

# Fiscal Shocks and the Real Exchange Rate

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Banco de España Conference  
Interactions between monetary and fiscal policies  
Madrid, 25 February 2010

# Motivation

- ◇ Impact of fiscal shocks on the real exchange rate: policy issues
- ◇ Competing theoretical models offer different predictions concerning the relation between fiscal shocks and the real exchange rate.
- ◇ Recent empirical research has provided mixed evidence.

# Our contribution

- ◇ We provide estimates for a sample of EMU countries.
- ◇ We study the effects of shocks to different types of government spending.
- ◇ We seek to understand better the difference in the real exchange rate responses to fiscal shocks across different groups of countries.

## Some related studies

Using quarterly fiscal data for Australia, Canada, United Kingdom and United States:

- ◇ Monacelli and Perotti (2009)
- ◇ Ravn, Schmitt-Grohé and Uribe (2007)

Using annual data and EU countries:

- ◇ Beetsma, Giuliodori and Klaassen (2008)

## Method: panel vector autoregression

We estimate a three-variable panel-VAR for eleven EMU countries using *relative* annual data for the period 1970-2008.

- ◇ government spending (**g**)

$$\text{GEXP} = \text{GINV} + \underbrace{\text{WGC} + \text{NWGC}}_{\text{GC}}$$

GEXP: absorption

GINV: investment

GC: consumption (transfers excluded)

WGC: wage consumption

NWGC: non-wage consumption

- ◇ real GDP (**y**)

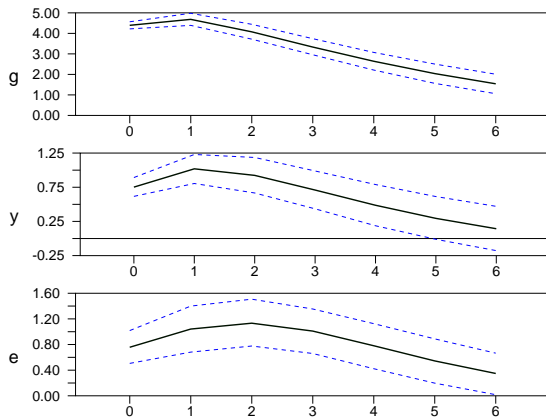
- ◇ real exchange rate (**e**)

# Empirical Strategy

- ◇ Recursive ordering: **g**, **y**, **e**
- ◇ Many robustness checks
- ◇ RER Mechanics
- ◇ Differences across EMU and floating samples

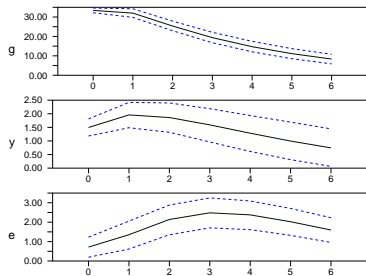
# Baseline model

shock to GEXP

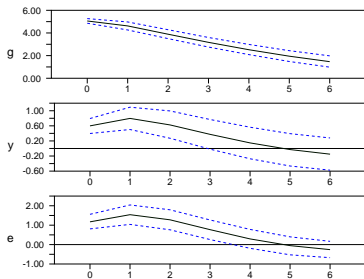


# Baseline model

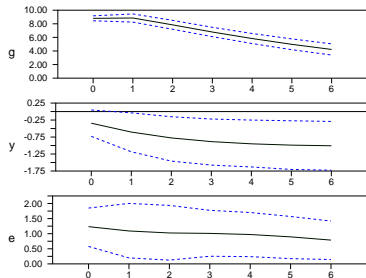
shock to GINV



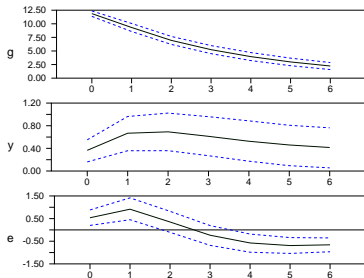
shock to GC



shock to WGC



shock to NWGC



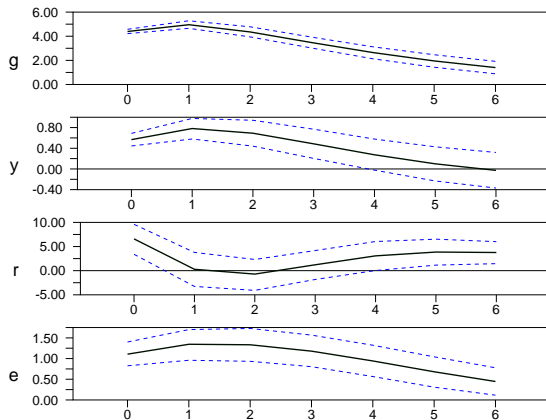


# Robustness checks

- ◇ include the 'complement' government spending
- ◇ **include long-term interest rate differentials**
- ◇ include debt/GDP ratio
- ◇ change the estimated period: 1970-1998, 1999-2008, 1980-2008
- ◇ account for anticipation effects
- ◇ different identification ordering
- ◇ mean-group estimator; model without country fixed effects

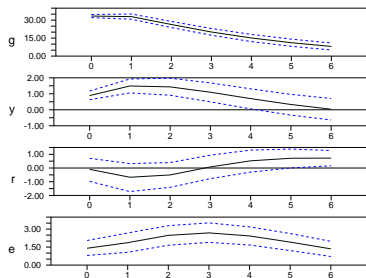
## Robustness checks: include long-term interest rate differentials

shock to GEXP

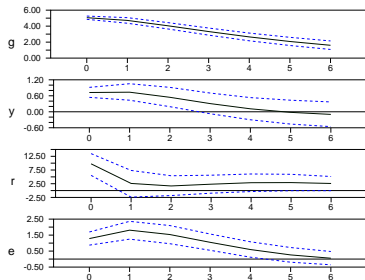


# Robustness checks: include long-term interest rate differentials

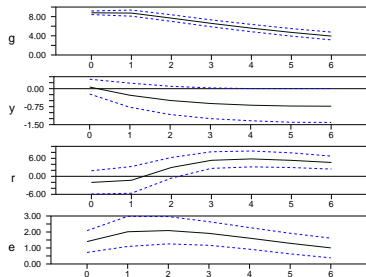
shock to GINV



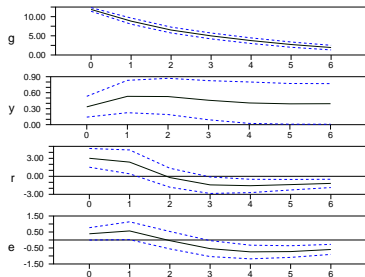
shock to GC



shock to WGC



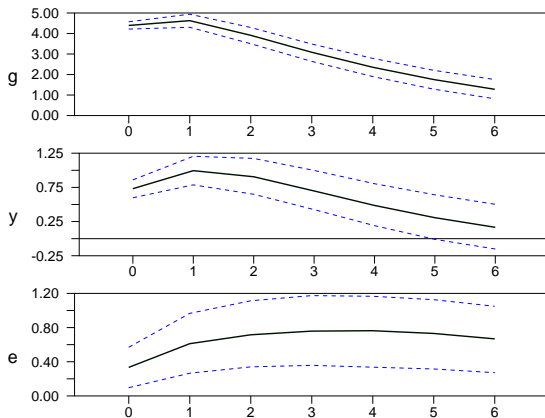
shock to NWGC



# The mechanics of RER movements

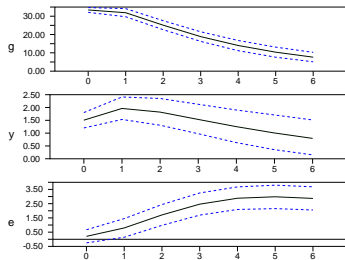
Relative price of nontradables

shock to GEXP

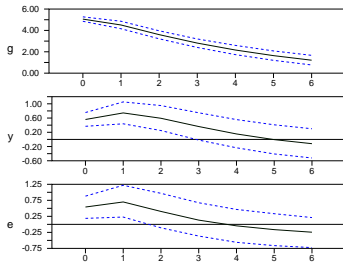


# The mechanics of RER movements

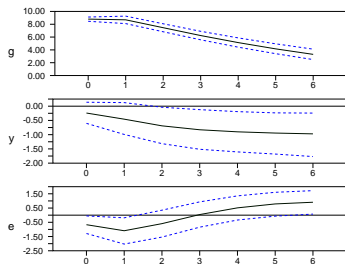
Relative price of nontradables  
shock to GINV



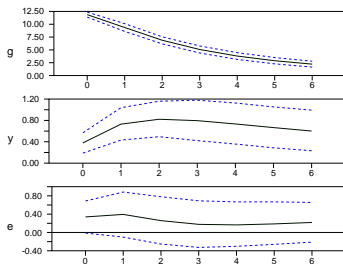
shock to GC



shock to WGC



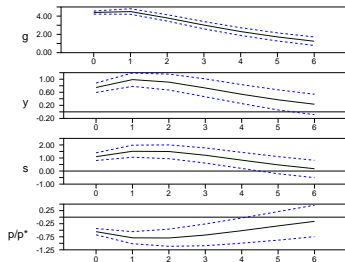
shock to NWGC



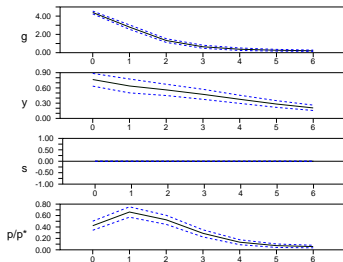
# The mechanics of RER movements

## Nominal exchange rate and inflation differentials

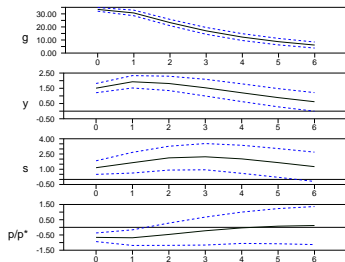
shock to GEXP (1970-1998)



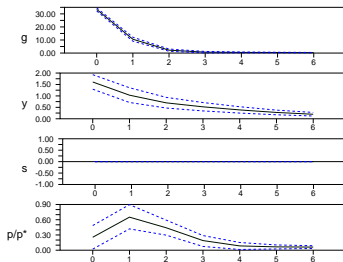
GEXP (1999-2008)



shock to GINV (1970-1998)



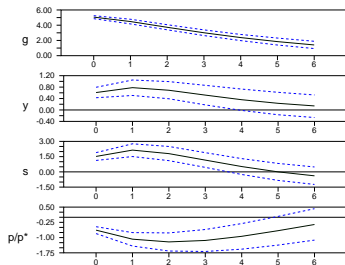
GINV (1999-2008)



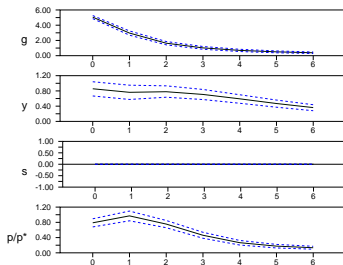
# The mechanics of RER movements

## Nominal exchange rate and inflation differentials

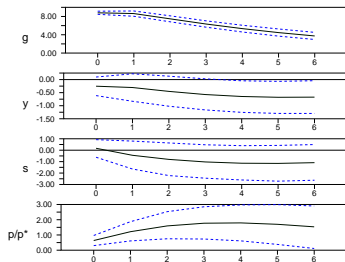
Shock to GC (1970-1998)



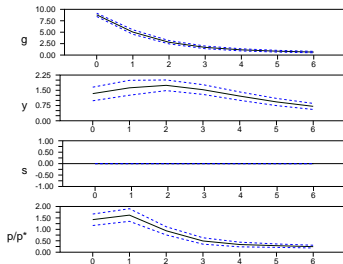
GC (1999-2008)



shock to WGC (1970-1998)



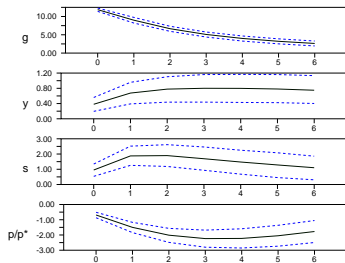
WGC (1999-2008)



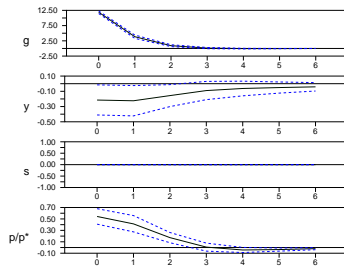
# The mechanics of RER movements

## Nominal exchange rate and inflation differentials

shock to NWGC (1970-1998)



NWGC (1999-2008)



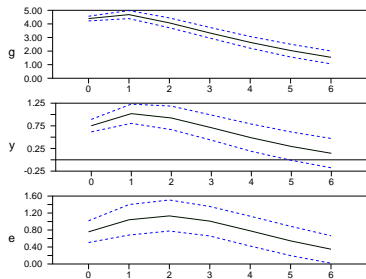


## EMU 11 vs Floaters

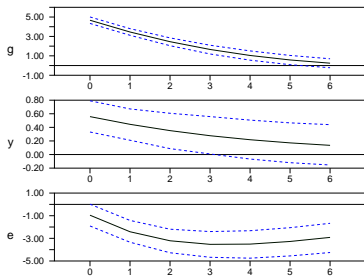
- ◇ Studies using Australia, Canada, United Kingdom and United States find real exchange rate depreciation (↓)
  - ◇ data: quarterly (absolute)
  - ◇ identification approach: Blanchard and Perotti (2002)
  - ◇ estimation: country-by-country VAR or panel-VAR
  
- ◇ Using EMU countries, we find real appreciation (↑)
  - ◇ data: annual (relative)
  - ◇ identification approach: Choleski ordering
  - ◇ estimation: panel-VAR

# EMU 11 vs Floaters: RER model

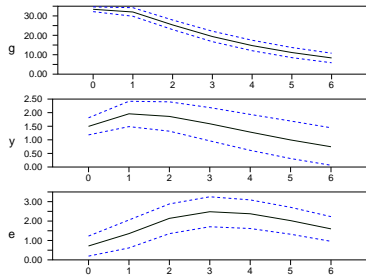
## shock to GEXP in EMU 11



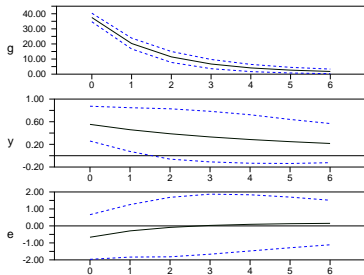
## shock to GEXP in Floaters



## shock to GINV in EMU 11

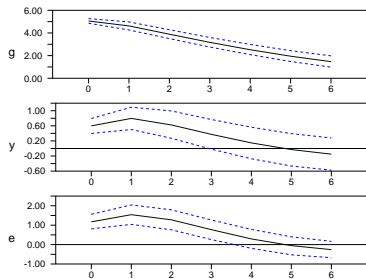


## shock to GINV in Floaters

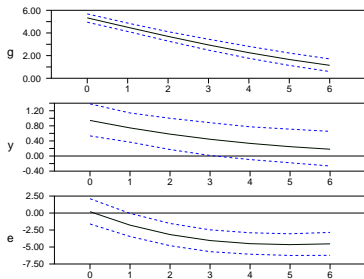


# EMU 11 vs Floaters: RER model

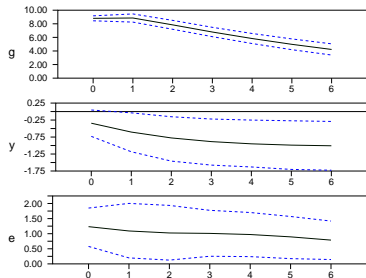
shock to GC in EMU 11



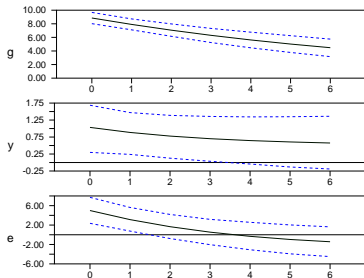
shock to GC in Floaters



shock to WGC in EMU 11

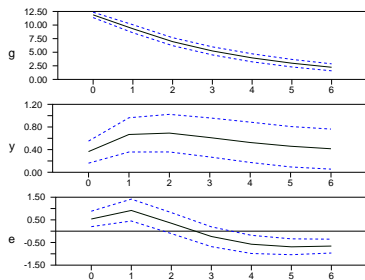


shock to WGC in Floaters

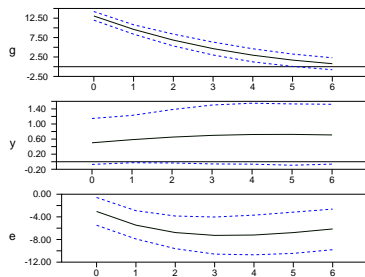


# EMU 11 vs Floaters: RER model

shock to NWGC in EMU 11



shock to NWGC in Floaters

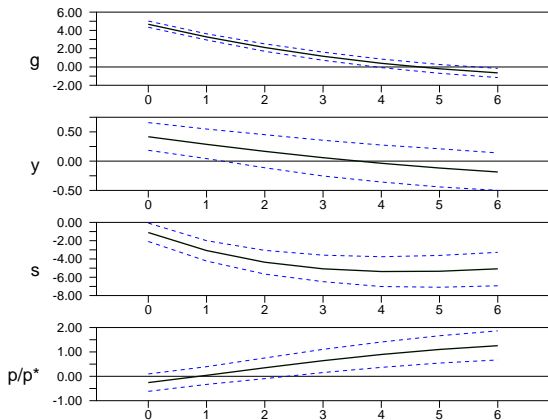


# EMU 11 vs Floaters

- ◇ Real appreciation for EMU 11
- ◇ Real depreciation for Floaters
- ◇ Exchange rate regime?

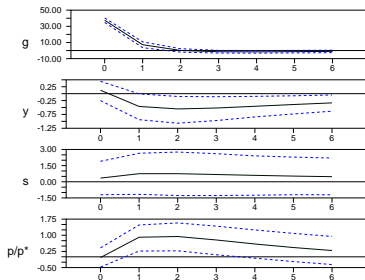
# EMU 11 vs Floaters: S P/P\* model

shock to GEXP

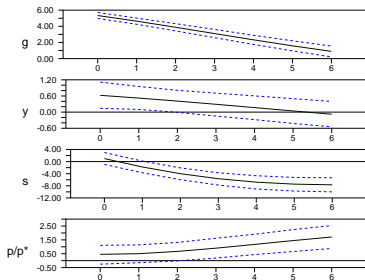


# EMU 11 vs Floaters: S P/P\* model

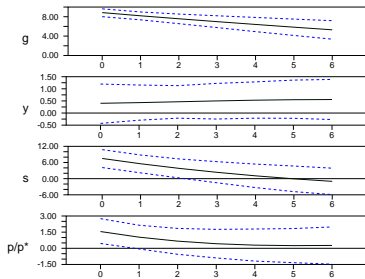
shock to GINV



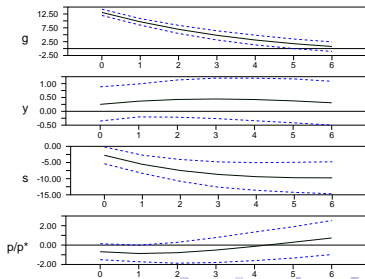
shock to GC



shock to WGC



shock to NWGC



# Conclusions

- ◇ Fiscal expansion is typically associated with real appreciation for EMU countries. (This holds for both the pre-EMU and post-EMU periods.)
- ◇ The composition of government spending matters. The largest real exchange rate appreciation is produced by shocks to public investment.
- ◇ Fiscal shocks are associated with an increase in the relative price of nontradables.
- ◇ Contrast in RER behaviour between EMU and floating samples