Part IIB - International Economics
Additional Notes

Daniel Wales

University of Cambridge

Supervision 8: Gambling on Recovery

This note provides some further detail on the point raised in lectures about gambling on recovery. It starts by replicating the relevant lecture slides before adding additional detail.

Replication: Lecture 4 (Sovereign Debt Crises), Slide 31

Endogenous fiscal behavior

Smoothing Adjustment and Gambling on Recovery

It is reasonable to expect fiscal consolidation and adjustment to be less painful if they may be spread over many periods: to the extent that the government can roll over its debt, the government can smooth reduce spending or increase taxes progressively in time.

To appreciate the importance of smoothing adjustment over time, note that, if the country wanted (or was forced) to issue only riskless debt, it may well be possible that the amount of revenue from riskless debt issuance would be too low to sustain its current debt liabilities given its sustainable primary surplus.

$$\mathcal{B}_t > \mathcal{PS}_t^L + \max\{Q_t^{\text{Riskless}} \mathcal{B}_{t+1}^{\text{Riskless}}\}.$$

The government would default immediately, rather than undertaking fast deep consolidation to avoid default in the future.

Under the same circumstances, conditional on the information markets and international institutions have at time-t, the country may instead be able to sustain its current debt if it issues risky debt (since $\mathcal{B}_{t+1}^{\text{Risky}} > \mathcal{B}_{t+1}^{\text{Riskless}}$):

$$\mathcal{B}_t \leq \mathcal{PS}_t^L + \max\{Q_t^{\text{Risky}} \mathcal{B}_{t+1}^{\text{Risky}}\} = \mathcal{B}_t^{\text{Max}}.$$

To avoid current default, the country needs to issue debt that will not be sustainable in future recessions. The message is that avoiding default now may require some level of "gambling" on future recoveries. For for this to be possible, Q_t^{Risky} cannot be too low relative to Q_t^{Riskless}, e.g., the expected haircut and the probability of bad economic times ahead need to be small enough. Hence not only $\mathcal{B}_{t+1}^{\text{Risky}} > \mathcal{B}_{t+1}^{\text{Riskless}}$, but also $Q_t^{\text{Risky}} \mathcal{B}_{t+1}^{\text{Risky}} > Q_t^{\text{Riskless}} \mathcal{B}_{t+1}^{\text{Riskless}}$.

Further Detail

Consider a case similar to the problem set with finite debt thresholds in each state of nature, and assume that in the current period a level of existing debt, $\mathcal{B}_t$ is to be repaid, where $\mathcal{B}_t > \mathcal{PS}_t$, such that the government may not (is not willing to undergo costly structural adjustments to) repay all of their debt today.

Faced with this situation the government has two options: default, or issue additional debt maturing in period $t+1$ to repay current debt.

The ability to issue additional debt today, when unable to face structural adjustment may be seen as "smoothing" of the adjustment burden. Pay as much as you can today, $\mathcal{PS}_t$, and make additional repayments in the future $\mathcal{PS}_{t+1}, \mathcal{PS}_{t+2}, \cdots$ etc. Issuing additional debt, $\mathcal{B}_{t+1}$, allows these additional future payments to be used in the repayment of the current burden. (Of course a government instead choose to default instead today, if FN_t exceeds $\mathcal{PS}_t$, such that the home government is unwilling to fund debt payments by running a primary surplus).

Under specific circumstances this smoothing of the adjustment must arise through the issuance of risky debt. The literature refers to this as "gambling on a future recovery" if, in order to repay current debt the government has to issue risky debt today (i.e. the unique equilibrium is one of fundamental default). This arises when either of the inequalities are strict in:

$$\mathcal{PS}_t^L + \max\{Q_t^{\text{Risky}} \mathcal{B}_{t+1}^{\text{Risky}}\} \geq \mathcal{B}_t \geq \mathcal{PS}_t^L + \max\{Q_t^{\text{Riskless}} \mathcal{B}_{t+1}^{\text{Riskless}}\}.$$

such that higher revenue may be obtained by issuing risky debt and therefore the new level of debt issued by the government is above the threshold for full repayment. The price of newly issued debt will therefore account for some degree of risk.

Whenever revenue with risky pricing is higher that with riskless we may define:

$$\mathcal{B}_{t+1}^{\text{Max,L}} \equiv \mathcal{PS}_t^L + \max\{Q_t^{\text{Risky}} \mathcal{B}_{t+1}^{\text{Risky}}\}$$

To generate a sufficiently large level of debt revenue in this case, the probability of a recession tomorrow can not be "too large", otherwise revenue will fall short of the required $\mathcal{B}_t - \mathcal{PS}_t$ and the government will simply default in period-t.