

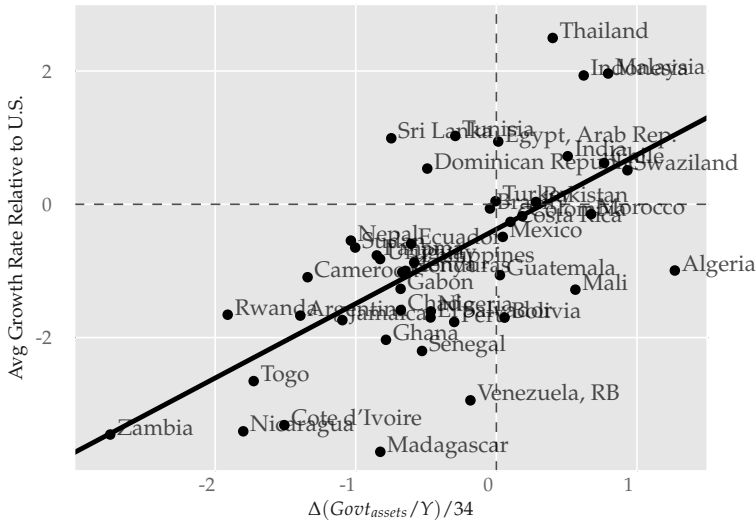
Growth in the shadow of expropriation

by Mark Aguiar and Manuel Amador

Discussion by: Fabrizio Perri
University of Minnesota and Minneapolis FED

6th Banco de Portugal Conference on Monetary Economics,
June 2010

Motivation



Motivation

- Growth is associated with NFA accumulation (Gourinchas and Jeanne), in particular Govt NFA accumulations (AA)

Motivation

- Growth is associated with NFA accumulation (Gourinchas and Jeanne), in particular Govt NFA accumulations (AA)
- Puzzling for the standard neoclassical growth model
- Add limited commitment + impatient politicians to explain this pattern

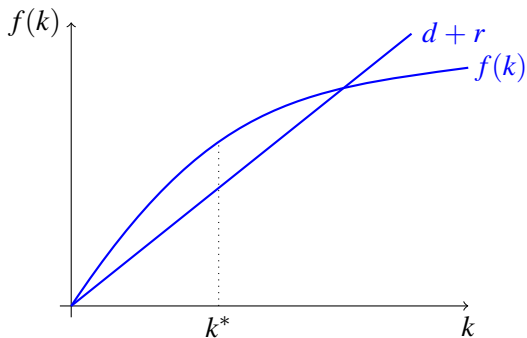
Outline

- Deconstructing the model (the role of different assumptions)
- The quantitative analysis
- What does the model teach us about Greece (and Argentina)?

The frictionless environment, 1

Small open economy, no uncertainty

$$(1 - \tau)f'(k) + (1 - d) = 1 + r$$



The frictionless environment,2

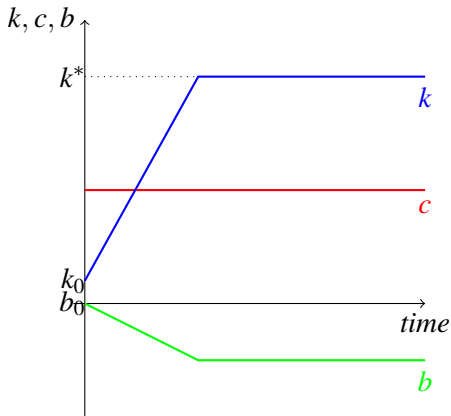
- k_0, b_0 both low
- $u(c) = \frac{c^{1-\sigma}}{1-\sigma}, \sigma \rightarrow 0, \beta R = 1, \underline{W}(k) = -\infty$

The frictionless environment,2

- k_0, b_0 both low
- $u(c) = \frac{c^{1-\sigma}}{1-\sigma}, \sigma \rightarrow 0, \beta R = 1, \underline{W}(k) = -\infty$
- Set taxes so that $k_t = k^*, t \geq 1$, and set flat consumption
- From intertemporal budget constraint

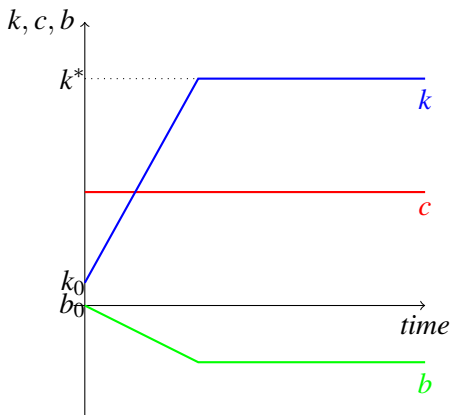
$$c = b_0 \frac{r}{1+r} + \frac{r}{(1+r)} \underbrace{(f(k_0) - (r+d)k_0)}_{\text{Disposable income, } t_0} + \frac{1}{1+r} \underbrace{(f(k^*) - (r+d)k^*)}_{\text{Disposable income, } t > t_0}$$

The frictionless environment,3



- Implications: Flat consumption, fast income growth and intl borrowing

The frictionless environment,3



- Implications: Flat consumption, fast income growth and intl borrowing
- High growth and asset **decumulation**: counterfactual

Limited enforcement, 1

- Suppose $\underline{W}(k) > \infty$ in particular $V_1(k^*, b^{fb}) < \underline{W}(k^*)$
- Is first best k sustainable in long run? Yes, if $b_1 > b^{fb}$

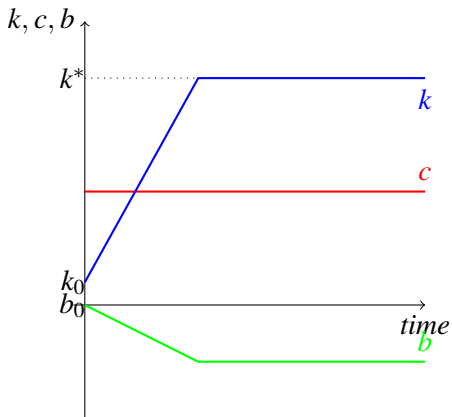
Limited enforcement, 1

- Suppose $\underline{W}(k) > \infty$ in particular $V_1(k^*, b^{fb}) < \underline{W}(k^*)$
- Is first best k sustainable in long run? Yes, if $b_1 > b^{fb}$
- Is $b_1 > b^{fb}$ feasible? Yes, By reducing consumption at t_0

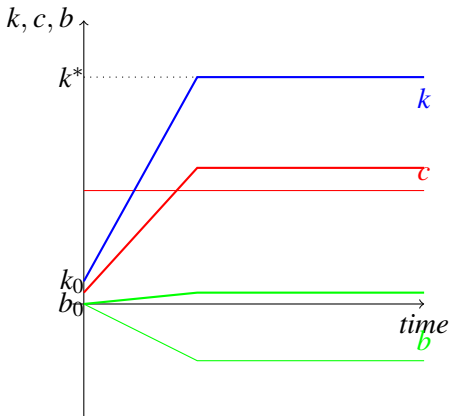
Limited enforcement, 1

- Suppose $\underline{W}(k) > \infty$ in particular $V_1(k^*, b^{fb}) < \underline{W}(k^*)$
- Is first best k sustainable in long run? Yes, if $b_1 > b^{fb}$
- Is $b_1 > b^{fb}$ feasible? Yes, By reducing consumption at t_0
- Is it efficient? Yes: $\beta R = 1$, almost linear utility

Limited enforcement,2



Limited enforcement,2



- Implications: High growth and asset **accumulation**: qualitative success!

The key ingredient and tradeoff

- **Complementarity** between b and k

$$V(k, b) \geq \underline{W}(k)$$

- Increasing k (growth) raises $\underline{W}(k)$ more than $V(k, b)$, hence to satisfy enforcement constraint b has to increase as well
- Increasing b hinders consumption smoothing
- With linear utility consumption smoothing not important, so productive efficiency/growth happen fast

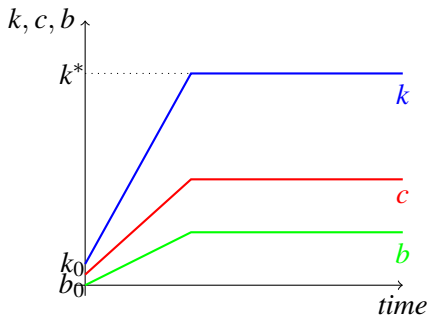
The key ingredient and tradeoff

- **Complementarity** between b and k

$$V(k, b) \geq \underline{W}(k)$$

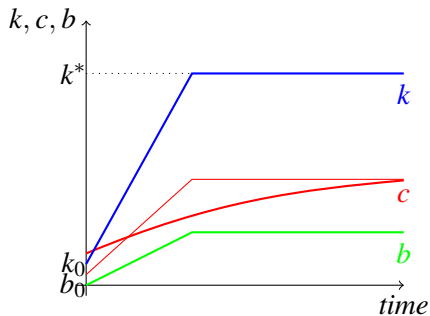
- Increasing k (growth) raises $\underline{W}(k)$ more than $V(k, b)$, hence to satisfy enforcement constraint b has to increase as well
- Increasing b hinders consumption smoothing
- With linear utility consumption smoothing not important, so productive efficiency/growth happen fast
- In general (curvature in U or political impatience), trade-off between productive efficiency and optimal allocation of consumption through time

Limited enforcement + political friction

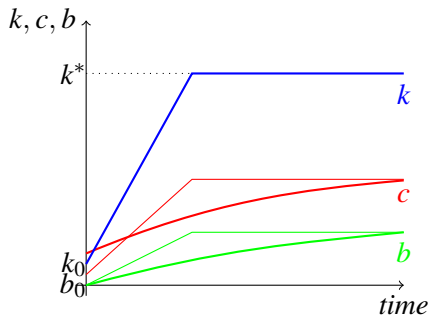


- Allocation no longer efficient: shifting consumption from 1 to 0 (reducing debt accumulation) increases govt. utility

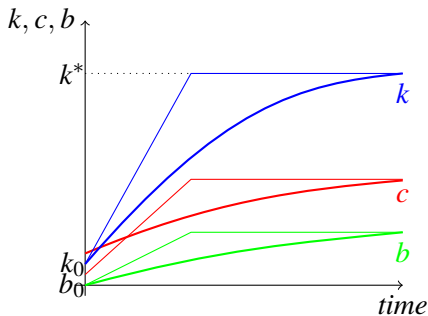
Limited enforcement + political friction



Limited enforcement + political friction



Limited enforcement + political friction



- Consumption smoothing comes at the cost of less productive efficiency/slower growth

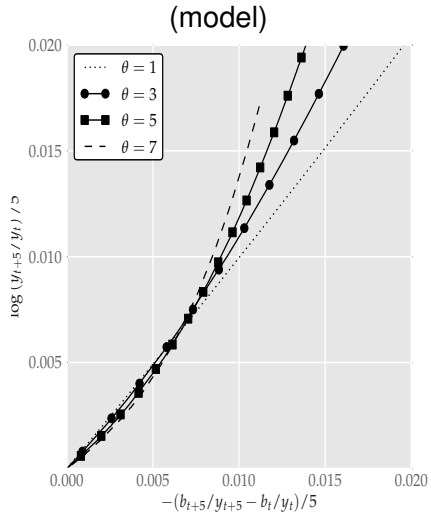
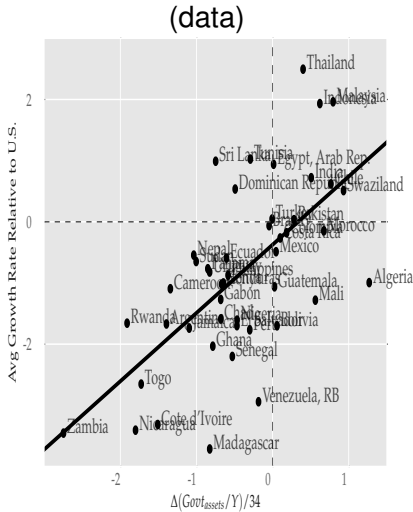
The role of the political friction?

- Political friction provides a desire for consumption smoothing -> slow foreign asset accumulation -> slow convergence to steady state
- Curvature in utility would also work

The role of the political friction?

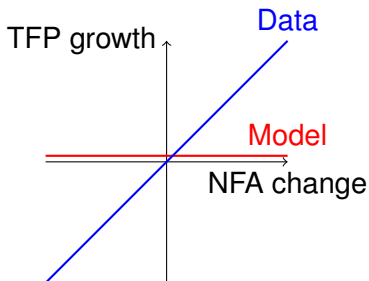
- Political friction provides a desire for consumption smoothing -> slow foreign asset accumulation -> slow convergence to steady state
- Curvature in utility would also work
- Not crucial for qualitative results, probably not for main quantitative result
- Model is consistent with evidence of impact of institutional quality on growth but certainly not the first one

Quantitative analysis



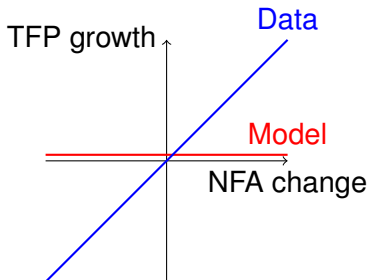
Success?

- Problem is relation between GDP growth and NFA change comes from **TFP growth** (Gourinchas and Jeanne)



Success?

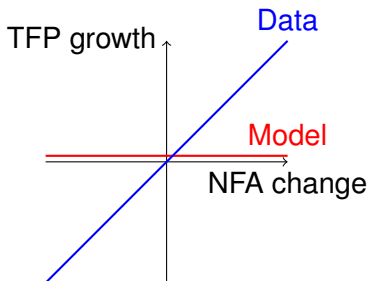
- Problem is relation between GDP growth and NFA change comes from **TFP growth** (Gourinchas and Jeanne)



- Could reinterpret k as TFP but..

Success?

- Problem is relation between GDP growth and NFA change comes from **TFP growth** (Gourinchas and Jeanne)



- Could reinterpret k as TFP but..
- Existing papers (Buera and Shin 2009, Sandri 2009) obtain relation between TFP and NFA using different mechanism (domestic financial frictions)
- More work needed to establish the mechanism here is quantitatively relevant

What are the costs of international default ($\underline{W}(k)$)?

- In traditional sovereign debt models $\underline{W}(k) = V_{Aut}(k)$
- Here $W(k) = V_{Aut}(k)$ + High capital tax i.e. international default triggers domestic punishment (switch to high tax/low investment equilibrium) hence higher default costs
- Implications:

What are the costs of international default ($\underline{W}(k)$)?

- In traditional sovereign debt models $\underline{W}(k) = V_{Aut}(k)$
- Here $W(k) = V_{Aut}(k)$ + High capital tax i.e. international default triggers domestic punishment (switch to high tax/low investment equilibrium) hence higher default costs
- Implications:
 - More debt can be sustained (No Bulow Rogoff result)

What are the costs of international default ($\underline{W}(k)$)?

- In traditional sovereign debt models $\underline{W}(k) = V_{Aut}(k)$
- Here $W(k) = V_{Aut}(k)$ + High capital tax i.e. international default triggers domestic punishment (switch to high tax/low investment equilibrium) hence higher default costs
- Implications:
 - More debt can be sustained (No Bulow Rogoff result)
 - Why Greece that has a foreign debt to GDP ratio exceeding 50% not defaulting?

What are the costs of international default ($\underline{W}(k)$)?

- In traditional sovereign debt models $\underline{W}(k) = V_{Aut}(k)$
- Here $W(k) = V_{Aut}(k)$ + High capital tax i.e. international default triggers domestic punishment (switch to high tax/low investment equilibrium) hence higher default costs
- Implications:
 - More debt can be sustained (No Bulow Rogoff result)
 - Why Greece that has a foreign debt to GDP ratio exceeding 50% not defaulting?
 - Why after default Kirchner has been elected in Argentina?

What are the costs of international default ($\underline{W}(k)$)?

- In traditional sovereign debt models $\underline{W}(k) = V_{Aut}(k)$
- Here $W(k) = V_{Aut}(k)$ + High capital tax i.e. international default triggers domestic punishment (switch to high tax/low investment equilibrium) hence higher default costs
- Implications:
 - More debt can be sustained (No Bulow Rogoff result)
 - Why Greece that has a foreign debt to GDP ratio exceeding 50% not defaulting?
 - Why after default Kirchner has been elected in Argentina?
 - Why Chari claims that different fates of Mexico and US are due to the fact Mexico defaulted on its international debt in late 1800s while US did not?

Conclusions

- Very good paper, very useful analytical characterization of growth dynamics under limited enforcement.. I teach it in my intl macro class!
- Model highlights connections between growth, foreign capital accumulation and preferences over timing of consumption
- More work needed to establish its quantitative relevance..

WORLD CUP KICKOFF IS UPON US..GO ITALY!!!

