How Can Governments Borrow so Much?

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Discussion by

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Plan of the discussion

Summarize model and its testable implications

Model and data: the truth lies in the eyes of the beholder

Looking back and looking forward

Motivation

The paper presents a model that generates sovereign debt levels in line with the empirical evidence

It generates a maximum sustainable debt ratio and a default probability that depend on the moments of the income growth process

The calibrated debt ratios are compared with actual ratios for a large cross-section of countries over the period 1980-2011

The model

The model has the following features:

- The government has exogenous disposable income with stochastic growth g s.t. $ln(g)\tilde{N}(\mu, \sigma^2)$
- The government defaults if its disposable income falls below repayments (excusable default)
- Lenders can appropriate borrower's disposable income in case of default
- The government either stays in office one period or faces an exogenous probability of being voted out

If the government remains in office a single period, there is a maximum amount it can borrow each period from a risk-neutral lender

$$b_{t+1} = \frac{Pr[(1 + b_{t+1})y_{t+1} > d_t y_t] d_t y_t + \int_0^{d_t y_t/(1+b_{t+1})} y_{t+1} dF(y_{t+1})}{1 + r}$$

The model, cont.

A government that maximizes b_t borrows the maximum b_M and holds associated maximum debt d_M

Comparative statics:

$$\frac{\partial d_M}{\partial \mu} < 0; \quad \frac{\partial \Phi}{\partial \mu} < 0; \quad \frac{\partial \Phi}{\partial \sigma} > 0$$

under some conditions

Suppose the government has an exogenous probability θ of being reelected, but is voted out of office for sure if default occurs

The government values staying in office and reduces the probability of default by reducing borrowing

Evaluating the model

Thanks to their assumptions the authors can find analytical results

The simplicity and elegance is enviable and it goes a long way

But are the results really in line with the empirical evidence?

Table 1 needs better explanation of what each column is, how you calculate it, which series you use, etc.

The model predicts that faster growing countries should have higher debt limits

Table 1: $cor(\mu, debt80 - 11) = -0.18$; $cor(\mu, debt11) = -0.28$

Fast growing countries (Vietnam, Malaysia, Indonesia, Egypt) are emerging economies that a) cannot control large shares of tax revenues; b) find it difficult to issue debt in their own currency $\rightarrow$ original sin

Evaluating the model, cont.

The model predicts that the probability of default falls with μ

Table 1: $cor(default, \mu) = 0$

Same as above

$cor(\sigma, debt80 - 11) = -0.35$; $cor(\sigma, debt11) = -0.36$ but the model cannot pin down this relationship

Can we use the model for predicting default?

Japan: its actual debt twice the theoretical maximum; the interest rate on 10Y bonds is 0.68%, even lower than Switzerland

United States: your model says it is close to its limit, but it is still the safe asset

Where next?

The existing literature is a rich tapestry weaved on the loom of EG seminal work. Later work has quantified, refined and extended EG's predictions and endogenized some of what had been exogenous in EG.

Your work obtains debt level closer to the cross-sectional empirical evidence

However, the existing literature has many important aspects that would benefit your analysis