

31E2300  
MACROECONOMICS: POLICY

HARD TO BELIEVE, BUT OUT LAST DISCUSSION  
(EUROZONE)

# OVERVIEW: COSTS AND BENEFITS

- Optimal Currency Area theory points to the costs and benefits of giving up independent  $MP$  to join a common currency area (CCA).
- Microeconomic benefits: Higher trade & investment, savings on currency transaction costs, increased competition and financial markets liquidity.
- Macroeconomic cost: Policy maker no longer able to use monetary policy (and the exchange rate) to stabilize country-specific shocks.
- This cost is reduced by greater integration and correlation of business cycles among member countries. **There are obvious – and perhaps dominant – political benefits too.**
- Macroeconomic benefits: ↓ Exchange rate volatility (overshooting), Improved  $\pi$ -targeting credibility (by surrendering  $MP$  to independent CB), no competitive devaluation among members.

# THE FIRST DECADE

## ECB performance in the first decade:

- Low overall inflation (but large variation among member countries!)
- Greece, Spain, Ireland, Portugal had above average  $\pi$  and  $y$ -gaps.

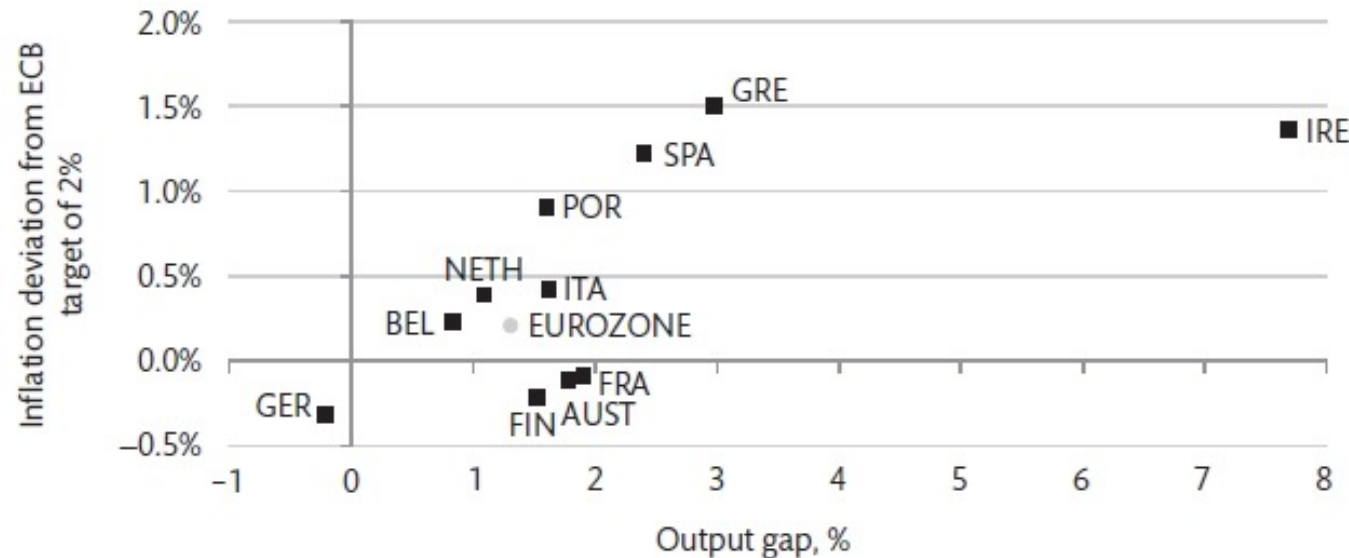


Figure 12.1 Eurozone performance: inflation and output gap, 1999–2008 (average per cent per annum).

Source: OECD Economic Outlook Database (May, 2014). Inflation is consumer price index, harmonized, output gap is for total economy. Greece is from year of entry, 2001.

# THE FIRST DECADE, CONTINUED

- There was also variation in the RER trends and in current account balances (reflecting competitiveness and output gaps).

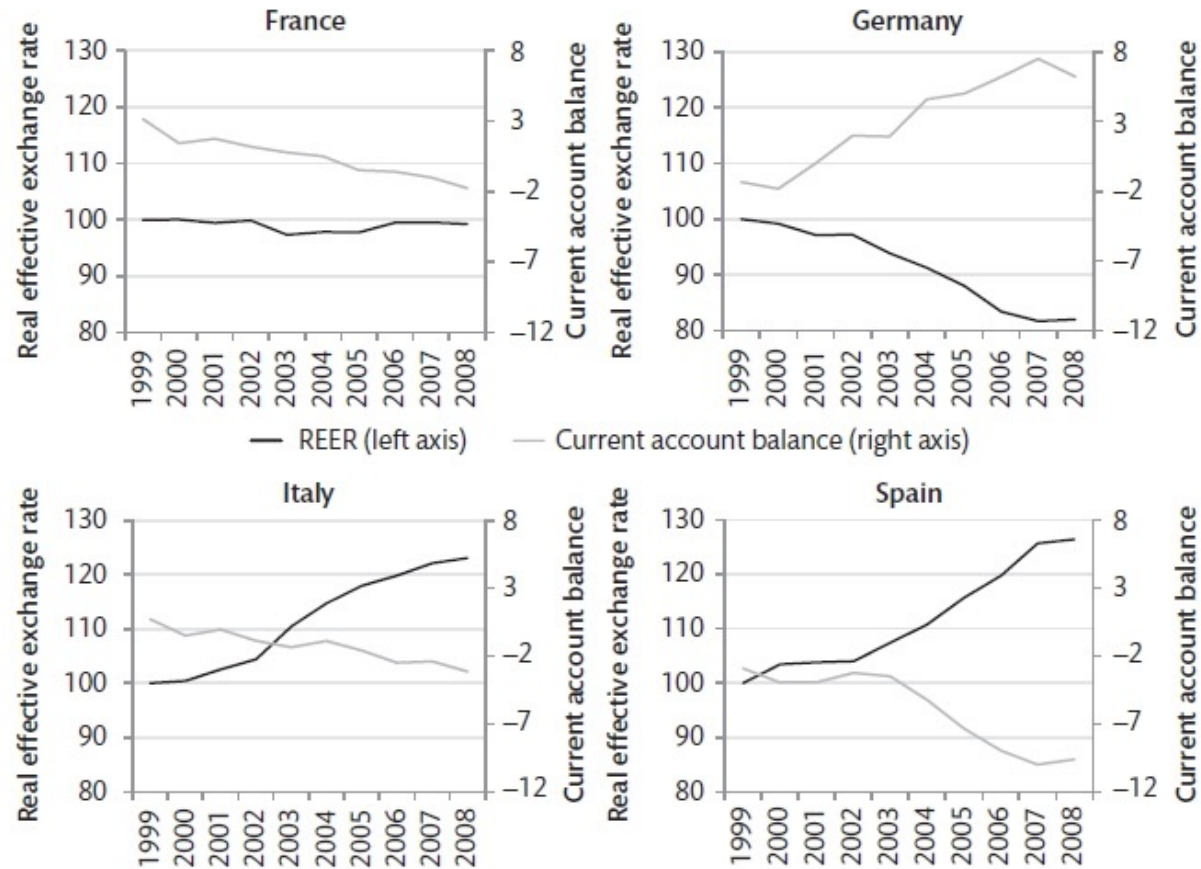


Figure 12.2 Current account balances and intra-eurozone real effective exchange rates (REER)—France, Germany, Italy and Spain: 1999 to 2008. Increase in REER is a real appreciation.

# THE FIRST DECADE, CONTINUED

- Moreover, public and private sector debt evolved differently.
- Performance heterogeneity reflected policy choices at national level, differing private sector behaviour and labour market institutions.

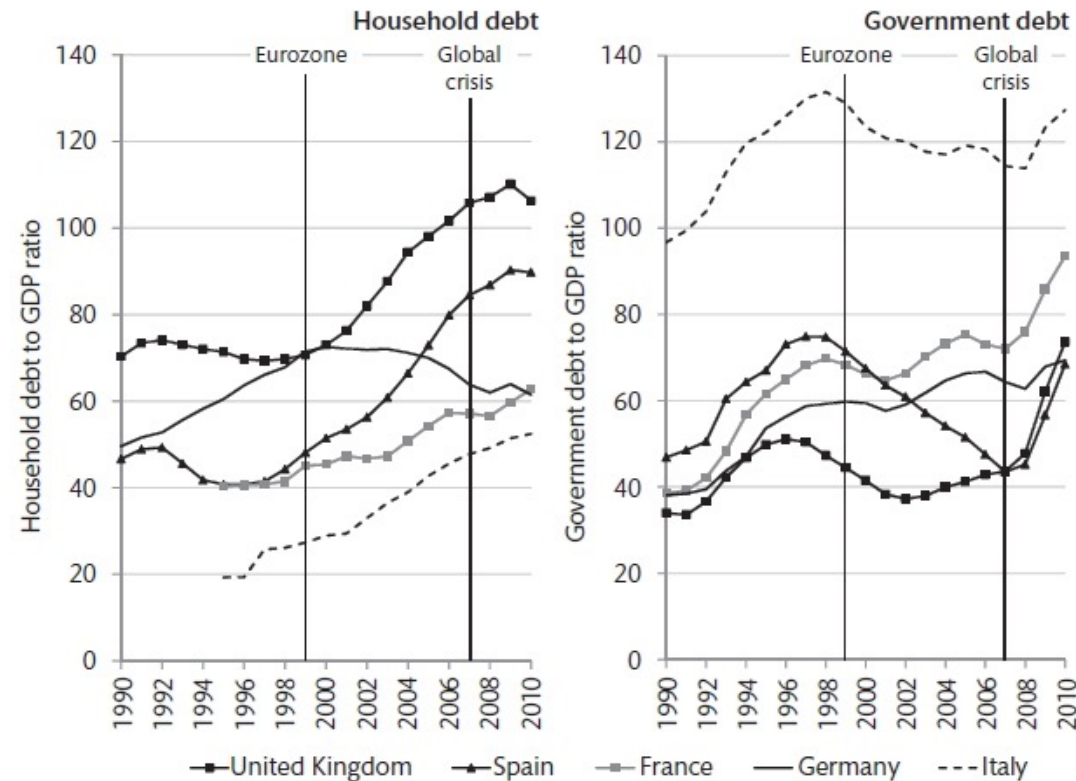


Figure 12.3 Trends in household and public debt to GDP ratios for selected European countries between 1990 and 2010.

# EUROZONE/EURO AREA POLICY REGIME

- Maastricht Treaty (MT) 1992:
  1. ECB responsible for *MP* to respond to EA-wide (common) shocks and for delivering low and stable  $\pi$  in the EA.
  2. National governments responsible for fiscal sustainability and stabilizing country-specific & asymmetric shocks (common shocks with different effects on each member)
  3. The Stability & Growth Pact (SGP) aims to prevent policies that threaten the ECB's  $\pi$  objectives.
  4. National labour and product markets and supply-side policies determine equilibrium  $U$ , with supply-side reforms supported by EU's 'Lisbon Strategy'.

# MONETARY POLICY AND THE ECB

- ECB is the single monetary policy ( $MP$ ) maker in the Eurozone.
- Independently sets  $MP$  using the interest rate to achieve its price stability target ( $\pi$  close to but *below* 2%)
- Asymmetric  $\pi$  target ('*below* 2%') contrasts with other independent CBs & was criticized for increasing the susceptibility to deflation.
- Decision on  $r$  made using 2 'pillars': Economic pillar (using forecasts of  $y - y_e$  &  $\pi - \pi^T$  in decision); Monetary pillar (using broad money growth rate in decision)
- ECB's performance was broadly successful (stable  $\pi$  just above 2% target).

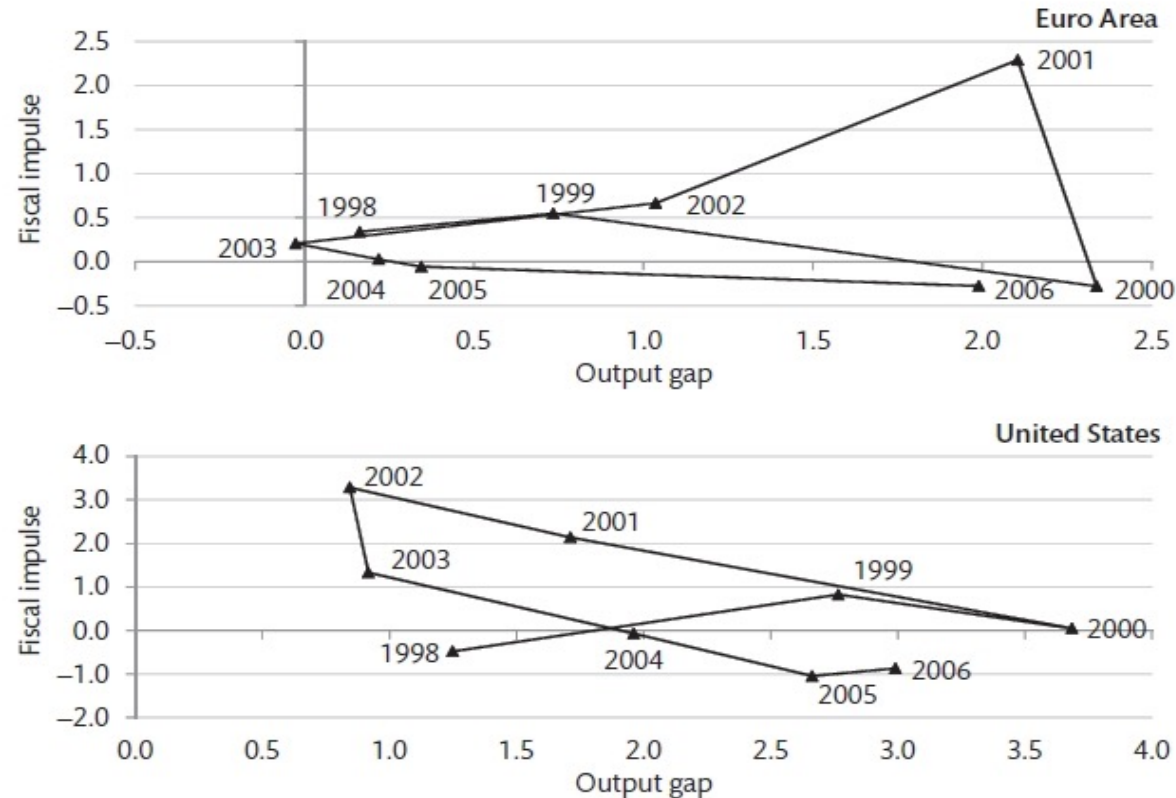
# FISCAL POLICY

- SGP specifies limit on national budget deficits ( $< 3\%$ ) and on govt. debt – to – GDP ratio ( $< 60\%$ ).
- Rationale on limits – spillovers from national policy to Eurozone:
  1. Incentive in small country to run budget deficit to boost  $AD$  and cut  $U$   
→ If all members do this,  $\pi \uparrow \rightarrow$  ECB has to raise  $r$ .
  2. If default risk rises for one member (e.g. in Greece due to deficits) → Contagion to other members.
- Compared to  $MP$ 's success,  $FP$  was less successful. The SGP was breached by a number of countries and was later revised to discourage pro-cyclical  $FP$ .



# PRO- VERSUS COUNTER-CYCLICAL FP: A TEST OF FISCAL POLICY “EFFICIENCY”?

Pro-cyclical in Europe, counter-cyclical in the US

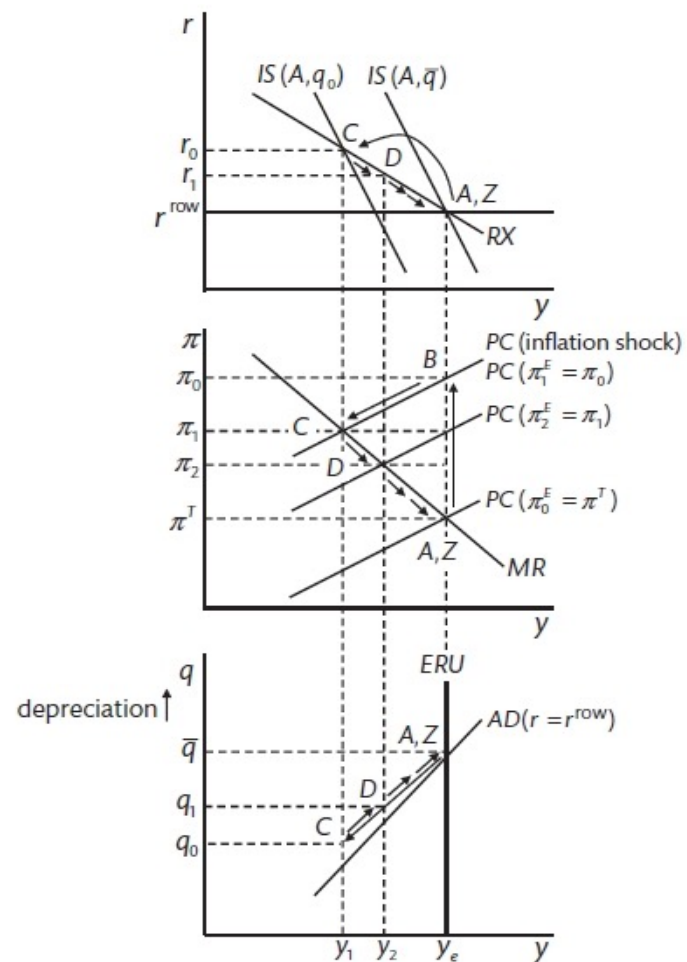


**Figure 12.4** Fiscal impulse and output gaps for the euro area and the US between 1998 and 2006.

Note: Fiscal impulse is defined as the change in cyclically adjusted primary budget deficit from the previous year. Output gap is for the whole economy.

Source: OECD Economic Outlook 89, June 2011.

# STABILIZATION (1): RESPONSE TO COMMON EA SHOCKS



*The logic here is similar to the flexible exchange model in Chapter 9*

$r^{row}$  is the 'rest of the world' int. rate.

Figure 12.5 Adjustment by the ECB to a common inflation shock to the Eurozone.

# COMMON SHOCKS (CONTINUED)

- Although exchange rate is fixed among members, the EA has a freely floating exchange rate with the rest of the world
- Adjustment to common shocks is therefore the same as with flexible exchange rates
- Fig 12.5: ECB raises  $r$  above  $r^{row}$  to get the economy on  $MR$  and eventually achieves  $\pi^T$ .
- The ECB's ability to influence AD and exchange rates via interest rates helps return the economy to equilibrium.

# COUNTRY-SPECIFIC SHOCKS: OVERVIEW

- CB action not needed under the stabilizing “**RER**” channel: e.g.  $\pi \uparrow$  (*Shock*)  $\rightarrow P \uparrow \rightarrow Q \downarrow \rightarrow (X - M) \downarrow \rightarrow y \downarrow \rightarrow \pi \downarrow \rightarrow \dots \rightarrow$  back to MRE.
- But there is a destabilizing real interest rate “**RIR**” channel:  $\pi \uparrow$  (*Shock*)  $\rightarrow \pi^E \uparrow \rightarrow r = i - \pi^E \downarrow \rightarrow y \uparrow \rightarrow \pi$  increases further  $\rightarrow$  move away from MRE.
- Walters’ critique: Instability arises if Taylor principle (-ve  $y$ -gap to dampen  $\pi$ ) does not apply to country-specific shocks in a CCA.
  - Real int. rate (**RIR**) channel in EA: Low  $i$  set by ECB, plus high domestic inflation in Spain and Ireland  $\rightarrow r \downarrow \rightarrow$  property bubble.

Some have concluded that contractionary fiscal policy necessary under RIR and that failure to do so fueled the bubbles in Spain & Ireland. before the 2007-08 crash.

# OVERVIEW: CONTINUED

- Flex exchange rate stabilization uses  $i$ ; Fixed exchange rate stabilization may need  $FP$ .  $FP$  alters govt. financial balance, however: *FP is not a perfect substitute for MP in stabilization* (reviewed later).

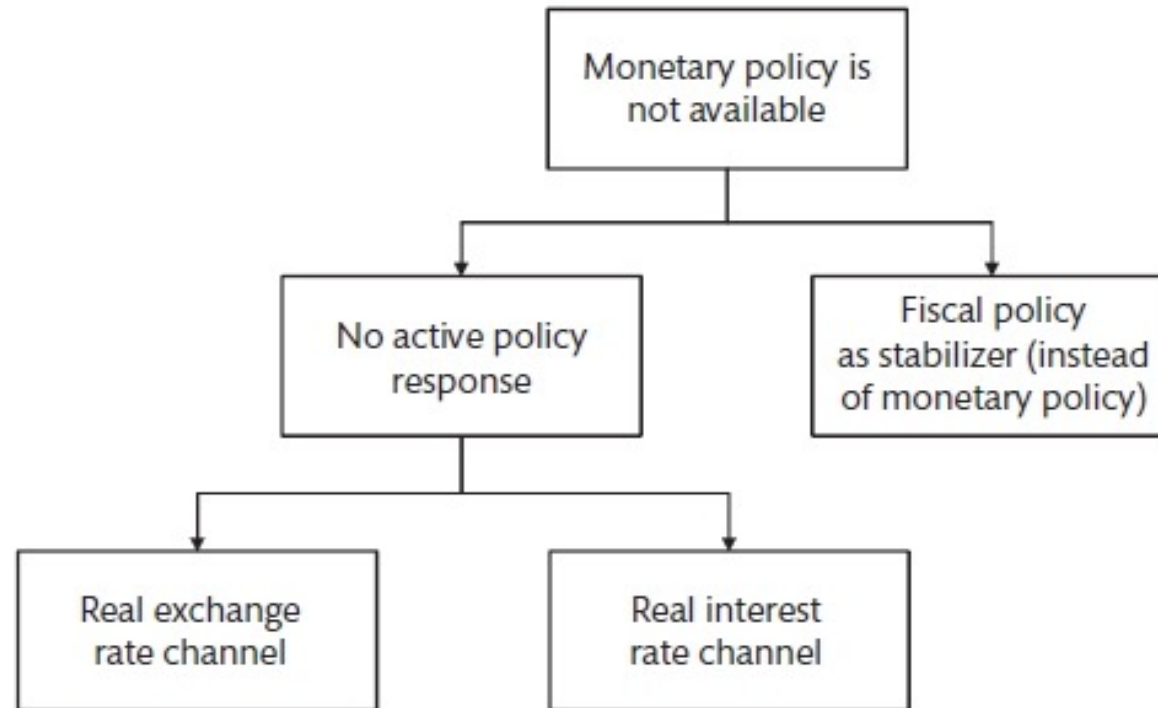
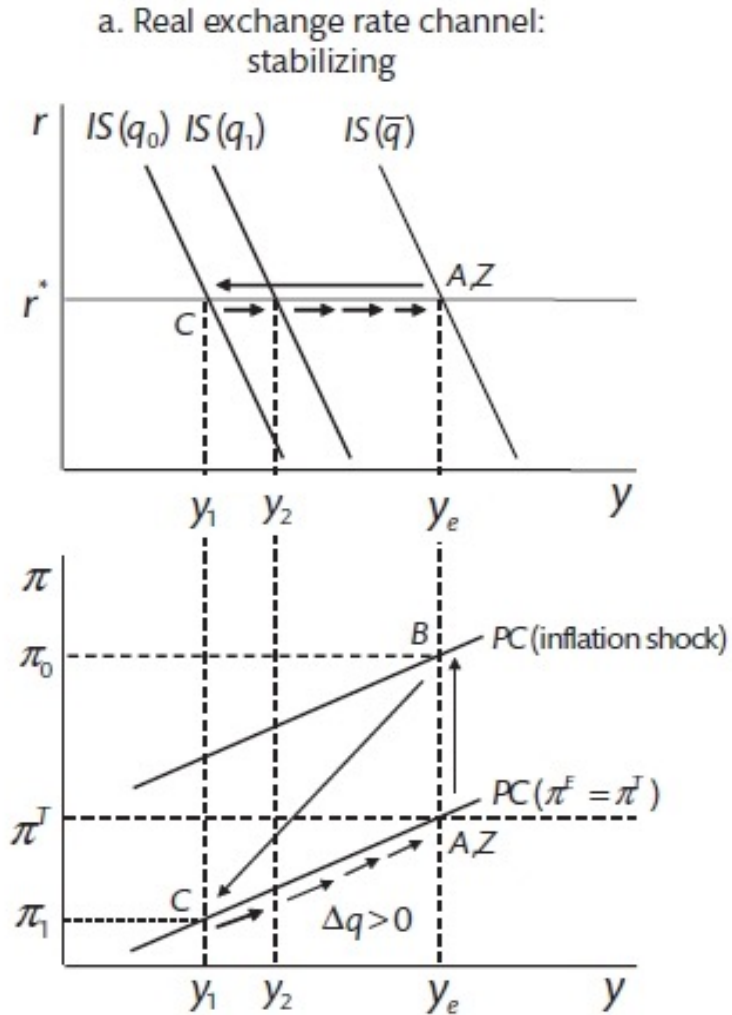


Figure 12.6 Stabilization policy options as a member of a CCA.

# THE REAL EXCHANGE RATE (RER) OR COMPETITIVENESS CHANNEL

- Automatic adjustment in the absence of policy response.
- Recall that  $i = i^*$  under fixed e-rates. In CCA,  $i^*$  is the rate set by the CCA's CB. All variables at CCA level indexed by \* (excl.  $\pi^T$ ).
- If inflation expectations are firmly anchored at target ( $\pi^E = \pi^T$ ), the Fisher equation implies:  $r = i - \pi^T = i^* - \pi^T = r^* \rightarrow r$  is fixed at CCA level,  $r^*$ .
- Log-differentiating  $Q \equiv P^*e/P$ , we get  $\Delta q = \Delta p^* - \Delta p = \pi^T - \pi$ .
- **RER** channel: Inflation shock ( $\pi \uparrow$ )  $\rightarrow \Delta q < 0 \rightarrow$  competitiveness  $\downarrow \rightarrow y \downarrow$  by the IS relation:  $y_t = A_t - ar_{t-1} + bq_{t-1}$ .
- $\therefore \pi \uparrow \rightarrow q \downarrow \rightarrow y \downarrow \rightarrow \pi \downarrow$  ...until  $\pi < \pi^T$  when a depreciation increases  $y$  back to  $y_e$  and  $\pi = \pi^T$ .

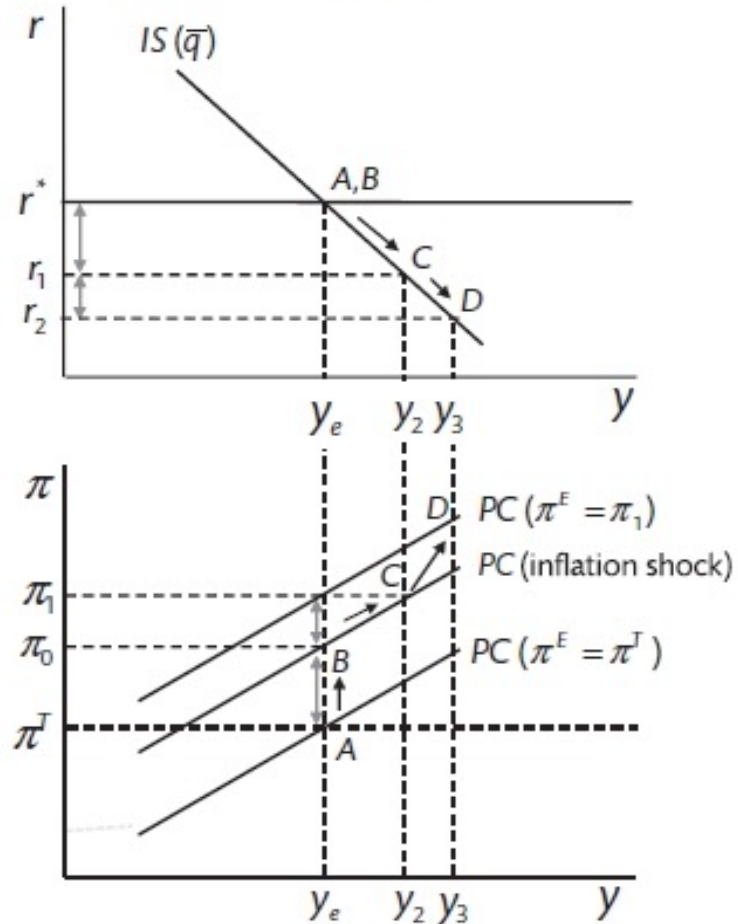
# RER CHANNEL: GRAPHICS



- $\pi$  shock:  $PC$  shifts up
- $q \downarrow$  :  $IS$  shifts left
- Move from pt. 'A' to 'C'
- Important:  $\pi^E = \pi^T$  so  $PC$  reverts back next period.
- Now,  $y_1 < y_e$  means  $\pi < \pi^T$  .
- Competitiveness /  $q \uparrow$  :  $IS$  shifts right gradually
- $y$  recovers until  $y = y_e$  (pt. 'Z')
- No changes to  $G$  or  $T$ , that is, the fiscal balance.

# REAL INTEREST RATE (RIR) CHANNEL: A SOURCE OF INSTABILITY?

b. Real interest rate channel:  
destabilizing



- Now assume adaptive expectations,  $\pi_t^E = \pi_{t-1}$  instead of  $\pi^E = \pi^T$ .
- An inflation shock shifts the  $PC$  up, but also  $\pi^E \uparrow \rightarrow r \downarrow$  to  $r_1 \rightarrow y \downarrow \rightarrow \pi \uparrow$  (pt 'C')  $\rightarrow PC$  shifts up again  $\rightarrow \dots$  destabilizing.
- If the RIR effect is stronger than the RER's, then the CCA has an instability problem (Walters' critique).



# THE ROLE OF FISCAL POLICY (FP)

- CCA govts. have no access to  $MP$  to stabilize idiosyncratic shocks.

∴ Use  $FP$  to prevent RIR destabilization; also because RER channel can be slow and costly when  $W$  and  $P$  adjustment is sluggish.

- As with  $MP$  under flex exchange rates, the  $FP$  policy maker minimizes its loss function (delegated to CB under flex exchange rates) s.t. the  $PC$ :

$$\text{ie. } \min L_t = (y_t - y_e)^2 + \beta (\pi_t - \pi^T)^2 \quad \text{s.t. } \pi_t = \pi_{t-1} + \alpha(y_t - y_e)$$

- This yields the Policy Rule ( $PR$ ) curve, which only differs from  $MR$  in that  $\pi^T$  is the CCA (as opposed to national) level target:

$$(y_t - y_e) = -\alpha\beta (\pi_t - \pi^T).$$

# FP STABILIZATION IN CCA V MP STABILIZATION UNDER FLEXIBLE EXCHANGE RATES FOLLOWING INFLATION SHOCK

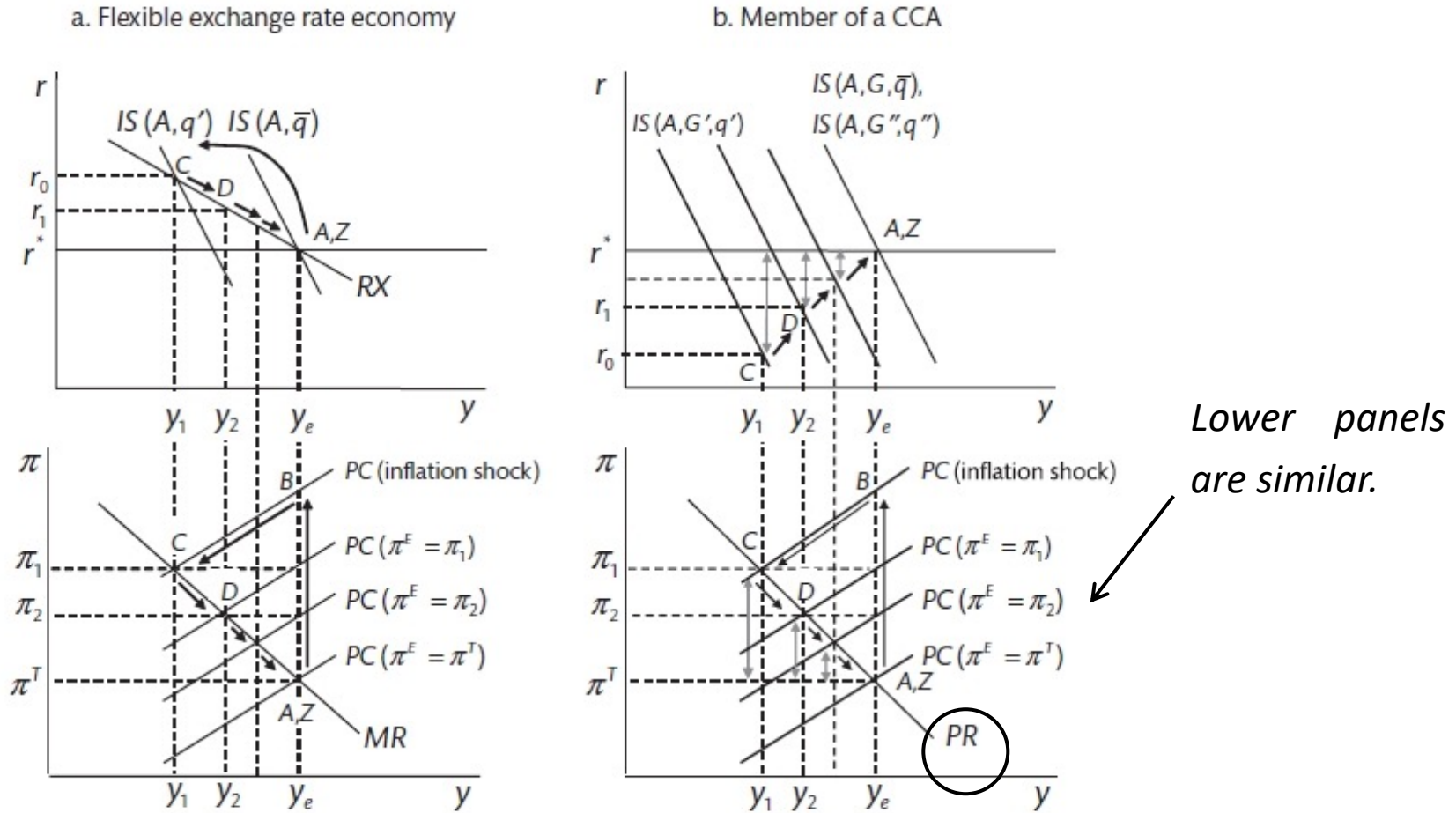
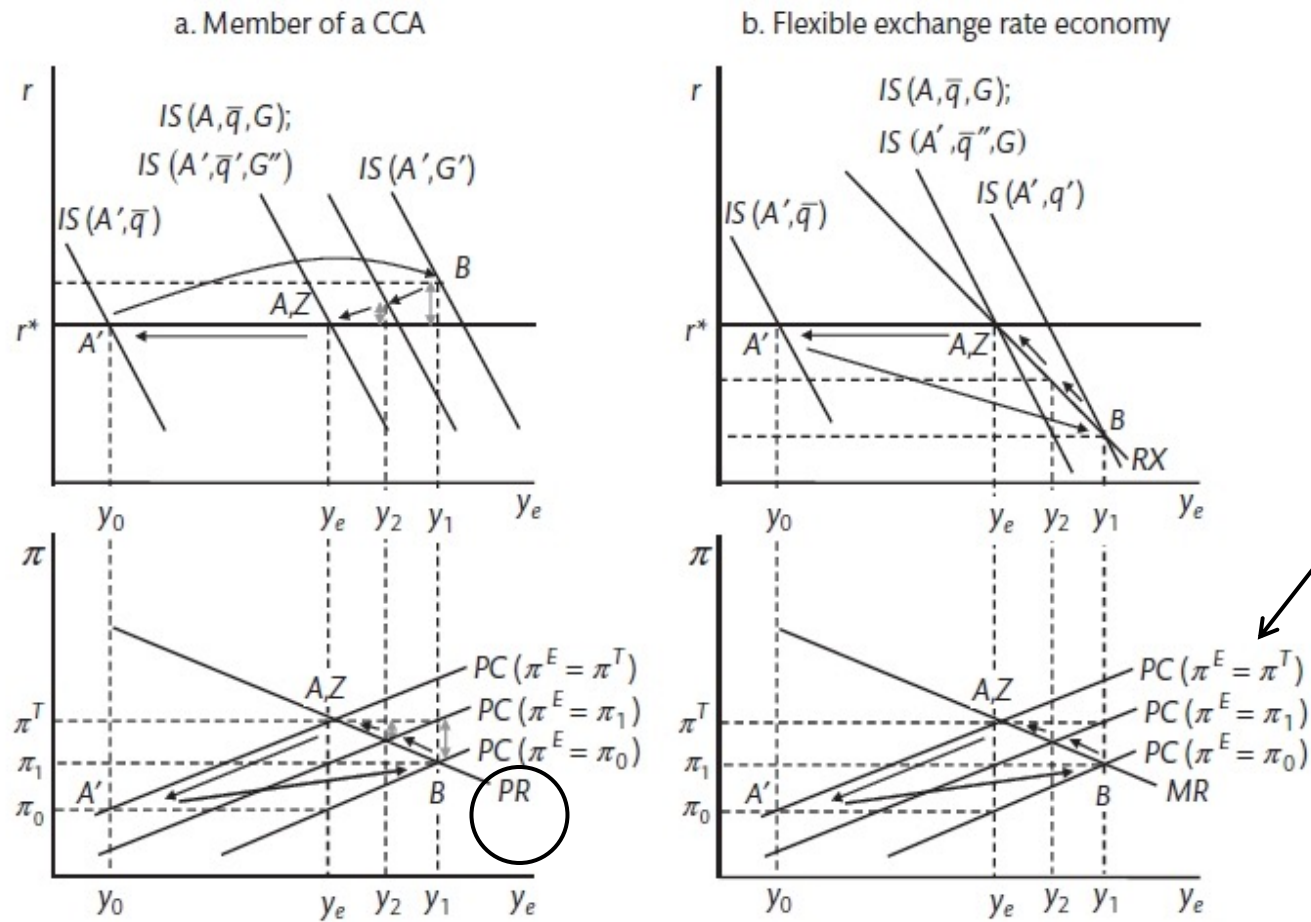


Figure 12.8 Inflation shock: comparison between the use of fiscal policy (a CCA member) and monetary policy (a flexible exchange rate economy).

# FP (CCA) VS. MP (FLEX): SUMMARY

- Similar lower panels: Same sequence of  $y$ -gap on the path to eqbm.
- Upper panels: Policy instrument used to implement  $y$ -gaps differs
- **MP** : CB raises  $r$  and takes into a/c  $q \downarrow \rightarrow IS$  shifts left from  $q \downarrow$ .
- **FP** : Govt. decides on initial *FP* stance ( $G'$ ) to achieve pt. 'C', taking into a/c both that higher  $\pi^E$  results in the lower  $r_0$  and the appreciated  $q'$ .
- **\*\* Crucial difference**: At new *MRE*, CCA member's RER is appreciated ( $q''$ )  $\rightarrow$  Net exports are lower and hence for  $y = y_e$ , this requires  $G'' > G$  (but under flexible exchange rate adjustment,  $G$  &  $q$  are unchanged).

# RESPONSES TO NEGATIVE SHOCKS COMPARED



*Lower panels are similar.*

Figure 12.9 Permanent negative aggregate demand shock: comparison between the use of fiscal policy (CCA member) and monetary policy (flexible exchange rates).

# SUMMARY OF RESPONSES TO SHOCK

*FP* (CCA) vs *MP* (flex) stabilization in a **-ve AD shock**:

- *MP* (flex e-rate) : CB cuts  $r \rightarrow$  Move to 'B' on *MR* line  $\rightarrow \dots \rightarrow$  New *MRE*: 1.  $r = r^*$ , 2. Depreciated  $\bar{q}''$ , 3.  $G$  unchanged.
- *FP* (CCA): Gov't raises  $G$  to  $G'$ , taking into account the higher  $r$  from lower  $\pi \rightarrow$  Move to 'B' on *PR*  $\rightarrow G$  adjusted each period until 'Z'  $\rightarrow$  New *MRE*: 1.  $r = r^*$ , 2. Depreciated  $\bar{q}'$ , 3.  $G'' > G$ .
- 'Z': Depreciated  $\bar{q}'$  but not as much as in flex e-rate. case ( $\bar{q}' < \bar{q}''$ ): the latter includes some nominal depreciation due to  $i$  being cut by CB.
- \*\* Again, a difference: CCA member ends up with a primary **budget deficit** in new *MRE*, flex e.r. economy does not.