Integrated Public Debt System – SID

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Summary

1. Motivation
2. Functionalities
3. Main Tasks
4. Debt management – Number of instruments
5. Capillarity
6. Integration-External systems
7. User-friendliness
8. Current stage and next steps
9. Results, Costs and Lessons
1 - Motivation – Why are we building our own system?

Operational Risk

Scattered Information:
- 4 structured systems
- 5 Access databases
- 130 spreadsheets

Previous scenario

Lack of management

Loss of integrity

Data Redundancy
2 - Functionalities

i. Recording transactions;

ii. Controlling;

iii. Reporting;

iv. Analytical;

v. Budgetary;

vi. Projections
### 3 – Main Tasks: Integrated Debt System (SID) and the Federal Public Debt (FPD)

<table>
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<th>Main Functions for FPD</th>
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<td>1 – Recording all FPD transactions;</td>
<td>8 – Federal Debt Profile</td>
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<td>2 – Calculates the Outstanding FPD</td>
<td>9 – Strategic Planning – &gt; Macro Scenario + Strategy</td>
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<td>3 – Generates Payments Flows – Important for Buyback – domestic and external</td>
<td>10 - Estimates for FPD -&gt; Maturity and Stock</td>
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<td>4 - Average Maturity – all flows expressed in PV</td>
<td>11 - Inputs for main debt related publications</td>
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<td>5 - Average Life (Average Term to Maturity—ATM) of FPD</td>
<td>12 - Budgetary information</td>
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<td>6 - Average cost of the FPD</td>
<td>13 – Bonds Pricing</td>
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<td>7 - FPD maturing in 12 months and any other time frame</td>
<td>14 - Auctions</td>
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3.1 - Framework and Technology

A. Some guidelines

- Compatibility with Free Software
- Independence from the supplier
- Independence from the Operational System

B. Technology

- Web-based*

*Architecture:
Application server: JBOSS
Language: JAVA
Framework: JCupim/Demoiselle 2.0/Angular
4 - Debt (FPD) management volume (Number of series of bonds/contracts)

- **External Debt**: (70)
  - Securities: (25)
  - Contractual: (45)
    - (a) Fixed Rate: (20)
    - (b) Inflation Linked: (179)
    - (c) Exchange Rate: (193)
    - (d) Floating-Rate: (2,690)

- **Domestic Debt**: (3,630)
  - Contractual: (548)

# of Debt Instruments (as of Feb-17): (3,700)
5- Capillarity – Who ´d use SID?

Middle – 4 people
Estimates:
Maturity Profile + Structure
Macro Scenario

Front – 4 people
Security Pricing
Auctions

IT -Developers
12 people

Back - 30 people
SID intensive
6- Integration with other systems – public and private

E - SIAFI
• Federal Gov’t System of Financial Programming

D - SISBACEN
• Central Bank System

C - SELIC
• Special System of Settlement and Custody

B - CETIP
• Custody and Settlement

A - BM&F Bovespa
• Stock Exchange
7 - User-friendliness

A. Reporting Tools:
   - Predefined reports
     - generate most used outputs.
     - a great deal of filters are available
   - Possibility to export reports to commonly used applications such as MS Excel spreadsheets;
     - Example: Monthly Debt Report

B. Operational Tools:
   - Web Access Interface using Internet Browsers;
   - Digital Certificate for user login and different access levels
   - Warnings for specifics situations by e-mail;
8 - Current stage and next steps

I. **Current stage**

- Guarantees Project – Managing Contingent Liabilities
- Integration with SIAFI – SID
- Remote access - Internet

II. **Next steps**

- Strategic Planning of the Federal Public Debt
  - Curve Analysis and Market Conditions;
  - Risk Management;
- Subnational Debt will also be controlled by SID
  - Analytical Tools and Risk Measures
9 – Results, Costs and Lessons

RESULTS

i. Database consolidation of the Federal Public Debt, removing redundancy and occasional inconsistencies;
   a) Gain in quality of statistical analysis of the Public Debt => better analysis of the Federal Public Debt;
   b) Disabled older systems, in addition to several worksheets and fragmented databases;

ii. Improving the quality of budgetary reporting and the transparency of government financial accounts.

iii. Full integration with the government's accounting system - SIAFI.

COSTS – Not so comparable with other alternatives

• BRL 12.2 mn or USD 4.0 mn. - Development and maintenance up to 2018
• BRL 4.3 mn/ year or USD 1.37 mn / year – hosting

LESSONS

i. Work hard on the TERM OF REFERENCE, if you are going to build on your own

ii. Project Manager is key

iii. Clear definition of rolls

iv. Full time dedication of Project Owners
THANK YOU

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ANNEX— Why are we building our own system?
**SID Timeline**

- **Sep/05**: Beginning of Project
- **May/06**: Phase I External Debt
- **Jan/11**: Phase II Domestic Debt
- **Mar/13**: Enf of Phase I
- **Dec/16**: Guarantees Project Integration SIAFI
- **Sep/16**: Analytical/Budgetary Estimates
- **Jan/15**: End of Phase II