Optimal austerity

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What the paper does:

- Great paper, though still preliminary
- Paper studies role of timing of tax decisions in model with sovereign debt subject to rollover risk
- Four possible timing situations considered

Modelling framework:

- Representative household plus benevolent government
- Preferences formed over consumption, leisure and government consumption
- Lower bound on government consumption
- No private savings
- Two states: normal times and recession

Modelling framework:

- Productivity affected by state of economy and possible default
- Sunspot as coordination device bankers (panic/no panic)
- Taxes are distortionary
- Risk-neutral international lenders
- Default is always in full
- Four cut off levels of debt

Four possible tax timings ranked according to decreasing commitment

- Tax set with commitment at t=0
- Tax set with commitment at start each period (before state and sunspot)
- Tax set with commitment each period after state and sunspot, before auction
- Tax set after lenders decide to panic or lend (no commitment; maximum flexibility)

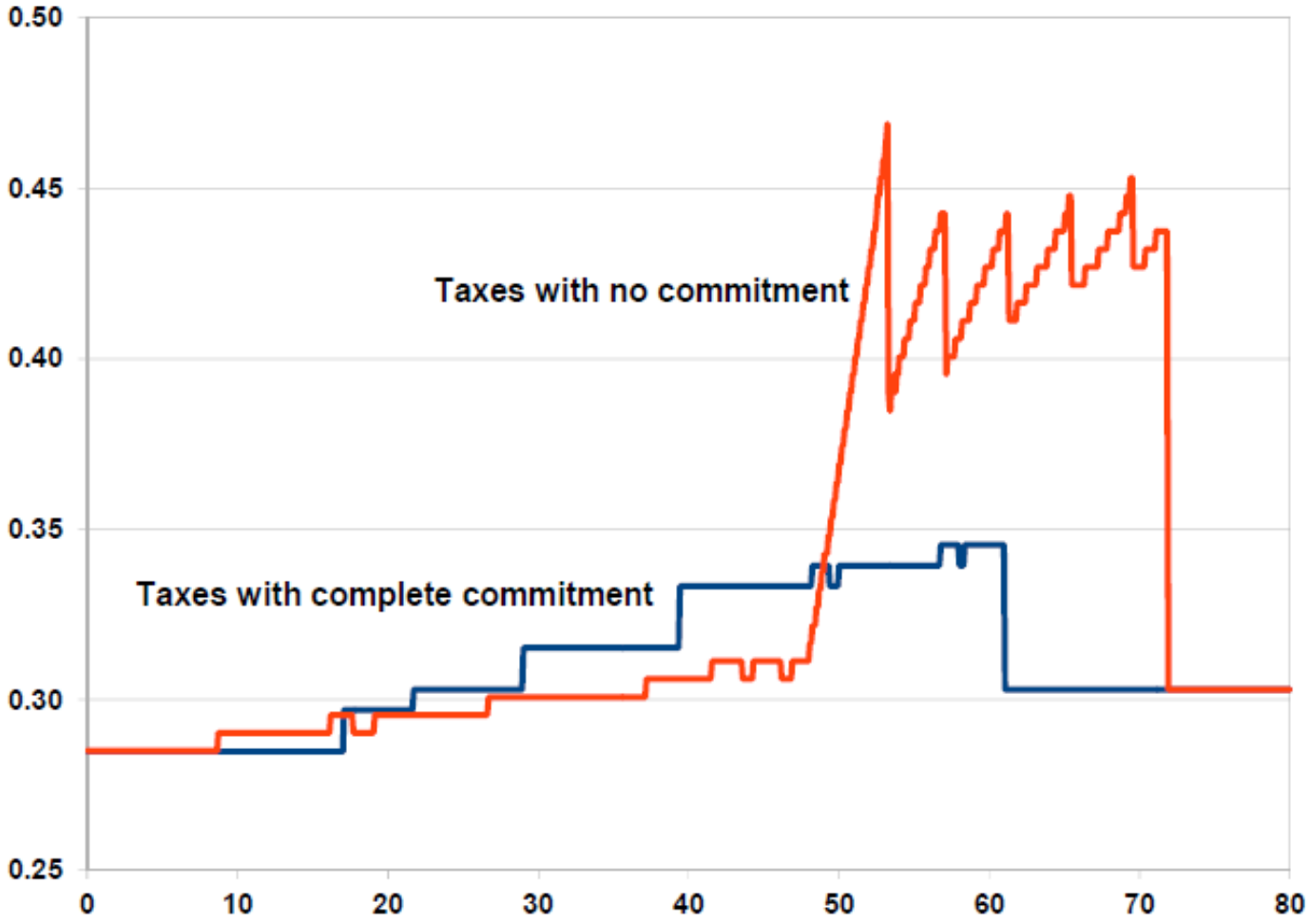
Main results:

- Complete commitment (T1): debt thresholds $\downarrow$, because you do not want taxes unnecessarily high when sunspot turns out to be good; still set so high as to reduce chance self-fulfilling panic

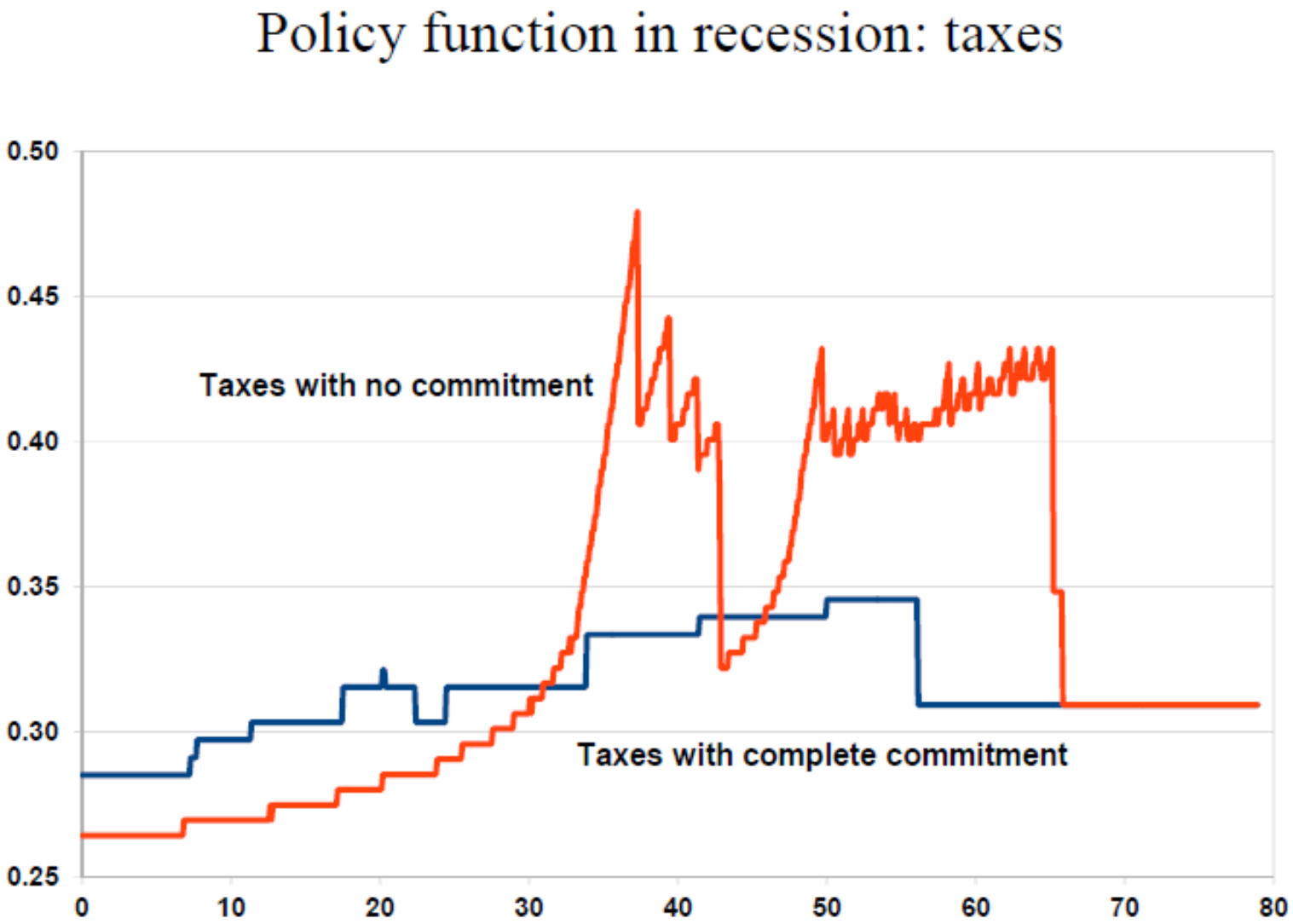
- No commitment (T4): high debt can be sustained, because tax can be raised in response to panic
  - Yields higher welfare, because tax can be set low for good sunspot and distortions are low

Main results:

Policy function in normal times: taxes



Main results:



Main results:

- Commitment after sunspot (T3) better than no commitment (T4): possibility to commit to high tax in response to bad sunspot (T3) lowers value of default $\rightarrow$ tax needed to avoid default under T3 is lower than "ex post" tax needed to avoid default under T4, and expands safe zone

- Commitment after sunspot (T3) better than commitment at beginning of period (T2): T3 allows setting low tax in response to good sunspot, while T2 yields high tax for all possible sunspot outcomes

Main results:

- Summarizing:
  - T1 $<$ T4 $<$ T3
  - T2 $<$ T3.
  - T2 versus T4: depends $\rightarrow$ more insight needed

Comments: general

- Focus of paper could be made clearer.

- What is purpose of looking for optimal commitment / timing of taxes? Institutional design?

- If so, two crucial issues:
  - Mapping into "reality": how much tax commitment / flexibility is there in reality? Is overnight tax response to panic possible?
  - What institutional or political arrangements generate possibility to commit to taxes or to adjust taxes immediately?

- Policy functions (debt, tax) differ a lot across alternative timings and in different debt regions: how general are patterns shown?

Comments: calibration

- Would be nice to calibrate to specific European periphery economies
  - Current debt levels, government consumption, output gap
  - Can we assess chances self-fulfilling debt panic?

- Some parameters are hard to calibrate, so important to explore sensitivity of results for these parameters:
  - Chance of panic
  - Vary ρ to vary losses from high taxes
  - Higher cost of default (default less attractive).
  - Larger fraction of debt to be rolled over (default more attractive).

Comments: calibration

- Default is full:
  - In reality most defaults are partial
  - Parametrize to average default rate in practice

Comments: mostly partial defaults

Country	Year	Total amount restructured[1] (bill US$)	Haircut (%)	Type of restructuring
Russia	1998–2000	38.7	52.6	Postdefault
Ukraine	1998–2000	7.8	28.9	Predefault
Pakistan	1999	0.61	31	Predefault
Ecuador	1999–2000	6.5	28.6	Postdefault
Argentina	2001–2005	145	75	Pre- and postdefault
Uruguay	2003	5.4	13.3	Predefault
Moldova	2002	0.08	37	Pre- and postdefault
Dominican Republic	2005	1.5	2	Predefault

[1] Domestic and external debt with private creditors.

Source: Sturzenegger and Zettelmeyer (2007, 2008).

Comments: calibration

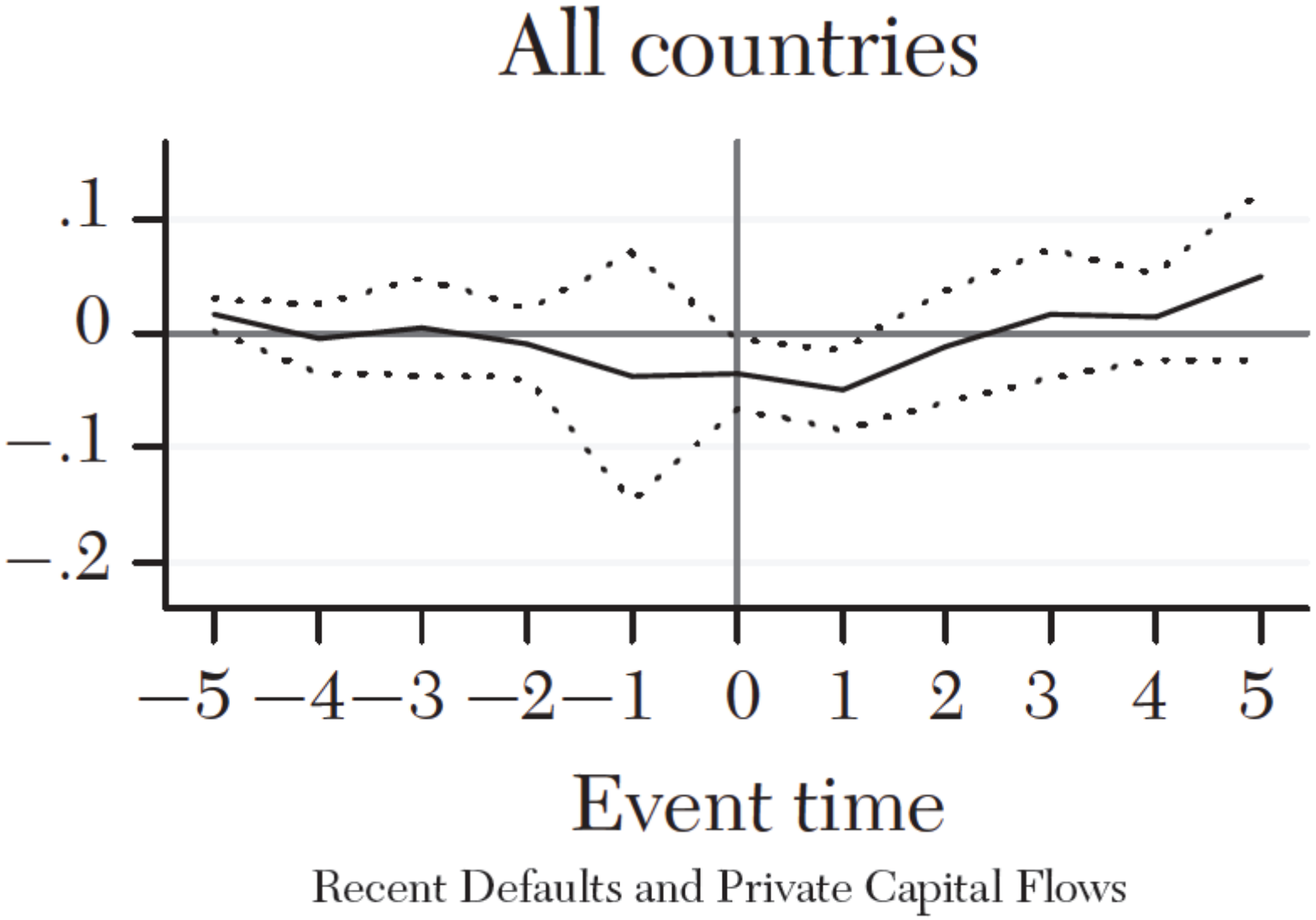
- Default costs are very high
  - Permanent exclusion from capital market
  - Permanent fall in output

- No need to make permanent exclusion assumption, since default is modelled already as costly
  - In reality, international borrowing and lending usually resumes after a while

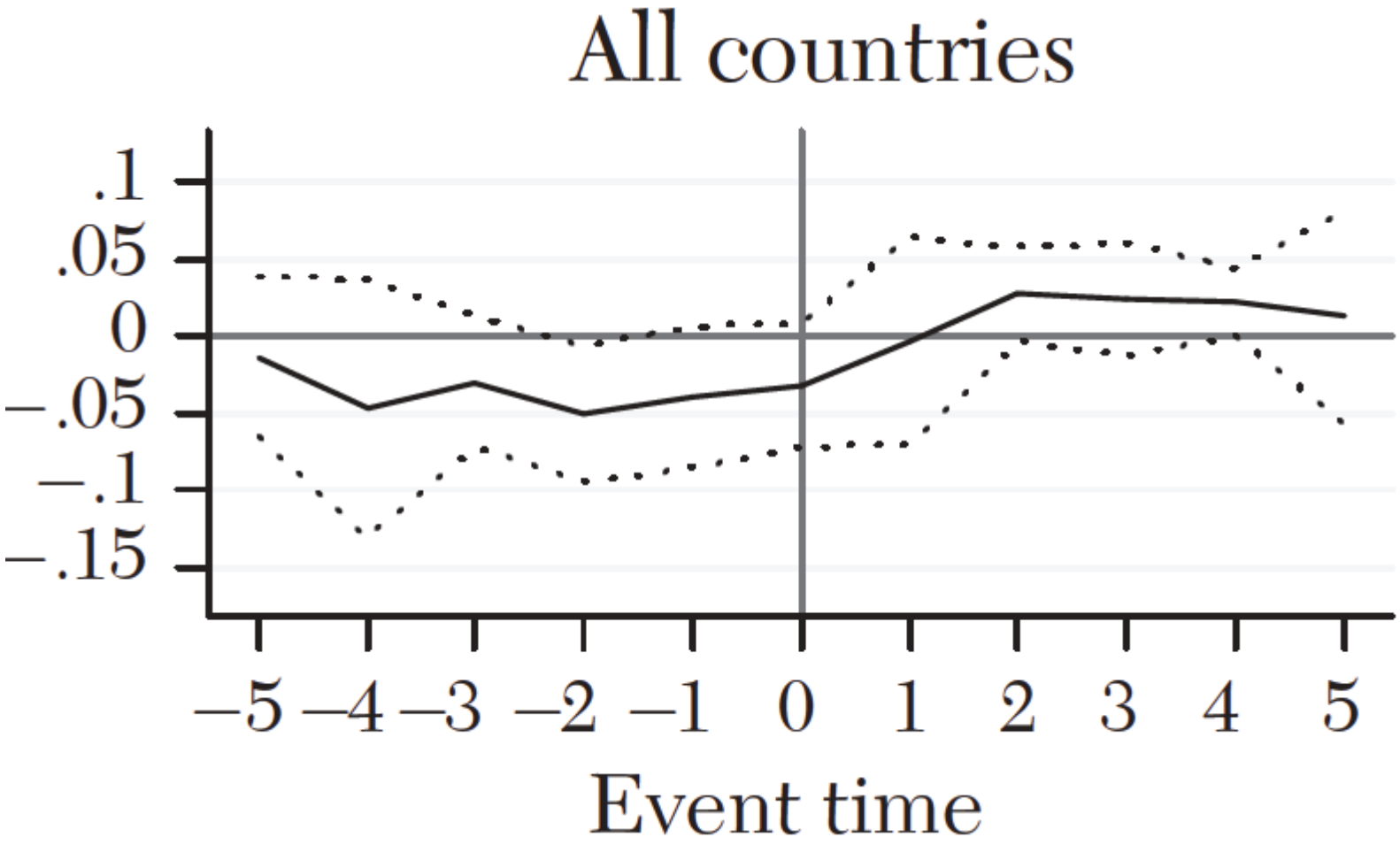
- Maybe not surprising:
  - Default removes debt overhang and stimulates future growth

- Reducing exclusion time reduces taxes under all timings

Comments: default leads to permanent exclusion? (Panizza et al, JEL, 2009)



Comments: permanent default cost? (Panizza et al, JEL, 2009)



Recent Defaults and GDP Growth

Other comments:

- Show formal welfare analysis of the various timing assumptions of the tax decisions

- What are the trade offs?

  - Default costs
  - Exclusion from market after default: less consumption smoothing in response to a recession
  - Tax distortion costs

Other comments:

- Provide more intuition for various results.
- In reality, panic chances of investors likely depend on state of business cycle.
- Average debt maturity shrinks as debt ratio increases
- Presentational issue: present horizontal axis in percent of GDP rather than numbers.
- Saw teeth patterns in figures is result of limited number of grid points?

Other comments:

- How important is assumption of no private savings?
- Relaxing this assumption would imply that private agents accumulate resources (work more, tax revenues higher) in anticipation of a potential default and the associated losses.
- Timing of new debt issues may be crucial factor determining roll-over risks (see Beetsma et al., JFI; Beetsma et al., 2016)
  - Avoid periods of unrest in the financial markets
  - Keep enough distance in time to debt issues of other countries

THANK YOU!