamics and, therefore, cannot contribute to reversing the expectations of devaluation, as appears to be the case of Argentina in different periods. The resulting loss of reserves reveals a growing loss of central bank control of the currency market dynamics.

Third, there is an *aggravating factor* in the current Argentine case induced by the central bank's own monetary policy. In 1983, Charles Bouey -former president of the Bank of Canada - summed up the spirit of his time very eloquently: "We did not abandon monetary aggregates, they abandoned us." The insurmountable difficulties for the monetary authority to exert some degree of control over the monetary aggregates eventually led to all economic orthodoxy becoming more and more neo-Wicksellian. This means that, even if it continues to postulate monetary *neutrality* in the long term, it nevertheless admits money endogeneity. Thus, all professional economists, trained in conventional theory, both in the developed world and in developing countries, adopt the short-term interest rate as a policy instrument.[93]

The authorities of Argentina's central bank are the extravagant exception to this global rule. The president of the BCRA did indeed believe that he was controlling the monetary aggregates and that, if persistent, it would result in a reduction of the rate of inflation. But this confusion has a *practical* consequence. Although the BCRA believes that it acts on the amount of money, in truth it can only control the interest rates. In Argentina, the reference interest rate is the one that corresponds to the Lebacs (Letras del Banco Central), which is a BCRA bond in domestic currency. This is the policy instrument *par excellence* that, in turn, defines the size of the interest differential (net of country risk). After the devaluation of mid-December, the BCRA raised the Lebacs rate, but a few days later began to lower them gradually. This policy decision meant that the relative exchange rate stability obtained after the December devaluation began to slowly overturn.

[93] The heterodox visions arrives at the same result but with a very different theory. See LAVOIE (2014) and PIVETTI (2000).

The reason for this policy change is that the BCRA is afraid of the increase in the central bank's "quasi-fiscal" spending stemming from the sale of *Lebacs*, because that forces it to "print" more money. However, the real effect is that this decision leads to an increase in the demand for dollars (given the reduction of the interest differential), stimulates the devaluation of the currency, which accelerates inflation (even with a reduction in the growth of monetary aggregates!). Thus, inflation has received a considerable boost following the large devaluation of the peso last December, which resulted in a rapid fall in real wages.

One of the crucial points is that it would appear that, increasingly, interest rate rises are less and less able to change the trend of the exchange rate. In part this may be due to the erratic nature of monetary policy, but the fundamental factor seems to be the worsening of the general external constraint: persistent decline in reserves, falling export prices, reactivation of the acquisition of foreign assets (dollars) by the non-financial private sector together with a significant increase in the current account deficit in 2015.

Many economists bet that the change of government would induce a "confidence shock". Thanks to the new rules of the game, large foreign capitals would arrive in the country, leading an economic boom (as in the early 1990s).But it is clear that "investor confidence" deteriorates very easily when returns are negative and / or when there are prevailing expectations of devaluation. So that capital inflow (which even today is a common trend in other Latin American countries) did not occur or only occurred very moderately, and the Argentine government today seems to be satisfied with containing capital outflows.

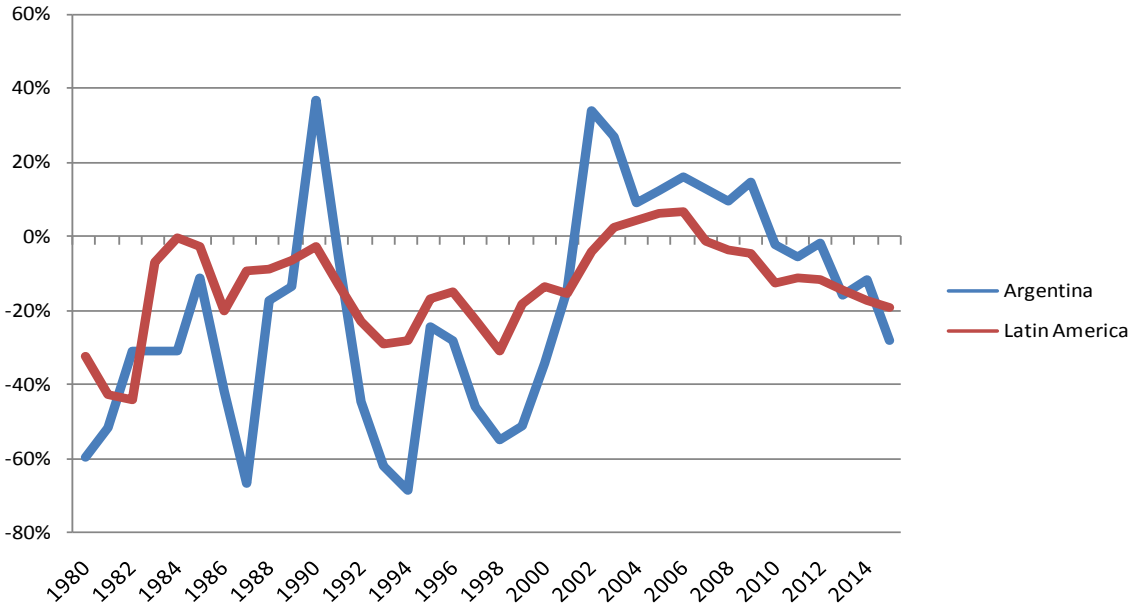
Can the government's external indebtedness solve the problem? First of all, it is necessary to investigate the external *liquidity* and *solvency* conditions of the Argentine economy in relation to the regional context. Argentina's long-term external solvency follows a very similar trajectory to that of other countries in the region. The only difference is that the brutal adjustment of imports in 2002 allowed it a starting point at its exit from the crisis with a relatively larger gap between exports and imports (and also with the external debt default of 2001-2002).

Latin America (with the exception of Argentina and Venezuela) finance their growing current account deficit via the capital account through external liabilities denominated

in domestic currency. At this point, the external indebtedness of the government (and also of the private sector) presents some very significant differences.

Figure45: External Sustainability

(Current account deficit / exports ratio, in%)



Source: CepalStat.

Under a managed floating exchange rate regime, when an economy has capital inflows (i.e. portfolio flows or even foreign direct investment) that are denominated in domestic currency and whose return must be repaid in that currency, investors must assume the risk of the exchange rate, since the dollar value of these liabilities can always be reduced through a devaluation. In this case, in the face of an external shock, the depreciation of the currency is an option against the loss of reserves. The interests of external debts in international currency, however, must necessarily be paid in that currency and, as FRENKEL & RAPETTI (2011, pp. 7-8) write, "constitute an inertial item in the current account debt." That is, this leads to a position of greater external fragility. The other difference between Argentina and the region is that while the other Latin American countries do not face any liquidity problems (measured by the relation between reserves and short-term foreign currency debts), Argentina has an evident problem due to the insufficiency of their foreign exchange reserves.

This liquidity problem can be solved in the short term by increasing the government's external debt. However, this solves the short-term problem at the cost of worsening solvency conditions more quickly. At some point the worsening solvency conditions may have an impact on external (short-term) liquidity conditions, either by increases in the interest rate to refinance the government's external debt, or simply by reducing the availability of external credit.[94]

Some structuralist economists (such as Marcelo Diamand) argue that external indebtedness could be a transitional and sustainable element, provided that such foreign exchange resources were used to effect internal transformations (such as an import substitution plan and wide industrial policies),which provide the foreign exchange for future repayment.

Beyond the discussion of whether this alternative is possible, the problem is that there is no policy in the current government that points in that direction. In the current real context, if there are no significant changes in the more general development model, government external borrowing could be a short-term relief, but in the long run it would only serve to finance capital outflows and thus would be unsustainable.

Finally, there is an additional latent risk. If capital flows respond less and less to interest rate increases and / or the central bank maintains an erratic monetary policy (for example, lowering the interest rate), the opportunity cost of capital may tend to become dollarized rapidly (SERRANO, 2010b). That is, the reference ("floor") of the nominal markups would be given by the external yield (i*+country risk) instead of the domestic interest rate. This slippage could lead to a sequence of increases in exchange rates, interest rates, wages and markups, and lead to a dangerous inflationary spiral.

[94] See MEDEIROS & SERRANO, "Capital flows to emerging markets under the flexible dollar standard: a critical view based on the Brazilian experience".

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