Investment, Sovereign Debt and Political Economy

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Contribution

The combination of expropriation risk and the incumbency effect that make governments impatient is used to explain observations on the relationship between debt, investment and growth in low income countries. Political effects slow convergence to the long run steady state. It helps explain why some low income countries offer tax holidays to foreign investors.

Political Environment

Political parties disagree over the provision of public goods, as in [3], so that parties in power put greater weight on current consumption than parties in opposition. The chances of the incumbent remaining in power is random. We model this by assuming incumbents weigh current tax revenue of τ by $\theta\tau$ where $\theta > 1$ but future tax revenue of τ by $\beta\tau$ where $\beta < 1$.

Sovereignty

Government's lack commitment. Specifically a government may change its tax policy or its promised debt repayments if there is an advantage to doing so. We model this by assuming that governments can expropriate a fraction $\phi \in (0, 1]$ of current output. Although expropriation increases current consumption there is a cost as future growth will be reduced.

Allocation Puzzle

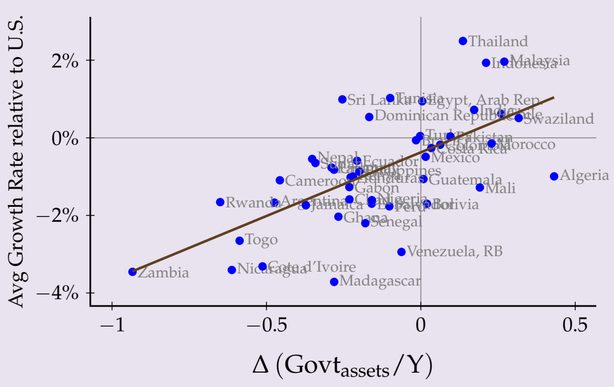

Figure 1: Growth and Capital Flows

Traditional theory suggests that capital inflows into less developed economies generate investment and growth. Evidence from low income countries plotted in Figure 1 shows the opposite.[a] Countries that have reduced capital inflows have been associated with higher growth rates.

[a] Taken from [1] for low income countries 1970-2004.

Debt Overhang

The reason for the allocation puzzle may be explained by the debt overhang. If the external debt is high there is a large temptation for a sovereign country to default on its debt. Hence investors are less likely to invest and growth will slow. This creates a political trade-off between consuming more now or paying down the debt and encouraging investment and future growth.

Key Parameters

- θ - a measure of the impatience of the incumbent government.
- ϕ - a measure of expropriation risk.
- b_0 - a measure of initial indebtedness.

Open Questions

- Link the probability of re-election with current tax policy.
- Add investor limited commitment.

Recursive Formulation

The host country wishes to maximise its discounted stream of tax revenues (τ)

$$V(b_0) = \sum_{t=0}^{\infty} \beta^t \tau_t.$$

The host has hyperbolic discounting so at each period it evaluates utility as

$$W_t = \theta\tau_t + \sum_{s=t+1}^{\infty} \beta^{s-t} \tau_s$$

where $\theta \geq 1$. To avoid default the long-run utility should be no less than the short-run gain from expropriating current output

$$W_t \geq \theta\phi f(k_t) \qquad \forall\, t$$

Following [2] and [4] the recursive program is:

$$b(V_t) = \max_{\tau_t, k_t, V_{t+1}} -k_t + f(k_t) - \tau_t + R^{-1} b(V_{t+1})$$

subject to

$$\begin{aligned} \tau_t + \beta V_{t+1} &\geq V_t : \sigma_t \\ \theta\tau_t + \beta V_{t+1} &\geq \theta\phi f(k_t) : \mu_t/(\phi\theta) \end{aligned}$$

The first-order conditions are

$$\begin{aligned} \sigma_t + \mu_t/\phi &= 1 \\ \sigma_{t+1} &= \beta R\,(\sigma_t + \mu_t/\phi\theta) \\ f'(k_t) &= 1 + \mu_t/(1-\mu_t). \end{aligned}$$

These first order conditions determine the time paths for investment, k_t, debt, b_t and taxes, τ_t.

Results

Proposition 1: The amount invested k_t converges monotonically to its long-run value k_∞. If initial debt is high enough capital invested increases (see Figure 2) and debt is paid down.

To prevent the host country from defaulting taxes should be postponed into the future. This provides a future carrot which is lost if the country defaults. This in turn raises the amount that can be invested without triggering default. When there is political disagreement countries will not wish to postpone current taxes which slows investment growth.

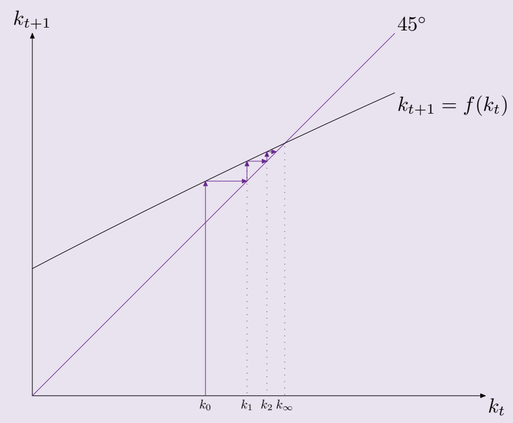

Figure 2: Monotone Convergence

The slow rate of convergence observed empirically in low income countries is only consistent with standard models of growth for implausibly large values of the share of capital in aggregate income. Here slow convergence is associated with political frictions that mean incumbent governments prefer current consumption to paying down debt.

Proposition 2: A higher initial debt lowers capital investment at each date but not the long-run level of investment (compare A and B in Figure 3). The long-run value of investment k_∞ is lower this higher is the political friction θ and the higher is the contracting friction ϕ (compare A and C in Figure 3).

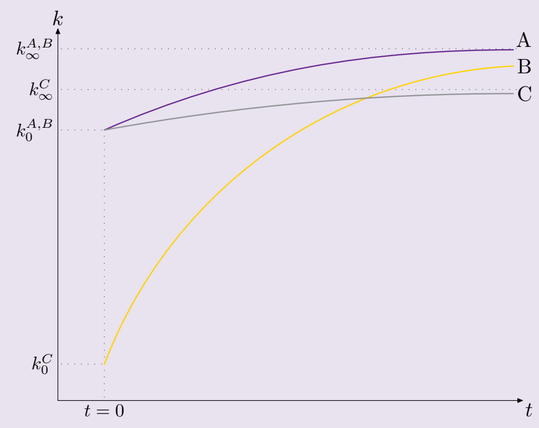

Figure 3: Comparative Dynamics

Proposition 3: If initial indebtedness b_0 is high enough there is some date s such that $\tau_t = 0$ for $t < s$. The length of this tax holiday increases with b_0. If initial indebtedness is low then the host offers no initial tax holiday.

To encourage investment taxes are backloaded. If initial indebtedness is high so is the desire to backload taxes. The backloading can be severe enough such that initial taxes are zero.

Policy Relevance: Aid versus Debt Reduction

Is it better to help low income countries by giving aid or forgiving debt?

Both debt forgiveness and aid benefit the host country. Debt forgiveness raises investment in the short-run but has no long-run effect (see A and B in Figure 3). Aid *unconditional* on default does not change the no default constraint and does not change investment is the short or long-run. In this case the host country will unambiguously prefer debt forgiveness to an equal value of aid.

References

[1] Mark Aguiar and Manuel Amador. Growth in the shadow of expropriation. *Quarterley Journal of Economics*, forthcoming 2011.

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