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Growth and Macroeconomic Policy Regimes: Theory and Aplication to Brazilian Case (1999-2015)

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Preliminary Definitions

- **Macroeconomic Policy Regime:** It is the set of goals, targets and instruments of macroeconomic policy, as well as the institutional framework in which such policies are implemented.
  - Goals of macroeconomic policy: Full employment, stable and low inflation, sustainable and robust economic growth, equality in income distribution
  - The instruments of macroeconomic policy are the short term interest rate, taxes, exchanre rate (in countries with managed exchange rates), Prudential regulation (requeired reserves, capital controls, and so forth) which allowed a more or less direct control over the growth rate of bankin credit and capital inflows.
  - Due to temporal gap between changing the values of instruments and the final achievment of goals of economia policy, it is necessary to define a strategy for goals achievment, which requires the setting of numerical values for some key macroeconomic variables as inflation or the rate of economic growth.
  - These numerical values are the targets of macroeconomic policy.

What is the relation between growth and macroeconomic policy regime ?

- Conventional Economic Theory (Neoclassical): None.
  - Long run growth depends on factor accumulation and technological progress, both are independent of aggregate demand.
  - Growth is supply constrained.
  - Aggregate demand explains only the short-run fluctations of real output around long run trend, which is determined by the supply side of the economy.
  - Macroeconomic policy objective is to manage aggregate demand in orer to smooth the short run fluctuations around the long run trend and to keep inflation at a stable and low level.

Problems of the Traditional Approach

- Problem of “unitary root” of time series of GDP.
  - The GDP of developed and developing countries are a Randon walk in a such way that temporary shocks of supply or demand had persitent effects over the level of output.
  - It is impossible to decompose GDP times series in Growth and Cycle.
  - The cyclical componente of economic activity affects the long run trend growth.
  - Path dependence.
  - Macroeconomci policy affects the path of the economy through time, so it is capable of influence the long-run trend growth of GDP.

The Growth Engine

- Kaldor: the growth engines of capitalista economies is aggregate demand since the availability of factors of production and also the technological progress are variables that adjust to the level of effective demand in the long run..
  - The stock of capital is the resut of investment decisions taken in the past, which are based fundamentally on the expectations of entrepreneurs about the growth rate of demand for their products.
  - Labor force also adjusts to the growth rate of demand, since the number of work hours, the participation rate, and also the size of the labor force are elastic to changes in the level of output.
  - The existence of static and dynamic economies of scale make labour productivity a function of the level and the growth rate of output.
  - *Structural relationship between labour productivity growth rate and growth rate of output.*
    - "Kaldor-Verdoorn law"

Components of aggregate demand

- Autonomous demand: It is the component of aggregate demand that does not depends on the level and/or the rate of change of income and output.
  - Goverment expenditures and exports.
- Induced demand: It is the the component of aggregate demand that depends on the level and/or the rate of change of income and output.
  - Consumption expenditures (given wage share and the level of endebtness of families) and investment.
- In the long run, the growth rate of output is determined by the growth rate of autonomous expenditures, since induced demand adapts itself to the expansion of income and output.

Growth Regimes

- *Export-led:* Long run growth is led by exports.
- *Government-led*: Long run growth is led by government expenditures.
- *Wage-led*: Long run growth is led by wage growth above productivity growth, thus generating “autonomous” increases in the consumption expenditures of families.
- *Finance-led*: Long run growth led by an increase in the endebtness level of private sector, mainly families, which allowed an increase in conumption expenditures above wage growth.

Sustainability of Growth Regimes.

- For open economies that do not had international reserve currency, only *export-led* growth is sustainable in the long run.
  - If growth rate of government expenditures is higher than the growth rate of exports, than output and domestic income will grow faster than exports.
  - Considering income elasticities of imports higher than one (as it is usual in developing countries), than imports will grow faster than exports, generating a growing, and possibly unsustainable, trade deficit in the long run.

Wage-Led Unsustainability

- A continous increase in wage share, a suficient condition for the occurrence of an autonomous increase in the consumption expenditures, is economically and politically inviable.
  - Falling trend of profit rate.
    - Stagnation of capital accumulation.
  - Reaction of capitalist class to its euthanasia.
    - Intensification of class fight, with the probable institution of fascist regimes.

The *Optimum* Regime of Macroeconomic Policy

- Conditions for the existence of an optimum macroeconomic policy regime :
  - *Consistence* in Tinbergen sense: Goals and Targets of macroeconomic policy regime must be consistent in the sense that the simultaneous achievment of than is possible from the manipulation of economic policy instruments at the hand of policy maker.
    - A necessary condition is that goals and targets of diferente macroeconomic policies must have positive spillover effects, that is, the attempt to achieve a goal or a target should make easier the achivment of others goals and targets.
  - *Sustainability*: The macroeconomic policy regime must promote the choice of a growth regime that is sustainable in the long run.
    - For developing countries, without international reserve currency, this means the choice of na export-led growth.

Type of Policy	Goals	Targets	Instruments
Monetary Policy	Low and stable inflation in the médium to long run Robust and sustainable economic growth	Target inflation Growth target for real GDP that is compatible with the equilibrium in the balance of payments	Short term interest rate Required reserves Net worth requeirement for comercial banks .
Fiscal Policy	Stabilization of the level of economic activity Stabillization of public debt to GDP at a low and stable level in the médium to long run .	Cyclically Adjusted Target for fiscal deficit near zero Target for growth rate of real output that is compatible with the equilibrium in the balance of payments	Automatic stabilizers Discritionary expenditures with public investment in infrastructure .
Wage Policy	Stable wage share Stable and low inflation in the médium to long run	Target for change in the unit cost of labour equal to target inflation (nominal wage growth equals to inflation plus productivity growth)	Setting nominal wage growth at a level equal to the sum of target inflation and productivity growth

Macroeconomic Policy Regimes in Brazil (1999-2015)

- After leaving exchange rate anchor Brazil had adopted four diferent macroeconomic policy regimes
  - Macroeconomic Tripod (1999-2005)
  - Flexible Tripod (2006-2008)
  - Inconsistent Developmentalism (2009-2011)
  - New Macroeconomic Matrix (2012-2014)

TABELA II – Descrição dos componentes do "Tripé Macroeconômico"

Tipo de Política	Objetivos	Metas Operacionais	Instrumentos
Política monetária	Estabilidade da taxa de inflação a curto-prazo Inflação baixa a longo-prazo	Metas declinantes de inflação.	Taxa de juros de curto-prazo
Política Fiscal	Dívida pública como proporção do PIB baixa e estável no médio e longo prazo.	Meta de superávit primário	Redução do investimento público
Política Cambial	Autonomia da política monetária	Nenhuma	Livre flutuação da taxa nominal de câmbio.

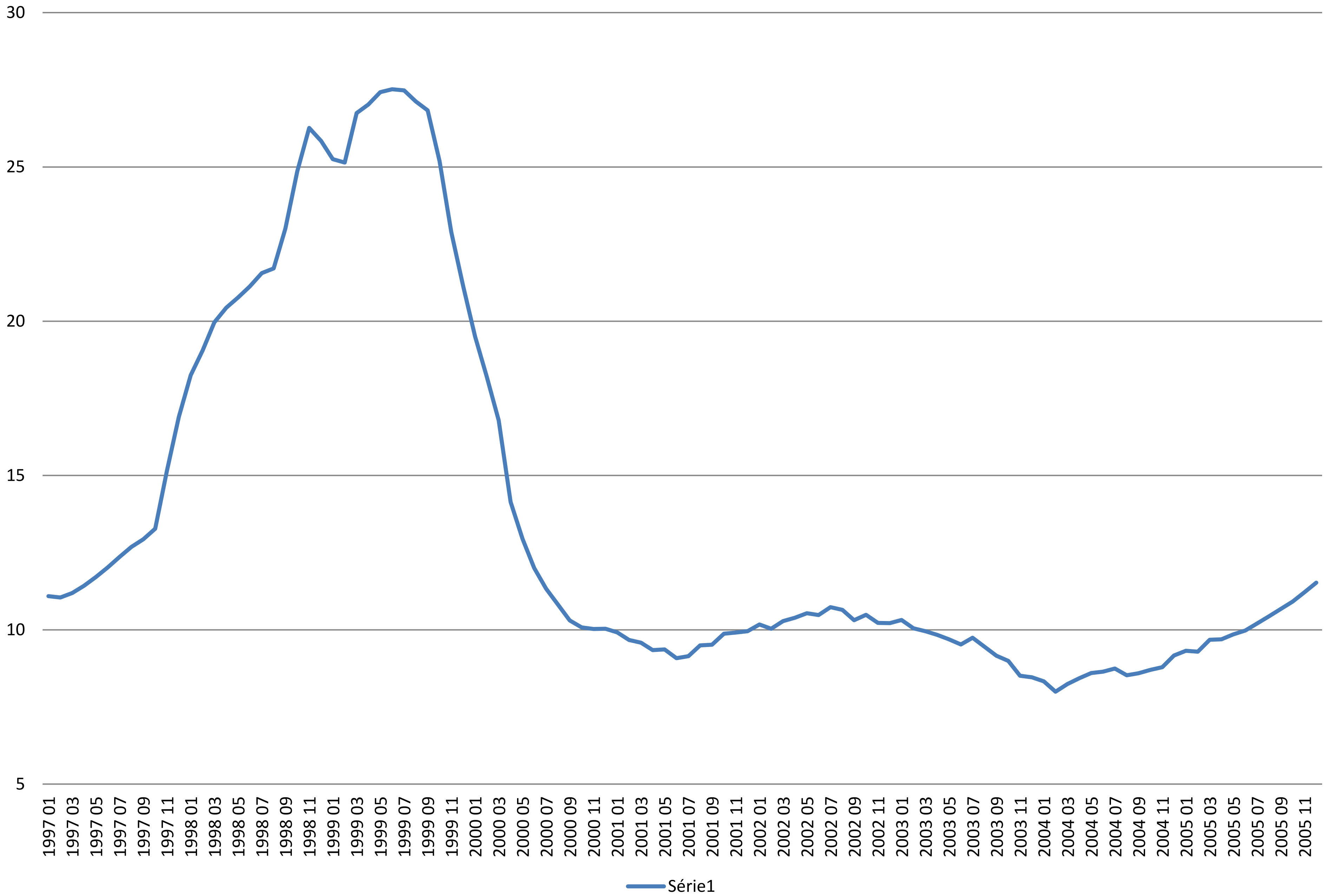
Fonte: Elaboração própria.

Table III: Compared Macroeconomic Performance between macroeconomic policy regimes in Brazil (1995-2005)

Period	Average growth rate of real GDP	Investment rate at constant prices (1)	Public Investment as a share of GDP
Exchange Rate Anchor (1995-1998)	3,06	16,76	3,62
Macroeconomic Tripod (1999-2005)	2,65	14,76	2,7

Source : IPEADATA. Author own ellaboration. Note: (1) 2006 prices.

Figura 1 - Taxa Real de Juros (%a.a) , Selic deflacionada pela variação do IPCA, Média Móvel dos últimos 12 meses (Jan.1997-Dez.2005)



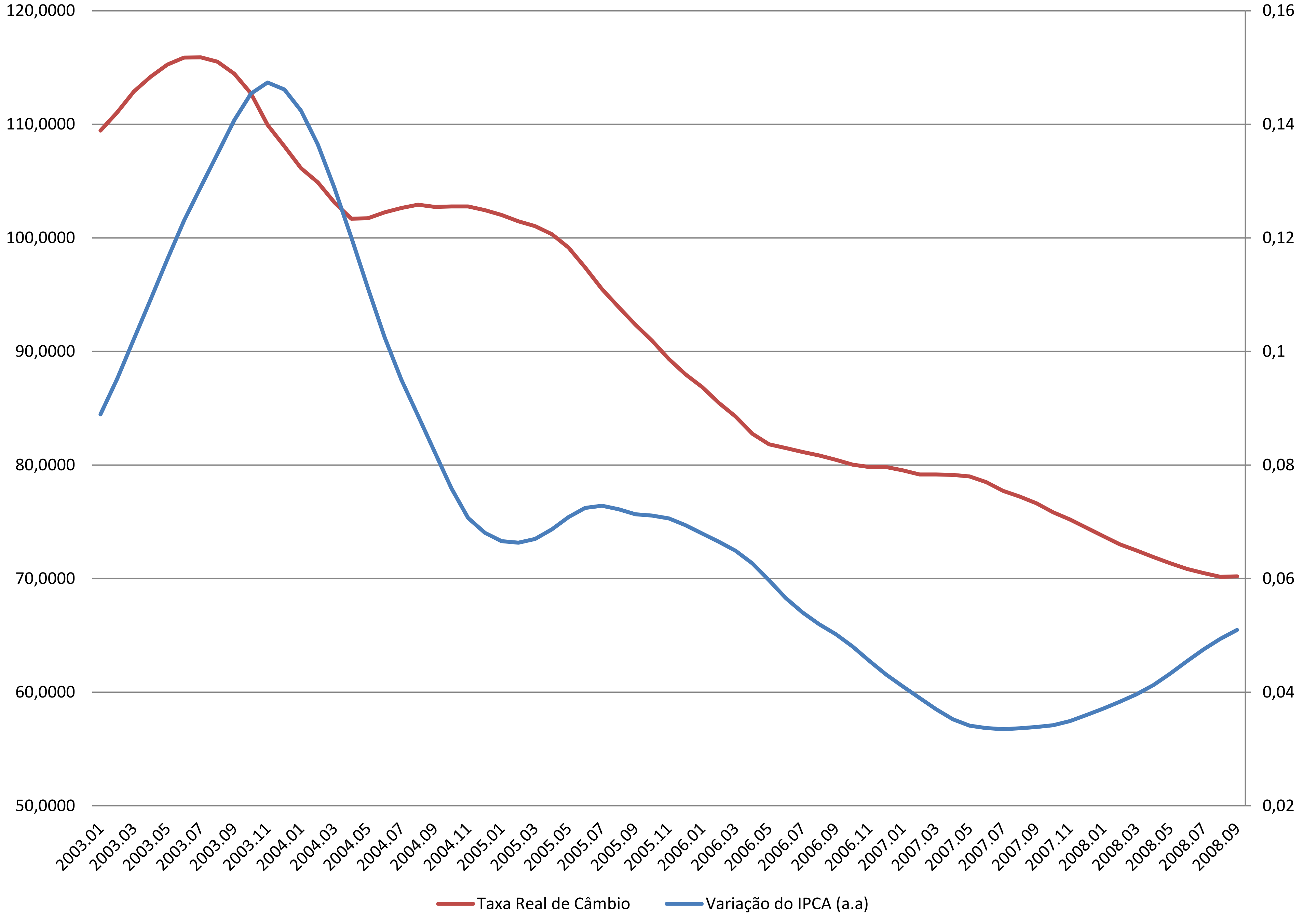
Type of Policy	Goals	Targets	Instruments
Monetary Policy	Stable inflation in the médium to long run	Constant inflation target.	Short term interest rate
Fiscal Policy l	Public debt as a ratio to GDP stable in the médium to long run. Increase in public investment	Reduction in the target for primary surplus	Increase in Tax burden Increase in primary expenditures as a ratio to GDP
Wage Policy	Increase in real wages Increase in wage share	Not defined	Minimum wage growth defined by last year inflation and growth rate of real GDP in year t-2 (Lula-Barbosa rule).
Exchange rate policy	Autonomous monetary policy Stable real exchange rate (not	None	Large scale reserve accumulation.

Table III: Compared Performance between Macroeconomic Policy Regimes in Brazil (1999-2008)

Period	Average Growth rate of Real GDP	Investment Rate at Constant Prices (1)	Public Invetment as a share of GDP
Macroeconomic Tripod (1999-2005)	2,65	14,76	2,7
Flexible Macroeconomic Tripod (2006-2008)	5,07	16,05	3,2

Source: IPEADATA. Author´s own ellaboration. Note: (1) 2006 prices.

Figura 3 - Taxa Real de Câmbio e Variação do IPCA (% a.a) - Jan. 2003 à Set. 2008



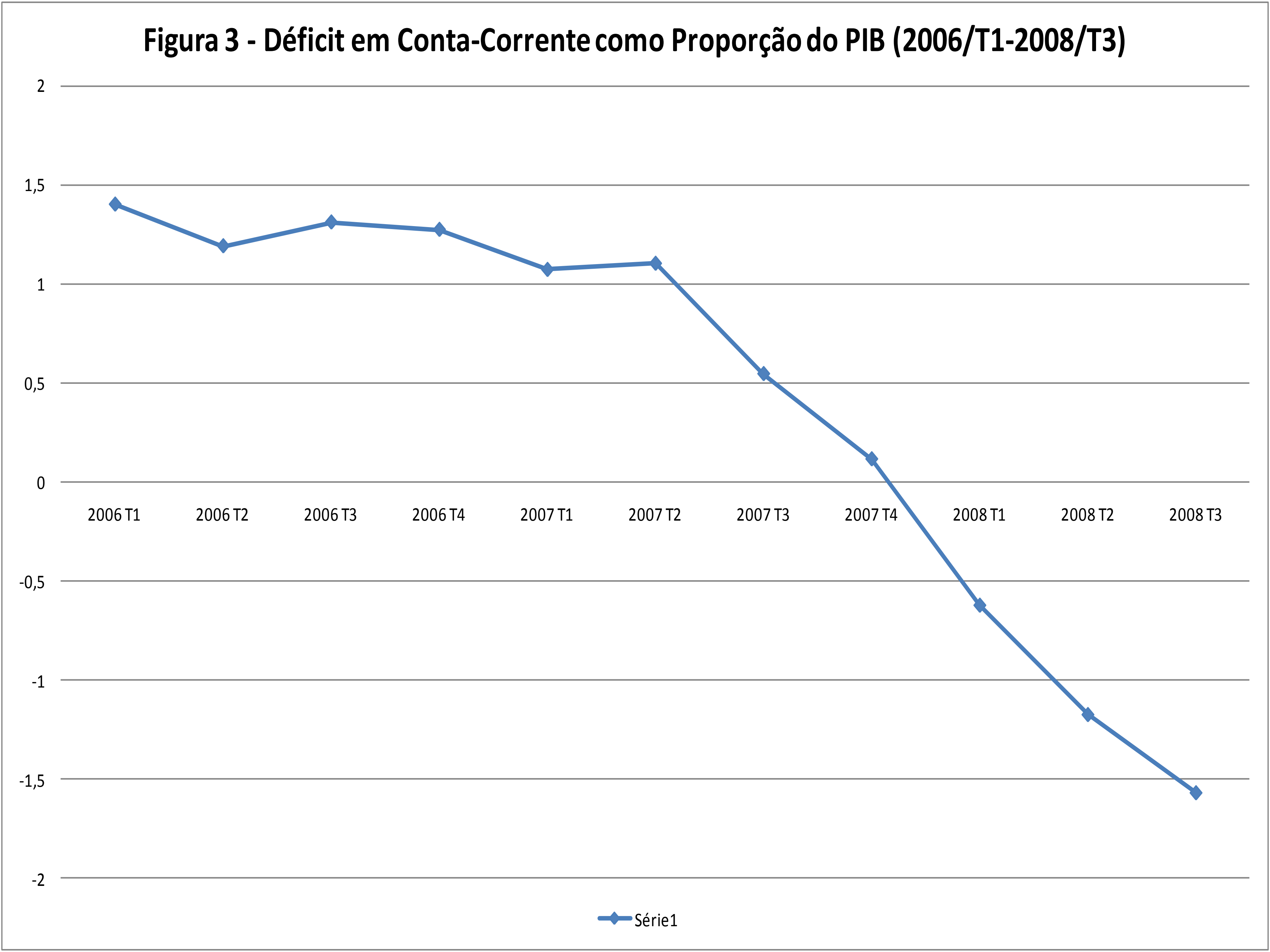
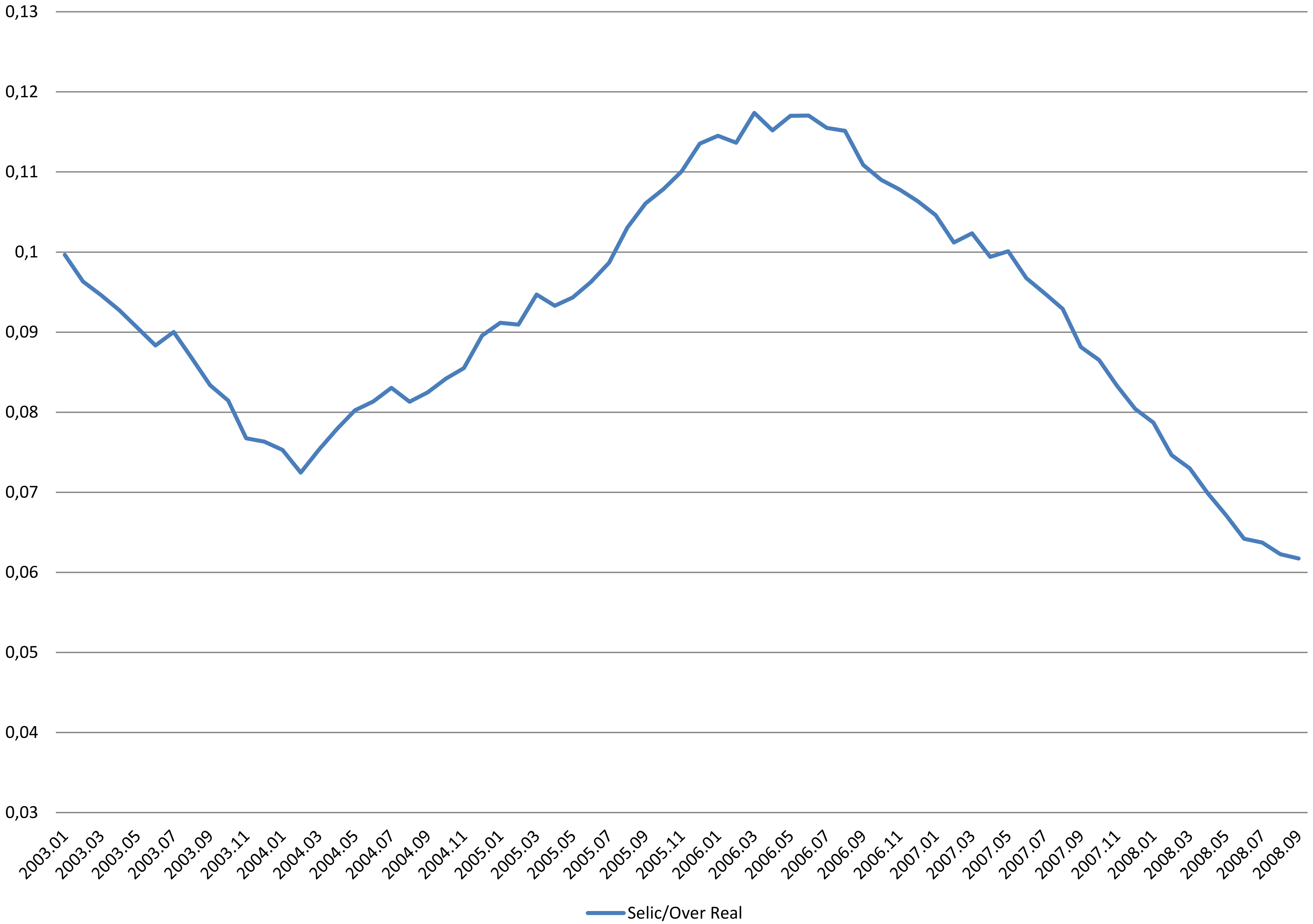


Figura 3 - Déficit em Conta-Corrente como Proporção do PIB (2006/T1-2008/T3)
2
1,5
1
0,5
0
-0,5
-1
-1,5
-2
2006 T1
2006 T2
2006 T3
2006 T4
2007 T1
2007 T2
2007 T3
2007 T4
2008 T1
2008 T2
2008 T3
Série1

Figura 4 - Evolução da Taxa Selic/Over Real (Jan.2003-Set.2008)



New Developmentalism or Inconsistent (and populist) Developmentalism?

- The financial crisis of 2008, erupted after the bankruptcy of *Lehman Brothers* on September 15 th, caused a new round of flexibilization macroeconomic tripod, stablishing the foundations of a new macroeconomic policy regime in Brazil.
- The undeniable success of anticyclical policies in Brazil allowed a change in the economic speech of government, with the progressive substitution of the rethoric of the macroeconomic tripod for a rethoric allegly based on new-developmentalism.
- Indeed during the Presidential Campaign of 2010, Dilma Rouseff, running for government party, assumed explicitly a “new-developmentalism” sppeech, saying that economic policy during her government will be based on the basic principles of this schoolf of thought (O Estado de São Paulo, 27/12/2009)

New-Developmentalism and Macroeconomic Policy Regime

- New Developmentalism, a concept developed in Brazil from the works of Bresser-Pereira (2006, 2007, 2009), is defined as a set of proposals of institutional reforms and of economic policies by means of which developing nations search to catch-up the per-capita income level of developed countries.
- This catching-up strategy is explicitly based on the adoption of na export-led growth model, in which the promotion of manufacturing exports induce na acceleration of capital accumulation and introduction of technological progress in the economy.

Charateristics of New Developmentalist Macroeconomic Policy Regime

- *Active exchange rate policy:* Reach and sustain a stable, sustainable and competitive level for real exchange rate in the médium to long run
- *Responsable Fiscal Policy:* Elimination of ***structural*** fiscal deficit and allowed a sustainable increase in public investment.
- *Wage Policy:* Promote wage moderation by maens of linking real wage growth to productivity growth, allowing the stability of income distribution in the long run.
- The combination of a responsable fiscal policy with wage moderation will make inflation to stay at a stable and low level, allowing monetary policy to be used for stabilization of economic activity, at the same time that nominal a real interest rates are reduced in a permanent basis.

TABLE VIII – Description of the components of Inconsistent Developmentalism

Type of Policy	Goals	Targets	Instruments
Monetary Policy	Stability of inflation rate in the long-run Robust (and sustainable?) growth of real GDP.	Constant targets for inflation, with an informal spreading of convergence period.	Short-run interest rate Macro-Prudential regulation
Fiscal Policy	Stability of Public Debt to GDP in the médium to long run. Increase in public investment Increase in domestic absorption (vulgar Keynesianism)	Target for primary surplus around 3% do PIB.	Increase of Tax Burden Increase of Primary Expenditures as a Ratio to GDP
Wage Policy	Increase in real wages Increase in the wage share .	Not Defined	Institucionalization of Lula-Barbosa Rule.
Exchange Rate Policy	Autonomy of monetary policy Stability of real exchange rate	None	Accumulation of international Reserves (now at a more moderate rate). Capital Controls.

Figura 4 - Evolução das Despesas primárias do governo federal/PIB (1999-2010)

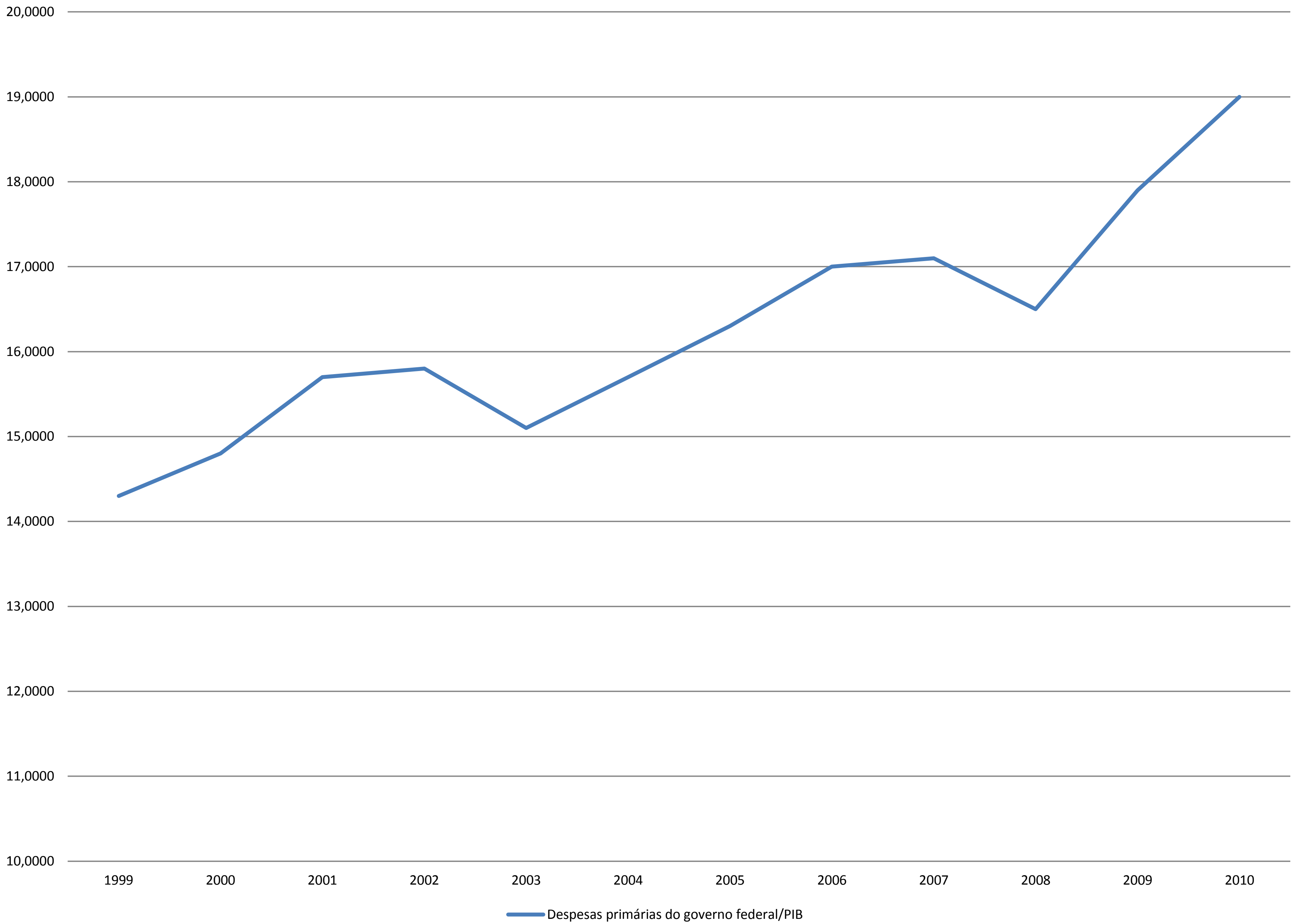


Figura 5 - Taxa real de Câmbio (2008.09-2011.04)

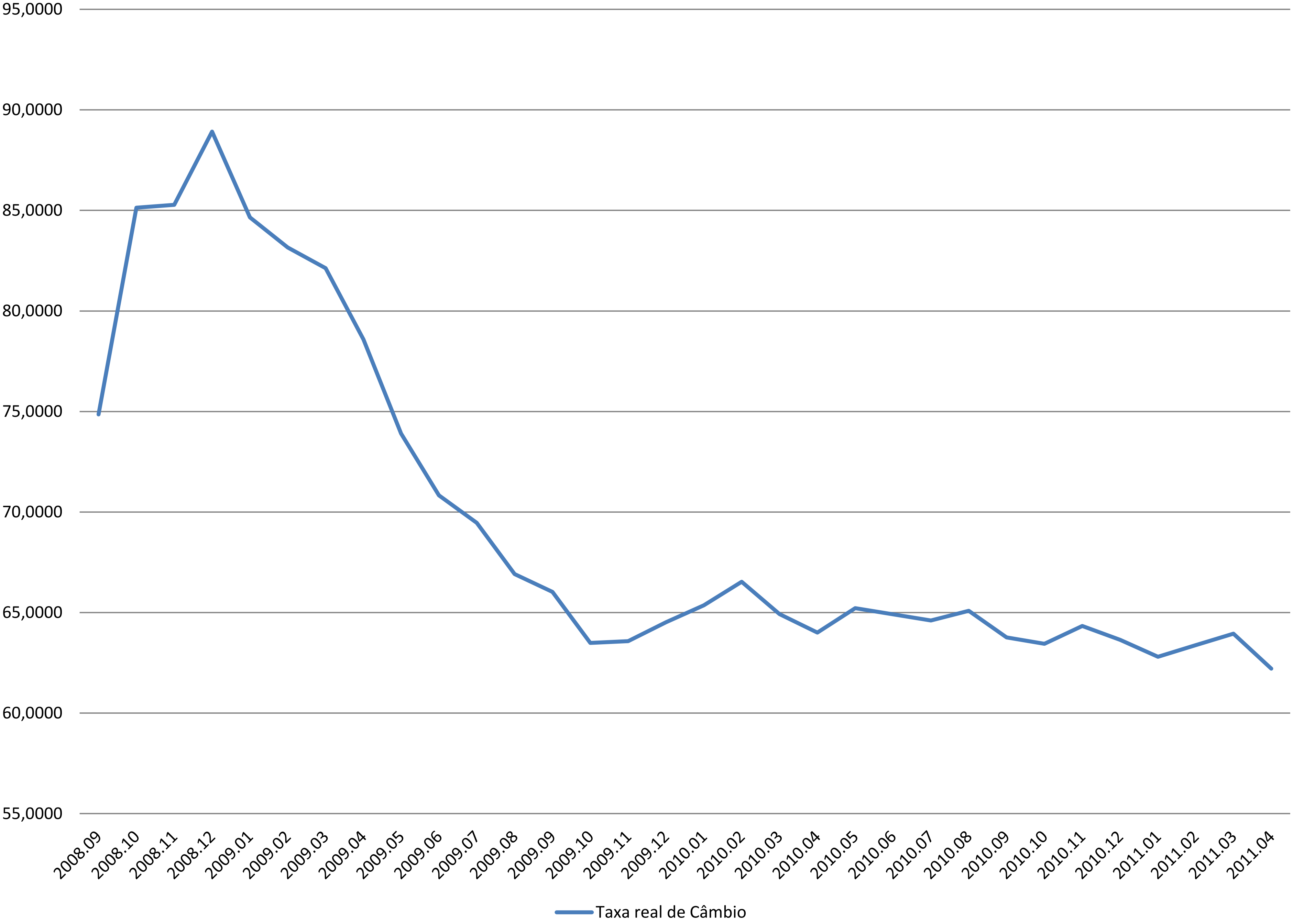
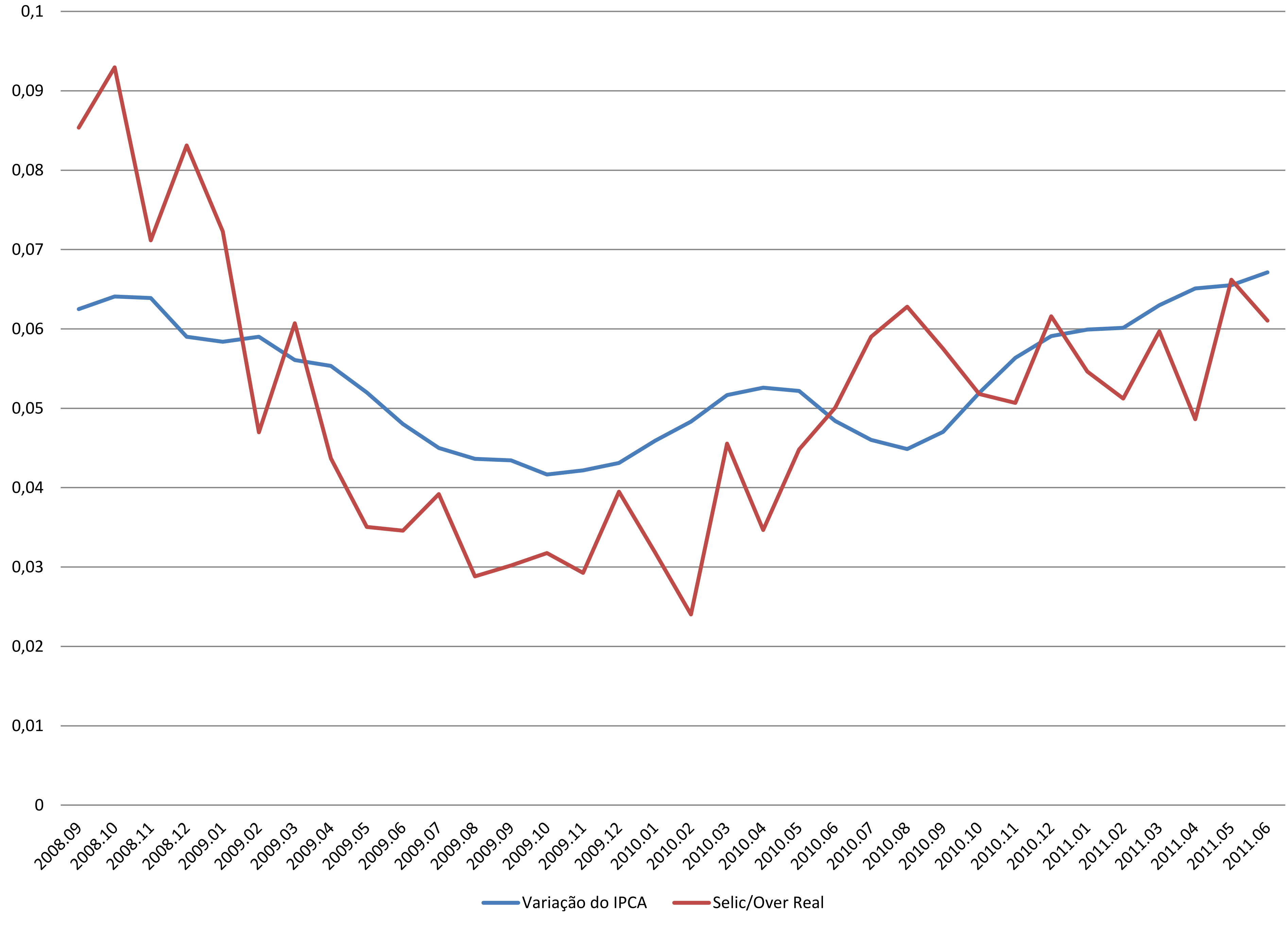


Table VIII –Dynamics of Investment Rate (2006/Q2-2011/Q2).

Period	Quarter rate of growth rate of Investment Rate	Annualized Growth Rate of Investment Rate
2006/Q2-2008/Q3	5,31%	23,0%
2008/Q4-2011/Q2	0,46%	1,18%
2009/Q4-2011/Q2	4,52%	19,38%

Source: IPEADATA. Dados deflacionados pelo IPCA. Taxas calculadas a partir da média móvel da FBKF dos últimos 12 meses. Elaboração própria.

Figura 6 - Selic/Over Real (% a.a)e Variação do IPCA (%a.a), Set.2008-Jun.2011



Inconsistent Developmentalism

- The objectives of this macroeconomic policy regime is to hold a stable (although not competitive or sustainable) real exchange rate, to increase wage share, to obtain a stable inflation level in the long run, to induce a robust growth of real GDP and to make a strong increase in domestic absorption by means of a faster growth of primary expenditures.
- These objectives are not muttually consistente, that is, can not be achieved simultaneously.
- As a matter of fact, fiscal expansion and increase in wage share are incompatible with the objectives of holding a stable real exchange rate and a stable rate of inflation.
- Because the combination of increase in domestic absorption with increase in unitary labour costs and faster GDP growth will accelearate inflation in the case that government decide to stop real exchange rate appreciation that resulted from the combination of these policies.
- On the other hand, if government decides to keep inflation at a stable level, than nominal and real interest rates will have to be increased, inducing Strong capital inflows, thereby producing the continuity of real exchange rate appreciation.

A *requiém* for Macroeconomic Tripod

- Missing (sic) the “good and old times” of macroeconomic tripod (1999-2006).
  - “Growth spetacle”: average of 2,81% p.y
  - “Low Inflation”: average of 7,6% p.y
  - “Investment led-growth”: Investment rate grows at an average rate of 1,24% p.y.
- The cold analysis of data showed us that there is no reason for missing the “good and old times” of macroeconomic tripod..
  - Let it to Rest in Peace in the Glory of the Lord.

New developmentalism or Inconsistent Developmentalism (2007-2010)?

- Growth Regime: "Desarollo hacia dentro".
  - Combination of expansion of banking credit (basically state-owned banks) with income distribution policies (minimum wage and social transfers like bolsa família).
  - Logic: Induce a growth of consumption, investment was supposed to follow the increase in consumption due to accelerator effect.
- Macroeconomic Policy Regime : Flexible Tripod.
  - Constants Targets for Inflation (4,5% p.y)
  - Dirty floating exchange rate regime (capital controls and accumulation of international reserves).
  - Reduction of primary surplus (from 4,25% of GDP to 3,5% of PIB).

New developmentalism or Inconsistent Developmentalism (2007-2010)?

- Macroeconomic Performance:
  - Inflation: 5,14% p.y.
  - Growth: 4,61% p.y.
  - Investment rate: 10,50% p.y.
- Fragility of the model:
  - Deep appreciation of real exchange rate during the period which generated, together with wage growth above productivity growth, a sharp increase in the unit labor costs in manufacturing industry.

Figura 2 - Taxa Real Efetiva de Câmbio - Exportação - Manufaturados, Média Móvel 12 meses (2003/01-2014/02)

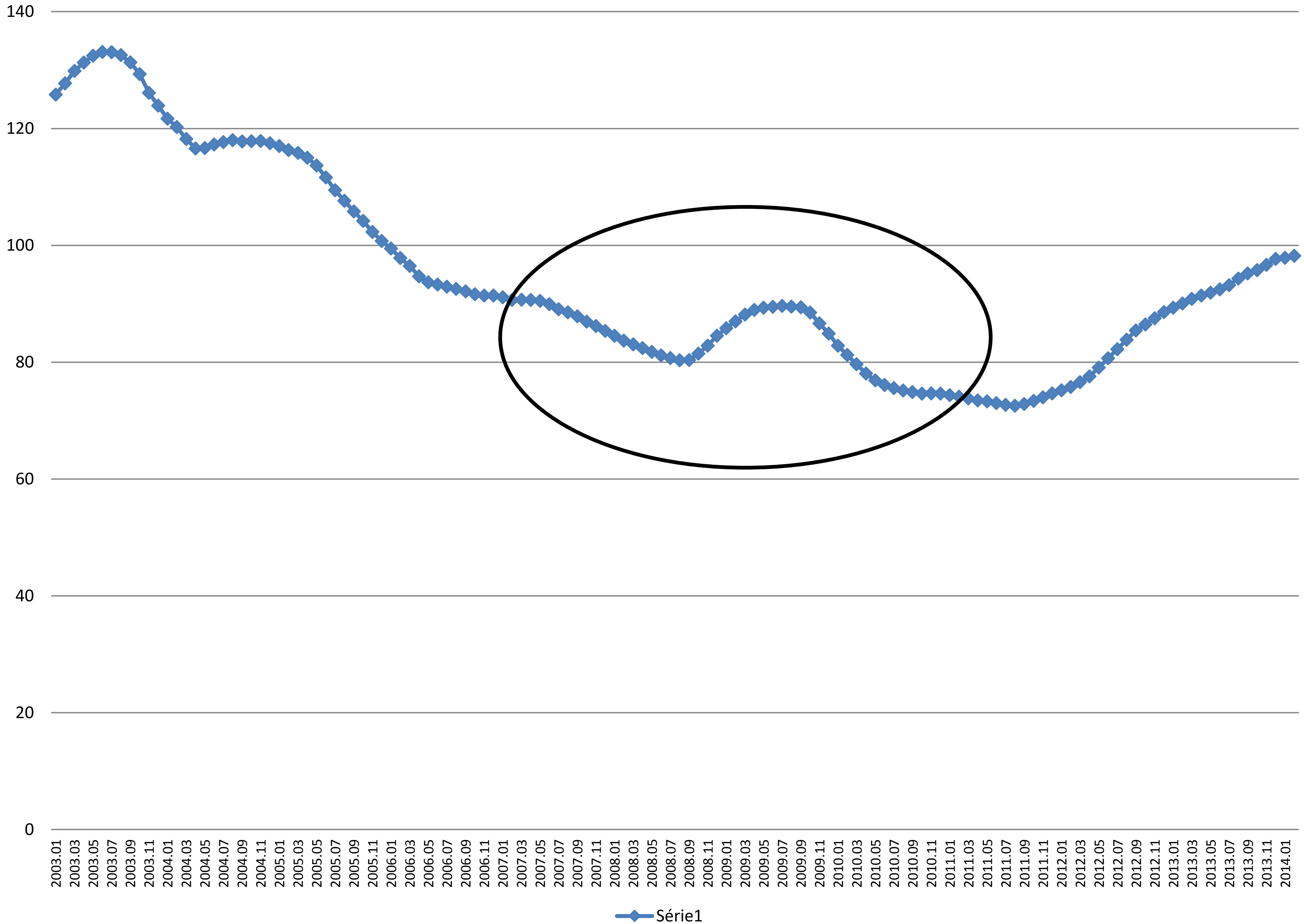


Table II – Evolution of Unit Labor Costs by Sector of Activity and Technological Intensity (2000-2009)

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
AGRO		**100**	**77,25**	**65,29**	**61,92**	**71,28**	**103,84**	**112,99**	**108,51**	**105,87**	**108,10**
Indústria		**100**	**88,82**	**80,60**	**79,86**	**78,12**	**104,69**	**114,99**	**130,96**	**142,71**	**147,51**
IE	Extrativa	100	102,90	89,52	93,56	95,29	95,39	96,12	129,18	112,43	200,18
Transformação		**100**	**87,02**	**80,43**	**79,93**	**77,93**	**106,72**	**117,39**	**134,08**	**144,93**	**142,60**
IAIT	Alta	100	94,74	90,72	94,40	93,73	114,93	125,86	144,34	145,57	140,19
IMAIT	Média-Alta	100	92,11	86,94	90,44	79,66	115,85	117,09	131,44	134,51	137,64
IMBIT	Média-Baixa	100	84,57	75,21	64,34	64,43	84,92	106,32	117,32	145,62	123,94
IBIT	Baixa	100	83,05	75,96	76,20	79,06	106,59	119,32	139,15	149,16	153,47
SIUP	SIUP	100	90,66	74,98	63,77	57,40	75,13	85,45	91,67	109,30	114,37
CC	Construção	100	91,66	80,69	83,23	83,52	110,72	123,85	136,08	159,83	188,83
Serviços		**100**	**86,42**	**79,29**	**78,48**	**82,73**	**101,41**	**116,68**	**123,33**	**129,75**	**130,21**
SAIC	Alta	100	85,89	75,60	74,94	80,97	97,13	113,53	118,27	126,76	124,45
SMIC	Média	100	84,78	76,68	76,42	81,42	100,11	116,90	127,23	136,97	140,78
SBIC	Baixa	100	87,68	84,48	83,36	85,31	107,12	120,56	128,57	132,08	135,07
Total		**100**	**86,56**	**78,90**	**77,89**	**80,96**	**102,35**	**116,16**	**124,43**	**131,58**	**133,36**

Note: SCN New, 2000=100 (Em US$)

Inconsistent Developmentalism

- Dilema Between competiteveness and inflation.
  - The restauration of external competitiveness will require a Strong adjustment in the real exchange rate, what would produce a Strong increase in the rate of inflation.
  - The solution would be to adopt a contractionary fiscal policy.
  - The problem is that this would contradict the internal logic of the “desarollo hacia dentro” model, since the same was based in income distribution policies and expansion of banking credit by state-owned banks, provoking a huge fiscal expansion.
  - The political solution for the dilema was to allow real exchange rate to appreciate in order to keep inflation at a low level.

New Macroeconomic Matrix (2012-2014)

- An Attempt to increase growth rate of real GDP by means of adjustment in some relative prices (nominal exchange rate and interest rate).
  - Reduction of short term interest rate due to a de facto flexibilization (although not De Jure) of ITR .
  - Devaluation of nominal Exchange rate (At the end of 2013, real exchange rate returned to the level prevailing at December of 2005)

Ops, It didn´t work ...

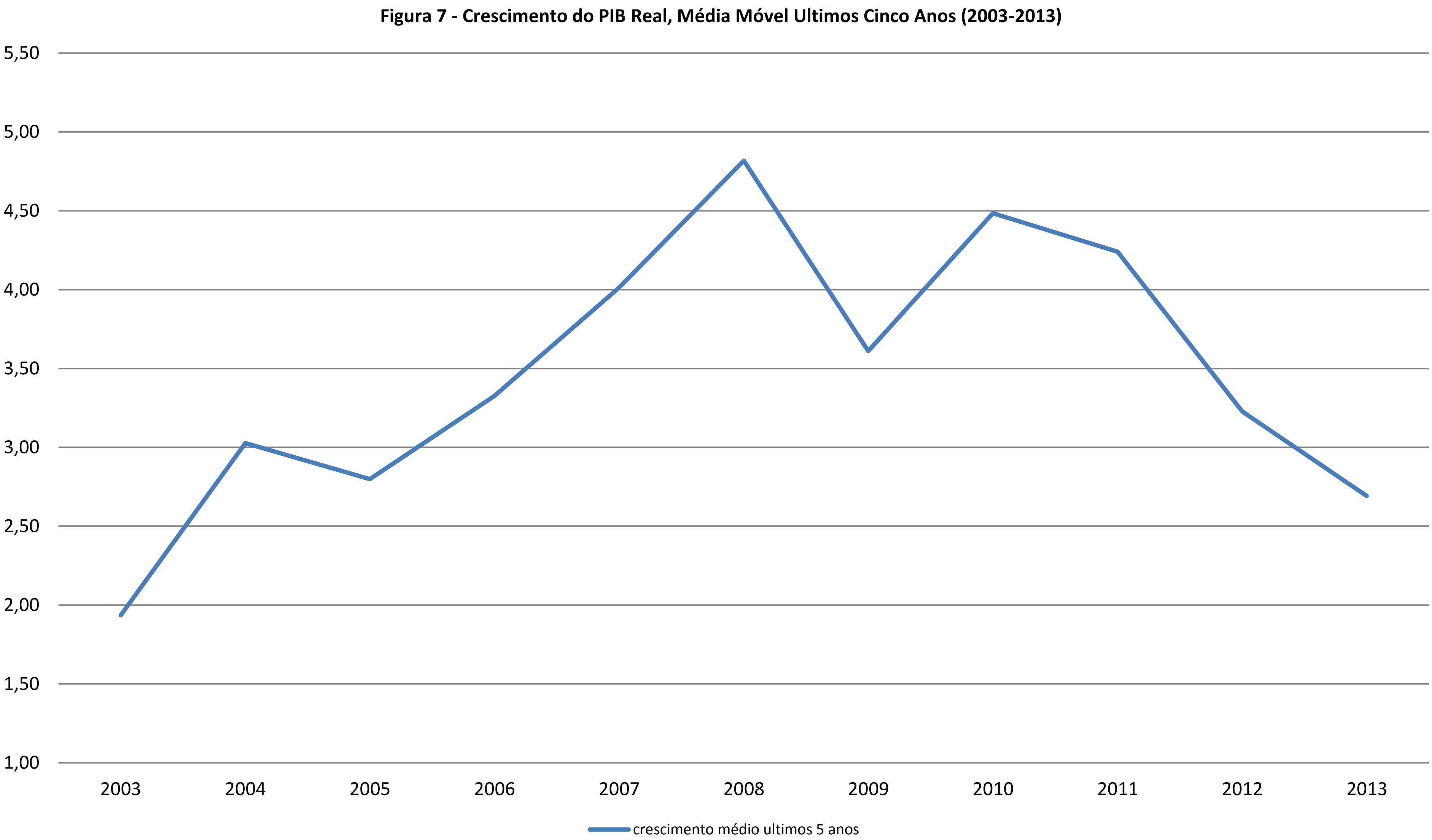
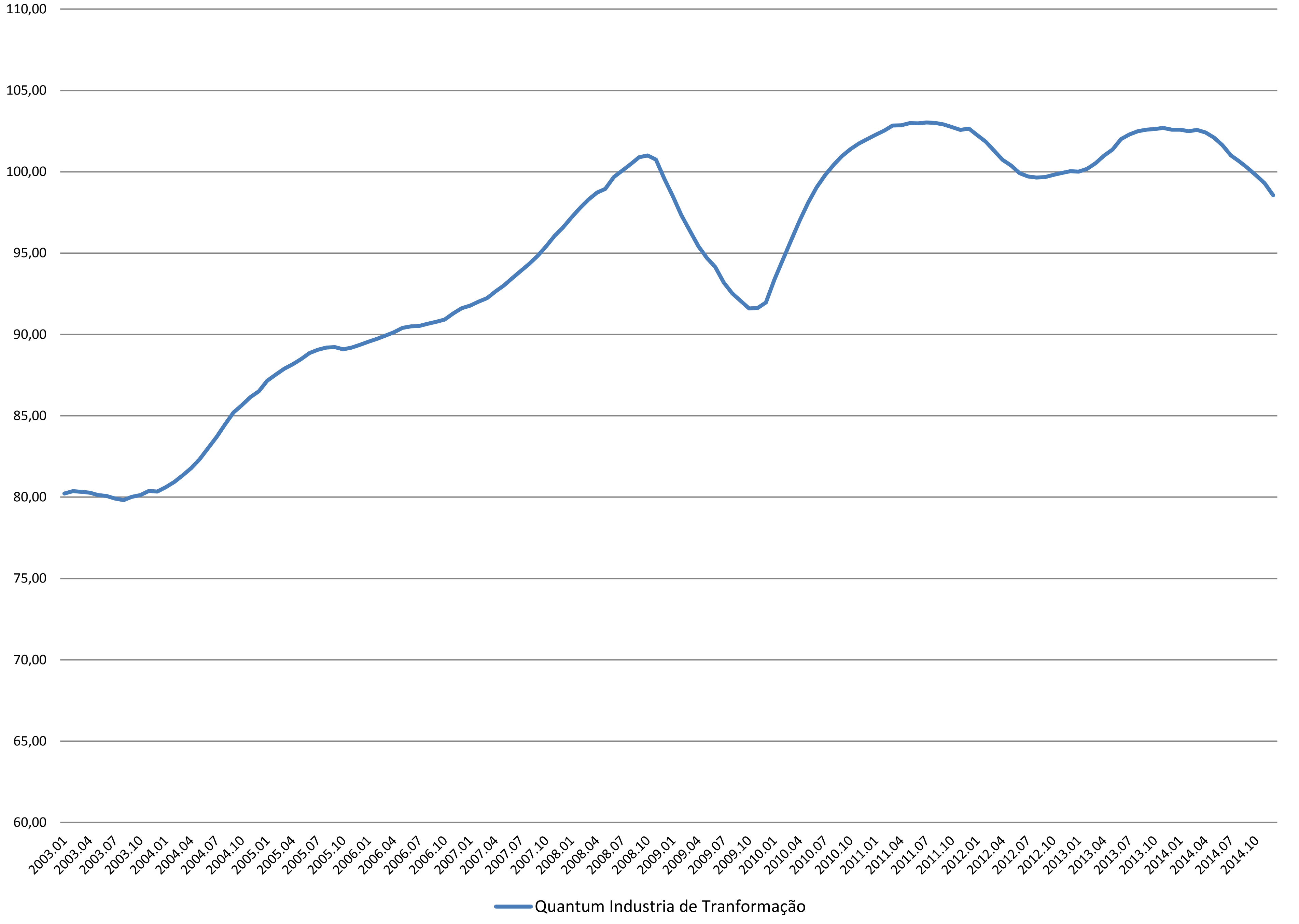


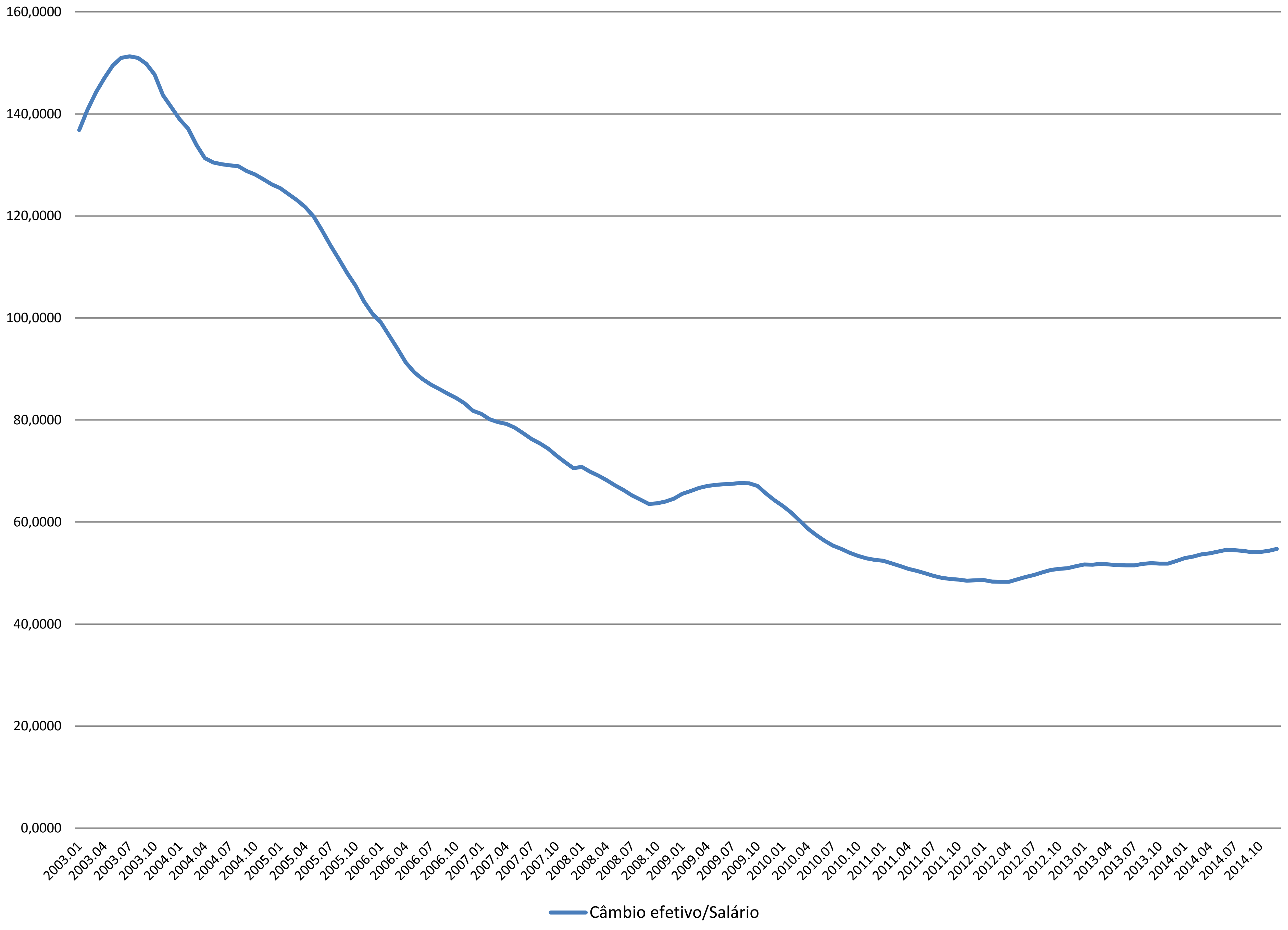
Figura 8 - Produção Física da Indústria de Transformação, Média Móvel Últimos 12 Meses (Jan.2003-Dez.2014)



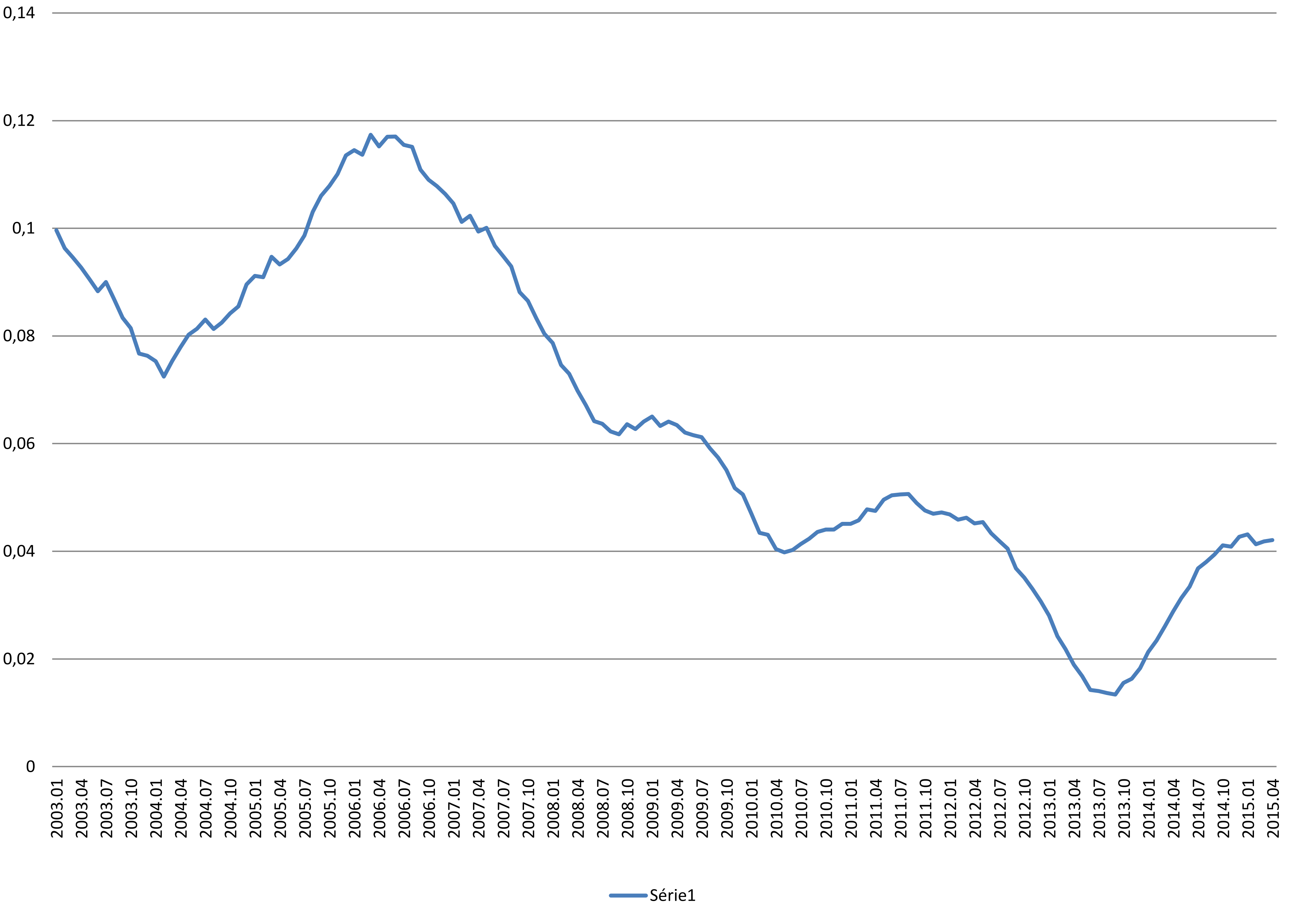
Why New Matriz Was a Failure?

- Incomplete Adjustment of Real Exchange Rate
  - Overvaluation occured between 2005 and 2010 was too deep and only partially reversed between 2012 and 2013.
  - “Randon Walk Effect”: Inflation acceleration obliged government to give up the task of exchange rate adjustment before the job was completed.
    - Entrepreneurs lost confidence on the capacity of government to make a consistent economic policy.
- Transitory nature of low interest rates.

Figura 9 - Relação Câmbio Efetivo/Salário, Média Móvel dos Últimos 12 Meses (Jan.2003-Dez.2014)



Taxa Selic/Over Real (Jan.2003-Abr.2015)



New Macroeconomic Policy Regime

- Fiscal Policy: regime of target for government current account.
  - Adoption of the "Golden Rule".
  - Gradual increase, begining with 0,5% of GDP in 2017 until reach 5% of GDP in 2027.
  - Mix of controlling the growth of consumption expenditures of government (not investment) and increase in Taxes (taxes for commodities exports, income tax over distributed profits, CPMF).
  - It does not necessarily requeire a fiscal contraction, that is, a reduction in the level of government expenditures, but a change in the composition of the expenditures.
  - What matters is to open a policy space for increase public investment.

New Macroeconomic Policy Regime

- Exchange rate policy: Adoption of a mixed system of Exchange rate bands with crawling peg.
  - Central Bank set a roof and a floor for nominal exchange rate, announced them publicaly and the make a pre-programmed devaluation of both during a certain period of time.
    - $\hat{e} = \hat{\theta}_T + \left(\hat{p}_d - \hat{p}_f\right)$
  - *Gradual* adjustment of exchange rate.
    - Objective is to avoid the resource of maxidevaluation of nominal exchange rate, a commom feature of economic policy during military government.
  - Temporary controls to capital outflows.
    - To avoid that the expectation of devaluation of nominal exchange rate induced a disordered outflow of capitals from the counstry, what woulc provoque a maxidevaluation of exchange rate.

New Macroeconomic Policy Regime

- Monetary Policy: Medium-Run Inflation Targets.
  - The convergence period should be set in 3 years.
    - Required to acomodate the inflationary pressures that came from exchange rate devaluation .
  - Gradual reduction of tolerance interval

Table III – Center and Roof of Medium Run ITR

	2017	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Target	5,00%	5,00%	5,00%	4,50%	4,50%	4,50%	4%	4%	4%
Roof	6,5%	6,25%	6,00%	5,5%	5,5%	5,5%	5%	5%	5%

New Macroeconomic Policy Regime

- Wage Policy: “Wage Moderation”
  - New rule for minimum wage growth: Target inflation plus moving average of real growth of per-capita income in the last 5 years.
  - Introduction of a T.I.P (Tax Income Policy): Firms that allowed wages to increase aboce some negoatiated level with the government and Unions would pay an extra Income Tax in order to compensate the rest of the society for the negative externality generated by then.

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