Discussion of

Political Economy of Sovereign Debt: A Theory of Cycles of Populism and Austerity

by Dovis, Golosov, and Shourideh

Francisco Roldán IMF

XXV Workshop in International Economics and Finance UTDT, August 2023

The views expressed herein are those of the authors and should not be attributed to the IMF, its Executive Board, or its management.

The want operator

Model delivers

- Cyclical behavior
- · "Populist" phase: low inequality, external borrowing
- · "Austerity" phase: high inequality, debt deleveraging

What to like

- · Elegant theory
- Overshooting component rare with fully rational, optimizing agents
- Makes sense of seemingly inefficient behavior

The want operator

Model delivers

- Cyclical behavior
- · "Populist" phase: low inequality, external borrowing
- · "Austerity" phase: high inequality, debt deleveraging

What to like

- Elegant theory
- Overshooting component rare with fully rational, optimizing agents
- Makes sense of seemingly inefficient behavior

- Productivity types + labor income taxes + endogenous labor supply
 - ... Tax revenues lower earnings inequality but depress output
 - ... Efficiency / equity tradeoff
- · Sovereign borrowing + no shocks and/or complete markets
 - ... Can borrow to finance transfers
 - ... Can default ex-post: risk-free subject to debt limit
 - ... Time inconsistency: debt limit is endogenous
- · Overlapping generations + financial income taxes + save in government bonds
 - ... Can tax old people's savings (aka domestic default): reduce inequality with no distortion
 - ... Domestic debt + transfers reduces consumption inequality when income inequality is high
 - ... Time inconsistency: inequality limit is endogenous

- Productivity types + labor income taxes + endogenous labor supply
 - ... Tax revenues lower earnings inequality but depress output
 - ... Efficiency / equity tradeoff
- Sovereign borrowing + no shocks and/or complete markets
 - ... Can borrow to finance transfers
 - ... Can default ex-post: risk-free subject to debt limit
 - ... Time inconsistency: debt limit is endogenous
- · Overlapping generations + financial income taxes + save in government bonds
 - ... Can tax old people's savings (aka domestic default): reduce inequality with no distortion
 - ... Domestic debt + transfers reduces consumption inequality when income inequality is high
 - ... Time inconsistency: inequality limit is endogenous

- Productivity types + labor income taxes + endogenous labor supply
 - ... Tax revenues lower earnings inequality but depress output
 - ... Efficiency / equity tradeoff
- Sovereign borrowing + no shocks and/or complete markets
 - ... Can borrow to finance transfers
 - ... Can default ex-post: risk-free subject to debt limit
 - ... Time inconsistency: debt limit is endogenous
- · Overlapping generations + financial income taxes + save in government bonds
 - ... Can tax old people's savings (aka domestic default): reduce inequality with no distortion
 - ... Domestic debt + transfers reduces consumption inequality when income inequality is high
 - ... Time inconsistency: inequality limit is endogenous

- Productivity types + labor income taxes + endogenous labor supply
 - ... Tax revenues lower earnings inequality but depress output
 - ... Efficiency / equity tradeoff
- · Sovereign borrowing + no shocks and/or complete markets
 - ... Can borrow to finance transfers
 - ... Can default ex-post: risk-free subject to debt limit
 - ... Time inconsistency: debt limit is endogenous
- · Overlapping generations + financial income taxes + save in government bonds
 - ... Can tax old people's savings (aka domestic default): reduce inequality with no distortion
 - ... Domestic debt + transfers reduces consumption inequality when income inequality is high
 - ... Time inconsistency: inequality limit is endogenous

- Productivity types + labor income taxes + endogenous labor supply
 - ... Tax revenues lower earnings inequality but depress output
 - ... Efficiency / equity tradeoff
- Sovereign borrowing + no shocks and/or complete markets
 - ... Can borrow to finance transfers
 - ... Can default ex-post: risk-free subject to debt limit
 - ... Time inconsistency: debt limit is endogenous
- · Overlapping generations + financial income taxes + save in government bonds
 - ... Can tax old people's savings (aka domestic default): reduce inequality with no distortion
 - ... Domestic debt + transfers reduces consumption inequality when income inequality is high
 - ... Time inconsistency: inequality limit is endogenous

- Productivity types + labor income taxes + endogenous labor supply
 - ... Tax revenues lower earnings inequality but depress output
 - ... Efficiency / equity tradeoff
- Sovereign borrowing + no shocks and/or complete markets
 - ... Can borrow to finance transfers
 - ... Can default ex-post: risk-free subject to debt limit
 - ... Time inconsistency: debt limit is endogenous
- · Overlapping generations + financial income taxes + save in government bonds
 - ... Can tax old people's savings (aka domestic default): reduce inequality with no distortion
 - ... Domestic debt + transfers reduces consumption inequality when income inequality is high
 - ... Time inconsistency: inequality limit is endogenous

- Productivity types + labor income taxes + endogenous labor supply
 - ... Tax revenues lower earnings inequality but depress output
 - ... Efficiency / equity tradeoff
- · Sovereign borrowing + no shocks and/or complete markets
 - ... Can borrow to finance transfers
 - ... Can default ex-post: risk-free subject to debt limit
 - ... Time inconsistency: debt limit is endogenous
- · Overlapping generations + financial income taxes + save in government bonds
 - ... Can tax old people's savings (aka domestic default): reduce inequality with no distortion
 - ... Domestic debt + transfers reduces consumption inequality when income inequality is high
 - ... Time inconsistency: inequality limit is endogenous

- Productivity types + labor income taxes + endogenous labor supply
 - ... Tax revenues lower earnings inequality but depress output
 - ... Efficiency / equity tradeoff
- Sovereign borrowing + no shocks and/or complete markets
 - ... Can borrow to finance transfers
 - ... Can default ex-post: risk-free subject to debt limit
 - ... Time inconsistency: debt limit is endogenous
- · Overlapping generations + financial income taxes + save in government bonds
 - ... Can tax old people's savings (aka domestic default): reduce inequality with no distortion
 - ... Domestic debt + transfers reduces consumption inequality when income inequality is high
 - ... Time inconsistency: inequality limit is endogenous

- Productivity types + labor income taxes + endogenous labor supply
 - ... Tax revenues lower earnings inequality but depress output
 - ... Efficiency / equity tradeoff
- Sovereign borrowing + no shocks and/or complete markets
 - ... Can borrow to finance transfers
 - ... Can default ex-post: risk-free subject to debt limit
 - ... Time inconsistency: debt limit is endogenous
- · Overlapping generations + financial income taxes + save in government bonds
 - ... Can tax old people's savings (aka domestic default): reduce inequality with no distortion
 - ... Domestic debt + transfers reduces consumption inequality when income inequality is high
 - ... Time inconsistency: inequality limit is endogenous

- Productivity types + labor income taxes + endogenous labor supply
 - ... Tax revenues lower earnings inequality but depress output
 - ... Efficiency / equity tradeoff
- · Sovereign borrowing + no shocks and/or complete markets
 - ... Can borrow to finance transfers
 - ... Can default ex-post: risk-free subject to debt limit
 - ... Time inconsistency: debt limit is endogenous
- · Overlapping generations + financial income taxes + save in government bonds
 - ... Can tax old people's savings (aka domestic default): reduce inequality with no distortion
 - ... Domestic debt + transfers reduces consumption inequality when income inequality is high
 - ... Time inconsistency: inequality limit is endogenous

- Productivity types + labor income taxes + endogenous labor supply
 - ... Tax revenues lower earnings inequality but depress output
 - ... Efficiency / equity tradeoff
- Sovereign borrowing + no shocks and/or complete markets
 - ... Can borrow to finance transfers
 - ... Can default ex-post: risk-free subject to debt limit
 - ... Time inconsistency: debt limit is endogenous
- · Overlapping generations + financial income taxes + save in government bonds
 - ... Can tax old people's savings (aka domestic default): reduce inequality with no distortion
 - ... Domestic debt + transfers reduces consumption inequality when income inequality is high
 - ... Time inconsistency: inequality limit is endogenous

The key: two interacting sources of time inconsistency

· All choices subject to sustainability constraint

$$H(Y) \leq \frac{\hat{\beta}}{\beta} (W(B') - \underline{W})$$

- When constraint binds
 - · To sustain more debt issuance
 - ... Need to provide incentives to repay tomorrow Decrease H(Y) and Y
 - · To sustain more output
 - ... Need to tolerate more inequality tomorrow Increase W(B'), decrease B'
- Key: tradeoff is time-inconsistent

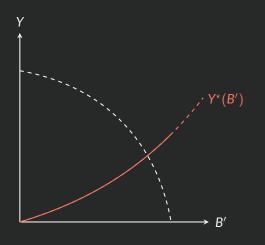
The key: two interacting sources of time inconsistency

All choices subject to sustainability constraint

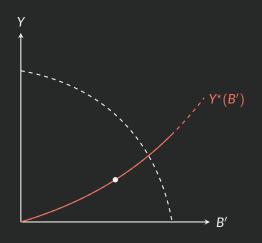
$$H(Y) \leq \frac{\hat{\beta}}{\beta} (W(B') - \underline{W})$$

- When constraint binds
 - · To sustain more debt issuance
 - ... Need to provide incentives to repay tomorrow Decrease H(Y) and Y
 - · To sustain more output
 - ... Need to tolerate more inequality tomorrow Increase W(B'), decrease B'
- Key: tradeoff is time-inconsistent

	Benefits	Costs
Debt	t	t+1
Inequality	t	t and $t+1$

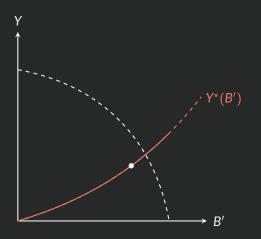


- For low B, low choice of B'
 ⇒ constraint does not bind
- · But B'(B) increasing.



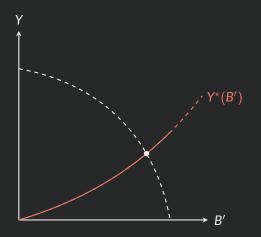
- For low B, low choice of B' \implies constraint does not bind
- But B'(B) increasing...

At some point constraint binds exactly

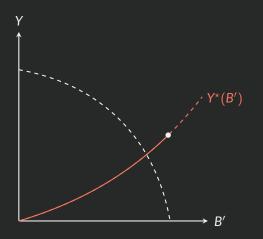


- For low B, low choice of B' \implies constraint does not bind
- But B'(B) increasing...
- At some point constraint binds exactly

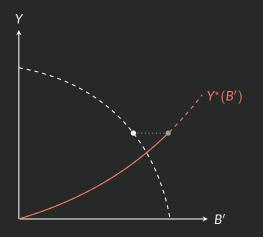
When constraint binds, reduce B'



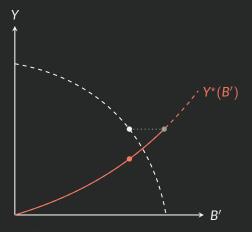
- For low B, low choice of B' \implies constraint does not bind
- But B'(B) increasing...
- \cdot At some point constraint binds exactly
- When constraint binds, reduce B'



- For low B, low choice of B' \implies constraint does not bind
- But B'(B) increasing...
- \cdot At some point constraint binds exactly
- · When constraint binds, reduce B'

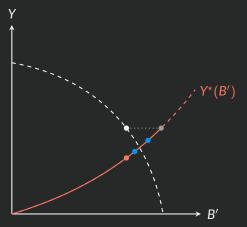


- For low B, low choice of B' \implies constraint does not bind
- But B'(B) increasing...
- · At some point constraint binds exactly
- \cdot When constraint binds, reduce B'
- But $\exists B_0$ with the same B' unconstrained



The constraint binds

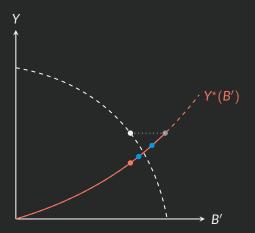
- For low B, low choice of B' \implies constraint does not bind
- But B'(B) increasing...
- \cdot At some point constraint binds exactly
- · When constraint binds, reduce B'
- But $\exists B_0$ with the same B' unconstrained $\Rightarrow B'(B_0) > B_0$



· The constraint binds intermittently

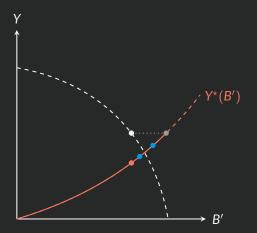
- For low B, low choice of B' \implies constraint does not bind
- But B'(B) increasing...
- At some point constraint binds exactly
- · When constraint binds, reduce B'
- But $\exists B_0$ with the same B' unconstrained $\implies B'(B_0) > B_0$

The debt-inequality tradeoff itself is time-inconsistent



- The constraint binds intermittently
- The debt-inequality tradeoff itself is time-inconsisten

- For low B, low choice of B' \implies constraint does not bind
- But B'(B) increasing...
- At some point constraint binds exactly
- When constraint binds, reduce B'
- But $\exists B_0$ with the same B' unconstrained $\implies B'(B_0) > B_0$



- The constraint binds intermittently
- The debt-inequality tradeoff itself is time-inconsistent

- For low B, low choice of B' \implies constraint does not bind
- But B'(B) increasing...
- At some point constraint binds exactly
- When constraint binds, reduce B'
- But $\exists B_0$ with the same B' unconstrained $\implies B'(B_0) > B_0$

Two Comparisons

Phelan and Stacchetti (2001)

- · Similar model with
 - Endogenous labor supply
 - Savings
 - Time-inconsistent taxes
- · Time inconsistency: capital accumulation
 - · Want tax capital ex-post, promise low taxes ex-ante
- No cycles? Example with $k_0 > k^*$ overshoots initial capital reduction
 - · Only link between t and t + 1 is the capital stock
 - · To induce savings, can subsidize labor today or 'promise' low taxes
 - ... Same result



Stop & Go Dynamics

- Phenomenon also studied by Latin American structuralists
 - ... Díaz-Alejandro, Ferrer, Braun and Joy, etc...
 - ... More about shocks/imperfect planning than purposeful overshooting
- · Also two phases (but with different names)



- Testable differences
 - · Growth in 'Go' phase v. low labor and output in 'populist' phase
 - · REER depreciation in 'Stop' phase v. high after-tax wages in 'austerity'?

Stop & Go Dynamics

- Phenomenon also studied by Latin American structuralists
 - ... Díaz-Alejandro, Ferrer, Braun and Joy, etc...
 - ... More about shocks/imperfect planning than purposeful overshooting

Also two phases (but with different names)



- Testable differences:
 - · Growth in 'Go' phase v. low labor and output in 'populist' phase
 - REER depreciation in 'Stop' phase v. high after-tax wages in 'austerity'?

Stop & Go Dynamics

- Phenomenon also studied by Latin American structuralists
 - ... Díaz-Alejandro, Ferrer, Braun and Joy, etc...
 - ... More about shocks/imperfect planning than purposeful overshooting
- · Also two phases (but with different names)



- Testable differences:
 - · Growth in 'Go' phase v. low labor and output in 'populist' phase
 - REER depreciation in 'Stop' phase v. high after-tax wages in 'austerity'?

Concluding Remarks

- Excellent theoretical exercise
 - ... All assumptions needed, sharp characterization, basic idea applies to many setups
- Last comments
 - ... Quantitative performance?
 - ... Baseline is a little underwhelming
 - ... Three-period model seems to have larger effects
 - ... Would a full life-cycle give more traction?
 - ... How to think about best SPE?
 - ... Harsh punishments: better model for US / Advanced Europe?
 - ... Eurozone crisis, LatAm coups fit more with shocks than planning
 - ... Are all SPEs cyclical?

Concluding Remarks

- Excellent theoretical exercise
 - ... All assumptions needed, sharp characterization, basic idea applies to many setups
- Last comments
 - ... Quantitative performance?
 - ... Baseline is a little underwhelming
 - ... Three-period model seems to have larger effects
 - ... Would a full life-cycle give more traction?
 - ... How to think about best SPE?
 - ... Harsh punishments: better model for US / Advanced Europe?
 - ... Eurozone crisis, LatAm coups fit more with shocks than planning
 - ... Are all SPEs cyclical?

Concluding Remarks

Excellent theoretical exercise

... All assumptions needed, sharp characterization, basic idea applies to many setups

Last comments

... Quantitative performance?

- ... Baseline is a little underwhelming
- ... Three-period model seems to have larger effects
- ... Would a full life-cycle give more traction?

... How to think about best SPE?

- ... Harsh punishments: better model for US / Advanced Europe?
- ... Eurozone crisis, LatAm coups fit more with shocks than planning?
- ... Are all SPEs cyclical?