Fiscal Multipliers: Lessons from the Great Recession for Small Open Economies

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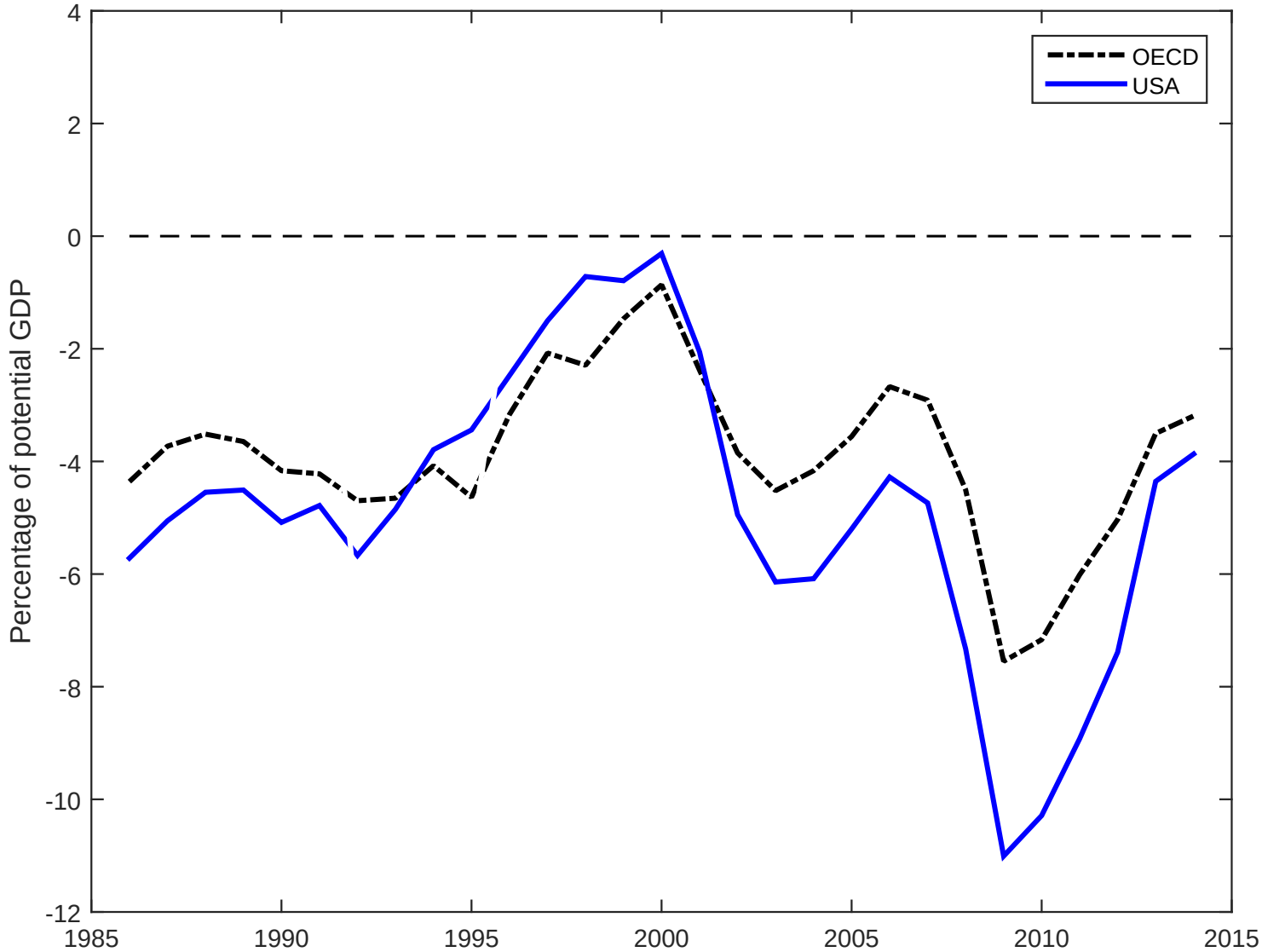
Swedish Fiscal Policy Council

Cyclically adjusted government net lending



Source: OECD Economic Outlook

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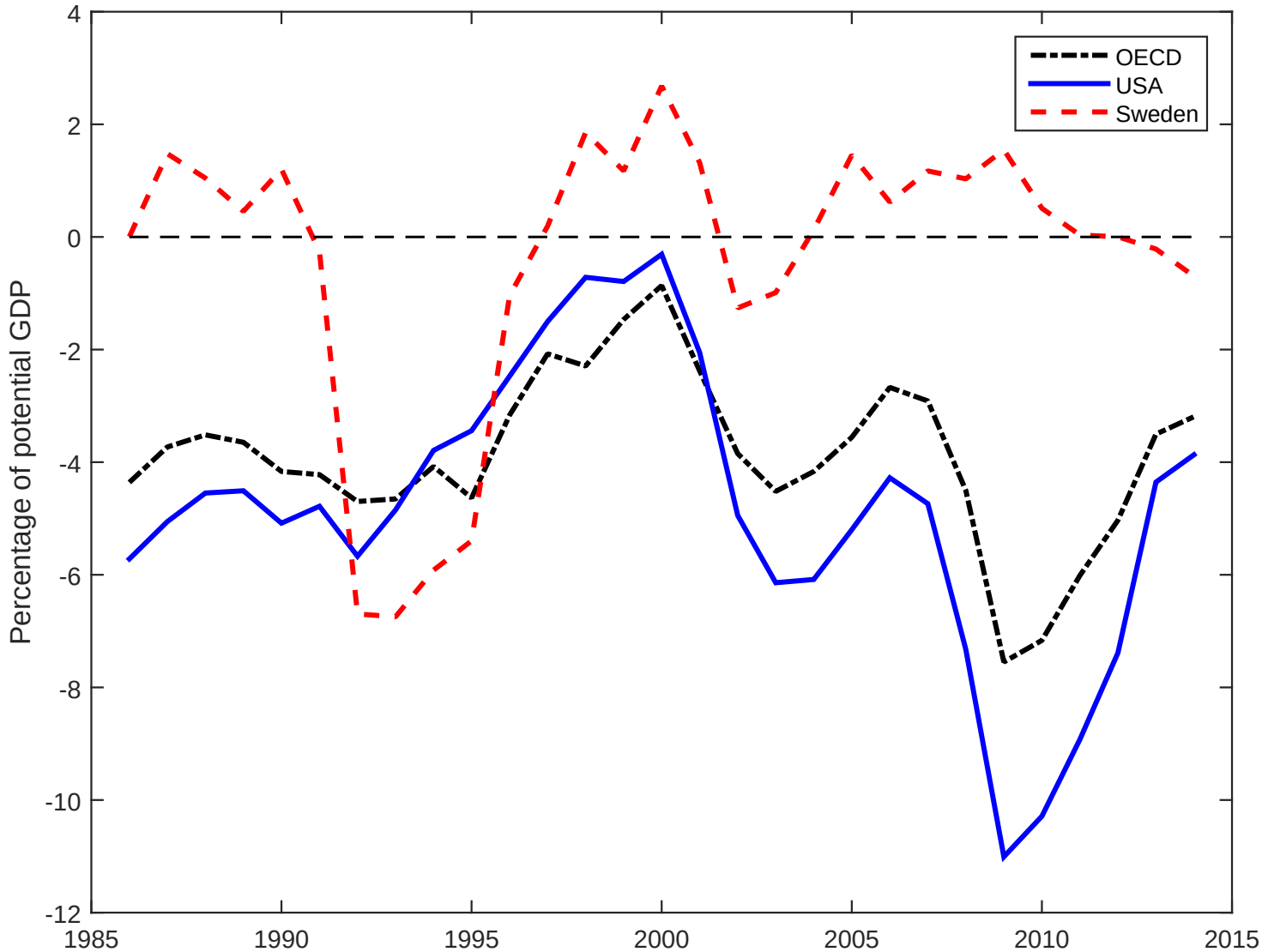

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Introduction

After years of oblivion (during the Great Moderation), crisis re-ignited the controversy on fiscal policy

- Initial debate: size of 'the' multiplier. See e.g. Bernstein and Romer (2009) vs Cogan, Cwik, Taylor & Wieland (2010).

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The paper summarizes and puts into perspective various aspects of the recent debate, and addresses five questions by the Swedish Fiscal Policy Council.
Focus on government spending, not to deny the key importance of taxes and transfers (a future report?)

The 5 questions

1. What do we know about the size of fiscal multipliers in different circumstances and for different instruments?
2. Is the old consensus that discretionary policy should be avoided and only used in exceptional circumstances still a good advice? If not, can it be replaced with something else, e.g., the Temporary, Targeted and Timely advice?
3. Would it be possible to set up an early warning system for fiscal vulnerability?
4. Is there a substantial difference in terms of the value stabilizing different types of shocks, e.g., to export demand, domestic demand and supply, and if so what is then the impact of this on the optimal policy?
5. The financial crisis illustrated the connection between financial and fiscal fragility. Do we know anything about the implications of this for fiscal policy?

Table of Contents

Disclaimer: no balanced survey, draws primarily on own work

How are multipliers estimated? Need to identify "shocks"

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6. Quasi experiments (Acconcia, Corsetti & Simonelli, 2014)
   - Most appropriate for local public spending

Estimates of multipliers

Estimates of multipliers

	data	spending	taxes
Blanchard/Perotti 2002	US	1.3	0.78
Mountford/Uhlig 2009	US	0.61	3.57
Romer/Romer 2010	US	...	3.0
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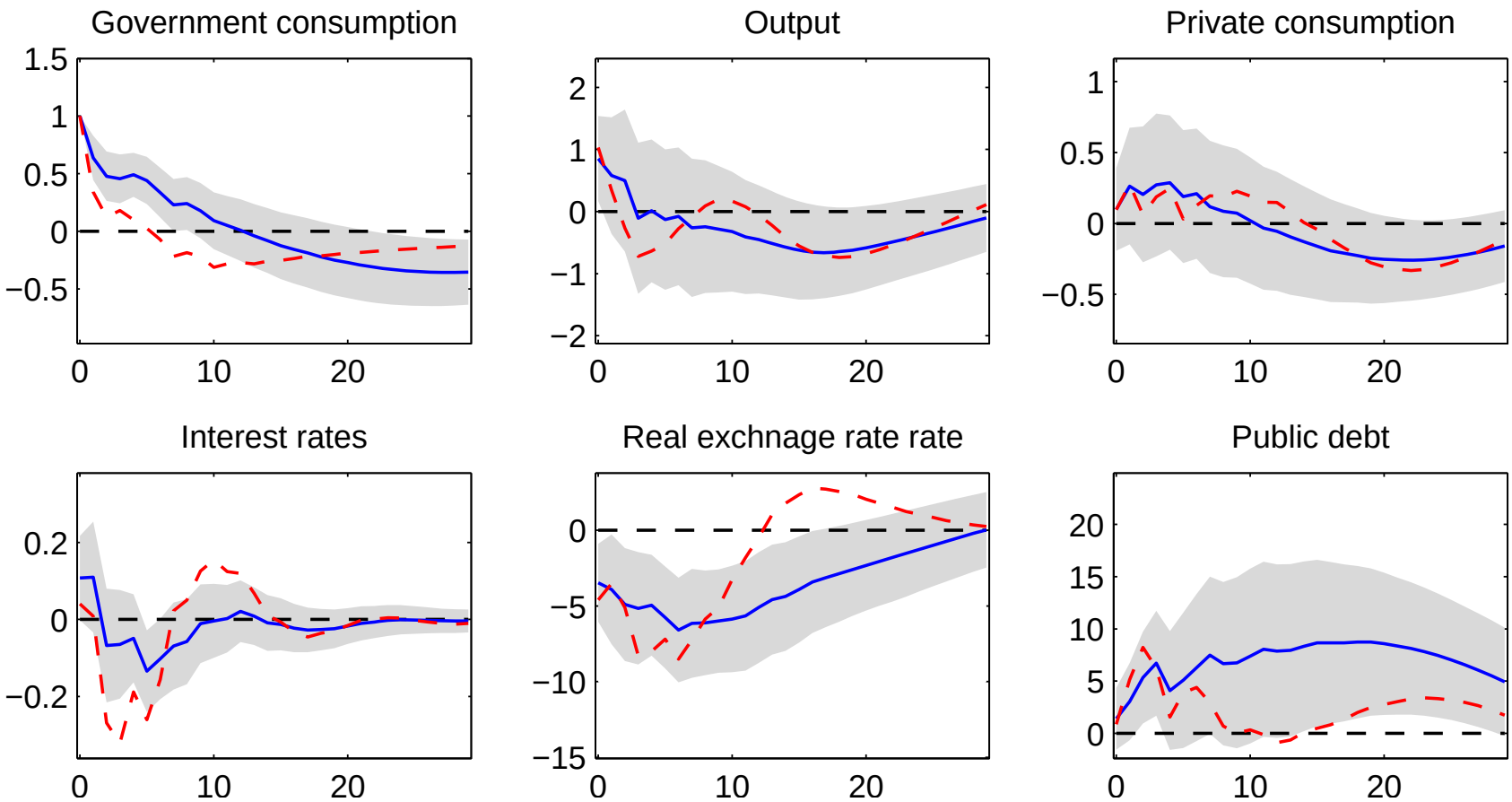
- Above: average across cycles, monetary regimes, states of financial system etc.
- Differences across methods smaller in informationally large models (Ricco 2015) or using similar samples

Blanchard-Perotti and Ramey approach to estimate spending multipliers: similar results for US data 1983–2007



Source: Corsetti, Meier & Müller (ReStat, 2012)

Estimates of "State-dependent" multipliers

Harder methodological problem: (a) identify exogenous shocks, (b) measure multipliers across states of the economy

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Born, Müller & Pfeifer (2015)

- 31 advanced and emerging economies, quarterly data 1991–2014
- Fiscal stress (captured by high sovereign yield spread) and business cylce

	Multiplier on output		
	Impact	Maximum	Cumulative
Float, sound fiscal, no crisis	−0.0	−0.0	−0.2
Currency Peg	0.6	0.6	0.6
Weak Public Finances	−0.7	0.2	−1.2
Financial crisis	2.3	2.9	2.2
Benign times	−0.14	−0.33	−0.45
Fiscal stress	0.65	1.18	1.72
Boom	0.02	0.68	0.69
Recession	0.50	0.80	1.45

Upper panel: estimates by Corsetti et al 2012; lower panels: estimates by Born et al 2015; cumulative multiplier over two years: $(\sum Y_t / \sum G_t)$

More evidence on state-dependent multipliers

Exchange rate regime

- Ilzetzki, Mendoza & Végh (2013), Born, Müller, Juessen (2013), Kim (2014)

Fiscal stress/high public debt

- Perotti (1999), Ilzetzki, Mendoza & Végh (2013), Auerbach and Gorodnichenko (2013)

Boom/recession

- Auerbach and Gorodnichenko (2012, 2013)
- Dissenting views: Ramey and Zubairy (2014), Alloza (2014)

3. Model-based analysis

Small open economy model (basic New Keynesian setup)

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Varying

- monetary regime: from pure inflation targeting to exchange rate pegs
- financial conditions; wtih/without possibility of sovereign risk crisis

Caveat: difficult theoretical issues — resort to some empirically motivated assumptions

Modelling fiscal and monetary policy

Deviations from steady state

Unexpected increase in spending, followed by adjustment in both

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1. inflation target (Taylor rule) under a free float
2. exchange rate target (equivalent to foreign price level target by relative PPP)

$$r_t = \phi \pi_{H,t} + (1.5 - \phi) e_t$$

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- For $\phi < 1.5$: mimic optimal policy under commitment

4. Two key results

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   - The "Benign Coincidence"

2. Stabilization in a sovereign risk crisis
   - although exchange rate depreciation may help (Krugman 2014)
   - multipliers tends to be muted, or negative, when deficits feed fiscal and financial instability
   - Divine coincidence breaks down under a Peg or when policy rates are at the zero lower bound.

4.1 The "benign coincidence"

If no sovereign risk, the output effects of both external shocks and government spending are larger when policy rates are at the zero lower bound, than under a peg or a pure float.

$$ZLB > 1 > Peg > Float > 0$$

- Policy instruments most effective, precisely when shocks open large 'gaps'

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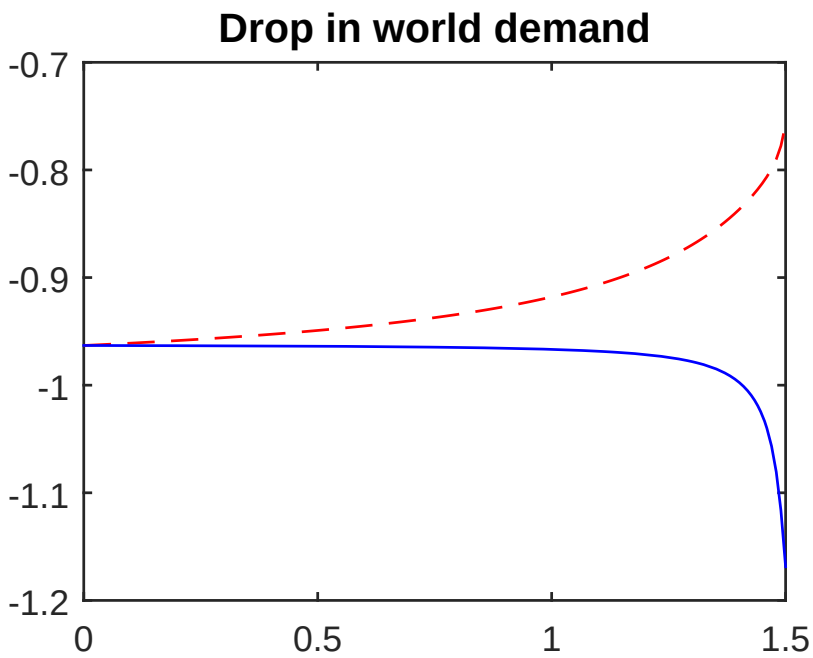
The "benign coincidence"

Impact (first quarter) response of output to shocks,
by monetary regime: from 0=peg to 1.5=pure float,
zero lower bound or without ZLB



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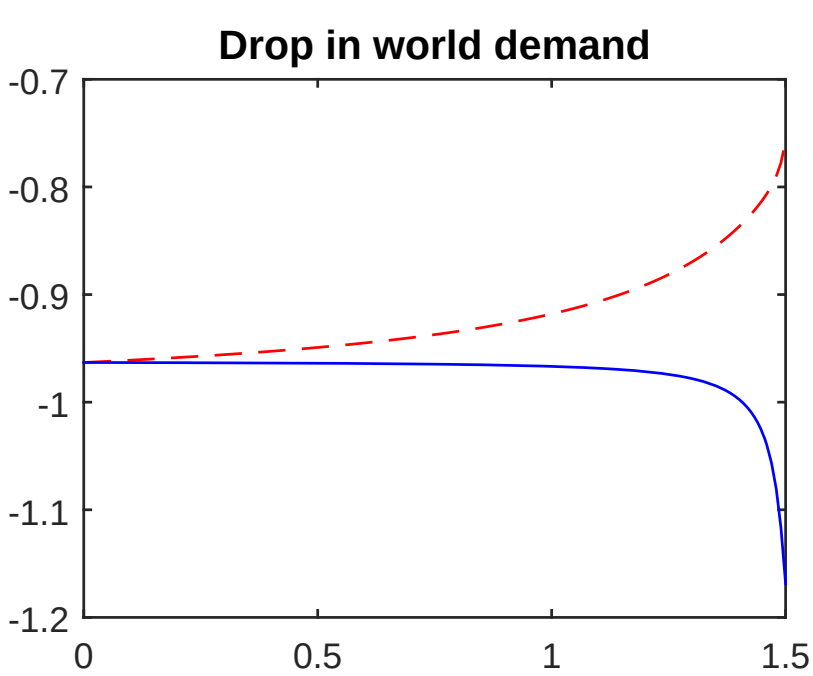

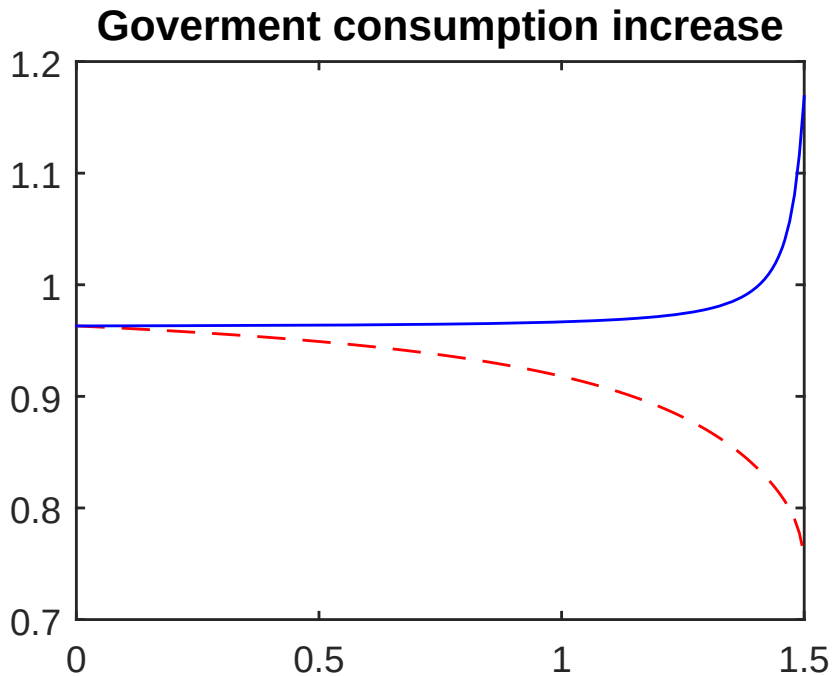

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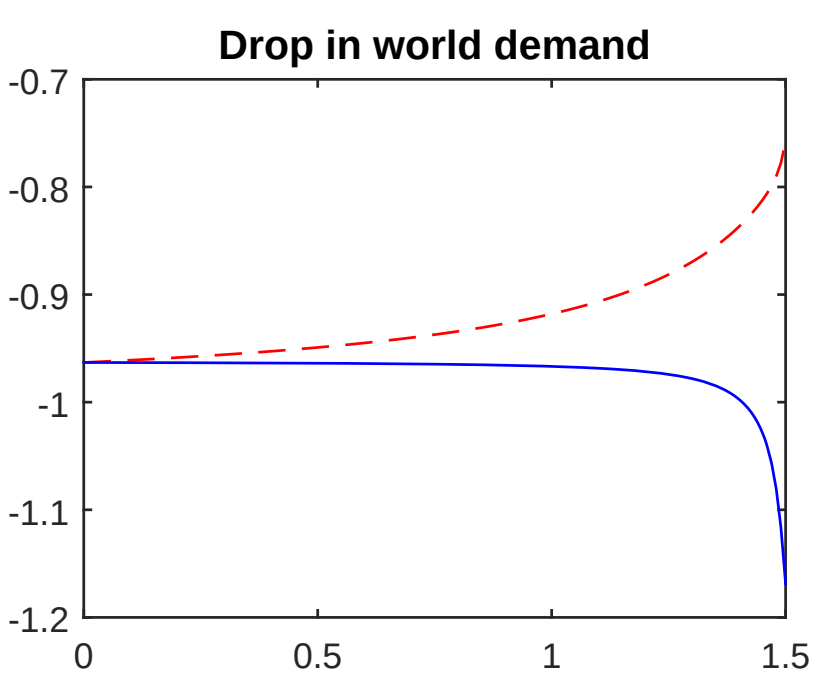
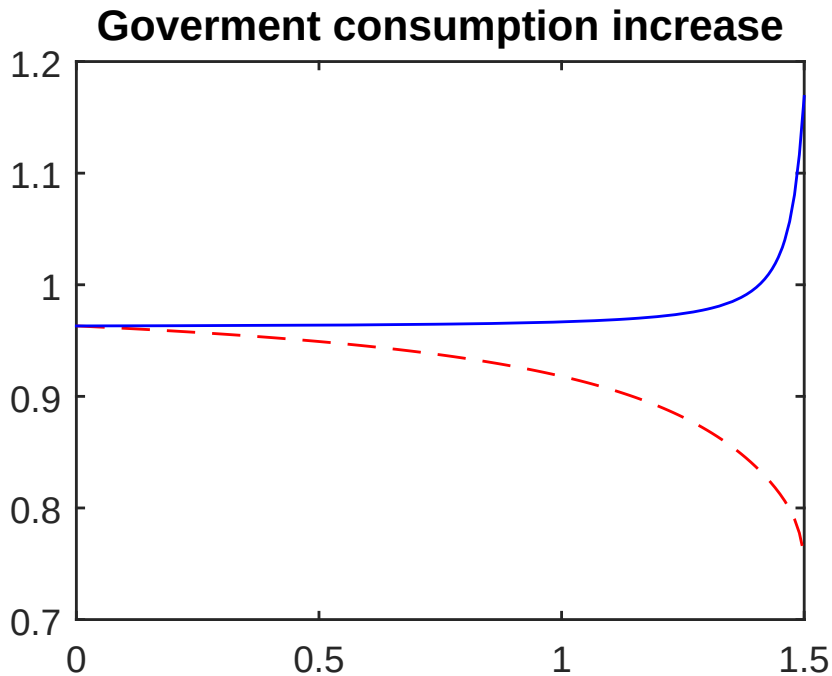




- "Benign coincidence": multiplier large precisely when need for stabilization higher

Credit frictions

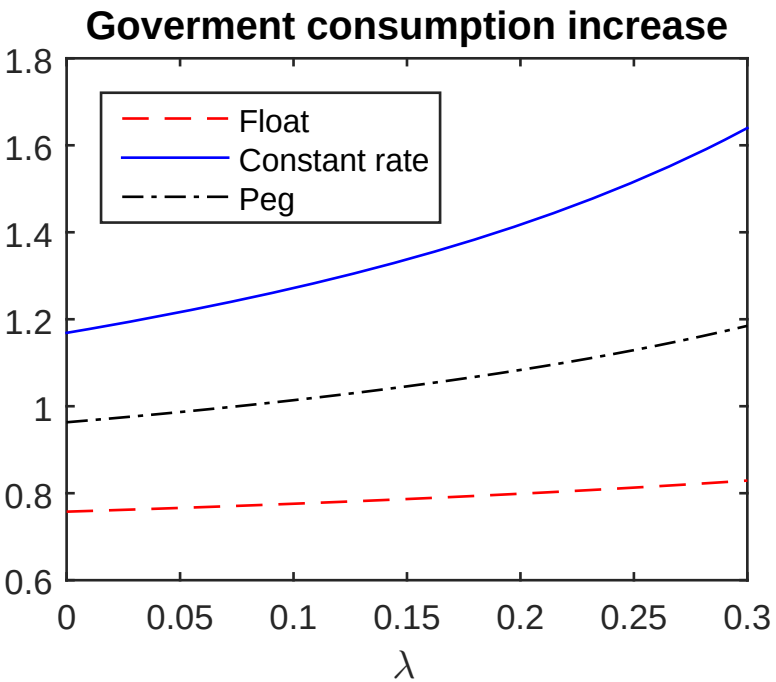
Recall evidence: multiplier particularly large during financial crisis.

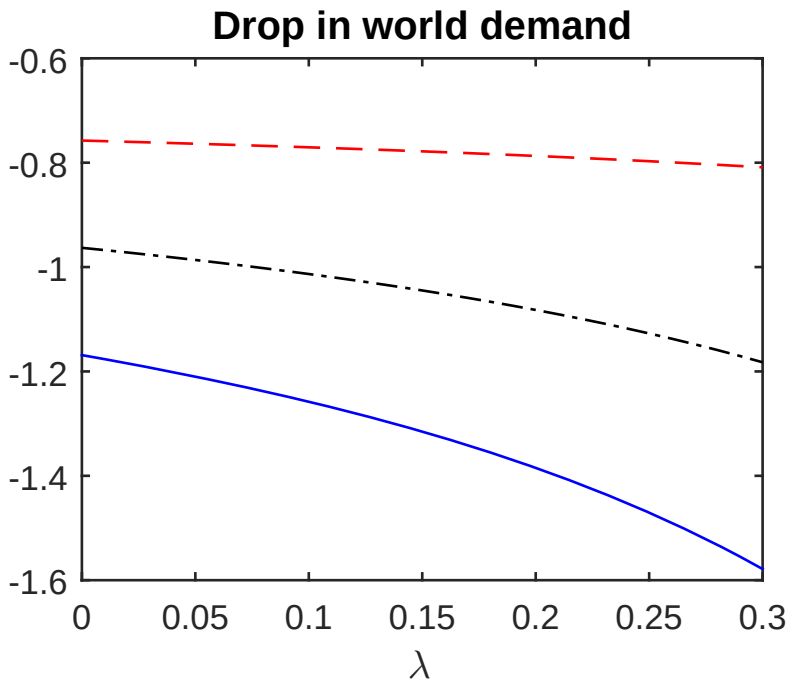
- In the model, a fraction λ of households is "hand-to-mouth" (Galí et al, 2007) or excluded from asset markets

Hand-to-mouth households

- Expenditure depends on current income
- Increases multipliers via higher wages

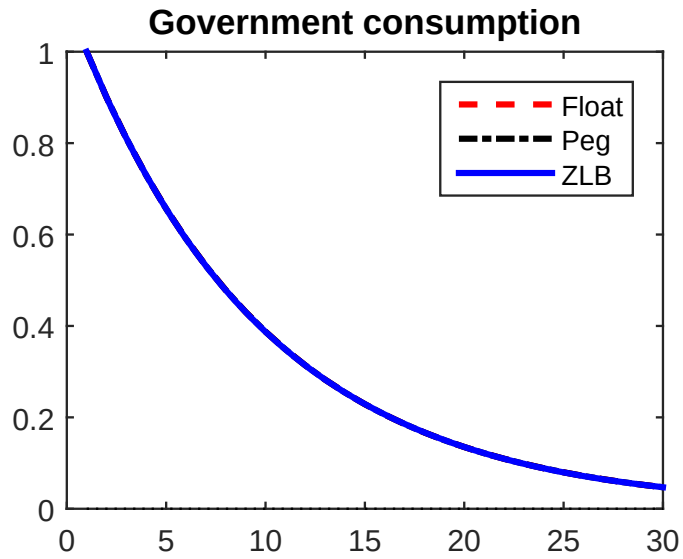
Multipliers larger with more credit constrained households λ

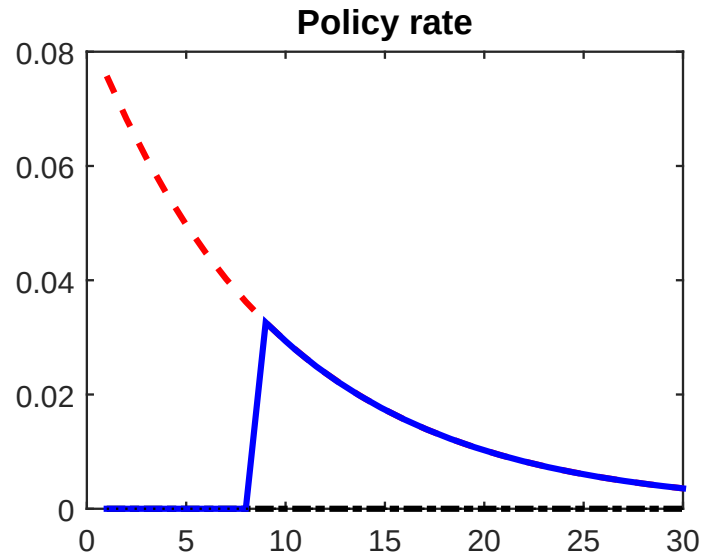


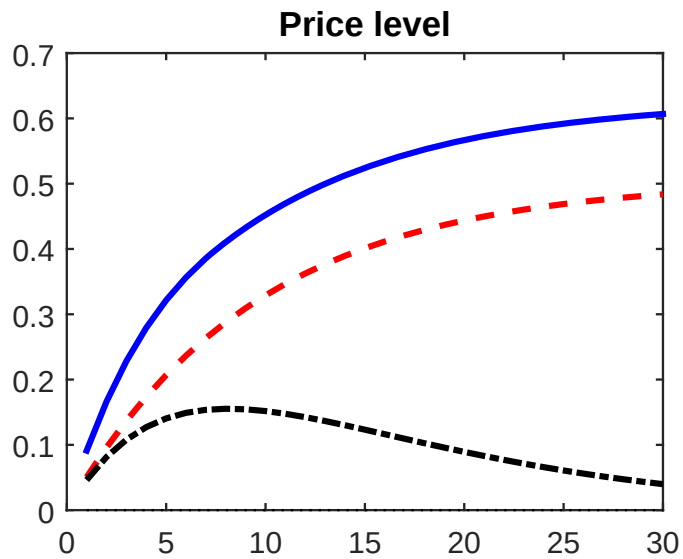


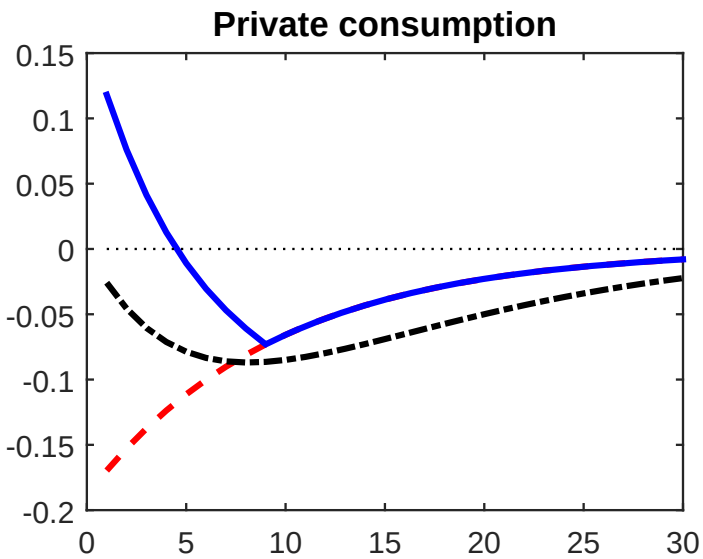
- Still Benign coincidence

The transmission of fiscal policy by monetary conditions









4.2 Sovereign risk crisis

Key features of recent crisis in some (EZ) countries

- Sovereign debt not risk free; spreads rise with expectation of rising debt
- Risk premia pass-through into private sector borrowing rates (financial-fiscal nexus)
- Incomplete risk sharing across borders

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- Sovereign debt not risk free; spreads rise with expectation of rising debt
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Rely on Corsetti et al. EJ 2013 to extend the model.
For simplicity

- Sovereign risk operates only through financial channel (abstract from wealth effects/redistribution from ex post default)

$$\hat{c}_t = -E_t \sum_{s=0}^{\infty} \left(r_{t+s} - \pi_{H,t+s+1} + \chi \hat{d}_{t+i} \right)$$

The 'sovereign risk channel'

With weak public finances and given monetary policy (conventional and unconventional)

- Adverse world demand shock: tax revenues decline and debt builds up
- The increase in sovereign risk spill overs onto private risk, private demand and prices fall, amplifying the contraction

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Under these conditions:

- the economy is vulnerable to self-fulfilling expectations of a downturn and fiscal/financial crisis
- An increase in spending has two opposing effects
  - Multiplier (positive)
  - Indirect deterioration of financial conditions for firms and households (negative)

Can exchange rate depreciation mitigate the 'sovereign risk channel'?

Krugman (2014): risk is expansionary via real depreciation boosting external demand

Our model provides a close-up analysis

- Risk reduces domestic demand and prices
- Under a float, the central bank cuts rates, the exchange rate depreciates
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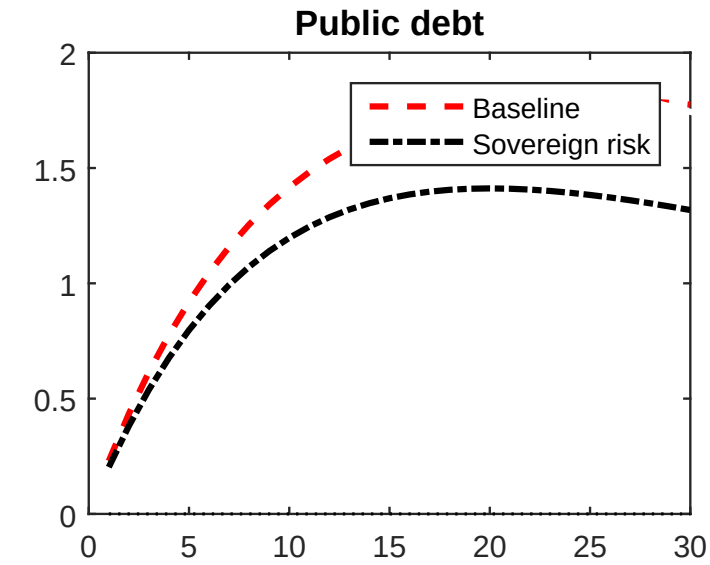
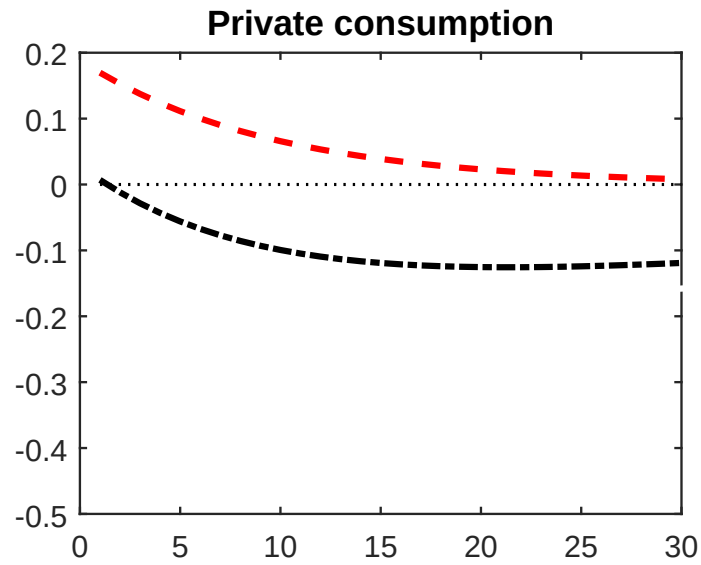
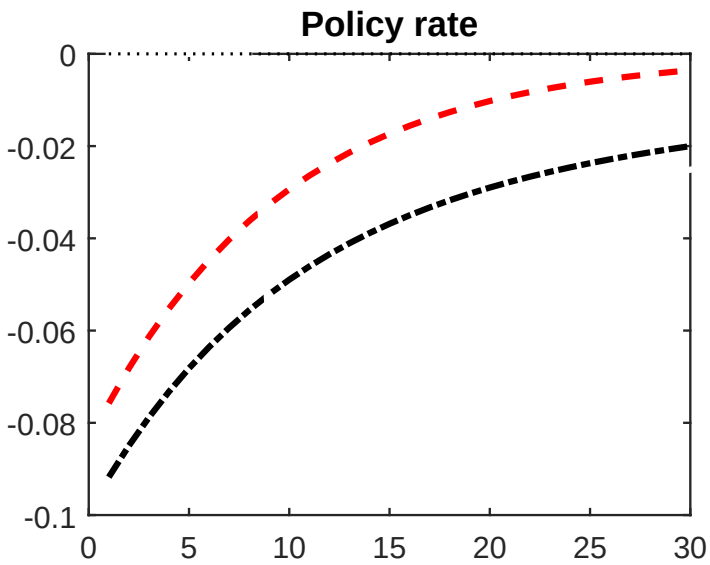
But:

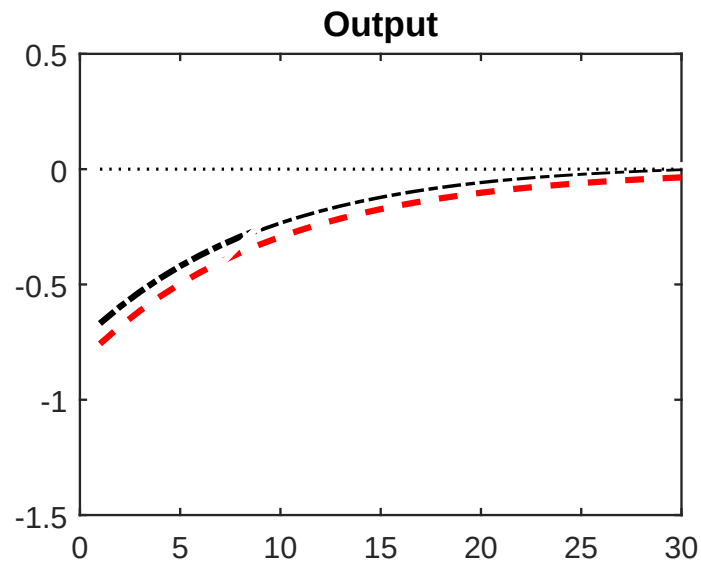
1. External demand helps containing drop in output, but economy suffers drop in consumption and prices
2. Depreciation is problematic at the Zero Lower Bound

Adjustment to adverse world demand shock (Float)

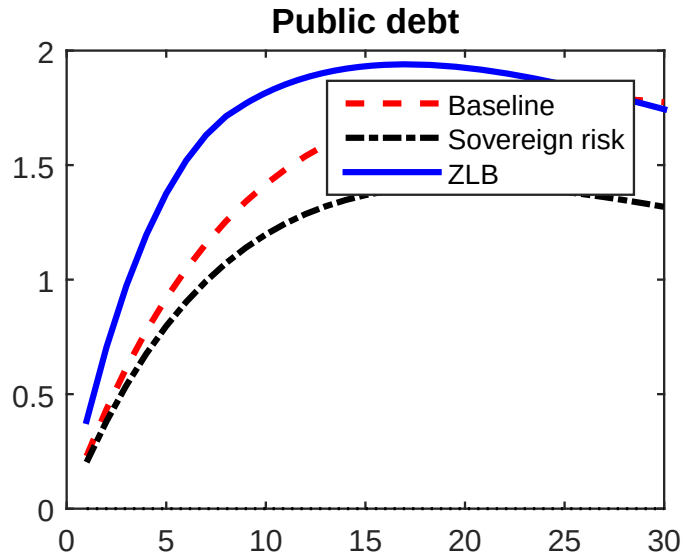


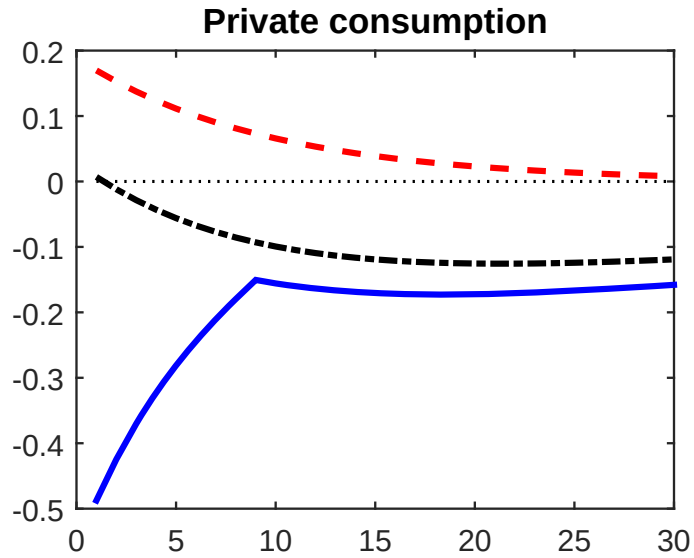


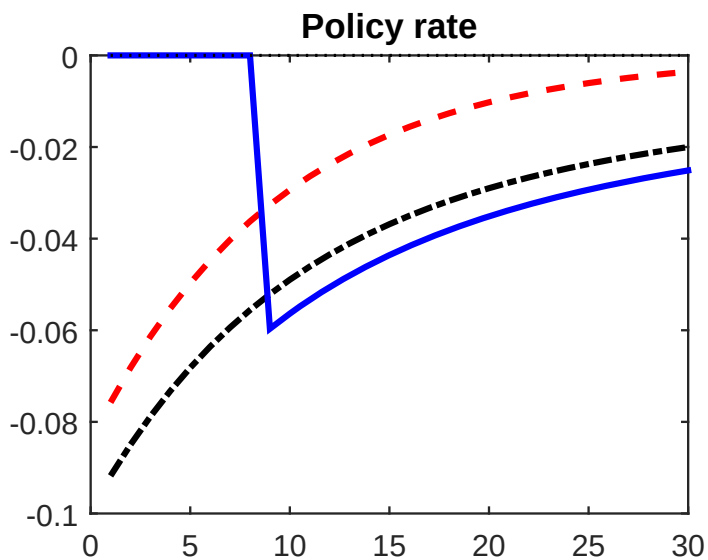


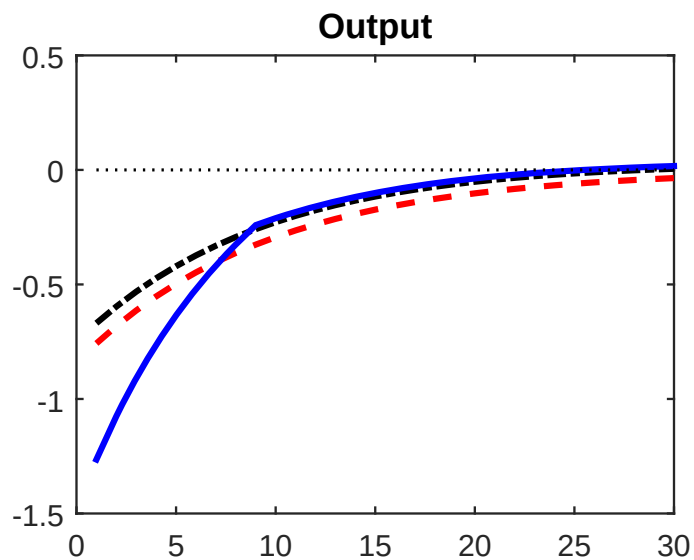


Adjustment to adverse world demand shock (ZLB)



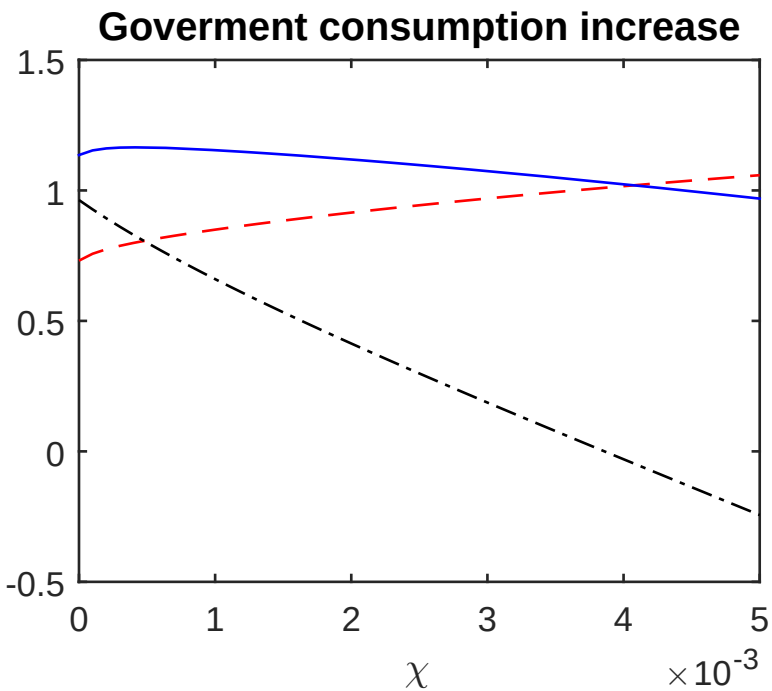


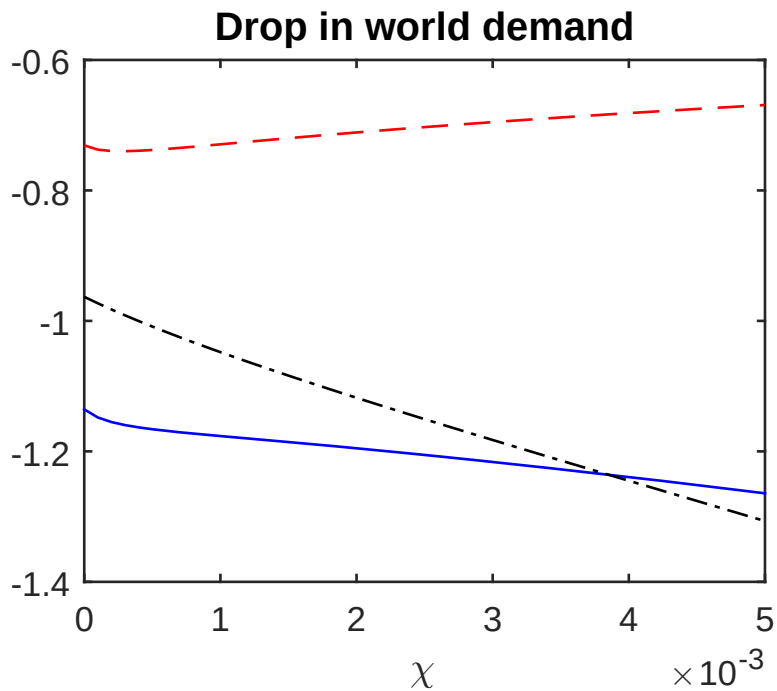




With Sovereign Risk, Benign Coincidence unlikely at the ZLB or under a Peg

float,ZLB and peg





- higher χ indexes higher sovereign risk channel
- Fiscal policy least effective when needed most

5. Conclusions/Questions

Q1. What do we know about the size of fiscal multipliers in different circumstances and for different instruments?

- Tax multipliers larger than spending multipliers: new literature on liquidity constraints
- Available state-dependent evidence on spending multipliers
- Multipliers are small or moderate ($<< 1$) under benign conditions and flexible exchange rates
- Larger, but still moderate under a peg (< 1)
- Sizeable during financial crises, during recessions and at zero lower bound (> 1)
- Sovereign risk may raise or lower multipliers (likely depending on monetary regime)

Q2. Is the old consensus that discretionary policy should be avoided and only used in exceptional circumstances still a good advice? If not, can it be replaced with something else, e.g., the Temporary, Targeted and Timely advice?

- Results support case for discretionary fiscal policy under exceptional circumstances, provided sufficiently stable fiscal outlook
- Fixed exchange rate regime: fiscal policy's role larger; but the case for maintaining a sound fiscal outlook is even stronger
- At zero lower bound "Temporary, targeted and timely" applies strongly; yet there is large uncertainty regarding the duration of ZLB episodes

Q3. Would it be possible to set up an early warning system for fiscal vulnerability?

- Desirable, in analogy to value at risk analysis; permits to determine fiscal capacity required to stabilize the economy in response to severe shocks; contingent assessment would include financial stability, demographic as well as health risks, and global disruptions
- The country's overall governance (including regulation and resolution of financial intermediaries) matters a great deal

Q4. Is there a substantial difference in terms of the value stabilizing different types of shocks, e.g., to export demand, domestic demand and supply, and if so what is then the impact of this on the optimal policy?

- Benign coincidence in the face of external shocks: multiplier is large, when need for stabilization due to external shocks large
- Doesn't hold in the presence of sovereign risk (more analysis is needed, also from a welfare perspective)
- In addition, sovereign risk can act as a catalyst of endogenous risks; at ZLB, an endogenous—even procyclical—fiscal stance may turn out to be needed to prevent self-fulfilling crisis (Corsetti, Kuester, Meier & Müller, 2013)

Q5. The financial crisis illustrated the connection between financial and fiscal fragility. Do we know anything about the implications of this for fiscal policy?

- Sovereign risk channel permits that fiscal fragility is passed-through into private borrowing conditions, reflecting financial fragility (Bocola, 2014) $\rightarrow$ dramatic implications for fiscal policy transmission
- Financial fragility may also impair fiscal stability $\rightarrow$ "diabolic loop" through which financial and fiscal instability reinforce each other
- Broader assessment of prerequisites of effective fiscal stabilization