Value Recovery Instruments in Sovereign Debt Restructuring

Ugo Panizza

Geneva Graduate Institute & CEPR

International Economic Association
Dealing with Debt Working Group
Learning from recent Debt Deals/Proposing useful Innovations
31 October 2023

Outline

- Contingent bonds and VRIs
- VRIs in theory and practice
- Recent examples
  - Suriname
  - Zambia

Outline

- Contingent bonds and VRIs
- VRIs in theory and practice
- Recent examples
  - Suriname
  - Zambia

Why we like State Contingent bonds Example:

- Assume that Ruritania's capacity to pay is

Capacity to pay	Probability
110+ε	25%
100	50%
90-ε	25%

- Further assume that:
  - There are **very large** cost of default for the country
  - The country always tries to repay (deviation from Eaton and Gersovitz)
  - In case of default, capacity to pay goes down by 20%

Why we like State Contingent bonds Example:

Capacity to pay	Probability
110+ε	25%
100	50%
90-ε	25%

- Expected value of plain vanilla zero coupon with face value of 100:

$$E(V) = 0.75 \times 100 + 0.25 \times (90 \times 0.8) = 93$$

- Expected value of a contingent ZC bond that pays 110 in the "good" state of the world, 100 in the "normal" state of the world and 90 in the "bad" state of the world

$$E(V) = 0.25 \times 110 + 0.5 \times 100 + 0.25 \times 90 = 100$$

Why we like State Contingent bonds

Example:

Capacity to pay	Probability
110+ε	25%
100	50%
90-ε	25%

$$E(V) = 0.75 \times 100 + 0.25 \times (90 \times 0.8) = 93$$
$$E(V) = 0.25 \times 110 + 0.5 \times 100 + 0.25 \times 90 = 100$$

- Investors clearly prefer and, if the cost of default is very high for the country, so does the country.
- We could even find a structure in which both the country and the investors are clearly better off (for instance 106.5, 96.5, 86.5 has an expected value of 96.5)
- It will all depend on bargaining power. However, with default costs, plain vanilla seems suboptimal

Outline

- Contingent bonds and VRIs
- VRIs in theory and practice
- Recent examples
  - Suriname
  - Zambia

Value Recovery Instruments

- Part of a debt restructuring process
- Allow participating creditors to benefit from upside developments in the debtor country
- Examples:
  - Payments linked to the price or discovery of commodities
  - GDP growth-linked instruments
- Two differences with respect to standard contingent bonds:
  - Sweetener as part of restructuring
    - In tranquil times bargaining power is different
  - The contingent bond in the example was symmetric, VRIs are normally asymmetric and focus on upside
    - In the example, most of the value is in the downside (and driven by default costs)

Value Recovery Instruments

- Maintaining the previous assumptions, there are 4 possible VRI

	1: Pay 90 in bad times and 100 in normal and good times	2: Pay 90 in bad and normal times and 110 in good times	3: Pay 100 in bad and normal times and 110 in good times	4:Pay 90 in bad times and 110 in normal and good times
V(Bad Time)	90	90	72	90
V(Normal Time)	100	90	100	80
V(Good Time)	100	110	110	110
E(V)	97.5	95	95.5	90
Prob. Default	0	0	25%	50%

- Under the assumption that the country wants to avoid default, the country's ranking is: (i) plain vanilla at 90; (ii) option 2; (iii) option 1; (iv) plain vanilla at 100; (v) option 3; and (vi) option 4
- The investor's ranking ii: (i) option 1; (ii) option 3; (iii) option 2; (iv) plain vanilla at 100; (v) option 4 or plain vanilla at 90.
- VRI is a good idea for the country, only if the baseline is the maximum payment in bad times

Argentina

- GDP indexed warrants were issued in June 2005
- Pricing models and consensus expectation pointed at a fair value of $0.04
- Six month after, Argentina sovereign yield had compressed by 400 bps (from 12000bps) and the detached warrant started trading on its own at about $0.02
- Argentina paid huge premium for the warrant

(for details, see Martin Guzman, 2020, “An Analysis of Argentina’s 2001 Default Resolution,” *Comparative Economic Studies*, 62: 701-738.)

The net effect is a lose-lose proposition in which the sovereign pays large amounts to speculators who have paid a low price and the creditors receive little benefit for having traded out a low-ball price. And because of the uncertainty of value, the sovereign debtor receives inadequate debt reduction in the negotiation

This recognizes the reality that the instruments, no matter how simple and standard, are very hard to value accurately given that they are issued by sovereigns; do not trade well; and risk wasting a great deal of money for the sovereign with little gain.

Mark H. Stumpf

Outline

- Contingent bonds and VRIs
- VRIs in theory and practice
- Recent examples
  - Suriname
  - Zambia

With Thanks (with no implications) to Theo Maret

Subscribe to Sovdebt Oddities

SOVEREIGN DEBT, INTERNATIONAL FINANCIAL ARCHITECTURE, SUSTAINABLE FINANCE

Suriname Bond Exchange

- The $675m old bonds is transformed into $650m of new bonds+$10 million expense bond
    - The haircut is estimated at 25% but because of massive past due interest face value is only 2.2% less than original face value
    - Face value matters for the refinancing risk
- On top of this, there is a VRI of $315 million (with high interest rates) linked to oil exploitation outcomes
- The restructured debt had high interest rates because Suriname had high default risk and no oil revenues
    - Now they are getting almost no haircut and oil revenues as a compensation

Zambia Debt restructuring

- Like in Suriname, PDI and protracted negotiations increased the size of the post default claims significantly: from $3bn to $3.8bn
- Haircut 18% but the face value of the new bonds ($3.1bn) bonds is higher than that of the old ones
- Also here there is a state contingent element with two triggers
  - One related to the Debt Carrying Capacity estimated by the IMF
  - One related to exports and revenues
- Meeting one of the two is enough to activate the upside scenario
- No downside
- If the upside scenario is activated (high likelihood), basically no debt relief

Value Recovery Instruments in Sovereign Debt Restructuring

Ugo Panizza

Geneva Graduate Institute & CEPR

International Economic Association
Dealing with Debt Working Group
Learning from recent Debt Deals/Proposing useful Innovations
31 October 2023