Debt Habits, Private Lending and Sovereign Debt

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May 4-5, 2013, Venezzia

Roadmap

1. Facts
2. Model in a nutshell
3. Comments (if within the 12' constraint)

Nota

Roberto Pancrazi <robpancr@gmail.com>   25 mars 2013 20:49
À : Franck Portier
Re: Conference in Venice 4-5/May/2013 - PROGRAM

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In my computation the optimal discussion time was 12 minutes and 28 seconds, but I thought it was not
smart to put it that way :)
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1. Facts

- ▶ Nice set of facts:
    - ▶ The sovereign risk premium and the private sector interest rates are highly correlated during times of crisis ...
    - ▶ ... but uncorrelated during normal times.
- ▶ Extensive analysis on the GIIPS
- ▶ A warning: Reinhart and Rogoff is a important reference for the paper ...
- ▶ I therefore recommend to double (triple) check the Excel spreadsheets containing the data.

2. In a nutshell

- Back to square 1 : Cristina Arellano Aer 2008
- Endowment in a small open economy

$$\omega = \begin{cases} \underline{\omega} & \text{with probability } 1/2 \\ \overline{\omega} & \text{with probability } 1/2 \end{cases}$$

- Access to international capital markets: one period bonds that pay $R_t > 1$
- Preferences $E \sum_{t=0}^{\infty} \beta^t u(c_t)$
- BC: $c_t + R_t B_t \leq \omega_t + B_{t+1}$
- No enforcement of debt contracts

2. In a nutshell

- Timing:
    - Enter the period with B
    - Observe ω
    - Decide to repay the debt or to default
    - Cost if default: autarky forever

- $$V^d(B, \omega) = E \sum_j \beta^j u(\omega_j)$$

- $$V^c(B, \omega) = \max_{B'} \left\{ u(\omega + B' - RB) + \beta EV(B', \omega') \right\}$$

- $$V(B', \omega') = max(V^d(B', \omega'), V^c(B', \omega'))$$
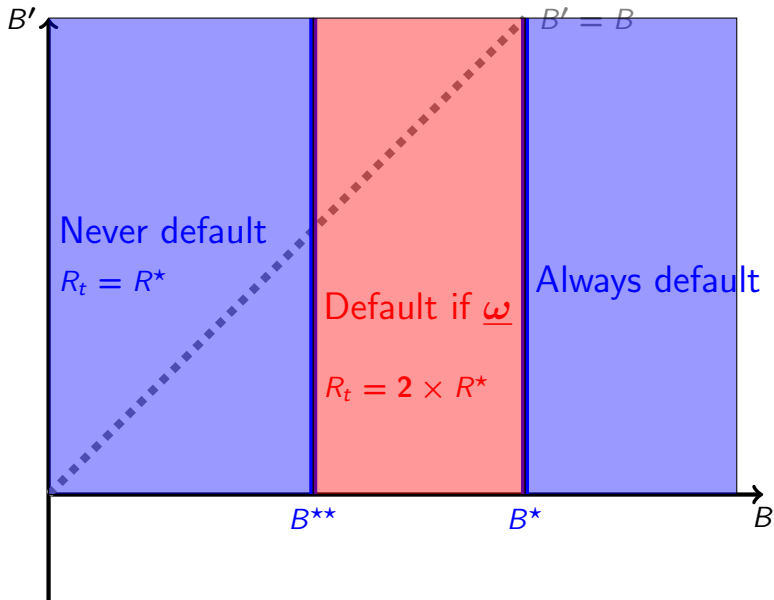
2. In a nutshell

- ▶ Incentives
    - ▶ Defaulting is good because you don't repay...
    - ▶ ... and bad because you then go to autarky: consumption is not smoothed anymore
    - ▶ Honoring the debt is good because it allows to borrow again in the future and smooth consumption (option value) ...
    - ▶ but it costs in terms of current utility because you do repay
- ▶ A country will default:
    - ▶ *Ceteris paribus* when B is large ...
    - ▶ .. and therefore there is a maximum amount of debt that a country can borrow, which is lower than the natural debt limit.
    - ▶ *Ceteris paribus* when ω is high? low?
    - ▶ With *iid* income,

    $$V^d(B, \underline{\omega}) - V^c B, \underline{\omega}) \lesseqgtr V^d(B, \overline{\omega}) - V^c B, \overline{\omega})$$

    - ▶ Are default occurring in good times or bad times? Proposition 3 is Arellano: in bad times.

2. In a nutshell

2. In a nutshell

► Now add the equation (not micro founded):

$$R^p = \underbrace{R}_{\text{moves in default zone}} \times \underbrace{\varphi(\mathbf{\Delta} B)}_{\text{always moves}}$$

3. Comments

- ▶ Very creative paper
- ▶ PSV model is an endowment economy ($h_t = h, k_t = k$)
- ▶ Working capital constraint has no allocative effect
- ▶ Calibration: Psychological discount rate is 50% (and risk free rate 2.58%). This is why debt is so large.
- ▶ Calibration, definitions are quite important in this setup
    - ▶ because the model has no strong theoretical predictions
    - ▶ because some concepts are not obvious, e.g. "crisis time"
- ▶ Hot topic (?): Fragmentated financial/banking markets in the Eurozone