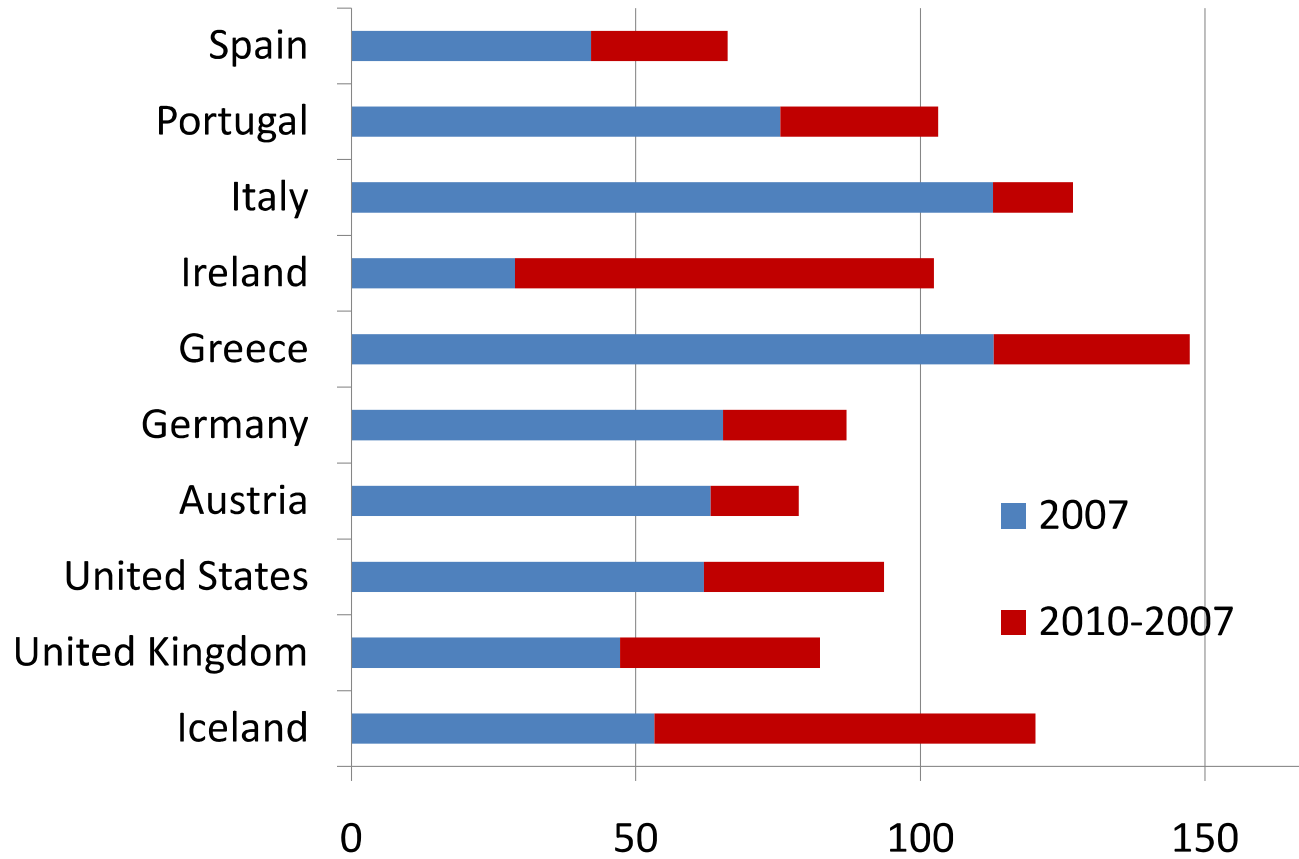# Sovereign risk and stabilization policy

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Cambridge University

**The Role of Central Banks in Financial Stability:
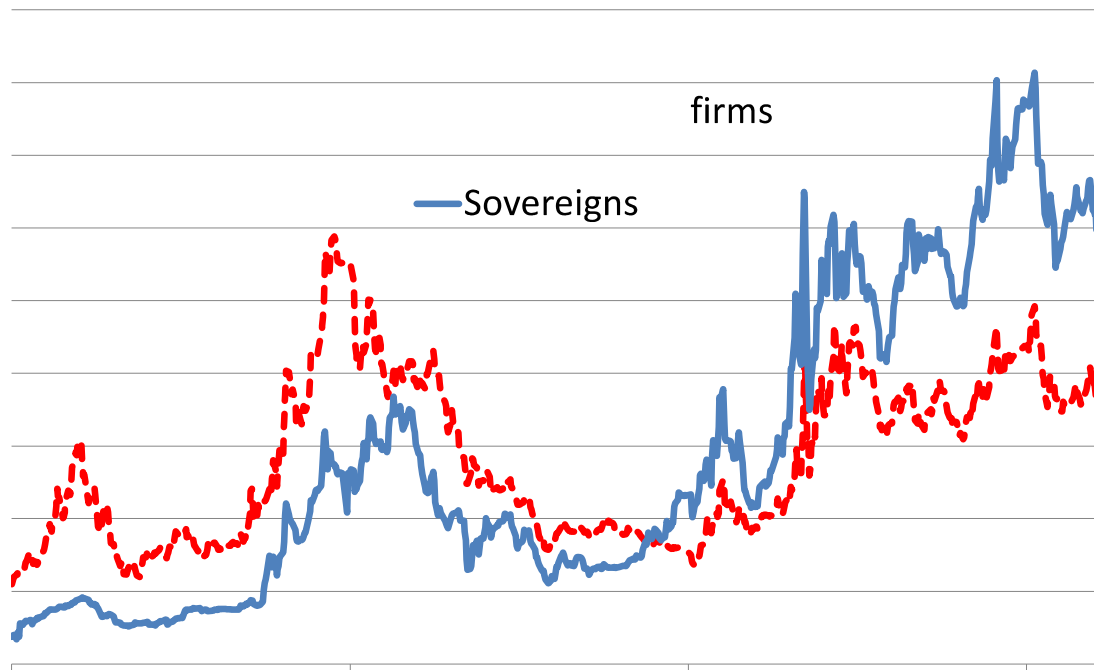How Has It Changed?**

Fourthteen Annual International Central Bank Conference
Chicago November 10-11, 2011

Public debt

■	2007
■	2010-2007

Countries (top to bottom): Spain, Portugal, Italy, Ireland, Greece, Germany, Austria, United States, United Kingdom, Iceland

X-axis: 0, 50, 100, 150

'Il sorpasso'

CDS spreads in high risk euro-area countries

Sovereign risk and its transmission to the economy

Sovereign risk by itself might not affect economic activity (after all, what matters are ex-ante real return…).

However, it is well documented that, when markets price sovereign default risk, rising spreads spill over to the rest of the economy, i.e. they affect adversely borrowing conditions in the private sector

- jurisdiction (taxation, disruption) risk,
- balanced sheet effects,
- other channels.

Much of the current debate is on the 'contagion'involving banks (within and across borders)

Sovereign and financial institution CDS spreads

Correlation:
0.91 (levels)
0.76 (daily changes)

Sovereigns (SOVX WE)

Itraxx Senior Financial Europe
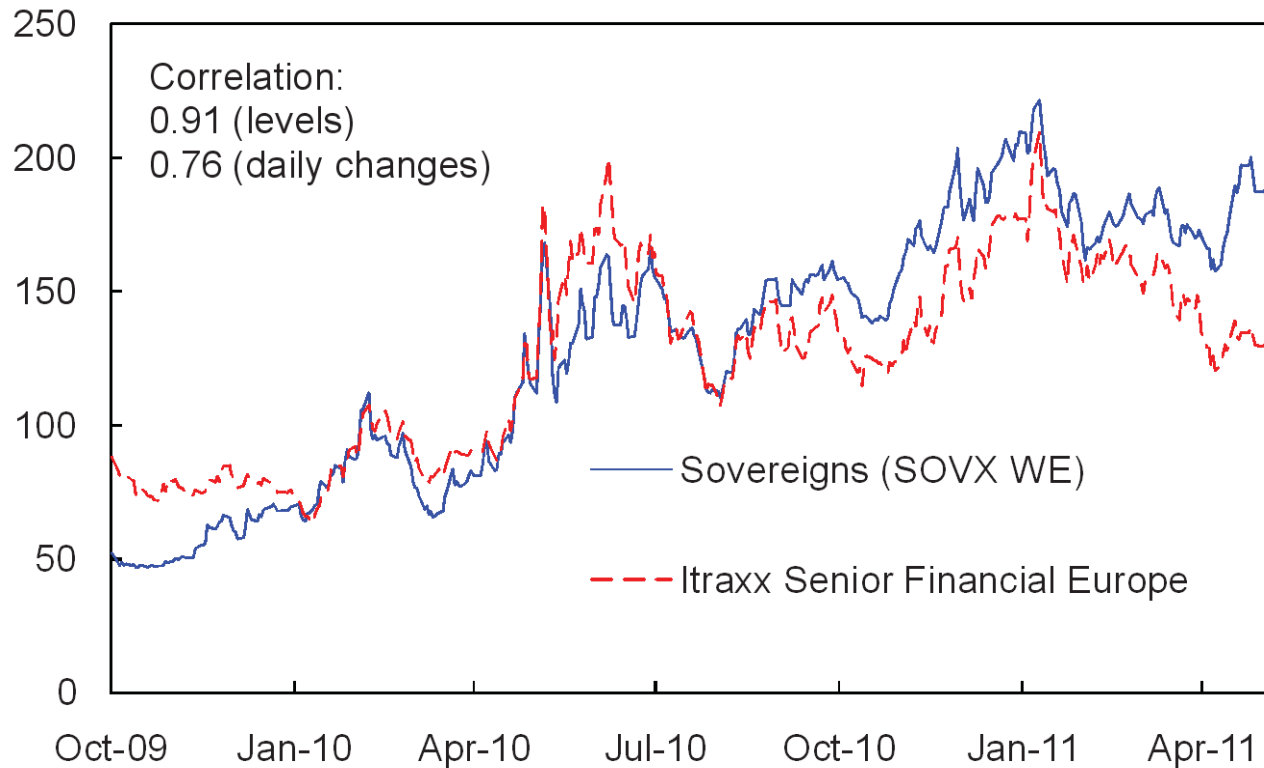
5yr CDS spreads on European sovereign debt and European senior debt issued by financial institutions.

The constituent countries of the index are Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Spain, Denmark, Norway, Sweden and United Kingdom, equally weighted.

Spillovers from sovereign risk

Given the stress on banks, one may expect an indirect effect of sovereign risk on bank-dependent economic agents, i.e. households and small firms

But spillovers are also relevant for relatively large corporations, possibly able to raise financial resources directly from the market, and need not rely on the domestic banking system.

Sovereign and large non-financial corporate CDS spreads

Figure 1: Sovereign and Non-financial corporate CDS Spreads
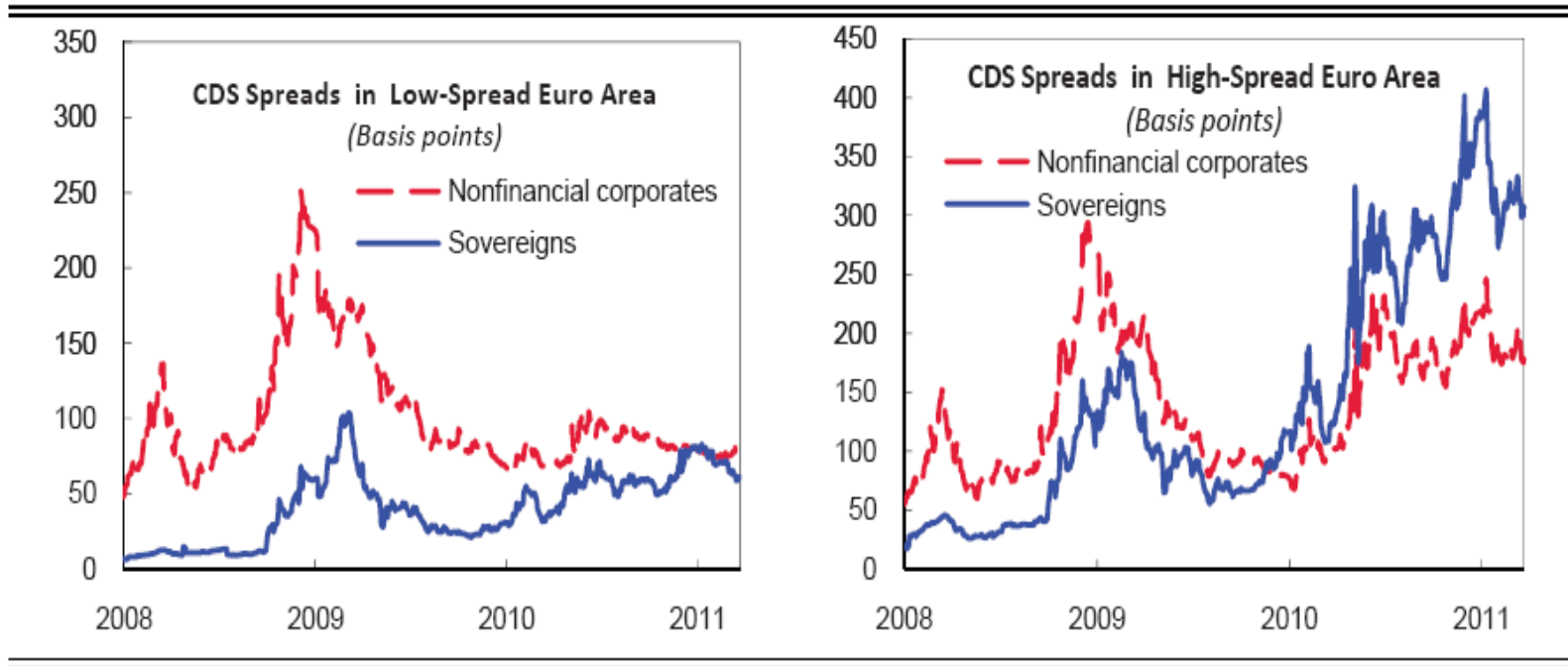
For the Eurozone, credit default swap spreads for sovereign debt (solid line) and non-financial corporate debt (dashed line).
Left: Low sovereign spreads (Austria, Finland, France, Germany, and the Netherlands).
Right: high-spread countries (Belgium, Greece, Italy, Portugal, and Spain).

What difference does it make for stabilization policy?

- Given policy rates, an increase in sovereign risk depresses aggregate demand, by raising private borrowing costs.

- Monetary policy may manage to offset this effect via a cut of policy rate (or unconventional measures).

- A rate cut may however be controversial at times of fiscal crisis.

- Most importantly, there may not be enough room for a cut (zero lower bound).

What difference does it make for stabilization policy?

In what follows, this question is discussed extending the standard monetary policy model, as to encompass a '**sovereign risk channel'**

I build on the full analysis of the this channel detailed in Corsetti Kuester Meier and Mueller 2011.

Posit
- –Limited commitment by governments to effective fiscal reforms (full commitment would rule out sovereign risk)
- –A relation between sovereign spreads and anticipated fiscal outlook
- –Spillovers from jurisdiction risk affecting borrowing costs (using Curdia-Woodford framework).

The 'canonical' monetary model
without sovereign risk

A Phillips curve relating inflation Π to expectations and output gaps

$$\Pi_t = E_t\, \Pi_{t+1} + \kappa Y_t + \ldots$$

Aggregate demand relating economic activity Y to real rates $i_t - E_t\, \Pi_{t+1}$

$$Y_t = E_t\, Y_{t+1} + \sigma(i_t - E_t\, \Pi_{t+1}) + \ldots$$

A Taylor rule approximation to the way central bank sets its rates

$$i_i = \Phi_\Pi \Pi_t - i^d$$

A 'canonical' monetary model
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A Phillips curve relating inflation Π to expectations and output gaps

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$$Y_t = E_t \, Y_{t+1} + \sigma(i_t - E_t \, \Pi_{t+1} + \varphi\omega_t) + \ldots$$

A Taylor rule approximation to the way central bank sets its rates

$$i_i = \Phi_\Pi \Pi_t - \Phi_\omega \omega_t - i^d$$

Risk premia and fiscal outlook

In the model, the risk premia is determined by a market assessment of current and future fiscal evolution of the economy

$$\omega_t = E_t \{deficit_{t+s}, debt_{t+s}\}$$

Sovereign risk and prospective fiscal outlook in the data

Sovereign CDS spreads for advanced economies (bar Japan)
against end-of-the-year ratio of gross debt to GDP ratio, projections: blued dots 2011; green triangles 2015
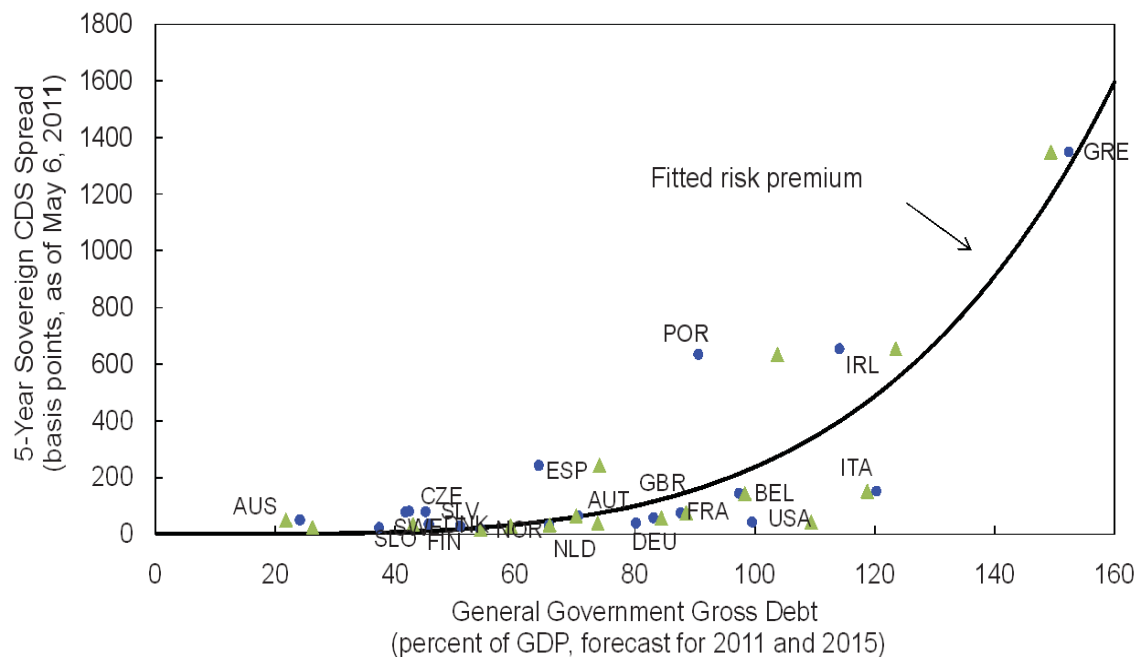
Sovereign risk and prospective fiscal outlook in the data

Of course, assessment of sovereign risk requires more than looking at debt…
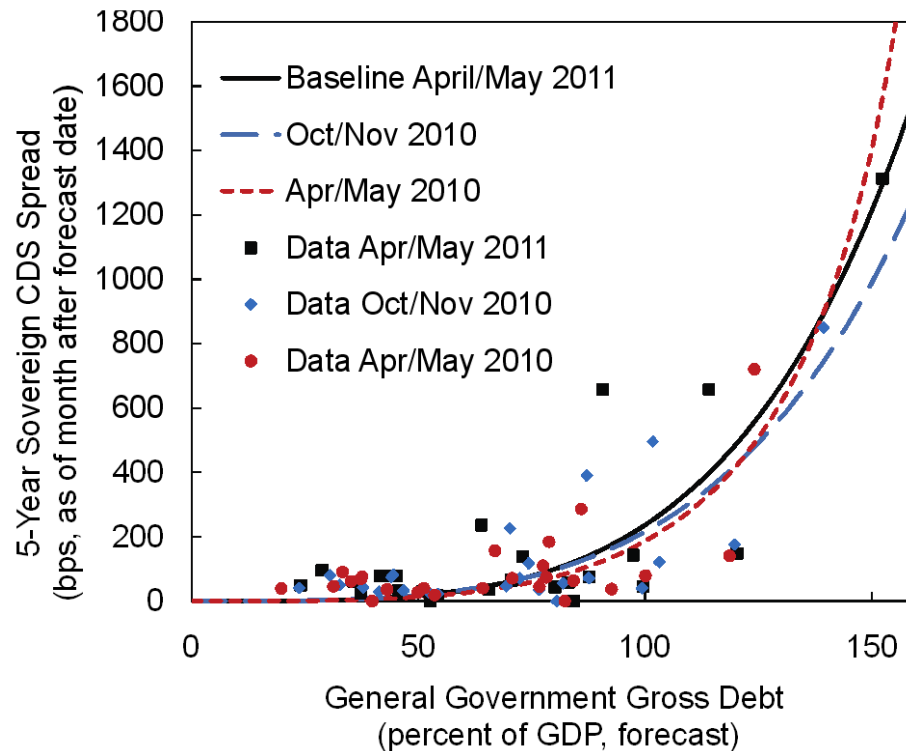
Lessons for stabilization policy

Consider an economy hit by a large recessionary shocks, where in reaction to raising debt and deficit markets start to charge a risk premium on public debt.

The central bank to set the policy rate are at zero.

Three questions for the model

1. To what extent is the effect of a recessionary shock exacerbated by the sovereign risk channel?

2. Is the economy more/less vulnerable to confidence crises?

3. Are spending cuts less consequential? Is the multiplier of contractions smaller?

1. Severity of recession

Model with endogenous exit from the ZLB
Initial debt at **60**% **90**% and **110**% of GDP
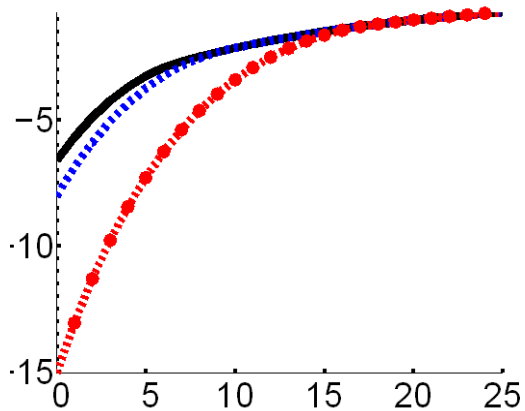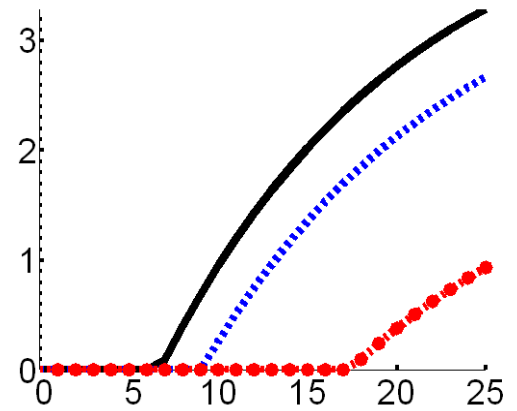

output (% from ss)   risk-premium (ann. bps)   policy rate
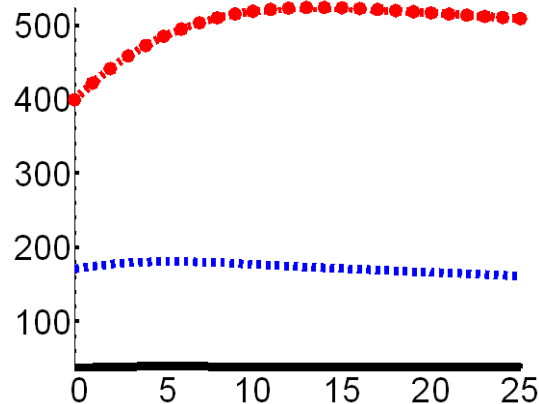
2. Financial and macroeconomic instability

A key lesson is that the economy is more vulnerable to confidence crisis

In general, determinacy in the model depends on
– persistence of recessionary shocks,
– interest sensitive of demand,
– slope of the Phillips curve

Now also

– Fiscal outlook and
– spillover parameters

Sovereign risk and macroeconomic instability

• Suppose that private expectations about the economy turn gloomier for some (non-fundamental) reason; firms and households expect demand to fall.

• Such expectations imply an upward revision of the projected government deficit, as weaker economic activity leads to lower tax revenue.

• Investors thus ask for a higher risk premium on public debt, and via the sovereign-risk channel, on private debt as well.

• If central bank cannot somehow offset rising credit costs, these slow down activity, validating the initial adverse shift in expectations.
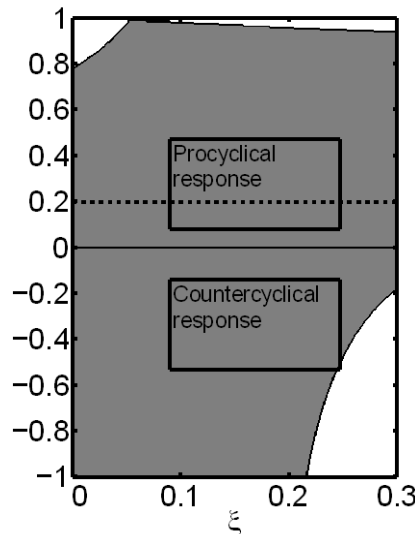
Risk of expectations-driven cycles, fiscal policy and expected length of the recession

With a sovereign risk channel, fiscal cuts in a recession may actually reduce the risk of instability (proportional to the size of the white region in the graph).
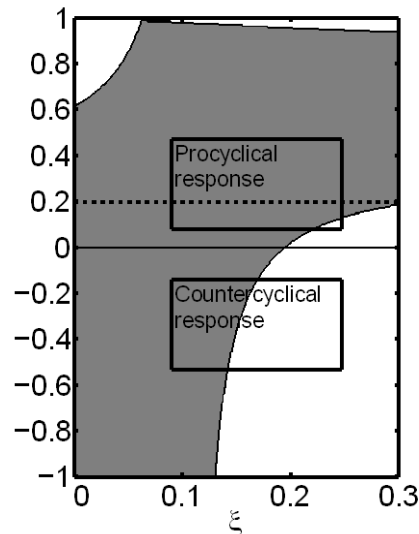
But pro-cyclical fiscal policy may not be the answer if recession is expected to last.
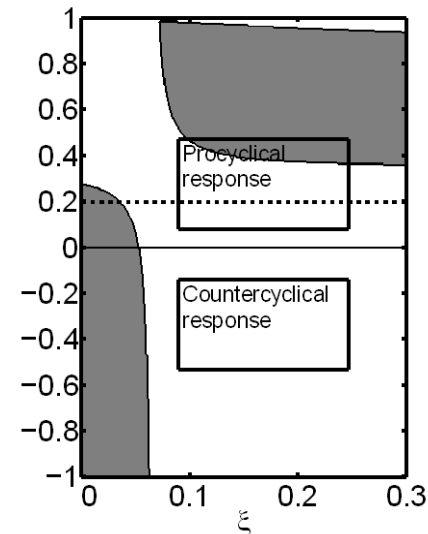

ZLB binds for an average of ...

# 3. The effect of current fiscal contractions

Governments in a fiscal crisis may be expected to implement spending/budget cuts to 'calm the markets'.

Suppose they do so in a persistent deficit of credibility (i.e. risk premia only fall to the extent that the debt or deficit to GDP ratio falls).

• Multiplier is very sensitive to parameters such as

- expected duration of recession
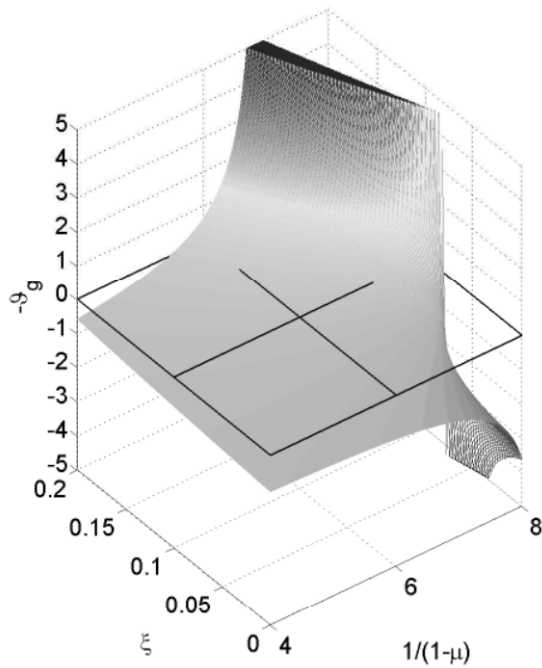- spillovers

Effects of spending cuts
varying spillover parameter and expected duration of recession
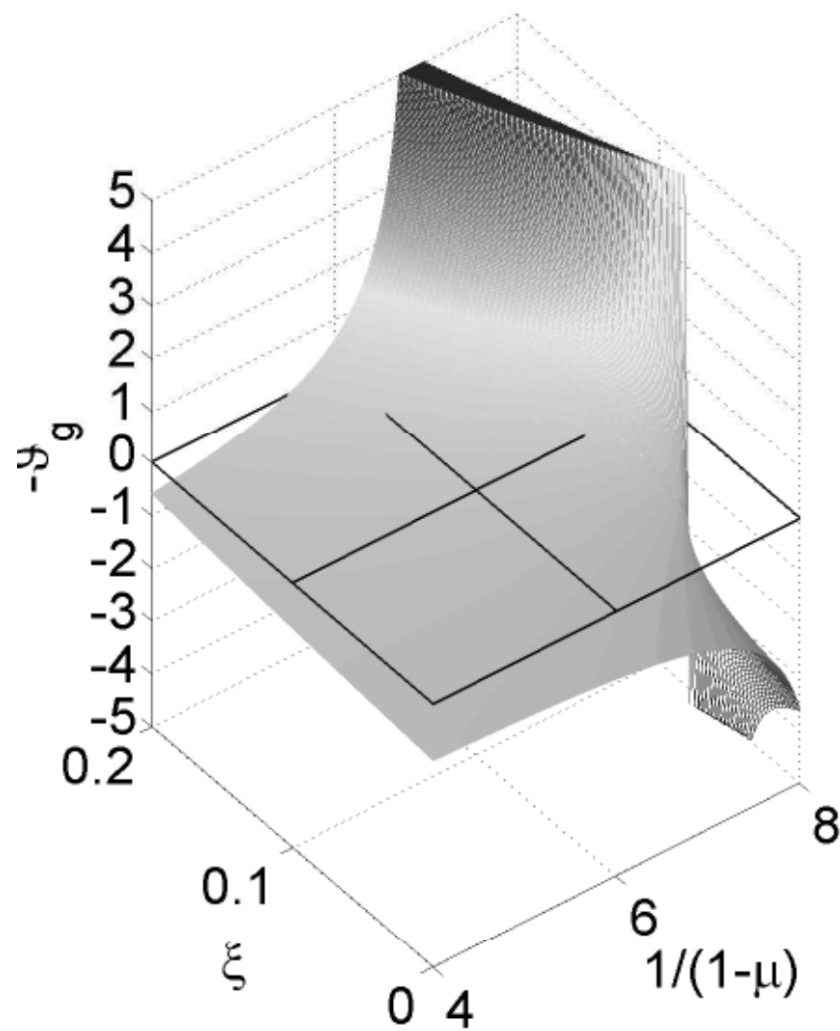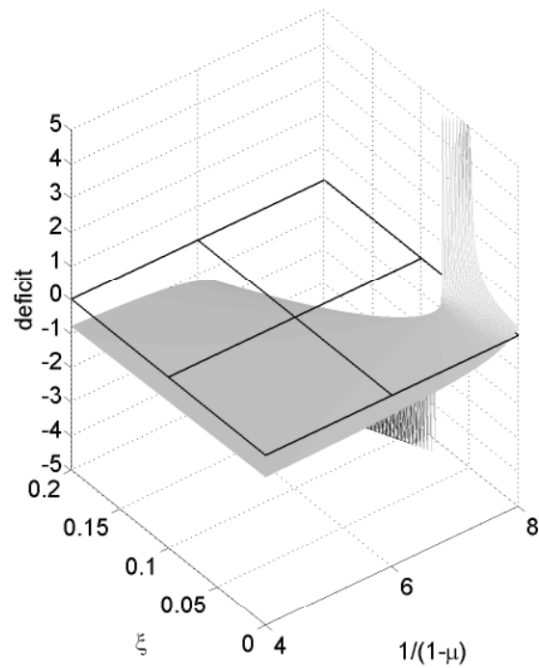
Effects of spending cuts
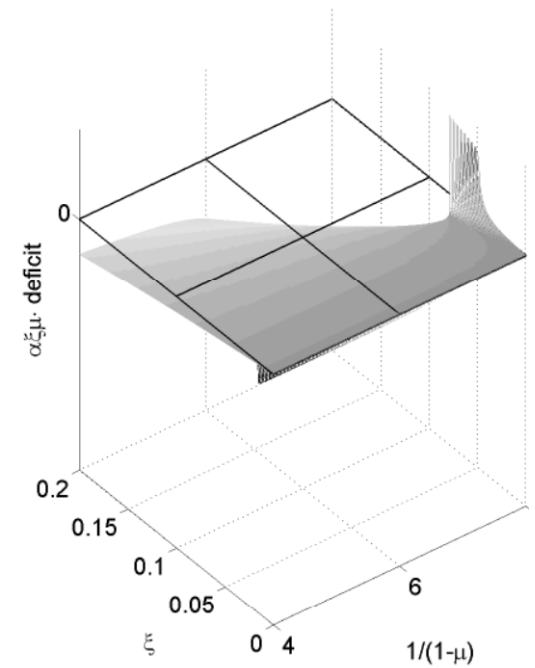## varying spillover parameter and expected duration of recession

Output

Deficit

Spread

# Lessons on the fiscal multiplier

With the sovereign risk channel

• For some parameter values, negative multipliers are possible. In principle, another reason for 'pro-cyclical' fiscal policy. But far from a general result.

• Multiplier can be quite large! Large drop in economic activity.

• Overall strong warning against placing faith on empirical estimates of 'the' multiplier that fail to condition on economic circumstances.

A note on empirical studies of multiplier

Indeed, conceptually, there is no such thing as 'the' multiplier.
In equilibrium the transmission of fiscal policy varies with many factors

Recent empirical work is providing interesting insights.

Auerbach and Gorodnichenko estimates of US spending multipliers over the business cycle
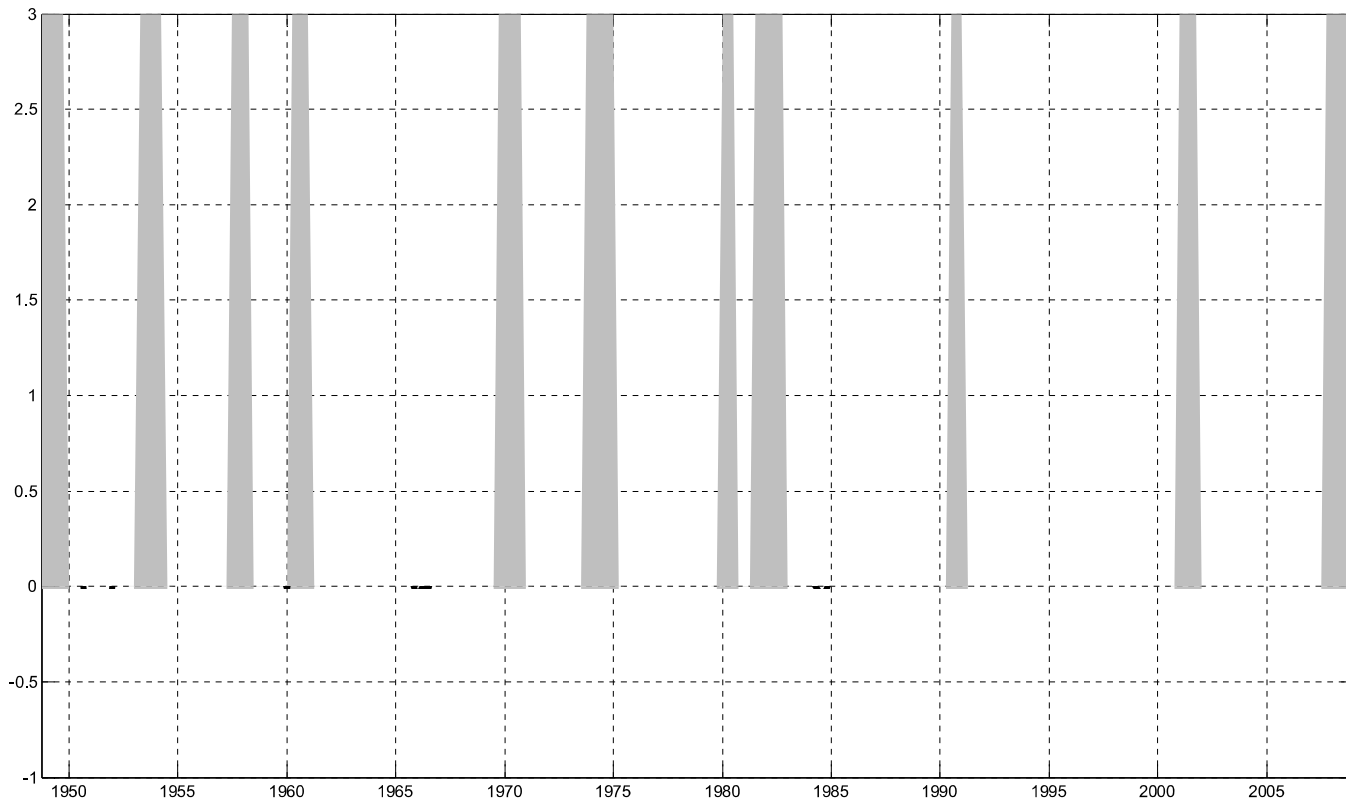
Spending multipliers in normal and crisis times
for OECD countries by Corsetti Meier and Mueller 2010
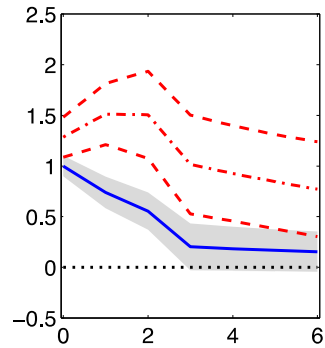
Taking stock

The sovereign risk channel

- Exacerbates the effects of recessionary shocks

- Raises the likelihood of expectations-driven downturn

- May make spending cuts less consequential, but multipliers vary widely for seemingly small differences in expectations/conditions

- Effects quite nonlinear

Challenges for central banking

Fiscal consolidation as a strategy for recovery.

However, fiscal crises come as a mixed of fundamentals and confidence.

In principle, a central bank should be concerned with stemming non-fundamental pricing of sovereign risk.

Key questions

- Is the option to monetize enough to contain risk premia?
- Are nonstandard monetary measures effective to rule out expectations-driven downturn via sovereign risk channels?
- Is it appropriate for the ECB to intervene? With which guidelines?