

# Sovereign Debt Structure for Crisis Prevention

Eduardo Borensztein, Marcos Chamon, Olivier Jeanne,  
Paolo Mauro, and Jeromin Zettelmeyer

---

INTERNATIONAL MONETARY FUND

Washington DC

2004

# Contents

<b>Preface</b>	<b>vii</b>
<b>I Overview</b>	<b>1</b>
Two Views on the Status Quo	1
Debt Structures with Existing Instruments: Emerging Market Countries Versus Advanced Economies	3
Ideas for Sovereigns from the Corporate Context: Explicit Seniority	3
Expanding the Set of Instruments: Real Indexation	4
Toward Better Sovereign Debt Structures: A Road Map	5
<b>II Facts on Existing Public Debt Structures</b>	<b>7</b>
Public Debt in Emerging Market Countries Versus Advanced Economies	7
Sovereign Versus Corporate Liability Structures	11
<b>III Rendering Debt Structures Less Crisis Prone with Existing Instruments</b>	<b>14</b>
Problems with the Status Quo	14
Determinants of Government Debt Structure	15
Policy Implications	19
<b>IV Explicit Seniority in Privately Held Sovereign Debt</b>	<b>23</b>
Economic Role of Seniority	23
Approaches and Obstacles in Implementing Explicit Seniority	25
Conclusions	28
<b>V Expanding the Set of Instruments: Indexation to Real Variables</b>	<b>29</b>
Benefits of Indexation to Real Variables	29
Real Variables Beyond the Control of the Country's Authorities	31
Real Variables Partially Within the Control of the Country's Authorities	38
Obstacles for Variables Partly Within the Control of the Government	42
Steps to Foster Acceptance	43
Real Indexation: Which Variables for Which Countries?	44
<b>VI Past and Future of Innovation in Sovereign Borrowing</b>	<b>46</b>
Financial Innovation in Sovereign Borrowing: A Haphazard Process	46
Road Maps for Future Innovation	48
<b>VII Conclusions</b>	<b>49</b>

<b>Appendix Investors' Attitudes Toward Growth-Linked and Other Innovative Financial Instruments for Sovereign Borrowers: Results of a Survey</b>	<b>51</b>
<b>References</b>	<b>56</b>
<b>Boxes</b>	
1. Debt Structure and Hedging	17
2. Creating Domestic Markets for Long-Term Domestic-Currency Bonds: Country Experiences	20
3. Developing International Markets for Bonds in Emerging Market Currencies	21
4. Enforcing Contractual Seniority	26
5. Effect on Borrowing Costs of a Switch to First-in-Time Seniority	27
6. Proposals for Indexation to Real Variables	30
7. Benefits of GDP Indexation for Emerging Markets and Advanced Economies	41
8. Previous Examples of Indexation to Real Variables	43
<b>Text Tables</b>	
1. External Sovereign Debt: Currency Composition, 1980–2003	10
2. Structure of Domestically Issued Government Bonds at End-2001	10
3. Structure of Total (Domestic and External) Central Government Debt, 2001	12
4. Percentage Share of the Top Three Exports in Total Exports, 1990–99	32
5. Top Five Natural Disasters by Percent of GDP Lost	34
6. Small Countries: Types of Disasters, 1975–2002	36
7. Output Growth and Trading Partners' Growth, 1970–2002	38
8. Introduction of Inflation-Indexed Securities by Sovereigns	47
<b>Text Figures</b>	
1. Advanced Economies and Emerging Market Countries: Public Debt Stocks and Debt Composition	7
2. Structure of External Public Debt in Emerging Market Countries	8
3. Emerging Market Countries: Fixed- Versus Floating-Rate Sovereign Bond Issues	8
4. Structure of Internationally Issued Debt: Maturity Composition	9
5. Emerging Market Countries: Structure of Public Debt	11
6. All Developing Countries: Public Sector Bonds and Loans Issued in International Markets	13
7. Recent Crises: Impact of Exchange Rate Depreciation on Public Debt-to-GDP Ratio	15
8. Share of Long-Term Local-Currency Bonds in Total Government Domestic Bonds and Inflation History	16
9. Share of Long-Term Local-Currency Bonds and Financial Liberalization	18
10. Institutional Quality and Domestically Issued Long-Term Local-Currency Debt	19
11. Interest Savings over the Economic Cycle	40