The Fiscal and Monetary History of Brazil: 1960–2016

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August 24th, 2018
Figure: Real GDP per capita and inflation

Two stabilization plans:
- PAEG in 1964: 100% to 20% annual inflation.
- Real Plan in 1994: 5000% to 8% annual inflation.
Average fiscal deficits are roughly the same across sub-periods.

Fiscal deficits + transfers are higher in the first sub-periods.
- Investment by SOEs explain the higher transfers in 1970–1980.
- After 1982, transfers are zero by construction (CBB statistics using PSBR).
Introduction

We show...

• High-inflation period is characterized by:
  • fiscal deficits,
  • passive monetary policy,
  • constraints to debt financing.

• Transition to low inflation showed improvements in all those instances, but was followed by moderate growth.

• Recent period: old threats remain.
Distinct features of the Brazilian hyperinflation:

- persistence,
- magnitude.

Explanations:

- weak institutions that provided indirect access to money printing,
- indexation with passive monetary policy (created inflation inertia).
1960-1980: macroeconomic instability with high growth
Pre 1964

- Before 1964:
  - Surge of public banks and SOEs.

- 1964: Military coup and a stabilization plan (PAEG).

- PAEG:
  - Fiscal reform:
    - New value added taxes.
    - Increased tax revenues from 15% to 23% of GDP.
  - Financial reform:
    - Central Bank of Brazil.
    - Indexation and development of markets for government debt securities.
PAEG

**Figure:** Inflation, seigniorage, and monetary base

PAEG

**Figure:** Inflation, seigniorage, and monetary base

- 1964: PAEG (fiscal adjustment).
- 1973: 1st Oil Crisis (fiscal deterioration) - higher investment by SOEs.
- 1973: first Oil Crisis.
1981-1994: macroeconomic instability with no growth
**Balance of payment crisis**

**Figure:** Public debt

- **SOEs in 1981:**
  - 72% of external debt.
  - 45% of domestic debt.
1982: Brazil approached IMF. 7 letters of intent in the following years.
Nationalization of the external debt (at CBB).
November 1993: agreement with creditors (Brady Plan).
March 1994: securitization of defaulted debt.
Increasing importance of “orthodox” measures such as active fiscal and monetary policies vis-à-vis price and wage freezes.
Cruzado Plan
February 1986

- Froze prices and wages.
- Changed currency (cut 3 zeros).
- Pegged exchange rate to the dollar.
- Forced interest rate conversion.
- No effective fiscal policy, but:
  - Created the National Treasury Secretariat.
  - Ended automatic financing to Bank of Brazil (Conta Movimento).
- In 10 months, back to double-digit monthly inflation.
- It was followed by:
  - Bresser Plan (July 1987).
  - New Constitution (October 1988).
  - Summer Plan (January 1989).
Collor I and II

• Collor I (March 1990).
  • froze prices and wages.
  • froze 80% of private assets for 18 months.
  • started privatizations.

• Collor II (January 1991).
  • froze prices.
  • fixed the exchange rate.
  • opened up the economy.
  • fired public servants (partially reinstated in court).
  • closed public services (many reopened).
  • kept privatizations.
The confiscation of assets was probably the most controversial measure adopted by the stabilization plans.
Real Plan: planned in advance

- 1993:
  - Program for Immediate Action (June 1993).
  - Debt renegotiation of states and municipalities (November 1993).
    - tax revenues as guarantees (March 1993).
  - New tax on financial intermediation (March 1993).

- 1994:
  - Increased tax rates of income tax and others (January 1994).
  - Emergency Social Fund (March 1994).
    - Suspended part of earmarked revenues of subnational govts.
  - Real Plan:
    - February 1994: URV, parallel currency pegged to the dollar.

- In parallel: agreement on external debt renegotiation.
Figure: Seigniorage and primary surplus

- June 1993: Program for Immediate Action.
**Real Plan: Budget Accounting (% of GDP)**

\[
\begin{align*}
\theta_t^r - \theta_{t-1}^r + \xi_t \left( \theta_t^* - \theta_{t-1}^* \right) + m_t - m_{t-1} + m_{t-1} \left( 1 - \frac{1}{g_t \pi_t} \right) = & \\
\theta_{t-1}^r \left( \frac{r_{t-1}}{g_t} - 1 \right) + \xi_t \theta_{t-1}^* + \frac{r_{t-1}^*}{g_t \pi_t^W} - 1 + d_t = & \\
\end{align*}
\]

<table>
<thead>
<tr>
<th></th>
<th>May/92</th>
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<tbody>
<tr>
<td>Domestic debt</td>
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<tr>
<td>External debt</td>
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<td>Real monetary base</td>
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- May/94–May/95: primary surpluses compensated for drop in seigniorage revenues.
- May/95–May/96: domestic debt compensated for drop in primary surpluses.
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- May/94–May/95: primary surpluses compensated for drop in seigniorage revenues.
- May/95–May/96: domestic debt compensated for drop in primary surpluses.
1995-2016: macroeconomic stability with moderate growth
1995-2016: SUMMARY

• Following the Real Plan:
  • Reforms in the banking sector (PROES and PROER).
  • Privatizations (e.g., Telebras and Vale).
  • 1999: Inflation Target Regime.

• Confidence crisis during elections in 2002.

• Most recently:
  • Fiscal deterioration.
  • Use of SOEs and public banks to hide deficits.
  • Deep recession in 2015/16.
Figure: Foreign reserves and net debt
FISCAL DETERIORATION IN RECENT YEARS

- Revenues around 36% of GDP.
**Summary: Government Budget Constraint (% of GDP)**

\[
\theta_t^r - \theta_{t-1}^r + \xi_t (\theta^*_t - \theta^*_{t-1}) + m_t - m_{t-1} + m_{t-1} \left(1 - \frac{1}{g_t \pi_t}\right) =
\]

\[
\theta_{t-1}^r \left(\frac{r_{t-1}}{g_t} - 1\right) + \xi_t \theta_{t-1}^* \left(\frac{r^*_{t-1}}{g_t \pi_W} - 1\right) + \frac{d_t}{m_{t-1}} + \frac{T_t}{m_{t-1}}
\]

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<td>(1) domestic debt</td>
<td>0.0</td>
<td>0.8</td>
<td>-0.2</td>
<td>0.5</td>
<td>-0.2</td>
<td>1.1</td>
<td>3.4</td>
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<tr>
<td>(2) external debt</td>
<td>0.0</td>
<td>0.0</td>
<td>2.6</td>
<td>-2.0</td>
<td>0.5</td>
<td>-2.4</td>
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<tr>
<td>(5) int. dom. debt</td>
<td>0.1</td>
<td>0.1</td>
<td>-1.1</td>
<td>-1.2</td>
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<td>(6) int. ext. debt</td>
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<tr>
<td>(7) primary deficit</td>
<td>2.9</td>
<td>1.0</td>
<td>0.2</td>
<td>0.9</td>
<td>-2.2</td>
<td>-2.8</td>
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<tr>
<td>(8) transfers</td>
<td>0.7</td>
<td>1.4</td>
<td>4.7</td>
<td>0.4</td>
<td>0.0</td>
<td>0.0</td>
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<td>= (1) + (2) + (3) + (4) - (5) - (6) - (7)</td>
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<td>(9) = (7) + (8)</td>
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IPC-Fipe

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\]

- **Domestic debt**
- **External debt**
- **Real monetary base**
- **Seigniorage**
- **Domestic interest**
- **External interest**
- **Primary deficit**
- **Transfers (residual)**

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The Brazilian Hyperinflation
Weak institutions

- Pre–1945: Bank of Brazil (BB) and National Treasury.
  - No clear distinction between fiscal and monetary authorities.
  - SUMOC: first step towards establishing a Central Bank.
- 1964–1988: Central Bank of Brazil (CBB) was established.
  - National Monetary Council (CMN), with increasing size.
  - BB kept indirect access to the printing press.
  - CBB managed both domestic (1986) and external public debt.
- After 1994:
  - Real Plan: smaller CMN council (from 21 to 3 members).
  - Greater autonomy of CBB.
  - Fiscal and monetary rules.
**Figure:** Transfers from CBB to Bank of Brazil or Treasury

- Average variation between 1965 and 1987:
  - BB accounts: 2.8% of GDP.
  - monetary base: 2.6% of GDP.
Maílson da Nóbrega (2005):

“... in 1983, some newly elected state governors realized that their banks could overdraw cash from their accounts at Bank of Brazil (which held the reserves). It would take more than a month for the Central Bank of Brazil to realize that through its financial statements. There was no system that could provide that information in real time. The first one was the governor of Rio de Janeiro. The governors of Goiás, Santa Catarina, and Paraíba followed. The governor of Paraíba, Wilson Braga, was kind enough to let me know about his overdraft, given that we are friends and from the same state. I warned him that it was very serious and that he should not do that. But he replied to me saying that he needed to pay public employees and that the overdraft had already occurred.”
Inflation inertia with passive monetary policy

- Widespread indexation of wages, prices, and exchange rate to past inflation.

- Passive monetary policy: Taylor coefficient ($\phi$) near unit.

$$i_t = r_t^* + \phi (\pi_t^e - \pi_t^*) + u_t$$

- Both ingredients would have created inflation inertia:
  - Agents expect higher inflation, increase demand for money, and that increase in demand is satisfied by the (passive) monetary authority.
  - Problem: depends on a sequence of positive inflationary shocks.
Effects of Hyperinflation on the Public Budget

- Seignorage: important as a revenue source, but too low to justify such large inflation.

- Reversed Olivera-Tanzi effect (Bacha, 1993): public revenues were very well (daily) indexed to past inflation, while government outlays were not. Postponement of disbursements greatly reduced their real value.
Conclusion

- PAEG and Real Plan: end of high inflation with improvement in primary balance and increase in debt financing.
  - Real Plan: temporary fiscal deterioration months after its implementation.
  - Credible fiscal reforms were important for the success of stabilization plans.

- Mirrored puzzles:
  - Why so high inflation with so little seigniorage before the Real Plan (1982–1994)?
  - Why hyperinflation fell with the Real Plan, despite the fiscal deterioration afterwards?

- Possible explanations:
  - Improvement of weak institutions.
  - End of inflation inertia, with active monetary policy and end of indexation.
APPENDIX
**Figure:** Monetary base and inflation

![Graph showing monetary base and inflation over time](image)

- Blue line: Money growth rate
- Red line: Inflation rate

**Axes:**
- Y-axis: Percentage
- X-axis: Year (1960 to 2010)

The graph indicates a correlation between monetary base growth and inflation, with significant peaks during the 1980s and 1990s.
**Figure:** Debt maturity

- **registered external debt**
- **gross external debt**
- **federal government + CBB debt securities**

YEARS

**Figure:** Indexation of government domestic debt securities

The chart shows the percentage of different types of government debt securities indexed to various factors over time from 1970 to 2010. The factors include:

- Inflation (IGP-M or IGP-DI)
- Nominal bonds
- Zero-duration bonds
- Exchange rate
- Other

The chart illustrates how these factors have varied over time, with specific emphasis on the period from 1985 to 2000.
**Figure:** Government domestic debt securities

- **PERCENTAGE OF GDP**
- **SHARE (%)**

- debt securities
- debt securities out of CBB
- share of securities at CBB (right axis)

Yearly data from 1965 to 2015.