



# **Eighth UNCTAD Debt Management Conference**

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## **Optimal Uses of Risk Management Techniques**

by

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# Risk Management of the Brazilian Public Debt

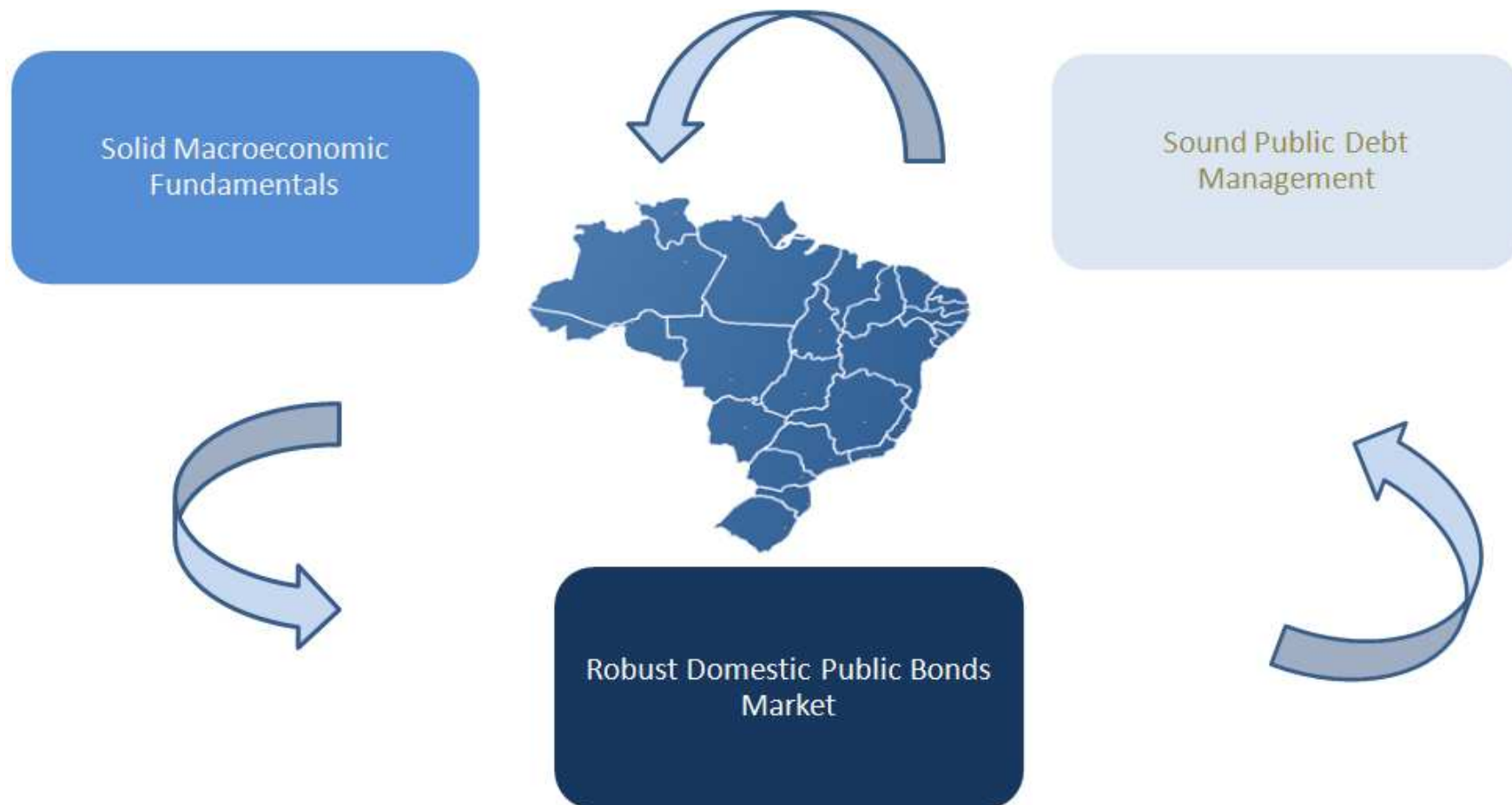
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## Summary

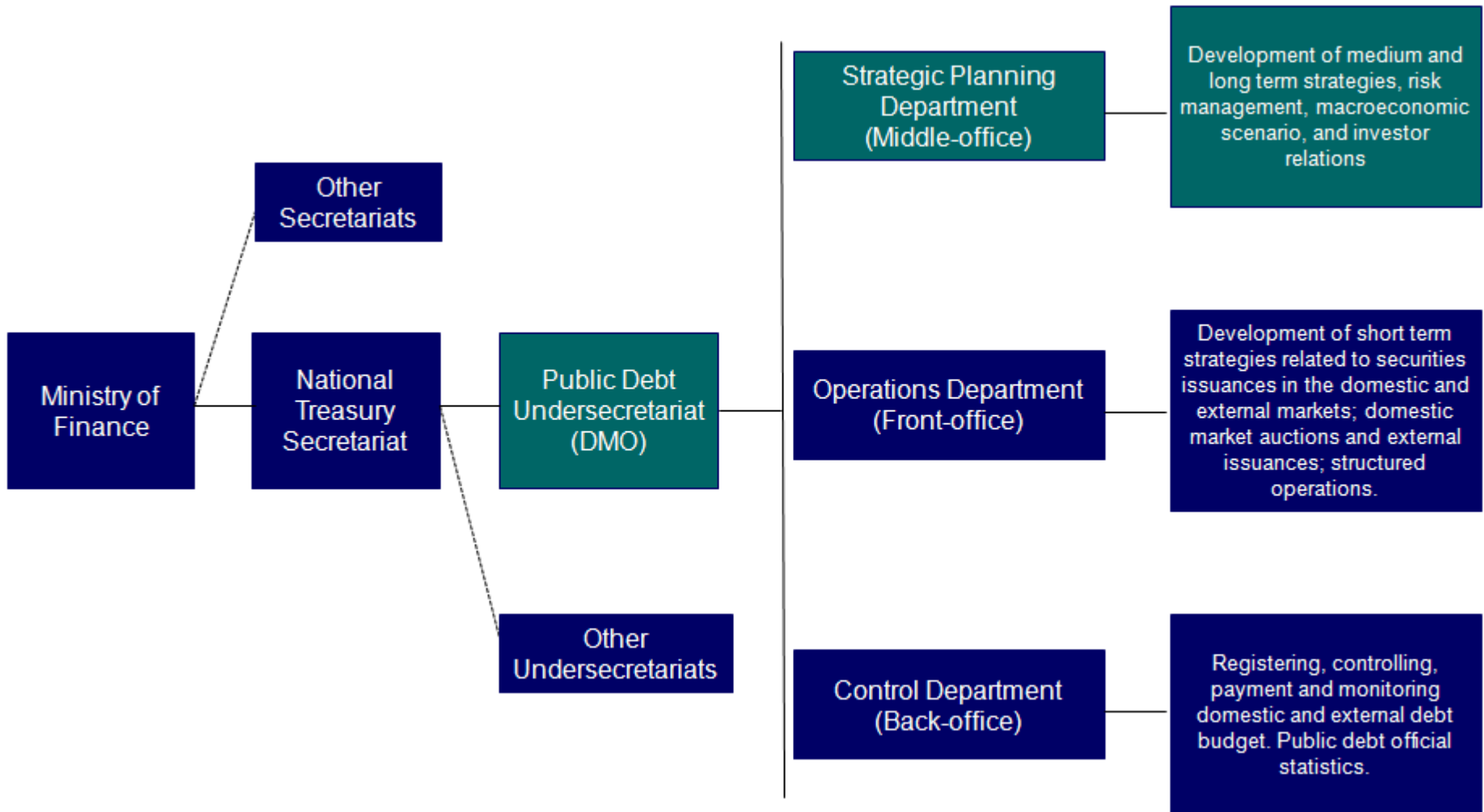
- **Institutional structure and macroeconomic environment**
- **Developing risk management framework in Brazil**
- **Strategic planning process**
  - Long term benchmark
  - Transition strategy
  - Short term strategy (Annual Borrowing Plan)
- **Some lessons from the Brazilian experience**

## Macroeconomic Stability, Sound Debt Management and Robust Domestic Market

- An efficient strategic planning of debt depends on important inter-related issues



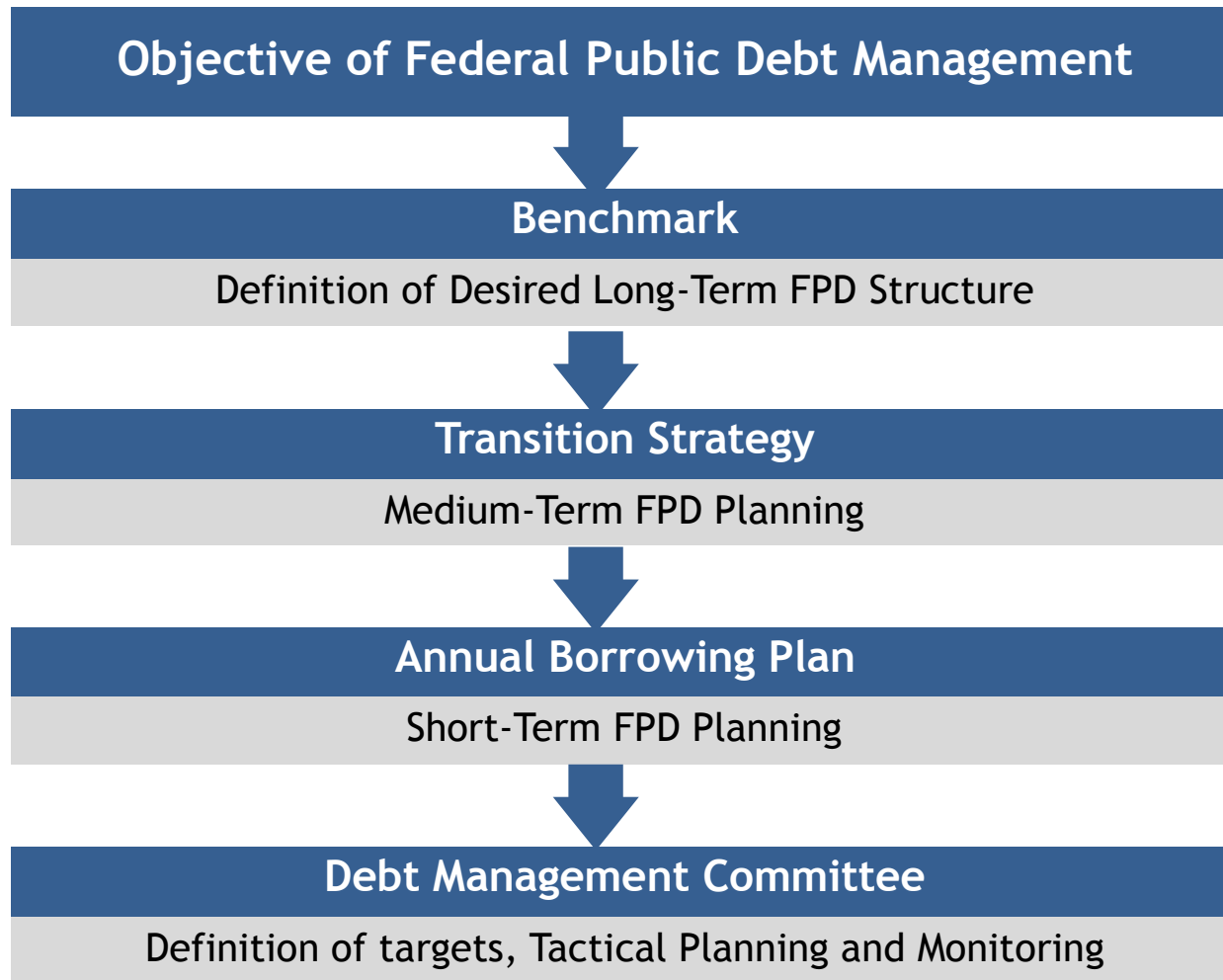
## Brazilian National Treasury Institutional Structure



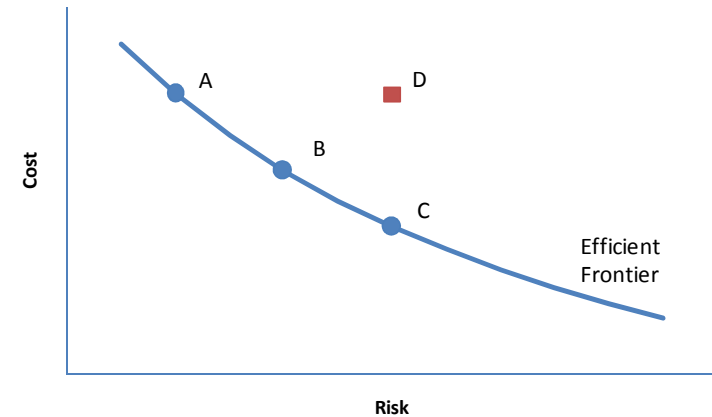
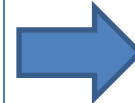
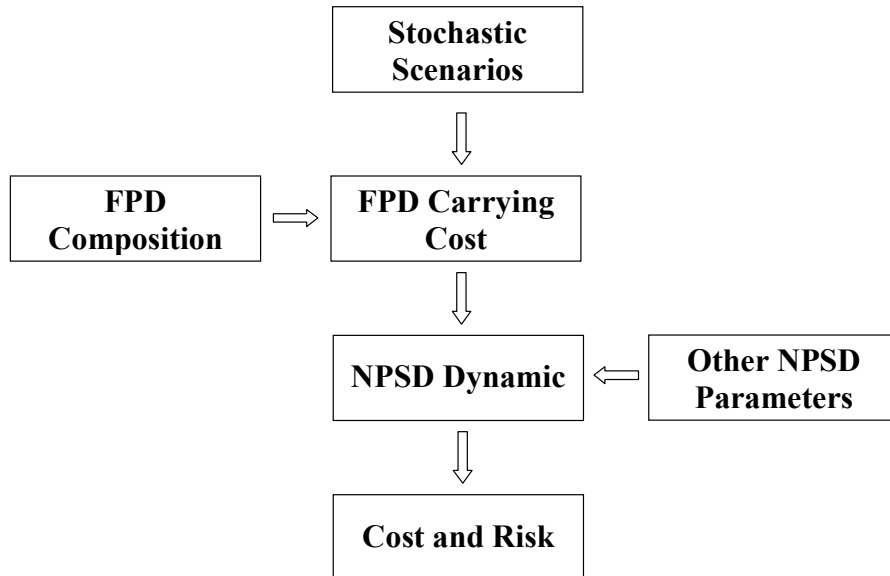
# Developing a risk management framework in Brazil

- First phase
  - the National Treasury defined qualitative guidelines for debt management based on both a government's asset and liability management (ALM) model and some traditional metrics to evaluate risks of debt portfolio, like debt composition, average maturity and percentage of debt maturing in the short term;
- Second phase
  - more conservative approaches for risk evaluation were introduced to simulate the financial consequences of shocks on key variables and help define the guidelines of debt management;
  - but the short-term horizon still being the center of analysis;
- Third phase
  - the benchmark model was introduced as a guide to discuss questions such as
    - where we want to go in the long term;
    - how to express the tradeoffs between costs and risks; and
    - how to measure the debt manager performance. Hence, the time horizon was expanded to cover medium and long term strategies.

## Strategic planning process of Federal Public Debt



## Benchmark model: Schematic Summary



- Optimal portfolio selection
  - Financing efficient frontier
  - Trade-offs performed by the model
  - Measuring performance of debt management
- To determine the optimal portfolio (benchmark) it is necessary to choose the risk appetite of the government (in last instance, the taxpayers aversion to risk)



## Benchmark: Some methodological issues

- **Looking for the best indicator: Gross or Net Debt? Nominal or Real Debt?**
  - The Brazilian Government considers the Public Sector Net Debt (PSND) to GDP the relevant indicator to be monitored to define the optimum debt composition.
  - This indicator includes all assets and liabilities of the Federal Government, Central Bank, States and Municipalities, having the private sector as counterpart
- **Why was this indicator chosen?**
  - Its importance for Government decisions regarding economic policy, particularly tax burden level and primary balance, being mentioned in several documents, as the IMF Memorandum and the annex of fiscal risks of the annual Budgetary Guidelines Law;
  - International organisms and financing analysts define the **PSND to GDP as the Brazilian main fiscal sustainability indicator**;
  - **If the Federal Public Debt - FPD increases but the PSND/GDP is maintained stable or in a decrease path (as it happened during recent years) the market is expected to feel comfortable with the public debt sustainability, not being afraid of financing the government**;
  - To minimize Federal Public Debt to GDP risks do not necessarily mean minimizing PSND/GDP risks, as the isolated analysis of FPD would ignore the structure of the federal government assets. However, the results have not presented relevant differences, given the strong influence of the GDP on both.

## Some aspects to be considered before choose the benchmark

- The focus on trade-off between cost and risk could lead to the use of traditional financing analysis instruments.
- However there are government peculiar factors that impede the indiscriminate use of the financing theory for the public debt analysis:
  - The government could have more complex objectives than simply reduce costs conditioned to prudent levels of financial risk;
  - Indicators related to cash flow and impacts on the annual budget have implications on the optimum portfolio choice; and
  - The size and the nature of the bonds issuance and the composition of the public debt allow government to have a great influence on the prices and, though, on the cost and risk of its financing strategy.
- Brazil, as the majority of the countries, declares as objective of the public debt management the minimization of the long-term costs considering prudent levels of risk; it is also concerned with the secondary market improvement, the enhancement of the investors base and the development of the term structure interest rate (reference for public and private bonds).

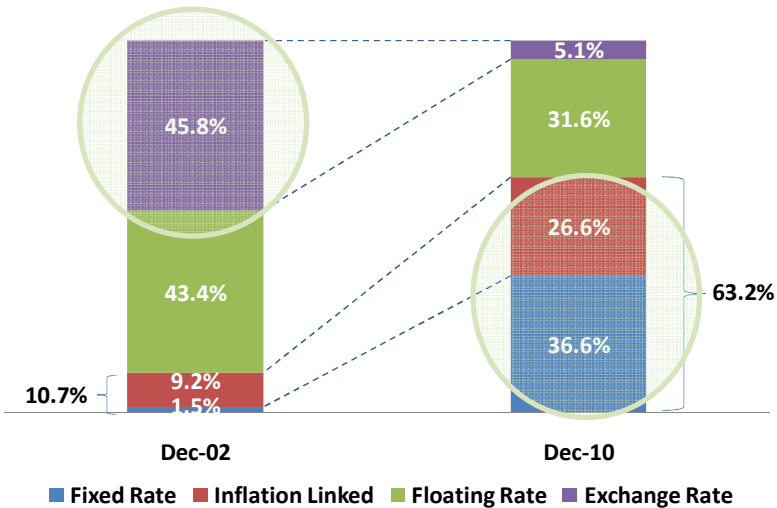
## Indicative Intervals of Desired Long-Term Composition

	Lower limit	Upper limit
Fixed rate	40%	50%
Inflation-linked	30%	35%
Floating rate	10%	20%
Exchange rate	5%	10%

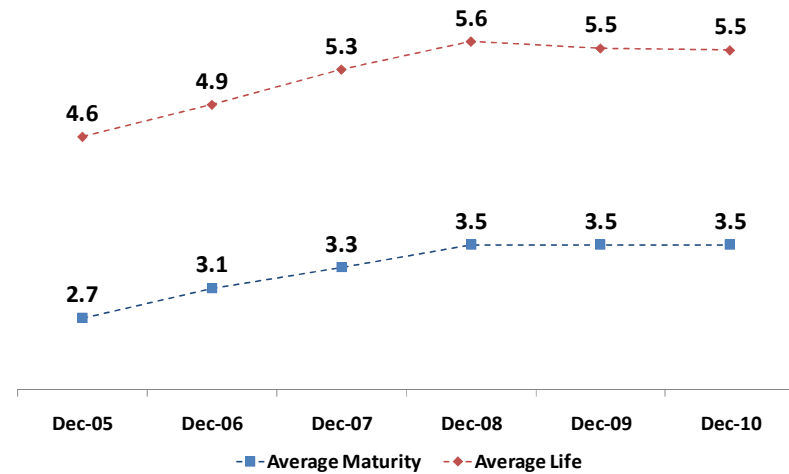
- Gradual substitution of floating rate and exchange rate-indexed bonds by fixed rate and inflation-linked securities
- Lengthening of the average maturity (duration) and average life of FPD

## Improvements of the Federal Public Debt Profile

**Debt composition**

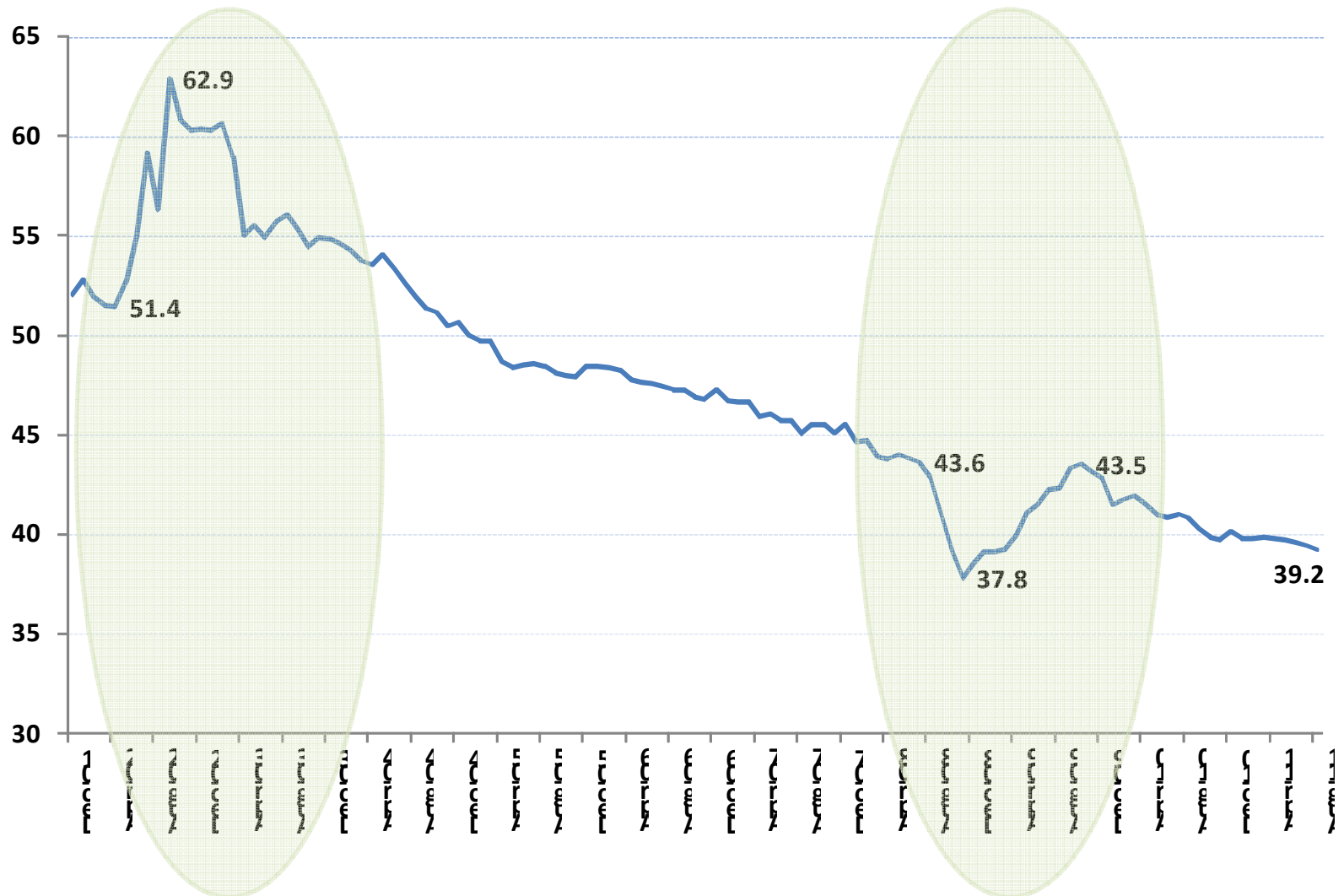


**Time to maturity**



- Challenges to achieve the Benchmark portfolio : Change of Brazilian Investors Culture
  - Habituated to daily liquidity
  - Preference for bonds linked to overnight rate
  - Risk Averse

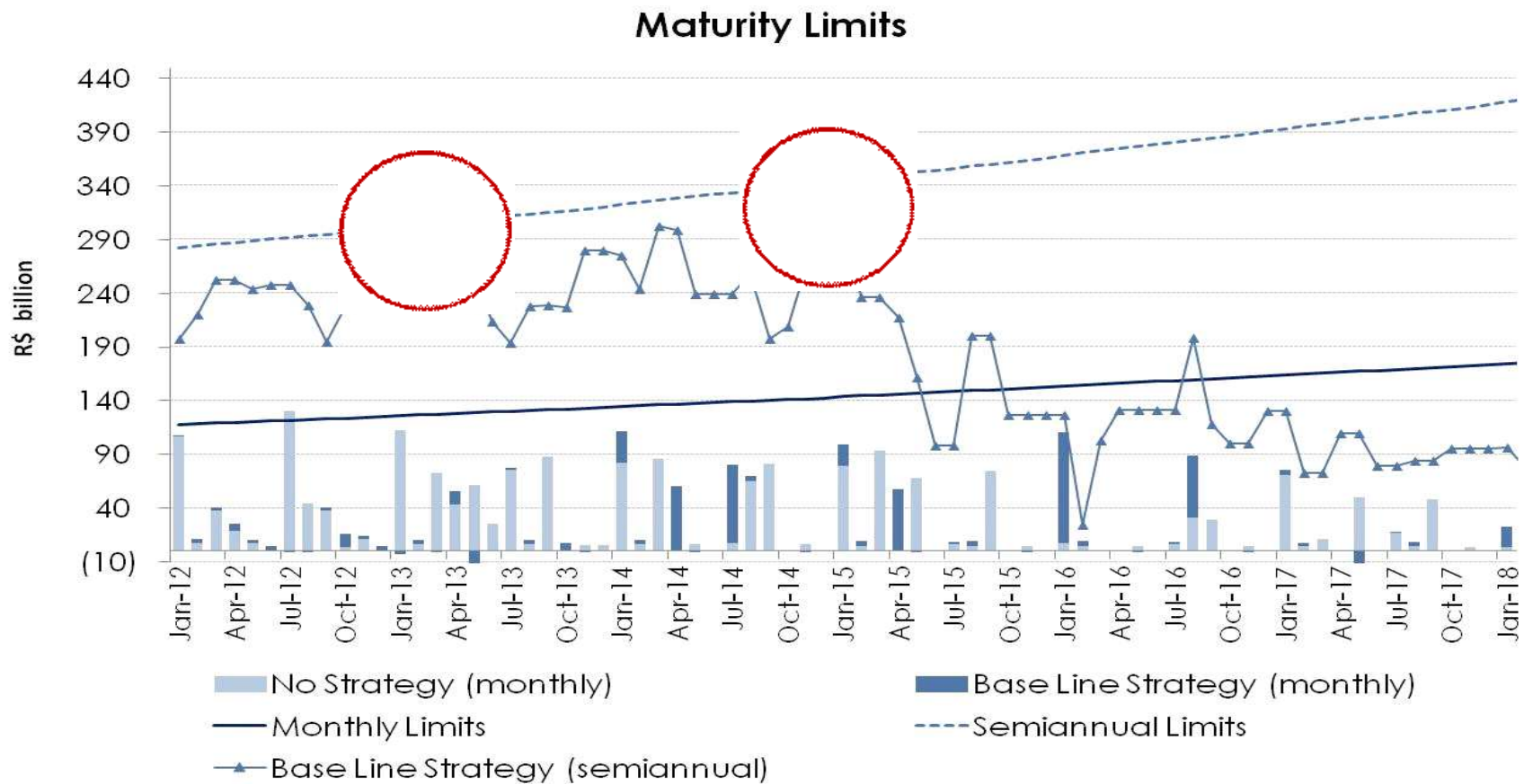
# Debt composition and shocks on Public Sector Net Debt



## Transition strategy

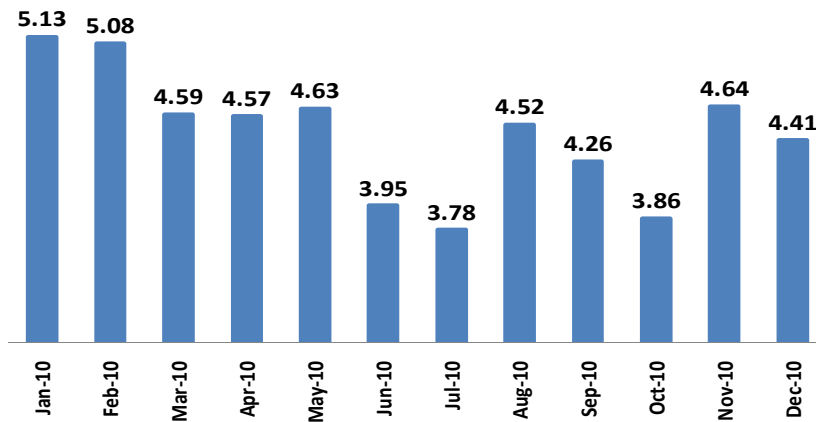
- The transition strategy establish a bridge between short and long term
- It seeks to evaluate risks, restrictions and opportunities for FPD management over a period of time longer than the current fiscal year
- It seeks to develop a plan that will lead FPD to the profile indicated by benchmark, with due consideration of the current debt composition and its maturity structure
  - what should be the path and the speed of convergence of the debt portfolio to the benchmark
  - what may constitute short and medium-term constraints? (particularly, macroeconomic environment and development of local financial markets)
- **Assessing alternative strategies**
  - Scenarios
  - Borrowing needs
  - Issuance plan
  - Quantitative simulations
  - Outputs and choice of strategies

## Risks to be Monitored: Refinancing Risk Prudential limits (cap) to debt maturity

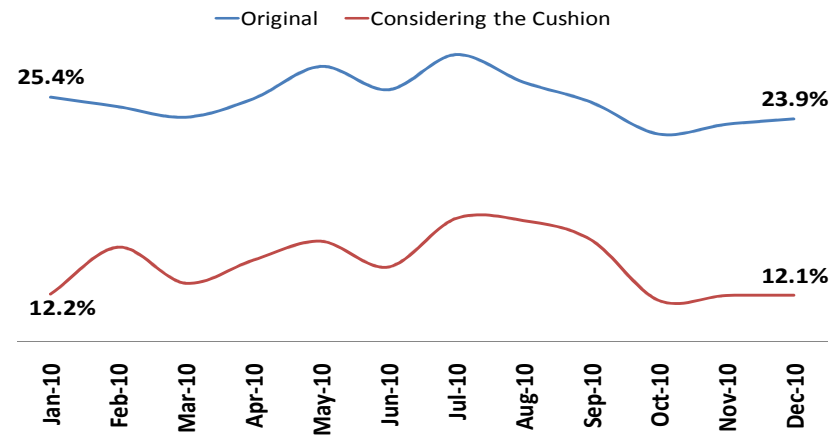


## Risks to be Monitored: Refinancing Risk Liquidity Cushion

**Number of Months covered by the Cushion**



**Share of FPD Maturing in 12 Months**



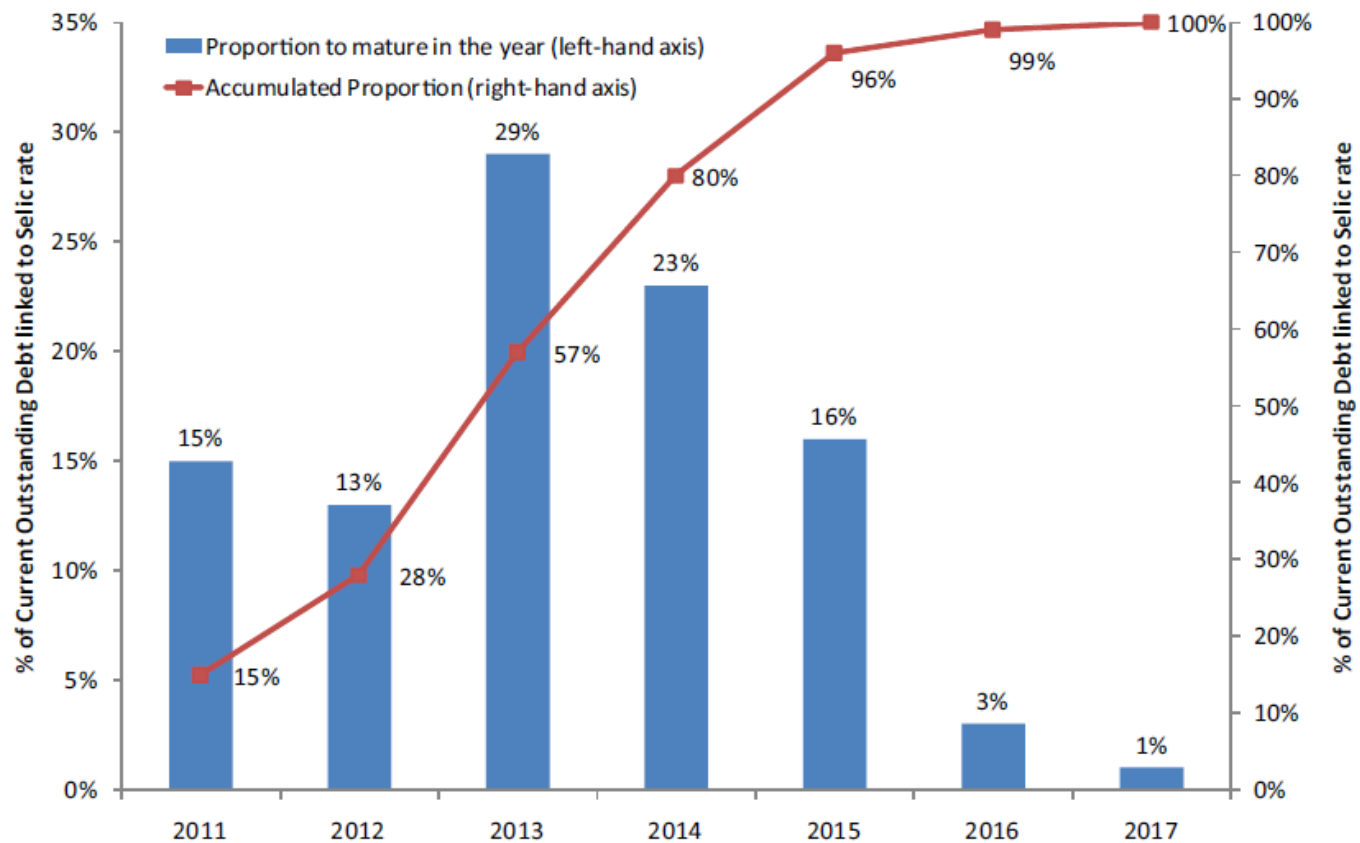
- **Liquidity Cushion Management**

- Strategy adopted since 1998 of permanently maintaining resources equivalent to at least 3 months of FPD maturities in the "cushion".
- Resources are used solely to repay the maturing debt, reducing refinancing risk and reassuring that the Treasury is prepared to face adverse market conditions
- Also allows the public debt managers to stabilize the secondary market at moments of high volatility



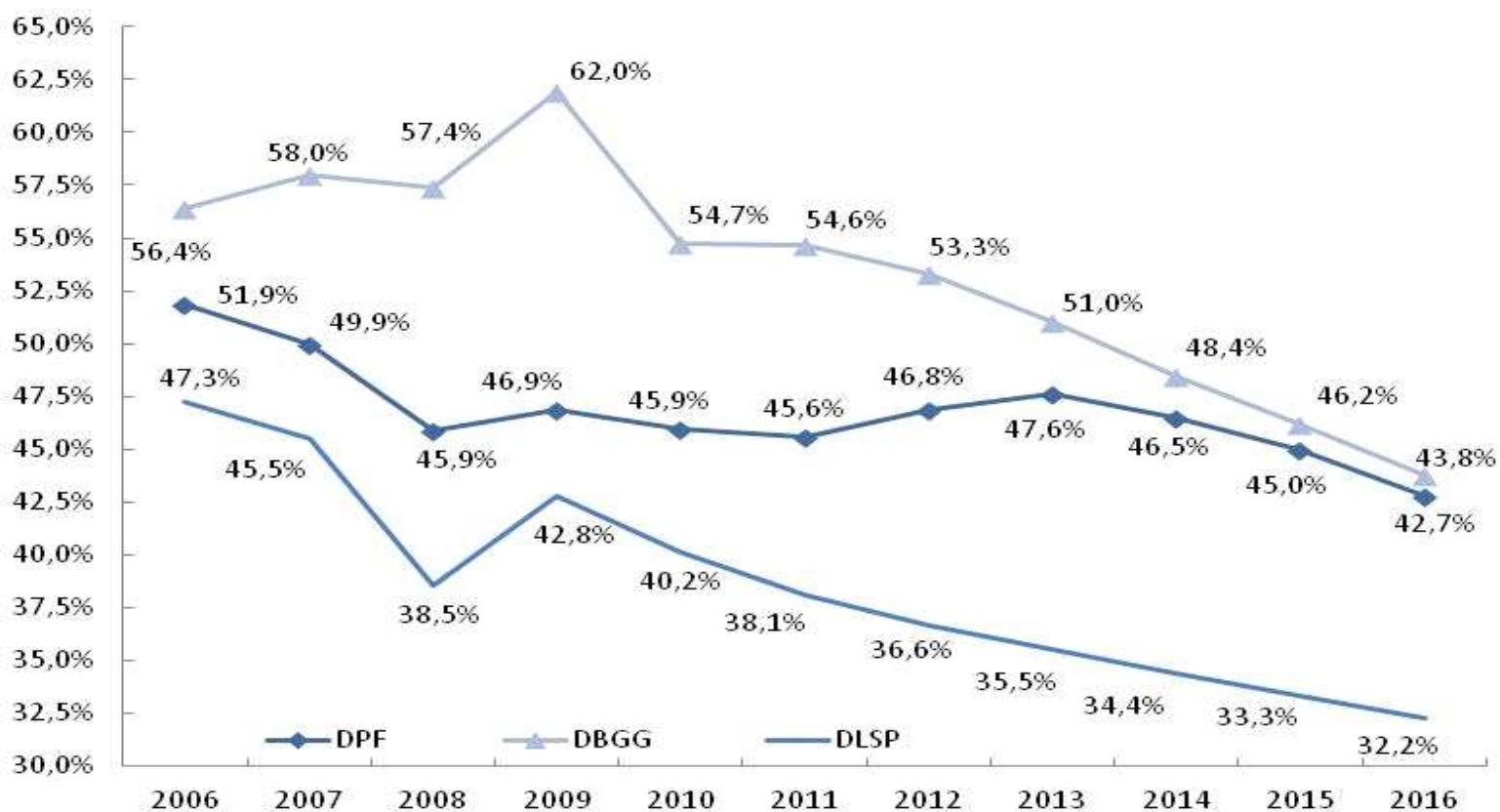
## 2013-2015: an opportunity window

### Distribution of Floating Rate Debt Maturities



## Transition strategy and debt sustainability

**Gross (DBGG) and Net (DLSP) Debt Expectations – 2011 to 2016**



# Annual Borrowing Plan

- Objective of public debt management
  - The objective defined for Federal Public Debt management is that of efficiently meeting federal government borrowing requirements at the lowest possible long-term financing cost, while ensuring prudent risk levels. Additionally, the aim is to the smooth operation of the Brazilian government securities market.
- Guidelines of public debt management
  - Lengthening of average maturities and reduction in the percentage of FPD maturing in 12 months;
  - Gradual substitution of floating rate securities by fixed rate or inflation-linked securities;
  - Improvement in the External Federal Public Debt - EFPD profile through issuances of benchmark securities, the anticipated buyback program and structured operations;
  - Incentives to the development of the forward interest rate structure for federal public securities on the domestic and external markets; and
  - Expansion of the investor base.

## 2011 ABP's targets

Indicators	2010	Limits for 2011	
		Minimum	Maximum
<b>Stock of FPD (R\$ bilhões)</b>			
	1,694.0	1,800.0	1,930.0
<b>Profile (%)</b>			
Fixed Rate	36.6	36.0	40.0
Inflation-Linked	26.6	26.0	29.0
Floating Rate	31.6	28.0	33.0
Exchange Rate	5.1	4.0	6.0
<b>Maturity Structure</b>			
Average maturity (years)	3.5	3.5	3.7
% Maturing in 12 months	23.9	21.0	25.0

## Some lessons from the Brazilian experience

- Debt management requires a well defined (long term) objective and clear guidelines
- Special attention should be given to governance aspects;
- The design of strategies involves determining and monitoring a benchmark (long term target), a transition strategy (medium term plan) and a short-term financing strategy (ABP)
- The benchmark model is a result of a long process of institutional advances and of a simultaneous development of the technical framework;
  - No model is a panacea, an answer to all questions;
- Changes in debt usually are gradual so that some tradeoffs may be overcome in tandem with macroeconomic and bond market development;
- The definition of targets involves balancing transparency and flexibility to react to shifting in market conditions, without shifting the long term goal;
- The ability of the government to implement a debt strategy depends on the degree of development of the debt market, as well as the size of the investor base.