

# Fiscal Rules and the Sovereign Default Premium by Hatchondo, Martinez and Roch

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# Overview

- **Should we regulate debt based on levels or spreads?**
- **This paper: spreads!**

<i>Country</i>	<i>Debt/GDP</i>	<i>Spread vs. Bund (10 yr.)</i>
<i>Japan</i>	230	-19.9
<i>Greece</i>	158	731.1

- **Simple insight: for heterogeneous countries/circumstances**
  - ▶ Common debt limits may be restrictive for some, loose for others
  - ▶ Spreads better measure of “debt tolerance”
- **Embed insight in quantitative model of sovereign debt**

# General reaction

- Important and sensible message
  - ▶ Spreads provide country/state-specific information about debt sustainability
  - ▶ Why discard them?
- Somewhat reminiscent of old debate in monetary policy
  - ▶ Should the CB target quantities (aggregates) or prices (interest rate)
    - ★ Poole (1970): depends on the environment
- (Too?) complete, thorough paper
  - ▶ Intuition, three-period model, quantitative analysis
- Convincing: there are situations where it is better to target spreads

# The model

- Why regulate debt?: dilution
- Three period, small/open economy,  $t = 0, 1, 2$ 
  - ▶ Output only at  $t = 2$ : fraction  $\phi$  can be pledged to creditors
  - ▶ Concave utility: consumption smoothing
- Government:
  - ▶ Borrows at  $t = 0$  and  $t = 1$
  - ▶ Cannot commit to future path of debt
  - ▶ Issues some LT debt

**Consumption (no output)  
Borrowing**

**Consumption (no output)  
Borrowing**

**Production  
Consumption  
Repayment**



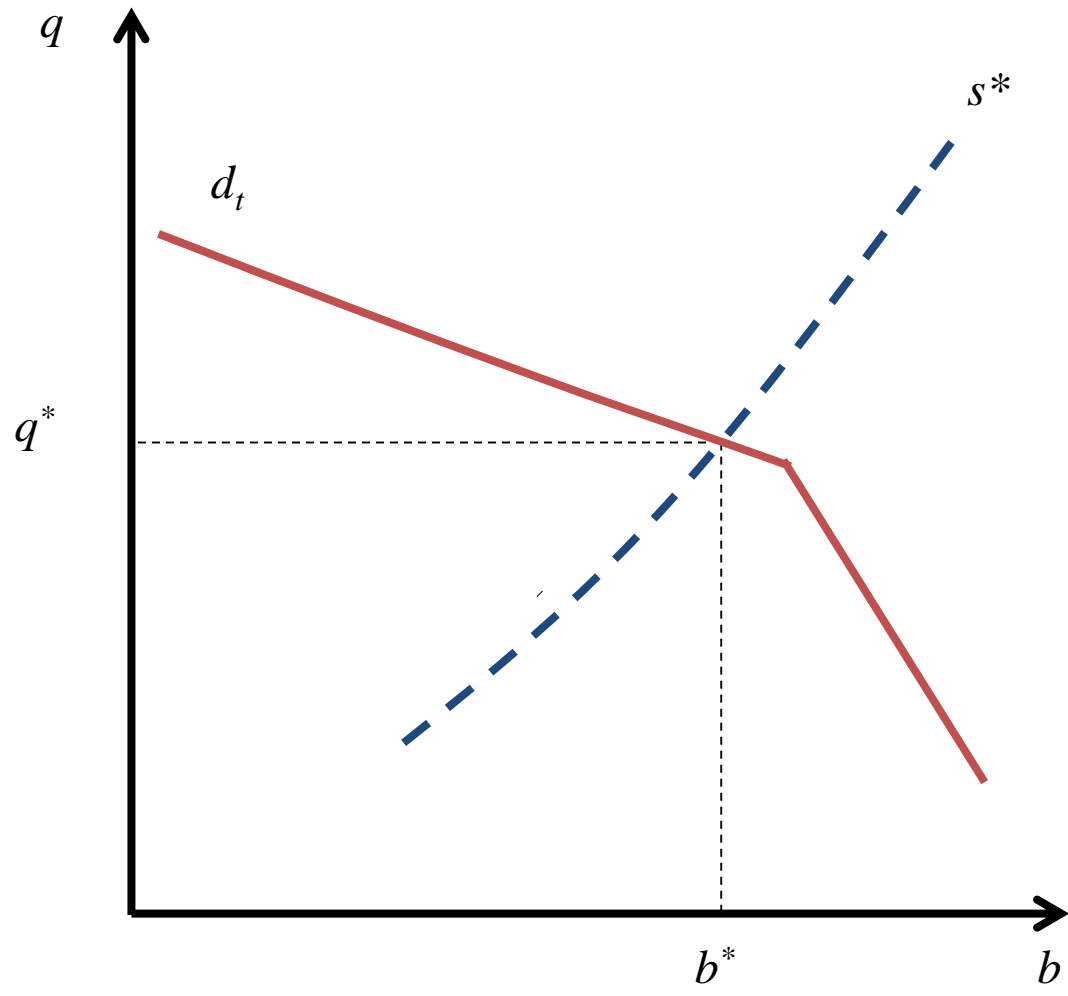
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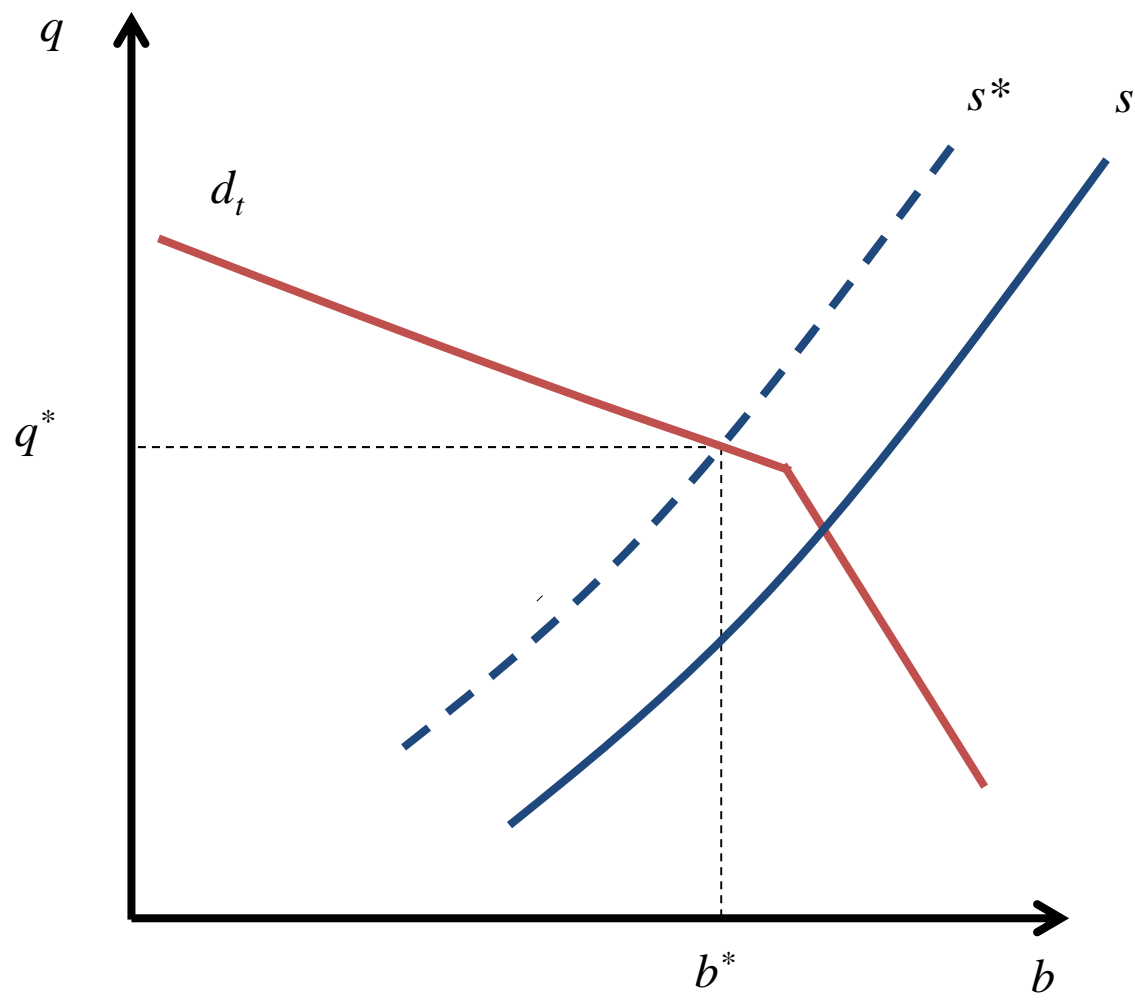
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# The model (II)

- At  $t = 1$ : incentive to dilute pre-existing debt
  - ▶ Why? New debt raises default probability
  - ▶ Part of this cost is borne by legacy creditors
- At  $t = 0$ : government would like to commit to debt level at  $t = 1$ 
  - ▶ Equivalence between debt and spread limit





Spread limit ( $q \geq \underline{q} = q^*$ ) equivalent to debt limit ( $b \leq \bar{b} = b^*$ )

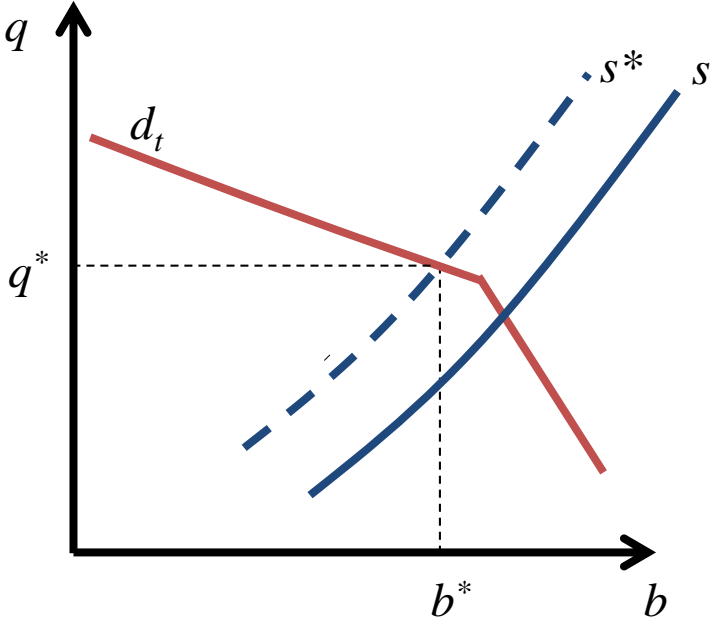


# The model (II)

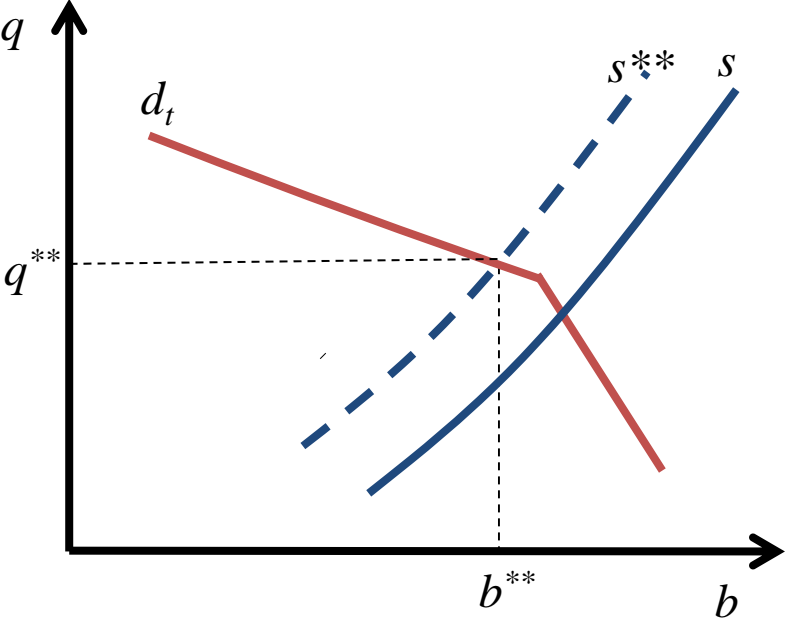
- At  $t = 1$ : incentive to dilute pre-existing debt
  - ▶ Why? New debt raises default probability
  - ▶ Cost partially borne by legacy creditors
- At  $t = 0$ : government would like to commit to debt level at  $t = 1$ 
  - ▶ Can do so either through debt or spread limit
- What if countries are heterogenous?
  - ▶ Difference in  $\phi$ : “debt tolerance”
  - ▶ Ceiling on spreads outperforms debt limit

# Heterogeneous countries

Low debt tolerance

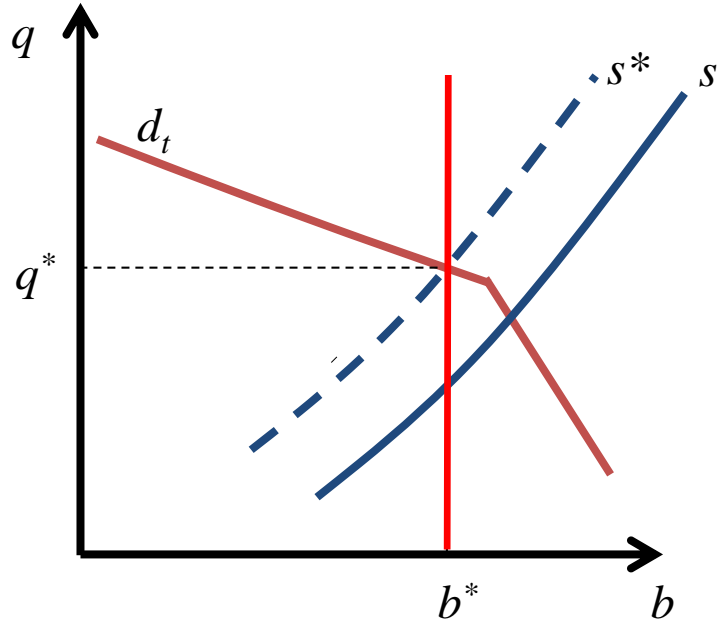


High debt tolerance

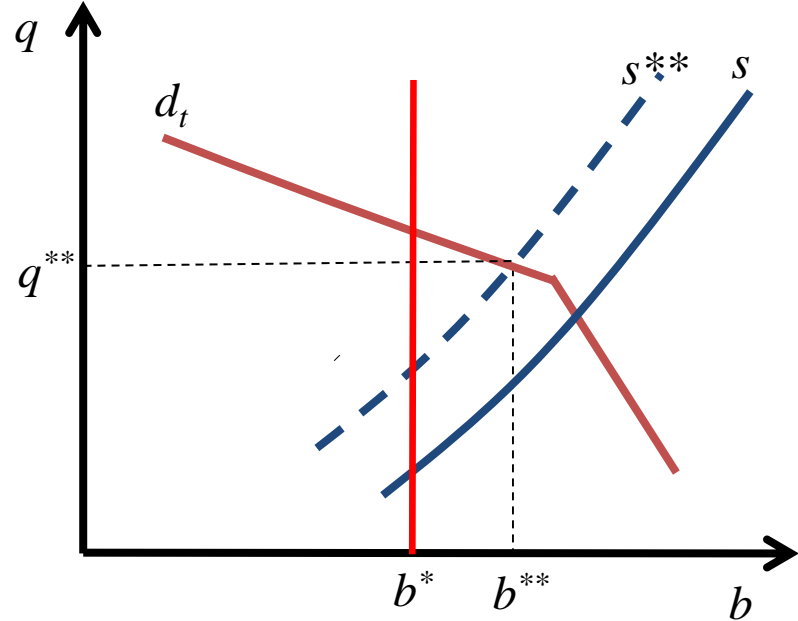


# Heterogeneous countries: debt limit

Low debt tolerance

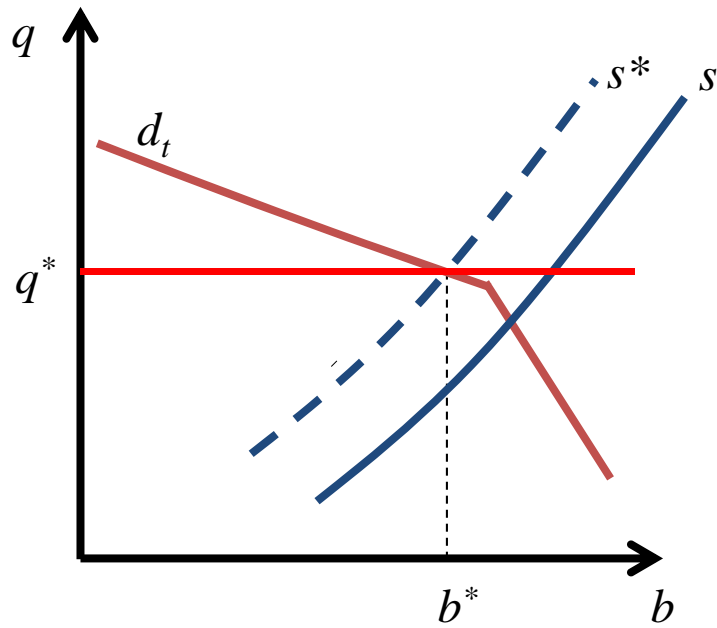


High debt tolerance

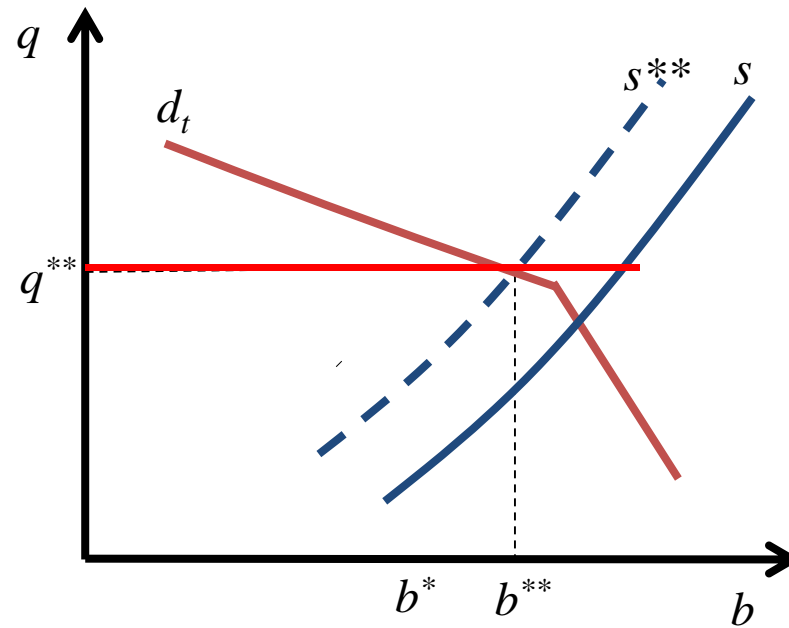


# Heterogeneous countries: spread limit

Low debt tolerance



High debt tolerance



# Main result

- Intuition: variation in spreads lower than variation in debt levels
  - ▶ Here simple example
  - ▶ **Beyond example, quantitative statement:** can it be made more formal?
- Insight embedded in calibrated model of sovereign debt
  - ▶ Single country: debt sustainability is time-varying
    - ★ Both spread (.45%) and debt limits (52.5%) reduce equilibrium debt and spreads
    - ★ But raise revenues!
  - ▶ **Incidentally:** would be nice to show dispersion of debt / spreads
- Spread limit delivers higher welfare gains
  - ▶ Intuition: variable debt limit
  - ▶ 0.34 vs. 0.24 of steady state consumption
- Many extensions (heterogeneous countries)

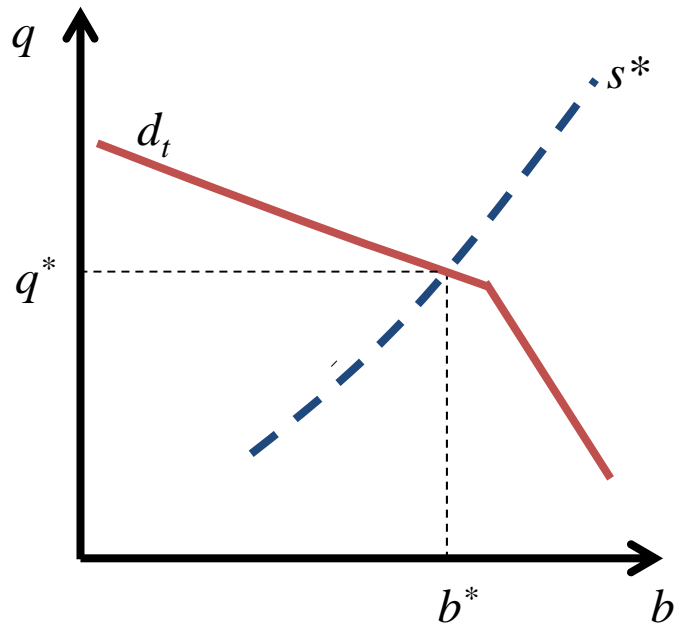
# Comments

- Source of distortion
- Limits to spread
- Time consistency

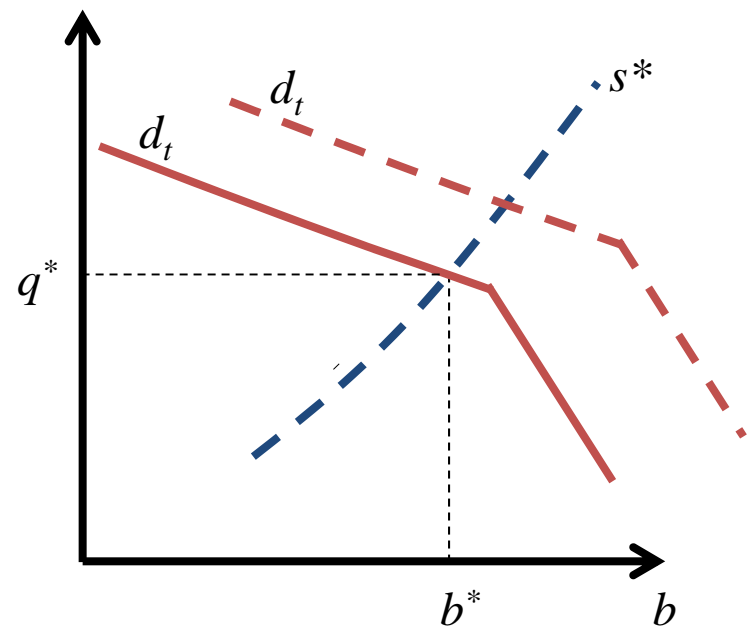
# Comment I: source of distortion

- In the paper: dilution
  - ▶ No need for supranational intervention
- Consider alternative distortion:
  - ▶ Expected bailouts (IMF, EU)
  - ▶ Role for supranational regulation

No Bailout



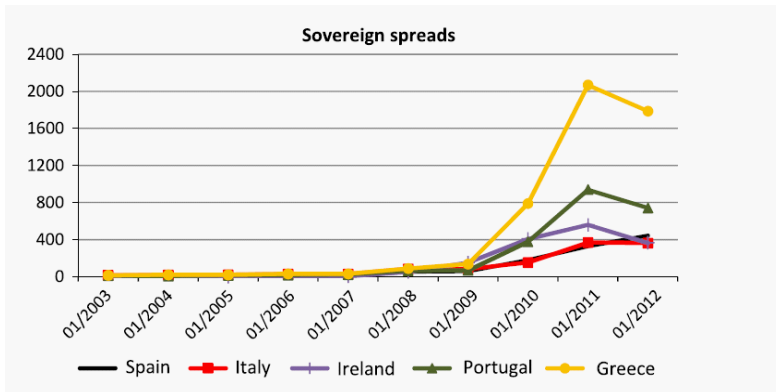
Bailout





# Comment I: source of distortion

- In the paper: dilution
  - ▶ No need for supranational intervention
- Consider alternative distortion:
  - ▶ Expected bailouts (IMF, EU)
- In this example, debt limits work better
  - ▶ In equilibrium, spread is too low!
  - ▶ Greece? Maastricht?
- Analogy with bank regulation: capital requirements, not spreads!



# Comment I: source of distortion

- Alternative distortion
  - ▶ Country issues excessive debt: paid for by future generations
  - ▶ Not necessarily leads to large increase in spread
    - ★ Extreme example: no increase! (e.g. commodity boom)
- Intuitively, seems to call for some type of limit on debt

## Comment II: limits to spreads

- Boom bust cycle common in debt markets
- Spreads can be very low but may be prone to sudden increases
  - ▶ Both in roll over and fundamental crises
  - ▶ Different reasons:
    - ★ Market myopia: neglected risks, e.g. contingent liabilities (Shleifer and Vishny)
    - ★ Financial repression
- Japan today:
  - ▶ Very low spreads
  - ▶ Yet growing unease with size of debt burden:
    - ★ *Japan is heading for a full-blown solvency crisis as the country runs out of local investors and may ultimately be forced to inflate away its debt....*Olivier Blanchard, FT, April 2016
- Debt limits might prove more robust

## Comment III: time consistency

- Why respect these rules?
- In initial three-period example
  - ▶ Government would always violate them ex post
- In quantitative model
  - ▶ Claim: there is no state in which government wants to deviate
  - ▶ Why not? Unclear
- Two issues:
  - ▶ Deviate and dilute existing debt when situation is dire
    - ★ Are limits on spreads more time consistent than limits on debt?
  - ▶ If people do not believe rule, is it optimal to abide by it?
    - ★ There appears to be scope for multiple equilibria

# Conclusion

- Interesting, relevant paper
- Natural yet powerful insight:
  - ▶ Total reliance on (non-contingent) debt limits probably not optimal
- My takeaway:
  - ▶ Spreads should be incorporated in the design of fiscal rules
    - ★ *Debt cannot increase if the spread exceeds X%*
  - ▶ However, not convinced debt limits should be scrapped
- Too many extensions
  - ▶ Perhaps expand the discussion on time consistency